



Full wwPDB X-ray Structure Validation Report ⓘ

Feb 1, 2016 – 09:37 PM GMT

PDB ID : 4V5L
Title : The structure of EF-Tu and aminoacyl-tRNA bound to the 70S ribosome with a GTP analog
Authors : Voorhees, R.M.; Schmeing, T.M.; Ramakrishnan, V.
Deposited on : 2010-09-02
Resolution : 3.10 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
A user guide is available at
<http://wwpdb.org/validation/2016/XrayValidationReportHelp>
with specific help available everywhere you see the ⓘ symbol.

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

MolProbity : 4.02b-467
Mogul : 1.7 (RC4), CSD as536be (2015)
Xtriage (Phenix) : 1.9-1692
EDS : rb-20026688
Percentile statistics : 20151230.v01 (using entries in the PDB archive December 30th 2015)
Refmac : 5.8.0135
CCP4 : 6.5.0
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : trunk26865

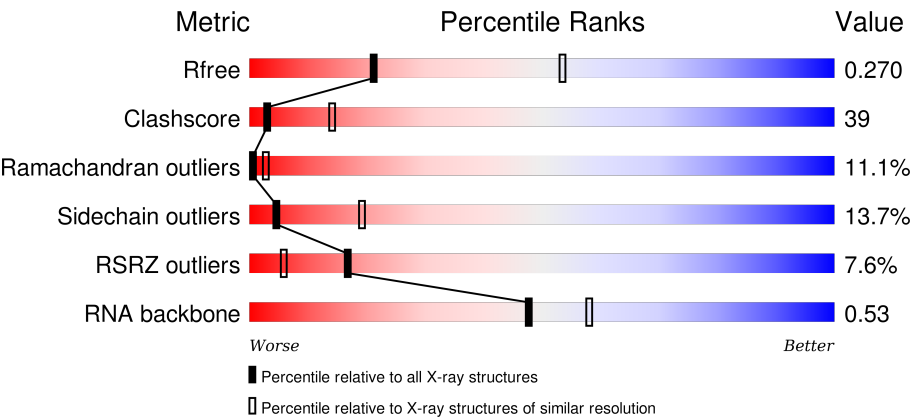
1 Overall quality at a glance i

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 3.10 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))
R_{free}	91344	1114 (3.14-3.06)
Clashscore	102246	1222 (3.14-3.06)
Ramachandran outliers	100387	1174 (3.14-3.06)
Sidechain outliers	100360	1174 (3.14-3.06)
RSRZ outliers	91569	1119 (3.14-3.06)
RNA backbone	2183	1010 (3.52-2.68)

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 ≥ 3 , 2, 1 and 0 types of geometric quality criteria. 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	AA	1522	<div><div>2%</div><div><div></div><div></div><div></div><div></div></div><div>33%52%11% . .</div></div>
2	AB	256	<div><div>5%</div><div><div></div><div></div><div></div><div></div></div><div>20%54%15% . 9%</div></div>
3	AC	239	<div><div></div><div><div></div><div></div><div></div><div></div></div><div>29%48%9%14%</div></div>
4	AD	209	<div><div>%</div><div><div></div><div></div><div></div><div></div></div><div>38%47%14%</div></div>

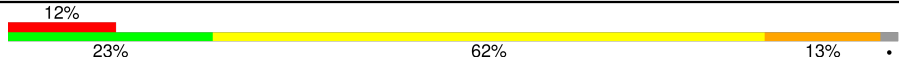
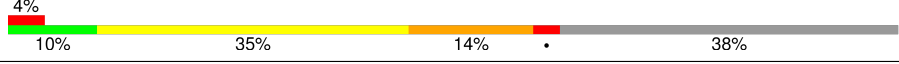
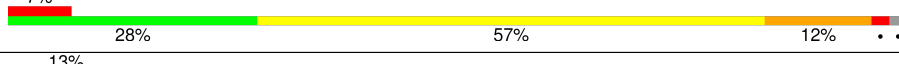

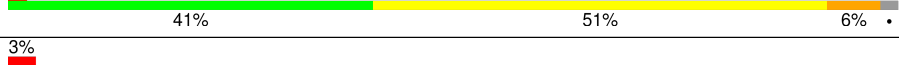
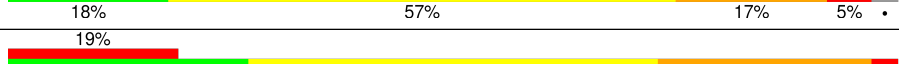
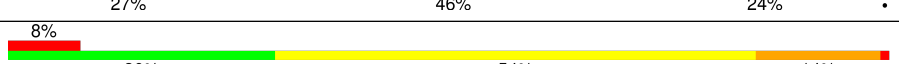
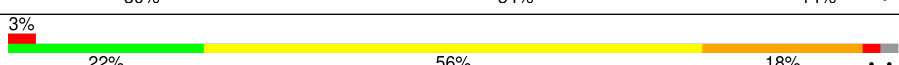
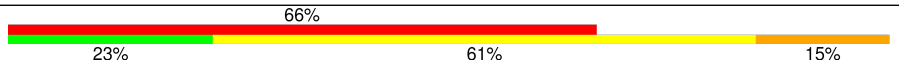

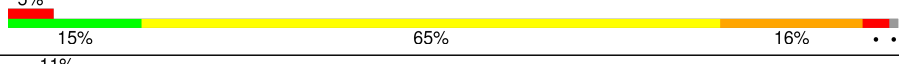
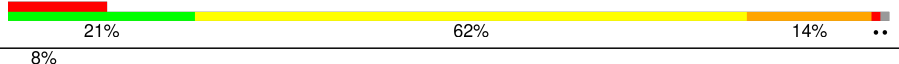
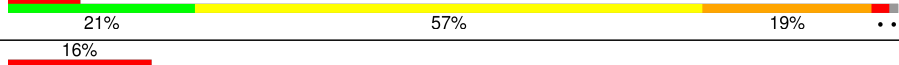
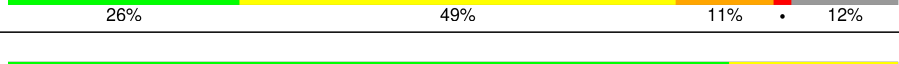
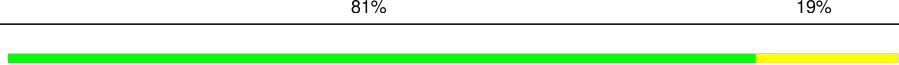
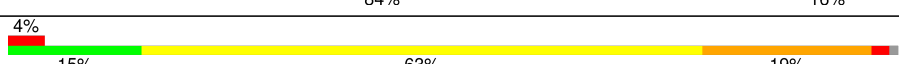
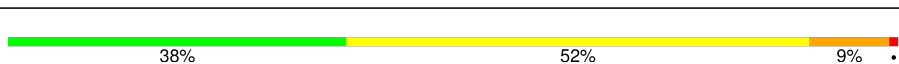
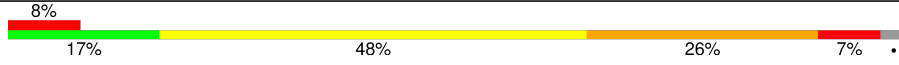
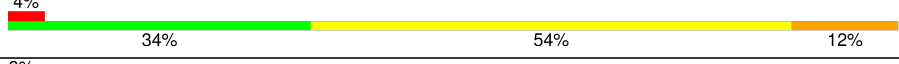
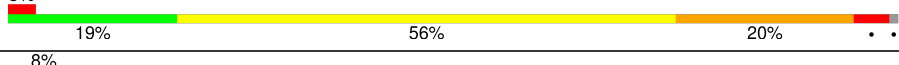


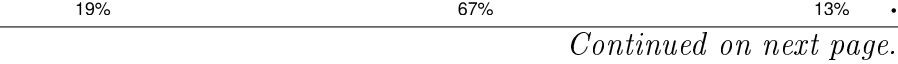


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Mol	Chain	Length	Quality of chain
5	AE	162	
6	AF	101	
7	AG	156	
8	AH	138	
9	AI	128	
10	AJ	105	
11	AK	129	
12	AL	135	
13	AM	126	
14	AN	61	
15	AO	89	
16	AP	88	
17	AQ	105	
18	AR	88	
19	AS	93	
20	AT	106	
21	AU	27	
22	AV	76	
22	AW	76	
23	AX	14	
24	AY	77	
25	AZ	405	
26	B0	85	
27	B1	98	
28	B2	72	

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Mol	Chain	Length	Quality of chain
29	B3	60	
30	B4	71	
31	B5	60	
32	B6	54	
33	B7	49	
34	B8	65	
35	B9	37	
36	BA	2915	
37	BB	122	
38	BC	229	
39	BD	276	
40	BE	206	
41	BF	210	
42	BG	182	
43	BH	180	
44	BJ	130	
45	BK	140	
46	BN	140	
47	BO	122	
48	BP	150	
49	BQ	141	
50	BR	118	
51	BS	112	
52	BT	146	
53	BU	118	

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Mol	Chain	Length	Quality of chain
54	BV	101	
55	BW	113	
56	BX	96	
57	BY	110	
58	BZ	206	

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
59	PAR	AA	1601	-	-	-	X
60	ZN	AN	101	-	-	-	X

2 Entry composition

There are 63 unique types of molecules in this entry. The entry contains 153628 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 RNA chain called 16S RRNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	AA	1504	Total	C	N	O	P	0	0	0
			32329	14390	5992	10444	1503			

- Molecule 2 is a protein called 30S RIBOSOMAL PROTEIN S2.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
2	AB	234	Total	C	N	O	S	0	0	0
			1900	1213	341	341	5			

- Molecule 3 is a protein called 30S RIBOSOMAL PROTEIN S3.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
3	AC	206	Total	C	N	O	S	0	0	0
			1612	1016	314	281	1			

- Molecule 4 is a protein called 30S RIBOSOMAL PROTEIN S4.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
4	AD	208	Total	C	N	O	S	0	0	0
			1703	1066	339	291	7			

- Molecule 5 is a protein called 30S RIBOSOMAL PROTEIN S5.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
5	AE	150	Total	C	N	O	S	0	0	0
			1146	724	217	201	4			

- Molecule 6 is a protein called 30S RIBOSOMAL PROTEIN S6.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
6	AF	101	Total	C	N	O	S	0	0	0
			843	531	155	154	3			

- Molecule 7 is a protein called 30S RIBOSOMAL PROTEIN S7.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
7	AG	155	Total	C	N	O	S	0	0	0
			1257	781	252	218	6			

- Molecule 8 is a protein called 30S RIBOSOMAL PROTEIN S8.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
8	AH	138	Total	C	N	O	S	0	0	0
			1116	705	215	193	3			

- Molecule 9 is a protein called 30S RIBOSOMAL PROTEIN S9.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
9	AI	127	Total	C	N	O	S	0	0	0
			1011	639	198	174				

- Molecule 10 is a protein called 30S RIBOSOMAL PROTEIN S10.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
10	AJ	98	Total	C	N	O	S	0	0	0
			794	499	156	138	1			

- Molecule 11 is a protein called 30S RIBOSOMAL PROTEIN S11.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
11	AK	119	Total	C	N	O	S	0	0	0
			885	549	168	165	3			

- Molecule 12 is a protein called 30S RIBOSOMAL PROTEIN S12.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
12	AL	124	Total	C	N	O	S	0	0	0
			970	611	195	163	1			

There are 4 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
AL	1	MET	-	EXPRESSION TAG	UNP P17293
AL	2	VAL	-	EXPRESSION TAG	UNP P17293
AL	3	ALA	-	EXPRESSION TAG	UNP P17293
AL	4	LEU	-	EXPRESSION TAG	UNP P17293

- Molecule 13 is a protein called 30S RIBOSOMAL PROTEIN S13.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
13	AM	124	Total	C	N	O	S	0	0	0
			987	611	205	169	2			

- Molecule 14 is a protein called 30S RIBOSOMAL PROTEIN S14.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
14	AN	60	Total	C	N	O	S	0	0	0
			492	312	104	72	4			

- Molecule 15 is a protein called 30S RIBOSOMAL PROTEIN S15.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
15	AO	88	Total	C	N	O	S	0	0	0
			734	459	147	126	2			

- Molecule 16 is a protein called 30S RIBOSOMAL PROTEIN S16.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
16	AP	83	Total	C	N	O	S	0	0	0
			700	443	139	117	1			

- Molecule 17 is a protein called 30S RIBOSOMAL PROTEIN S17.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
17	AQ	99	Total	C	N	O	S	0	0	0
			823	528	151	142	2			

- Molecule 18 is a protein called 30S RIBOSOMAL PROTEIN S18.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
18	AR	70	Total	C	N	O	0	0	0
			574	367	112	95			

- Molecule 19 is a protein called 30S RIBOSOMAL PROTEIN S19.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
19	AS	78	Total	C	N	O	S	0	0	0
			629	403	114	110	2			

- Molecule 20 is a protein called 30S RIBOSOMAL PROTEIN S20.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
20	AT	99	Total	C	N	O	S	0	0	0
			763	470	162	129	2			

- Molecule 21 is a protein called 30S RIBOSOMAL PROTEIN THX.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
21	AU	24	Total	C	N	O	0	0	0
			208	128	50	30			

- Molecule 22 is a RNA chain called E-SITE TRNA PHE OR P-SITE TRNA PHE.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
22	AV	76	Total	C	N	O	P	0	0	0
			1619	723	290	531	75			
22	AW	76	Total	C	N	O	P	0	0	0
			1619	723	290	531	75			

- Molecule 23 is a RNA chain called MRNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
23	AX	14	Total	C	N	O	P	0	0	0
			298	135	56	94	13			

- Molecule 24 is a RNA chain called A-SITE TRNA G24A TRP-TRNA TRP.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
24	AY	77	Total	C	N	O	P	S	0	0
			1644	742	289	535	76	2		

- Molecule 25 is a protein called ELONGATION FACTOR TU.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
25	AZ	405	Total	C	N	O	S	0	0	0
			3142	1983	550	597	12			

- Molecule 26 is a protein called 50S RIBOSOMAL PROTEIN L27.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
26	B0	84	Total	C	N	O	S	0	0	0
			662	410	140	111	1			

- Molecule 27 is a protein called 50S RIBOSOMAL PROTEIN L28.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
27	B1	93	Total	C	N	O	S	0	0	0
			731	460	145	125	1			

- Molecule 28 is a protein called 50S RIBOSOMAL PROTEIN L29.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
28	B2	71	Total	C	N	O	S	0	0	0
			598	370	121	106	1			

- Molecule 29 is a protein called 50S RIBOSOMAL PROTEIN L30.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
29	B3	59	Total	C	N	O	S	0	0	0
			467	298	90	78	1			

- Molecule 30 is a protein called 50S RIBOSOMAL PROTEIN L31.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
30	B4	44	Total	C	N	O	S	0	0	0
			340	218	57	61	4			

- Molecule 31 is a protein called 50S RIBOSOMAL PROTEIN L32.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
31	B5	59	Total	C	N	O	S	0	0	0
			459	288	90	76	5			

- Molecule 32 is a protein called 50S RIBOSOMAL PROTEIN L33.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
32	B6	50	Total	C	N	O	S	0	0	0
			433	270	88	71	4			

- Molecule 33 is a protein called 50S RIBOSOMAL PROTEIN L34.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
33	B7	48	Total	C	N	O	S	0	0	0
			418	257	104	55	2			

- Molecule 34 is a protein called 50S RIBOSOMAL PROTEIN L35.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
34	B8	63	Total	C	N	O	S	0	0	0
			507	326	101	78	2			

- Molecule 35 is a protein called 50S RIBOSOMAL PROTEIN L36.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
35	B9	37	Total	C	N	O	S	0	0	0
			307	188	68	47	4			

- Molecule 36 is a RNA chain called 23S RIBOSOMAL RNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
36	BA	2901	Total	C	N	O	P	0	0	0
			62477	27807	11683	20087	2900			

- Molecule 37 is a RNA chain called 5S RIBOSOMAL RNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
37	BB	119	Total	C	N	O	P	0	0	0
			2551	1136	471	826	118			

- Molecule 38 is a protein called 50S RIBOSOMAL PROTEIN L1.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
38	BC	228	Total	C	N	O	S	0	0	0
			1742	1101	319	319	3			

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
BC	27	ARG	LEU	CONFLICT	UNP Q5SLP7

- Molecule 39 is a protein called 50S RIBOSOMAL PROTEIN L2.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
39	BD	275	Total	C	N	O	S	0	0	0
			2145	1353	428	361	3			

- Molecule 40 is a protein called 50S RIBOSOMAL PROTEIN L3.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
40	BE	204	Total	C	N	O	S	0	0	0
			1563	988	299	270	6			

- Molecule 41 is a protein called 50S RIBOSOMAL PROTEIN L4.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
41	BF	207	Total	C	N	O	S	0	0	0
			1623	1035	303	282	3			

- Molecule 42 is a protein called 50S RIBOSOMAL PROTEIN L5.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
42	BG	181	Total	C	N	O	S	0	0	0
			1474	942	268	260	4			

- Molecule 43 is a protein called 50S RIBOSOMAL PROTEIN L6.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
43	BH	159	Total	C	N	O	S	0	0	0
			1222	773	228	220	1			

- Molecule 44 is a protein called 50S RIBOSOMAL PROTEIN L10.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
44	BJ	130	Total	C	N	O	0	0	0
			651	391	130	130			

- Molecule 45 is a protein called 50S RIBOSOMAL PROTEIN L11.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
45	BK	140	Total	C	N	O	0	0	0
			700	420	140	140			

- Molecule 46 is a protein called 50S RIBOSOMAL PROTEIN L13.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
46	BN	138	Total	C	N	O	S	0	0	0
			1104	712	206	182	4			

- Molecule 47 is a protein called 50S RIBOSOMAL PROTEIN L14.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
47	BO	122	Total	C	N	O	S	0	0	0
			933	588	171	170	4			

- Molecule 48 is a protein called 50S RIBOSOMAL PROTEIN L15.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
48	BP	146	Total	C	N	O	S	0	0	0
			1114	692	227	193	2			

- Molecule 49 is a protein called 50S RIBOSOMAL PROTEIN L16.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
49	BQ	141	Total	C	N	O	S	0	0	0
			1122	715	212	188	7			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
50	BR	117	Total	C	N	O		0	0	0
			960	599	202	159				

- Molecule 51 is a protein called 50S RIBOSOMAL PROTEIN L18.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
51	BS	98	Total	C	N	O		0	0	0
			770	486	154	130				

- Molecule 52 is a protein called 50S RIBOSOMAL PROTEIN L19.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
52	BT	137	Total	C	N	O	S	0	0	0
			1141	710	234	196	1			

- Molecule 53 is a protein called 50S RIBOSOMAL PROTEIN L20.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
53	BU	117	Total	C	N	O	S	0	0	0
			958	604	202	151	1			

- Molecule 54 is a protein called 50S RIBOSOMAL PROTEIN L21.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
54	BV	101	Total	C	N	O	S	0	0	0
			779	501	142	135	1			

- Molecule 55 is a protein called 50S RIBOSOMAL PROTEIN L22.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
55	BW	113	Total	C	N	O	S	0	0	0
			896	563	176	155	2			

- Molecule 56 is a protein called 50S RIBOSOMAL PROTEIN L23.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
56	BX	92	Total	C	N	O	S	0	0	0
			725	471	131	123				

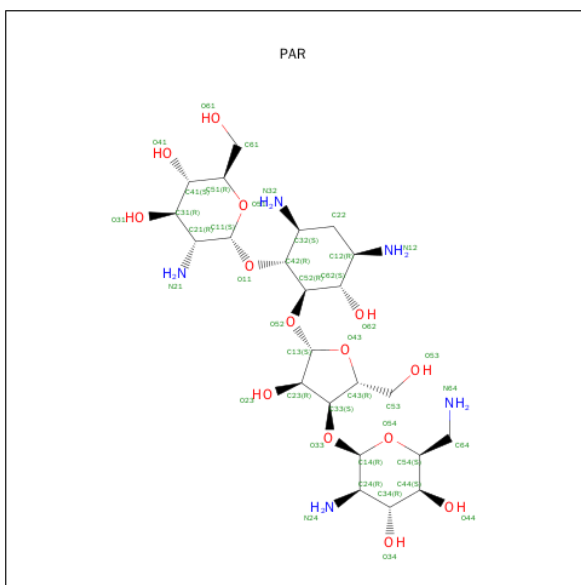
- Molecule 57 is a protein called 50S RIBOSOMAL PROTEIN L24.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
57	BY	100	Total	C	N	O	S	0	0	0
			775	500	148	123	4			

- Molecule 58 is a protein called 50S RIBOSOMAL PROTEIN L25.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
58	BZ	176	Total	C	N	O	S	0	0	0
			1403	897	252	252	2			

- Molecule 59 is PAROMOMYCIN (three-letter code: PAR) (formula: C₂₃H₄₅N₅O₁₄).

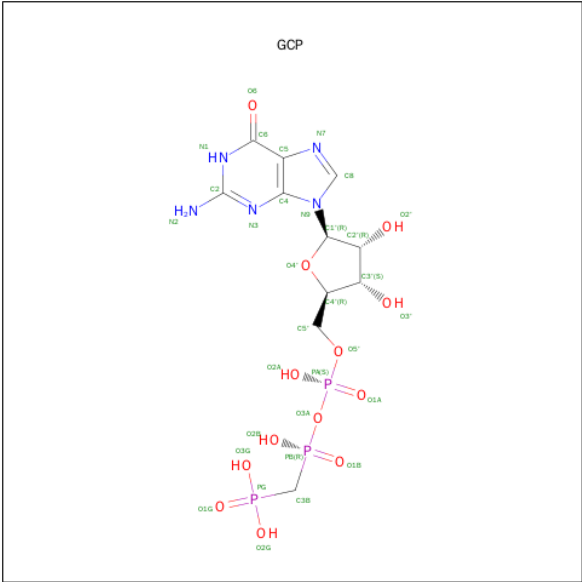


Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
59	AA	1	Total	C	N	O	0	0
			42	23	5	14		

- Molecule 60 is ZINC ION (three-letter code: ZN) (formula: Zn).

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
60	B9	1	Total Zn 1 1	0	0
60	B4	1	Total Zn 1 1	0	0
60	AD	1	Total Zn 1 1	0	0
60	AN	1	Total Zn 1 1	0	0

- Molecule 61 is PHOSPHOMETHYLPHOSPHONIC ACID GUANYLATE ESTER (three-letter code: GCP) (formula: $\text{C}_{11}\text{H}_{18}\text{N}_5\text{O}_{13}\text{P}_3$).



Mol	Chain	Residues	Atoms					ZeroOcc	AltConf
61	AZ	1	Total	C	N	O	P	0	0
			32	11	5	13	3		

- Molecule 62 is MAGNESIUM ION (three-letter code: MG) (formula: Mg).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
62	AZ	1	Total	Mg	0	0
			1	1		

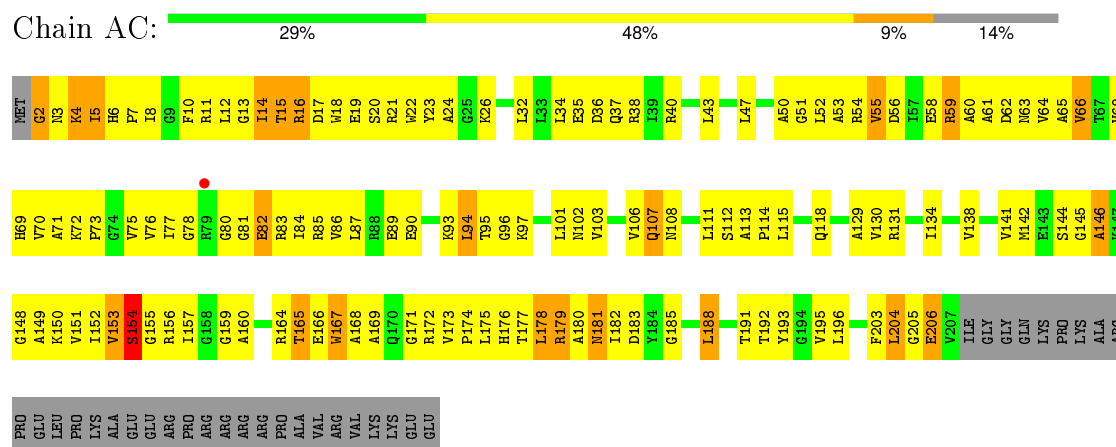
- Molecule 63 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
63	AZ	1	Total	O	0	0
			1	1		

GLY
GLU
SER
GLU
VAL
GLU
ALA

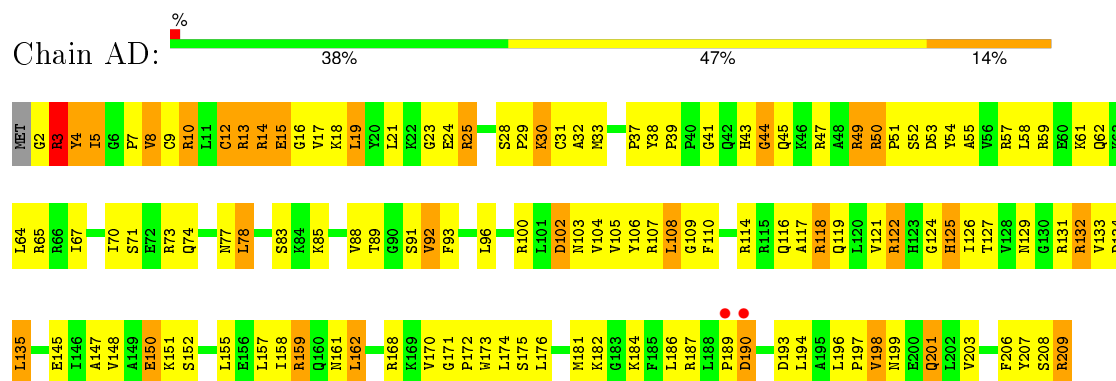
• Molecule 3: 30S RIBOSOMAL PROTEIN S3

Chain AC:



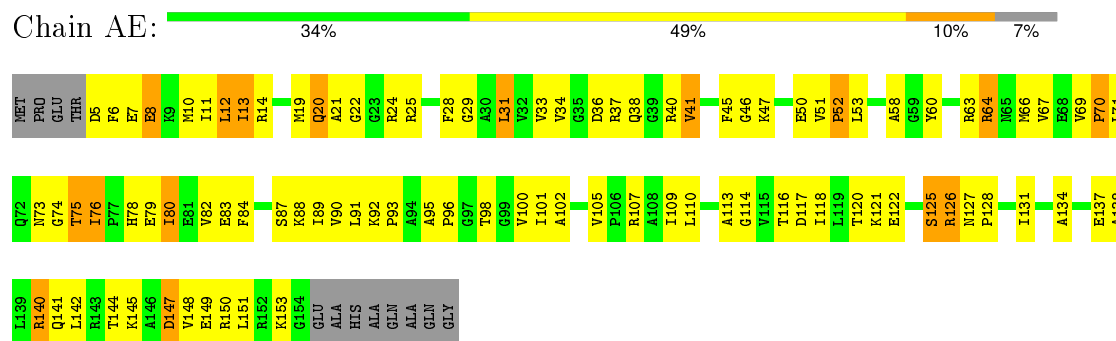
• Molecule 4: 30S RIBOSOMAL PROTEIN S4

Chain AD:



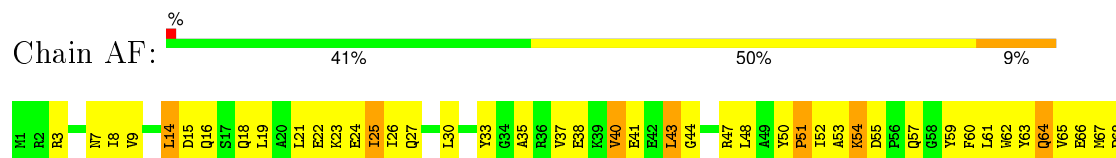
• Molecule 5: 30S RIBOSOMAL PROTEIN S5

Chain AE:



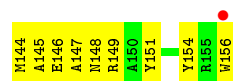
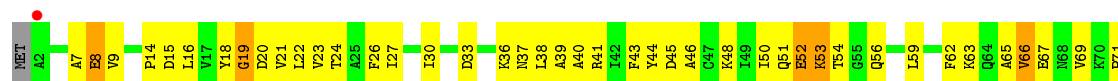
• Molecule 6: 30S RIBOSOMAL PROTEIN S6

Chain AF:





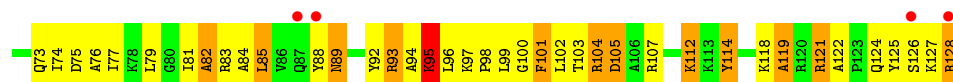
• Molecule 7: 30S RIBOSOMAL PROBLEM S7



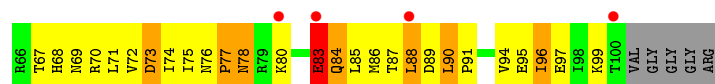
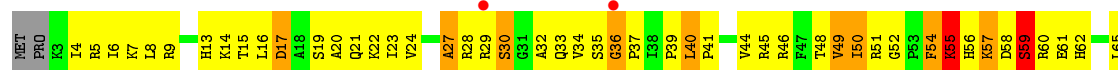
• Molecule 8: 30S RIBOSOMAL PROBLEM S8



• Molecule 9: 30S RIBOSOMAL PROBLEM S9

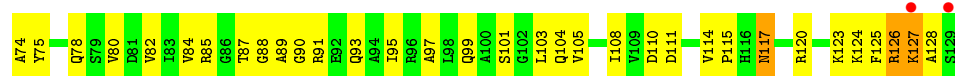
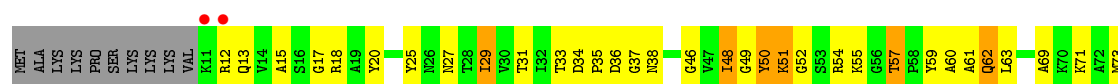


• Molecule 10: 30S RIBOSOMAL PROBLEM S10

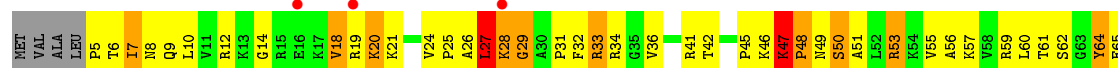


• Molecule 11: 30S RIBOSOMAL PROBLEM S11



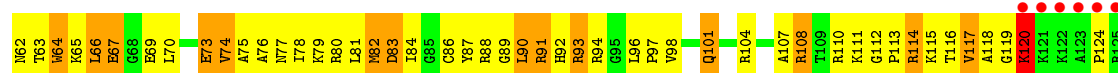
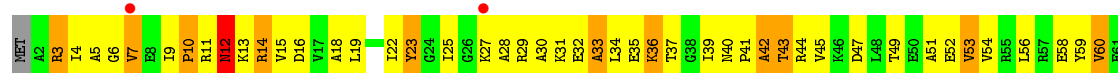


• Molecule 12: 30S RIBOSOMAL PROTEIN S12



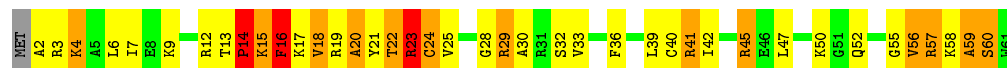
LYS

• Molecule 13: 30S RIBOSOMAL PROTEIN S13



LYS

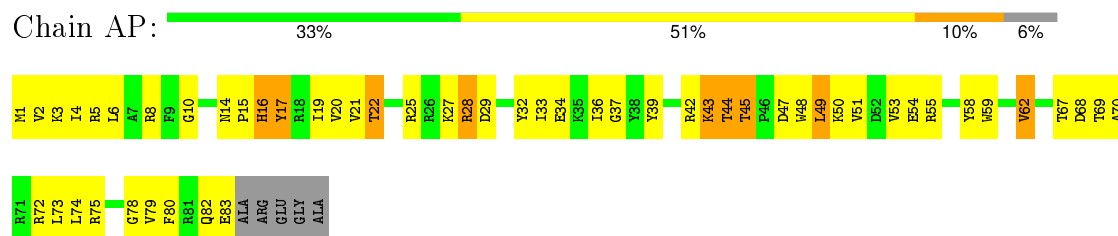
• Molecule 14: 30S RIBOSOMAL PROTEIN S14



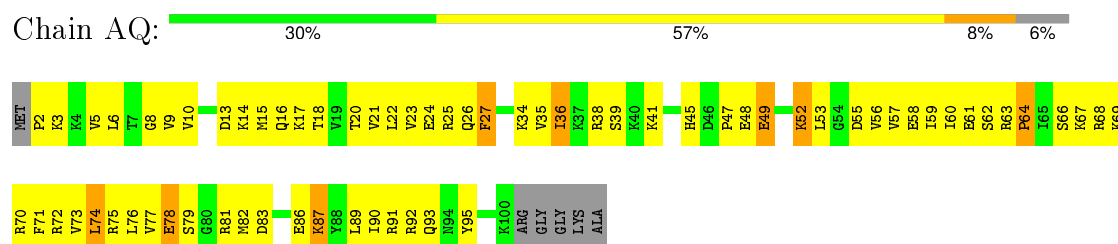
• Molecule 15: 30S RIBOSOMAL PROTEIN S15



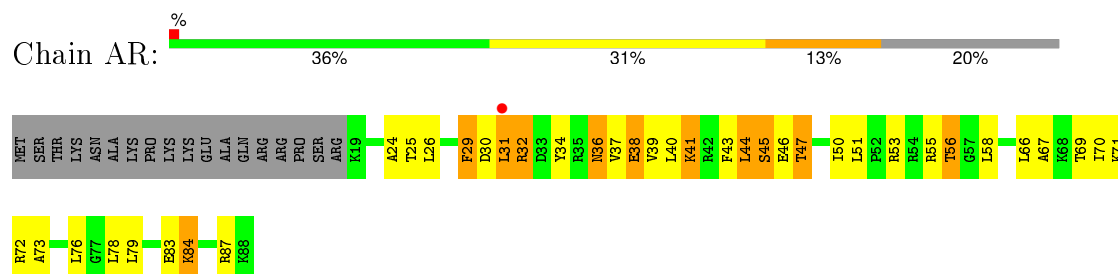
• Molecule 16: 30S RIBOSOMAL PROTEIN S16



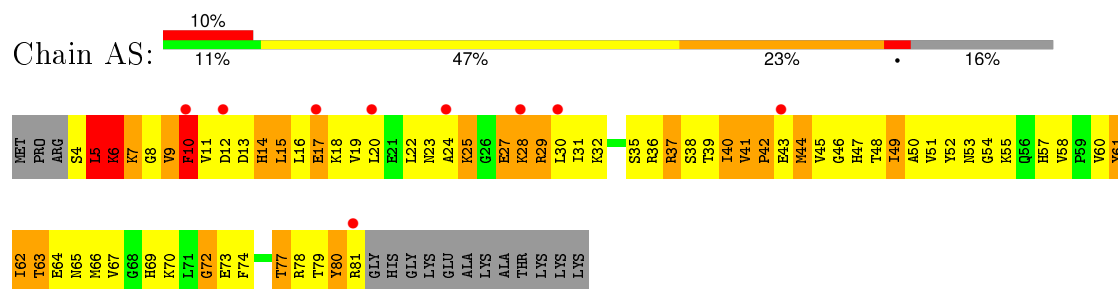
- Molecule 17: 30S RIBOSOMAL PROTEIN S17



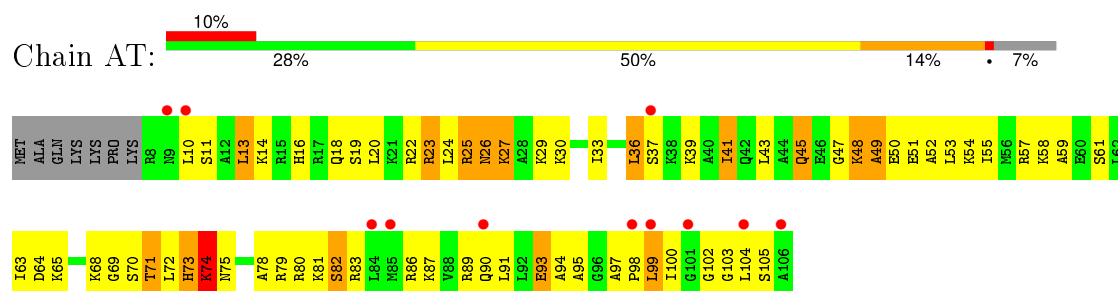
- Molecule 18: 30S RIBOSOMAL PROTEIN S18



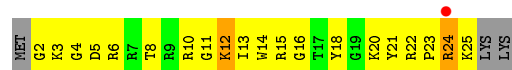
- Molecule 19: 30S RIBOSOMAL PROTEIN S19



- Molecule 20: 30S RIBOSOMAL PROTEIN S20



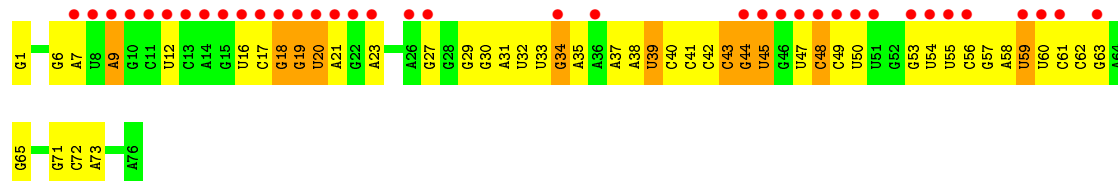
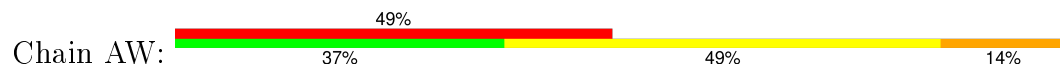
- Molecule 21: 30S RIBOSOMAL PROTEIN THX



- Molecule 22: E-SITE TRNA PHE OR P-SITE TRNA PHE



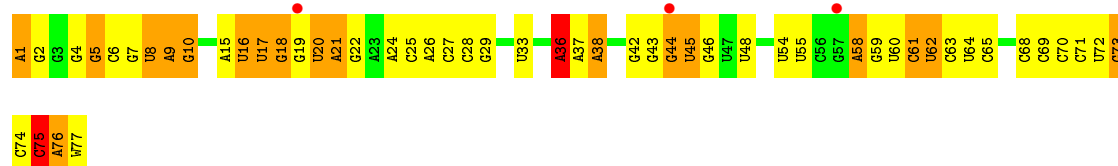
- Molecule 22: E-SITE TRNA PHE OR P-SITE TRNA PHE



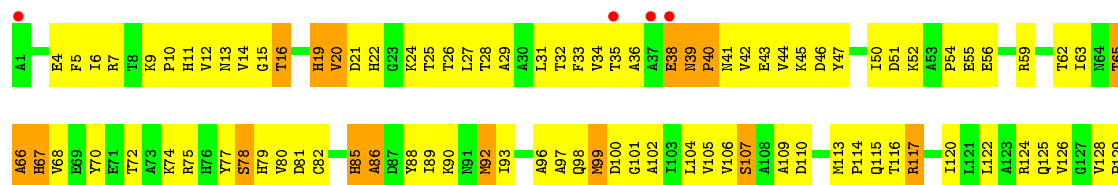
- Molecule 23: MRNA

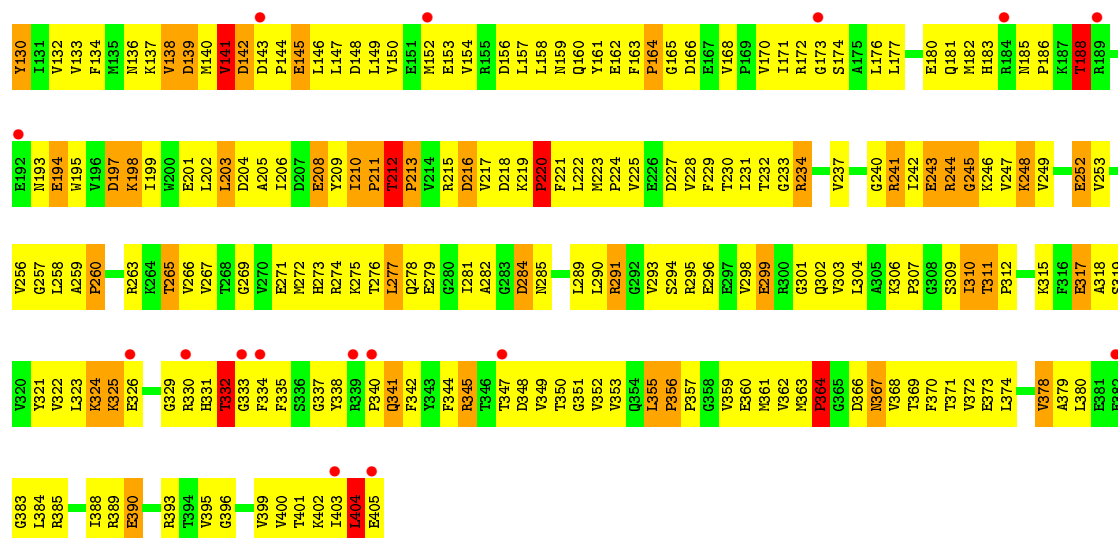


- Molecule 24: A-SITE TRNA G24A TRP-TRNA TRP

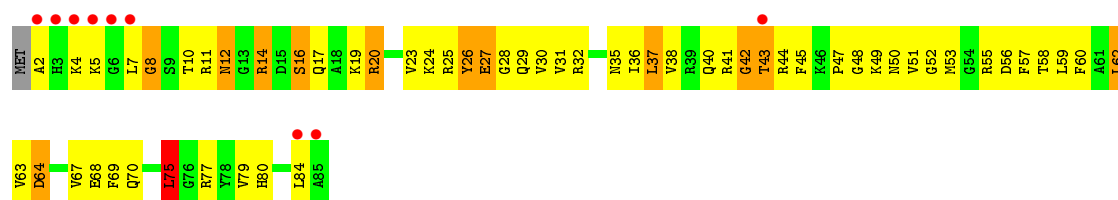


- Molecule 25: ELONGATION FACTOR TU

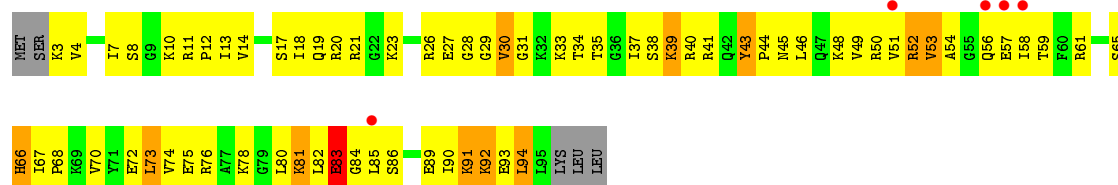




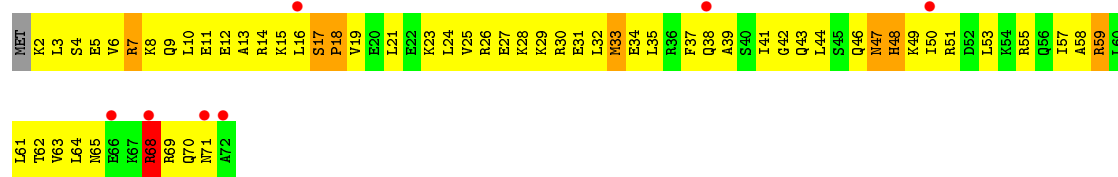
• Molecule 26: 50S RIBOSOMAL PROTEIN L27



• Molecule 27: 50S RIBOSOMAL PROTEIN L28

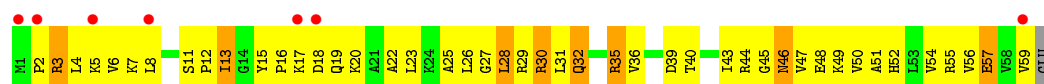


• Molecule 28: 50S RIBOSOMAL PROTEIN L29

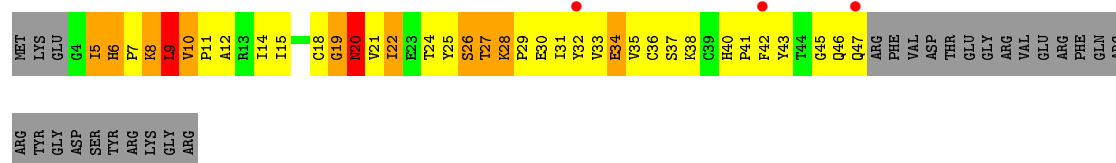


• Molecule 29: 50S RIBOSOMAL PROTEIN L30





• Molecule 30: 50S RIBOSOMAL PROTEIN L31



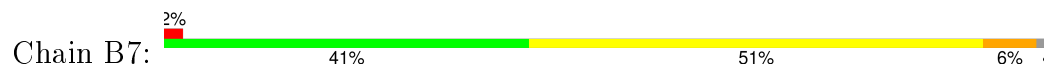
• Molecule 31: 50S RIBOSOMAL PROTEIN L32



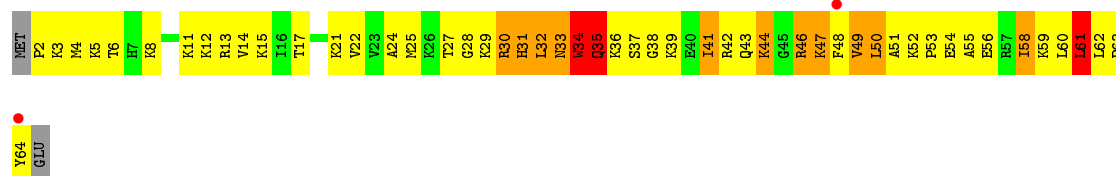
• Molecule 32: 50S RIBOSOMAL PROTEIN L33



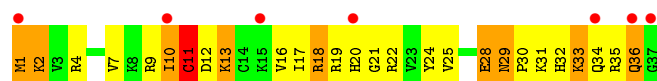
• Molecule 33: 50S RIBOSOMAL PROTEIN L34



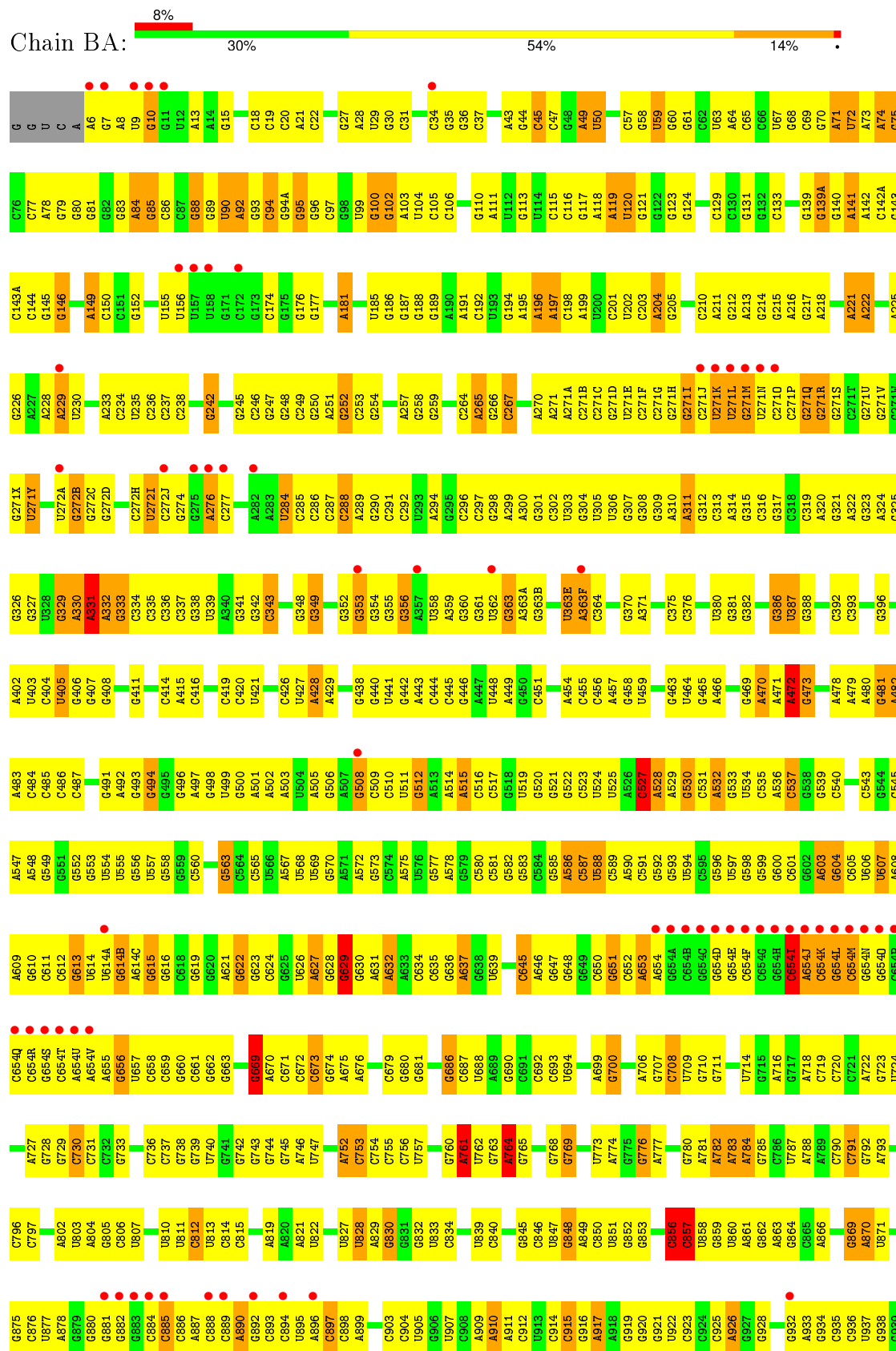
• Molecule 34: 50S RIBOSOMAL PROTEIN L35



• Molecule 35: 50S RIBOSOMAL PROTEIN L36



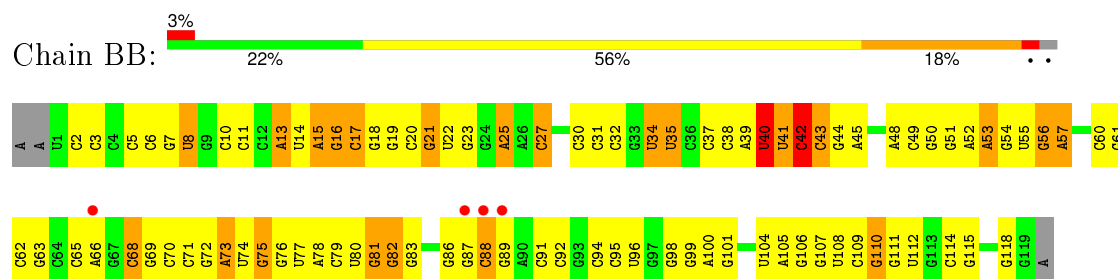
- Molecule 36: 23S RIBOSOMAL RNA



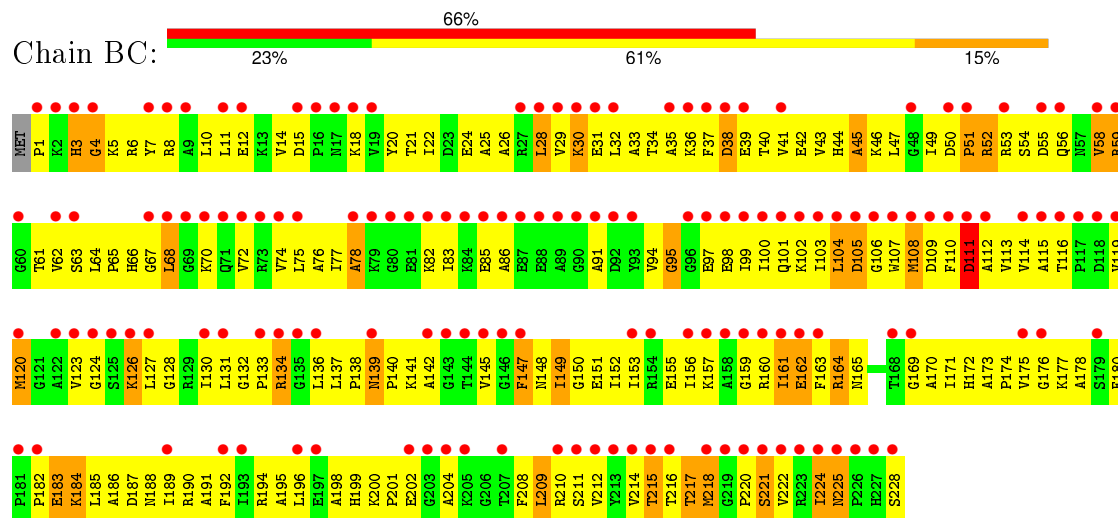
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C1852	A1783	G1697	C1612	A1544	C1408	G1338	A1269	C1207	U1142	U1078	U1012	A941
A1853	A1784	A1698	G1613	G1478	C1409	C1339	A1270	G1208	A1142A	C1079	C1013	G942
A1854	A1785		A1614	G1479	G1410	U1340	G1271	G1209	A1143	C1080	U1014	U943
G1858	A1786		C1615	C1548	C1411	U1341	A1272	A1210	C1145	U1082	C1018	A945
A1859	C1788		A1616	G1484	A1412	U1342	U1273	U1211		U1083	U1019	G946
G1860	A1789		C1617	G1485	G1413	G1343	A1274	G1212		A1084	A1020	G947
G1861	C1790		A1618	A1486	G1414	G1344	A1275	A1213		A1085	A1021	G948
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G1863	U1709		A1626	A1554	C1416	A1349	A1278	G1215		G1150	U1023	G950
U1864	C1710		G1636	G1555	C1417	C1350	A1279	G1216		G1087	G1024	G951
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G1866	G1717		C1638	A1494	A1419	U1352	A1286	C1218		U1090	U1026	
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A1877	U1720		C1640	A1559	G1421	G1355	A1288	C1221		C1092	A1028	
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C1882	A1801		G1642	A1567	A1427	A1360	C1291	G1223		A1095	G1034	
G1883	A1802		G1643	C1499	C1428	U1361	U1292	C1224		U1097		
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G1886	A1741		C1646	A1571	U1431	C1364	C1304	U1234		C1100	G1040	
G1887	G1742		G1647	U1573	C1432	A1365	C1305	G1235		U1101	G1041	
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C1914	G1764		G1592	G1527	G1459	C1386	G1318			G1122	U1061	
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A1932	G1845		C1607	G1539	A1472		C1403			G1138	C1075	
G1933	U1778		U1608	U1540	C1473		C1404			G1139	G1076	
G1934	A1847		A1609	C1474	U1405		G1334			C1140		
G1935	U1780		U1692	A1542	G1475		A1336					
A1936	C1781											

C	G2839	G2766	G2630	G3557	G3487	C3417	C3350	U2203	U2079	A2013	A1937
C	C2840	C2767	G2631	U2562	A2488	A2418	G2351	C2205	G2080	A2014	A1938
U	G2841	C2768	A2632	U2563	G2489	U2419	G2354	G2206	G2085	A2015	U1939
C	G2842	C2769	G2635	U2564	U2492	G2420	C2355	G2207	G2145	U2016	U1940
	G2843			A2565	U2492	A2422	C2356	U2218	G2087	G2017	U1943
	G2844			A2566	U2493	U2423	U2357	G2219	G2088	A2018	
	G2845	A2775	G2638	G2567	G2494	U2424	A2360	G2220	G2089	A2019	U1946
	G2846	G2777	G2639	G2568	G2495	A2425	A2361	G2221	G2090	C2020	C1947
			G2640	G2569	C2496	G2428	G2362	G2222	U2091	G2023	G1948
	U2849	U2778	G2641	C2497	C2496	U2429	G2363	G2223	G2092	G2024	
	A2850	U2779	G2642	C2497	C2497	A2430	G2364	G2224	G2093	G2025	A1952
	G2851	G2780	G2643	C2571	C2498		C2365	A2225	G2094	C2026	U1955
	G2852	A2781	G2644	A2572		A2430	C2393	A2226	C2095		
	G2853	G2782	G2645	C2573	G2502		G2394		G2096	G2027	
	G2854		G2646		U2503	A2439	A2366	C2229	U2097	G2028	C1958
	G2855	C2787	U2647	G2576	U2504	C2440	A2367	C2230	C2097	U2028	G1959
	G2856	C2788	G2648	A2577	G2505	C2441	C2368	G2231	U2098	G2029	A1960
	G2857	U2789	U2649	G2578	U2506	G2442	A2369	G2232	U2099	A2030	G1961
	G2858	A2790	U2650	C2579	C2507	C2443	G2370	U2232	G2100	A2031	C1962
	G2859	G2791		U2580	G2508	G2444	G2371	U2233	G2101	G2032	U1963
	A2860	C2792	U2653	G2581	G2509	G2445	G2372	U2234	U2102	A2033	G1964
	G2861	G2793	A2654	G2582	C2510	G2446	G2373	G2235	G2103	G2034	
	G2862	C2794	G2655	G2583	U2511	G2447	A2305	G2236	G2104	G2035	
	G2863	A2795	U2656	U2584	C2512	A2448	G2375	G2237	C2105	G2036	G1967
	G2864	U2796	A2657	G2585	G2513	U2449	A2376	G2238	G2106	G2037	G1968
	U2865	G2797	G2658		U2514	A2450	A2377	G2239	C2107	G2038	A1969
	G2866	A2801		U2589	G2515	A2451	A2378	G2240	U2108	C2039	A1970
	G2867	C2801A	G2661	A2590	C2516	C2452	A2379	A2241	U2109	A2042	A1971
	A2868	G2802	A2662	C2591	C2517	A2453	G2383	U2242	G2110	G2043	A1972
	G2869	G2803	G2663	G2592	A2518	G2454	U2312	U2243	C2111	A2044	G1973
	C2870	G2804	G2664	U2593	U2519	G2455	G2384	U2244	G2112	G2045	C1974
	G2805		A2665	G2594	C2520	G2456	C2385	U2245	U2113	G2046	
	G2871		G2666			U2457	G2386	U2246	A2114	U2047	
	G2872		G2667	G2597	G2523	U2460	U2387	A2247	G2115	G2048	G1980
	U2807		G2668		G2524	C2461	G2391	C2248	G2116	A1981	A1982
	U2808			G2603	G2525	U2462	A2392	U2249	U2117	C2050	
	A2809		G2669		G2526	G2463	A2393	G2252	A2051	G2052	G1987
	G2810			G2606	U2528	C2464	C2394	G2257	G2053	G2054	C1988
			G2672	C2607	G2529	C2465	A2327	U2257	A2054	G2055	G1989
	A2813		G2673	G2608	C2530	C2466	A2328	C2258	G2122	C2056	C1990
	C2814		A2675	U2608	A2531	G2467	G2329		G2123	G2056	U1991
	G2815			U2609	G2532	G2468	G2330	C2261	G2124		G1992
	G2816			C2610	A2533	A2469	G2331	U2262	G2125	A2059	C1993
	G2817			U2611	A2534	G2470	U2332	C2263	A2126	A2060	U1995
	G2818			C2612	U2537	G2471	C2333	C2264	G2127	G2061	C1996
	G2819				U2537	G2472	C2402		C2128	A2062	G1997
	A2820		U2684	U2615	C2538			A2267	U2129	C2063	G1998
	A2821			C2616	C2539	G2475	G2405	A2268	U2130	G2064	G1999
	G2822		G2687	G2617	C2540	A2476	U2406	A2269	G2131	C2065	G2000
	A2823		U2688	G2618	C2541	C2477	G2407	A2270	G2132	G2066	A2001
	C2824		U2689	C2619	A2542	C2478	U2408	G2271	G2133	U2068	G2002
	G2825		G2690	A2621	G2543	G2479	G2409	U2272	G2134	G2069	
			C2691	A2621	G2544	C2480	G2410	U2273	A2135		
	C2829		G2692	G2624	G2544	A2411	U2344	A2274	G2136	G2069	
	G2830		G2693	G2625	U2552	G2482	A2412	C2275	C2137		C2006
			A2694	C2626	G2553	G2483	G2413	G2276	U2197	G2072	C2007
	G2833		G2695	C2627	U2554	C2484	G2414	G2277	C2138	G2073	C2008
	G2834		U2696	C2628	U2555	G2485	U2347	G2278	C2139	U2074	G2009
	A2835			A2629	G2556	G2486	C2416	G2279	C2140	G2075	U2011
	U2836								C2141	C2078	G2012
	G2837										
	G2838										

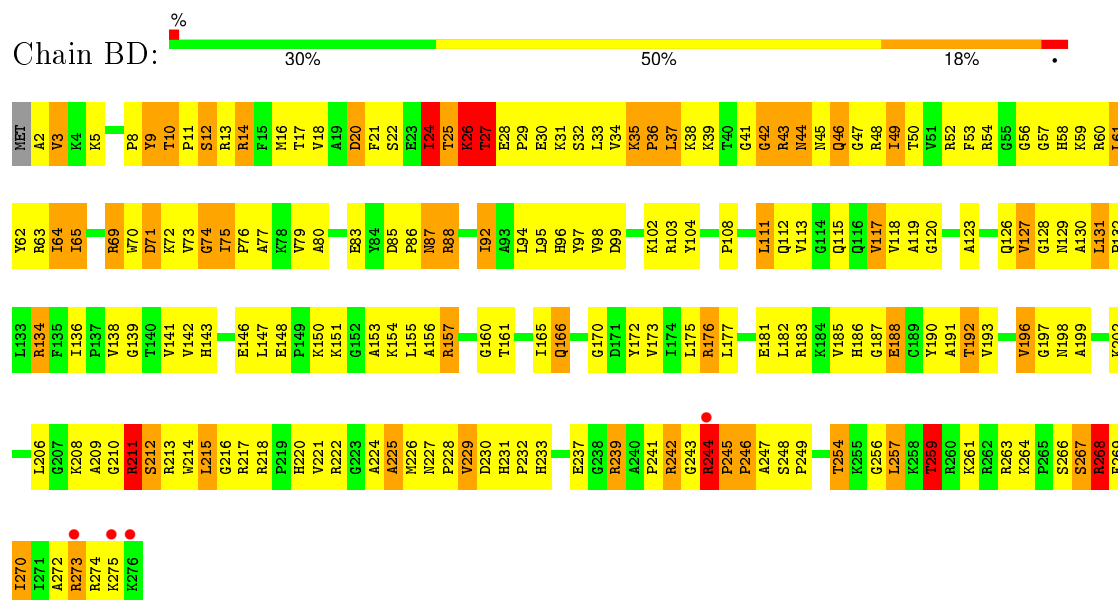
- Molecule 37: 5S RIBOSOMAL RNA



- Molecule 38: 50S RIBOSOMAL PROTEIN L1

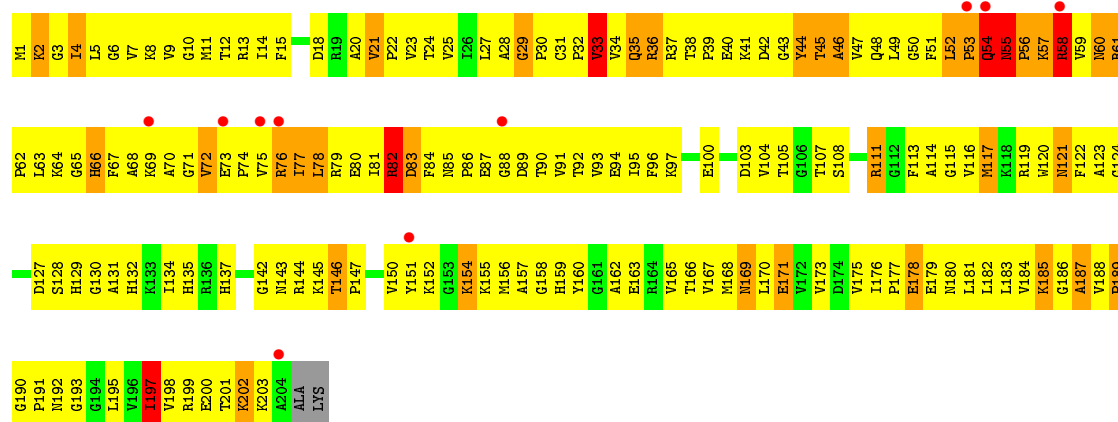


- Molecule 39: 50S RIBOSOMAL PROTEIN L2

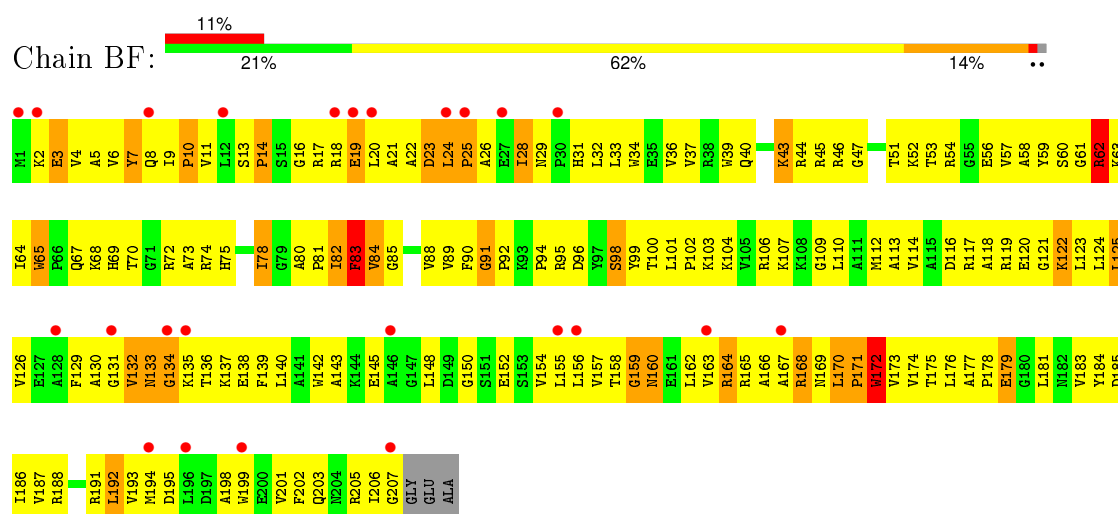


- Molecule 40: 50S RIBOSOMAL PROTEIN L3

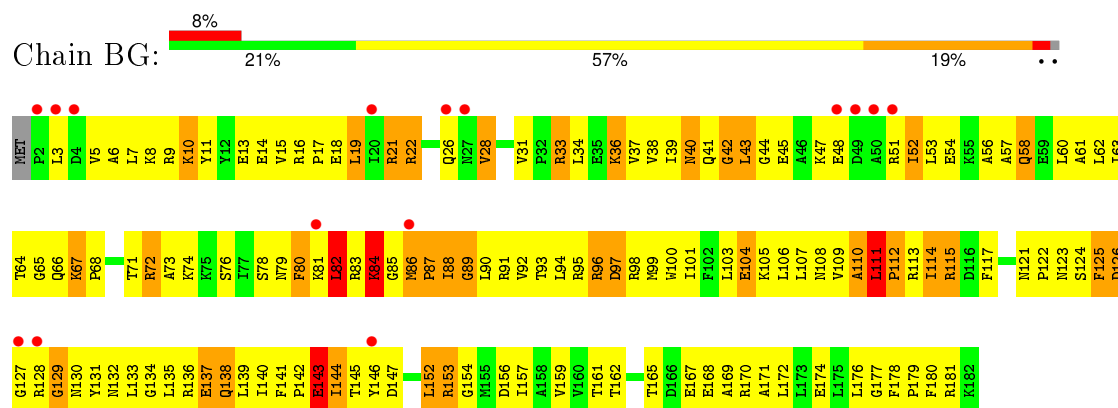




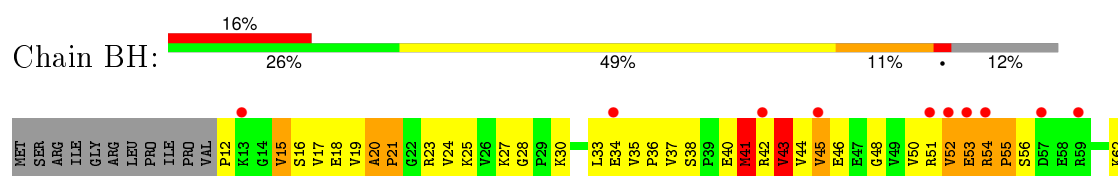
• Molecule 41: 50S RIBOSOMAL PROTEIN L4

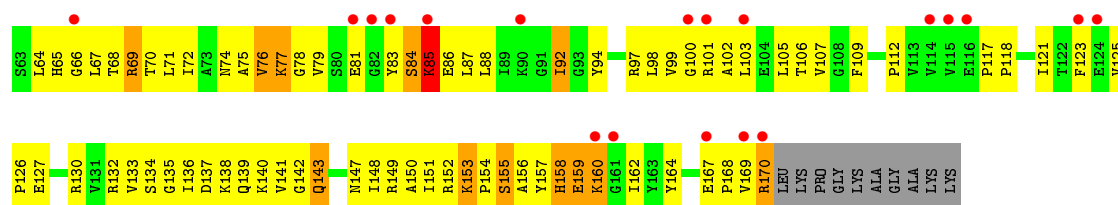


• Molecule 42: 50S RIBOSOMAL PROTEIN L5

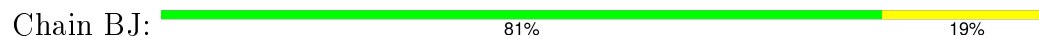


• Molecule 43: 50S RIBOSOMAL PROTEIN L6

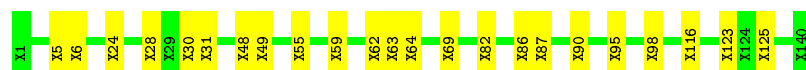
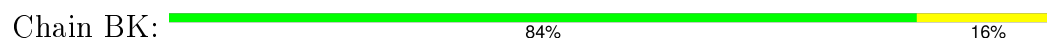




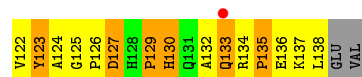
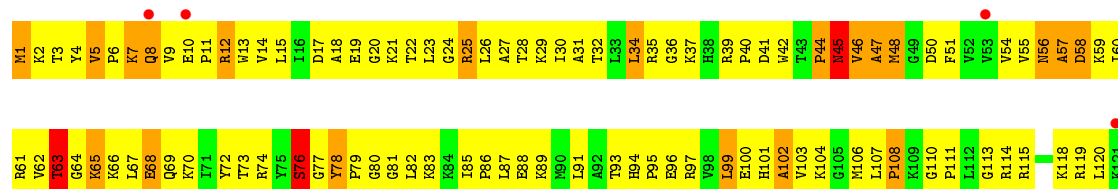
• Molecule 44: 50S RIBOSOMAL PROTEIN L10



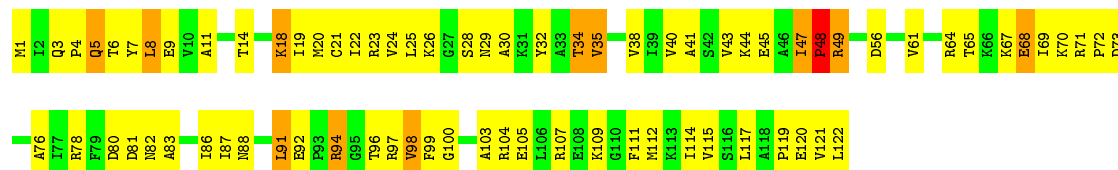
• Molecule 45: 50S RIBOSOMAL PROTEIN L11



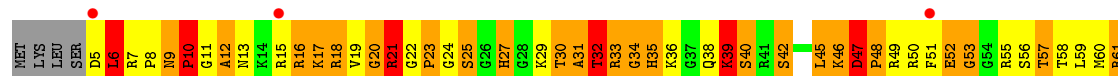
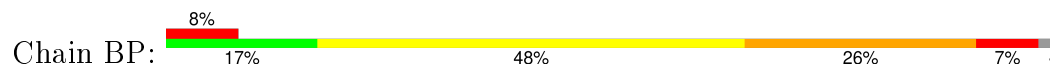
• Molecule 46: 50S RIBOSOMAL PROTEIN L13

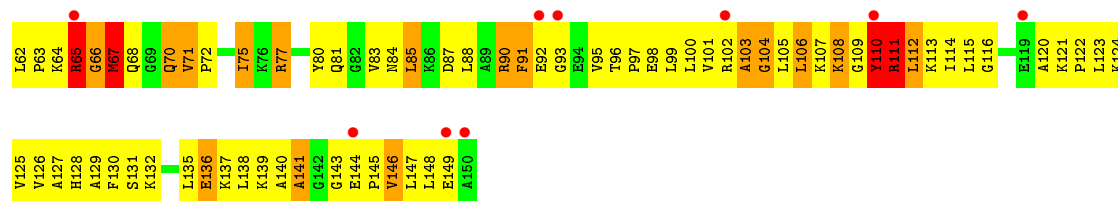


• Molecule 47: 50S RIBOSOMAL PROTEIN L14

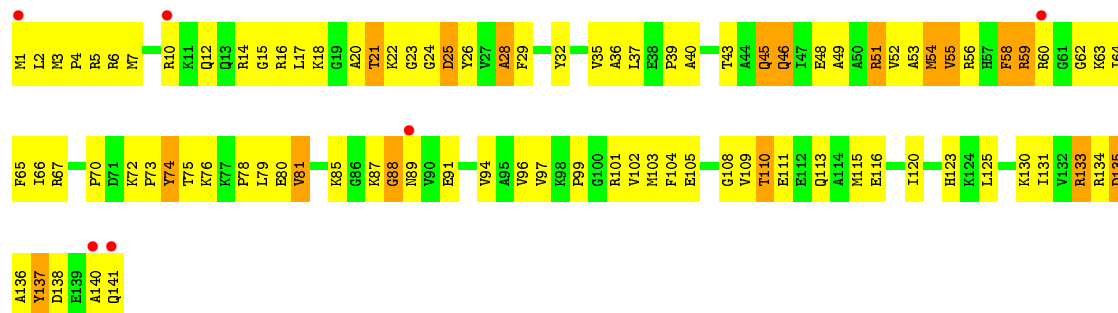


• Molecule 48: 50S RIBOSOMAL PROTEIN L15

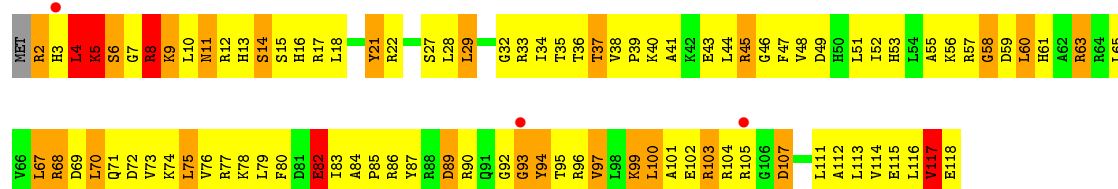




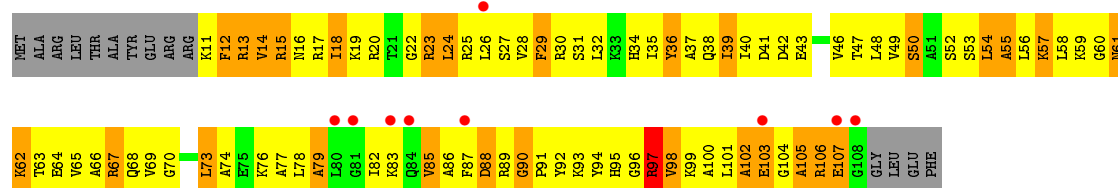
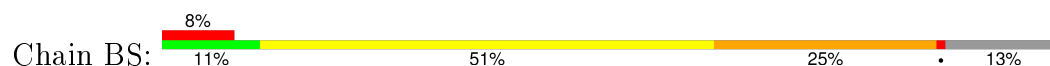
• Molecule 49: 50S RIBOSOMAL PROTEIN L16



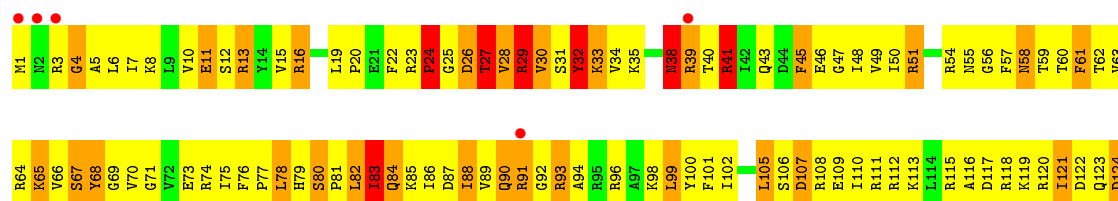
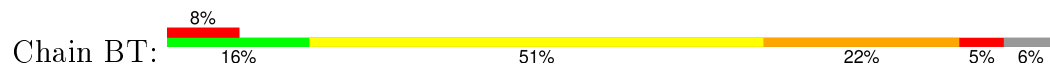
• Molecule 50: 50S RIBOSOMAL PROTEIN L17

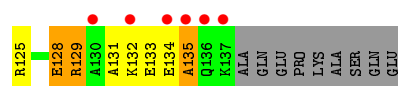


• Molecule 51: 50S RIBOSOMAL PROTEIN L18

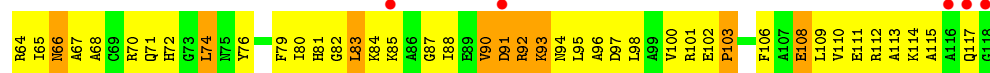


• Molecule 52: 50S RIBOSOMAL PROTEIN L19

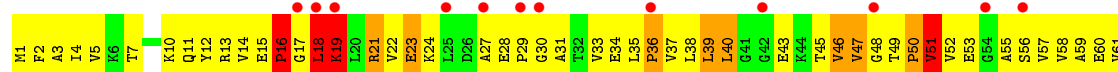




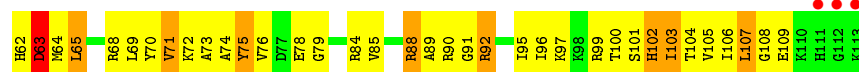
• Molecule 53: 50S RIBOSOMAL PROTEIN L20



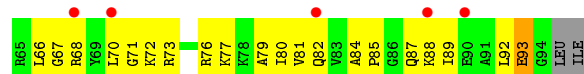
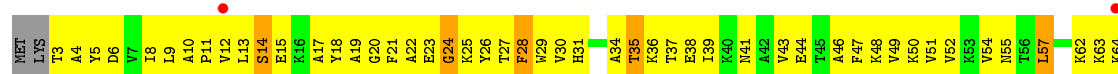
• Molecule 54: 50S RIBOSOMAL PROTEIN L21



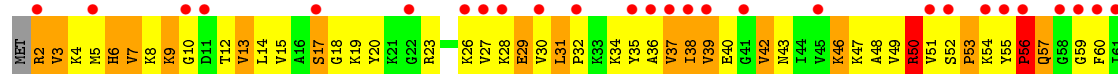
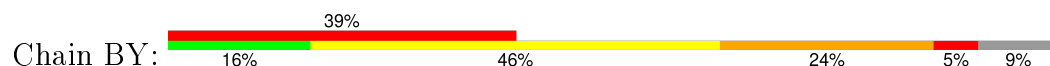
• Molecule 55: 50S RIBOSOMAL PROTEIN L22

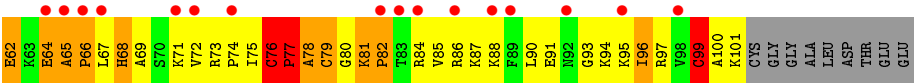


• Molecule 56: 50S RIBOSOMAL PROTEIN L23

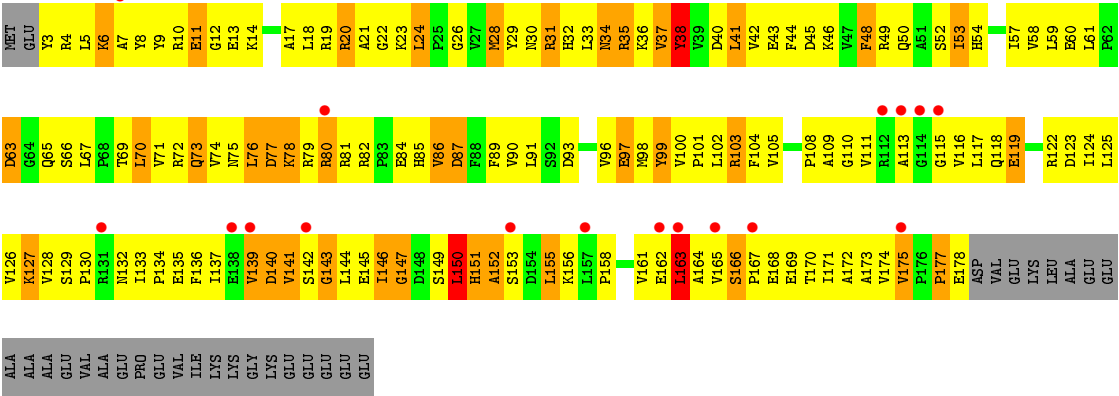
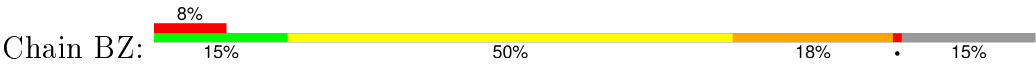


• Molecule 57: 50S RIBOSOMAL PROTEIN L24





● Molecule 58: 50S RIBOSOMAL PROTEIN L25



4 Data and refinement statistics

Property	Value	Source
Space group	P 1 21 1	Depositor
Cell constants a, b, c, α , β , γ	197.60Å 274.93Å 282.46Å 90.00° 91.81° 90.00°	Depositor
Resolution (Å)	50.00 – 3.10 48.00 – 3.01	Depositor EDS
% Data completeness (in resolution range)	98.8 (50.00-3.10) 95.9 (48.00-3.01)	Depositor EDS
R_{merge}	0.02	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	1.38 (at 3.01Å)	Xtriage
Refinement program	CNS 1.2	Depositor
R, R_{free}	0.231 , 0.268 0.233 , 0.270	Depositor DCC
R_{free} test set	26925 reflections (5.28%)	DCC
Wilson B-factor (Å ²)	64.7	Xtriage
Anisotropy	0.187	Xtriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.31 , 85.1	EDS
Estimated twinning fraction	0.018 for -h,l,k 0.019 for -h,-l,-k 0.027 for h,-k,-l	Xtriage
L-test for twinning ²	$\langle L \rangle = 0.46$, $\langle L^2 \rangle = 0.28$	Xtriage
Outliers	0 of 569519 reflections	Xtriage
F_o, F_c correlation	0.90	EDS
Total number of atoms	153628	wwPDB-VP
Average B, all atoms (Å ²)	84.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 1.59% of the height of the origin peak. No significant pseudotranslation is detected.*

¹Intensities estimated from amplitudes.

²Theoretical values of $\langle |L| \rangle$, $\langle L^2 \rangle$ for acentric reflections are 0.5, 0.375 respectively for untwinned datasets, and 0.333, 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: OMC, 5MU, PAR, 4SU, GCP, MIA, MG, H2U, ZN, 7MG, PSU

The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with $|Z| > 5$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# $ Z > 5$	RMSZ	# $ Z > 5$
1	AA	0.58	3/36190 (0.0%)	0.77	49/56486 (0.1%)
2	AB	0.44	0/1935	0.72	1/2609 (0.0%)
3	AC	0.50	1/1636 (0.1%)	0.75	0/2205
4	AD	0.44	0/1733	0.71	1/2318 (0.0%)
5	AE	0.54	0/1162	0.75	0/1564
6	AF	0.45	0/856	0.69	1/1154 (0.1%)
7	AG	0.43	0/1276	0.66	0/1709
8	AH	0.45	0/1136	0.73	0/1527
9	AI	0.45	0/1029	0.71	0/1378
10	AJ	0.49	0/807	0.78	0/1085
11	AK	0.45	0/900	0.72	0/1213
12	AL	0.58	0/986	0.88	2/1320 (0.2%)
13	AM	0.42	0/998	0.79	2/1336 (0.1%)
14	AN	0.54	0/501	0.79	0/664
15	AO	0.42	0/745	0.66	0/992
16	AP	0.44	0/716	0.74	0/963
17	AQ	0.44	0/836	0.70	0/1117
18	AR	0.47	0/579	0.76	0/768
19	AS	0.44	0/642	0.72	0/865
20	AT	0.39	0/765	0.72	1/1007 (0.1%)
21	AU	0.45	0/212	0.69	0/277
22	AV	0.49	0/1809	0.75	0/2819
22	AW	0.45	0/1809	0.73	0/2819
23	AX	0.65	0/334	0.81	0/519
24	AY	0.49	1/1618 (0.1%)	0.78	3/2514 (0.1%)
25	AZ	0.41	0/3203	0.68	1/4346 (0.0%)
26	B0	0.39	0/671	0.73	0/892
27	B1	0.44	0/738	0.74	0/981
28	B2	0.35	0/600	0.63	0/793
29	B3	0.37	0/472	0.66	0/634
30	B4	0.41	0/349	0.60	0/474
31	B5	0.38	0/473	0.72	0/639

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
32	B6	0.66	0/440	0.98	2/586 (0.3%)
33	B7	0.43	0/426	0.71	0/561
34	B8	0.55	0/515	0.83	1/679 (0.1%)
35	B9	0.45	0/310	0.65	0/407
36	BA	0.51	2/69976 (0.0%)	0.74	57/109244 (0.1%)
37	BB	0.40	0/2853	0.72	0/4451
38	BC	0.42	2/1774 (0.1%)	0.67	0/2391
39	BD	0.57	0/2195	0.91	3/2955 (0.1%)
40	BE	0.41	0/1596	0.71	0/2153
41	BF	0.37	0/1658	0.68	0/2244
42	BG	0.37	0/1499	0.68	1/2016 (0.0%)
43	BH	0.36	0/1245	0.70	0/1682
46	BN	0.36	0/1131	0.69	0/1525
47	BO	0.50	0/943	0.76	0/1269
48	BP	0.48	0/1131	0.98	4/1504 (0.3%)
49	BQ	0.45	0/1143	0.69	0/1527
50	BR	0.35	0/974	0.74	1/1302 (0.1%)
51	BS	0.42	0/778	0.77	0/1036
52	BT	0.44	0/1155	0.80	2/1542 (0.1%)
53	BU	0.39	0/975	0.65	0/1297
54	BV	0.36	0/790	0.70	0/1057
55	BW	0.37	0/907	0.68	0/1216
56	BX	0.43	0/739	0.66	1/993 (0.1%)
57	BY	0.38	0/788	0.73	0/1051
58	BZ	0.39	0/1435	0.67	0/1949
All	All	0.50	9/165092 (0.0%)	0.74	133/246624 (0.1%)

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

Mol	Chain	#Chirality outliers	#Planarity outliers
1	AA	3	51
23	AX	0	1
24	AY	2	1
36	BA	4	70
37	BB	0	2
All	All	9	125

All (9) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
36	BA	761	A	C5-C6	-8.40	1.33	1.41
24	AY	1	A	OP3-P	-6.72	1.53	1.61
38	BC	120	MET	CG-SD	6.37	1.97	1.81
1	AA	1267	C	C5'-C4'	6.34	1.58	1.51
36	BA	2506	U	N1-C2	5.99	1.44	1.38
3	AC	2	GLY	N-CA	5.54	1.54	1.46
38	BC	218	MET	CG-SD	5.38	1.95	1.81
1	AA	858	G	N1-C2	5.19	1.42	1.37
1	AA	299	G	C6-O6	5.03	1.28	1.24

All (133) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	AA	1498	U	C2'-C3'-O3'	10.24	132.03	109.50
1	AA	508	C	C2'-C3'-O3'	10.16	131.85	109.50
36	BA	654(I)	C	N1-C1'-C2'	10.03	127.04	114.00
24	AY	75	C	C2'-C3'-O3'	9.40	130.19	109.50
36	BA	1799	G	C2'-C3'-O3'	9.36	130.09	109.50
1	AA	1504	G	C2'-C3'-O3'	9.11	129.55	109.50
36	BA	1786	A	N9-C1'-C2'	9.11	125.85	114.00
48	BP	52	GLU	N-CA-C	9.09	135.53	111.00
1	AA	687	A	C2'-C3'-O3'	8.91	129.10	109.50
36	BA	1378	A	C2'-C3'-O3'	8.89	129.05	109.50
24	AY	36	A	C2'-C3'-O3'	8.80	128.85	109.50
1	AA	1399	C	C2'-C3'-O3'	8.68	128.59	109.50
1	AA	1050	G	N9-C1'-C2'	-8.46	102.69	112.00
1	AA	243	A	C2'-C3'-O3'	8.38	127.95	109.50
1	AA	109	A	C2'-C3'-O3'	8.35	127.88	109.50
36	BA	1300	U	C2'-C3'-O3'	8.34	127.86	109.50
1	AA	1239	A	C2'-C3'-O3'	8.25	127.66	109.50
1	AA	1049	U	C2'-C3'-O3'	8.21	127.57	109.50
36	BA	1819	A	C2'-C3'-O3'	8.10	127.33	109.50
36	BA	387	U	C2'-C3'-O3'	8.10	127.32	109.50
36	BA	2360	A	N9-C1'-C2'	-8.05	103.15	112.00
1	AA	347	G	N9-C1'-C2'	-8.04	103.16	112.00
1	AA	920	U	C5'-C4'-C3'	-7.93	103.31	116.00
1	AA	369	C	N1-C1'-C2'	-7.90	103.31	112.00
1	AA	30	U	C2'-C3'-O3'	7.77	126.60	109.50
1	AA	1267	C	C5'-C4'-O4'	7.70	118.34	109.10
1	AA	1267	C	C5'-C4'-C3'	7.70	128.31	116.00
48	BP	53	GLY	N-CA-C	-7.67	93.92	113.10
1	AA	1101	A	C2'-C3'-O3'	7.65	126.34	109.50
36	BA	1970	A	C5'-C4'-O4'	7.50	118.10	109.10

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
36	BA	2286	A	N9-C1'-C2'	7.41	123.64	114.00
36	BA	1992	G	C2'-C3'-O3'	7.41	125.80	109.50
1	AA	1181	G	N9-C1'-C2'	7.20	123.36	114.00
39	BD	244	ARG	C-N-CD	-7.13	104.92	120.60
36	BA	1427	A	C2'-C3'-O3'	7.05	125.01	109.50
1	AA	60	A	C2'-C3'-O3'	7.03	124.96	109.50
36	BA	654(K)	C	C1'-O4'-C4'	-6.76	104.49	109.90
36	BA	2610	C	C2'-C3'-O3'	6.75	124.50	113.70
1	AA	1502	A	N9-C1'-C2'	6.75	122.77	114.00
36	BA	654(K)	C	N1-C1'-C2'	6.60	122.58	114.00
1	AA	1186	G	C5'-C4'-C3'	-6.49	105.62	116.00
1	AA	428	G	C2'-C3'-O3'	6.46	124.03	113.70
1	AA	792	A	C2'-C3'-O3'	6.37	123.89	113.70
36	BA	1653	G	C2'-C3'-O3'	6.37	123.89	113.70
42	BG	89	GLY	N-CA-C	-6.36	97.21	113.10
4	AD	12	CYS	CA-CB-SG	6.20	125.16	114.00
1	AA	968	A	C2'-C3'-O3'	6.20	123.61	113.70
25	AZ	86	ALA	N-CA-C	-6.19	94.30	111.00
52	BT	29	ARG	N-CA-C	6.18	127.69	111.00
1	AA	1504	G	OP2-P-O3'	6.18	118.79	105.20
1	AA	1397	C	O4'-C1'-N1	6.16	113.13	108.20
1	AA	1397	C	C5'-C4'-O4'	6.09	116.41	109.10
1	AA	1283	G	N9-C1'-C2'	-6.08	105.32	112.00
36	BA	783	A	N9-C1'-C2'	-6.04	105.36	112.00
32	B6	10	LEU	CA-CB-CG	6.03	129.16	115.30
56	BX	57	LEU	CA-CB-CG	6.02	129.14	115.30
36	BA	975	C	N1-C1'-C2'	6.01	121.82	114.00
36	BA	2756	U	C2'-C3'-O3'	5.96	123.24	113.70
1	AA	968	A	N9-C1'-C2'	5.96	121.75	114.00
36	BA	2464	C	N1-C1'-C2'	-5.95	105.45	112.00
48	BP	66	GLY	N-CA-C	-5.95	98.24	113.10
36	BA	265	A	N9-C1'-C2'	5.93	121.71	114.00
36	BA	527	C	N1-C1'-C2'	5.93	121.71	114.00
1	AA	1054	C	C5'-C4'-C3'	-5.90	106.56	116.00
13	AM	90	LEU	N-CA-C	-5.88	95.13	111.00
1	AA	1331	G	N9-C1'-C2'	5.87	121.63	114.00
36	BA	1970	A	C1'-O4'-C4'	-5.87	105.21	109.90
36	BA	2089	U	C5'-C4'-C3'	-5.85	106.63	116.00
36	BA	1495	A	N9-C1'-C2'	5.81	121.56	114.00
50	BR	5	LYS	N-CA-C	-5.77	95.42	111.00
39	BD	259	THR	N-CA-C	5.74	126.50	111.00
52	BT	30	VAL	N-CA-C	5.73	126.47	111.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
36	BA	472	A	C5'-C4'-O4'	-5.69	102.27	109.10
1	AA	1305	G	N9-C1'-C2'	5.67	121.37	114.00
32	B6	9	LEU	CA-CB-CG	5.67	128.33	115.30
36	BA	1948	G	C5'-C4'-O4'	-5.58	102.40	109.10
36	BA	1698	A	O4'-C1'-N9	5.53	112.62	108.20
1	AA	1335	C	N1-C1'-C2'	5.53	121.18	114.00
1	AA	960	U	N1-C1'-C2'	5.49	121.14	114.00
1	AA	966	G	N9-C1'-C2'	-5.49	105.97	112.00
36	BA	527	C	O4'-C1'-N1	5.45	112.56	108.20
36	BA	1459	G	N9-C1'-C2'	5.45	121.08	114.00
1	AA	266	G	C2'-C3'-O3'	5.43	122.39	113.70
36	BA	1698	A	N9-C1'-C2'	5.42	121.05	114.00
36	BA	1997	G	N9-C1'-C2'	-5.41	106.05	112.00
48	BP	27	HIS	N-CA-C	5.40	125.58	111.00
36	BA	2557	G	C5'-C4'-C3'	-5.40	107.36	116.00
39	BD	56	GLY	N-CA-C	-5.40	99.61	113.10
36	BA	629	G	C5'-C4'-O4'	-5.38	102.65	109.10
36	BA	1558	A	C2'-C3'-O3'	5.37	122.30	113.70
36	BA	1493	C	N1-C1'-C2'	5.37	120.98	114.00
36	BA	945	A	N9-C1'-C2'	5.34	120.94	114.00
1	AA	547	A	N9-C1'-C2'	5.33	120.94	114.00
34	B8	34	TRP	N-CA-C	-5.33	96.62	111.00
2	AB	23	ARG	N-CA-C	-5.32	96.62	111.00
36	BA	915	C	C5'-C4'-C3'	5.31	124.50	116.00
1	AA	995	C	N1-C1'-C2'	-5.31	106.16	112.00
36	BA	2346	A	N9-C1'-C2'	5.31	120.90	114.00
36	BA	1819	A	C4'-C3'-O3'	5.31	123.61	113.00
20	AT	24	LEU	CA-CB-CG	5.29	127.48	115.30
13	AM	12	ASN	N-CA-C	5.29	125.28	111.00
1	AA	1157	A	C2'-C3'-O3'	5.28	122.15	113.70
36	BA	669	G	N9-C1'-C2'	5.26	120.84	114.00
1	AA	839	U	N1-C1'-C2'	5.25	120.83	114.00
36	BA	1378	A	C4'-C3'-O3'	5.23	123.46	113.00
6	AF	66	GLU	N-CA-C	-5.22	96.89	111.00
1	AA	586	C	N1-C1'-C2'	-5.22	106.26	112.00
1	AA	1239	A	C4'-C3'-C2'	5.21	107.81	102.60
1	AA	353	A	C5'-C4'-O4'	-5.20	102.86	109.10
36	BA	857	C	C5'-C4'-C3'	-5.19	107.69	116.00
24	AY	75	C	C4'-C3'-C2'	5.19	107.79	102.60
36	BA	331	A	C2'-C3'-O3'	5.15	121.94	113.70
36	BA	856	C	C2'-C3'-O3'	5.14	121.93	113.70
12	AL	88	GLY	N-CA-C	-5.14	100.25	113.10

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
36	BA	1300	U	C4'-C3'-O3'	5.14	123.28	113.00
1	AA	1442(B)	A	N9-C1'-C2'	5.13	120.66	114.00
36	BA	654(K)	C	C5'-C4'-O4'	5.13	115.25	109.10
36	BA	2310	A	N9-C1'-C2'	5.13	120.66	114.00
1	AA	197	A	N9-C1'-C2'	5.12	120.65	114.00
36	BA	2714	G	C5'-C4'-C3'	-5.11	107.82	116.00
36	BA	1666	G	C5'-C4'-O4'	-5.11	102.97	109.10
36	BA	1781	C	N1-C1'-C2'	5.10	120.63	114.00
36	BA	654(I)	C	O4'-C1'-N1	5.09	112.27	108.20
12	AL	119	LYS	N-CA-C	-5.09	97.27	111.00
36	BA	1701	A	C5'-C4'-C3'	-5.08	107.88	116.00
36	BA	1022	G	N9-C1'-C2'	5.08	120.60	114.00
36	BA	2033	A	N9-C1'-C2'	5.07	120.59	114.00
1	AA	1269	A	C1'-O4'-C4'	-5.04	105.87	109.90
1	AA	266	G	O4'-C1'-N9	-5.03	104.17	108.20
36	BA	2405	G	N9-C1'-C2'	5.03	120.54	114.00
1	AA	961	U	C5'-C4'-C3'	-5.02	107.96	116.00
1	AA	1504	G	C4'-C3'-O3'	5.02	123.03	113.00
36	BA	791	C	N1-C1'-C2'	5.01	120.52	114.00

All (9) chirality outliers are listed below:

Mol	Chain	Res	Type	Atom
1	AA	508	C	C3'
1	AA	1498	U	C3'
1	AA	1504	G	C3'
24	AY	36	A	C3'
24	AY	75	C	C3'
36	BA	1300	U	C3'
36	BA	1378	A	C3'
36	BA	1799	G	C3'
36	BA	1819	A	C3'

All (125) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	AA	1049	U	Sidechain
1	AA	1050	G	Sidechain
1	AA	1073	U	Sidechain
1	AA	1079	G	Sidechain
1	AA	1096	C	Sidechain
1	AA	1131	G	Sidechain

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Mol	Chain	Res	Type	Group
1	AA	1145	C	Sidechain
1	AA	1153	C	Sidechain
1	AA	1181	G	Sidechain
1	AA	1194	U	Sidechain
1	AA	1281	U	Sidechain
1	AA	1283	G	Sidechain
1	AA	1305	G	Sidechain
1	AA	1322	C	Sidechain
1	AA	1331	G	Sidechain
1	AA	1335	C	Sidechain
1	AA	1338	G	Sidechain
1	AA	1358	U	Sidechain
1	AA	1370	G	Sidechain
1	AA	1372	U	Sidechain
1	AA	1503	A	Sidechain
1	AA	1510	U	Sidechain
1	AA	1522	U	Sidechain
1	AA	1531	A	Sidechain
1	AA	198	G	Sidechain
1	AA	250	A	Sidechain
1	AA	251	G	Sidechain
1	AA	279	A	Sidechain
1	AA	347	G	Sidechain
1	AA	380	G	Sidechain
1	AA	453	A	Sidechain
1	AA	484	G	Sidechain
1	AA	498	U	Sidechain
1	AA	50	A	Sidechain
1	AA	529	G	Sidechain
1	AA	561	U	Sidechain
1	AA	573	A	Sidechain
1	AA	603	U	Sidechain
1	AA	609	A	Sidechain
1	AA	62	U	Sidechain
1	AA	7	G	Sidechain
1	AA	727	G	Sidechain
1	AA	733	A	Sidechain
1	AA	749	C	Sidechain
1	AA	793	U	Sidechain
1	AA	941	G	Sidechain
1	AA	959	A	Sidechain
1	AA	961	U	Sidechain

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Mol	Chain	Res	Type	Group
1	AA	968	A	Sidechain
1	AA	982	U	Sidechain
1	AA	995	C	Sidechain
23	AX	16	A	Sidechain
24	AY	33	U	Sidechain
36	BA	1156	A	Sidechain
36	BA	1215	G	Sidechain
36	BA	1238	G	Sidechain
36	BA	1253	A	Sidechain
36	BA	1364	G	Sidechain
36	BA	1379	A	Sidechain
36	BA	1416	G	Sidechain
36	BA	1452	A	Sidechain
36	BA	1528(A)	A	Sidechain
36	BA	1673	U	Sidechain
36	BA	1692	U	Sidechain
36	BA	1772	G	Sidechain
36	BA	1773	A	Sidechain
36	BA	1779	U	Sidechain
36	BA	1798	U	Sidechain
36	BA	1807	G	Sidechain
36	BA	1931	U	Sidechain
36	BA	1940	U	Sidechain
36	BA	1943	U	Sidechain
36	BA	1964	G	Sidechain
36	BA	1993	U	Sidechain
36	BA	1995	U	Sidechain
36	BA	1999	C	Sidechain
36	BA	2031	A	Sidechain
36	BA	2033	A	Sidechain
36	BA	2195	C	Sidechain
36	BA	2222	G	Sidechain
36	BA	2286	A	Sidechain
36	BA	2319	G	Sidechain
36	BA	2320	A	Sidechain
36	BA	2360	A	Sidechain
36	BA	2414	G	Sidechain
36	BA	2417	C	Sidechain
36	BA	242	G	Sidechain
36	BA	2452	C	Sidechain
36	BA	2464	C	Sidechain
36	BA	249	C	Sidechain

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Mol	Chain	Res	Type	Group
36	BA	250	G	Sidechain
36	BA	2523	G	Sidechain
36	BA	2529	G	Sidechain
36	BA	2542	A	Sidechain
36	BA	2564	A	Sidechain
36	BA	2581	G	Sidechain
36	BA	2582	G	Sidechain
36	BA	2592	G	Sidechain
36	BA	2597	G	Sidechain
36	BA	2603	G	Sidechain
36	BA	2608	G	Sidechain
36	BA	2687	U	Sidechain
36	BA	271(Q)	G	Sidechain
36	BA	2720	U	Sidechain
36	BA	2779	U	Sidechain
36	BA	463	G	Sidechain
36	BA	515	A	Sidechain
36	BA	527	C	Sidechain
36	BA	567	A	Sidechain
36	BA	59	U	Sidechain
36	BA	630	G	Sidechain
36	BA	632	A	Sidechain
36	BA	688	U	Sidechain
36	BA	690	G	Sidechain
36	BA	700	G	Sidechain
36	BA	740	U	Sidechain
36	BA	746	A	Sidechain
36	BA	764	A	Sidechain
36	BA	769	G	Sidechain
36	BA	869	G	Sidechain
36	BA	870	A	Sidechain
36	BA	956	G	Sidechain
36	BA	987	G	Sidechain
37	BB	40	U	Sidechain
37	BB	42	C	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	AA	32329	0	16318	1085	2
2	AB	1900	0	1951	250	0
3	AC	1612	0	1677	139	0
4	AD	1703	0	1764	151	0
5	AE	1146	0	1207	100	0
6	AF	843	0	857	52	0
7	AG	1257	0	1296	120	0
8	AH	1116	0	1177	91	0
9	AI	1011	0	1043	128	0
10	AJ	794	0	840	135	0
11	AK	885	0	904	76	0
12	AL	970	0	1057	110	0
13	AM	987	0	1059	131	0
14	AN	492	0	529	66	0
15	AO	734	0	771	61	0
16	AP	700	0	720	65	0
17	AQ	823	0	891	82	0
18	AR	574	0	644	37	0
19	AS	629	0	652	125	0
20	AT	763	0	861	107	0
21	AU	208	0	221	29	0
22	AV	1619	0	822	61	0
22	AW	1619	0	822	86	0
23	AX	298	0	152	26	0
24	AY	1644	0	853	68	0
25	AZ	3142	0	3152	385	0
26	B0	662	0	688	107	0
27	B1	731	0	808	83	0
28	B2	598	0	653	77	0
29	B3	467	0	523	59	0
30	B4	340	0	337	57	0
31	B5	459	0	480	79	0
32	B6	433	0	461	135	0
33	B7	418	0	467	31	0
34	B8	507	0	576	104	0
35	B9	307	0	335	48	0
36	BA	62477	0	31497	2445	2
37	BB	2551	0	1295	115	0
38	BC	1742	0	1800	349	0
39	BD	2145	0	2234	324	0
40	BE	1563	0	1629	273	0
41	BF	1623	0	1677	250	0
42	BG	1474	0	1535	224	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
43	BH	1222	0	1282	170	0
44	BJ	651	0	152	15	0
45	BK	700	0	166	13	0
46	BN	1104	0	1180	181	0
47	BO	933	0	996	92	0
48	BP	1114	0	1187	297	0
49	BQ	1122	0	1179	149	0
50	BR	960	0	1021	148	0
51	BS	770	0	832	169	0
52	BT	1141	0	1202	250	0
53	BU	958	0	1015	159	0
54	BV	779	0	852	127	0
55	BW	896	0	953	104	0
56	BX	725	0	778	97	0
57	BY	775	0	870	197	0
58	BZ	1403	0	1432	241	0
59	AA	42	0	45	2	0
60	AD	1	0	0	1	0
60	AN	1	0	0	0	0
60	B4	1	0	0	0	0
60	B9	1	0	0	0	0
61	AZ	32	0	14	5	0
62	AZ	1	0	0	0	0
63	AZ	1	0	0	0	0
All	All	153628	0	104391	9952	2

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 39.

All (9952) 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)
36:BA:1899:G:N2	36:BA:1902:C:H41	1.36	1.21
36:BA:2833:G:H3'	36:BA:2834:G:H5''	1.24	1.20
24:AY:1:A:H5'	25:AZ:90:LYS:HZ2	1.06	1.17
55:BW:14:PRO:HG2	55:BW:78:GLU:HG3	1.22	1.17
2:AB:84:GLU:HB3	2:AB:219:VAL:HG21	1.22	1.17
42:BG:60:LEU:HD22	42:BG:63:ILE:HD11	1.27	1.17
36:BA:1516:C:H2'	36:BA:1517:G:H5''	1.26	1.16
36:BA:2781:A:H5'	36:BA:2782:G:H5'	1.28	1.16
36:BA:654(L):G:H2'	36:BA:654(M):C:H4'	1.20	1.16

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:BU:112:ARG:HH12	54:BV:46:VAL:HG11	1.08	1.15
55:BW:8:ARG:HA	55:BW:102:HIS:HB3	1.19	1.15
53:BU:24:TYR:HB2	53:BU:29:SER:HB3	1.23	1.15
41:BF:24:LEU:HB3	41:BF:25:PRO:HD2	1.23	1.15
48:BP:62:LEU:HD23	48:BP:62:LEU:H	1.08	1.14
12:AL:47:LYS:HB3	12:AL:48:PRO:HD3	1.20	1.13
1:AA:1386:G:H2'	1:AA:1387:G:H5''	1.31	1.13
32:B6:18:ARG:HG2	32:B6:18:ARG:HH11	1.08	1.12
28:B2:35:LEU:HD11	28:B2:50:ILE:HG13	1.21	1.12
57:BY:7:VAL:HB	57:BY:8:LYS:HD2	1.32	1.12
25:AZ:68:VAL:HG23	25:AZ:79:HIS:HB3	1.30	1.11
36:BA:1884:A:H2'	36:BA:1885:A:H5''	1.24	1.11
26:B0:14:ARG:HB2	26:B0:14:ARG:HH11	1.16	1.11
1:AA:1053:G:H4'	1:AA:1054:C:H5'	1.19	1.11
36:BA:1484:G:H2'	36:BA:1485:G:H5''	1.30	1.10
38:BC:10:LEU:HD12	38:BC:32:LEU:HA	1.29	1.10
2:AB:209:ARG:HH11	2:AB:239:VAL:HG11	1.11	1.10
42:BG:115:ARG:HH22	42:BG:136:ARG:HB2	1.13	1.10
36:BA:2140:C:H2'	36:BA:2141:G:H8	1.17	1.09
36:BA:925:C:H2'	36:BA:926:A:H5''	1.31	1.09
38:BC:180:PHE:HB3	38:BC:184:LYS:HB3	1.11	1.09
32:B6:30:THR:HG22	32:B6:31:PRO:HD2	1.11	1.09
1:AA:8:A:H62	4:AD:208:SER:HB2	0.96	1.09
56:BX:24:GLY:O	56:BX:82:GLN:HA	1.52	1.08
48:BP:47:ASP:HB2	48:BP:51:PHE:HB2	1.33	1.08
36:BA:1024:G:H3'	36:BA:1025:G:H5''	1.33	1.08
10:AJ:50:ILE:HD13	10:AJ:50:ILE:H	1.14	1.08
24:AY:1:A:H5'	25:AZ:90:LYS:NZ	1.68	1.08
36:BA:1058:G:H2'	36:BA:1059:G:H5''	1.31	1.08
15:AO:87:ILE:HG22	15:AO:88:ARG:H	1.13	1.08
22:AV:46:G:H3'	22:AV:47:U:H5''	1.15	1.08
57:BY:8:LYS:H	57:BY:8:LYS:HD2	1.14	1.08
36:BA:1665:A:H2'	36:BA:1666:G:H5''	1.30	1.08
19:AS:6:LYS:HD2	19:AS:6:LYS:N	1.69	1.07
40:BE:34:VAL:HG11	40:BE:78:LEU:HD22	1.35	1.07
55:BW:14:PRO:HG3	55:BW:101:SER:HB3	1.36	1.07
40:BE:57:LYS:HA	40:BE:57:LYS:HE3	1.32	1.07
36:BA:2491:U:H5'	36:BA:2570:G:H5''	1.31	1.07
51:BS:13:ARG:HG3	51:BS:14:VAL:H	1.21	1.06
57:BY:96:ILE:HG13	57:BY:99:CYS:HB3	1.36	1.06
25:AZ:11:HIS:NE2	25:AZ:78:SER:HB2	1.71	1.06

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:AY:4:G:H2'	24:AY:5:G:H5''	1.38	1.06
52:BT:60:THR:HG22	52:BT:77:PRO:HA	1.36	1.06
36:BA:2523:G:H2'	36:BA:2524:G:H5''	1.38	1.06
46:BN:73:THR:HG23	46:BN:82:LEU:HD11	1.36	1.05
58:BZ:20:ARG:HB2	58:BZ:20:ARG:HH11	1.15	1.05
22:AV:68:C:H2'	22:AV:69:G:H5''	1.36	1.05
48:BP:9:ASN:H	48:BP:10:PRO:HD2	1.19	1.05
2:AB:18:GLY:H	2:AB:42:ILE:HG22	1.21	1.05
31:B5:4:HIS:HB3	31:B5:5:PRO:HD3	1.37	1.05
54:BV:47:VAL:HG12	54:BV:52:VAL:HB	1.38	1.05
1:AA:9:G:H5'	5:AE:122:GLU:OE1	1.55	1.04
43:BH:85:LYS:HZ3	43:BH:133:VAL:N	1.54	1.04
52:BT:55:ASN:H	52:BT:59:THR:HG22	1.21	1.04
22:AW:56:C:H4'	38:BC:128:GLY:O	1.57	1.04
43:BH:153:LYS:HD3	43:BH:153:LYS:H	1.14	1.04
36:BA:1516:C:C2'	36:BA:1517:G:H5''	1.86	1.04
40:BE:77:ILE:HG22	40:BE:78:LEU:H	1.21	1.04
51:BS:58:LEU:HG	51:BS:59:LYS:H	1.19	1.04
29:B3:22:ALA:HB1	29:B3:46:ASN:HD21	1.16	1.04
36:BA:2893:G:H5'	36:BA:2894:G:H5'	1.33	1.04
39:BD:239:ARG:HH21	39:BD:239:ARG:HG2	1.17	1.04
12:AL:47:LYS:HB3	12:AL:48:PRO:CD	1.88	1.03
2:AB:200:ILE:HD12	2:AB:200:ILE:H	1.22	1.03
43:BH:167:GLU:HG2	43:BH:168:PRO:HD2	1.40	1.03
25:AZ:368:VAL:HG12	25:AZ:369:THR:H	1.23	1.03
36:BA:1243:G:H2'	36:BA:1244:G:H5''	1.37	1.03
52:BT:85:LYS:HZ3	52:BT:85:LYS:HB3	1.22	1.03
36:BA:2833:G:H3'	36:BA:2834:G:C5'	1.89	1.03
1:AA:980:C:H5'	1:AA:980:C:H6	1.19	1.03
52:BT:65:LYS:HE3	52:BT:66:VAL:H	1.22	1.03
36:BA:629:G:H5'	36:BA:629:G:H8	1.24	1.03
41:BF:188:ARG:HA	48:BP:7:ARG:HD3	1.40	1.03
30:B4:6:HIS:HB3	42:BG:67:LYS:HE3	1.40	1.03
12:AL:46:LYS:HG2	12:AL:47:LYS:H	1.17	1.02
36:BA:330:A:H2	36:BA:1210:A:H2'	1.20	1.02
38:BC:164:ARG:HG2	38:BC:165:ASN:H	1.19	1.02
58:BZ:126:VAL:HG12	58:BZ:163:LEU:HB2	1.36	1.02
36:BA:2312:U:H2'	36:BA:2313:C:H5''	1.37	1.02
57:BY:75:ILE:HD12	57:BY:79:CYS:HA	1.40	1.02
22:AW:62:C:H2'	22:AW:63:G:H8	1.22	1.02
37:BB:7:G:H3'	37:BB:8:U:H5''	1.42	1.02

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
39:BD:85:ASP:HB2	39:BD:92:ILE:HD13	1.40	1.02
29:B3:35:ARG:HB2	29:B3:35:ARG:HH11	1.21	1.02
32:B6:33:LYS:HA	32:B6:33:LYS:HE2	1.41	1.01
50:BR:45:ARG:HG3	50:BR:46:GLY:H	1.23	1.01
34:B8:62:LEU:HD13	36:BA:242:G:H5''	1.38	1.01
36:BA:2756:U:H1'	36:BA:2757:A:H5''	1.42	1.01
26:B0:27:GLU:HB3	26:B0:68:GLU:HA	1.39	1.01
51:BS:97:ARG:HH21	51:BS:98:VAL:HA	1.24	1.01
2:AB:68:ILE:H	2:AB:90:MET:HE1	1.22	1.01
36:BA:1222:C:H2'	36:BA:1223:G:H5''	1.37	1.01
36:BA:272(H):C:H2'	36:BA:272(I):U:H5''	1.42	1.01
38:BC:86:ALA:HB3	38:BC:94:VAL:HG11	1.40	1.01
57:BY:43:ASN:HB3	57:BY:64:GLU:HA	1.43	1.01
51:BS:78:LEU:HD11	51:BS:103:GLU:HB2	1.42	1.01
57:BY:17:SER:HB2	57:BY:71:LYS:HE2	1.41	1.00
29:B3:8:LEU:HD22	29:B3:31:LEU:HA	1.39	1.00
31:B5:44:THR:HG21	50:BR:101:ALA:HB2	1.43	1.00
46:BN:55:VAL:HG22	46:BN:125:GLY:HA3	1.43	1.00
23:AX:26:A:H3'	23:AX:27:A:H5''	1.42	1.00
36:BA:2101:G:H2'	36:BA:2102:U:H5''	1.42	1.00
38:BC:42:GLU:HB3	38:BC:215:THR:HG23	1.42	1.00
1:AA:1320:C:H5''	19:AS:70:LYS:HG3	1.41	0.99
40:BE:50:GLY:HA2	40:BE:78:LEU:HB3	1.44	0.99
55:BW:6:ILE:HG12	55:BW:104:THR:HB	1.44	0.99
5:AE:148:VAL:HG21	8:AH:107:LEU:HD13	1.43	0.99
36:BA:2761:G:H2'	36:BA:2762:G:H5''	1.42	0.99
35:B9:30:PRO:HB2	36:BA:2527:C:H5'	1.41	0.99
1:AA:1116:C:H2'	1:AA:1117:G:H5''	1.43	0.99
36:BA:2110:G:H1	36:BA:2178:C:H41	1.10	0.99
36:BA:1747(A):G:C2'	36:BA:1748:G:H5''	1.93	0.99
38:BC:127:LEU:HD23	38:BC:130:ILE:HD12	1.44	0.99
41:BF:6:VAL:HG12	41:BF:7:TYR:H	1.24	0.99
33:B7:8:ASN:HD22	33:B7:8:ASN:C	1.61	0.99
35:B9:17:ILE:HG21	35:B9:19:ARG:HH21	1.28	0.99
51:BS:97:ARG:NH2	51:BS:98:VAL:HA	1.78	0.99
58:BZ:33:LEU:HD12	58:BZ:34:ASN:H	1.22	0.98
55:BW:29:LEU:HG	55:BW:33:ARG:HD2	1.44	0.98
36:BA:1884:A:C2'	36:BA:1885:A:H5''	1.93	0.98
36:BA:1301:A:O2'	36:BA:1302:A:H2'	1.61	0.98
19:AS:46:GLY:H	19:AS:62:ILE:HG23	1.24	0.98
57:BY:46:LYS:HG2	57:BY:47:LYS:H	1.28	0.98

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BA:1747(A):G:H2'	36:BA:1748:G:H5''	1.44	0.98
22:AV:68:C:C2'	22:AV:69:G:H5''	1.93	0.98
28:B2:41:ILE:HG13	28:B2:42:GLY:H	1.26	0.98
5:AE:50:GLU:HG3	5:AE:52:PRO:HD2	1.46	0.98
43:BH:52:VAL:HB	43:BH:69:ARG:HD3	1.43	0.97
32:B6:26:ASN:HD22	32:B6:32:ASN:HD21	1.03	0.97
36:BA:1665:A:C2'	36:BA:1666:G:H5''	1.93	0.97
40:BE:60:ASN:OD1	40:BE:62:PRO:HD2	1.64	0.97
48:BP:62:LEU:CD2	48:BP:62:LEU:H	1.78	0.97
32:B6:26:ASN:HD22	32:B6:32:ASN:ND2	1.60	0.97
38:BC:163:PHE:HB3	38:BC:173:ALA:HB2	1.46	0.97
31:B5:40:LYS:NZ	31:B5:46:CYS:H	1.61	0.97
36:BA:2801(A):A:H4'	36:BA:2802:G:H5'	1.46	0.97
32:B6:19:ARG:HG3	32:B6:20:ASN:H	1.25	0.97
38:BC:70:LYS:HD2	38:BC:177:LYS:HZ3	1.24	0.97
36:BA:884:C:H2'	36:BA:885:C:H5'	1.47	0.97
19:AS:11:VAL:HA	19:AS:38:SER:HB2	1.45	0.97
41:BF:9:ILE:HG12	41:BF:14:PRO:HA	1.45	0.97
36:BA:1899:G:N2	36:BA:1902:C:N4	2.12	0.97
56:BX:12:VAL:HB	56:BX:17:ALA:HB1	1.47	0.97
1:AA:1003:G:H2'	1:AA:1004:A:H4'	1.44	0.96
36:BA:271(L):U:H5''	36:BA:271(M):G:H5'	1.44	0.96
24:AY:9:A:H2	24:AY:44:G:HO2'	1.04	0.96
6:AF:67:MET:HB2	6:AF:68:PRO:HD2	1.47	0.96
56:BX:80:ILE:HG13	56:BX:80:ILE:O	1.66	0.96
40:BE:47:VAL:HG21	40:BE:86:PRO:HD2	1.46	0.96
36:BA:2476:A:H2'	36:BA:2477:C:H5''	1.42	0.96
58:BZ:69:THR:HG22	58:BZ:90:VAL:HA	1.46	0.96
12:AL:20:LYS:HD3	12:AL:20:LYS:H	1.31	0.96
32:B6:45:LYS:HD3	32:B6:45:LYS:H	1.30	0.96
36:BA:1095:A:H2'	36:BA:1096:A:H8	1.29	0.96
22:AW:55:U:H5''	38:BC:164:ARG:HH12	1.29	0.96
12:AL:89:ARG:HH11	12:AL:91:LYS:HA	1.28	0.96
33:B7:34:ARG:HD2	33:B7:39:ARG:HG3	1.48	0.96
16:AP:43:LYS:HG2	16:AP:48:TRP:CE3	2.00	0.96
1:AA:1125:U:H3	10:AJ:5:ARG:HH21	1.14	0.95
38:BC:61:THR:HG22	38:BC:162:GLU:HG2	1.46	0.95
36:BA:1403:C:H5''	36:BA:1471:A:H1'	1.48	0.95
1:AA:1502:A:H2	1:AA:1505:G:H1	1.03	0.95
12:AL:46:LYS:HG2	12:AL:47:LYS:N	1.79	0.95
1:AA:92:C:H2'	1:AA:93:G:H8	1.29	0.95

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:AZ:32:THR:HG21	25:AZ:45:LYS:H	1.26	0.95
43:BH:70:THR:HG22	43:BH:74:ASN:HD21	1.31	0.95
30:B4:22:ILE:HD12	30:B4:22:ILE:H	1.32	0.95
15:AO:87:ILE:HG22	15:AO:88:ARG:N	1.82	0.95
52:BT:80:SER:HB3	52:BT:81:PRO:HD3	1.49	0.95
36:BA:2641:G:H5'	36:BA:2641:G:H8	1.31	0.95
1:AA:1321:C:H5''	1:AA:1322:C:H5''	1.48	0.95
36:BA:472:A:H8	36:BA:472:A:H5'	1.30	0.95
49:BQ:76:LYS:HB3	49:BQ:91:GLU:HG3	1.48	0.95
36:BA:969:U:H2'	36:BA:970:C:C6	2.02	0.95
1:AA:664:G:H22	1:AA:741:G:H1	1.00	0.95
48:BP:16:ARG:HD3	48:BP:18:ARG:H	1.28	0.95
1:AA:8:A:N6	4:AD:208:SER:HB2	1.80	0.95
26:B0:49:LYS:H	26:B0:80:HIS:HD1	1.14	0.95
42:BG:64:THR:HG23	42:BG:66:GLN:H	1.32	0.95
39:BD:30:GLU:HG3	39:BD:63:ARG:NE	1.81	0.94
27:B1:45:ASN:HD21	36:BA:2090:G:H21	1.08	0.94
38:BC:74:VAL:H	38:BC:157:LYS:HE2	1.30	0.94
52:BT:85:LYS:NZ	52:BT:85:LYS:HB3	1.79	0.94
25:AZ:143:ASP:HB3	25:AZ:146:LEU:HB3	1.46	0.94
5:AE:101:ILE:O	5:AE:120:THR:HG22	1.67	0.94
36:BA:2375:G:H1'	36:BA:2379:G:H22	1.30	0.94
36:BA:2726:U:H5'	36:BA:2726:U:O2	1.66	0.94
24:AY:75:C:H6	25:AZ:231:ILE:HA	1.28	0.94
48:BP:62:LEU:HD23	48:BP:62:LEU:N	1.81	0.94
34:B8:49:VAL:HG12	34:B8:53:PRO:HD3	1.49	0.94
50:BR:2:ARG:HG3	50:BR:2:ARG:HH11	1.32	0.94
36:BA:2159:G:H2'	36:BA:2160:G:H5''	1.50	0.94
39:BD:24:ILE:HD13	39:BD:25:THR:N	1.82	0.94
36:BA:1902:C:O2'	39:BD:244:ARG:HB2	1.66	0.94
10:AJ:30:SER:C	10:AJ:80:LYS:HD3	1.88	0.94
41:BF:132:VAL:HG22	41:BF:133:ASN:H	1.28	0.94
39:BD:26:LYS:H	39:BD:26:LYS:HE2	1.31	0.93
28:B2:17:SER:HB2	28:B2:18:PRO:HD2	1.49	0.93
36:BA:1053:C:H42	36:BA:1108:U:H3	0.99	0.93
48:BP:146:VAL:HG22	48:BP:147:LEU:H	1.31	0.93
43:BH:18:GLU:HG3	43:BH:25:LYS:HB2	1.46	0.93
32:B6:6:ARG:NH1	32:B6:6:ARG:HB3	1.81	0.93
22:AW:55:U:H5'	38:BC:164:ARG:HH22	1.31	0.93
39:BD:35:LYS:N	39:BD:36:PRO:HD2	1.82	0.93
38:BC:68:LEU:HD23	38:BC:176:GLY:HA2	1.46	0.93

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:BT:83:ILE:HG13	52:BT:84:GLN:N	1.84	0.93
13:AM:10:PRO:HB2	13:AM:18:ALA:HB1	1.49	0.93
36:BA:61:G:H1	36:BA:94:C:H42	1.17	0.93
36:BA:1222:C:C2'	36:BA:1223:G:H5''	1.98	0.93
1:AA:1305:G:N2	1:AA:1331:G:H2'	1.81	0.93
51:BS:49:VAL:HG12	51:BS:50:SER:H	1.34	0.93
8:AH:114:THR:HG22	8:AH:130:GLY:O	1.69	0.93
56:BX:54:VAL:HG22	56:BX:81:VAL:HA	1.50	0.93
37:BB:40:U:H3'	37:BB:41:U:H5''	1.50	0.93
41:BF:181:LEU:HD11	41:BF:186:ILE:HD11	1.51	0.93
47:BO:88:ASN:HD21	47:BO:92:GLU:HB3	1.31	0.93
52:BT:39:ARG:HD2	52:BT:39:ARG:H	1.33	0.93
48:BP:16:ARG:HB2	48:BP:16:ARG:NH1	1.83	0.92
2:AB:204:ASN:HD22	2:AB:204:ASN:C	1.71	0.92
17:AQ:24:GLU:HG2	17:AQ:39:SER:HB3	1.49	0.92
48:BP:23:PRO:HD2	48:BP:33:ARG:HE	1.35	0.92
54:BV:72:VAL:HG23	54:BV:85:LYS:HB2	1.50	0.92
50:BR:38:VAL:HB	50:BR:39:PRO:HD3	1.48	0.92
22:AV:46:G:H3'	22:AV:47:U:C5'	1.98	0.92
3:AC:5:ILE:HD13	3:AC:5:ILE:H	1.34	0.92
13:AM:97:PRO:HA	13:AM:110:ARG:HD3	1.48	0.92
36:BA:1170:G:H22	36:BA:1179:C:H42	1.16	0.92
12:AL:18:VAL:HG23	12:AL:19:ARG:H	1.30	0.92
36:BA:655:A:H4'	36:BA:656:G:H5'	1.51	0.92
20:AT:36:LEU:HD12	20:AT:59:ALA:HB2	1.50	0.92
48:BP:6:LEU:H	48:BP:6:LEU:HD23	1.35	0.92
50:BR:2:ARG:O	50:BR:2:ARG:HD2	1.70	0.92
28:B2:65:ASN:HD22	28:B2:69:ARG:HH21	1.03	0.92
52:BT:55:ASN:N	52:BT:59:THR:HG22	1.84	0.92
36:BA:613:G:H5'	36:BA:613:G:H8	1.33	0.92
32:B6:30:THR:CG2	32:B6:31:PRO:HD2	1.98	0.92
48:BP:75:ILE:H	48:BP:75:ILE:HD12	1.35	0.92
39:BD:28:GLU:H	39:BD:29:PRO:HD2	1.34	0.92
52:BT:13:ARG:CZ	52:BT:13:ARG:HA	1.99	0.92
39:BD:261:LYS:HZ1	39:BD:263:ARG:NH2	1.65	0.92
25:AZ:315:LYS:HG2	25:AZ:373:GLU:HG3	1.50	0.92
26:B0:4:LYS:HD3	36:BA:2252:G:O6	1.69	0.92
36:BA:2287:A:N6	36:BA:2344:U:H3	1.68	0.92
39:BD:176:ARG:HG2	39:BD:176:ARG:HH11	1.32	0.91
52:BT:13:ARG:NH1	52:BT:13:ARG:HA	1.85	0.91
31:B5:2:ALA:HA	36:BA:2015:A:H1'	1.51	0.91

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BA:914:C:H2'	36:BA:915:C:H5'	1.50	0.91
1:AA:405:U:H3'	1:AA:406:G:H5'	1.52	0.91
41:BF:101:LEU:HD12	41:BF:102:PRO:HD2	1.50	0.91
49:BQ:141:GLN:HE22	58:BZ:72:ARG:HD3	1.36	0.91
41:BF:160:ASN:HD21	41:BF:162:LEU:HD13	1.35	0.91
36:BA:229:A:H3'	36:BA:230:U:H5'	1.52	0.91
3:AC:20:SER:HB2	3:AC:40:ARG:HH22	1.36	0.91
19:AS:31:ILE:HG23	19:AS:49:ILE:HA	1.53	0.91
38:BC:100:ILE:HG23	38:BC:127:LEU:HG	1.53	0.91
1:AA:939:G:H5''	7:AG:102:ARG:NH2	1.85	0.91
36:BA:675:A:OP1	41:BF:63:LYS:HE2	1.71	0.91
1:AA:1281:U:H5'	1:AA:1282:C:H5	1.35	0.91
38:BC:65:PRO:HD2	38:BC:188:ASN:HA	1.52	0.91
49:BQ:141:GLN:N	58:BZ:53:ILE:HD12	1.85	0.91
36:BA:1462:C:H4'	36:BA:2703:C:H5'	1.52	0.91
1:AA:1277:C:HO2'	1:AA:1279:A:H8	0.99	0.91
43:BH:12:PRO:HA	43:BH:48:GLY:HA2	1.53	0.91
1:AA:1386:G:C2'	1:AA:1387:G:H5''	1.99	0.91
15:AO:87:ILE:CG2	15:AO:88:ARG:H	1.83	0.91
35:B9:1:MET:HA	35:B9:4:ARG:NH2	1.85	0.91
48:BP:58:THR:O	48:BP:61:ARG:NE	2.04	0.90
36:BA:1511:C:H2'	36:BA:1512:U:H6	1.36	0.90
36:BA:1947:C:H2'	36:BA:1948:G:H5''	1.53	0.90
2:AB:209:ARG:NH1	2:AB:239:VAL:HG11	1.86	0.90
51:BS:15:ARG:HH11	51:BS:15:ARG:HB2	1.36	0.90
24:AY:4:G:C2'	24:AY:5:G:H5''	2.01	0.90
4:AD:3:ARG:HE	4:AD:5:ILE:HG13	1.35	0.90
55:BW:72:LYS:HE3	55:BW:108:GLY:HA3	1.51	0.90
7:AG:75:VAL:HG12	7:AG:88:PRO:HB3	1.51	0.90
53:BU:112:ARG:NH1	54:BV:46:VAL:HG11	1.85	0.90
54:BV:39:LEU:HD12	54:BV:47:VAL:HG11	1.53	0.90
38:BC:127:LEU:CD2	38:BC:130:ILE:HD12	2.01	0.90
28:B2:41:ILE:HG13	28:B2:42:GLY:N	1.85	0.90
22:AV:59:U:HO2'	22:AV:60:U:H6	0.92	0.90
19:AS:49:ILE:HD12	19:AS:49:ILE:H	1.37	0.90
36:BA:1378:A:O2'	36:BA:1379:A:H5'	1.71	0.90
25:AZ:324:LYS:HG2	25:AZ:364:PRO:HB3	1.53	0.90
26:B0:14:ARG:CB	26:B0:14:ARG:HH11	1.84	0.90
36:BA:2140:C:H2'	36:BA:2141:G:C8	2.06	0.90
32:B6:36:LEU:HD12	32:B6:50:ARG:NH1	1.86	0.90
9:AI:105:ASP:OD1	9:AI:107:ARG:HD3	1.71	0.90

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BA:1053:C:N4	36:BA:1108:U:H3	1.69	0.90
48:BP:23:PRO:HB2	48:BP:33:ARG:HG3	1.54	0.90
26:B0:7:LEU:HD22	49:BQ:85:LYS:HB2	1.53	0.90
1:AA:963:G:H21	10:AJ:55:LYS:HD3	1.33	0.90
1:AA:858:G:C6	1:AA:869:G:N7	2.40	0.90
32:B6:15:GLU:CD	32:B6:18:ARG:CZ	2.40	0.89
36:BA:2476:A:C2'	36:BA:2477:C:H5''	2.01	0.89
1:AA:1305:G:H22	1:AA:1331:G:H2'	1.31	0.89
2:AB:204:ASN:HD21	2:AB:206:ASP:H	1.20	0.89
52:BT:65:LYS:HA	52:BT:65:LYS:NZ	1.86	0.89
2:AB:68:ILE:H	2:AB:90:MET:CE	1.85	0.89
37:BB:114:C:H4'	51:BS:46:VAL:HG13	1.52	0.89
22:AV:4:C:H2'	22:AV:5:G:H5''	1.54	0.89
36:BA:2151:G:H2'	36:BA:2152:G:H8	1.35	0.89
32:B6:14:THR:HG22	32:B6:50:ARG:HB2	1.53	0.89
48:BP:71:VAL:H	48:BP:72:PRO:CD	1.85	0.89
36:BA:1947:C:C2'	36:BA:1948:G:H5''	2.02	0.89
36:BA:1899:G:H21	36:BA:1902:C:H41	0.93	0.89
54:BV:52:VAL:HG13	54:BV:55:ALA:HB3	1.51	0.89
25:AZ:355:LEU:HD23	25:AZ:356:PRO:HD2	1.53	0.89
25:AZ:303:VAL:HG12	25:AZ:304:LEU:H	1.35	0.89
36:BA:1771:C:HO2'	36:BA:1786:A:H8	1.19	0.89
20:AT:73:HIS:HB3	20:AT:74:LYS:HD3	1.54	0.89
25:AZ:20:VAL:HG12	25:AZ:85:HIS:H	1.36	0.89
27:B1:73:LEU:HD22	27:B1:94:LEU:HB3	1.52	0.89
1:AA:1363(A):A:H4'	1:AA:1364:U:H5''	1.51	0.89
1:AA:173:U:H5'	1:AA:197:A:O4'	1.73	0.89
11:AK:48:ILE:HG22	11:AK:49:GLY:H	1.34	0.89
14:AN:32:SER:HB3	14:AN:41:ARG:HG2	1.55	0.89
49:BQ:141:GLN:NE2	58:BZ:72:ARG:HD3	1.87	0.89
36:BA:747:U:H5'	55:BW:90:ARG:HH12	1.36	0.89
10:AJ:96:ILE:HD13	10:AJ:96:ILE:H	1.37	0.89
36:BA:83:G:N2	36:BA:102:G:H2'	1.87	0.89
36:BA:2523:G:C2'	36:BA:2524:G:H5''	2.02	0.89
48:BP:56:SER:O	48:BP:57:THR:HG23	1.72	0.89
36:BA:2729:G:H1'	40:BE:187:ALA:HB2	1.54	0.89
36:BA:84:A:H5'	57:BY:9:LYS:HB3	1.55	0.89
36:BA:925:C:C2'	36:BA:926:A:H5''	2.03	0.89
43:BH:12:PRO:HD2	43:BH:15:VAL:HG21	1.52	0.89
55:BW:69:LEU:HA	55:BW:108:GLY:O	1.73	0.89
32:B6:19:ARG:HD3	36:BA:2400:G:H4'	1.55	0.88

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
57:BY:31:LEU:HB2	57:BY:32:PRO:HA	1.55	0.88
52:BT:55:ASN:HD22	52:BT:58:ASN:HD21	1.21	0.88
36:BA:2693:A:H2'	36:BA:2694:G:H8	1.39	0.88
36:BA:2189:U:H2'	36:BA:2190:G:C4'	2.03	0.88
17:AQ:67:LYS:HA	17:AQ:70:ARG:HH12	1.38	0.88
22:AW:62:C:H2'	22:AW:63:G:C8	2.07	0.88
10:AJ:75:ILE:HG13	10:AJ:76:ASN:H	1.38	0.88
2:AB:87:ARG:HH11	2:AB:223:ILE:HD11	1.38	0.88
36:BA:1598:C:H5'	56:BX:36:LYS:HG2	1.55	0.88
4:AD:129:ASN:HD21	4:AD:145:GLU:H	1.22	0.88
36:BA:2169:A:H2'	36:BA:2170:A:C8	2.09	0.88
25:AZ:19:HIS:CD2	25:AZ:20:VAL:H	1.90	0.88
36:BA:2208:A:H1'	36:BA:2219:G:C5	2.07	0.88
46:BN:5:VAL:HG12	46:BN:7:LYS:HG3	1.54	0.88
36:BA:2640:G:H2'	36:BA:2641:G:H5''	1.53	0.88
48:BP:59:LEU:HA	48:BP:61:ARG:NE	1.89	0.88
20:AT:26:ASN:HB2	20:AT:71:THR:HG23	1.53	0.88
57:BY:95:LYS:HG3	57:BY:100:ALA:HA	1.53	0.88
41:BF:178:PRO:HB2	41:BF:201:VAL:HG11	1.54	0.88
40:BE:117:MET:O	40:BE:121:ASN:HA	1.74	0.88
58:BZ:10:ARG:HH21	58:BZ:36:LYS:HB2	1.39	0.88
36:BA:2464:C:HO2'	36:BA:2465:C:H6	1.15	0.88
25:AZ:198:LYS:HE2	25:AZ:198:LYS:N	1.89	0.88
52:BT:16:ARG:HB3	52:BT:16:ARG:HH11	1.36	0.88
50:BR:99:LYS:HD2	50:BR:99:LYS:H	1.36	0.88
36:BA:1038:C:H2'	36:BA:1039:G:H5''	1.56	0.88
24:AY:61:C:C2'	24:AY:62:U:H5''	2.04	0.88
52:BT:3:ARG:HB3	52:BT:6:LEU:HB2	1.55	0.88
43:BH:66:GLY:HA2	43:BH:69:ARG:HB3	1.54	0.87
36:BA:2189:U:H2'	36:BA:2190:G:H4'	1.55	0.87
42:BG:52:ILE:HG12	42:BG:53:LEU:H	1.39	0.87
36:BA:543:C:H42	36:BA:549:G:H1	1.22	0.87
38:BC:30:LYS:HA	38:BC:30:LYS:HZ2	1.38	0.87
38:BC:164:ARG:O	38:BC:171:ILE:HA	1.74	0.87
3:AC:34:LEU:HG	14:AN:25:VAL:HG11	1.55	0.87
1:AA:102:G:H2'	1:AA:103:C:H6	1.40	0.87
1:AA:975:A:H4'	1:AA:976:G:H5''	1.55	0.87
36:BA:1543:C:H3'	36:BA:1544:A:H5''	1.54	0.87
36:BA:1067:A:H3'	36:BA:1068:G:H5''	1.55	0.87
2:AB:204:ASN:ND2	2:AB:206:ASP:H	1.73	0.87
4:AD:194:LEU:HB3	4:AD:196:LEU:HD13	1.56	0.87

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:AB:18:GLY:H	2:AB:42:ILE:CG2	1.87	0.87
58:BZ:20:ARG:NH1	58:BZ:20:ARG:HB2	1.89	0.87
36:BA:259:G:H21	36:BA:621:A:H8	1.23	0.87
52:BT:55:ASN:HD22	52:BT:58:ASN:ND2	1.72	0.87
22:AW:57:G:H2'	22:AW:58:A:H5'	1.57	0.87
13:AM:12:ASN:H	13:AM:12:ASN:HD22	1.18	0.87
24:AY:1:A:H61	24:AY:72:U:H3	1.18	0.86
36:BA:654(L):G:H2'	36:BA:654(M):C:C4'	2.05	0.86
31:B5:57:VAL:HG12	31:B5:58:LEU:HD12	1.54	0.86
32:B6:30:THR:HG22	32:B6:31:PRO:CD	2.01	0.86
38:BC:161:ILE:HD13	38:BC:173:ALA:HB1	1.57	0.86
36:BA:2801(A):A:H5'	36:BA:2802:G:H8	1.37	0.86
33:B7:8:ASN:HD22	33:B7:9:ARG:N	1.74	0.86
27:B1:89:GLU:HA	27:B1:92:LYS:HE3	1.57	0.86
31:B5:29:THR:HG21	36:BA:2814:C:O2'	1.74	0.86
58:BZ:108:PRO:HA	58:BZ:141:VAL:CG1	2.05	0.86
36:BA:404:C:H4'	36:BA:405:U:H5'	1.55	0.86
32:B6:53:LYS:HD3	32:B6:54:ILE:H	1.40	0.86
37:BB:80:U:H2'	37:BB:81:G:H21	1.41	0.86
36:BA:774:A:H2	36:BA:787:U:HO2'	0.90	0.86
34:B8:25:MET:HG3	48:BP:64:LYS:HB2	1.56	0.86
36:BA:2807:G:H3'	36:BA:2808:U:H5''	1.57	0.86
36:BA:2287:A:H62	36:BA:2344:U:H3	1.23	0.86
58:BZ:53:ILE:HG22	58:BZ:71:VAL:HB	1.56	0.86
58:BZ:151:HIS:CB	58:BZ:170:THR:HA	2.04	0.86
4:AD:129:ASN:ND2	4:AD:145:GLU:H	1.72	0.86
36:BA:2656:U:H3	36:BA:2665:A:H2	1.23	0.86
1:AA:194:C:H2'	1:AA:195:A:H5''	1.57	0.86
25:AZ:234:ARG:HA	25:AZ:234:ARG:HE	1.40	0.86
41:BF:24:LEU:HB3	41:BF:25:PRO:CD	2.05	0.86
28:B2:50:ILE:HG21	36:BA:61:G:H5'	1.55	0.86
25:AZ:355:LEU:HD22	25:AZ:359:VAL:HB	1.57	0.86
39:BD:34:VAL:C	39:BD:36:PRO:HD2	1.96	0.86
39:BD:35:LYS:HD2	39:BD:36:PRO:N	1.90	0.86
36:BA:1409:C:H2'	36:BA:1410:G:H8	1.41	0.86
37:BB:20:C:H2'	37:BB:21:G:H5''	1.54	0.86
58:BZ:152:ALA:HB1	58:BZ:167:PRO:HB2	1.58	0.86
1:AA:509:A:H5'	4:AD:54:TYR:HD2	1.40	0.86
58:BZ:166:SER:HB2	58:BZ:168:GLU:N	1.91	0.85
19:AS:29:ARG:HB2	19:AS:48:THR:HB	1.56	0.85
41:BF:135:LYS:HB3	41:BF:138:GLU:HG3	1.55	0.85

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:BN:60:ILE:HD13	46:BN:99:LEU:HD23	1.55	0.85
53:BU:101:ARG:O	53:BU:103:PRO:HD3	1.76	0.85
9:AI:114:TYR:HE1	10:AJ:60:ARG:H	1.22	0.85
36:BA:1058:G:C2'	36:BA:1059:G:H5''	2.06	0.85
36:BA:2476:A:H2	36:BA:2477:C:C5	1.93	0.85
1:AA:1116:C:C2'	1:AA:1117:G:H5''	2.07	0.85
1:AA:1003:G:C2'	1:AA:1004:A:H4'	2.07	0.85
48:BP:64:LYS:O	48:BP:66:GLY:N	2.10	0.85
46:BN:86:PRO:HG2	46:BN:89:LYS:HG2	1.57	0.85
36:BA:414:C:H1'	36:BA:1864:U:O2'	1.75	0.85
2:AB:172:ILE:HD12	2:AB:172:ILE:H	1.41	0.85
32:B6:18:ARG:HG3	32:B6:19:ARG:H	1.42	0.85
57:BY:8:LYS:N	57:BY:8:LYS:HD2	1.90	0.85
5:AE:126:ARG:HA	5:AE:131:ILE:HD11	1.59	0.85
36:BA:676:A:H8	36:BA:2069:G:H21	1.22	0.85
40:BE:1:MET:HB3	40:BE:200:GLU:OE1	1.75	0.85
2:AB:18:GLY:N	2:AB:42:ILE:HG22	1.90	0.85
36:BA:612:C:C2'	36:BA:613:G:H5''	2.06	0.85
39:BD:263:ARG:HH11	39:BD:263:ARG:HB2	1.42	0.85
12:AL:41:ARG:HG2	12:AL:42:THR:H	1.39	0.85
28:B2:51:ARG:HD3	28:B2:55:ARG:HH22	1.39	0.85
40:BE:14:ILE:HD11	40:BE:173:VAL:HG11	1.58	0.85
20:AT:89:ARG:HB2	20:AT:104:LEU:HD11	1.58	0.85
49:BQ:17:LEU:HD21	49:BQ:96:VAL:HG13	1.57	0.85
5:AE:51:VAL:HB	5:AE:52:PRO:HD3	1.58	0.85
47:BO:87:ILE:HG21	47:BO:91:LEU:HA	1.59	0.85
36:BA:2036:C:H5'	36:BA:2036:C:H6	1.40	0.85
57:BY:49:VAL:O	57:BY:50:ARG:HB2	1.74	0.85
52:BT:96:ARG:HB2	52:BT:96:ARG:NH1	1.92	0.85
11:AK:82:VAL:HG12	11:AK:108:ILE:HA	1.58	0.85
27:B1:44:PRO:HG2	27:B1:46:LEU:HD23	1.59	0.85
1:AA:1266:G:N2	1:AA:1268:A:OP2	2.10	0.85
48:BP:31:ALA:C	48:BP:33:ARG:H	1.79	0.85
25:AZ:318:ALA:HA	25:AZ:401:THR:HG22	1.56	0.85
13:AM:88:ARG:HG3	13:AM:98:VAL:HG11	1.57	0.85
52:BT:28:VAL:HG22	52:BT:47:GLY:N	1.92	0.85
1:AA:1305:G:H5'	21:AU:4:GLY:HA3	1.59	0.85
36:BA:673:C:H6	36:BA:673:C:H5'	1.42	0.85
19:AS:6:LYS:O	19:AS:7:LYS:HD3	1.77	0.84
13:AM:93:ARG:HG3	36:BA:888:C:OP1	1.77	0.84
52:BT:28:VAL:CG1	52:BT:46:GLU:HA	2.07	0.84

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:AV:21:A:C2'	22:AV:22:G:H5''	2.07	0.84
14:AN:29:ARG:HG2	14:AN:29:ARG:HH11	1.41	0.84
19:AS:10:PHE:CE1	19:AS:70:LYS:HD2	2.11	0.84
14:AN:13:THR:N	14:AN:14:PRO:HD2	1.91	0.84
8:AH:98:LYS:HG3	8:AH:99:GLU:HG3	1.57	0.84
36:BA:898:C:H2'	36:BA:899:A:H5'	1.57	0.84
33:B7:38:GLY:O	36:BA:458:G:H5''	1.78	0.84
24:AY:75:C:H5	25:AZ:232:THR:H	1.22	0.84
52:BT:11:GLU:CD	52:BT:11:GLU:H	1.80	0.84
38:BC:53:ARG:HH11	38:BC:53:ARG:HB3	1.40	0.84
36:BA:1678:G:H22	36:BA:1989:G:H22	1.23	0.84
36:BA:1697:G:H3'	36:BA:1698:A:H5''	1.57	0.84
36:BA:654(M):C:H2'	36:BA:654(N):G:C8	2.13	0.84
2:AB:114:ARG:HD2	2:AB:141:GLU:OE2	1.76	0.84
36:BA:2245:U:H5'	36:BA:2246:G:H5'	1.57	0.84
22:AW:57:G:C2'	22:AW:58:A:H5'	2.06	0.84
36:BA:271(L):U:H4'	36:BA:271(M):G:C8	2.11	0.84
7:AG:84:ASN:OD1	22:AW:33:U:H5'	1.77	0.84
9:AI:53:VAL:HG13	9:AI:95:LYS:HE3	1.58	0.84
50:BR:2:ARG:HG3	50:BR:2:ARG:NH1	1.90	0.84
36:BA:621:A:H2'	36:BA:622:G:H5'	1.58	0.84
36:BA:2287:A:H2	36:BA:2346:A:N1	1.76	0.84
1:AA:266:G:H5''	1:AA:267:C:H5	1.43	0.84
58:BZ:155:LEU:HD23	58:BZ:155:LEU:H	1.42	0.84
56:BX:30:VAL:HG22	56:BX:77:LYS:O	1.78	0.84
1:AA:1218:C:H2'	1:AA:1219:U:C6	2.12	0.84
43:BH:143:GLN:HE21	43:BH:143:GLN:HA	1.43	0.84
42:BG:6:ALA:O	42:BG:10:LYS:HB2	1.78	0.84
36:BA:304:G:H1	36:BA:313:C:H42	1.23	0.84
12:AL:89:ARG:NH1	12:AL:91:LYS:HA	1.93	0.84
22:AW:56:C:O4'	38:BC:132:GLY:HA3	1.76	0.84
38:BC:45:ALA:HA	38:BC:211:SER:O	1.78	0.84
30:B4:6:HIS:HA	42:BG:67:LYS:HD2	1.60	0.84
43:BH:23:ARG:HD3	43:BH:36:PRO:HB3	1.60	0.84
36:BA:2593:U:H2'	36:BA:2594:C:H6	1.42	0.84
48:BP:112:LEU:H	48:BP:128:HIS:HD2	1.23	0.84
48:BP:47:ASP:HB3	48:BP:48:PRO:CA	2.06	0.83
52:BT:28:VAL:HG13	52:BT:46:GLU:HA	1.60	0.83
42:BG:67:LYS:HD3	42:BG:67:LYS:N	1.93	0.83
36:BA:1762:A:O5'	36:BA:1762:A:H8	1.59	0.83
1:AA:522:C:H41	12:AL:53:ARG:HH22	1.25	0.83

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:BR:18:LEU:HD11	50:BR:22:ARG:CZ	2.08	0.83
36:BA:2645:G:H3'	36:BA:2646:C:H5'	1.60	0.83
36:BA:2781:A:C5'	36:BA:2782:G:H5'	2.07	0.83
32:B6:11:LEU:HD13	32:B6:12:GLU:H	1.43	0.83
51:BS:48:LEU:HD23	51:BS:82:ILE:HG13	1.60	0.83
36:BA:1899:G:H21	36:BA:1902:C:N4	1.75	0.83
42:BG:140:ILE:HD12	42:BG:141:PHE:N	1.94	0.83
38:BC:164:ARG:HG2	38:BC:165:ASN:N	1.93	0.83
55:BW:6:ILE:HG23	55:BW:104:THR:HG22	1.59	0.83
2:AB:80:ILE:HD12	2:AB:80:ILE:H	1.41	0.83
1:AA:963:G:N2	10:AJ:55:LYS:HD3	1.93	0.83
39:BD:270:ILE:H	39:BD:270:ILE:HD12	1.43	0.83
18:AR:73:ALA:HB3	18:AR:79:LEU:HD12	1.61	0.83
46:BN:134:ARG:HH21	46:BN:136:GLU:HB2	1.43	0.83
34:B8:28:GLY:O	34:B8:32:LEU:HG	1.78	0.83
32:B6:13:CYS:HB2	32:B6:22:ALA:HB3	1.60	0.83
30:B4:9:LEU:HG	42:BG:98:ARG:HH12	1.44	0.83
48:BP:59:LEU:HA	48:BP:61:ARG:HE	1.41	0.83
14:AN:6:LEU:HB3	14:AN:23:ARG:NH2	1.94	0.83
25:AZ:321:TYR:HA	25:AZ:367:ASN:HB3	1.60	0.83
36:BA:1335:U:H2'	36:BA:1336:A:C8	2.14	0.83
36:BA:654(L):G:C2'	36:BA:654(M):C:H4'	2.07	0.83
46:BN:2:LYS:NZ	53:BU:95:LEU:HD21	1.92	0.83
43:BH:70:THR:HG22	43:BH:74:ASN:ND2	1.94	0.83
36:BA:2128:C:HO2'	36:BA:2129:C:H6	1.26	0.83
2:AB:61:LEU:HA	2:AB:64:ARG:NE	1.94	0.83
34:B8:8:LYS:O	34:B8:12:LYS:HG3	1.78	0.83
50:BR:18:LEU:HD11	50:BR:22:ARG:NE	1.92	0.83
10:AJ:24:VAL:HG21	10:AJ:37:PRO:HG3	1.60	0.83
36:BA:1484:G:C2'	36:BA:1485:G:H5''	2.08	0.83
38:BC:58:VAL:HG22	38:BC:201:PRO:HG2	1.58	0.83
25:AZ:195:TRP:HA	25:AZ:198:LYS:HD2	1.60	0.83
1:AA:1218:C:H2'	1:AA:1219:U:H6	1.41	0.83
20:AT:51:GLU:HA	20:AT:54:LYS:HE3	1.59	0.83
36:BA:1286:A:H2'	36:BA:1288:U:OP2	1.76	0.83
50:BR:55:ALA:HA	50:BR:80:PHE:CE1	2.12	0.83
43:BH:97:ARG:HG2	43:BH:98:LEU:H	1.42	0.83
38:BC:30:LYS:NZ	38:BC:178:ALA:HB1	1.94	0.82
40:BE:6:GLY:HA2	40:BE:51:PHE:CZ	2.14	0.82
1:AA:979:C:C3'	1:AA:980:C:H5''	2.09	0.82
50:BR:7:GLY:O	50:BR:8:ARG:HB2	1.78	0.82

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:AY:61:C:H2'	24:AY:62:U:H5''	1.60	0.82
26:B0:36:ILE:HG22	26:B0:60:PHE:HB3	1.61	0.82
1:AA:351:G:H4'	1:AA:352:C:OP2	1.79	0.82
52:BT:68:TYR:O	52:BT:70:VAL:N	2.11	0.82
39:BD:80:ALA:HB3	39:BD:94:LEU:O	1.79	0.82
34:B8:52:LYS:N	34:B8:53:PRO:HD2	1.93	0.82
50:BR:47:PHE:O	50:BR:51:LEU:HD13	1.79	0.82
46:BN:57:ALA:HB3	46:BN:124:ALA:HA	1.61	0.82
1:AA:160:A:H1'	1:AA:344:A:C5	2.15	0.82
36:BA:796:C:H2'	36:BA:797:C:C6	2.14	0.82
36:BA:27:G:N2	36:BA:512:G:H2'	1.94	0.82
55:BW:6:ILE:HG12	55:BW:104:THR:CB	2.09	0.82
36:BA:672:C:C2'	36:BA:673:C:H5''	2.09	0.82
9:AI:9:ARG:HG2	9:AI:14:VAL:HG22	1.61	0.82
52:BT:50:ILE:HD11	52:BT:64:ARG:CB	2.10	0.82
48:BP:16:ARG:CZ	48:BP:18:ARG:HB2	2.09	0.82
36:BA:1169:G:H1	36:BA:1180:C:H42	1.28	0.82
10:AJ:55:LYS:HE3	10:AJ:55:LYS:N	1.95	0.82
36:BA:2175:C:H4'	38:BC:221:SER:HB3	1.60	0.82
36:BA:2124:G:H1'	38:BC:42:GLU:HG3	1.60	0.82
36:BA:272(J):C:H2'	36:BA:274:G:H5''	1.60	0.82
51:BS:85:VAL:HG23	51:BS:106:ARG:HG3	1.59	0.82
1:AA:547:A:H4'	1:AA:548:G:O5'	1.79	0.82
12:AL:41:ARG:HH22	12:AL:57:LYS:NZ	1.78	0.82
43:BH:98:LEU:HB2	43:BH:125:VAL:HG21	1.61	0.82
54:BV:21:ARG:HB3	54:BV:91:TYR:HB2	1.60	0.82
36:BA:1779:U:H5	36:BA:1784:A:N7	1.77	0.82
1:AA:677:U:H3	1:AA:713:G:H22	1.23	0.82
36:BA:2807:G:H1	36:BA:2893:G:H1	1.24	0.82
36:BA:629:G:H5'	36:BA:629:G:C8	2.14	0.82
39:BD:263:ARG:NH1	39:BD:263:ARG:HB2	1.93	0.82
39:BD:263:ARG:HH11	39:BD:263:ARG:CB	1.93	0.82
9:AI:4:TYR:CD2	9:AI:88:TYR:HB2	2.14	0.82
42:BG:124:SER:HB2	42:BG:131:TYR:CE1	2.14	0.82
41:BF:6:VAL:HG12	41:BF:7:TYR:N	1.94	0.82
39:BD:30:GLU:HG3	39:BD:63:ARG:HE	1.43	0.82
39:BD:261:LYS:NZ	39:BD:263:ARG:NH2	2.27	0.82
46:BN:22:THR:HG22	46:BN:61:ARG:HB3	1.60	0.82
36:BA:708:C:H42	36:BA:723:G:H1	1.26	0.82
53:BU:112:ARG:HH12	54:BV:46:VAL:CG1	1.91	0.82
38:BC:180:PHE:HB3	38:BC:184:LYS:CB	2.04	0.82

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:AB:200:ILE:N	2:AB:200:ILE:HD12	1.95	0.82
36:BA:1243:G:C2'	36:BA:1244:G:H5''	2.09	0.82
39:BD:35:LYS:HB3	39:BD:35:LYS:HZ2	1.45	0.82
50:BR:99:LYS:HA	50:BR:112:ALA:HA	1.61	0.82
18:AR:45:SER:H	18:AR:51:LEU:HG	1.44	0.82
26:B0:48:GLY:H	26:B0:51:VAL:HB	1.42	0.82
38:BC:86:ALA:HB3	38:BC:94:VAL:CG1	2.10	0.82
19:AS:29:ARG:HB3	19:AS:48:THR:H	1.45	0.82
36:BA:1291:C:H2'	36:BA:1292:U:H5'	1.62	0.82
50:BR:73:VAL:O	50:BR:76:VAL:HG12	1.79	0.82
32:B6:18:ARG:HG2	32:B6:18:ARG:NH1	1.82	0.82
36:BA:1543:C:H3'	36:BA:1544:A:C5'	2.09	0.82
36:BA:1689:A:H62	36:BA:1698:A:H2	1.28	0.82
48:BP:83:VAL:HG12	48:BP:112:LEU:HD21	1.62	0.82
54:BV:36:PRO:HA	54:BV:56:SER:HB3	1.61	0.82
41:BF:132:VAL:HG23	41:BF:162:LEU:HD23	1.62	0.81
13:AM:97:PRO:CA	13:AM:110:ARG:HD3	2.09	0.81
29:B3:15:TYR:O	29:B3:20:LYS:HE3	1.80	0.81
26:B0:43:THR:O	26:B0:43:THR:HG23	1.78	0.81
42:BG:18:GLU:O	42:BG:22:ARG:HB2	1.80	0.81
41:BF:167:ALA:HB1	41:BF:173:VAL:HG11	1.60	0.81
32:B6:15:GLU:OE2	32:B6:41:PRO:CB	2.28	0.81
48:BP:24:GLY:HA3	48:BP:33:ARG:NH1	1.95	0.81
19:AS:32:LYS:HA	19:AS:50:ALA:HB3	1.61	0.81
1:AA:198:G:HO2'	1:AA:199:G:H8	0.84	0.81
42:BG:43:LEU:HD11	42:BG:153:ARG:HG3	1.61	0.81
57:BY:75:ILE:CD1	57:BY:79:CYS:HA	2.11	0.81
49:BQ:141:GLN:O	58:BZ:53:ILE:HB	1.79	0.81
2:AB:204:ASN:HD22	2:AB:205:ASP:N	1.78	0.81
1:AA:198:G:O2'	1:AA:199:G:H8	1.62	0.81
34:B8:25:MET:CG	48:BP:64:LYS:HB2	2.09	0.81
41:BF:84:VAL:HG12	41:BF:85:GLY:N	1.94	0.81
53:BU:8:VAL:HG23	53:BU:11:ARG:HH21	1.45	0.81
25:AZ:101:GLY:HA3	25:AZ:210:ILE:HD11	1.60	0.81
21:AU:12:LYS:HG2	21:AU:22:ARG:HB3	1.62	0.81
50:BR:74:LYS:HD2	50:BR:77:ARG:HH21	1.45	0.81
1:AA:192:U:H2'	1:AA:193:C:H6	1.45	0.81
38:BC:128:GLY:HA2	38:BC:137:LEU:CD2	2.11	0.81
36:BA:2312:U:C2'	36:BA:2313:C:H5''	2.10	0.81
1:AA:1314:C:OP2	19:AS:6:LYS:HG3	1.79	0.81
31:B5:4:HIS:HB3	31:B5:5:PRO:CD	2.08	0.81

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BA:472:A:H5'	36:BA:472:A:C8	2.15	0.81
43:BH:12:PRO:CA	43:BH:48:GLY:HA2	2.10	0.81
46:BN:3:THR:HG22	46:BN:4:TYR:H	1.46	0.81
2:AB:97:TRP:CH2	2:AB:173:ALA:HA	2.15	0.81
41:BF:25:PRO:HB3	41:BF:119:ARG:HB2	1.63	0.81
36:BA:2801(A):A:C4'	36:BA:2802:G:H5'	2.10	0.81
36:BA:83:G:H22	36:BA:102:G:H2'	1.44	0.81
40:BE:116:VAL:O	40:BE:117:MET:HB2	1.77	0.81
1:AA:1432:G:OP1	52:BT:107:ASP:HB2	1.79	0.81
57:BY:28:LYS:HB3	57:BY:37:VAL:HB	1.63	0.81
36:BA:2126:A:H4'	36:BA:2127:G:O5'	1.81	0.81
38:BC:180:PHE:CB	38:BC:184:LYS:HB3	2.03	0.81
22:AV:72:C:H2'	22:AV:73:A:H5''	1.62	0.81
48:BP:124:LYS:HD3	48:BP:143:GLY:HA3	1.60	0.81
40:BE:11:MET:HB2	40:BE:23:VAL:O	1.81	0.81
55:BW:13:SER:HB3	55:BW:16:LYS:HD2	1.62	0.81
53:BU:70:ARG:HA	53:BU:74:LEU:O	1.79	0.81
49:BQ:134:ARG:NH2	58:BZ:122:ARG:HE	1.78	0.81
36:BA:330:A:C2	36:BA:1210:A:H2'	2.10	0.81
1:AA:979:C:H2'	1:AA:980:C:H5''	1.63	0.81
52:BT:33:LYS:HG3	52:BT:43:GLN:HB2	1.62	0.81
36:BA:2185:C:H2'	36:BA:2186:G:H5'	1.63	0.81
36:BA:1409:C:H2'	36:BA:1410:G:C8	2.16	0.81
3:AC:130:VAL:O	3:AC:134:ILE:HG13	1.81	0.81
13:AM:91:ARG:HB3	13:AM:98:VAL:HG22	1.62	0.81
39:BD:30:GLU:HG3	39:BD:63:ARG:CZ	2.10	0.81
51:BS:83:LYS:HG2	51:BS:105:ALA:HB3	1.63	0.81
36:BA:1314:C:H5'	36:BA:1314:C:H6	1.44	0.81
1:AA:573:A:H8	1:AA:573:A:H5'	1.46	0.81
41:BF:5:ALA:HB2	41:BF:24:LEU:HD11	1.62	0.81
1:AA:1320:C:H5'	1:AA:1320:C:H6	1.45	0.81
13:AM:90:LEU:HA	13:AM:93:ARG:HB2	1.63	0.81
22:AW:54:U:H2'	22:AW:55:U:O4'	1.81	0.81
36:BA:471:A:H2'	36:BA:472:A:H5''	1.63	0.81
36:BA:1948:G:H8	36:BA:1948:G:H5'	1.45	0.81
25:AZ:330:ARG:O	25:AZ:364:PRO:HG3	1.79	0.81
36:BA:1198:U:H2'	36:BA:1199:U:C6	2.16	0.81
36:BA:1859:A:H61	36:BA:1883:G:H1'	1.46	0.80
36:BA:747:U:H5'	55:BW:90:ARG:NH1	1.95	0.80
1:AA:266:G:H5''	1:AA:267:C:C5	2.15	0.80
48:BP:84:ASN:HA	48:BP:115:LEU:O	1.80	0.80

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BA:2836:U:H2'	36:BA:2837:G:C8	2.16	0.80
32:B6:6:ARG:HH11	32:B6:6:ARG:HB3	1.45	0.80
10:AJ:50:ILE:N	10:AJ:50:ILE:HD13	1.94	0.80
46:BN:2:LYS:HZ1	53:BU:95:LEU:HD21	1.44	0.80
36:BA:628:G:C2'	36:BA:629:G:H5''	2.12	0.80
28:B2:17:SER:HB2	28:B2:18:PRO:CD	2.11	0.80
1:AA:1281:U:H5'	1:AA:1282:C:C5	2.16	0.80
3:AC:7:PRO:O	3:AC:11:ARG:HG2	1.81	0.80
25:AZ:301:GLY:CA	25:AZ:347:THR:HB	2.10	0.80
55:BW:40:ASN:O	55:BW:41:LYS:HG2	1.81	0.80
38:BC:29:VAL:HG23	38:BC:30:LYS:HD2	1.63	0.80
46:BN:73:THR:CG2	46:BN:82:LEU:HD11	2.11	0.80
48:BP:105:LEU:O	48:BP:106:LEU:HB2	1.78	0.80
7:AG:113:GLU:CG	7:AG:119:ARG:HG2	2.12	0.80
53:BU:15:LYS:O	53:BU:19:LYS:HG3	1.82	0.80
19:AS:78:ARG:H	19:AS:81:ARG:NH1	1.79	0.80
36:BA:2640:G:C2'	36:BA:2641:G:H5''	2.12	0.80
48:BP:97:PRO:O	48:BP:98:GLU:HB3	1.80	0.80
58:BZ:103:ARG:HD2	58:BZ:136:PHE:HB2	1.64	0.80
37:BB:7:G:C3'	37:BB:8:U:H5''	2.11	0.80
36:BA:266:G:H2'	36:BA:267:C:H5''	1.64	0.80
38:BC:49:ILE:HG22	38:BC:204:ALA:HB1	1.62	0.80
43:BH:16:SER:HB2	43:BH:27:LYS:HB2	1.64	0.80
42:BG:56:ALA:HA	42:BG:153:ARG:HH21	1.47	0.80
25:AZ:311:THR:HG22	25:AZ:312:PRO:HD2	1.63	0.80
25:AZ:104:LEU:HD12	25:AZ:105:VAL:H	1.43	0.80
26:B0:10:THR:HG22	26:B0:12:ASN:H	1.46	0.80
29:B3:22:ALA:O	29:B3:25:ALA:HB3	1.82	0.80
1:AA:1502:A:H2	1:AA:1505:G:N1	1.78	0.80
41:BF:160:ASN:ND2	41:BF:162:LEU:HD13	1.96	0.80
1:AA:1266:G:H22	1:AA:1268:A:H5''	1.45	0.80
57:BY:87:LYS:C	57:BY:88:LYS:HD2	2.01	0.80
4:AD:107:ARG:HH21	4:AD:194:LEU:HD12	1.47	0.80
8:AH:10:LEU:HD22	8:AH:83:ILE:HD11	1.61	0.80
5:AE:6:PHE:HB3	5:AE:34:VAL:HG22	1.64	0.80
2:AB:77:ALA:HB2	2:AB:211:ILE:HD13	1.62	0.80
2:AB:215:LEU:O	2:AB:219:VAL:HG23	1.82	0.80
32:B6:15:GLU:OE1	32:B6:18:ARG:NE	2.15	0.80
36:BA:500:G:N2	36:BA:502:A:H3'	1.96	0.80
36:BA:2631:G:N2	40:BE:61:ARG:HH12	1.79	0.80
36:BA:969:U:H2'	36:BA:970:C:H6	1.45	0.80

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BA:2184:G:H2'	36:BA:2185:C:C1'	2.12	0.80
53:BU:88:ILE:O	53:BU:88:ILE:HG13	1.79	0.80
19:AS:46:GLY:N	19:AS:62:ILE:HG23	1.97	0.80
25:AZ:124:ARG:HB2	25:AZ:163:PHE:HE2	1.46	0.80
36:BA:81:G:H21	57:BY:2:ARG:HH12	1.26	0.80
36:BA:2370:G:H2'	36:BA:2371:G:C8	2.16	0.80
48:BP:47:ASP:HB3	48:BP:48:PRO:HA	1.64	0.79
53:BU:92:ARG:HD2	54:BV:11:GLN:CG	2.12	0.79
52:BT:66:VAL:HG12	52:BT:71:GLY:HA2	1.64	0.79
10:AJ:30:SER:O	10:AJ:80:LYS:HD3	1.81	0.79
28:B2:65:ASN:ND2	28:B2:69:ARG:HH21	1.78	0.79
42:BG:52:ILE:HD13	42:BG:52:ILE:H	1.47	0.79
1:AA:961:U:HO2'	1:AA:962:C:H6	1.30	0.79
41:BF:3:GLU:O	41:BF:24:LEU:HG	1.81	0.79
36:BA:2129:C:OP2	38:BC:6:ARG:HB3	1.82	0.79
36:BA:2893:G:C5'	36:BA:2894:G:H5'	2.12	0.79
31:B5:40:LYS:HZ3	31:B5:46:CYS:H	1.25	0.79
50:BR:84:ALA:HB3	50:BR:85:PRO:HD3	1.64	0.79
1:AA:751:U:H4'	15:AO:24:SER:HB2	1.64	0.79
36:BA:1614:A:H2'	36:BA:1615:C:H5'	1.65	0.79
38:BC:30:LYS:HZ1	38:BC:178:ALA:HB1	1.44	0.79
22:AV:68:C:H2'	22:AV:69:G:C5'	2.12	0.79
5:AE:12:LEU:HD22	5:AE:13:ILE:N	1.98	0.79
3:AC:19:GLU:HG2	3:AC:54:ARG:HE	1.46	0.79
34:B8:30:ARG:HA	34:B8:30:ARG:HE	1.48	0.79
25:AZ:281:ILE:O	25:AZ:284:ASP:HB2	1.83	0.79
10:AJ:54:PHE:CE2	10:AJ:55:LYS:HD2	2.18	0.79
55:BW:29:LEU:O	55:BW:33:ARG:HG3	1.81	0.79
39:BD:35:LYS:NZ	39:BD:35:LYS:HB3	1.96	0.79
52:BT:13:ARG:HH12	52:BT:15:VAL:HG12	1.46	0.79
36:BA:2428:G:O2'	48:BP:56:SER:HB2	1.81	0.79
2:AB:96:ARG:HD3	2:AB:148:TYR:HE1	1.47	0.79
12:AL:27:LEU:HB2	12:AL:62:SER:HB2	1.64	0.79
19:AS:29:ARG:CB	19:AS:48:THR:HB	2.11	0.79
14:AN:13:THR:H	14:AN:14:PRO:HD2	1.44	0.79
42:BG:57:ALA:HB2	42:BG:90:LEU:HD21	1.63	0.79
36:BA:1494:A:C2'	36:BA:1495:A:H5''	2.13	0.79
36:BA:1494:A:H2'	36:BA:1495:A:H5''	1.65	0.79
47:BO:4:PRO:O	47:BO:5:GLN:HB2	1.82	0.79
41:BF:4:VAL:HA	41:BF:19:GLU:HG3	1.62	0.79
34:B8:50:LEU:H	34:B8:53:PRO:HD3	1.48	0.79

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:BR:45:ARG:HG3	50:BR:46:GLY:N	1.98	0.79
29:B3:28:LEU:HD23	29:B3:28:LEU:N	1.96	0.79
6:AF:43:LEU:H	6:AF:43:LEU:HD22	1.46	0.79
36:BA:2693:A:H2'	36:BA:2694:G:C8	2.17	0.79
39:BD:210:GLY:O	39:BD:211:ARG:HB3	1.82	0.79
36:BA:860:U:H5	36:BA:917:A:N7	1.80	0.79
10:AJ:49:VAL:O	10:AJ:60:ARG:HB3	1.81	0.79
58:BZ:126:VAL:HG12	58:BZ:163:LEU:CB	2.13	0.79
36:BA:622:G:O2'	36:BA:623:G:H5'	1.82	0.79
15:AO:10:LYS:HA	15:AO:10:LYS:HE3	1.63	0.79
40:BE:77:ILE:HG22	40:BE:78:LEU:N	1.96	0.79
52:BT:56:GLY:O	52:BT:59:THR:HG23	1.83	0.79
51:BS:101:LEU:O	51:BS:101:LEU:HD12	1.82	0.79
29:B3:22:ALA:HB1	29:B3:46:ASN:ND2	1.96	0.79
1:AA:1139:G:H5'	1:AA:1140:C:OP1	1.82	0.79
41:BF:206:ILE:HG22	41:BF:207:GLY:H	1.45	0.79
2:AB:77:ALA:O	2:AB:81:VAL:HG23	1.82	0.79
36:BA:1010:A:H1'	36:BA:1153:C:H1'	1.65	0.79
17:AQ:52:LYS:HD2	17:AQ:52:LYS:H	1.46	0.79
36:BA:1348:G:H2'	36:BA:1349:A:H5''	1.62	0.79
42:BG:51:ARG:HD3	42:BG:53:LEU:HD21	1.65	0.79
36:BA:1639:U:C2'	36:BA:1640:C:H5''	2.13	0.79
22:AW:38:A:H2'	22:AW:39:U:H5''	1.64	0.79
22:AV:62:C:H5'	22:AV:62:C:H6	1.46	0.79
36:BA:782:A:C2	39:BD:226:MET:HG2	2.17	0.79
36:BA:484:C:OP1	57:BY:49:VAL:HG13	1.83	0.78
51:BS:35:ILE:H	51:BS:53:SER:HB2	1.48	0.78
1:AA:429:U:H2'	4:AD:25:ARG:HH12	1.47	0.78
57:BY:96:ILE:CG1	57:BY:99:CYS:HB3	2.14	0.78
38:BC:94:VAL:HG12	38:BC:95:GLY:N	1.97	0.78
1:AA:980:C:H5'	1:AA:980:C:C6	2.12	0.78
55:BW:70:TYR:CE2	55:BW:72:LYS:HG2	2.18	0.78
12:AL:24:VAL:HG13	12:AL:98:TYR:HE2	1.46	0.78
27:B1:37:ILE:HD12	27:B1:37:ILE:O	1.82	0.78
24:AY:75:C:C6	25:AZ:231:ILE:HA	2.17	0.78
58:BZ:33:LEU:CD1	58:BZ:34:ASN:H	1.96	0.78
36:BA:271(M):G:H2'	36:BA:271(N):U:H5''	1.63	0.78
48:BP:83:VAL:HG23	48:BP:105:LEU:HD22	1.64	0.78
22:AV:61:C:H2'	22:AV:62:C:H5''	1.65	0.78
12:AL:32:PHE:HB3	12:AL:84:LEU:HD22	1.66	0.78
3:AC:131:ARG:HD3	3:AC:166:GLU:OE1	1.84	0.78

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:BE:9:VAL:HG12	40:BE:25:VAL:O	1.83	0.78
49:BQ:133:ARG:HB2	49:BQ:133:ARG:HH11	1.48	0.78
27:B1:80:LEU:HD23	27:B1:81:LYS:H	1.48	0.78
47:BO:71:ARG:HH11	47:BO:71:ARG:HG3	1.48	0.78
3:AC:180:ALA:O	3:AC:181:ASN:HB3	1.80	0.78
8:AH:89:PRO:HA	8:AH:92:ARG:NH1	1.98	0.78
25:AZ:21:ASP:H	61:AZ:501:GCP:C3B	1.97	0.78
1:AA:950:U:H2'	1:AA:951:G:H8	1.48	0.78
36:BA:733:G:N7	36:BA:761:A:C6	2.51	0.78
43:BH:153:LYS:CD	43:BH:153:LYS:H	1.94	0.78
36:BA:2789:C:H1'	36:BA:2892:A:N1	1.98	0.78
36:BA:2760:C:H2'	36:BA:2761:G:H5''	1.65	0.78
32:B6:45:LYS:HD3	32:B6:45:LYS:N	1.97	0.78
31:B5:3:LYS:HD3	36:BA:747:U:OP2	1.83	0.78
58:BZ:130:PRO:HA	58:BZ:133:ILE:HD11	1.65	0.78
36:BA:654(N):G:H2'	36:BA:654(O):G:O4'	1.83	0.78
30:B4:10:VAL:HG23	30:B4:11:PRO:HD2	1.66	0.78
12:AL:24:VAL:O	12:AL:24:VAL:HG12	1.84	0.78
41:BF:51:THR:HG23	41:BF:92:PRO:HD2	1.65	0.78
40:BE:24:THR:HG21	40:BE:188:VAL:HG11	1.65	0.78
15:AO:29:VAL:HG11	15:AO:67:LEU:HD21	1.65	0.78
50:BR:27:SER:O	50:BR:34:ILE:HD11	1.83	0.78
4:AD:7:PRO:HB2	4:AD:10:ARG:HD2	1.65	0.78
38:BC:66:HIS:CD2	38:BC:184:LYS:HD3	2.19	0.78
2:AB:200:ILE:CD1	2:AB:200:ILE:H	1.95	0.78
38:BC:191:ALA:HA	38:BC:194:ARG:HD2	1.64	0.78
34:B8:61:LEU:HD13	34:B8:62:LEU:H	1.47	0.78
1:AA:1127:G:H1	1:AA:1145:C:N4	1.82	0.78
36:BA:1528(A):A:H62	36:BA:1541:G:N2	1.82	0.78
46:BN:28:THR:HG23	46:BN:29:LYS:HG3	1.65	0.78
1:AA:1503:A:N7	23:AX:15:A:C6	2.52	0.78
48:BP:16:ARG:NE	48:BP:18:ARG:HB2	1.99	0.78
28:B2:64:LEU:HD23	28:B2:64:LEU:O	1.83	0.78
36:BA:612:C:H2'	36:BA:613:G:C5'	2.13	0.78
2:AB:33:TYR:HB3	2:AB:41:ILE:HG22	1.66	0.78
25:AZ:66:ALA:HB3	25:AZ:81:ASP:HB3	1.66	0.78
26:B0:27:GLU:HG3	26:B0:69:PHE:HD1	1.46	0.78
36:BA:672:C:H2'	36:BA:673:C:C5'	2.14	0.78
9:AI:4:TYR:HB2	9:AI:19:LEU:HB2	1.66	0.78
36:BA:392:C:H2'	36:BA:393:C:H6	1.48	0.78
38:BC:59:ARG:CZ	38:BC:142:ALA:HB2	2.13	0.78

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:BT:89:VAL:HG12	52:BT:91:ARG:HG3	1.63	0.78
46:BN:133:GLN:HG2	46:BN:135:PRO:HD3	1.66	0.78
10:AJ:65:LEU:HD13	14:AN:56:VAL:H	1.48	0.78
30:B4:5:ILE:HG12	30:B4:5:ILE:O	1.84	0.78
2:AB:36:ARG:NE	2:AB:36:ARG:HA	1.99	0.78
25:AZ:148:ASP:HA	25:AZ:172:ARG:HH22	1.49	0.78
32:B6:15:GLU:HB2	32:B6:20:ASN:HB3	1.66	0.77
26:B0:7:LEU:HB3	49:BQ:85:LYS:HG3	1.66	0.77
1:AA:265:G:H2'	1:AA:266:G:H5''	1.65	0.77
22:AV:21:A:H2'	22:AV:22:G:H5''	1.62	0.77
55:BW:107:LEU:H	55:BW:107:LEU:HD12	1.47	0.77
58:BZ:40:ASP:HB3	58:BZ:43:GLU:HG2	1.66	0.77
37:BB:13:A:O2'	37:BB:14:U:H3'	1.83	0.77
29:B3:35:ARG:CB	29:B3:35:ARG:HH11	1.98	0.77
2:AB:61:LEU:HD12	2:AB:64:ARG:HD2	1.66	0.77
52:BT:10:VAL:O	52:BT:13:ARG:HG2	1.83	0.77
20:AT:14:LYS:O	20:AT:18:GLN:HB2	1.83	0.77
31:B5:16:ARG:HD2	31:B5:20:ARG:NH2	1.98	0.77
48:BP:34:GLY:O	48:BP:35:HIS:HB2	1.85	0.77
25:AZ:34:VAL:HG21	25:AZ:199:ILE:HG21	1.65	0.77
36:BA:1434:A:H61	36:BA:1558:A:N6	1.81	0.77
10:AJ:89:ASP:HB3	10:AJ:91:PRO:HD3	1.64	0.77
37:BB:60:C:H2'	37:BB:61:G:H8	1.49	0.77
25:AZ:230:THR:OG1	25:AZ:295:ARG:HD2	1.84	0.77
32:B6:15:GLU:OE2	32:B6:41:PRO:HB3	1.83	0.77
51:BS:85:VAL:C	51:BS:106:ARG:HG2	2.04	0.77
17:AQ:66:SER:OG	17:AQ:69:LYS:HB2	1.84	0.77
42:BG:44:GLY:O	42:BG:47:LYS:HE2	1.84	0.77
13:AM:22:ILE:HG21	13:AM:66:LEU:HD23	1.64	0.77
36:BA:614(A):U:H4'	36:BA:614(B):G:H5''	1.67	0.77
34:B8:32:LEU:HD12	34:B8:36:LYS:NZ	1.99	0.77
38:BC:41:VAL:HG12	38:BC:43:VAL:HG23	1.64	0.77
19:AS:11:VAL:HA	19:AS:38:SER:CB	2.14	0.77
36:BA:1227:G:OP1	53:BU:13:LYS:HD2	1.83	0.77
11:AK:57:THR:CG2	11:AK:60:ALA:H	1.98	0.77
20:AT:63:ILE:HG22	20:AT:64:ASP:N	1.99	0.77
4:AD:19:LEU:HD23	4:AD:21:LEU:HD21	1.67	0.77
43:BH:20:ALA:HB1	43:BH:21:PRO:CD	2.15	0.77
56:BX:18:TYR:HA	56:BX:21:PHE:CE1	2.19	0.77
58:BZ:19:ARG:HH12	58:BZ:84:GLU:HA	1.48	0.77
12:AL:91:LYS:O	12:AL:92:ASP:HB2	1.83	0.77

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:AZ:303:VAL:HG12	25:AZ:304:LEU:N	2.00	0.77
36:BA:1678:G:N2	36:BA:1989:G:H22	1.81	0.77
1:AA:967:C:H4'	9:AI:125:TYR:HE2	1.49	0.77
40:BE:47:VAL:O	40:BE:49:LEU:HD22	1.84	0.77
53:BU:92:ARG:HD3	53:BU:94:ASN:HB3	1.65	0.77
9:AI:53:VAL:HG13	9:AI:95:LYS:CE	2.15	0.77
54:BV:36:PRO:HA	54:BV:56:SER:CB	2.15	0.77
24:AY:72:U:H2'	24:AY:73:G:H5''	1.65	0.77
51:BS:67:ARG:NH2	51:BS:100:ALA:HB3	1.99	0.77
51:BS:24:LEU:HB3	51:BS:85:VAL:HG12	1.67	0.77
31:B5:3:LYS:HA	31:B5:3:LYS:HE3	1.67	0.77
8:AH:7:ALA:HB2	8:AH:85:ARG:HD3	1.67	0.77
36:BA:654(J):A:H8	36:BA:654(L):G:H1'	1.48	0.77
25:AZ:277:LEU:HD12	25:AZ:279:GLU:H	1.47	0.77
40:BE:47:VAL:HG21	40:BE:86:PRO:CD	2.14	0.77
38:BC:186:ALA:HB1	38:BC:190:ARG:NH2	1.99	0.77
25:AZ:202:LEU:O	25:AZ:206:ILE:HG13	1.84	0.77
36:BA:1484:G:H2'	36:BA:1485:G:C5'	2.13	0.77
42:BG:115:ARG:NH2	42:BG:136:ARG:HB2	1.95	0.77
1:AA:265:G:H5'	17:AQ:64:PRO:O	1.85	0.77
36:BA:672:C:H2'	36:BA:673:C:H5''	1.67	0.77
10:AJ:40:LEU:HD23	10:AJ:40:LEU:H	1.48	0.77
36:BA:1722:A:O2'	36:BA:1739:U:H5''	1.84	0.77
40:BE:51:PHE:O	40:BE:74:PRO:HB3	1.84	0.76
36:BA:2593:U:H2'	36:BA:2594:C:C6	2.20	0.76
36:BA:271(E):U:H2'	36:BA:271(F):C:C6	2.20	0.76
36:BA:615:G:OP2	41:BF:40:GLN:HG3	1.86	0.76
40:BE:199:ARG:HG2	40:BE:200:GLU:H	1.51	0.76
52:BT:64:ARG:HD2	52:BT:73:GLU:OE1	1.86	0.76
35:B9:7:VAL:HG13	35:B9:34:GLN:HG2	1.67	0.76
36:BA:296:C:O2'	36:BA:297:C:H5'	1.84	0.76
42:BG:96:ARG:O	42:BG:97:ASP:HB2	1.85	0.76
36:BA:1095:A:H2'	36:BA:1096:A:C8	2.19	0.76
47:BO:87:ILE:CG2	47:BO:91:LEU:HA	2.15	0.76
54:BV:69:LYS:HB2	54:BV:88:ARG:HD3	1.66	0.76
30:B4:14:ILE:HG13	30:B4:31:ILE:HG21	1.67	0.76
36:BA:1899:G:O2'	36:BA:1900:A:H5''	1.84	0.76
35:B9:35:ARG:O	35:B9:35:ARG:HG2	1.86	0.76
27:B1:80:LEU:HD23	27:B1:81:LYS:N	2.01	0.76
1:AA:176:C:H2'	1:AA:177:C:C6	2.21	0.76
38:BC:131:LEU:HD22	38:BC:136:LEU:HD12	1.66	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:AU:6:ARG:HD3	21:AU:15:ARG:NH1	2.00	0.76
13:AM:90:LEU:O	13:AM:91:ARG:HB2	1.84	0.76
28:B2:43:GLN:HG2	28:B2:44:LEU:H	1.50	0.76
38:BC:70:LYS:CD	38:BC:177:LYS:HZ3	1.98	0.76
47:BO:88:ASN:ND2	47:BO:92:GLU:HB3	1.99	0.76
36:BA:1847:A:H4'	36:BA:1848:A:OP2	1.84	0.76
5:AE:80:ILE:HD11	5:AE:138:ALA:HA	1.68	0.76
36:BA:2151:G:H2'	36:BA:2152:G:C8	2.19	0.76
31:B5:3:LYS:HD3	36:BA:747:U:P	2.26	0.76
36:BA:581:C:H2'	36:BA:582:G:H8	1.51	0.76
19:AS:6:LYS:HG2	19:AS:7:LYS:HE3	1.67	0.76
50:BR:92:GLY:H	50:BR:94:TYR:HE2	1.34	0.76
10:AJ:33:GLN:O	10:AJ:75:ILE:HG12	1.84	0.76
36:BA:1290:C:H2'	36:BA:1291:C:H6	1.50	0.76
36:BA:143(A):C:H4'	56:BX:38:GLU:OE1	1.85	0.76
36:BA:1231:G:H2'	36:BA:1232:G:H8	1.50	0.76
36:BA:2022:U:O2'	36:BA:2617:C:H5'	1.85	0.76
38:BC:164:ARG:O	38:BC:171:ILE:HD12	1.85	0.76
34:B8:21:LYS:HZ3	34:B8:48:PHE:HZ	1.34	0.76
36:BA:1353:A:H4'	39:BD:38:LYS:HE3	1.68	0.76
57:BY:79:CYS:SG	57:BY:80:GLY:N	2.58	0.76
51:BS:15:ARG:HH12	51:BS:18:ILE:HD11	1.51	0.76
10:AJ:23:ILE:HG23	10:AJ:85:LEU:HD22	1.67	0.76
52:BT:80:SER:CB	52:BT:81:PRO:HD3	2.16	0.76
36:BA:1019:U:HO2'	36:BA:1021:A:H2	1.34	0.76
25:AZ:224:PRO:HG3	25:AZ:345:ARG:HD3	1.64	0.76
36:BA:1798:U:H5'	39:BD:259:THR:HG22	1.66	0.76
1:AA:1452:C:H5''	1:AA:1456:G:OP1	1.85	0.76
24:AY:75:C:H1'	25:AZ:231:ILE:CD1	2.16	0.76
31:B5:4:HIS:CB	31:B5:5:PRO:HD3	2.15	0.76
50:BR:7:GLY:O	50:BR:8:ARG:NE	2.18	0.76
1:AA:1305:G:C5'	21:AU:4:GLY:HA3	2.16	0.76
36:BA:1947:C:H2'	36:BA:1948:G:C5'	2.16	0.76
36:BA:2836:U:H2'	36:BA:2837:G:H8	1.49	0.76
11:AK:57:THR:HG22	11:AK:60:ALA:H	1.50	0.76
38:BC:107:TRP:CZ3	38:BC:131:LEU:HD21	2.20	0.76
38:BC:75:LEU:HG	38:BC:112:ALA:O	1.85	0.75
31:B5:50:GLY:HA3	31:B5:56:LYS:HD3	1.67	0.75
52:BT:32:TYR:HD2	52:BT:32:TYR:N	1.84	0.75
1:AA:490:G:H2'	1:AA:491:G:H8	1.51	0.75
10:AJ:62:HIS:HB2	14:AN:59:ALA:HB3	1.67	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:AI:49:PRO:HB3	9:AI:101:PHE:HD2	1.50	0.75
1:AA:1052:U:O4	1:AA:1200:C:H2'	1.86	0.75
2:AB:155:LEU:HD21	2:AB:159:PRO:HG3	1.66	0.75
42:BG:66:GLN:OE1	42:BG:94:LEU:HD23	1.85	0.75
36:BA:548:A:H2'	36:BA:549:G:H5'	1.68	0.75
1:AA:1023:G:H2'	1:AA:1024:G:H5'	1.67	0.75
4:AD:61:LYS:CE	4:AD:62:GLN:HE21	2.00	0.75
49:BQ:60:ARG:HB3	49:BQ:60:ARG:HH11	1.50	0.75
55:BW:65:LEU:HD23	55:BW:68:ARG:NE	2.02	0.75
43:BH:153:LYS:HD3	43:BH:153:LYS:N	1.96	0.75
51:BS:66:ALA:HB1	51:BS:99:LYS:HD3	1.68	0.75
36:BA:2317:C:H2'	36:BA:2318:G:H5'	1.66	0.75
35:B9:10:ILE:O	35:B9:11:CYS:HB3	1.86	0.75
43:BH:18:GLU:CG	43:BH:25:LYS:HB2	2.15	0.75
36:BA:2315:G:H2'	36:BA:2316:C:H6	1.51	0.75
39:BD:60:ARG:HG3	39:BD:86:PRO:HB2	1.67	0.75
25:AZ:35:THR:CG2	25:AZ:203:LEU:HD11	2.17	0.75
2:AB:84:GLU:HB3	2:AB:219:VAL:CG2	2.12	0.75
38:BC:175:VAL:HG21	38:BC:189:ILE:HG12	1.69	0.75
1:AA:979:C:C2'	1:AA:980:C:H5''	2.15	0.75
15:AO:17:ARG:HD3	15:AO:26:GLU:HG3	1.67	0.75
46:BN:28:THR:HG23	46:BN:29:LYS:N	2.01	0.75
36:BA:1590:U:H2'	36:BA:1591:G:H5''	1.68	0.75
57:BY:42:VAL:HG21	57:BY:67:LEU:HD12	1.68	0.75
48:BP:50:ARG:HG3	48:BP:51:PHE:N	2.01	0.75
58:BZ:20:ARG:HH11	58:BZ:20:ARG:CB	1.97	0.75
36:BA:2113:U:H2'	36:BA:2114:A:H8	1.50	0.75
36:BA:2170:A:H5'	38:BC:133:PRO:HG2	1.69	0.75
58:BZ:100:VAL:HG23	58:BZ:126:VAL:HG21	1.67	0.75
38:BC:100:ILE:O	38:BC:104:LEU:HD23	1.87	0.75
43:BH:41:MET:HG3	43:BH:42:ARG:O	1.85	0.75
1:AA:280:C:O2	17:AQ:38:ARG:HG3	1.87	0.75
56:BX:89:ILE:HG22	56:BX:92:LEU:H	1.52	0.75
1:AA:963:G:H21	10:AJ:55:LYS:CD	2.00	0.75
51:BS:13:ARG:HG3	51:BS:14:VAL:N	2.01	0.75
58:BZ:33:LEU:HD12	58:BZ:34:ASN:N	2.00	0.75
36:BA:2375:G:H1'	36:BA:2379:G:N2	2.02	0.75
51:BS:85:VAL:O	51:BS:106:ARG:HG2	1.86	0.75
49:BQ:62:GLY:HA2	58:BZ:116:VAL:HG21	1.68	0.75
37:BB:87:G:H3'	37:BB:88:C:H5''	1.68	0.75
11:AK:84:VAL:HG11	11:AK:95:ILE:HD11	1.67	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BA:2028:U:H2'	36:BA:2029:G:C8	2.22	0.75
36:BA:1503:U:H2'	36:BA:1504:C:C6	2.22	0.75
52:BT:80:SER:HB3	52:BT:81:PRO:CD	2.16	0.75
28:B2:19:VAL:HG12	28:B2:23:LYS:HE3	1.68	0.75
37:BB:40:U:H3'	37:BB:41:U:C5'	2.17	0.75
25:AZ:213:PRO:HG2	25:AZ:215:ARG:HH21	1.52	0.75
8:AH:83:ILE:HD12	8:AH:137:VAL:HG22	1.66	0.75
22:AV:61:C:C2'	22:AV:62:C:H5''	2.17	0.75
49:BQ:133:ARG:CB	49:BQ:133:ARG:HH11	1.99	0.75
33:B7:8:ASN:C	33:B7:8:ASN:ND2	2.35	0.75
52:BT:82:LEU:H	52:BT:82:LEU:HD12	1.52	0.75
25:AZ:330:ARG:HG3	25:AZ:395:VAL:HB	1.69	0.75
36:BA:2184:G:H2'	36:BA:2185:C:H1'	1.67	0.75
22:AV:72:C:C2'	22:AV:73:A:H5''	2.17	0.75
11:AK:62:GLN:HG2	11:AK:63:LEU:HD23	1.66	0.75
55:BW:68:ARG:O	55:BW:109:GLU:HA	1.85	0.75
54:BV:18:LEU:HD23	54:BV:19:LYS:N	2.01	0.75
25:AZ:256:VAL:HG12	25:AZ:379:ALA:HB2	1.69	0.75
36:BA:833:U:H5''	48:BP:48:PRO:CB	2.17	0.74
52:BT:50:ILE:HD11	52:BT:64:ARG:HB3	1.65	0.74
35:B9:35:ARG:HD3	36:BA:2742:C:OP1	1.87	0.74
55:BW:29:LEU:CG	55:BW:33:ARG:HD2	2.17	0.74
39:BD:26:LYS:HE2	39:BD:26:LYS:N	2.02	0.74
39:BD:176:ARG:NH1	39:BD:176:ARG:HG2	2.01	0.74
41:BF:155:LEU:HD11	41:BF:176:LEU:HD13	1.68	0.74
36:BA:2813:A:H61	36:BA:2887:U:H3	1.30	0.74
36:BA:598:G:H5'	48:BP:15:ARG:HB2	1.68	0.74
40:BE:87:GLU:O	40:BE:89:ASP:N	2.20	0.74
13:AM:3:ARG:HB2	30:B4:34:GLU:HG2	1.68	0.74
41:BF:101:LEU:HD12	41:BF:102:PRO:CD	2.17	0.74
48:BP:106:LEU:HD11	48:BP:112:LEU:HD23	1.70	0.74
52:BT:106:SER:HA	52:BT:110:ILE:HG12	1.69	0.74
36:BA:2712:U:H1'	36:BA:2712(A):A:C8	2.22	0.74
2:AB:98:LEU:O	2:AB:101:MET:HG3	1.87	0.74
16:AP:20:VAL:HG21	16:AP:32:TYR:CG	2.22	0.74
36:BA:984:A:H5''	36:BA:985:C:H5	1.53	0.74
36:BA:2108:C:H2'	36:BA:2108:C:O2	1.86	0.74
1:AA:1321:C:H5''	1:AA:1322:C:C5'	2.15	0.74
38:BC:128:GLY:HA2	38:BC:137:LEU:HD23	1.70	0.74
37:BB:106:G:H2'	37:BB:107:G:H8	1.51	0.74
36:BA:2101:G:H2'	36:BA:2102:U:C5'	2.15	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BA:2206:G:N2	36:BA:2207:G:H5'	2.02	0.74
41:BF:154:VAL:HG22	41:BF:191:ARG:HB3	1.68	0.74
41:BF:192:LEU:HD21	41:BF:194:MET:HG3	1.68	0.74
58:BZ:144:LEU:HD11	58:BZ:150:LEU:HD22	1.68	0.74
22:AV:20:U:H3'	22:AV:21:A:H5'	1.68	0.74
28:B2:53:LEU:O	28:B2:57:ILE:HG12	1.88	0.74
36:BA:2577:A:H5''	36:BA:2578:G:H5'	1.68	0.74
5:AE:100:VAL:HG12	5:AE:118:ILE:HG22	1.68	0.74
36:BA:1608:A:H1'	36:BA:1610:A:OP2	1.85	0.74
57:BY:50:ARG:HG3	57:BY:56:PRO:O	1.86	0.74
56:BX:10:ALA:HB1	56:BX:11:PRO:HD2	1.68	0.74
50:BR:2:ARG:C	50:BR:2:ARG:HD2	2.06	0.74
36:BA:774:A:H2	36:BA:787:U:O2'	1.70	0.74
50:BR:34:ILE:HB	50:BR:114:VAL:HG23	1.69	0.74
4:AD:47:ARG:HD3	4:AD:49:ARG:HH21	1.52	0.74
19:AS:5:LEU:C	19:AS:6:LYS:HD2	2.08	0.74
58:BZ:10:ARG:HH21	58:BZ:36:LYS:CB	2.01	0.74
36:BA:2159:G:H2'	36:BA:2160:G:C5'	2.17	0.74
41:BF:159:GLY:HA2	41:BF:164:ARG:HH21	1.52	0.74
46:BN:89:LYS:O	46:BN:93:THR:HG22	1.87	0.74
48:BP:111:ARG:HH21	48:BP:111:ARG:HG2	1.52	0.74
1:AA:961:U:O2'	1:AA:962:C:H6	1.70	0.74
4:AD:12:CYS:O	4:AD:33:MET:HE1	1.88	0.74
3:AC:80:GLY:O	3:AC:82:GLU:HG3	1.87	0.74
58:BZ:17:ALA:HA	58:BZ:20:ARG:HG2	1.68	0.74
36:BA:2176:A:H2	38:BC:172:HIS:CE1	2.06	0.74
47:BO:115:VAL:HG13	47:BO:121:VAL:HG21	1.69	0.74
9:AI:40:LEU:HD11	9:AI:70:LYS:HG2	1.68	0.74
36:BA:1658:C:OP1	40:BE:132:HIS:ND1	2.20	0.74
27:B1:44:PRO:HG2	27:B1:46:LEU:CD2	2.17	0.74
17:AQ:57:VAL:HA	17:AQ:77:VAL:HG23	1.68	0.74
11:AK:52:GLY:H	11:AK:55:LYS:CE	2.00	0.74
36:BA:2413:G:H21	48:BP:70:GLN:HE22	1.36	0.74
36:BA:1264:G:H3'	36:BA:1265:A:H5''	1.70	0.74
53:BU:95:LEU:C	53:BU:97:ASP:H	1.90	0.74
36:BA:2189:U:C2'	36:BA:2190:G:H4'	2.17	0.74
13:AM:11:ARG:HG2	13:AM:12:ASN:HD22	1.52	0.74
9:AI:95:LYS:HD3	9:AI:96:LEU:N	2.02	0.74
12:AL:5:PRO:HG2	12:AL:10:LEU:HD21	1.70	0.74
30:B4:25:TYR:HB2	42:BG:101:ILE:HD13	1.68	0.74
40:BE:35:GLN:HG2	40:BE:36:ARG:H	1.51	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:B2:65:ASN:HD22	28:B2:69:ARG:NH2	1.83	0.74
36:BA:612:C:H2'	36:BA:613:G:H5''	1.67	0.74
4:AD:175:SER:HB3	4:AD:186:LEU:HD11	1.68	0.74
16:AP:20:VAL:HG23	16:AP:34:GLU:O	1.88	0.74
36:BA:2307:G:H21	36:BA:2308:G:H5'	1.52	0.74
38:BC:184:LYS:HE2	38:BC:184:LYS:N	2.03	0.74
53:BU:93:LYS:H	53:BU:93:LYS:HD2	1.53	0.74
38:BC:164:ARG:CG	38:BC:165:ASN:H	1.99	0.74
51:BS:78:LEU:HD11	51:BS:103:GLU:CB	2.17	0.74
51:BS:40:ILE:HG22	51:BS:47:THR:HG23	1.70	0.74
25:AZ:324:LYS:HD3	25:AZ:325:LYS:N	2.03	0.74
25:AZ:388:ILE:O	25:AZ:395:VAL:HG22	1.88	0.74
48:BP:121:LYS:O	48:BP:123:LEU:HD23	1.87	0.74
48:BP:122:PRO:HA	48:BP:141:ALA:O	1.87	0.74
54:BV:28:GLU:HB3	54:BV:29:PRO:HD2	1.68	0.74
1:AA:1226:C:H4'	1:AA:1227:A:OP1	1.85	0.74
36:BA:1061:U:H4'	36:BA:1070:A:O4'	1.88	0.74
56:BX:64:LYS:NZ	56:BX:73:ARG:HH21	1.86	0.74
36:BA:2416:C:H2'	36:BA:2417:C:H6	1.53	0.73
16:AP:34:GLU:OE2	16:AP:55:ARG:HD3	1.88	0.73
42:BG:11:TYR:HA	42:BG:15:VAL:HG23	1.69	0.73
36:BA:252:G:OP2	48:BP:50:ARG:NH1	2.21	0.73
37:BB:91:C:OP1	49:BQ:16:ARG:HG2	1.88	0.73
51:BS:58:LEU:HG	51:BS:59:LYS:N	2.01	0.73
25:AZ:368:VAL:HG12	25:AZ:369:THR:N	2.01	0.73
39:BD:267:SER:O	39:BD:269:PHE:N	2.22	0.73
5:AE:6:PHE:CB	5:AE:34:VAL:HG22	2.17	0.73
30:B4:14:ILE:HG13	30:B4:31:ILE:CG2	2.18	0.73
53:BU:48:ALA:O	53:BU:52:ARG:HG3	1.87	0.73
42:BG:16:ARG:HH11	42:BG:16:ARG:HG3	1.51	0.73
25:AZ:263:ARG:HE	25:AZ:293:VAL:HG12	1.52	0.73
25:AZ:54:PRO:O	25:AZ:55:GLU:HB3	1.86	0.73
46:BN:36:GLY:O	46:BN:42:TRP:HB2	1.87	0.73
52:BT:54:ARG:HA	52:BT:59:THR:HB	1.71	0.73
26:B0:27:GLU:OE2	36:BA:856:C:H1'	1.88	0.73
1:AA:92:C:H2'	1:AA:93:G:C8	2.19	0.73
58:BZ:151:HIS:HB2	58:BZ:170:THR:HA	1.68	0.73
10:AJ:90:LEU:H	10:AJ:91:PRO:HD3	1.53	0.73
12:AL:59:ARG:HD3	12:AL:65:GLU:OE2	1.88	0.73
43:BH:158:HIS:NE2	43:BH:170:ARG:HA	2.03	0.73
36:BA:2580:U:C5'	40:BE:131:ALA:H	2.01	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:BG:76:SER:OG	42:BG:84:LYS:HG3	1.88	0.73
50:BR:2:ARG:HH11	50:BR:2:ARG:N	1.85	0.73
1:AA:66:G:H4'	1:AA:173:U:C5	2.23	0.73
36:BA:1798:U:C5'	39:BD:259:THR:HG22	2.17	0.73
36:BA:2315:G:H2'	36:BA:2316:C:C6	2.23	0.73
16:AP:20:VAL:HG21	16:AP:32:TYR:CB	2.18	0.73
1:AA:1226:C:C5	13:AM:104:ARG:HB2	2.24	0.73
36:BA:94(A):G:H2'	36:BA:95:G:O4'	1.87	0.73
38:BC:215:THR:HB	38:BC:221:SER:HA	1.68	0.73
52:BT:91:ARG:O	52:BT:117:ASP:HB3	1.88	0.73
36:BA:272(J):C:C2'	36:BA:274:G:H5''	2.19	0.73
1:AA:1148:U:H2'	1:AA:1149:C:O4'	1.87	0.73
56:BX:35:THR:HG22	56:BX:37:THR:H	1.51	0.73
43:BH:106:THR:HG22	43:BH:112:PRO:HA	1.68	0.73
42:BG:38:VAL:HG22	42:BG:93:THR:HG23	1.69	0.73
22:AV:69:G:H5'	22:AV:69:G:H8	1.52	0.73
22:AW:55:U:H5'	38:BC:164:ARG:NH2	2.03	0.73
34:B8:61:LEU:CD1	34:B8:62:LEU:H	2.01	0.73
5:AE:144:THR:O	5:AE:148:VAL:HG23	1.87	0.73
1:AA:950:U:H2'	1:AA:951:G:C8	2.23	0.73
36:BA:1012:U:O4	46:BN:28:THR:HG21	1.89	0.73
13:AM:25:ILE:HD11	13:AM:60:VAL:HG13	1.71	0.73
9:AI:48:GLU:N	9:AI:49:PRO:HD2	2.03	0.73
36:BA:1813:G:H4'	39:BD:44:ASN:O	1.88	0.73
1:AA:453:A:H5''	16:AP:72:ARG:HD2	1.70	0.73
42:BG:5:VAL:HG12	42:BG:6:ALA:H	1.54	0.73
57:BY:14:LEU:HD12	57:BY:23:ARG:O	1.89	0.73
51:BS:36:TYR:HD1	51:BS:36:TYR:N	1.86	0.73
26:B0:69:PHE:CD2	26:B0:79:VAL:HG22	2.24	0.73
43:BH:17:VAL:HG12	43:BH:18:GLU:H	1.53	0.73
36:BA:1786:A:H2	36:BA:2606:C:H1'	1.54	0.73
41:BF:159:GLY:HA2	41:BF:164:ARG:NH2	2.04	0.73
36:BA:723:G:H2'	36:BA:724:U:C6	2.24	0.73
57:BY:81:LYS:HD3	57:BY:97:ARG:O	1.89	0.73
38:BC:59:ARG:HG3	38:BC:164:ARG:HG3	1.70	0.73
42:BG:67:LYS:H	42:BG:67:LYS:HD3	1.53	0.73
13:AM:11:ARG:HG2	13:AM:12:ASN:ND2	2.03	0.73
39:BD:94:LEU:HB2	39:BD:104:TYR:HE2	1.53	0.73
1:AA:453:A:HO2'	1:AA:454:C:H6	1.35	0.73
8:AH:20:TYR:HE2	8:AH:75:ARG:HD2	1.53	0.73
7:AG:121:ALA:O	7:AG:125:MET:HG3	1.89	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:BP:9:ASN:N	48:BP:10:PRO:HD2	1.99	0.73
52:BT:102:ILE:HB	52:BT:110:ILE:CD1	2.19	0.73
25:AZ:301:GLY:HA2	25:AZ:347:THR:HB	1.71	0.73
36:BA:1230:C:H2'	36:BA:1231:G:C8	2.23	0.73
36:BA:2308:G:O6	36:BA:2310:A:H2'	1.89	0.73
7:AG:46:ALA:O	7:AG:50:ILE:HG12	1.88	0.73
12:AL:6:THR:OG1	12:AL:9:GLN:HG3	1.88	0.73
1:AA:1040:U:H2'	1:AA:1041:A:H8	1.54	0.73
36:BA:428:A:H3'	36:BA:429:A:C8	2.23	0.73
54:BV:77:ALA:O	54:BV:79:VAL:HG23	1.89	0.73
49:BQ:3:MET:HB2	49:BQ:4:PRO:HD2	1.70	0.73
34:B8:49:VAL:CG1	34:B8:53:PRO:HD3	2.18	0.73
1:AA:1285:A:H4'	1:AA:1286:A:O5'	1.88	0.73
29:B3:31:LEU:HD23	29:B3:32:GLN:N	2.04	0.73
23:AX:25:A:O2'	23:AX:26:A:H5'	1.88	0.73
1:AA:266:G:C5'	1:AA:267:C:C5	2.71	0.73
24:AY:62:U:H6	24:AY:62:U:H5'	1.53	0.73
27:B1:80:LEU:HD22	27:B1:82:LEU:HD22	1.71	0.73
3:AC:58:GLU:H	3:AC:65:ALA:HB3	1.53	0.73
52:BT:131:ALA:C	52:BT:133:GLU:H	1.90	0.73
51:BS:58:LEU:HD23	51:BS:65:VAL:HG13	1.71	0.72
58:BZ:163:LEU:HG	58:BZ:165:VAL:HG23	1.69	0.72
36:BA:662:G:OP1	48:BP:18:ARG:HD2	1.89	0.72
46:BN:58:ASP:C	46:BN:60:ILE:H	1.92	0.72
1:AA:192:U:H5'	20:AT:102:GLY:O	1.89	0.72
47:BO:26:LYS:HB2	47:BO:30:ALA:HB2	1.69	0.72
36:BA:1750:G:O2'	36:BA:1751:C:H5'	1.89	0.72
6:AF:19:LEU:O	6:AF:19:LEU:HD23	1.88	0.72
17:AQ:45:HIS:O	17:AQ:73:VAL:HG23	1.89	0.72
20:AT:39:LYS:O	20:AT:43:LEU:HG	1.89	0.72
57:BY:8:LYS:H	57:BY:8:LYS:CD	1.95	0.72
56:BX:12:VAL:HG23	56:BX:13:LEU:N	2.04	0.72
36:BA:1666:G:H2'	36:BA:1667:G:H5'	1.69	0.72
50:BR:49:ASP:OD1	50:BR:95:THR:HG22	1.88	0.72
35:B9:1:MET:SD	36:BA:2478:A:OP2	2.46	0.72
43:BH:52:VAL:HG21	43:BH:69:ARG:HB2	1.71	0.72
9:AI:40:LEU:CD1	9:AI:70:LYS:HG2	2.19	0.72
11:AK:69:ALA:HB1	11:AK:103:LEU:HD21	1.69	0.72
38:BC:30:LYS:HD3	38:BC:185:LEU:HD11	1.71	0.72
40:BE:35:GLN:HG2	40:BE:36:ARG:N	2.04	0.72
38:BC:152:ILE:HA	38:BC:155:GLU:OE2	1.88	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:BT:50:ILE:HG23	52:BT:99:LEU:HD12	1.70	0.72
36:BA:1386:C:H2'	36:BA:1387:C:H6	1.54	0.72
5:AE:20:GLN:HE22	5:AE:25:ARG:NH2	1.87	0.72
36:BA:2179:C:H5''	36:BA:2180:U:OP1	1.90	0.72
36:BA:272(H):C:C2'	36:BA:272(I):U:H5''	2.19	0.72
1:AA:858:G:H8	1:AA:858:G:C5'	2.01	0.72
57:BY:86:ARG:HB3	57:BY:88:LYS:HE3	1.71	0.72
57:BY:86:ARG:HG2	57:BY:87:LYS:H	1.55	0.72
48:BP:100:LEU:HB2	48:BP:106:LEU:HD22	1.71	0.72
1:AA:177:C:H2'	1:AA:178:C:C6	2.25	0.72
36:BA:1590:U:C2'	36:BA:1591:G:H5''	2.18	0.72
1:AA:454:C:H5'	1:AA:455:C:OP2	1.89	0.72
22:AV:53:G:O2'	22:AV:54:U:H5'	1.90	0.72
1:AA:1435:G:H2'	1:AA:1436:U:C6	2.23	0.72
58:BZ:117:LEU:HA	58:BZ:174:VAL:HG22	1.68	0.72
36:BA:2283:C:H2'	36:BA:2284:C:H5'	1.71	0.72
22:AW:56:C:H5'	38:BC:137:LEU:HB2	1.71	0.72
51:BS:54:LEU:C	51:BS:56:LEU:H	1.93	0.72
50:BR:21:TYR:HD1	50:BR:21:TYR:N	1.87	0.72
39:BD:27:THR:CG2	39:BD:83:GLU:HG2	2.19	0.72
36:BA:812:C:H5'	48:BP:25:SER:HB2	1.70	0.72
46:BN:63:THR:HB	46:BN:66:LYS:HZ3	1.54	0.72
37:BB:87:G:C3'	37:BB:88:C:H5''	2.18	0.72
36:BA:237:C:O2'	36:BA:238:C:H5'	1.90	0.72
42:BG:11:TYR:HA	42:BG:15:VAL:CG2	2.18	0.72
36:BA:686:G:N2	36:BA:788:A:H61	1.87	0.72
4:AD:3:ARG:HE	4:AD:5:ILE:CG1	2.01	0.72
14:AN:22:THR:O	14:AN:23:ARG:HB2	1.89	0.72
14:AN:23:ARG:HD2	14:AN:28:GLY:O	1.89	0.72
36:BA:1639:U:H2'	36:BA:1640:C:H5''	1.72	0.72
46:BN:12:ARG:HG2	46:BN:50:ASP:OD2	1.89	0.72
16:AP:53:VAL:HG23	16:AP:54:GLU:H	1.55	0.72
38:BC:7:TYR:CE2	38:BC:11:LEU:HD11	2.24	0.72
25:AZ:32:THR:HG21	25:AZ:45:LYS:N	2.02	0.72
36:BA:2378:A:H62	36:BA:2379:G:H21	1.35	0.72
36:BA:547:A:H2'	36:BA:548:A:C8	2.25	0.72
1:AA:1452:C:H5'	1:AA:1456:G:C2	2.25	0.72
36:BA:742:G:H2'	36:BA:743:G:H8	1.55	0.72
39:BD:222:ARG:O	39:BD:225:ALA:HB3	1.88	0.72
34:B8:30:ARG:NE	34:B8:30:ARG:HA	2.03	0.72
32:B6:26:ASN:ND2	32:B6:32:ASN:HD21	1.82	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:AM:10:PRO:CB	13:AM:18:ALA:HB1	2.20	0.72
52:BT:102:ILE:HB	52:BT:110:ILE:HD13	1.71	0.72
40:BE:96:PHE:HA	40:BE:100:GLU:OE1	1.89	0.72
38:BC:35:ALA:HB3	38:BC:39:GLU:OE2	1.90	0.72
1:AA:662:G:O2'	1:AA:836:G:H5'	1.88	0.72
4:AD:107:ARG:NH2	4:AD:194:LEU:HD12	2.03	0.72
58:BZ:151:HIS:HA	58:BZ:171:ILE:HG12	1.71	0.72
56:BX:35:THR:CG2	56:BX:37:THR:H	2.03	0.72
1:AA:1015:A:H2'	1:AA:1016:A:C8	2.25	0.72
39:BD:8:PRO:HB3	39:BD:14:ARG:HB2	1.72	0.72
42:BG:133:LEU:HD11	42:BG:157:ILE:HD12	1.72	0.72
46:BN:9:VAL:HG21	46:BN:41:ASP:OD2	1.90	0.72
36:BA:2779:U:H1'	36:BA:2781:A:C5	2.25	0.72
38:BC:180:PHE:O	38:BC:185:LEU:HG	1.90	0.72
38:BC:10:LEU:CD1	38:BC:32:LEU:HA	2.16	0.72
33:B7:11:LYS:HE2	36:BA:686:G:H5''	1.72	0.72
13:AM:10:PRO:HG2	13:AM:45:VAL:HG11	1.72	0.72
42:BG:57:ALA:CB	42:BG:90:LEU:HD21	2.18	0.72
7:AG:15:ASP:HB2	7:AG:20:ASP:O	1.90	0.72
41:BF:33:LEU:HD21	41:BF:112:MET:HB3	1.72	0.72
8:AH:68:ARG:HH11	8:AH:68:ARG:HG2	1.52	0.72
57:BY:50:ARG:HB3	57:BY:53:PRO:HG3	1.72	0.71
19:AS:10:PHE:CZ	19:AS:70:LYS:HD2	2.25	0.71
40:BE:49:LEU:O	40:BE:78:LEU:HB2	1.90	0.71
25:AZ:92:MET:HG3	25:AZ:93:ILE:N	2.05	0.71
36:BA:2113:U:H2'	36:BA:2114:A:C8	2.25	0.71
38:BC:94:VAL:HG12	38:BC:95:GLY:H	1.54	0.71
52:BT:23:ARG:HB2	52:BT:24:PRO:HD2	1.72	0.71
2:AB:90:MET:HE3	2:AB:91:PRO:HD3	1.71	0.71
25:AZ:21:ASP:H	61:AZ:501:GCP:H3B1	1.54	0.71
46:BN:30:ILE:O	46:BN:34:LEU:HB2	1.90	0.71
26:B0:20:ARG:CG	26:B0:20:ARG:HH11	2.03	0.71
32:B6:15:GLU:OE1	32:B6:18:ARG:CZ	2.38	0.71
1:AA:1053:G:C4'	1:AA:1054:C:H5'	2.11	0.71
36:BA:2632:A:N3	40:BE:61:ARG:NH1	2.38	0.71
10:AJ:6:ILE:HG13	10:AJ:72:VAL:HB	1.72	0.71
52:BT:33:LYS:HE2	52:BT:43:GLN:HE21	1.54	0.71
20:AT:73:HIS:C	20:AT:74:LYS:HD3	2.10	0.71
1:AA:509:A:H5'	4:AD:54:TYR:CD2	2.25	0.71
20:AT:53:LEU:HB3	20:AT:57:ARG:HH12	1.55	0.71
36:BA:81:G:H21	57:BY:2:ARG:NH1	1.86	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BA:2317:C:C2'	36:BA:2318:G:H5'	2.20	0.71
36:BA:2303:G:O2'	42:BG:132:ASN:HB2	1.89	0.71
58:BZ:128:VAL:HG22	58:BZ:129:SER:H	1.52	0.71
36:BA:848:G:N3	36:BA:933:A:H1'	2.05	0.71
50:BR:117:VAL:HG22	50:BR:118:GLU:H	1.53	0.71
40:BE:38:THR:HB	40:BE:41:LYS:HG2	1.72	0.71
36:BA:221:A:H4'	36:BA:222:A:O5'	1.90	0.71
54:BV:38:LEU:HD23	54:BV:39:LEU:N	2.05	0.71
51:BS:62:LYS:H	51:BS:65:VAL:HG23	1.54	0.71
52:BT:85:LYS:NZ	52:BT:85:LYS:CB	2.52	0.71
39:BD:28:GLU:N	39:BD:29:PRO:HD2	2.03	0.71
14:AN:13:THR:H	14:AN:14:PRO:CD	2.03	0.71
40:BE:24:THR:HG21	40:BE:188:VAL:CG1	2.19	0.71
40:BE:132:HIS:HA	40:BE:135:HIS:HE1	1.54	0.71
42:BG:133:LEU:CD1	42:BG:157:ILE:HB	2.20	0.71
36:BA:2408:U:H2'	36:BA:2409:G:C8	2.25	0.71
1:AA:17:U:H2'	1:AA:18:C:C6	2.26	0.71
2:AB:15:VAL:H	2:AB:16:HIS:CE1	2.08	0.71
1:AA:384:G:H2'	1:AA:385:C:C6	2.25	0.71
32:B6:5:VAL:N	32:B6:9:LEU:H	1.88	0.71
2:AB:68:ILE:N	2:AB:90:MET:HE1	2.01	0.71
36:BA:613:G:H5'	36:BA:613:G:C8	2.22	0.71
36:BA:2464:C:O2'	36:BA:2465:C:H6	1.73	0.71
48:BP:38:GLN:HG3	48:BP:39:LYS:H	1.53	0.71
2:AB:178:ARG:HH12	8:AH:74:PRO:HB3	1.55	0.71
36:BA:203:C:H3'	36:BA:204:A:H5''	1.72	0.71
36:BA:2243:U:H2'	36:BA:2244:U:C6	2.25	0.71
7:AG:8:GLU:HG3	7:AG:9:VAL:H	1.54	0.71
1:AA:639:G:O2'	1:AA:640:A:H5'	1.89	0.71
36:BA:481:G:OP2	57:BY:47:LYS:HB2	1.91	0.71
56:BX:12:VAL:HG12	56:BX:27:THR:O	1.90	0.71
13:AM:90:LEU:O	13:AM:91:ARG:CB	2.38	0.71
40:BE:47:VAL:HG23	40:BE:84:PHE:O	1.91	0.71
22:AV:20:U:H3'	22:AV:21:A:C5'	2.21	0.71
17:AQ:76:LEU:HD12	17:AQ:77:VAL:H	1.54	0.71
36:BA:2023:G:H5'	36:BA:2617:C:H4'	1.72	0.71
1:AA:1377:A:H2'	7:AG:7:ALA:HB2	1.72	0.71
16:AP:44:THR:O	16:AP:45:THR:HB	1.90	0.71
36:BA:2661:G:O2'	36:BA:2662:A:H5'	1.90	0.71
32:B6:11:LEU:HD13	32:B6:12:GLU:N	2.05	0.71
32:B6:11:LEU:HD11	32:B6:51:GLU:HG3	1.72	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:977:A:O2'	1:AA:978:A:C5'	2.39	0.71
36:BA:2170:A:H5''	38:BC:134:ARG:NH2	2.06	0.71
52:BT:23:ARG:O	52:BT:25:GLY:N	2.24	0.71
49:BQ:141:GLN:H	58:BZ:53:ILE:HD12	1.55	0.71
19:AS:63:THR:HG22	19:AS:66:MET:SD	2.30	0.71
38:BC:53:ARG:NH1	38:BC:53:ARG:HB3	2.04	0.71
43:BH:105:LEU:HD23	43:BH:105:LEU:H	1.55	0.71
1:AA:627:G:H2'	1:AA:628:G:H8	1.56	0.71
9:AI:114:TYR:CE1	10:AJ:60:ARG:N	2.55	0.71
13:AM:82:MET:HG2	13:AM:82:MET:O	1.90	0.71
40:BE:79:ARG:NH1	40:BE:195:LEU:HD21	2.06	0.71
38:BC:83:ILE:HG23	38:BC:95:GLY:HA3	1.73	0.71
58:BZ:102:LEU:HD22	58:BZ:137:ILE:HB	1.71	0.71
36:BA:471:A:C2'	36:BA:472:A:H5''	2.20	0.71
36:BA:1539:G:C2	36:BA:1540:U:H1'	2.25	0.71
36:BA:673:C:H5'	36:BA:673:C:C6	2.25	0.71
11:AK:52:GLY:H	11:AK:55:LYS:HE3	1.53	0.71
40:BE:37:ARG:HA	40:BE:42:ASP:OD2	1.90	0.71
8:AH:86:ILE:HG21	8:AH:133:LEU:HD23	1.73	0.71
4:AD:43:HIS:O	4:AD:45:GLN:N	2.22	0.71
36:BA:322:A:OP2	41:BF:169:ASN:HB2	1.88	0.71
36:BA:1794:U:H2'	36:BA:1795:C:C6	2.26	0.71
24:AY:76:A:O4'	25:AZ:237:VAL:HG11	1.90	0.71
39:BD:108:PRO:HG2	39:BD:111:LEU:HB2	1.72	0.71
52:BT:28:VAL:O	52:BT:29:ARG:HD3	1.91	0.71
26:B0:7:LEU:HD21	49:BQ:81:VAL:HG23	1.71	0.71
41:BF:33:LEU:O	41:BF:37:VAL:HG23	1.91	0.71
27:B1:33:LYS:HD3	27:B1:33:LYS:N	2.04	0.71
55:BW:73:ALA:HB3	55:BW:106:ILE:HG13	1.72	0.71
26:B0:14:ARG:NH1	26:B0:14:ARG:HB2	2.00	0.71
51:BS:58:LEU:CG	51:BS:59:LYS:H	1.98	0.71
41:BF:6:VAL:CG1	41:BF:7:TYR:H	2.01	0.71
25:AZ:142:ASP:O	25:AZ:144:PRO:HD3	1.90	0.71
3:AC:154:SER:HA	3:AC:165:THR:HA	1.72	0.71
36:BA:1639:U:O2'	36:BA:1640:C:H5''	1.91	0.71
50:BR:28:LEU:HD12	50:BR:114:VAL:HG23	1.71	0.71
36:BA:392:C:H2'	36:BA:393:C:C6	2.25	0.71
18:AR:32:ARG:HA	18:AR:69:THR:HG21	1.72	0.71
57:BY:42:VAL:HG12	57:BY:65:ALA:HB3	1.73	0.71
40:BE:34:VAL:O	40:BE:35:GLN:HB2	1.91	0.71
51:BS:36:TYR:CD1	51:BS:36:TYR:N	2.57	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:BR:2:ARG:CG	50:BR:2:ARG:HH11	2.03	0.71
36:BA:1335:U:H2'	36:BA:1336:A:H8	1.56	0.71
38:BC:99:ILE:HD12	38:BC:102:LYS:NZ	2.05	0.71
1:AA:148:G:H2'	1:AA:149:A:H8	1.55	0.71
2:AB:152:PHE:O	2:AB:153:ARG:HB3	1.91	0.71
36:BA:1161:C:H2'	36:BA:1162:G:H8	1.56	0.71
9:AI:37:PHE:HB3	9:AI:43:ALA:HB2	1.73	0.71
36:BA:1709:U:H2'	36:BA:1710:C:C6	2.26	0.71
51:BS:17:ARG:C	51:BS:19:LYS:H	1.95	0.71
22:AW:20:U:H5'	36:BA:2112:G:H1	1.56	0.71
36:BA:654(J):A:C8	36:BA:654(L):G:H1'	2.26	0.70
57:BY:77:PRO:HB2	57:BY:99:CYS:SG	2.31	0.70
38:BC:163:PHE:HA	38:BC:172:HIS:O	1.90	0.70
46:BN:17:ASP:OD2	46:BN:56:ASN:HB3	1.91	0.70
35:B9:4:ARG:O	35:B9:36:GLN:HA	1.91	0.70
36:BA:259:G:H1'	36:BA:621:A:O2'	1.91	0.70
26:B0:7:LEU:HD21	49:BQ:81:VAL:CG2	2.21	0.70
36:BA:1116:C:H2'	36:BA:1117:G:H8	1.56	0.70
36:BA:1251:C:OP1	53:BU:10:ARG:HG3	1.89	0.70
58:BZ:119:GLU:HG2	58:BZ:122:ARG:NH1	2.05	0.70
13:AM:66:LEU:H	13:AM:66:LEU:HD12	1.54	0.70
36:BA:1569:A:O2'	39:BD:38:LYS:HG3	1.90	0.70
32:B6:5:VAL:N	32:B6:8:LYS:HB3	2.06	0.70
54:BV:49:THR:HB	54:BV:50:PRO:CD	2.21	0.70
29:B3:26:LEU:HB2	29:B3:28:LEU:HD21	1.73	0.70
36:BA:2641:G:H5'	36:BA:2641:G:C8	2.22	0.70
48:BP:16:ARG:HB2	48:BP:16:ARG:HH11	1.56	0.70
36:BA:915:C:H2'	36:BA:916:G:H8	1.54	0.70
36:BA:416:C:H42	36:BA:2407:G:H1	1.39	0.70
5:AE:31:LEU:HD23	5:AE:45:PHE:HD1	1.56	0.70
17:AQ:26:GLN:O	17:AQ:27:PHE:HB3	1.89	0.70
38:BC:30:LYS:HA	38:BC:30:LYS:NZ	2.05	0.70
1:AA:1127:G:H1	1:AA:1145:C:H42	1.38	0.70
36:BA:612:C:O2'	36:BA:613:G:H5''	1.91	0.70
36:BA:1512:U:O2	36:BA:1512:U:H2'	1.90	0.70
7:AG:16:LEU:CD1	9:AI:42:ARG:HA	2.20	0.70
36:BA:121:G:H4'	36:BA:149:A:H5'	1.74	0.70
36:BA:1252:G:N3	53:BU:33:ARG:HD2	2.05	0.70
28:B2:2:LYS:O	28:B2:5:GLU:HG2	1.91	0.70
3:AC:68:VAL:HG12	3:AC:70:VAL:HG23	1.72	0.70
2:AB:122:PHE:HA	2:AB:139:LYS:NZ	2.06	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:AW:57:G:H2'	22:AW:58:A:C5'	2.21	0.70
36:BA:1053:C:H2'	36:BA:1054:A:H8	1.57	0.70
36:BA:2207:G:O2'	36:BA:2208:A:H5''	1.91	0.70
36:BA:2875:C:H4'	52:BT:5:ALA:HB2	1.72	0.70
22:AW:59:U:H2'	22:AW:60:U:H5'	1.73	0.70
36:BA:1981:A:H5''	36:BA:1982:C:OP2	1.91	0.70
34:B8:33:ASN:ND2	36:BA:2419:U:H5''	2.05	0.70
36:BA:481:G:H1'	36:BA:506:G:N2	2.05	0.70
57:BY:7:VAL:HB	57:BY:8:LYS:CD	2.17	0.70
40:BE:48:GLN:NE2	40:BE:78:LEU:HD13	2.07	0.70
2:AB:42:ILE:HD11	2:AB:202:PRO:HB2	1.72	0.70
52:BT:65:LYS:HA	52:BT:65:LYS:HZ2	1.56	0.70
49:BQ:140:ALA:HB3	58:BZ:53:ILE:HD11	1.73	0.70
52:BT:32:TYR:CD2	52:BT:32:TYR:N	2.57	0.70
39:BD:35:LYS:O	39:BD:37:LEU:N	2.25	0.70
57:BY:86:ARG:HD3	57:BY:88:LYS:HG3	1.73	0.70
39:BD:3:VAL:CG1	39:BD:17:THR:HB	2.22	0.70
1:AA:1510:U:H2'	1:AA:1511:G:C8	2.26	0.70
36:BA:1348:G:C2'	36:BA:1349:A:H5''	2.20	0.70
54:BV:49:THR:HB	54:BV:50:PRO:HD2	1.73	0.70
38:BC:215:THR:HB	38:BC:221:SER:CA	2.22	0.70
38:BC:77:ILE:O	38:BC:95:GLY:HA2	1.90	0.70
1:AA:1120:G:H2'	1:AA:1121:U:H6	1.55	0.70
15:AO:17:ARG:HH11	15:AO:17:ARG:HG3	1.56	0.70
1:AA:542:G:OP1	4:AD:10:ARG:NH2	2.25	0.70
10:AJ:90:LEU:H	10:AJ:91:PRO:CD	2.05	0.70
9:AI:26:VAL:HG22	9:AI:61:ALA:HB3	1.71	0.70
34:B8:47:LYS:NZ	34:B8:47:LYS:HB2	2.07	0.70
47:BO:47:ILE:HG23	47:BO:48:PRO:HD2	1.71	0.70
32:B6:36:LEU:HD12	32:B6:50:ARG:HH12	1.53	0.70
40:BE:57:LYS:O	40:BE:58:ARG:HG3	1.91	0.70
36:BA:2761:G:C2'	36:BA:2762:G:H5''	2.19	0.70
39:BD:27:THR:O	39:BD:27:THR:HG23	1.91	0.70
20:AT:26:ASN:HB3	20:AT:71:THR:OG1	1.91	0.70
36:BA:2050:C:H1'	40:BE:156:MET:HE2	1.72	0.70
36:BA:191:A:O2'	36:BA:192:C:H5'	1.92	0.70
1:AA:299:G:H2'	1:AA:300:A:C8	2.27	0.70
1:AA:534:U:H6	1:AA:534:U:H5'	1.56	0.70
25:AZ:99:MET:HE2	25:AZ:102:ALA:HB2	1.74	0.70
52:BT:61:PHE:CE2	52:BT:76:PHE:HB2	2.27	0.70
1:AA:254:G:H21	17:AQ:16:GLN:HE22	1.39	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:AB:80:ILE:CD1	2:AB:80:ILE:H	2.04	0.70
50:BR:117:VAL:O	50:BR:118:GLU:HB2	1.90	0.70
1:AA:250:A:H4'	1:AA:251:G:O5'	1.92	0.70
29:B3:40:THR:O	29:B3:44:ARG:HB2	1.91	0.70
2:AB:22:LYS:HA	2:AB:22:LYS:HE2	1.73	0.70
24:AY:65:C:H5'	25:AZ:341:GLN:HG2	1.74	0.70
10:AJ:16:LEU:HD11	10:AJ:70:ARG:HG2	1.74	0.70
25:AZ:272:MET:HE1	25:AZ:284:ASP:OD2	1.91	0.70
48:BP:47:ASP:CB	48:BP:48:PRO:HA	2.22	0.70
36:BA:1665:A:C3'	36:BA:1666:G:H5''	2.21	0.70
38:BC:49:ILE:HG22	38:BC:204:ALA:CB	2.22	0.70
42:BG:42:GLY:O	42:BG:89:GLY:HA2	1.92	0.70
41:BF:51:THR:CG2	41:BF:92:PRO:HD2	2.22	0.70
36:BA:936:C:H2'	36:BA:937:U:C6	2.27	0.70
38:BC:75:LEU:HD21	38:BC:113:VAL:HG22	1.72	0.70
51:BS:97:ARG:O	51:BS:99:LYS:HG2	1.92	0.70
58:BZ:126:VAL:CG1	58:BZ:163:LEU:HB2	2.20	0.70
36:BA:2313:C:H6	36:BA:2313:C:H5'	1.56	0.70
36:BA:1771:C:H1'	36:BA:1786:A:C8	2.27	0.70
36:BA:1464:C:HO2'	36:BA:1528:A:H8	1.34	0.70
36:BA:1142(A):A:H4'	46:BN:25:ARG:HH22	1.56	0.70
36:BA:2131:G:H5''	36:BA:2132:U:O5'	1.92	0.70
40:BE:107:THR:O	40:BE:190:GLY:HA2	1.92	0.70
8:AH:11:THR:HA	8:AH:14:ARG:NH1	2.06	0.70
36:BA:991:C:H6	36:BA:991:C:H5'	1.57	0.70
50:BR:100:LEU:H	50:BR:100:LEU:HD22	1.57	0.70
22:AW:72:C:O2'	22:AW:73:A:H5'	1.92	0.70
49:BQ:29:PHE:HB2	49:BQ:105:GLU:OE2	1.91	0.70
34:B8:49:VAL:O	34:B8:50:LEU:HB2	1.92	0.69
1:AA:977:A:O2'	1:AA:978:A:H5''	1.91	0.69
36:BA:1747(A):G:H2'	36:BA:1748:G:C5'	2.21	0.69
51:BS:24:LEU:HD13	51:BS:41:ASP:HB2	1.74	0.69
11:AK:48:ILE:HG22	11:AK:49:GLY:N	2.07	0.69
46:BN:67:LEU:HD23	46:BN:87:LEU:HD12	1.74	0.69
43:BH:143:GLN:CA	43:BH:143:GLN:HE21	2.05	0.69
4:AD:64:LEU:HB2	4:AD:198:VAL:HG21	1.74	0.69
36:BA:1041:G:O2'	36:BA:1042:G:H5'	1.91	0.69
57:BY:27:VAL:HG12	57:BY:28:LYS:H	1.56	0.69
57:BY:50:ARG:O	57:BY:53:PRO:HD3	1.92	0.69
57:BY:13:VAL:HG22	57:BY:73:ARG:C	2.12	0.69
56:BX:12:VAL:HG23	56:BX:13:LEU:H	1.57	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
56:BX:27:THR:HG22	56:BX:80:ILE:HG22	1.74	0.69
36:BA:952:G:P	49:BQ:16:ARG:HH12	2.16	0.69
24:AY:44:G:H4'	24:AY:45:U:OP2	1.92	0.69
46:BN:58:ASP:O	46:BN:60:ILE:N	2.25	0.69
22:AV:62:C:H2'	22:AV:63:G:H8	1.56	0.69
29:B3:18:ASP:OD2	29:B3:49:LYS:HE3	1.91	0.69
36:BA:142:A:H8	36:BA:1408:C:H1'	1.57	0.69
50:BR:11:ASN:O	50:BR:12:ARG:HB2	1.92	0.69
4:AD:155:LEU:HB2	4:AD:158:ILE:HG12	1.74	0.69
58:BZ:19:ARG:HH12	58:BZ:84:GLU:CA	2.04	0.69
2:AB:51:LEU:O	2:AB:55:PHE:HD2	1.75	0.69
31:B5:33:CYS:HG	31:B5:36:CYS:HG	1.40	0.69
2:AB:121:LEU:HD23	2:AB:121:LEU:O	1.92	0.69
15:AO:39:LEU:HD13	15:AO:56:LEU:HB2	1.72	0.69
18:AR:37:VAL:CG1	18:AR:78:LEU:HB3	2.22	0.69
6:AF:33:TYR:CD2	6:AF:75:LEU:HA	2.28	0.69
32:B6:12:GLU:HA	32:B6:23:THR:HG22	1.72	0.69
28:B2:35:LEU:CD1	28:B2:50:ILE:HG13	2.13	0.69
10:AJ:50:ILE:HD11	14:AN:41:ARG:HD2	1.73	0.69
36:BA:996:A:H4'	53:BU:92:ARG:NE	2.06	0.69
1:AA:1125:U:H5	10:AJ:73:ASP:OD2	1.75	0.69
30:B4:7:PRO:O	30:B4:8:LYS:HB3	1.91	0.69
28:B2:18:PRO:HG2	28:B2:19:VAL:H	1.57	0.69
36:BA:674:G:H1'	41:BF:74:ARG:HD3	1.74	0.69
14:AN:13:THR:N	14:AN:14:PRO:CD	2.54	0.69
2:AB:145:LEU:HD13	2:AB:149:LEU:HD12	1.75	0.69
13:AM:66:LEU:HD12	13:AM:66:LEU:N	2.06	0.69
25:AZ:331:HIS:O	25:AZ:332:THR:HG23	1.92	0.69
35:B9:18:ARG:HD2	36:BA:1034:G:H5'	1.72	0.69
36:BA:1065:U:O2'	36:BA:1066:U:H5''	1.92	0.69
32:B6:18:ARG:HH11	32:B6:18:ARG:CG	1.97	0.69
58:BZ:23:LYS:HD3	58:BZ:38:TYR:CE1	2.28	0.69
38:BC:62:VAL:HG21	38:BC:192:PHE:HA	1.73	0.69
36:BA:2101:G:C2'	36:BA:2102:U:H5''	2.19	0.69
27:B1:29:GLY:O	27:B1:30:VAL:HG22	1.92	0.69
25:AZ:324:LYS:HG2	25:AZ:364:PRO:CB	2.22	0.69
48:BP:71:VAL:H	48:BP:72:PRO:HD3	1.57	0.69
36:BA:806:C:OP2	48:BP:39:LYS:HD2	1.91	0.69
36:BA:2712:U:O2'	36:BA:2713:A:H5'	1.91	0.69
36:BA:2648:C:H2'	36:BA:2649:U:C6	2.27	0.69
1:AA:643:C:H2'	1:AA:644:G:H8	1.57	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BA:1184:G:O2'	36:BA:1185:C:H5'	1.91	0.69
36:BA:2249:U:H4'	36:BA:2275:C:C5	2.27	0.69
36:BA:1495:A:N3	36:BA:1496:A:C2	2.60	0.69
36:BA:1434:A:H61	36:BA:1558:A:H62	1.39	0.69
36:BA:2308:G:H2'	36:BA:2309:A:C8	2.28	0.69
8:AH:86:ILE:HD11	8:AH:136:GLU:HG2	1.73	0.69
42:BG:122:PRO:HD3	42:BG:181:ARG:HB3	1.72	0.69
36:BA:1414:G:H1	36:BA:1588:C:H42	1.40	0.69
1:AA:353:A:H5'	1:AA:353:A:H8	1.58	0.69
36:BA:30:G:H2'	36:BA:31:C:C6	2.26	0.69
2:AB:167:PRO:HG2	2:AB:192:SER:OG	1.92	0.69
42:BG:176:LEU:HD23	42:BG:176:LEU:O	1.91	0.69
36:BA:1242:A:N1	48:BP:8:PRO:HG3	2.07	0.69
38:BC:114:VAL:CG2	38:BC:149:ILE:HD11	2.23	0.69
36:BA:2807:G:C3'	36:BA:2808:U:H5''	2.23	0.69
36:BA:2312:U:O3'	42:BG:71:THR:HG21	1.92	0.69
29:B3:43:ILE:O	29:B3:47:VAL:HG23	1.92	0.69
9:AI:104:ARG:C	9:AI:104:ARG:HD3	2.12	0.69
39:BD:25:THR:HG22	39:BD:26:LYS:HD2	1.75	0.69
36:BA:1786:A:C2	36:BA:2606:C:H1'	2.28	0.69
58:BZ:151:HIS:HB3	58:BZ:170:THR:HA	1.74	0.69
36:BA:2245:U:H5'	36:BA:2246:G:C5'	2.23	0.69
39:BD:210:GLY:O	39:BD:211:ARG:CB	2.39	0.69
58:BZ:40:ASP:HB3	58:BZ:43:GLU:CD	2.12	0.69
36:BA:2350:C:H2'	36:BA:2351:G:O4'	1.93	0.69
24:AY:20:H2U:H4'	24:AY:21:A:C5'	2.23	0.69
1:AA:624:C:O3'	16:AP:10:GLY:HA2	1.92	0.69
39:BD:131:LEU:N	39:BD:131:LEU:HD12	2.07	0.69
4:AD:150:GLU:CD	4:AD:151:LYS:N	2.46	0.69
32:B6:52:VAL:HG22	32:B6:53:LYS:H	1.56	0.69
57:BY:46:LYS:HG2	57:BY:47:LYS:N	2.05	0.69
38:BC:14:VAL:CG2	38:BC:32:LEU:HD11	2.22	0.69
40:BE:52:LEU:HD23	40:BE:75:VAL:HB	1.74	0.69
36:BA:2124:G:N2	38:BC:218:MET:HG2	2.07	0.69
36:BA:915:C:H2'	36:BA:916:G:C8	2.28	0.69
1:AA:102:G:H2'	1:AA:103:C:C6	2.25	0.69
13:AM:14:ARG:H	13:AM:44:ARG:HH11	1.41	0.69
2:AB:80:ILE:N	2:AB:80:ILE:HD12	2.07	0.69
36:BA:1290:C:H2'	36:BA:1291:C:C6	2.27	0.69
47:BO:71:ARG:HB3	47:BO:72:PRO:HD2	1.72	0.69
50:BR:34:ILE:HB	50:BR:114:VAL:CG2	2.21	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:AB:36:ARG:HA	2:AB:36:ARG:CZ	2.21	0.69
58:BZ:40:ASP:HB3	58:BZ:43:GLU:CG	2.22	0.69
30:B4:30:GLU:O	30:B4:31:ILE:HD12	1.93	0.69
36:BA:1353:A:H2'	36:BA:1354:A:C8	2.28	0.69
36:BA:428:A:H3'	36:BA:429:A:H8	1.58	0.69
2:AB:194:PRO:O	2:AB:196:LEU:N	2.26	0.69
36:BA:2777:G:H5''	36:BA:2778:A:H5'	1.75	0.69
31:B5:19:ARG:HG3	36:BA:2046:G:H5'	1.74	0.69
13:AM:49:THR:HG22	13:AM:51:ALA:H	1.58	0.69
36:BA:1419:A:O2'	36:BA:1420:U:H5''	1.93	0.69
11:AK:15:ALA:HB1	11:AK:78:GLN:HB2	1.73	0.69
36:BA:719:C:O2'	36:BA:720:C:H5'	1.93	0.69
55:BW:17:VAL:C	55:BW:19:LEU:H	1.95	0.69
1:AA:29:G:O2'	1:AA:30:U:H5'	1.93	0.69
47:BO:98:VAL:HG12	47:BO:117:LEU:HB3	1.73	0.69
36:BA:2666:C:H5'	36:BA:2667:C:OP2	1.93	0.69
36:BA:2283:C:C2'	36:BA:2284:C:H5'	2.23	0.69
25:AZ:243:GLU:HA	25:AZ:243:GLU:OE1	1.93	0.69
36:BA:1038:C:C2'	36:BA:1039:G:H5''	2.23	0.69
36:BA:6:A:H2'	36:BA:7:G:H8	1.57	0.69
36:BA:1721:G:C6	36:BA:1739:U:H5'	2.28	0.69
49:BQ:60:ARG:HH11	49:BQ:60:ARG:CB	2.06	0.69
52:BT:129:ARG:NH2	52:BT:131:ALA:HB3	2.08	0.69
26:B0:20:ARG:HG2	26:B0:20:ARG:HH11	1.57	0.69
50:BR:12:ARG:HB3	50:BR:16:HIS:CD2	2.27	0.69
36:BA:74:A:H5''	36:BA:75:G:O4'	1.92	0.69
36:BA:1991:U:H2'	36:BA:1992:G:H5''	1.74	0.69
36:BA:784:A:H5''	39:BD:227:ASN:ND2	2.08	0.69
3:AC:3:ASN:O	3:AC:4:LYS:HB2	1.93	0.69
10:AJ:50:ILE:CD1	10:AJ:50:ILE:H	1.83	0.69
36:BA:2170:A:H4'	38:BC:133:PRO:CB	2.22	0.69
30:B4:10:VAL:CG2	30:B4:11:PRO:HD2	2.22	0.69
27:B1:45:ASN:ND2	36:BA:2090:G:H21	1.87	0.69
41:BF:205:ARG:O	41:BF:206:ILE:HD13	1.93	0.69
50:BR:52:ILE:HD13	50:BR:79:LEU:HD21	1.74	0.69
49:BQ:134:ARG:HA	49:BQ:137:TYR:HD2	1.57	0.69
42:BG:76:SER:HB3	42:BG:83:ARG:HB3	1.75	0.69
8:AH:20:TYR:CE2	8:AH:75:ARG:HD2	2.28	0.69
39:BD:8:PRO:HB3	39:BD:14:ARG:CB	2.23	0.69
50:BR:57:ARG:O	50:BR:59:ASP:N	2.26	0.69
28:B2:12:GLU:O	28:B2:16:LEU:HG	1.92	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:B2:25:VAL:C	28:B2:27:GLU:H	1.95	0.69
51:BS:92:TYR:CG	51:BS:93:LYS:N	2.61	0.69
1:AA:1498:U:H4'	1:AA:1519:A:C2	2.28	0.69
21:AU:5:ASP:O	21:AU:11:GLY:HA3	1.93	0.69
36:BA:484:C:O2'	36:BA:485:C:H5'	1.93	0.68
22:AW:19:G:C5	36:BA:2169:A:H1'	2.28	0.68
46:BN:56:ASN:H	46:BN:125:GLY:HA3	1.58	0.68
19:AS:24:ALA:O	19:AS:25:LYS:HG3	1.93	0.68
9:AI:4:TYR:CE2	9:AI:88:TYR:HB2	2.28	0.68
30:B4:5:ILE:H	30:B4:5:ILE:HD13	1.58	0.68
50:BR:32:GLY:HA2	50:BR:116:LEU:HD12	1.75	0.68
1:AA:1152:A:H5''	10:AJ:13:HIS:CD2	2.29	0.68
24:AY:27:C:H2'	24:AY:28:C:C6	2.29	0.68
6:AF:25:ILE:HD13	6:AF:25:ILE:O	1.92	0.68
39:BD:118:VAL:HG22	39:BD:119:ALA:H	1.58	0.68
48:BP:47:ASP:HB3	48:BP:49:ARG:N	2.08	0.68
29:B3:28:LEU:H	29:B3:28:LEU:HD23	1.57	0.68
23:AX:26:A:H3'	23:AX:27:A:C5'	2.19	0.68
38:BC:100:ILE:CG2	38:BC:127:LEU:HG	2.22	0.68
38:BC:100:ILE:HG23	38:BC:127:LEU:CG	2.23	0.68
47:BO:1:MET:HB3	47:BO:32:TYR:HD2	1.58	0.68
39:BD:24:ILE:O	39:BD:25:THR:O	2.10	0.68
51:BS:106:ARG:HB3	51:BS:106:ARG:NH1	2.08	0.68
57:BY:86:ARG:HG2	57:BY:87:LYS:N	2.07	0.68
7:AG:79:ARG:HH21	22:AW:33:U:H4'	1.57	0.68
3:AC:11:ARG:NH2	3:AC:182:ILE:HD12	2.07	0.68
39:BD:43:ARG:HD2	39:BD:44:ASN:OD1	1.93	0.68
38:BC:99:ILE:HD12	38:BC:102:LYS:HZ3	1.57	0.68
36:BA:2131:G:OP1	36:BA:2132:U:H3'	1.92	0.68
33:B7:37:LYS:HE2	36:BA:469:G:O6	1.94	0.68
7:AG:72:ARG:HA	7:AG:96:GLN:HE22	1.58	0.68
42:BG:114:ILE:HG23	42:BG:117:PHE:HB2	1.76	0.68
58:BZ:37:VAL:O	58:BZ:38:TYR:HB3	1.94	0.68
36:BA:1747(A):G:O2'	36:BA:1748:G:H5''	1.94	0.68
1:AA:1125:U:C5	10:AJ:73:ASP:OD2	2.47	0.68
25:AZ:301:GLY:HA3	25:AZ:347:THR:HB	1.75	0.68
25:AZ:147:LEU:HG	25:AZ:172:ARG:NH1	2.08	0.68
55:BW:3:ALA:CB	55:BW:58:ALA:HB2	2.23	0.68
16:AP:53:VAL:HG23	16:AP:54:GLU:N	2.07	0.68
36:BA:1064:C:H3'	36:BA:1065:U:H5''	1.75	0.68
46:BN:32:THR:HG22	46:BN:37:LYS:HB3	1.74	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BA:1858:G:H22	36:BA:1883:G:H2'	1.58	0.68
55:BW:29:LEU:HD21	55:BW:33:ARG:NH1	2.08	0.68
43:BH:42:ARG:O	43:BH:43:VAL:HG13	1.92	0.68
52:BT:32:TYR:O	52:BT:33:LYS:HB2	1.91	0.68
27:B1:45:ASN:HD21	36:BA:2090:G:N2	1.89	0.68
36:BA:2159:G:C2'	36:BA:2160:G:H5''	2.21	0.68
36:BA:2415:G:O3'	48:BP:66:GLY:HA3	1.93	0.68
1:AA:878:G:H5'	8:AH:89:PRO:HG2	1.75	0.68
1:AA:943:U:H2'	1:AA:944:G:H5'	1.75	0.68
1:AA:1001:A:N3	1:AA:1001:A:H2'	2.07	0.68
34:B8:50:LEU:C	34:B8:53:PRO:HD2	2.14	0.68
36:BA:1666:G:C2'	36:BA:1667:G:H5'	2.22	0.68
29:B3:4:LEU:HD11	29:B3:39:ASP:OD1	1.94	0.68
36:BA:621:A:H2'	36:BA:622:G:C5'	2.23	0.68
50:BR:63:ARG:HG3	50:BR:80:PHE:HE2	1.58	0.68
49:BQ:134:ARG:CZ	58:BZ:122:ARG:HE	2.07	0.68
3:AC:16:ARG:HA	3:AC:16:ARG:HH11	1.58	0.68
39:BD:44:ASN:HB3	39:BD:49:ILE:HA	1.75	0.68
51:BS:90:GLY:O	51:BS:92:TYR:N	2.27	0.68
13:AM:119:GLY:O	13:AM:120:LYS:HB2	1.91	0.68
27:B1:67:ILE:N	27:B1:68:PRO:HD2	2.08	0.68
6:AF:69:GLU:O	6:AF:72:VAL:HG12	1.94	0.68
1:AA:1366:C:H2'	1:AA:1367:C:H6	1.58	0.68
36:BA:34:C:H5'	36:BA:35:G:OP1	1.93	0.68
2:AB:219:VAL:O	2:AB:222:ILE:HG12	1.93	0.68
1:AA:1189:C:OP1	10:AJ:51:ARG:NH2	2.26	0.68
47:BO:107:ARG:NH1	52:BT:35:LYS:HD2	2.08	0.68
51:BS:38:GLN:O	51:BS:39:ILE:HG13	1.94	0.68
17:AQ:24:GLU:HG2	17:AQ:39:SER:CB	2.21	0.68
4:AD:107:ARG:HH12	4:AD:114:ARG:HH21	1.39	0.68
22:AV:72:C:C3'	22:AV:73:A:H5''	2.24	0.68
1:AA:429:U:H2'	4:AD:25:ARG:NH1	2.09	0.68
9:AI:118:LYS:O	9:AI:119:ALA:CB	2.41	0.68
39:BD:96:HIS:CE1	39:BD:102:LYS:NZ	2.62	0.68
16:AP:25:ARG:HH11	16:AP:25:ARG:HG3	1.57	0.68
53:BU:68:ALA:O	53:BU:71:GLN:HB3	1.93	0.68
57:BY:67:LEU:HD21	57:BY:71:LYS:HE2	1.74	0.68
10:AJ:54:PHE:O	10:AJ:56:HIS:N	2.27	0.68
22:AW:18:G:H1'	22:AW:57:G:O6	1.94	0.68
37:BB:50:G:OP1	51:BS:63:THR:HG23	1.94	0.68
51:BS:61:ASN:O	51:BS:62:LYS:HB2	1.93	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BA:628:G:H2'	36:BA:629:G:H5''	1.76	0.68
58:BZ:35:ARG:NE	58:BZ:35:ARG:HA	2.08	0.68
36:BA:2394:C:OP1	48:BP:63:PRO:HD2	1.94	0.68
27:B1:89:GLU:HA	27:B1:92:LYS:CE	2.23	0.68
40:BE:167:VAL:O	40:BE:167:VAL:HG13	1.92	0.68
42:BG:42:GLY:HA2	42:BG:90:LEU:H	1.58	0.68
25:AZ:124:ARG:HB2	25:AZ:163:PHE:CE2	2.28	0.68
43:BH:76:VAL:C	43:BH:78:GLY:H	1.97	0.68
8:AH:8:ASP:O	8:AH:12:ARG:HG3	1.94	0.68
54:BV:81:TYR:HE2	54:BV:83:ARG:HE	1.39	0.68
1:AA:982:U:H4'	1:AA:983:A:O5'	1.94	0.68
39:BD:248:SER:HB2	39:BD:249:PRO:HD2	1.76	0.68
32:B6:11:LEU:HD21	32:B6:51:GLU:CG	2.24	0.68
19:AS:10:PHE:HE1	19:AS:70:LYS:HD2	1.58	0.68
58:BZ:71:VAL:HG11	58:BZ:74:VAL:HG23	1.75	0.68
35:B9:31:LYS:HE2	36:BA:2478:A:H5'	1.76	0.68
47:BO:107:ARG:HH21	47:BO:115:VAL:HG11	1.58	0.68
10:AJ:75:ILE:HG13	10:AJ:76:ASN:N	2.08	0.68
36:BA:1540:U:H3'	36:BA:1541:G:H3'	1.75	0.68
36:BA:1067:A:H3'	36:BA:1068:G:C5'	2.23	0.68
48:BP:112:LEU:H	48:BP:128:HIS:CD2	2.09	0.68
18:AR:73:ALA:CB	18:AR:79:LEU:HD12	2.23	0.68
36:BA:2662:A:H2'	36:BA:2663:G:O4'	1.92	0.68
36:BA:1161:C:H2'	36:BA:1162:G:C8	2.27	0.68
24:AY:27:C:H2'	24:AY:28:C:H6	1.59	0.68
39:BD:247:ALA:HA	39:BD:254:THR:HG22	1.75	0.68
36:BA:2137:C:H42	36:BA:2154:G:H22	1.41	0.68
1:AA:1296:C:H4'	1:AA:1302:U:C5	2.29	0.68
53:BU:36:ARG:HG2	53:BU:40:PHE:CE1	2.28	0.68
20:AT:25:ARG:HH11	20:AT:25:ARG:HG3	1.58	0.68
9:AI:24:GLY:HA2	9:AI:59:PHE:O	1.93	0.68
5:AE:145:LYS:O	5:AE:149:GLU:HG2	1.93	0.68
1:AA:1004:A:H5''	1:AA:1025:U:C4	2.29	0.68
48:BP:146:VAL:HG22	48:BP:147:LEU:N	2.08	0.68
36:BA:2728:U:O2'	36:BA:2729:G:H5'	1.91	0.68
50:BR:55:ALA:HA	50:BR:80:PHE:HE1	1.53	0.68
26:B0:36:ILE:HD11	36:BA:2355:C:C1'	2.23	0.68
21:AU:12:LYS:HG2	21:AU:22:ARG:CB	2.24	0.68
43:BH:157:TYR:O	43:BH:158:HIS:HB2	1.93	0.68
58:BZ:128:VAL:HG22	58:BZ:129:SER:N	2.09	0.68
27:B1:53:VAL:HG22	27:B1:74:VAL:HG13	1.75	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:918:A:H2'	1:AA:919:A:C8	2.29	0.68
24:AY:75:C:N4	25:AZ:232:THR:HG1	1.91	0.68
42:BG:113:ARG:HA	42:BG:113:ARG:NE	2.09	0.68
53:BU:90:VAL:HG12	53:BU:91:ASP:H	1.58	0.68
36:BA:2163:C:H2'	36:BA:2164:C:O4'	1.94	0.68
52:BT:28:VAL:CG2	52:BT:46:GLU:HA	2.24	0.68
31:B5:40:LYS:HZ1	31:B5:46:CYS:H	1.37	0.68
36:BA:472:A:H2'	36:BA:473:G:H5'	1.75	0.68
30:B4:8:LYS:O	30:B4:9:LEU:HB2	1.93	0.68
36:BA:2723:C:H4'	50:BR:2:ARG:HE	1.57	0.68
36:BA:1230:C:H2'	36:BA:1231:G:H8	1.58	0.68
36:BA:1497:U:H2'	36:BA:1497:U:O2	1.92	0.68
30:B4:40:HIS:CD2	30:B4:41:PRO:HA	2.29	0.68
36:BA:2554:U:H2'	36:BA:2555:U:C6	2.29	0.68
7:AG:129:GLU:OE1	7:AG:131:LYS:HE2	1.93	0.68
24:AY:75:C:H1'	25:AZ:231:ILE:HD12	1.74	0.67
42:BG:60:LEU:CD2	42:BG:63:ILE:HD11	2.17	0.67
57:BY:54:LYS:HE3	57:BY:55:TYR:CE1	2.30	0.67
25:AZ:28:THR:HG23	25:AZ:79:HIS:ND1	2.09	0.67
36:BA:1859:A:N6	36:BA:1883:G:H1'	2.10	0.67
38:BC:6:ARG:HH11	38:BC:34:THR:HB	1.57	0.67
1:AA:1060:C:C5	3:AC:2:GLY:HA3	2.29	0.67
52:BT:29:ARG:HB3	52:BT:85:LYS:HA	1.75	0.67
36:BA:2377:A:H2'	36:BA:2378:A:C8	2.29	0.67
25:AZ:363:MET:HB3	25:AZ:364:PRO:HD2	1.75	0.67
49:BQ:60:ARG:NH1	49:BQ:60:ARG:HB3	2.08	0.67
56:BX:47:PHE:O	56:BX:49:VAL:N	2.25	0.67
1:AA:650:G:O2'	1:AA:651:C:H5'	1.93	0.67
1:AA:158:G:H2'	1:AA:159:G:H8	1.58	0.67
57:BY:13:VAL:HG11	57:BY:28:LYS:HZ3	1.59	0.67
36:BA:1058:G:H2'	36:BA:1059:G:C5'	2.19	0.67
41:BF:34:TRP:HB2	48:BP:10:PRO:HB2	1.75	0.67
43:BH:167:GLU:CG	43:BH:168:PRO:HD2	2.21	0.67
10:AJ:7:LYS:HB2	10:AJ:97:GLU:HB2	1.75	0.67
48:BP:23:PRO:CD	48:BP:33:ARG:HE	2.06	0.67
48:BP:31:ALA:O	48:BP:33:ARG:N	2.28	0.67
28:B2:51:ARG:HD3	28:B2:55:ARG:NH2	2.08	0.67
12:AL:6:THR:H	12:AL:9:GLN:HE21	1.41	0.67
36:BA:1385:G:H4'	36:BA:1386:C:OP1	1.93	0.67
1:AA:1008:C:H42	1:AA:1021:G:H1	1.41	0.67
36:BA:287:C:H2'	36:BA:288:C:C6	2.29	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:AD:39:PRO:HD2	4:AD:44:GLY:O	1.94	0.67
36:BA:590:A:H2'	36:BA:591:C:C6	2.29	0.67
1:AA:108:G:H5'	1:AA:109:A:C5'	2.23	0.67
52:BT:51:ARG:HB2	52:BT:98:LYS:HG3	1.76	0.67
15:AO:70:LEU:HD23	15:AO:78:TYR:HA	1.74	0.67
36:BA:2672:G:C3'	36:BA:2673:G:H5''	2.23	0.67
55:BW:14:PRO:HG3	55:BW:101:SER:CB	2.20	0.67
57:BY:31:LEU:HB2	57:BY:32:PRO:CA	2.22	0.67
36:BA:1598:C:H5'	56:BX:36:LYS:CG	2.23	0.67
38:BC:47:LEU:HD11	38:BC:171:ILE:HB	1.73	0.67
52:BT:109:GLU:HG2	52:BT:112:ARG:CZ	2.23	0.67
10:AJ:90:LEU:N	10:AJ:91:PRO:CD	2.57	0.67
3:AC:80:GLY:O	3:AC:82:GLU:N	2.27	0.67
36:BA:1469:A:H2'	36:BA:1470:G:O4'	1.94	0.67
40:BE:179:GLU:O	40:BE:179:GLU:HG3	1.94	0.67
55:BW:95:ILE:HG13	55:BW:95:ILE:O	1.93	0.67
57:BY:28:LYS:HA	57:BY:38:ILE:HG22	1.75	0.67
36:BA:851:U:H3	36:BA:926:A:H61	1.42	0.67
53:BU:95:LEU:HD12	54:BV:11:GLN:HE21	1.59	0.67
53:BU:91:ASP:OD1	53:BU:96:ALA:HB2	1.95	0.67
29:B3:8:LEU:CD2	29:B3:31:LEU:HG	2.24	0.67
19:AS:44:MET:HA	19:AS:47:HIS:HD2	1.57	0.67
1:AA:1330:U:H5'	1:AA:1331:G:OP2	1.95	0.67
2:AB:172:ILE:N	2:AB:172:ILE:HD12	2.08	0.67
13:AM:23:TYR:HB3	13:AM:67:GLU:CB	2.24	0.67
26:B0:53:MET:HA	26:B0:58:THR:O	1.95	0.67
36:BA:2469:A:O2'	49:BQ:56:ARG:HD2	1.94	0.67
1:AA:818:G:O2'	1:AA:819:A:H5'	1.94	0.67
36:BA:1268:A:H2'	36:BA:1269:A:O4'	1.93	0.67
1:AA:191:G:C4	20:AT:105:SER:HB3	2.30	0.67
53:BU:85:LYS:HD3	53:BU:117:GLN:HE22	1.58	0.67
55:BW:8:ARG:CA	55:BW:102:HIS:HB3	2.12	0.67
54:BV:35:LEU:O	54:BV:37:VAL:N	2.28	0.67
36:BA:2716:U:O2'	36:BA:2717:G:H5'	1.93	0.67
36:BA:611:C:H2'	36:BA:612:C:C6	2.30	0.67
2:AB:102:LEU:HD23	2:AB:182:ILE:HD12	1.76	0.67
36:BA:2050:C:H1'	40:BE:156:MET:CE	2.25	0.67
2:AB:22:LYS:CA	2:AB:22:LYS:HE2	2.25	0.67
1:AA:424:G:O2'	1:AA:425:G:H5'	1.94	0.67
36:BA:2147:G:H2'	36:BA:2148:G:H5'	1.77	0.67
1:AA:1234:C:O2'	1:AA:1235:U:H5'	1.95	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:407:G:O2'	4:AD:116:GLN:HG3	1.93	0.67
25:AZ:185:ASN:HD21	25:AZ:188:THR:CB	2.07	0.67
7:AG:115:ARG:O	7:AG:118:VAL:HG22	1.95	0.67
36:BA:2012:G:H4'	55:BW:96:ILE:HD11	1.76	0.67
42:BG:9:ARG:O	42:BG:13:GLU:HG2	1.95	0.67
1:AA:8:A:N6	4:AD:209:ARG:H	1.93	0.67
58:BZ:100:VAL:CG2	58:BZ:126:VAL:HG21	2.25	0.67
10:AJ:78:ASN:HD22	10:AJ:80:LYS:HB3	1.59	0.67
36:BA:611:C:H2'	36:BA:612:C:H6	1.58	0.67
36:BA:1681:G:O2'	36:BA:1762:A:H2'	1.95	0.67
42:BG:43:LEU:HB3	42:BG:45:GLU:HG2	1.77	0.67
5:AE:12:LEU:CD2	5:AE:13:ILE:N	2.58	0.67
36:BA:287:C:H42	36:BA:354:G:H1	1.43	0.67
13:AM:116:THR:O	13:AM:117:VAL:C	2.31	0.67
18:AR:29:PHE:CE1	18:AR:31:LEU:HB3	2.30	0.67
29:B3:31:LEU:O	29:B3:32:GLN:HB2	1.95	0.67
38:BC:68:LEU:O	38:BC:177:LYS:HG2	1.94	0.67
13:AM:11:ARG:HG2	13:AM:12:ASN:H	1.59	0.67
25:AZ:371:THR:HG22	25:AZ:372:VAL:H	1.59	0.67
22:AW:38:A:C2'	22:AW:39:U:H5''	2.24	0.67
1:AA:393:A:O2'	1:AA:394:G:H5'	1.95	0.67
39:BD:139:GLY:H	39:BD:165:ILE:HB	1.59	0.67
6:AF:8:ILE:HD12	6:AF:26:ILE:HD13	1.76	0.67
41:BF:22:ALA:O	41:BF:26:ALA:HB2	1.95	0.67
7:AG:14:PRO:HA	7:AG:21:VAL:HG12	1.77	0.67
8:AH:125:ARG:HH11	8:AH:125:ARG:HG3	1.58	0.67
1:AA:1073:U:H2'	1:AA:1074:G:H8	1.59	0.67
25:AZ:299:GLU:O	25:AZ:302:GLN:HG2	1.94	0.67
1:AA:1368:G:OP2	9:AI:112:LYS:HD3	1.95	0.67
25:AZ:241:ARG:HH11	25:AZ:241:ARG:HB3	1.59	0.67
54:BV:52:VAL:CG1	54:BV:55:ALA:HB3	2.21	0.67
51:BS:66:ALA:O	51:BS:70:GLY:N	2.27	0.67
38:BC:68:LEU:CD2	38:BC:176:GLY:HA2	2.24	0.67
48:BP:20:GLY:O	48:BP:21:ARG:HB2	1.95	0.67
58:BZ:108:PRO:HA	58:BZ:141:VAL:HG11	1.76	0.67
36:BA:2656:U:H2'	36:BA:2657:A:H5''	1.76	0.67
20:AT:50:GLU:HB2	20:AT:100:ILE:HD13	1.77	0.67
48:BP:126:VAL:HG22	48:BP:145:PRO:CB	2.24	0.67
3:AC:60:ALA:HB3	3:AC:63:ASN:HD21	1.59	0.67
48:BP:77:ARG:HH11	48:BP:77:ARG:HG2	1.60	0.67
27:B1:41:ARG:HH12	36:BA:1365:A:H5''	1.60	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:BC:47:LEU:HB3	38:BC:49:ILE:HG13	1.76	0.67
25:AZ:356:PRO:HG2	25:AZ:369:THR:O	1.95	0.67
1:AA:1305:G:H5''	21:AU:4:GLY:C	2.16	0.67
52:BT:39:ARG:N	52:BT:39:ARG:HD2	2.07	0.67
2:AB:204:ASN:ND2	2:AB:204:ASN:C	2.44	0.67
48:BP:108:LYS:C	48:BP:110:TYR:H	1.99	0.67
36:BA:797:C:OP2	41:BF:62:ARG:HG3	1.93	0.67
46:BN:6:PRO:HB3	46:BN:41:ASP:OD1	1.95	0.67
15:AO:43:LEU:HD11	15:AO:53:HIS:HA	1.77	0.67
36:BA:524:U:H2'	36:BA:525:U:H6	1.60	0.67
36:BA:2511:U:H4'	40:BE:124:GLY:HA2	1.76	0.67
47:BO:19:ILE:HD12	47:BO:41:ALA:CB	2.25	0.67
2:AB:222:ILE:O	2:AB:226:ARG:HB2	1.95	0.67
42:BG:115:ARG:NH1	42:BG:137:GLU:HG3	2.10	0.67
41:BF:188:ARG:HA	48:BP:7:ARG:CD	2.21	0.67
43:BH:85:LYS:HZ3	43:BH:133:VAL:H	1.41	0.67
26:B0:26:TYR:HE2	36:BA:857:C:H1'	1.60	0.67
2:AB:204:ASN:ND2	2:AB:205:ASP:N	2.43	0.67
41:BF:154:VAL:HG11	41:BF:193:VAL:HG23	1.77	0.67
58:BZ:155:LEU:HD23	58:BZ:155:LEU:N	2.10	0.67
48:BP:111:ARG:HA	48:BP:128:HIS:CD2	2.30	0.67
1:AA:429:U:H1'	1:AA:430:A:H5''	1.76	0.67
54:BV:88:ARG:O	54:BV:90:PRO:HD3	1.95	0.67
1:AA:1152:A:H5'	10:AJ:70:ARG:NH2	2.09	0.67
39:BD:131:LEU:HB2	39:BD:136:ILE:HD11	1.76	0.67
53:BU:66:ASN:ND2	53:BU:76:TYR:H	1.93	0.67
1:AA:1170:A:H2'	1:AA:1171:G:O4'	1.95	0.67
36:BA:18:C:O3'	53:BU:23:GLY:HA2	1.95	0.67
38:BC:24:GLU:O	38:BC:28:LEU:HB3	1.93	0.66
10:AJ:54:PHE:CE1	10:AJ:55:LYS:NZ	2.63	0.66
22:AW:19:G:C4	36:BA:2169:A:H1'	2.30	0.66
36:BA:2114:A:H2'	36:BA:2115:G:H5'	1.75	0.66
52:BT:27:THR:CG2	52:BT:49:VAL:HB	2.25	0.66
1:AA:980:C:C5'	1:AA:980:C:H6	2.04	0.66
41:BF:10:PRO:HD2	41:BF:13:SER:O	1.95	0.66
25:AZ:318:ALA:HB2	25:AZ:400:VAL:HA	1.76	0.66
36:BA:1907:G:O2'	36:BA:1908:C:H5'	1.95	0.66
49:BQ:131:ILE:HD12	49:BQ:131:ILE:H	1.60	0.66
36:BA:2688:U:H1'	36:BA:2721:A:N6	2.10	0.66
24:AY:8:4SU:H6	24:AY:8:4SU:H5''	1.77	0.66
38:BC:140:PRO:HA	38:BC:145:VAL:HB	1.76	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:BF:124:LEU:HD12	41:BF:125:LEU:H	1.59	0.66
40:BE:4:ILE:HD12	40:BE:92:THR:O	1.95	0.66
36:BA:2842:G:O2'	36:BA:2843:G:H5'	1.95	0.66
13:AM:88:ARG:HG3	13:AM:98:VAL:CG1	2.26	0.66
36:BA:2125:G:H21	36:BA:2173:A:N6	1.91	0.66
58:BZ:162:GLU:O	58:BZ:163:LEU:HD23	1.96	0.66
41:BF:17:ARG:HH11	41:BF:17:ARG:HG3	1.60	0.66
36:BA:607:U:OP1	41:BF:102:PRO:HA	1.95	0.66
36:BA:812:C:H2'	36:BA:813:U:H6	1.59	0.66
3:AC:20:SER:HB2	3:AC:40:ARG:NH2	2.09	0.66
27:B1:89:GLU:HG2	27:B1:92:LYS:NZ	2.09	0.66
36:BA:2186:G:H2'	36:BA:2187:G:C8	2.30	0.66
53:BU:6:THR:O	53:BU:9:VAL:HG22	1.95	0.66
49:BQ:134:ARG:HA	49:BQ:137:TYR:CD2	2.30	0.66
4:AD:31:CYS:SG	60:AD:301:ZN:ZN	1.82	0.66
25:AZ:185:ASN:HD21	25:AZ:188:THR:HB	1.60	0.66
12:AL:67:THR:HG21	12:AL:96:VAL:HG22	1.76	0.66
36:BA:2284:C:H2'	36:BA:2285:C:H6	1.60	0.66
57:BY:35:TYR:HD2	57:BY:68:HIS:HE1	1.42	0.66
38:BC:6:ARG:NH1	38:BC:34:THR:HB	2.11	0.66
36:BA:833:U:H5''	48:BP:48:PRO:HB3	1.75	0.66
50:BR:21:TYR:N	50:BR:21:TYR:CD1	2.59	0.66
36:BA:1539:G:H2'	36:BA:1540:U:O4'	1.96	0.66
46:BN:94:HIS:HB3	46:BN:97:ARG:HG3	1.78	0.66
9:AI:53:VAL:HG11	9:AI:92:TYR:CD2	2.31	0.66
54:BV:16:PRO:O	54:BV:96:ILE:HB	1.95	0.66
1:AA:1529:G:H4'	1:AA:1530:G:OP2	1.94	0.66
1:AA:1321:C:O2'	19:AS:77:THR:HG21	1.94	0.66
58:BZ:19:ARG:NH1	58:BZ:84:GLU:HA	2.11	0.66
48:BP:7:ARG:HB3	48:BP:8:PRO:HD3	1.77	0.66
1:AA:979:C:H3'	1:AA:980:C:H5''	1.77	0.66
25:AZ:143:ASP:HB3	25:AZ:146:LEU:CB	2.22	0.66
40:BE:111:ARG:HD3	40:BE:160:TYR:CE1	2.31	0.66
51:BS:24:LEU:CD1	51:BS:41:ASP:HB2	2.26	0.66
41:BF:175:THR:O	41:BF:176:LEU:HD12	1.94	0.66
25:AZ:371:THR:HG22	25:AZ:372:VAL:N	2.10	0.66
14:AN:6:LEU:HB3	14:AN:23:ARG:HH22	1.60	0.66
3:AC:138:VAL:HG23	3:AC:149:ALA:HB3	1.77	0.66
15:AO:74:ASP:OD1	15:AO:77:ARG:HG2	1.95	0.66
36:BA:1494:A:N3	36:BA:1494:A:H3'	2.10	0.66
2:AB:32:ILE:HD11	2:AB:40:HIS:CG	2.30	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BA:648:G:H4'	36:BA:2351:G:H5''	1.77	0.66
36:BA:2293:C:H5''	51:BS:92:TYR:OH	1.94	0.66
47:BO:97:ARG:NH2	47:BO:99:PHE:HE1	1.93	0.66
36:BA:654(U):A:O2'	36:BA:654(V):A:H5'	1.94	0.66
26:B0:50:ASN:HD22	26:B0:63:VAL:HG21	1.61	0.66
1:AA:723:U:H2'	1:AA:723:U:O2	1.95	0.66
32:B6:8:LYS:HG3	32:B6:25:LYS:HD3	1.78	0.66
58:BZ:48:PHE:CD2	58:BZ:52:SER:HA	2.31	0.66
43:BH:17:VAL:HG12	43:BH:18:GLU:N	2.10	0.66
36:BA:2249:U:H4'	36:BA:2275:C:H5	1.60	0.66
17:AQ:67:LYS:HA	17:AQ:70:ARG:NH1	2.10	0.66
3:AC:8:ILE:HG12	3:AC:16:ARG:HG2	1.77	0.66
36:BA:2370:G:H2'	36:BA:2371:G:H8	1.58	0.66
31:B5:16:ARG:HD2	31:B5:20:ARG:CZ	2.26	0.66
6:AF:3:ARG:HH11	6:AF:3:ARG:HG3	1.60	0.66
41:BF:5:ALA:H	41:BF:19:GLU:HB3	1.61	0.66
9:AI:114:TYR:HE1	10:AJ:60:ARG:N	1.90	0.66
36:BA:2729:G:H1'	40:BE:187:ALA:CB	2.24	0.66
42:BG:52:ILE:HB	42:BG:54:GLU:OE1	1.95	0.66
36:BA:1678:G:N2	36:BA:1989:G:N2	2.43	0.66
9:AI:93:ARG:C	9:AI:95:LYS:H	1.99	0.66
48:BP:111:ARG:HE	48:BP:149:GLU:HG3	1.60	0.66
41:BF:51:THR:HB	41:BF:88:VAL:HG11	1.76	0.66
53:BU:52:ARG:HB3	53:BU:52:ARG:NH1	2.10	0.66
8:AH:101:PRO:C	8:AH:102:ARG:HD3	2.15	0.66
34:B8:47:LYS:HZ2	34:B8:47:LYS:HB2	1.61	0.66
8:AH:2:LEU:HD21	8:AH:8:ASP:HB2	1.76	0.66
3:AC:114:PRO:O	3:AC:118:GLN:HG3	1.96	0.66
57:BY:17:SER:HB2	57:BY:71:LYS:CE	2.23	0.66
53:BU:88:ILE:HB	53:BU:90:VAL:HG23	1.78	0.66
38:BC:45:ALA:O	38:BC:47:LEU:HD12	1.96	0.66
35:B9:29:ASN:O	35:B9:29:ASN:ND2	2.28	0.66
52:BT:32:TYR:HB3	52:BT:81:PRO:HB3	1.78	0.66
41:BF:114:VAL:HG21	41:BF:202:PHE:CE1	2.30	0.66
2:AB:19:HIS:O	2:AB:39:ILE:HG23	1.95	0.66
36:BA:2183:C:H2'	36:BA:2184:G:H8	1.61	0.66
48:BP:66:GLY:O	48:BP:67:MET:CB	2.44	0.66
50:BR:52:ILE:CD1	50:BR:79:LEU:HD21	2.26	0.66
56:BX:35:THR:HG22	56:BX:38:GLU:H	1.60	0.66
1:AA:1030(D):A:H2'	1:AA:1031:G:H5'	1.77	0.66
32:B6:19:ARG:CG	32:B6:20:ASN:H	1.96	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:BC:66:HIS:NE2	38:BC:184:LYS:HD3	2.11	0.66
36:BA:1131:G:H21	46:BN:73:THR:HG21	1.60	0.66
36:BA:2476:A:C2	36:BA:2477:C:C5	2.81	0.66
46:BN:15:LEU:O	46:BN:136:GLU:HA	1.95	0.66
56:BX:35:THR:HG22	56:BX:37:THR:N	2.11	0.66
53:BU:66:ASN:HD21	53:BU:76:TYR:H	1.44	0.66
37:BB:52:A:O2'	37:BB:53:A:C8	2.49	0.66
1:AA:1499:A:H1'	1:AA:1520:G:H5'	1.77	0.66
1:AA:991:U:O2	1:AA:991:U:H2'	1.96	0.66
53:BU:21:ALA:HB1	53:BU:24:TYR:CD1	2.30	0.66
47:BO:104:ARG:HE	52:BT:33:LYS:HE3	1.61	0.66
48:BP:16:ARG:CD	48:BP:18:ARG:H	2.07	0.66
13:AM:97:PRO:HA	13:AM:110:ARG:CD	2.23	0.66
48:BP:83:VAL:CG1	48:BP:112:LEU:HD21	2.25	0.66
39:BD:226:MET:HB3	39:BD:230:ASP:HB2	1.77	0.66
24:AY:20:H2U:H4'	24:AY:21:A:H5''	1.77	0.66
41:BF:125:LEU:HD23	41:BF:125:LEU:N	2.11	0.66
2:AB:235:SER:HG	2:AB:236:TYR:HD1	1.42	0.66
36:BA:660:G:H5'	41:BF:99:TYR:CE2	2.31	0.66
25:AZ:159:ASN:HD21	25:AZ:166:ASP:N	1.94	0.66
37:BB:3:C:H42	37:BB:118:G:H1	1.44	0.66
54:BV:99:ILE:HD13	54:BV:99:ILE:N	2.11	0.66
28:B2:11:GLU:O	28:B2:15:LYS:HG2	1.96	0.66
36:BA:2193:G:H2'	36:BA:2194:G:O4'	1.95	0.66
36:BA:1362:C:O2'	36:BA:1363:C:H5'	1.96	0.66
34:B8:33:ASN:CG	34:B8:34:TRP:N	2.50	0.66
36:BA:2416:C:H2'	36:BA:2417:C:C6	2.31	0.66
53:BU:92:ARG:NH2	54:BV:10:LYS:HA	2.10	0.66
29:B3:35:ARG:NH1	29:B3:35:ARG:HB2	2.04	0.66
36:BA:2476:A:H2	36:BA:2477:C:C6	2.13	0.66
41:BF:102:PRO:O	41:BF:106:ARG:HG3	1.96	0.66
41:BF:114:VAL:HG21	41:BF:202:PHE:HE1	1.60	0.66
4:AD:117:ALA:O	4:AD:121:VAL:HG23	1.96	0.66
36:BA:2248:C:C2'	36:BA:2249:U:H5'	2.25	0.66
36:BA:404:C:C4'	36:BA:405:U:H5'	2.26	0.66
1:AA:1264:C:H2'	1:AA:1265:G:C8	2.31	0.66
46:BN:65:LYS:HB3	46:BN:65:LYS:NZ	2.11	0.66
36:BA:886:C:H2'	36:BA:887:A:O4'	1.95	0.66
2:AB:9:GLU:N	2:AB:9:GLU:OE2	2.29	0.66
16:AP:67:THR:H	16:AP:70:ALA:HB3	1.60	0.66
36:BA:2128:C:O2'	36:BA:2129:C:H6	1.79	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:BC:43:VAL:HG22	38:BC:214:VAL:HG22	1.77	0.65
52:BT:89:VAL:CG1	52:BT:91:ARG:HG3	2.26	0.65
52:BT:3:ARG:HH11	52:BT:6:LEU:HD13	1.60	0.65
49:BQ:135:ASP:HB2	58:BZ:81:ARG:HH22	1.60	0.65
3:AC:14:ILE:O	3:AC:15:THR:HB	1.95	0.65
12:AL:27:LEU:O	12:AL:29:GLY:N	2.29	0.65
36:BA:650:C:H3'	36:BA:651:G:H5''	1.78	0.65
54:BV:18:LEU:HD23	54:BV:19:LYS:H	1.60	0.65
51:BS:88:ASP:CG	51:BS:89:ARG:H	1.98	0.65
36:BA:2146:C:H4'	36:BA:2147:G:N7	2.11	0.65
36:BA:2866:U:C6	36:BA:2868:A:H1'	2.31	0.65
13:AM:54:VAL:O	13:AM:58:GLU:HG2	1.96	0.65
40:BE:59:VAL:HG22	40:BE:63:LEU:HA	1.76	0.65
19:AS:40:ILE:HG21	19:AS:66:MET:O	1.95	0.65
20:AT:36:LEU:HD13	20:AT:36:LEU:O	1.97	0.65
19:AS:29:ARG:O	19:AS:31:ILE:HG22	1.96	0.65
31:B5:3:LYS:HB2	36:BA:747:U:C5	2.31	0.65
37:BB:20:C:C2'	37:BB:21:G:H5''	2.24	0.65
21:AU:6:ARG:CD	21:AU:15:ARG:NH1	2.60	0.65
54:BV:15:GLU:HB3	54:BV:16:PRO:HD2	1.79	0.65
36:BA:1188:U:O2'	36:BA:1189:A:H5'	1.96	0.65
36:BA:234:C:H2'	36:BA:235:U:H6	1.59	0.65
31:B5:25:LEU:HD12	55:BW:19:LEU:O	1.96	0.65
36:BA:752:A:O2'	36:BA:753:C:OP2	2.13	0.65
22:AW:43:C:O2	22:AW:44:G:H1'	1.96	0.65
43:BH:148:ILE:HG22	43:BH:162:ILE:HD11	1.78	0.65
6:AF:9:VAL:HB	6:AF:87:ARG:HB2	1.78	0.65
1:AA:59:A:H3'	1:AA:331:G:H22	1.60	0.65
19:AS:53:ASN:OD1	19:AS:55:LYS:HB3	1.95	0.65
40:BE:50:GLY:CA	40:BE:78:LEU:HB3	2.23	0.65
51:BS:59:LYS:HG2	51:BS:60:GLY:H	1.59	0.65
1:AA:979:C:H3'	1:AA:980:C:C5'	2.27	0.65
50:BR:94:TYR:CD2	50:BR:94:TYR:N	2.61	0.65
50:BR:94:TYR:HD2	50:BR:94:TYR:N	1.95	0.65
2:AB:69:LEU:HD22	2:AB:91:PRO:HB2	1.78	0.65
46:BN:56:ASN:H	46:BN:125:GLY:CA	2.08	0.65
48:BP:16:ARG:CB	48:BP:16:ARG:HH11	2.10	0.65
10:AJ:78:ASN:ND2	10:AJ:80:LYS:HB3	2.11	0.65
19:AS:51:VAL:HG23	19:AS:60:VAL:HG11	1.77	0.65
20:AT:89:ARG:HH21	20:AT:104:LEU:HD21	1.61	0.65
1:AA:1266:G:N2	1:AA:1268:A:H5''	2.10	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:1265:G:C6	1:AA:1266:G:O6	2.49	0.65
41:BF:82:ILE:HG13	41:BF:83:PHE:N	2.11	0.65
55:BW:1:MET:HG3	55:BW:64:MET:HE2	1.77	0.65
1:AA:453:A:O2'	1:AA:454:C:H6	1.78	0.65
1:AA:80:G:C2'	1:AA:81:U:H5'	2.26	0.65
14:AN:50:LYS:HB2	14:AN:52:GLN:HG3	1.76	0.65
5:AE:11:ILE:HD11	5:AE:33:VAL:HG21	1.78	0.65
31:B5:39:MET:HG3	55:BW:34:ASN:OD1	1.95	0.65
51:BS:15:ARG:HH11	51:BS:15:ARG:CB	2.09	0.65
38:BC:149:ILE:O	38:BC:153:ILE:HG13	1.96	0.65
51:BS:28:VAL:HG12	51:BS:29:PHE:H	1.60	0.65
39:BD:30:GLU:HG3	39:BD:63:ARG:NH2	2.10	0.65
39:BD:28:GLU:H	39:BD:29:PRO:CD	2.06	0.65
48:BP:59:LEU:CA	48:BP:61:ARG:HE	2.09	0.65
41:BF:84:VAL:HG12	41:BF:85:GLY:H	1.60	0.65
36:BA:1252:G:O4'	53:BU:33:ARG:HD3	1.96	0.65
1:AA:1030(A):G:H1'	1:AA:1031:G:H1	1.61	0.65
2:AB:10:LEU:O	2:AB:13:ALA:HB3	1.97	0.65
25:AZ:145:GLU:O	25:AZ:145:GLU:HG2	1.96	0.65
2:AB:189:ASP:OD2	2:AB:190:THR:N	2.28	0.65
57:BY:82:PRO:O	57:BY:96:ILE:HG22	1.96	0.65
22:AV:47:U:H3'	22:AV:48:C:C5'	2.26	0.65
1:AA:1313:U:O4	19:AS:4:SER:HB2	1.97	0.65
40:BE:31:CYS:HB3	40:BE:49:LEU:HB3	1.77	0.65
25:AZ:368:VAL:CG1	25:AZ:369:THR:H	2.06	0.65
37:BB:105:A:H2'	37:BB:106:G:O4'	1.97	0.65
5:AE:148:VAL:CG2	8:AH:107:LEU:HD13	2.24	0.65
39:BD:30:GLU:CG	39:BD:63:ARG:HE	2.09	0.65
50:BR:38:VAL:O	50:BR:41:ALA:HB3	1.96	0.65
42:BG:72:ARG:CZ	42:BG:86:MET:HA	2.26	0.65
43:BH:20:ALA:HB1	43:BH:21:PRO:HD2	1.77	0.65
51:BS:17:ARG:HA	51:BS:20:ARG:NH1	2.12	0.65
7:AG:145:ALA:O	7:AG:146:GLU:C	2.34	0.65
25:AZ:149:LEU:O	25:AZ:153:GLU:HG2	1.97	0.65
27:B1:48:LYS:NZ	27:B1:61:ARG:HG2	2.11	0.65
30:B4:28:LYS:HE3	30:B4:28:LYS:HA	1.78	0.65
34:B8:14:VAL:HG21	34:B8:22:VAL:CG1	2.27	0.65
36:BA:2398:U:H5'	36:BA:2399:G:OP2	1.96	0.65
36:BA:304:G:H1	36:BA:313:C:N4	1.93	0.65
36:BA:1024:G:C3'	36:BA:1025:G:H5''	2.20	0.65
1:AA:404:U:H5''	4:AD:122:ARG:HD3	1.78	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:AJ:32:ALA:CB	10:AJ:76:ASN:HB2	2.27	0.65
11:AK:82:VAL:CG1	11:AK:108:ILE:HA	2.26	0.65
1:AA:573:A:H5'	1:AA:573:A:C8	2.32	0.65
52:BT:129:ARG:CZ	52:BT:131:ALA:HB3	2.26	0.65
50:BR:12:ARG:HB3	50:BR:16:HIS:HD2	1.60	0.65
4:AD:148:VAL:HG11	4:AD:158:ILE:HG21	1.79	0.65
18:AR:37:VAL:HG12	18:AR:78:LEU:HB3	1.79	0.65
6:AF:15:ASP:OD1	6:AF:18:GLN:HG3	1.96	0.65
36:BA:709:U:H2'	36:BA:710:G:C8	2.31	0.65
2:AB:212:GLN:O	2:AB:216:SER:HB2	1.97	0.65
43:BH:46:GLU:HB3	43:BH:50:VAL:HG22	1.77	0.65
36:BA:1019:U:O2'	36:BA:1021:A:H2	1.79	0.65
36:BA:266:G:C2'	36:BA:267:C:H5''	2.27	0.65
36:BA:2667:C:H1'	43:BH:109:PHE:CD1	2.30	0.65
13:AM:120:LYS:HA	13:AM:120:LYS:HE3	1.79	0.65
36:BA:225:A:O2'	36:BA:257:A:H4'	1.97	0.65
22:AW:16:U:H5'	22:AW:17:C:OP2	1.97	0.65
39:BD:273:ARG:O	39:BD:274:ARG:HG3	1.97	0.65
2:AB:72:GLY:HA2	2:AB:165:VAL:HG22	1.78	0.65
39:BD:166:GLN:HE21	39:BD:166:GLN:HA	1.60	0.65
1:AA:977:A:N3	1:AA:977:A:H2'	2.11	0.65
43:BH:85:LYS:NZ	43:BH:133:VAL:N	2.38	0.65
38:BC:58:VAL:HG22	38:BC:201:PRO:CG	2.27	0.65
51:BS:57:LYS:O	51:BS:57:LYS:HD2	1.97	0.65
43:BH:51:ARG:HG3	43:BH:52:VAL:H	1.62	0.65
41:BF:195:ASP:H	41:BF:198:ALA:HB3	1.61	0.65
22:AV:59:U:O2'	22:AV:60:U:H6	1.72	0.65
20:AT:89:ARG:HD2	20:AT:104:LEU:HD11	1.78	0.65
13:AM:22:ILE:HG21	13:AM:66:LEU:CD2	2.27	0.65
9:AI:41:VAL:O	9:AI:41:VAL:HG12	1.97	0.65
42:BG:76:SER:CB	42:BG:83:ARG:HB3	2.27	0.65
36:BA:1042:G:C2	36:BA:1043:C:H1'	2.31	0.65
36:BA:2777:G:H5''	36:BA:2778:A:C5'	2.27	0.65
42:BG:145:THR:HG22	42:BG:147:ASP:H	1.62	0.65
53:BU:3:ARG:HH12	53:BU:5:LYS:HB3	1.60	0.65
38:BC:41:VAL:HB	38:BC:175:VAL:HB	1.79	0.65
36:BA:629:G:H1'	36:BA:639:U:O2'	1.96	0.65
33:B7:8:ASN:ND2	33:B7:11:LYS:H	1.95	0.65
48:BP:16:ARG:HD3	48:BP:16:ARG:C	2.17	0.65
10:AJ:30:SER:HA	10:AJ:80:LYS:CE	2.27	0.65
10:AJ:30:SER:HA	10:AJ:80:LYS:NZ	2.11	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:AC:5:ILE:N	3:AC:5:ILE:HD13	2.11	0.65
36:BA:2289:G:H1'	36:BA:2346:A:H2	1.62	0.65
49:BQ:78:PRO:O	49:BQ:81:VAL:HG12	1.97	0.65
48:BP:39:LYS:HD3	48:BP:40:SER:H	1.61	0.65
40:BE:104:VAL:HG11	40:BE:188:VAL:CG2	2.27	0.65
43:BH:87:LEU:HD23	43:BH:164:TYR:HA	1.79	0.65
30:B4:20:ASN:HD22	30:B4:21:VAL:N	1.93	0.65
22:AW:56:C:C5'	38:BC:137:LEU:HB2	2.27	0.65
36:BA:2760:C:C2'	36:BA:2761:G:H5''	2.27	0.65
1:AA:1002:G:H2'	1:AA:1003:G:C8	2.32	0.65
25:AZ:322:VAL:HG13	25:AZ:395:VAL:O	1.97	0.65
27:B1:89:GLU:HG2	27:B1:92:LYS:HZ1	1.60	0.65
48:BP:83:VAL:O	48:BP:114:ILE:HD12	1.97	0.65
22:AW:30:G:H2'	22:AW:31:A:C8	2.32	0.65
36:BA:2146:C:H4'	36:BA:2147:G:C8	2.32	0.65
36:BA:2199:A:H5'	36:BA:2200:C:OP2	1.97	0.65
36:BA:1782:C:H1'	36:BA:2609:U:H5''	1.79	0.65
46:BN:137:LYS:O	46:BN:138:LEU:HG	1.97	0.65
41:BF:3:GLU:O	41:BF:19:GLU:HB2	1.96	0.64
36:BA:2176:A:C2	38:BC:172:HIS:CE1	2.84	0.64
36:BA:2176:A:H2	38:BC:172:HIS:NE2	1.94	0.64
46:BN:55:VAL:HG22	46:BN:126:PRO:HA	1.79	0.64
33:B7:9:ARG:NE	36:BA:1310:G:OP2	2.28	0.64
19:AS:19:VAL:HG11	19:AS:44:MET:HG3	1.77	0.64
43:BH:68:THR:C	43:BH:70:THR:H	2.00	0.64
26:B0:7:LEU:HD22	49:BQ:85:LYS:CB	2.26	0.64
36:BA:2248:C:H2'	36:BA:2249:U:H5'	1.79	0.64
25:AZ:129:PRO:O	25:AZ:130:TYR:HB2	1.97	0.64
3:AC:14:ILE:HG12	3:AC:14:ILE:O	1.96	0.64
7:AG:20:ASP:HB3	7:AG:23:VAL:HG23	1.78	0.64
53:BU:52:ARG:HB3	53:BU:52:ARG:HH11	1.62	0.64
36:BA:20:C:H2'	36:BA:21:A:H8	1.62	0.64
38:BC:128:GLY:HA2	38:BC:137:LEU:HD21	1.78	0.64
38:BC:70:LYS:HD2	38:BC:177:LYS:NZ	2.08	0.64
1:AA:194:C:C2'	1:AA:195:A:H5''	2.27	0.64
7:AG:113:GLU:HB2	7:AG:119:ARG:HG2	1.79	0.64
36:BA:1248:G:OP1	41:BF:92:PRO:HG3	1.96	0.64
46:BN:28:THR:HG23	46:BN:29:LYS:H	1.59	0.64
39:BD:130:ALA:C	39:BD:131:LEU:HD12	2.18	0.64
36:BA:784:A:H5''	39:BD:227:ASN:CG	2.18	0.64
39:BD:118:VAL:HG22	39:BD:119:ALA:N	2.12	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BA:894:C:H2'	36:BA:895:U:H5'	1.78	0.64
36:BA:270:A:O2'	36:BA:271:A:H5'	1.97	0.64
58:BZ:37:VAL:HG23	58:BZ:38:TYR:N	2.11	0.64
51:BS:96:GLY:O	51:BS:98:VAL:N	2.24	0.64
36:BA:1310:G:H2'	36:BA:1311:G:H5'	1.79	0.64
12:AL:55:VAL:HG21	12:AL:67:THR:HG23	1.79	0.64
47:BO:86:ILE:HG22	47:BO:94:ARG:HG3	1.78	0.64
49:BQ:75:THR:HG22	49:BQ:75:THR:O	1.97	0.64
41:BF:7:TYR:HD2	41:BF:16:GLY:CA	2.09	0.64
19:AS:44:MET:SD	19:AS:44:MET:N	2.70	0.64
38:BC:68:LEU:HD23	38:BC:176:GLY:CA	2.23	0.64
36:BA:1697:G:H3'	36:BA:1698:A:C5'	2.22	0.64
39:BD:94:LEU:HB2	39:BD:104:TYR:CE2	2.31	0.64
3:AC:11:ARG:O	3:AC:14:ILE:O	2.16	0.64
12:AL:32:PHE:HB3	12:AL:84:LEU:CD2	2.27	0.64
1:AA:943:U:C2'	1:AA:944:G:H5'	2.27	0.64
13:AM:15:VAL:HG22	13:AM:41:PRO:O	1.97	0.64
1:AA:1327:C:H2'	1:AA:1328:C:H6	1.63	0.64
49:BQ:39:PRO:O	49:BQ:40:ALA:HB2	1.97	0.64
36:BA:780:G:H21	36:BA:783:A:H62	1.45	0.64
36:BA:922:U:H2'	36:BA:923:C:C6	2.33	0.64
36:BA:2115:G:H5'	36:BA:2167:U:O2'	1.96	0.64
36:BA:2124:G:H21	38:BC:217:THR:C	2.00	0.64
52:BT:66:VAL:HG12	52:BT:71:GLY:CA	2.27	0.64
36:BA:2761:G:H2'	36:BA:2762:G:C5'	2.25	0.64
36:BA:471:A:H2'	36:BA:472:A:C5'	2.28	0.64
36:BA:605:C:O2'	36:BA:606:U:H5'	1.97	0.64
27:B1:84:GLY:O	27:B1:86:SER:N	2.29	0.64
1:AA:269:C:H2'	1:AA:270:A:C8	2.32	0.64
57:BY:88:LYS:HZ3	57:BY:93:GLY:N	1.95	0.64
46:BN:57:ALA:CB	46:BN:124:ALA:HA	2.27	0.64
1:AA:961:U:O2'	1:AA:962:C:P	2.56	0.64
36:BA:1386:C:H2'	36:BA:1387:C:C6	2.32	0.64
39:BD:31:LYS:HE3	39:BD:102:LYS:HD3	1.79	0.64
36:BA:892:G:H2'	36:BA:893:C:C5	2.33	0.64
13:AM:27:LYS:HE2	13:AM:31:LYS:HE3	1.80	0.64
27:B1:72:GLU:O	27:B1:76:ARG:HG3	1.97	0.64
36:BA:1416:G:HO2'	36:BA:1417:C:H5	1.45	0.64
58:BZ:4:ARG:HG2	58:BZ:58:VAL:HB	1.79	0.64
34:B8:30:ARG:NH2	36:BA:2419:U:O4	2.30	0.64
43:BH:52:VAL:HG21	43:BH:69:ARG:CB	2.27	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
39:BD:35:LYS:HD2	39:BD:36:PRO:CA	2.28	0.64
36:BA:941:A:H4'	48:BP:35:HIS:CE1	2.32	0.64
36:BA:760:G:C2'	36:BA:761:A:H5'	2.28	0.64
7:AG:15:ASP:OD2	7:AG:16:LEU:N	2.31	0.64
1:AA:108:G:H5'	1:AA:109:A:H5'	1.79	0.64
36:BA:1887:C:H3'	36:BA:1888:G:H5''	1.77	0.64
39:BD:186:HIS:HD2	39:BD:188:GLU:HB2	1.63	0.64
4:AD:124:GLY:O	4:AD:126:ILE:N	2.31	0.64
46:BN:115:ARG:HA	46:BN:118:LYS:HE2	1.80	0.64
32:B6:12:GLU:HG3	32:B6:23:THR:HG22	1.80	0.64
54:BV:38:LEU:O	54:BV:39:LEU:HD13	1.96	0.64
52:BT:55:ASN:ND2	52:BT:58:ASN:HD21	1.94	0.64
51:BS:28:VAL:HG12	51:BS:29:PHE:N	2.12	0.64
36:BA:1222:C:H2'	36:BA:1223:G:C5'	2.21	0.64
52:BT:16:ARG:CB	52:BT:16:ARG:HH11	2.07	0.64
43:BH:18:GLU:HB2	43:BH:25:LYS:H	1.62	0.64
36:BA:2465:C:O2'	36:BA:2466:C:H5'	1.98	0.64
58:BZ:108:PRO:CA	58:BZ:141:VAL:HG11	2.27	0.64
9:AI:93:ARG:O	9:AI:95:LYS:N	2.28	0.64
36:BA:81:G:N2	57:BY:2:ARG:HH12	1.95	0.64
15:AO:26:GLU:OE1	15:AO:81:LEU:HD23	1.98	0.64
36:BA:298:G:H8	36:BA:298:G:OP2	1.79	0.64
36:BA:2713:A:H3'	36:BA:2714:G:C5'	2.27	0.64
1:AA:452:A:O2'	1:AA:453:A:H5'	1.97	0.64
51:BS:93:LYS:O	51:BS:95:HIS:N	2.31	0.64
36:BA:2444:G:OP2	41:BF:68:LYS:NZ	2.29	0.64
36:BA:2066:C:O2'	36:BA:2067:G:H5'	1.98	0.64
36:BA:2619:C:OP1	40:BE:152:LYS:HD3	1.98	0.64
55:BW:76:VAL:HB	55:BW:103:ILE:HG23	1.79	0.64
36:BA:907:U:OP1	49:BQ:24:GLY:N	2.29	0.64
39:BD:76:PRO:HG2	39:BD:98:VAL:HG21	1.78	0.64
26:B0:25:ARG:HD2	26:B0:29:GLN:NE2	2.13	0.64
42:BG:15:VAL:O	42:BG:19:LEU:HG	1.98	0.64
56:BX:27:THR:CG2	56:BX:80:ILE:HG22	2.27	0.64
51:BS:12:PHE:O	51:BS:14:VAL:HG23	1.97	0.64
54:BV:38:LEU:O	54:BV:52:VAL:HG12	1.98	0.64
38:BC:163:PHE:HB3	38:BC:173:ALA:CB	2.25	0.64
51:BS:66:ALA:HA	51:BS:69:VAL:CG1	2.27	0.64
25:AZ:355:LEU:CD2	25:AZ:359:VAL:HB	2.26	0.64
36:BA:1223:G:H5'	36:BA:1223:G:H8	1.62	0.64
36:BA:587:C:C4	48:BP:33:ARG:HG2	2.33	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:254:G:H21	17:AQ:16:GLN:NE2	1.96	0.64
8:AH:83:ILE:CD1	8:AH:137:VAL:HG22	2.28	0.64
36:BA:598:G:H5'	48:BP:15:ARG:CB	2.27	0.64
26:B0:56:ASP:OD1	26:B0:58:THR:OG1	2.16	0.64
1:AA:594:G:C2'	1:AA:595:G:H5'	2.27	0.64
4:AD:187:ARG:HH11	4:AD:187:ARG:HB3	1.62	0.64
2:AB:30:ARG:HG3	2:AB:31:TYR:CD2	2.33	0.64
39:BD:239:ARG:NH2	39:BD:239:ARG:HG2	1.96	0.64
13:AM:97:PRO:HB2	13:AM:101:GLN:NE2	2.12	0.64
36:BA:1511:C:H2'	36:BA:1512:U:C6	2.27	0.64
7:AG:77:SER:HB2	7:AG:84:ASN:HD21	1.62	0.64
53:BU:8:VAL:HG23	53:BU:11:ARG:NH2	2.11	0.64
36:BA:1314:C:C6	36:BA:1314:C:H5'	2.31	0.64
4:AD:9:CYS:O	4:AD:12:CYS:HB2	1.98	0.64
36:BA:936:C:H2'	36:BA:937:U:H6	1.61	0.64
15:AO:71:GLN:HG2	15:AO:71:GLN:O	1.98	0.64
36:BA:2053:G:H5'	40:BE:144:ARG:O	1.97	0.64
25:AZ:265:THR:HG22	25:AZ:291:ARG:HB3	1.80	0.64
32:B6:30:THR:O	32:B6:32:ASN:N	2.31	0.64
40:BE:199:ARG:NH1	40:BE:199:ARG:HB2	2.12	0.64
40:BE:199:ARG:HG2	40:BE:200:GLU:OE2	1.98	0.64
54:BV:38:LEU:HD12	54:BV:57:VAL:HB	1.80	0.64
38:BC:120:MET:CE	38:BC:138:PRO:HB2	2.28	0.64
40:BE:113:PHE:HE1	40:BE:158:GLY:HA2	1.63	0.64
36:BA:259:G:N2	36:BA:621:A:H8	1.93	0.64
43:BH:12:PRO:HA	43:BH:48:GLY:CA	2.26	0.64
48:BP:107:LYS:C	48:BP:109:GLY:H	1.99	0.64
48:BP:111:ARG:H	48:BP:111:ARG:HD2	1.62	0.64
46:BN:63:THR:HB	46:BN:66:LYS:NZ	2.12	0.64
36:BA:1803:A:O2'	39:BD:259:THR:HG21	1.98	0.64
37:BB:30:C:H2'	37:BB:31:C:O4'	1.98	0.64
31:B5:59:GLU:HG3	31:B5:59:GLU:O	1.98	0.64
41:BF:119:ARG:HH11	41:BF:119:ARG:HG2	1.63	0.63
38:BC:14:VAL:HG23	38:BC:32:LEU:HD11	1.79	0.63
36:BA:2491:U:H5'	36:BA:2570:G:C5'	2.20	0.63
52:BT:27:THR:O	52:BT:28:VAL:HB	1.97	0.63
52:BT:25:GLY:O	52:BT:49:VAL:HG12	1.95	0.63
48:BP:30:THR:HG22	48:BP:31:ALA:N	2.13	0.63
12:AL:41:ARG:HH12	12:AL:57:LYS:NZ	1.95	0.63
36:BA:8:A:H2'	36:BA:9:U:H5	1.64	0.63
26:B0:42:GLY:HA3	36:BA:2331:G:O4'	1.99	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
58:BZ:91:LEU:HD13	58:BZ:130:PRO:HB3	1.79	0.63
36:BA:2112:G:H2'	36:BA:2112:G:N3	2.13	0.63
43:BH:149:ARG:HG3	43:BH:162:ILE:O	1.98	0.63
1:AA:202:U:H5''	1:AA:203:U:OP2	1.98	0.63
1:AA:681:C:O2'	1:AA:682:G:H5'	1.97	0.63
58:BZ:177:PRO:C	58:BZ:178:GLU:HG2	2.18	0.63
36:BA:558:G:P	46:BN:111:PRO:HD2	2.38	0.63
36:BA:271(U):G:O2'	36:BA:271(V):G:H5'	1.98	0.63
42:BG:103:LEU:HD21	42:BG:178:PHE:CZ	2.34	0.63
34:B8:59:LYS:HD3	48:BP:50:ARG:HB3	1.78	0.63
52:BT:58:ASN:H	52:BT:58:ASN:ND2	1.96	0.63
36:BA:628:G:H2'	36:BA:629:G:C5'	2.28	0.63
32:B6:45:LYS:O	32:B6:46:HIS:HB3	1.97	0.63
51:BS:25:ARG:HG2	51:BS:25:ARG:HH11	1.63	0.63
36:BA:2657:A:O2'	43:BH:160:LYS:HE2	1.96	0.63
4:AD:30:LYS:C	4:AD:32:ALA:H	2.00	0.63
2:AB:32:ILE:HD11	2:AB:40:HIS:HB3	1.81	0.63
1:AA:1152:A:O2'	1:AA:1153:C:H5'	1.98	0.63
36:BA:68:G:H2'	36:BA:69:C:H6	1.62	0.63
36:BA:519:U:H2'	36:BA:520:G:H8	1.63	0.63
36:BA:1503:U:H2'	36:BA:1504:C:H6	1.62	0.63
40:BE:2:LYS:HB3	40:BE:95:ILE:HG22	1.80	0.63
38:BC:165:ASN:HA	38:BC:170:ALA:O	1.98	0.63
35:B9:30:PRO:HB2	36:BA:2527:C:C5'	2.23	0.63
26:B0:49:LYS:N	26:B0:80:HIS:HD1	1.92	0.63
41:BF:132:VAL:HG22	41:BF:133:ASN:N	2.08	0.63
41:BF:101:LEU:CD1	41:BF:102:PRO:HD2	2.27	0.63
25:AZ:315:LYS:HE3	25:AZ:373:GLU:HB2	1.81	0.63
36:BA:2206:G:C2	36:BA:2207:G:H5'	2.33	0.63
36:BA:2645:G:H3'	36:BA:2646:C:C5'	2.20	0.63
36:BA:1019:U:H3	36:BA:1142(A):A:H62	1.46	0.63
12:AL:24:VAL:HG13	12:AL:98:TYR:CE2	2.32	0.63
2:AB:104:ASN:O	2:AB:108:ILE:HG12	1.98	0.63
13:AM:40:ASN:HD22	13:AM:43:THR:HG23	1.63	0.63
36:BA:1766:U:H2'	36:BA:1767:C:H6	1.63	0.63
42:BG:152:LEU:HD23	42:BG:152:LEU:H	1.63	0.63
1:AA:161:A:H2'	1:AA:162:A:C8	2.33	0.63
47:BO:35:VAL:HG11	47:BO:103:ALA:HB3	1.80	0.63
1:AA:1275:A:O2'	1:AA:1276:G:H5'	1.97	0.63
17:AQ:62:SER:CB	17:AQ:72:ARG:HG3	2.28	0.63
10:AJ:54:PHE:CZ	10:AJ:55:LYS:NZ	2.66	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:BC:150:GLY:HA2	38:BC:153:ILE:HD12	1.81	0.63
37:BB:65:C:H2'	37:BB:66:A:H5'	1.79	0.63
39:BD:35:LYS:HD2	39:BD:35:LYS:C	2.18	0.63
10:AJ:30:SER:HA	10:AJ:80:LYS:HZ2	1.63	0.63
36:BA:612:C:H2'	36:BA:613:G:H5'	1.81	0.63
43:BH:12:PRO:CD	43:BH:15:VAL:HG21	2.25	0.63
10:AJ:96:ILE:H	10:AJ:96:ILE:CD1	2.10	0.63
48:BP:107:LYS:O	48:BP:109:GLY:N	2.30	0.63
18:AR:44:LEU:CD2	18:AR:79:LEU:HD22	2.28	0.63
20:AT:53:LEU:HD22	20:AT:100:ILE:O	1.98	0.63
36:BA:1150:C:O2'	36:BA:1151:G:H5'	1.98	0.63
22:AW:38:A:C3'	22:AW:39:U:H5''	2.28	0.63
36:BA:718:A:H2'	36:BA:719:C:O4'	1.98	0.63
1:AA:393:A:C2'	1:AA:394:G:H5'	2.29	0.63
37:BB:31:C:H42	37:BB:51:G:H1	1.45	0.63
2:AB:7:VAL:HA	2:AB:11:LEU:HG	1.80	0.63
10:AJ:61:GLU:OE2	14:AN:45:ARG:HD2	1.98	0.63
1:AA:1230:C:O2'	1:AA:1231:G:H5'	1.99	0.63
42:BG:91:ARG:HD2	42:BG:91:ARG:C	2.18	0.63
36:BA:1993:U:H4'	40:BE:128:SER:OG	1.99	0.63
37:BB:16:G:HO2'	37:BB:17:C:H6	1.46	0.63
57:BY:64:GLU:O	57:BY:65:ALA:HB2	1.97	0.63
43:BH:50:VAL:HG12	43:BH:51:ARG:N	2.12	0.63
19:AS:50:ALA:HA	19:AS:58:VAL:O	1.98	0.63
36:BA:1948:G:H5'	36:BA:1948:G:C8	2.31	0.63
22:AV:4:C:C2'	22:AV:5:G:H5''	2.26	0.63
36:BA:2466:C:O2'	36:BA:2467:C:H5'	1.98	0.63
36:BA:1291:C:C2'	36:BA:1292:U:H5'	2.27	0.63
53:BU:13:LYS:HA	53:BU:16:LYS:HD2	1.80	0.63
1:AA:64:G:H4'	1:AA:65:U:H5''	1.81	0.63
4:AD:74:GLN:NE2	4:AD:100:ARG:HH22	1.97	0.63
36:BA:1594:G:H2'	36:BA:1595:G:H8	1.63	0.63
49:BQ:22:LYS:O	49:BQ:22:LYS:HG3	1.99	0.63
10:AJ:54:PHE:CD2	10:AJ:55:LYS:HD2	2.34	0.63
53:BU:92:ARG:HB3	54:BV:11:GLN:NE2	2.14	0.63
22:AW:55:U:C5	22:AW:57:G:H5''	2.34	0.63
38:BC:137:LEU:HD13	38:BC:138:PRO:N	2.14	0.63
31:B5:50:GLY:HA3	31:B5:56:LYS:CD	2.29	0.63
36:BA:658:C:H2'	36:BA:659:C:C6	2.34	0.63
42:BG:85:GLY:O	42:BG:86:MET:HB3	1.99	0.63
36:BA:1590:U:H2'	36:BA:1591:G:C5'	2.28	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:AC:68:VAL:HG12	3:AC:70:VAL:CG2	2.27	0.63
36:BA:35:G:O2'	36:BA:36:G:H5'	1.97	0.63
2:AB:8:LYS:HB2	2:AB:9:GLU:OE2	1.98	0.63
36:BA:1217:C:H2'	36:BA:1218:C:H6	1.63	0.63
42:BG:172:LEU:O	42:BG:176:LEU:HB2	1.98	0.63
56:BX:18:TYR:O	56:BX:20:GLY:N	2.32	0.63
38:BC:200:LYS:HA	38:BC:208:PHE:CZ	2.34	0.63
25:AZ:355:LEU:HD23	25:AZ:356:PRO:CD	2.25	0.63
36:BA:2190:G:H2'	36:BA:2190:G:N3	2.12	0.63
36:BA:1528:A:H2'	36:BA:1528:A:N3	2.14	0.63
52:BT:102:ILE:HD12	52:BT:110:ILE:HD12	1.80	0.63
48:BP:126:VAL:HG22	48:BP:145:PRO:HB2	1.80	0.63
2:AB:194:PRO:O	2:AB:196:LEU:HD12	1.99	0.63
36:BA:195:A:H5''	36:BA:196:A:OP2	1.98	0.63
1:AA:1304:G:H1'	1:AA:1334:G:N2	2.13	0.63
43:BH:54:ARG:HB2	43:BH:55:PRO:HD2	1.81	0.63
42:BG:109:VAL:O	42:BG:112:PRO:HD2	1.97	0.63
41:BF:5:ALA:HB2	41:BF:24:LEU:CD1	2.28	0.63
38:BC:44:HIS:O	38:BC:212:VAL:HG13	1.97	0.63
38:BC:100:ILE:HD13	38:BC:126:LYS:HB3	1.81	0.63
6:AF:67:MET:HB2	6:AF:68:PRO:CD	2.27	0.63
25:AZ:19:HIS:CD2	25:AZ:20:VAL:N	2.66	0.63
36:BA:2512:C:H2'	36:BA:2513:G:O4'	1.99	0.63
4:AD:61:LYS:HA	4:AD:203:VAL:HG22	1.81	0.63
22:AV:75:C:H2'	22:AV:76:A:O4'	1.99	0.63
11:AK:124:LYS:HD2	11:AK:125:PHE:CE1	2.34	0.63
36:BA:2423:U:H5'	36:BA:2423:U:H6	1.62	0.63
25:AZ:9:LYS:HB3	25:AZ:10:PRO:HD2	1.81	0.63
25:AZ:181:GLN:CD	25:AZ:193:ASN:HD21	2.02	0.63
1:AA:1459:C:H2'	1:AA:1460:A:C8	2.34	0.63
34:B8:32:LEU:HD22	36:BA:2392:A:OP1	1.99	0.63
2:AB:209:ARG:HH11	2:AB:239:VAL:CG1	2.01	0.63
36:BA:2306:C:H4'	42:BG:136:ARG:HH22	1.64	0.63
36:BA:2491:U:H4'	36:BA:2570:G:OP1	1.99	0.63
38:BC:120:MET:CE	38:BC:123:VAL:HG11	2.28	0.63
1:AA:1503:A:N7	23:AX:15:A:C5	2.67	0.63
36:BA:606:U:H4'	36:BA:658:C:H4'	1.81	0.63
36:BA:2656:U:C2'	36:BA:2657:A:H5''	2.28	0.63
1:AA:1366:C:H2'	1:AA:1367:C:C6	2.34	0.63
15:AO:62:GLN:HE21	15:AO:62:GLN:HA	1.64	0.63
36:BA:1092:C:H42	36:BA:1100:C:H42	1.46	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:AB:87:ARG:HH11	2:AB:223:ILE:CD1	2.12	0.62
12:AL:46:LYS:CG	12:AL:47:LYS:H	2.02	0.62
28:B2:47:ASN:HA	28:B2:50:ILE:HD13	1.81	0.62
42:BG:113:ARG:HE	42:BG:113:ARG:HA	1.63	0.62
56:BX:26:TYR:HB2	56:BX:81:VAL:HG23	1.81	0.62
38:BC:120:MET:HE1	38:BC:123:VAL:HG21	1.81	0.62
26:B0:27:GLU:CD	36:BA:856:C:H1'	2.19	0.62
36:BA:2639:A:H2'	36:BA:2640:G:O4'	1.99	0.62
42:BG:64:THR:OG1	42:BG:94:LEU:HD11	1.99	0.62
40:BE:111:ARG:HD3	40:BE:160:TYR:CD1	2.34	0.62
28:B2:21:LEU:HD11	28:B2:63:VAL:HG12	1.79	0.62
50:BR:99:LYS:HD2	50:BR:99:LYS:N	2.12	0.62
13:AM:12:ASN:H	13:AM:12:ASN:ND2	1.94	0.62
51:BS:17:ARG:C	51:BS:19:LYS:N	2.51	0.62
53:BU:79:PHE:O	53:BU:83:LEU:HD13	1.99	0.62
49:BQ:131:ILE:HD12	49:BQ:131:ILE:N	2.15	0.62
32:B6:26:ASN:ND2	32:B6:32:ASN:ND2	2.42	0.62
32:B6:45:LYS:N	32:B6:45:LYS:CD	2.58	0.62
41:BF:103:LYS:O	41:BF:107:LYS:HG2	1.98	0.62
25:AZ:194:GLU:HG3	25:AZ:195:TRP:N	2.14	0.62
36:BA:631:A:H5''	48:BP:65:ARG:NH1	2.13	0.62
2:AB:115:LEU:HB2	2:AB:145:LEU:HD12	1.81	0.62
9:AI:16:ARG:HG3	9:AI:16:ARG:HH11	1.63	0.62
36:BA:234:C:H2'	36:BA:235:U:C6	2.34	0.62
36:BA:287:C:H2'	36:BA:288:C:H6	1.64	0.62
4:AD:125:HIS:C	4:AD:126:ILE:HD12	2.19	0.62
7:AG:71:PRO:O	7:AG:91:VAL:HG11	1.98	0.62
36:BA:1921:G:O2'	36:BA:1922:G:H5'	1.99	0.62
47:BO:111:PHE:HB3	47:BO:114:ILE:HD13	1.81	0.62
36:BA:1087:G:H8	36:BA:1088:A:H4'	1.64	0.62
56:BX:26:TYR:O	56:BX:81:VAL:HG22	1.99	0.62
36:BA:2630:G:H1'	36:BA:2894:G:H1'	1.81	0.62
40:BE:59:VAL:CG2	40:BE:63:LEU:HA	2.28	0.62
58:BZ:100:VAL:HG23	58:BZ:126:VAL:CG2	2.29	0.62
2:AB:60:ASP:HB3	2:AB:64:ARG:HH21	1.63	0.62
12:AL:20:LYS:N	12:AL:20:LYS:HD3	2.08	0.62
30:B4:9:LEU:HG	42:BG:98:ARG:NH1	2.13	0.62
50:BR:2:ARG:NH1	50:BR:2:ARG:N	2.47	0.62
9:AI:88:TYR:O	9:AI:89:ASN:ND2	2.32	0.62
1:AA:339:C:H2'	1:AA:340:U:C6	2.34	0.62
36:BA:1386:C:OP2	36:BA:1396:U:H5	1.82	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BA:2787:C:O2	40:BE:61:ARG:NH1	2.33	0.62
58:BZ:71:VAL:HG11	58:BZ:74:VAL:CG2	2.29	0.62
36:BA:2756:U:H1'	36:BA:2757:A:C5'	2.24	0.62
47:BO:107:ARG:HH12	52:BT:35:LYS:HD2	1.64	0.62
25:AZ:318:ALA:CB	25:AZ:400:VAL:HA	2.28	0.62
9:AI:53:VAL:HG13	9:AI:95:LYS:NZ	2.14	0.62
1:AA:192:U:H4'	20:AT:57:ARG:HD3	1.80	0.62
11:AK:50:TYR:HH	11:AK:59:TYR:HE2	1.42	0.62
1:AA:178:C:O2'	1:AA:179:A:H5'	2.00	0.62
46:BN:18:ALA:HB3	46:BN:26:LEU:HD22	1.80	0.62
55:BW:73:ALA:HB3	55:BW:106:ILE:CG1	2.30	0.62
3:AC:113:ALA:HB3	3:AC:114:PRO:HD3	1.80	0.62
10:AJ:61:GLU:OE2	14:AN:45:ARG:NH1	2.31	0.62
1:AA:388:G:O2'	1:AA:389:A:P	2.57	0.62
36:BA:145:G:C3'	36:BA:146:G:H5''	2.29	0.62
1:AA:163:C:H2'	1:AA:164:U:C6	2.34	0.62
20:AT:23:ARG:HH11	20:AT:23:ARG:HG2	1.65	0.62
36:BA:2781:A:H5'	36:BA:2782:G:C5'	2.19	0.62
13:AM:3:ARG:HD3	42:BG:113:ARG:HH11	1.64	0.62
37:BB:65:C:C2'	37:BB:66:A:H5'	2.30	0.62
41:BF:7:TYR:HD2	41:BF:16:GLY:HA3	1.63	0.62
1:AA:397:A:N7	1:AA:547:A:O2'	2.29	0.62
4:AD:3:ARG:O	4:AD:5:ILE:HG13	2.00	0.62
20:AT:89:ARG:NH2	20:AT:104:LEU:HD21	2.14	0.62
53:BU:12:ARG:O	53:BU:16:LYS:HG3	1.98	0.62
36:BA:1387:C:H5'	36:BA:1469:A:H4'	1.82	0.62
1:AA:757:U:H2'	1:AA:758:G:O4'	2.00	0.62
42:BG:78:SER:O	42:BG:80:PHE:N	2.32	0.62
25:AZ:223:MET:HE3	25:AZ:240:GLY:HA3	1.81	0.62
36:BA:534:U:O2'	53:BU:49:HIS:HD2	1.83	0.62
11:AK:120:ARG:HG3	11:AK:120:ARG:HH11	1.64	0.62
36:BA:1057:A:H2	36:BA:1082:U:H3	1.47	0.62
1:AA:838:G:H2'	1:AA:839:U:H5''	1.82	0.62
49:BQ:97:VAL:HG11	49:BQ:103:MET:CE	2.29	0.62
36:BA:1902:C:H4'	39:BD:244:ARG:HA	1.81	0.62
2:AB:87:ARG:NH1	2:AB:220:ASP:OD1	2.31	0.62
48:BP:50:ARG:HG2	48:BP:50:ARG:NH2	2.15	0.62
10:AJ:55:LYS:H	10:AJ:55:LYS:HE3	1.61	0.62
13:AM:86:CYS:HA	19:AS:73:GLU:O	2.00	0.62
38:BC:141:LYS:HB2	38:BC:141:LYS:NZ	2.14	0.62
52:BT:50:ILE:HD11	52:BT:64:ARG:HB2	1.82	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:BT:91:ARG:HA	52:BT:117:ASP:H	1.63	0.62
52:BT:19:LEU:HD13	52:BT:78:LEU:HD23	1.82	0.62
39:BD:261:LYS:NZ	39:BD:263:ARG:CZ	2.62	0.62
1:AA:405:U:O2	1:AA:498:U:H2'	1.98	0.62
36:BA:1199:U:H1'	53:BU:4:ALA:HB2	1.82	0.62
49:BQ:108:GLY:HA3	58:BZ:116:VAL:CG1	2.29	0.62
5:AE:20:GLN:NE2	5:AE:25:ARG:CZ	2.62	0.62
39:BD:77:ALA:HB2	39:BD:97:TYR:CD2	2.34	0.62
1:AA:170:U:O2'	1:AA:171:A:H5'	1.99	0.62
11:AK:97:ALA:O	11:AK:101:SER:HB3	1.99	0.62
36:BA:1851:U:O2'	36:BA:1852:C:H5'	1.99	0.62
38:BC:14:VAL:HG13	38:BC:20:TYR:CE1	2.34	0.62
1:AA:977:A:C2'	1:AA:977:A:N3	2.63	0.62
49:BQ:17:LEU:CD2	49:BQ:96:VAL:HG13	2.29	0.62
58:BZ:17:ALA:HA	58:BZ:20:ARG:CG	2.30	0.62
36:BA:2124:G:H3'	36:BA:2125:G:H8	1.65	0.62
36:BA:2632:A:H2	40:BE:61:ARG:HD2	1.64	0.62
37:BB:104:U:O2'	37:BB:105:A:H5'	1.98	0.62
29:B3:4:LEU:O	29:B3:36:VAL:HA	2.00	0.62
36:BA:473:G:H5''	36:BA:508:G:H22	1.64	0.62
39:BD:27:THR:HG23	39:BD:83:GLU:HG2	1.81	0.62
51:BS:49:VAL:HG13	51:BS:76:LYS:HD2	1.80	0.62
36:BA:588:U:H2'	36:BA:589:C:C6	2.35	0.62
36:BA:2208:A:H1'	36:BA:2219:G:C6	2.34	0.62
2:AB:116:GLU:C	2:AB:118:LEU:H	2.01	0.62
46:BN:132:ALA:O	46:BN:133:GLN:HB2	2.00	0.62
46:BN:134:ARG:NH2	46:BN:136:GLU:HB2	2.13	0.62
25:AZ:104:LEU:HD12	25:AZ:105:VAL:N	2.14	0.62
4:AD:28:SER:HB3	4:AD:29:PRO:HD2	1.80	0.62
23:AX:20:U:O2'	23:AX:21:C:H5'	1.99	0.62
47:BO:22:ILE:HB	47:BO:40:VAL:O	1.99	0.62
2:AB:138:LEU:C	2:AB:140:HIS:H	2.00	0.62
39:BD:46:GLN:N	39:BD:46:GLN:OE1	2.33	0.62
3:AC:90:GLU:O	3:AC:93:LYS:HB3	1.99	0.62
1:AA:992:U:H1'	1:AA:993:G:C2	2.34	0.62
8:AH:33:GLU:HG2	8:AH:48:TYR:CE1	2.35	0.62
17:AQ:22:LEU:HD12	17:AQ:41:LYS:HG2	1.81	0.62
57:BY:27:VAL:HG12	57:BY:28:LYS:N	2.15	0.62
34:B8:56:GLU:OE1	34:B8:56:GLU:N	2.23	0.62
54:BV:51:VAL:HG12	54:BV:52:VAL:H	1.64	0.62
58:BZ:48:PHE:CZ	58:BZ:74:VAL:HG21	2.34	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:AJ:83:GLU:O	10:AJ:85:LEU:N	2.32	0.62
48:BP:16:ARG:HD3	48:BP:18:ARG:N	2.08	0.62
36:BA:657:U:H2'	36:BA:658:C:C6	2.35	0.62
36:BA:1193:G:H2'	36:BA:1194:A:O4'	1.99	0.62
48:BP:23:PRO:O	48:BP:33:ARG:HD2	2.00	0.62
17:AQ:67:LYS:O	17:AQ:69:LYS:N	2.32	0.62
41:BF:157:VAL:CG2	41:BF:194:MET:HG2	2.30	0.62
53:BU:101:ARG:O	53:BU:103:PRO:CD	2.47	0.62
36:BA:1198:U:H2'	36:BA:1199:U:H6	1.65	0.62
11:AK:51:LYS:HA	11:AK:55:LYS:HE2	1.80	0.62
36:BA:2310:A:O2'	36:BA:2311:A:H5'	1.98	0.62
46:BN:34:LEU:HD21	46:BN:120:LEU:HD23	1.81	0.62
36:BA:142:A:C8	36:BA:1408:C:H1'	2.34	0.62
5:AE:11:ILE:HD11	5:AE:33:VAL:CG2	2.30	0.62
34:B8:43:GLN:C	34:B8:44:LYS:HD2	2.20	0.62
58:BZ:26:GLY:HA2	58:BZ:85:HIS:CD2	2.34	0.62
36:BA:944:G:H5'	36:BA:945:A:O5'	2.00	0.62
25:AZ:342:PHE:HB2	25:AZ:344:PHE:HE1	1.65	0.62
29:B3:56:VAL:HG12	29:B3:57:GLU:H	1.64	0.62
58:BZ:156:LYS:O	58:BZ:158:PRO:HD3	2.00	0.62
57:BY:39:VAL:HG12	57:BY:40:GLU:N	2.15	0.62
46:BN:129:PRO:O	46:BN:130:HIS:HB3	1.99	0.62
26:B0:17:GLN:O	26:B0:19:LYS:HG3	1.99	0.62
53:BU:112:ARG:O	53:BU:115:ALA:HB3	1.99	0.62
34:B8:34:TRP:HA	36:BA:2420:C:OP1	2.00	0.62
28:B2:35:LEU:HD11	28:B2:50:ILE:CG1	2.13	0.62
22:AW:18:G:H22	22:AW:55:U:H6	1.47	0.62
35:B9:7:VAL:HG22	35:B9:34:GLN:HG3	1.81	0.62
4:AD:107:ARG:HH12	4:AD:114:ARG:NH2	1.97	0.62
36:BA:1677:A:H2'	36:BA:1678:G:C8	2.35	0.62
36:BA:1688:U:H1'	36:BA:1701:A:C6	2.35	0.62
36:BA:105:C:H2'	36:BA:106:C:H6	1.64	0.62
36:BA:80:G:O2'	36:BA:81:G:H5'	2.00	0.62
52:BT:75:ILE:N	52:BT:75:ILE:HD12	2.14	0.62
25:AZ:138:VAL:C	25:AZ:140:MET:H	2.01	0.62
22:AV:56:C:O4'	42:BG:76:SER:HB2	2.00	0.62
36:BA:1854:A:H62	36:BA:1888:G:H8	1.48	0.62
4:AD:187:ARG:NH1	4:AD:187:ARG:HB3	2.15	0.62
36:BA:1952:A:C6	47:BO:22:ILE:HD12	2.35	0.62
29:B3:5:LYS:HD2	29:B3:57:GLU:HB3	1.81	0.62
36:BA:1499:C:O2'	36:BA:1500:G:H5'	1.99	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BA:596:G:H2'	36:BA:597:U:O4'	2.00	0.62
51:BS:29:PHE:C	51:BS:29:PHE:HD2	2.04	0.62
54:BV:72:VAL:HG23	54:BV:85:LYS:CB	2.29	0.62
36:BA:612:C:C2'	36:BA:613:G:C5'	2.76	0.62
19:AS:31:ILE:CG2	19:AS:49:ILE:HA	2.26	0.62
1:AA:858:G:H8	1:AA:858:G:O5'	1.82	0.62
58:BZ:141:VAL:O	58:BZ:141:VAL:HG12	2.00	0.62
42:BG:86:MET:N	42:BG:87:PRO:CD	2.63	0.62
58:BZ:40:ASP:OD1	58:BZ:42:VAL:HG12	2.00	0.62
21:AU:6:ARG:HD3	21:AU:15:ARG:HH12	1.63	0.62
41:BF:29:ASN:ND2	41:BF:32:LEU:H	1.98	0.62
16:AP:45:THR:HG22	16:AP:47:ASP:HB3	1.81	0.62
22:AW:20:U:H5'	36:BA:2112:G:N1	2.15	0.62
20:AT:20:LEU:O	20:AT:23:ARG:HB3	1.99	0.62
36:BA:1498:C:H2'	36:BA:1499:C:C5'	2.30	0.62
36:BA:1498:C:H2'	36:BA:1499:C:H5'	1.81	0.62
36:BA:2052:G:H4'	40:BE:143:ASN:O	2.00	0.62
55:BW:5:ALA:HB2	55:BW:54:ALA:HB2	1.81	0.62
4:AD:70:ILE:HG22	4:AD:71:SER:N	2.15	0.62
36:BA:330:A:O2'	36:BA:331:A:H8	1.83	0.61
48:BP:7:ARG:O	48:BP:10:PRO:HD2	2.00	0.61
53:BU:95:LEU:C	53:BU:97:ASP:N	2.53	0.61
54:BV:39:LEU:CD1	54:BV:47:VAL:HG11	2.29	0.61
55:BW:69:LEU:HD23	55:BW:108:GLY:O	1.99	0.61
26:B0:7:LEU:CB	49:BQ:85:LYS:HG3	2.30	0.61
50:BR:99:LYS:CD	50:BR:99:LYS:H	2.10	0.61
25:AZ:75:ARG:HH12	25:AZ:210:ILE:HG22	1.65	0.61
36:BA:1151:G:H2'	36:BA:1152:C:C6	2.34	0.61
25:AZ:34:VAL:HG11	25:AZ:199:ILE:CG2	2.30	0.61
36:BA:1591:G:O2'	36:BA:1592:C:H5'	2.00	0.61
54:BV:19:LYS:HG2	54:BV:94:LEU:HB2	1.82	0.61
5:AE:20:GLN:HG2	5:AE:21:ALA:H	1.65	0.61
7:AG:22:LEU:HD23	7:AG:22:LEU:O	2.00	0.61
1:AA:309:G:O2'	1:AA:310:G:H5'	2.00	0.61
36:BA:1400:G:H2'	36:BA:1401:G:C8	2.35	0.61
1:AA:1447:A:N3	1:AA:1447:A:H2'	2.14	0.61
52:BT:115:ARG:HH11	52:BT:115:ARG:HG3	1.63	0.61
36:BA:442:G:H4'	41:BF:46:ARG:HB2	1.81	0.61
16:AP:74:LEU:O	16:AP:79:VAL:HG23	2.00	0.61
36:BA:1914:C:H2'	36:BA:1915:U:O4'	2.00	0.61
57:BY:35:TYR:HD2	57:BY:68:HIS:CE1	2.17	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
57:BY:12:THR:HG22	57:BY:75:ILE:HG21	1.81	0.61
57:BY:7:VAL:HG11	57:BY:8:LYS:HZ1	1.65	0.61
35:B9:11:CYS:SG	35:B9:12:ASP:N	2.73	0.61
43:BH:37:VAL:HG12	43:BH:38:SER:N	2.15	0.61
10:AJ:5:ARG:HG3	10:AJ:71:LEU:HD11	1.82	0.61
52:BT:30:VAL:HA	52:BT:43:GLN:O	2.00	0.61
39:BD:33:LEU:O	39:BD:36:PRO:HG3	2.00	0.61
48:BP:56:SER:O	48:BP:57:THR:CG2	2.47	0.61
57:BY:85:VAL:HG12	57:BY:86:ARG:N	2.14	0.61
26:B0:36:ILE:HD11	36:BA:2355:C:O4'	1.99	0.61
36:BA:1141:U:H2'	46:BN:63:THR:CG2	2.29	0.61
36:BA:1803:A:H4'	39:BD:259:THR:CG2	2.30	0.61
4:AD:61:LYS:HE2	4:AD:62:GLN:HE21	1.63	0.61
26:B0:20:ARG:HD2	26:B0:20:ARG:H	1.65	0.61
10:AJ:17:ASP:OD1	10:AJ:70:ARG:NE	2.33	0.61
36:BA:524:U:H4'	36:BA:555:U:H4'	1.80	0.61
7:AG:78:ARG:O	7:AG:78:ARG:HG3	2.00	0.61
36:BA:1324:G:H4'	36:BA:1616:A:C2	2.35	0.61
43:BH:44:VAL:HG12	43:BH:45:VAL:N	2.14	0.61
58:BZ:10:ARG:NH2	58:BZ:36:LYS:HB2	2.12	0.61
38:BC:208:PHE:C	38:BC:209:LEU:HD23	2.20	0.61
19:AS:44:MET:O	19:AS:47:HIS:HB2	2.00	0.61
1:AA:1128:C:O2'	1:AA:1130:A:C8	2.53	0.61
39:BD:261:LYS:HZ1	39:BD:263:ARG:HH21	1.48	0.61
40:BE:186:GLY:O	40:BE:187:ALA:HB3	2.00	0.61
58:BZ:119:GLU:CD	58:BZ:119:GLU:H	2.02	0.61
39:BD:75:ILE:N	39:BD:75:ILE:HD13	2.15	0.61
36:BA:1963:U:H2'	36:BA:1963:U:O2	1.99	0.61
17:AQ:91:ARG:HH11	17:AQ:91:ARG:HB2	1.66	0.61
36:BA:2801:A:O2'	36:BA:2895:U:H5'	1.99	0.61
42:BG:34:LEU:O	42:BG:34:LEU:HD12	2.00	0.61
57:BY:8:LYS:HE3	57:BY:74:PRO:HD3	1.83	0.61
38:BC:180:PHE:HD2	38:BC:184:LYS:HG3	1.64	0.61
13:AM:87:TYR:O	13:AM:90:LEU:O	2.18	0.61
58:BZ:10:ARG:HB2	58:BZ:37:VAL:O	2.00	0.61
36:BA:311:A:H5'	36:BA:332:A:C2	2.35	0.61
42:BG:61:ALA:HA	42:BG:66:GLN:O	1.99	0.61
48:BP:23:PRO:HD2	48:BP:33:ARG:NE	2.11	0.61
4:AD:102:ASP:HA	4:AD:121:VAL:HG21	1.83	0.61
2:AB:111:ARG:HG2	2:AB:111:ARG:HH11	1.64	0.61
36:BA:2886:G:H2'	36:BA:2887:U:H6	1.65	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BA:742:G:H2'	36:BA:743:G:C8	2.35	0.61
36:BA:935:C:O2'	36:BA:936:C:H5'	2.01	0.61
1:AA:1007:C:O2'	1:AA:1008:C:H5'	1.98	0.61
36:BA:20:C:H2'	36:BA:21:A:C8	2.36	0.61
25:AZ:309:SER:O	25:AZ:310:ILE:HB	2.00	0.61
22:AW:29:G:H1	22:AW:41:C:H42	1.46	0.61
53:BU:17:ILE:HG23	53:BU:39:LEU:HD11	1.81	0.61
45:BK:59:UNK:HA	45:BK:64:UNK:O	2.00	0.61
10:AJ:29:ARG:HG2	10:AJ:29:ARG:HH11	1.65	0.61
36:BA:2097:C:H2'	36:BA:2098:U:O4'	2.00	0.61
1:AA:1429:C:H2'	1:AA:1430:C:C6	2.35	0.61
1:AA:189(I):G:H2'	1:AA:189(J):G:H8	1.63	0.61
1:AA:368:U:OP1	25:AZ:291:ARG:NH1	2.33	0.61
34:B8:32:LEU:HB3	34:B8:36:LYS:HE2	1.82	0.61
58:BZ:59:LEU:O	58:BZ:66:SER:HA	2.00	0.61
52:BT:27:THR:OG1	52:BT:28:VAL:N	2.33	0.61
36:BA:2102:U:H2'	36:BA:2103:C:O4'	2.01	0.61
36:BA:2377:A:O2'	36:BA:2378:A:H5'	2.00	0.61
46:BN:96:GLU:O	46:BN:100:GLU:HG3	2.00	0.61
1:AA:627:G:H2'	1:AA:628:G:C8	2.34	0.61
1:AA:148:G:H2'	1:AA:149:A:C8	2.34	0.61
36:BA:524:U:H2'	36:BA:525:U:C6	2.35	0.61
36:BA:1887:C:C3'	36:BA:1888:G:H5''	2.31	0.61
47:BO:35:VAL:HG21	47:BO:69:ILE:HD11	1.81	0.61
39:BD:10:THR:HG23	39:BD:13:ARG:CB	2.31	0.61
1:AA:679:C:H2'	1:AA:680:C:C6	2.35	0.61
39:BD:160:GLY:HA2	39:BD:197:GLY:H	1.66	0.61
1:AA:274:A:O2'	1:AA:275:G:H8	1.83	0.61
36:BA:1532:C:O2'	36:BA:1533:G:H5'	2.00	0.61
21:AU:24:ARG:O	21:AU:25:LYS:HB2	1.99	0.61
49:BQ:140:ALA:HB1	58:BZ:99:TYR:HB2	1.82	0.61
36:BA:2839:G:H21	50:BR:92:GLY:HA3	1.66	0.61
39:BD:33:LEU:O	39:BD:36:PRO:CG	2.49	0.61
54:BV:72:VAL:CG2	54:BV:85:LYS:HB2	2.28	0.61
12:AL:18:VAL:HG23	12:AL:19:ARG:N	2.10	0.61
39:BD:267:SER:HA	39:BD:270:ILE:CG1	2.31	0.61
36:BA:1771:C:C1'	36:BA:1786:A:C8	2.83	0.61
1:AA:346:G:H2'	1:AA:346:G:N3	2.13	0.61
25:AZ:204:ASP:O	25:AZ:208:GLU:HG2	2.00	0.61
50:BR:97:VAL:HA	50:BR:113:LEU:O	2.01	0.61
16:AP:44:THR:O	16:AP:45:THR:CB	2.48	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:BH:76:VAL:O	43:BH:79:VAL:HG22	1.99	0.61
36:BA:2364:C:O2'	36:BA:2365:G:H5'	2.01	0.61
37:BB:25:A:H2'	37:BB:25:A:N3	2.14	0.61
36:BA:1859:A:H2'	36:BA:1860:G:O4'	2.00	0.61
26:B0:10:THR:HG22	26:B0:12:ASN:N	2.13	0.61
1:AA:1319:A:H5'	1:AA:1320:C:OP1	2.00	0.61
5:AE:84:PHE:HB2	5:AE:134:ALA:HB2	1.83	0.61
38:BC:94:VAL:CG1	38:BC:95:GLY:N	2.64	0.61
51:BS:104:GLY:O	51:BS:106:ARG:N	2.34	0.61
41:BF:155:LEU:CD1	41:BF:176:LEU:HD13	2.30	0.61
50:BR:69:ASP:O	50:BR:71:GLN:N	2.33	0.61
8:AH:102:ARG:N	8:AH:102:ARG:HD3	2.15	0.61
40:BE:107:THR:HA	40:BE:163:GLU:O	2.00	0.61
36:BA:2672:G:H3'	36:BA:2673:G:H5''	1.82	0.61
53:BU:57:PHE:O	53:BU:59:ARG:N	2.34	0.61
1:AA:1531:A:H8	1:AA:1531:A:O5'	1.84	0.61
1:AA:1327:C:H2'	1:AA:1328:C:C6	2.36	0.61
1:AA:119:A:H4'	1:AA:120:A:O5'	2.00	0.61
36:BA:1139:G:H5''	46:BN:70:LYS:NZ	2.15	0.61
14:AN:57:ARG:HG2	14:AN:57:ARG:NH1	2.15	0.61
25:AZ:72:THR:C	25:AZ:74:LYS:H	2.03	0.61
42:BG:111:LEU:HD21	42:BG:179:PRO:HG2	1.83	0.61
36:BA:2628:C:H1'	36:BA:2781:A:H2'	1.83	0.61
34:B8:32:LEU:HD12	34:B8:36:LYS:HZ1	1.64	0.61
36:BA:2127:G:H5'	38:BC:37:PHE:HB3	1.81	0.61
52:BT:28:VAL:HG22	52:BT:46:GLU:HA	1.82	0.61
50:BR:101:ALA:O	50:BR:102:GLU:HB2	1.98	0.61
39:BD:25:THR:O	39:BD:26:LYS:O	2.19	0.61
39:BD:270:ILE:H	39:BD:270:ILE:CD1	2.03	0.61
19:AS:29:ARG:HB3	19:AS:48:THR:N	2.14	0.61
36:BA:2189:U:H2'	36:BA:2190:G:O4'	2.00	0.61
46:BN:57:ALA:H	46:BN:124:ALA:HA	1.66	0.61
48:BP:80:TYR:CD1	48:BP:111:ARG:HB3	2.35	0.61
25:AZ:21:ASP:H	61:AZ:501:GCP:H3B2	1.65	0.61
7:AG:22:LEU:HD22	7:AG:62:PHE:CE2	2.35	0.61
53:BU:54:LYS:O	53:BU:58:ARG:HG3	2.00	0.61
36:BA:709:U:H2'	36:BA:710:G:H8	1.64	0.61
43:BH:121:ILE:HD11	43:BH:140:LYS:HB3	1.83	0.61
20:AT:10:LEU:HD12	20:AT:11:SER:H	1.66	0.61
36:BA:335:C:H2'	36:BA:336:C:C6	2.36	0.61
57:BY:46:LYS:H	57:BY:62:GLU:HG2	1.66	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:BC:62:VAL:HG11	38:BC:192:PHE:CD1	2.36	0.61
51:BS:34:HIS:HB2	51:BS:36:TYR:HE1	1.65	0.61
43:BH:52:VAL:CB	43:BH:69:ARG:HD3	2.26	0.61
36:BA:2641:G:C5'	36:BA:2641:G:H8	2.12	0.61
20:AT:73:HIS:HB3	20:AT:74:LYS:CD	2.28	0.61
1:AA:490:G:H2'	1:AA:491:G:C8	2.35	0.61
39:BD:44:ASN:HB2	39:BD:48:ARG:O	1.99	0.61
26:B0:20:ARG:HD3	36:BA:2356:C:O3'	2.01	0.61
40:BE:27:LEU:HD12	40:BE:180:ASN:O	2.01	0.61
49:BQ:101:ARG:HH11	49:BQ:101:ARG:HG3	1.65	0.61
58:BZ:26:GLY:HA2	58:BZ:85:HIS:HD2	1.65	0.61
36:BA:289:A:H2'	36:BA:290:G:C8	2.36	0.61
42:BG:125:PHE:HB3	42:BG:130:ASN:O	2.01	0.61
37:BB:5:C:O2'	37:BB:6:C:H5'	2.01	0.61
40:BE:182:LEU:C	40:BE:183:LEU:HD12	2.21	0.61
58:BZ:11:GLU:H	58:BZ:11:GLU:CD	2.03	0.61
7:AG:149:ARG:HG2	7:AG:149:ARG:HH11	1.66	0.61
38:BC:82:LYS:HD3	38:BC:85:GLU:OE1	2.01	0.61
36:BA:875:G:H2'	36:BA:876:C:C6	2.35	0.61
36:BA:1718:G:H5'	36:BA:1718:G:H8	1.66	0.61
41:BF:4:VAL:HA	41:BF:19:GLU:CG	2.31	0.61
38:BC:30:LYS:HD3	38:BC:185:LEU:CD1	2.30	0.61
2:AB:17:PHE:O	2:AB:18:GLY:O	2.18	0.61
37:BB:50:G:OP2	51:BS:62:LYS:HD3	2.01	0.61
52:BT:93:ARG:HG2	52:BT:117:ASP:HB2	1.82	0.61
52:BT:96:ARG:HB2	52:BT:96:ARG:CZ	2.30	0.61
31:B5:36:CYS:SG	31:B5:48:GLU:O	2.59	0.61
57:BY:86:ARG:NH2	57:BY:95:LYS:NZ	2.49	0.61
40:BE:116:VAL:HG21	40:BE:122:PHE:CD2	2.36	0.61
58:BZ:166:SER:HB2	58:BZ:167:PRO:C	2.21	0.61
52:BT:109:GLU:O	52:BT:112:ARG:HG2	2.01	0.61
48:BP:84:ASN:ND2	48:BP:116:GLY:HA2	2.16	0.61
36:BA:1013:C:O2'	36:BA:1014:U:H5'	2.01	0.61
13:AM:49:THR:C	13:AM:51:ALA:N	2.55	0.61
39:BD:96:HIS:CE1	39:BD:102:LYS:HZ1	2.18	0.61
1:AA:80:G:H1	1:AA:90:U:H5'	1.66	0.61
1:AA:80:G:N1	1:AA:90:U:H5'	2.16	0.61
5:AE:11:ILE:HG21	5:AE:105:VAL:HG22	1.83	0.61
36:BA:558:G:OP1	46:BN:111:PRO:HD2	2.01	0.61
55:BW:51:LEU:O	55:BW:51:LEU:HD22	2.01	0.61
1:AA:1134:G:N2	1:AA:1141:C:C2	2.69	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:AE:147:ASP:HA	5:AE:150:ARG:NH1	2.16	0.61
56:BX:12:VAL:CG2	56:BX:13:LEU:H	2.14	0.60
34:B8:55:ALA:HB1	48:BP:49:ARG:O	2.01	0.60
52:BT:48:ILE:O	52:BT:63:VAL:HG13	2.00	0.60
52:BT:65:LYS:HA	52:BT:65:LYS:HZ1	1.64	0.60
42:BG:67:LYS:CD	42:BG:67:LYS:H	2.10	0.60
49:BQ:141:GLN:CD	58:BZ:72:ARG:HD3	2.22	0.60
19:AS:47:HIS:O	19:AS:62:ILE:HG22	2.01	0.60
4:AD:145:GLU:HG2	4:AD:184:LYS:HG2	1.83	0.60
36:BA:2463:C:O2'	36:BA:2464:C:H5'	2.01	0.60
58:BZ:108:PRO:N	58:BZ:141:VAL:HG11	2.16	0.60
13:AM:40:ASN:HD21	13:AM:42:ALA:HB3	1.66	0.60
55:BW:24:ILE:HG21	55:BW:36:LEU:HD21	1.81	0.60
36:BA:1023:U:O2'	36:BA:1122:G:H5''	2.01	0.60
36:BA:680:G:H2'	36:BA:681:G:C8	2.36	0.60
56:BX:8:ILE:C	56:BX:9:LEU:HD23	2.20	0.60
36:BA:348:G:H2'	36:BA:349:G:C8	2.36	0.60
6:AF:80:ARG:NH1	6:AF:88:VAL:HB	2.16	0.60
42:BG:110:ALA:CB	42:BG:140:ILE:HD13	2.31	0.60
34:B8:41:ILE:HD12	36:BA:2419:U:OP1	2.00	0.60
25:AZ:25:THR:O	25:AZ:28:THR:HB	2.00	0.60
22:AW:55:U:OP2	38:BC:59:ARG:NH1	2.34	0.60
43:BH:40:GLU:O	43:BH:41:MET:HB3	2.01	0.60
36:BA:2183:C:H2'	36:BA:2184:G:C8	2.36	0.60
42:BG:52:ILE:HG12	42:BG:53:LEU:N	2.13	0.60
13:AM:11:ARG:O	13:AM:13:LYS:N	2.34	0.60
48:BP:85:LEU:HA	48:BP:88:LEU:HB3	1.83	0.60
36:BA:614(B):G:H2'	41:BF:44:ARG:HH11	1.66	0.60
53:BU:79:PHE:HD1	53:BU:80:ILE:HD13	1.66	0.60
47:BO:65:THR:HA	47:BO:82:ASN:OD1	2.01	0.60
36:BA:1594:G:H2'	36:BA:1595:G:C8	2.36	0.60
3:AC:108:ASN:HB3	3:AC:111:LEU:HD12	1.83	0.60
36:BA:152:G:H1	36:BA:174:C:H42	1.48	0.60
39:BD:126:GLN:HG2	39:BD:129:ASN:ND2	2.16	0.60
11:AK:33:THR:HB	11:AK:38:ASN:N	2.16	0.60
3:AC:150:LYS:HG3	3:AC:169:ALA:HB2	1.82	0.60
32:B6:6:ARG:CB	32:B6:6:ARG:HH11	2.12	0.60
38:BC:120:MET:HE1	38:BC:138:PRO:HB2	1.83	0.60
10:AJ:78:ASN:HD22	10:AJ:80:LYS:CB	2.13	0.60
36:BA:2692:C:H2'	36:BA:2693:A:H8	1.65	0.60
24:AY:61:C:H2'	24:AY:62:U:C5'	2.30	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
58:BZ:166:SER:HB2	58:BZ:167:PRO:CA	2.31	0.60
46:BN:67:LEU:O	46:BN:68:GLU:HB2	2.01	0.60
26:B0:40:GLN:OE1	26:B0:44:ARG:HB2	2.00	0.60
36:BA:298:G:H5'	36:BA:299:A:OP1	2.01	0.60
48:BP:122:PRO:HB3	48:BP:141:ALA:CB	2.31	0.60
50:BR:87:TYR:OH	50:BR:116:LEU:O	2.18	0.60
22:AW:42:C:H2'	22:AW:43:C:C6	2.37	0.60
1:AA:67:C:H2'	1:AA:68:G:C8	2.35	0.60
1:AA:697:U:H2'	1:AA:698:G:H5'	1.82	0.60
1:AA:614:A:O2'	1:AA:615:C:H5'	2.00	0.60
1:AA:996:A:H2'	1:AA:997:U:C6	2.36	0.60
34:B8:41:ILE:HG12	34:B8:41:ILE:O	2.01	0.60
36:BA:2167:U:H3	36:BA:2171:A:N6	1.98	0.60
38:BC:42:GLU:CB	38:BC:215:THR:HG23	2.23	0.60
51:BS:56:LEU:HD23	51:BS:56:LEU:O	2.01	0.60
35:B9:17:ILE:HG21	35:B9:19:ARG:NH2	2.09	0.60
55:BW:29:LEU:HD21	55:BW:33:ARG:HH11	1.66	0.60
47:BO:1:MET:HB3	47:BO:32:TYR:CD2	2.35	0.60
50:BR:38:VAL:CB	50:BR:39:PRO:HD3	2.25	0.60
40:BE:14:ILE:HD11	40:BE:173:VAL:CG1	2.28	0.60
1:AA:345:C:H1'	1:AA:346:G:N2	2.16	0.60
20:AT:100:ILE:HD12	20:AT:100:ILE:N	2.15	0.60
8:AH:82:HIS:HD2	8:AH:138:TRP:NE1	1.99	0.60
40:BE:132:HIS:HA	40:BE:135:HIS:CE1	2.36	0.60
50:BR:96:ARG:NH2	50:BR:117:VAL:HG23	2.16	0.60
40:BE:4:ILE:CD1	40:BE:28:ALA:HB1	2.31	0.60
55:BW:24:ILE:O	55:BW:27:LYS:HG3	2.02	0.60
2:AB:142:LEU:O	2:AB:142:LEU:HD23	2.02	0.60
17:AQ:92:ARG:HA	17:AQ:95:TYR:CE2	2.36	0.60
36:BA:2538:C:H2'	36:BA:2539:C:H6	1.65	0.60
56:BX:23:GLU:O	56:BX:25:LYS:N	2.33	0.60
39:BD:215:LEU:HD13	39:BD:217:ARG:HH21	1.65	0.60
5:AE:137:GLU:O	5:AE:141:GLN:HG3	2.00	0.60
53:BU:111:GLU:O	53:BU:115:ALA:HB2	2.02	0.60
42:BG:115:ARG:HH12	42:BG:137:GLU:HG3	1.66	0.60
53:BU:90:VAL:HG12	53:BU:91:ASP:N	2.15	0.60
38:BC:42:GLU:HB2	38:BC:215:THR:O	2.01	0.60
31:B5:48:GLU:O	31:B5:49:CYS:SG	2.60	0.60
1:AA:1003:G:N2	1:AA:1038:C:C4	2.69	0.60
29:B3:17:LYS:HG2	36:BA:969:U:OP1	2.02	0.60
1:AA:197:A:O2'	1:AA:198:G:C8	2.55	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:AL:41:ARG:HH22	12:AL:57:LYS:HZ3	1.50	0.60
3:AC:16:ARG:CB	3:AC:16:ARG:HH11	2.15	0.60
7:AG:113:GLU:CB	7:AG:119:ARG:HG2	2.31	0.60
41:BF:32:LEU:O	41:BF:32:LEU:HD23	2.01	0.60
28:B2:2:LYS:HB2	36:BA:97:C:H5''	1.84	0.60
51:BS:88:ASP:CG	51:BS:89:ARG:N	2.55	0.60
22:AW:43:C:C2	22:AW:44:G:H1'	2.37	0.60
11:AK:38:ASN:HD22	11:AK:38:ASN:N	2.00	0.60
5:AE:36:ASP:OD1	5:AE:38:GLN:N	2.33	0.60
36:BA:116:C:O2'	36:BA:117:G:H5'	2.01	0.60
11:AK:61:ALA:HB2	11:AK:90:GLY:HA3	1.84	0.60
36:BA:2730:C:O2'	36:BA:2731:G:H5'	2.01	0.60
36:BA:1526:G:O2'	36:BA:1527:G:H5'	2.02	0.60
36:BA:2668:G:O2'	36:BA:2669:G:H5'	2.00	0.60
55:BW:97:LYS:HE3	55:BW:99:ARG:CZ	2.31	0.60
36:BA:1643:G:H2'	36:BA:1644:C:H6	1.67	0.60
32:B6:53:LYS:O	32:B6:54:ILE:HG22	2.01	0.60
40:BE:82:ARG:HG3	40:BE:82:ARG:HH11	1.66	0.60
54:BV:5:VAL:HG23	54:BV:37:VAL:O	2.01	0.60
10:AJ:5:ARG:O	10:AJ:99:LYS:HB2	2.01	0.60
25:AZ:32:THR:CG2	25:AZ:44:VAL:HA	2.31	0.60
36:BA:659:C:H4'	41:BF:100:THR:O	2.01	0.60
7:AG:75:VAL:HA	7:AG:88:PRO:HA	1.83	0.60
40:BE:116:VAL:O	40:BE:117:MET:CB	2.49	0.60
22:AV:20:U:H5'	22:AV:21:A:OP2	2.02	0.60
42:BG:73:ALA:O	42:BG:85:GLY:HA2	2.02	0.60
40:BE:8:LYS:O	40:BE:193:GLY:HA2	2.01	0.60
25:AZ:55:GLU:O	25:AZ:59:ARG:HB3	2.01	0.60
47:BO:26:LYS:HB2	47:BO:30:ALA:CB	2.31	0.60
37:BB:54:G:O2'	37:BB:55:U:H5'	2.02	0.60
3:AC:84:ILE:O	3:AC:84:ILE:HG12	2.00	0.60
36:BA:2681:C:H2'	36:BA:2681:C:O2	2.01	0.60
36:BA:1328:G:H2'	36:BA:1330:C:C5	2.37	0.60
28:B2:30:ARG:HB2	56:BX:5:TYR:CE1	2.37	0.60
41:BF:5:ALA:HB3	41:BF:18:ARG:O	2.01	0.60
57:BY:60:PHE:HA	57:BY:62:GLU:OE2	2.01	0.60
10:AJ:51:ARG:NH1	10:AJ:60:ARG:O	2.35	0.60
36:BA:2163:C:H3'	36:BA:2164:C:C6	2.36	0.60
38:BC:155:GLU:O	38:BC:160:ARG:HB2	2.01	0.60
38:BC:94:VAL:CG1	38:BC:95:GLY:H	2.14	0.60
39:BD:32:SER:O	39:BD:36:PRO:HG3	2.02	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:BP:23:PRO:CB	48:BP:33:ARG:HG3	2.29	0.60
48:BP:33:ARG:O	48:BP:34:GLY:C	2.40	0.60
36:BA:1529:G:O2'	36:BA:1530:C:H5'	2.02	0.60
36:BA:672:C:C2'	36:BA:673:C:C5'	2.78	0.60
48:BP:112:LEU:HD22	48:BP:113:LYS:N	2.17	0.60
50:BR:55:ALA:HB2	50:BR:79:LEU:CD1	2.32	0.60
26:B0:43:THR:O	26:B0:43:THR:CG2	2.49	0.60
36:BA:860:U:C5	36:BA:917:A:N7	2.67	0.60
9:AI:49:PRO:HB3	9:AI:101:PHE:CD2	2.35	0.60
25:AZ:35:THR:HG22	25:AZ:203:LEU:CD1	2.31	0.60
42:BG:133:LEU:HD11	42:BG:157:ILE:HB	1.82	0.60
53:BU:68:ALA:HB1	53:BU:106:PHE:HE2	1.67	0.60
53:BU:62:ILE:HG23	53:BU:76:TYR:CE1	2.37	0.60
1:AA:80:G:C3'	1:AA:81:U:H5'	2.32	0.60
1:AA:161:A:H2'	1:AA:162:A:H8	1.65	0.60
43:BH:54:ARG:HH11	43:BH:54:ARG:HG2	1.65	0.60
36:BA:2223:G:C2'	36:BA:2224:G:H5'	2.32	0.60
36:BA:1866:C:H2'	36:BA:1876:A:O4'	2.02	0.60
17:AQ:8:GLY:HA3	17:AQ:21:VAL:CG1	2.31	0.60
3:AC:17:ASP:OD1	3:AC:18:TRP:N	2.34	0.60
42:BG:172:LEU:HD23	42:BG:176:LEU:HD12	1.82	0.60
47:BO:20:MET:HE3	47:BO:44:LYS:HE3	1.83	0.60
48:BP:7:ARG:HB3	48:BP:8:PRO:CD	2.31	0.60
9:AI:104:ARG:HD3	9:AI:105:ASP:N	2.16	0.60
1:AA:1003:G:H2'	1:AA:1004:A:C4'	2.28	0.60
30:B4:9:LEU:CG	42:BG:98:ARG:HH12	2.15	0.60
46:BN:5:VAL:CG1	46:BN:7:LYS:HG3	2.28	0.60
41:BF:126:VAL:HG11	41:BF:142:TRP:HH2	1.66	0.60
46:BN:57:ALA:HB3	46:BN:124:ALA:CA	2.30	0.60
36:BA:2580:U:H5'	40:BE:131:ALA:H	1.67	0.60
1:AA:353:A:C8	1:AA:353:A:H5'	2.37	0.60
36:BA:30:G:H2'	36:BA:31:C:H6	1.67	0.60
47:BO:98:VAL:CG1	47:BO:117:LEU:HB3	2.32	0.60
36:BA:2147:G:C2'	36:BA:2148:G:H5'	2.32	0.60
25:AZ:185:ASN:ND2	25:AZ:188:THR:HB	2.16	0.60
36:BA:729:G:OP2	39:BD:13:ARG:NH1	2.35	0.60
36:BA:1718:G:O2'	36:BA:1719:G:H5'	2.02	0.60
6:AF:30:LEU:HB3	6:AF:35:ALA:HB3	1.83	0.60
1:AA:1412:C:H2'	1:AA:1413:A:C8	2.36	0.60
41:BF:95:ARG:HG3	41:BF:95:ARG:O	2.02	0.60
42:BG:97:ASP:H	42:BG:100:TRP:HD1	1.49	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:B6:22:ALA:C	32:B6:23:THR:HG23	2.21	0.60
48:BP:9:ASN:H	48:BP:10:PRO:CD	2.05	0.60
2:AB:61:LEU:O	2:AB:64:ARG:HG2	2.02	0.60
1:AA:1392:G:N2	1:AA:1502:A:C8	2.70	0.60
36:BA:1170:G:N2	36:BA:1179:C:H42	1.93	0.60
20:AT:18:GLN:O	20:AT:22:ARG:HG3	2.02	0.60
53:BU:13:LYS:N	53:BU:13:LYS:HD3	2.17	0.60
25:AZ:163:PHE:O	25:AZ:165:GLY:N	2.31	0.60
14:AN:55:GLY:O	14:AN:56:VAL:C	2.40	0.60
1:AA:1151:A:HO2'	1:AA:1152:A:H8	1.50	0.60
1:AA:1050:G:O2'	1:AA:1051:C:P	2.60	0.60
36:BA:2138:C:H2'	36:BA:2139:C:H6	1.66	0.60
1:AA:190:U:O2'	1:AA:191:G:H5'	2.02	0.60
41:BF:118:ALA:HA	41:BF:123:LEU:HB2	1.83	0.60
53:BU:5:LYS:HG3	53:BU:7:GLY:N	2.16	0.60
49:BQ:101:ARG:HG3	49:BQ:101:ARG:NH1	2.17	0.60
36:BA:1106:G:C2	36:BA:1107:G:H1'	2.36	0.60
36:BA:2502:G:H5''	36:BA:2503:A:H5''	1.84	0.60
24:AY:15:A:H3'	24:AY:16:H2U:H5''	1.83	0.60
40:BE:94:GLU:OE2	40:BE:177:PRO:HB3	2.02	0.60
36:BA:1773:A:H2'	36:BA:1774:C:H5'	1.83	0.60
56:BX:10:ALA:HB3	56:BX:29:TRP:HD1	1.66	0.60
9:AI:114:TYR:O	9:AI:114:TYR:CD2	2.54	0.60
1:AA:1320:C:H6	1:AA:1320:C:C5'	2.13	0.60
22:AW:55:U:C5'	38:BC:164:ARG:HH22	2.11	0.60
38:BC:186:ALA:O	38:BC:190:ARG:HG3	2.02	0.60
36:BA:2175:C:O2	38:BC:44:HIS:NE2	2.35	0.60
51:BS:96:GLY:C	51:BS:98:VAL:H	2.03	0.60
46:BN:56:ASN:N	46:BN:125:GLY:H	2.00	0.60
51:BS:49:VAL:HG12	51:BS:50:SER:N	2.12	0.60
25:AZ:324:LYS:HD3	25:AZ:326:GLU:H	1.65	0.60
41:BF:120:GLU:HB3	41:BF:122:LYS:HE3	1.83	0.60
36:BA:8:A:H2'	36:BA:9:U:C5	2.37	0.60
5:AE:7:GLU:O	5:AE:8:GLU:HB3	2.02	0.60
25:AZ:21:ASP:N	61:AZ:501:GCP:H3B1	2.17	0.60
25:AZ:201:GLU:O	25:AZ:205:ALA:HB2	2.02	0.60
36:BA:2579:C:O3'	40:BE:131:ALA:HB2	2.02	0.60
5:AE:20:GLN:NE2	5:AE:25:ARG:NE	2.49	0.60
51:BS:17:ARG:O	51:BS:19:LYS:N	2.35	0.60
13:AM:49:THR:C	13:AM:51:ALA:H	2.05	0.60
39:BD:72:LYS:HZ3	39:BD:75:ILE:HG13	1.67	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:AZ:310:ILE:HG22	25:AZ:310:ILE:O	2.02	0.60
20:AT:13:LEU:HD23	20:AT:13:LEU:N	2.17	0.60
36:BA:2257:U:O2'	36:BA:2258:C:H5'	2.01	0.60
58:BZ:57:ILE:N	58:BZ:57:ILE:HD12	2.17	0.60
39:BD:148:GLU:HB2	39:BD:151:LYS:HD2	1.82	0.60
36:BA:1899:G:H22	36:BA:1902:C:N4	1.97	0.59
51:BS:14:VAL:O	51:BS:15:ARG:C	2.39	0.59
52:BT:27:THR:O	52:BT:28:VAL:CB	2.50	0.59
19:AS:42:PRO:O	19:AS:44:MET:SD	2.60	0.59
19:AS:61:TYR:O	19:AS:62:ILE:HB	2.01	0.59
52:BT:19:LEU:HD13	52:BT:78:LEU:CD2	2.32	0.59
39:BD:33:LEU:C	39:BD:33:LEU:HD23	2.22	0.59
36:BA:621:A:C2'	36:BA:622:G:H5'	2.29	0.59
36:BA:2185:C:C2'	36:BA:2186:G:H5'	2.31	0.59
20:AT:22:ARG:O	20:AT:26:ASN:ND2	2.35	0.59
36:BA:1257:C:H4'	41:BF:83:PHE:CD2	2.36	0.59
36:BA:585:G:H2'	36:BA:586:A:N7	2.17	0.59
52:BT:106:SER:O	52:BT:107:ASP:OD1	2.20	0.59
41:BF:52:LYS:O	41:BF:88:VAL:HG12	2.02	0.59
8:AH:68:ARG:NH1	8:AH:68:ARG:HG2	2.15	0.59
1:AA:1073:U:H2'	1:AA:1074:G:C8	2.36	0.59
22:AW:44:G:H2'	22:AW:44:G:N3	2.16	0.59
8:AH:39:LEU:HB3	8:AH:45:ILE:HG12	1.84	0.59
36:BA:93:G:H2'	36:BA:94:C:C6	2.37	0.59
38:BC:212:VAL:O	38:BC:224:ILE:HG12	2.02	0.59
36:BA:272(J):C:C3'	36:BA:274:G:H5''	2.32	0.59
31:B5:50:GLY:CA	31:B5:56:LYS:HD3	2.32	0.59
1:AA:1392:G:N2	1:AA:1502:A:H8	2.00	0.59
37:BB:114:C:H2'	37:BB:115:G:C8	2.38	0.59
1:AA:1281:U:H4'	1:AA:1282:C:OP2	2.00	0.59
2:AB:172:ILE:H	2:AB:172:ILE:CD1	2.12	0.59
26:B0:36:ILE:HD11	36:BA:2355:C:H1'	1.83	0.59
36:BA:614:U:H2'	36:BA:614(A):U:H5'	1.84	0.59
1:AA:176:C:H2'	1:AA:177:C:H6	1.67	0.59
47:BO:19:ILE:HD12	47:BO:41:ALA:HB3	1.84	0.59
43:BH:44:VAL:HG12	43:BH:45:VAL:H	1.67	0.59
14:AN:57:ARG:HH11	14:AN:57:ARG:CG	2.15	0.59
18:AR:67:ALA:O	18:AR:71:LYS:HG3	2.02	0.59
36:BA:291:C:H2'	36:BA:292:C:H6	1.67	0.59
36:BA:2869:G:H2'	36:BA:2870:C:O4'	2.02	0.59
36:BA:1047:G:C2	36:BA:1110:G:H2'	2.37	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BA:1048:A:H2	36:BA:1112:G:H21	1.47	0.59
36:BA:2068:U:H3	36:BA:2430:A:H2	1.50	0.59
1:AA:524:G:H2'	1:AA:525:C:C6	2.37	0.59
53:BU:29:SER:O	53:BU:30:LYS:HD3	2.02	0.59
36:BA:94:C:H5'	36:BA:94(A):G:OP2	2.02	0.59
38:BC:180:PHE:CD2	38:BC:184:LYS:HG3	2.37	0.59
58:BZ:76:LEU:O	58:BZ:77:ASP:HB2	2.01	0.59
51:BS:67:ARG:HH21	51:BS:100:ALA:HB3	1.66	0.59
9:AI:104:ARG:HG3	9:AI:104:ARG:HH11	1.67	0.59
36:BA:2791:C:N4	36:BA:2801(A):A:H62	1.99	0.59
40:BE:10:GLY:HA2	40:BE:192:ASN:OD1	2.02	0.59
36:BA:1509(A):A:H2'	36:BA:1509(B):A:C8	2.37	0.59
57:BY:95:LYS:CG	57:BY:100:ALA:HA	2.31	0.59
41:BF:192:LEU:HD23	41:BF:192:LEU:C	2.23	0.59
51:BS:77:ALA:HB1	51:BS:82:ILE:O	2.03	0.59
25:AZ:211:PRO:HG2	25:AZ:213:PRO:HD3	1.84	0.59
48:BP:85:LEU:HA	48:BP:88:LEU:CB	2.32	0.59
46:BN:42:TRP:CZ2	46:BN:44:PRO:HB3	2.37	0.59
36:BA:1188:U:C2'	36:BA:1189:A:H5'	2.32	0.59
6:AF:19:LEU:HD11	6:AF:59:TYR:CZ	2.38	0.59
27:B1:48:LYS:HZ2	27:B1:61:ARG:HG2	1.67	0.59
36:BA:2423:U:H5'	36:BA:2423:U:C6	2.37	0.59
36:BA:1644:C:O2	36:BA:1644:C:H2'	2.01	0.59
25:AZ:150:VAL:O	25:AZ:154:VAL:HG23	2.02	0.59
12:AL:119:LYS:O	12:AL:120:TYR:CB	2.49	0.59
36:BA:419:C:H2'	36:BA:420:C:H6	1.67	0.59
4:AD:133:VAL:HG12	4:AD:135:LEU:H	1.66	0.59
55:BW:88:ARG:HB3	55:BW:92:ARG:HB2	1.84	0.59
42:BG:36:LYS:HG2	42:BG:37:VAL:N	2.16	0.59
36:BA:310:A:OP1	57:BY:17:SER:O	2.19	0.59
34:B8:52:LYS:N	34:B8:53:PRO:CD	2.66	0.59
34:B8:50:LEU:H	34:B8:53:PRO:CD	2.15	0.59
25:AZ:122:LEU:O	25:AZ:126:VAL:HG23	2.03	0.59
36:BA:2115:G:H4'	36:BA:2167:U:O2	2.02	0.59
38:BC:58:VAL:O	38:BC:59:ARG:HB2	2.03	0.59
58:BZ:28:MET:CE	58:BZ:33:LEU:HD21	2.32	0.59
50:BR:92:GLY:N	50:BR:94:TYR:HE2	2.00	0.59
43:BH:51:ARG:O	43:BH:52:VAL:HB	2.03	0.59
47:BO:104:ARG:CZ	47:BO:104:ARG:HB3	2.32	0.59
47:BO:87:ILE:HG22	47:BO:88:ASN:N	2.17	0.59
36:BA:1771:C:C1'	36:BA:1786:A:H8	2.14	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BA:2184:G:H2'	36:BA:2185:C:O4'	2.02	0.59
36:BA:672:C:O2'	36:BA:673:C:H5''	2.00	0.59
25:AZ:130:TYR:CD2	25:AZ:211:PRO:HD3	2.37	0.59
51:BS:89:ARG:HB3	51:BS:92:TYR:HB3	1.83	0.59
43:BH:30:LYS:HA	43:BH:30:LYS:HE2	1.84	0.59
22:AW:43:C:H3'	22:AW:44:G:O4'	2.03	0.59
36:BA:2327:A:H2'	36:BA:2328:A:C8	2.37	0.59
36:BA:214:G:H1'	36:BA:216:A:O2'	2.02	0.59
36:BA:2386:C:H2'	36:BA:2387:U:C6	2.36	0.59
18:AR:53:ARG:C	18:AR:55:ARG:H	2.05	0.59
36:BA:363(A):A:N3	36:BA:363(A):A:H2'	2.16	0.59
36:BA:2496:C:O2'	36:BA:2497:A:H5'	2.03	0.59
24:AY:75:C:H5	25:AZ:232:THR:N	1.97	0.59
42:BG:95:ARG:O	42:BG:96:ARG:O	2.18	0.59
41:BF:24:LEU:CB	41:BF:25:PRO:HD2	2.15	0.59
57:BY:50:ARG:HD2	57:BY:53:PRO:HA	1.82	0.59
36:BA:850:C:H2'	36:BA:851:U:H6	1.67	0.59
19:AS:78:ARG:H	19:AS:81:ARG:HH12	1.50	0.59
1:AA:1117:G:H5'	1:AA:1117:G:H8	1.67	0.59
43:BH:68:THR:HA	43:BH:71:LEU:HB2	1.84	0.59
41:BF:39:TRP:CH2	41:BF:106:ARG:HD2	2.38	0.59
1:AA:404:U:H2'	1:AA:405:U:C6	2.37	0.59
31:B5:57:VAL:HG12	31:B5:58:LEU:CD1	2.28	0.59
1:AA:337:C:H2'	1:AA:338:A:C8	2.38	0.59
12:AL:8:ASN:HD22	17:AQ:34:LYS:HE2	1.68	0.59
1:AA:1016:A:H2'	1:AA:1017:G:O4'	2.02	0.59
40:BE:38:THR:HG22	40:BE:40:GLU:H	1.67	0.59
24:AY:65:C:C5'	25:AZ:341:GLN:HG2	2.32	0.59
1:AA:591:U:H2'	1:AA:592:G:H8	1.67	0.59
36:BA:90:U:H2'	36:BA:90:U:O2	2.01	0.59
10:AJ:46:ARG:HG2	10:AJ:46:ARG:HH11	1.67	0.59
25:AZ:113:MET:HB3	25:AZ:114:PRO:HD2	1.84	0.59
32:B6:18:ARG:HG3	32:B6:19:ARG:N	2.17	0.59
25:AZ:16:THR:CG2	25:AZ:81:ASP:HA	2.32	0.59
1:AA:1269:A:C2	1:AA:1313:U:C2	2.90	0.59
31:B5:4:HIS:O	36:BA:2056:G:N2	2.35	0.59
3:AC:5:ILE:CD1	3:AC:5:ILE:H	2.12	0.59
1:AA:195:A:OP1	20:AT:65:LYS:HE2	2.03	0.59
43:BH:125:VAL:O	43:BH:125:VAL:HG12	2.03	0.59
55:BW:1:MET:HG3	55:BW:64:MET:CE	2.32	0.59
46:BN:46:VAL:O	46:BN:47:ALA:HB3	2.02	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:AB:235:SER:OG	2:AB:236:TYR:HD1	1.85	0.59
39:BD:72:LYS:HD2	39:BD:103:ARG:NH1	2.17	0.59
39:BD:72:LYS:HB3	39:BD:72:LYS:NZ	2.17	0.59
1:AA:837:G:H22	1:AA:850:U:H1'	1.66	0.59
36:BA:2873:A:H1'	50:BR:6:SER:OG	2.02	0.59
1:AA:1175:G:O2'	1:AA:1176:A:H5'	2.03	0.59
49:BQ:67:ARG:NH1	49:BQ:67:ARG:HB3	2.18	0.59
2:AB:223:ILE:HG21	2:AB:230:VAL:HG22	1.83	0.59
1:AA:1202:G:H2'	1:AA:1203:C:H5'	1.84	0.59
1:AA:972:C:O2	10:AJ:55:LYS:HG3	2.03	0.59
38:BC:149:ILE:HG23	38:BC:150:GLY:N	2.16	0.59
36:BA:1301:A:H4'	36:BA:1302:A:OP1	2.02	0.59
19:AS:43:GLU:C	19:AS:45:VAL:H	2.05	0.59
1:AA:1145:C:O2'	1:AA:1146:A:H8	1.86	0.59
36:BA:1654:A:N3	40:BE:113:PHE:HD2	2.01	0.59
4:AD:105:VAL:HG21	4:AD:121:VAL:HG22	1.83	0.59
36:BA:2653:U:H5'	36:BA:2654:A:OP2	2.02	0.59
36:BA:1688:U:H5'	36:BA:1689:A:OP1	2.03	0.59
1:AA:346:G:O2'	1:AA:347:G:H8	1.85	0.59
1:AA:878:G:H1'	8:AH:3:THR:HG21	1.85	0.59
36:BA:2308:G:N7	36:BA:2310:A:H5'	2.17	0.59
36:BA:2555:U:H2'	36:BA:2556:C:H5'	1.83	0.59
36:BA:133:C:N3	36:BA:146:G:O6	2.35	0.59
12:AL:110:VAL:CG2	12:AL:120:TYR:HB3	2.33	0.59
15:AO:9:GLN:NE2	15:AO:12:ILE:HD12	2.17	0.59
9:AI:10:ARG:HG3	9:AI:75:ASP:CB	2.33	0.59
8:AH:112:LEU:HB2	8:AH:132:GLU:O	2.02	0.59
36:BA:2852:G:H2'	36:BA:2853:C:C6	2.37	0.59
36:BA:2674:G:H2'	36:BA:2675:A:C8	2.38	0.59
53:BU:85:LYS:C	53:BU:87:GLY:H	2.05	0.59
24:AY:77:TRP:N	25:AZ:272:MET:HA	2.17	0.59
36:BA:2115:G:C3'	36:BA:2116:G:H5''	2.33	0.59
39:BD:62:TYR:CE1	39:BD:64:ILE:HA	2.37	0.59
34:B8:25:MET:CE	48:BP:64:LYS:HD3	2.33	0.59
5:AE:12:LEU:HD21	5:AE:14:ARG:HB3	1.84	0.59
3:AC:22:TRP:CG	3:AC:59:ARG:HG3	2.38	0.59
34:B8:39:LYS:HE3	36:BA:2365:G:O6	2.02	0.59
1:AA:1441:G:H4'	1:AA:1442:G:C4	2.37	0.59
36:BA:89:G:H3'	36:BA:90:U:H5''	1.83	0.59
47:BO:8:LEU:N	47:BO:8:LEU:CD1	2.65	0.59
2:AB:193:ASP:C	2:AB:193:ASP:OD2	2.41	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:AH:44:PHE:CE2	8:AH:109:ILE:HG21	2.38	0.59
15:AO:69:TYR:CE1	15:AO:73:GLU:HG3	2.36	0.59
49:BQ:52:VAL:O	49:BQ:55:VAL:HG13	2.03	0.59
1:AA:475:G:H2'	1:AA:476:G:H8	1.66	0.59
36:BA:481:G:H1'	36:BA:506:G:H21	1.66	0.59
48:BP:47:ASP:CB	48:BP:48:PRO:CA	2.80	0.59
36:BA:2163:C:H3'	36:BA:2164:C:H6	1.68	0.59
36:BA:2124:G:H1'	38:BC:42:GLU:CG	2.33	0.59
10:AJ:4:ILE:O	10:AJ:74:ILE:HG12	2.02	0.59
41:BF:116:ASP:O	41:BF:120:GLU:HG2	2.03	0.59
36:BA:672:C:H2'	36:BA:673:C:H5'	1.83	0.59
50:BR:29:LEU:CD2	50:BR:70:LEU:HD11	2.33	0.59
25:AZ:75:ARG:HH12	25:AZ:210:ILE:CG2	2.16	0.59
1:AA:542:G:H5'	4:AD:41:GLY:HA3	1.85	0.59
24:AY:7:G:H3'	24:AY:8:4SU:H5'	1.85	0.59
22:AW:40:C:H2'	22:AW:41:C:H6	1.68	0.59
36:BA:876:C:H2'	36:BA:877:U:O4'	2.03	0.59
1:AA:770:C:O2'	1:AA:771:G:H5'	2.03	0.59
49:BQ:45:GLN:H	49:BQ:45:GLN:HE21	1.50	0.59
36:BA:2824:C:H2'	36:BA:2825:C:O4'	2.02	0.59
36:BA:1997:G:O2'	36:BA:1998:G:H5'	2.03	0.59
36:BA:1799:G:H5'	36:BA:1819:A:H61	1.68	0.59
36:BA:2854:G:H2'	36:BA:2855:C:C6	2.38	0.59
36:BA:486:C:H2'	36:BA:487:C:H6	1.67	0.59
38:BC:7:TYR:CE1	38:BC:220:PRO:HD3	2.38	0.59
25:AZ:96:ALA:HA	25:AZ:99:MET:SD	2.42	0.59
19:AS:66:MET:HA	19:AS:69:HIS:HD2	1.67	0.59
52:BT:83:ILE:HG13	52:BT:84:GLN:HG2	1.85	0.59
40:BE:113:PHE:CE1	40:BE:158:GLY:HA2	2.37	0.59
36:BA:1464:C:O2'	36:BA:1528:A:C8	2.52	0.59
41:BF:62:ARG:HG2	41:BF:62:ARG:HH11	1.67	0.59
42:BG:82:LEU:HD22	42:BG:87:PRO:HB3	1.85	0.59
48:BP:90:ARG:HD2	48:BP:91:PHE:HD1	1.67	0.59
11:AK:84:VAL:HG22	11:AK:110:ASP:HA	1.84	0.59
36:BA:2713:A:H3'	36:BA:2714:G:H5'	1.84	0.59
3:AC:58:GLU:HB2	3:AC:65:ALA:HB2	1.85	0.59
36:BA:2572:A:C8	40:BE:144:ARG:HD3	2.37	0.59
36:BA:1047:G:H2'	36:BA:1110:G:H21	1.68	0.59
49:BQ:67:ARG:HH11	49:BQ:67:ARG:HB3	1.68	0.59
4:AD:170:VAL:CG1	4:AD:174:LEU:HB2	2.33	0.59
36:BA:1967:C:H2'	36:BA:1968:G:H5'	1.85	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:BE:169:ASN:ND2	40:BE:169:ASN:O	2.32	0.59
46:BN:76:SER:OG	46:BN:77:GLY:N	2.36	0.59
36:BA:360:G:H2'	36:BA:361:G:H8	1.68	0.59
48:BP:6:LEU:N	48:BP:6:LEU:HD23	2.14	0.58
53:BU:92:ARG:HD2	54:BV:11:GLN:HG2	1.85	0.58
1:AA:1004:A:H5''	1:AA:1025:U:O4	2.02	0.58
10:AJ:23:ILE:HG23	10:AJ:85:LEU:CD2	2.33	0.58
1:AA:1503:A:N3	23:AX:16:A:C6	2.71	0.58
27:B1:44:PRO:HA	36:BA:396:G:O3'	2.03	0.58
41:BF:82:ILE:O	41:BF:83:PHE:HB2	2.02	0.58
47:BO:4:PRO:O	47:BO:5:GLN:CB	2.51	0.58
7:AG:52:GLU:O	7:AG:54:THR:N	2.36	0.58
4:AD:70:ILE:HG22	4:AD:71:SER:O	2.03	0.58
11:AK:18:ARG:NH2	11:AK:35:PRO:O	2.36	0.58
29:B3:11:SER:HB3	36:BA:988:A:P	2.43	0.58
41:BF:148:LEU:HB3	41:BF:172:TRP:HZ3	1.67	0.58
49:BQ:10:ARG:HH11	49:BQ:10:ARG:HB2	1.67	0.58
36:BA:1902:C:H2'	36:BA:1903:G:O5'	2.02	0.58
51:BS:74:ALA:HB1	51:BS:103:GLU:CG	2.32	0.58
36:BA:2631:G:N2	40:BE:61:ARG:NH1	2.48	0.58
2:AB:61:LEU:HA	2:AB:64:ARG:CZ	2.32	0.58
36:BA:2801(A):A:H4'	36:BA:2802:G:C5'	2.27	0.58
10:AJ:5:ARG:CG	10:AJ:71:LEU:HD11	2.32	0.58
51:BS:104:GLY:C	51:BS:106:ARG:H	2.06	0.58
20:AT:74:LYS:HG2	20:AT:75:ASN:N	2.17	0.58
58:BZ:171:ILE:HG13	58:BZ:172:ALA:N	2.19	0.58
25:AZ:35:THR:HG22	25:AZ:203:LEU:HD11	1.85	0.58
36:BA:1331:A:C2'	36:BA:1332:G:H5''	2.33	0.58
36:BA:744:G:O2'	36:BA:745:G:H5'	2.03	0.58
51:BS:89:ARG:O	51:BS:92:TYR:HB3	2.03	0.58
49:BQ:36:ALA:O	49:BQ:37:LEU:HD23	2.03	0.58
49:BQ:97:VAL:HG11	49:BQ:103:MET:HE3	1.84	0.58
9:AI:10:ARG:HG3	9:AI:75:ASP:HB3	1.85	0.58
36:BA:1165:U:H2'	36:BA:1166:C:C6	2.38	0.58
1:AA:321:A:C2	1:AA:333:G:C2	2.91	0.58
49:BQ:6:ARG:O	49:BQ:7:MET:HG3	2.03	0.58
10:AJ:20:ALA:C	10:AJ:22:LYS:H	2.07	0.58
57:BY:52:SER:O	57:BY:54:LYS:N	2.37	0.58
57:BY:46:LYS:N	57:BY:62:GLU:HG2	2.18	0.58
38:BC:26:ALA:O	38:BC:185:LEU:HD12	2.03	0.58
40:BE:32:PRO:O	40:BE:34:VAL:N	2.36	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:AZ:96:ALA:C	25:AZ:98:GLN:H	2.05	0.58
34:B8:61:LEU:N	34:B8:61:LEU:HD12	2.19	0.58
41:BF:10:PRO:HG2	41:BF:13:SER:OG	2.02	0.58
39:BD:35:LYS:HG3	39:BD:63:ARG:HG3	1.86	0.58
3:AC:20:SER:CB	3:AC:40:ARG:HH22	2.13	0.58
48:BP:71:VAL:N	48:BP:72:PRO:CD	2.61	0.58
25:AZ:19:HIS:CG	25:AZ:20:VAL:H	2.21	0.58
36:BA:6:A:H2'	36:BA:7:G:C8	2.38	0.58
36:BA:1494:A:N3	36:BA:1494:A:H5'	2.18	0.58
36:BA:1813:G:H1'	39:BD:50:THR:OG1	2.03	0.58
1:AA:585:G:H4'	12:AL:8:ASN:HD21	1.68	0.58
36:BA:2292:C:O2'	36:BA:2293:C:H5'	2.03	0.58
36:BA:2138:C:H2'	36:BA:2139:C:C6	2.37	0.58
37:BB:56:G:O2'	37:BB:57:A:OP2	2.21	0.58
39:BD:77:ALA:CB	39:BD:95:LEU:HD13	2.32	0.58
14:AN:57:ARG:HG2	14:AN:57:ARG:HH11	1.68	0.58
43:BH:137:ASP:OD1	43:BH:138:LYS:N	2.26	0.58
1:AA:333:G:H4'	20:AT:16:HIS:CE1	2.38	0.58
36:BA:1636:C:H2'	36:BA:1637:A:C8	2.38	0.58
28:B2:46:GLN:OE1	36:BA:95:G:H4'	2.03	0.58
36:BA:2787:C:O2	40:BE:61:ARG:HD3	2.02	0.58
33:B7:9:ARG:HG3	33:B7:9:ARG:HH11	1.68	0.58
39:BD:27:THR:O	39:BD:27:THR:CG2	2.50	0.58
16:AP:45:THR:CG2	16:AP:47:ASP:HB3	2.33	0.58
13:AM:15:VAL:HG23	13:AM:16:ASP:N	2.18	0.58
16:AP:28:ARG:HG2	16:AP:29:ASP:OD2	2.03	0.58
36:BA:845:G:OP2	36:BA:845:G:H8	1.87	0.58
29:B3:54:VAL:HG12	29:B3:55:ARG:N	2.17	0.58
33:B7:22:MET:O	33:B7:28:ARG:NH1	2.37	0.58
11:AK:99:GLN:HG2	11:AK:105:VAL:HG21	1.85	0.58
36:BA:2584:U:H2'	36:BA:2585:U:H2'	1.85	0.58
32:B6:5:VAL:HG11	36:BA:2283:C:H5'	1.85	0.58
34:B8:27:THR:HG22	48:BP:62:LEU:HD22	1.86	0.58
48:BP:50:ARG:HH21	48:BP:50:ARG:HG2	1.69	0.58
52:BT:24:PRO:HA	52:BT:49:VAL:HG13	1.84	0.58
26:B0:27:GLU:HB3	26:B0:68:GLU:CA	2.25	0.58
36:BA:603:A:H1'	36:BA:604:G:OP1	2.03	0.58
39:BD:28:GLU:N	39:BD:29:PRO:CD	2.64	0.58
4:AD:158:ILE:O	4:AD:162:LEU:HB2	2.04	0.58
1:AA:1050:G:HO2'	1:AA:1051:C:H6	1.48	0.58
3:AC:61:ALA:N	3:AC:63:ASN:OD1	2.35	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BA:270:A:C2'	36:BA:271:A:H5'	2.33	0.58
12:AL:113:ARG:HB3	12:AL:122:THR:HG21	1.83	0.58
36:BA:1799:G:H5'	36:BA:1819:A:N6	2.18	0.58
1:AA:1283:G:O2'	1:AA:1284:C:P	2.61	0.58
24:AY:63:C:H2'	24:AY:64:U:C6	2.38	0.58
36:BA:1536:C:H2'	36:BA:1537:G:C4'	2.34	0.58
34:B8:33:ASN:CG	34:B8:34:TRP:H	2.07	0.58
34:B8:50:LEU:O	34:B8:51:ALA:HB3	2.02	0.58
1:AA:1321:C:H3'	1:AA:1322:C:H5''	1.84	0.58
36:BA:2125:G:H21	36:BA:2173:A:H61	1.49	0.58
38:BC:216:THR:O	38:BC:217:THR:C	2.41	0.58
38:BC:22:ILE:HD12	38:BC:228:SER:O	2.03	0.58
52:BT:65:LYS:CE	52:BT:66:VAL:H	2.06	0.58
46:BN:126:PRO:O	46:BN:127:ASP:HB2	2.04	0.58
41:BF:158:THR:C	41:BF:160:ASN:H	2.06	0.58
48:BP:111:ARG:HH11	48:BP:149:GLU:HG3	1.67	0.58
40:BE:104:VAL:HG11	40:BE:188:VAL:HG23	1.86	0.58
25:AZ:171:ILE:HG22	25:AZ:172:ARG:N	2.18	0.58
48:BP:123:LEU:HD23	48:BP:123:LEU:H	1.69	0.58
42:BG:83:ARG:HB2	42:BG:84:LYS:HD2	1.84	0.58
36:BA:2356:C:O2'	36:BA:2357:U:H5'	2.02	0.58
7:AG:8:GLU:HG3	7:AG:9:VAL:N	2.17	0.58
1:AA:149:A:O2'	1:AA:150:C:H5'	2.03	0.58
40:BE:115:GLY:HA2	40:BE:157:ALA:HB1	1.85	0.58
1:AA:722:A:H2'	1:AA:722:A:N3	2.18	0.58
11:AK:34:ASP:OD2	11:AK:36:ASP:N	2.37	0.58
10:AJ:58:ASP:O	10:AJ:59:SER:C	2.41	0.58
32:B6:14:THR:CG2	32:B6:50:ARG:HB2	2.31	0.58
56:BX:26:TYR:HB2	56:BX:81:VAL:CG2	2.34	0.58
35:B9:36:GLN:OE1	36:BA:1124:C:H1'	2.03	0.58
40:BE:111:ARG:HA	50:BR:2:ARG:HG3	1.84	0.58
36:BA:1170:G:H22	36:BA:1179:C:N4	1.93	0.58
25:AZ:303:VAL:CG1	25:AZ:304:LEU:H	2.13	0.58
41:BF:122:LYS:HG3	41:BF:191:ARG:HG3	1.85	0.58
17:AQ:9:VAL:HG12	17:AQ:56:VAL:HG22	1.86	0.58
36:BA:2030:A:H5''	36:BA:2031:A:OP1	2.03	0.58
28:B2:31:GLU:HB3	28:B2:53:LEU:HD11	1.85	0.58
25:AZ:56:GLU:HG3	25:AZ:63:ILE:HB	1.85	0.58
1:AA:642:A:H2'	1:AA:643:C:C6	2.39	0.58
27:B1:51:VAL:HG11	27:B1:74:VAL:HG21	1.86	0.58
1:AA:1327:C:OP1	21:AU:20:LYS:N	2.36	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:AU:23:PRO:C	21:AU:25:LYS:H	2.07	0.58
1:AA:1371:G:O3'	9:AI:69:GLY:HA3	2.03	0.58
1:AA:673:G:H2'	1:AA:674:G:C8	2.38	0.58
35:B9:24:TYR:O	35:B9:25:VAL:HG23	2.03	0.58
36:BA:1916:A:H2'	36:BA:1917:U:O4'	2.02	0.58
58:BZ:96:VAL:HG22	58:BZ:97:GLU:H	1.67	0.58
43:BH:34:GLU:O	43:BH:36:PRO:HD3	2.02	0.58
2:AB:187:LEU:HD13	2:AB:205:ASP:HB3	1.84	0.58
48:BP:31:ALA:C	48:BP:33:ARG:N	2.51	0.58
11:AK:82:VAL:HG11	11:AK:108:ILE:HG23	1.85	0.58
42:BG:41:GLN:HG2	42:BG:154:GLY:O	2.04	0.58
25:AZ:157:LEU:O	25:AZ:160:GLN:HB3	2.04	0.58
36:BA:761:A:H8	36:BA:761:A:H3'	1.66	0.58
10:AJ:89:ASP:CB	10:AJ:91:PRO:HD3	2.34	0.58
34:B8:17:THR:OG1	34:B8:21:LYS:HB2	2.04	0.58
36:BA:1569:A:O2'	39:BD:38:LYS:HE2	2.04	0.58
54:BV:95:LEU:HD23	54:BV:96:ILE:N	2.18	0.58
5:AE:100:VAL:HG23	5:AE:100:VAL:O	2.04	0.58
9:AI:40:LEU:C	9:AI:42:ARG:H	2.06	0.58
36:BA:1060:U:H1'	36:BA:1061:U:O5'	2.04	0.58
52:BT:128:GLU:O	52:BT:129:ARG:C	2.41	0.58
1:AA:1308:U:H2'	1:AA:1309:G:H8	1.69	0.58
39:BD:97:TYR:CE1	39:BD:103:ARG:HD3	2.38	0.58
1:AA:1143:G:H2'	1:AA:1144:G:C8	2.39	0.58
36:BA:2360:A:O2'	36:BA:2361:A:O4'	2.20	0.58
39:BD:70:TRP:CZ3	39:BD:146:GLU:OE2	2.57	0.58
39:BD:70:TRP:HZ3	39:BD:146:GLU:OE2	1.86	0.58
36:BA:736:C:H2'	36:BA:737:C:H6	1.69	0.58
32:B6:15:GLU:HG2	32:B6:18:ARG:NH1	2.19	0.58
28:B2:35:LEU:HD13	28:B2:35:LEU:C	2.24	0.58
40:BE:198:VAL:HG12	40:BE:199:ARG:N	2.18	0.58
51:BS:102:ALA:HB3	51:BS:103:GLU:OE1	2.04	0.58
36:BA:1310:G:C2'	36:BA:1311:G:H5'	2.33	0.58
5:AE:51:VAL:HB	5:AE:52:PRO:CD	2.32	0.58
36:BA:2801(A):A:H5'	36:BA:2802:G:C8	2.29	0.58
39:BD:35:LYS:CB	39:BD:35:LYS:HZ2	2.16	0.58
51:BS:85:VAL:HG23	51:BS:106:ARG:CG	2.34	0.58
58:BZ:166:SER:HB2	58:BZ:168:GLU:H	1.68	0.58
50:BR:74:LYS:CD	50:BR:77:ARG:HH21	2.17	0.58
49:BQ:134:ARG:NH2	58:BZ:122:ARG:NE	2.50	0.58
46:BN:26:LEU:HG	46:BN:30:ILE:HD11	1.85	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:AY:15:A:H61	24:AY:48:U:H3	1.50	0.58
9:AI:10:ARG:O	9:AI:11:LYS:HB3	2.03	0.58
36:BA:57:C:O2'	36:BA:58:G:H5'	2.03	0.58
48:BP:136:GLU:O	48:BP:139:LYS:HB3	2.03	0.58
46:BN:78:TYR:N	46:BN:78:TYR:CD1	2.72	0.58
3:AC:95:THR:HG22	3:AC:97:LYS:HB2	1.85	0.58
19:AS:16:LEU:C	19:AS:18:LYS:H	2.08	0.58
39:BD:241:PRO:O	39:BD:243:GLY:N	2.37	0.58
42:BG:34:LEU:N	42:BG:172:LEU:HD11	2.19	0.58
53:BU:90:VAL:CG1	53:BU:91:ASP:H	2.14	0.58
43:BH:37:VAL:HG12	43:BH:38:SER:H	1.68	0.58
36:BA:1462:C:H4'	36:BA:2703:C:C5'	2.30	0.58
1:AA:197:A:C6	1:AA:221:C:H4'	2.39	0.58
36:BA:898:C:C2'	36:BA:899:A:H5'	2.32	0.58
48:BP:81:GLN:NE2	48:BP:106:LEU:HA	2.19	0.58
42:BG:57:ALA:CA	42:BG:90:LEU:HD21	2.34	0.58
3:AC:16:ARG:CA	3:AC:16:ARG:HH11	2.16	0.58
36:BA:614(A):U:H4'	36:BA:614(B):G:C5'	2.34	0.58
54:BV:19:LYS:HA	54:BV:19:LYS:HE2	1.85	0.58
40:BE:108:SER:OG	40:BE:163:GLU:HG2	2.04	0.58
51:BS:88:ASP:OD2	51:BS:89:ARG:N	2.36	0.58
36:BA:886:C:O2'	36:BA:887:A:H4'	2.04	0.58
2:AB:20:GLU:HG3	2:AB:191:ASP:HB2	1.86	0.58
4:AD:110:PHE:HZ	4:AD:182:LYS:O	1.87	0.58
36:BA:145:G:H2'	36:BA:146:G:H5''	1.84	0.58
1:AA:67:C:H2'	1:AA:68:G:H8	1.68	0.58
5:AE:147:ASP:HB3	5:AE:150:ARG:HH12	1.69	0.58
4:AD:73:ARG:O	4:AD:77:ASN:HB2	2.04	0.58
4:AD:53:ASP:O	4:AD:57:ARG:HG3	2.03	0.58
59:AA:1601:PAR:H43	59:AA:1601:PAR:H642	1.85	0.58
25:AZ:36:ALA:O	25:AZ:39:ASN:O	2.22	0.58
36:BA:1155:A:O2'	36:BA:1156:A:H2'	2.04	0.58
24:AY:54:5MU:OP2	24:AY:54:5MU:H71	2.04	0.58
36:BA:528:A:C2	36:BA:2043:C:H4'	2.38	0.58
3:AC:86:VAL:O	3:AC:89:GLU:HB3	2.03	0.58
47:BO:120:GLU:HG2	47:BO:122:LEU:HD21	1.84	0.58
36:BA:2129:C:OP1	38:BC:4:GLY:HA3	2.04	0.57
58:BZ:17:ALA:HA	58:BZ:20:ARG:HD3	1.85	0.57
25:AZ:130:TYR:CE2	25:AZ:211:PRO:HD3	2.39	0.57
36:BA:266:G:C3'	36:BA:267:C:H5''	2.34	0.57
9:AI:65:VAL:HG21	9:AI:73:GLN:HB3	1.86	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BA:2291:U:H2'	36:BA:2292:C:C6	2.39	0.57
36:BA:2136:C:O2'	36:BA:2137:C:H5'	2.04	0.57
37:BB:30:C:H1'	37:BB:57:A:H61	1.68	0.57
8:AH:103:VAL:HG21	8:AH:110:ALA:HB2	1.85	0.57
49:BQ:51:ARG:O	49:BQ:55:VAL:HG12	2.04	0.57
49:BQ:136:ALA:C	49:BQ:138:ASP:H	2.07	0.57
17:AQ:10:VAL:HA	17:AQ:20:THR:O	2.03	0.57
1:AA:382:A:H2'	1:AA:383:A:H8	1.69	0.57
28:B2:47:ASN:O	28:B2:49:LYS:N	2.37	0.57
36:BA:92:A:O2'	36:BA:93:G:H5'	2.04	0.57
56:BX:84:ALA:HB1	56:BX:85:PRO:HD2	1.85	0.57
2:AB:17:PHE:CB	2:AB:44:LEU:HD11	2.35	0.57
22:AW:55:U:C5'	38:BC:164:ARG:HH12	2.12	0.57
51:BS:29:PHE:C	51:BS:29:PHE:CD2	2.75	0.57
31:B5:40:LYS:HZ1	31:B5:46:CYS:N	2.00	0.57
31:B5:50:GLY:HA3	31:B5:56:LYS:HB3	1.85	0.57
36:BA:1403:C:H5''	36:BA:1471:A:C1'	2.28	0.57
39:BD:32:SER:O	39:BD:36:PRO:CG	2.51	0.57
41:BF:175:THR:C	41:BF:176:LEU:HD12	2.24	0.57
58:BZ:149:SER:CB	58:BZ:173:ALA:HA	2.34	0.57
2:AB:112:VAL:O	2:AB:116:GLU:HG2	2.04	0.57
36:BA:104:U:H2'	36:BA:105:C:H5'	1.85	0.57
22:AW:30:G:H2'	22:AW:31:A:H8	1.69	0.57
8:AH:82:HIS:CD2	8:AH:138:TRP:NE1	2.72	0.57
36:BA:1069:A:H1'	36:BA:1070:A:P	2.45	0.57
25:AZ:55:GLU:O	25:AZ:59:ARG:N	2.37	0.57
51:BS:89:ARG:HB3	51:BS:92:TYR:CB	2.34	0.57
36:BA:2720:U:H2'	36:BA:2720:U:O2	2.03	0.57
1:AA:1033:G:H2'	1:AA:1034:G:O4'	2.04	0.57
55:BW:5:ALA:HB2	55:BW:54:ALA:CB	2.34	0.57
41:BF:31:HIS:ND1	48:BP:13:ASN:HB2	2.18	0.57
36:BA:1647:G:OP2	36:BA:1647:G:H3'	2.05	0.57
36:BA:1890:A:H2'	36:BA:1891:G:H5'	1.86	0.57
1:AA:1299:A:H5''	1:AA:1299:A:N3	2.19	0.57
42:BG:14:GLU:O	42:BG:17:PRO:HG2	2.03	0.57
53:BU:112:ARG:NH1	54:BV:46:VAL:HG21	2.20	0.57
28:B2:47:ASN:O	28:B2:50:ILE:HD13	2.04	0.57
36:BA:1598:C:H5'	56:BX:36:LYS:CD	2.35	0.57
38:BC:152:ILE:O	38:BC:152:ILE:HG22	2.05	0.57
58:BZ:28:MET:O	58:BZ:29:TYR:HB3	2.02	0.57
50:BR:56:LYS:HE3	50:BR:94:TYR:CE1	2.39	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BA:1274:A:N3	36:BA:1297:C:H1'	2.19	0.57
19:AS:62:ILE:O	19:AS:62:ILE:HG23	2.03	0.57
43:BH:41:MET:O	43:BH:42:ARG:HB3	2.05	0.57
36:BA:473:G:H5''	36:BA:508:G:N2	2.18	0.57
41:BF:177:ALA:HB1	41:BF:178:PRO:HD2	1.86	0.57
37:BB:80:U:H2'	37:BB:81:G:N2	2.16	0.57
46:BN:86:PRO:HG2	46:BN:89:LYS:CG	2.30	0.57
26:B0:20:ARG:NH1	26:B0:20:ARG:CG	2.65	0.57
6:AF:33:TYR:HD2	6:AF:75:LEU:HA	1.69	0.57
13:AM:49:THR:HB	13:AM:52:GLU:H	1.69	0.57
36:BA:1092:C:N4	36:BA:1100:C:H42	2.00	0.57
41:BF:140:LEU:O	41:BF:143:ALA:HB3	2.05	0.57
1:AA:1310:G:O2'	1:AA:1311:G:H5'	2.03	0.57
36:BA:2373:G:H2'	36:BA:2374:C:C6	2.38	0.57
25:AZ:24:LYS:HB2	25:AZ:24:LYS:NZ	2.18	0.57
57:BY:90:LEU:HG	57:BY:90:LEU:O	2.04	0.57
52:BT:134:GLU:O	52:BT:135:ALA:HB3	2.04	0.57
1:AA:1014:A:H4'	19:AS:14:HIS:CE1	2.39	0.57
29:B3:45:GLY:HA2	29:B3:48:GLU:HG3	1.85	0.57
32:B6:41:PRO:HG3	32:B6:49:HIS:HE1	1.69	0.57
57:BY:31:LEU:HD22	57:BY:31:LEU:N	2.19	0.57
57:BY:75:ILE:O	57:BY:76:CYS:HB2	2.04	0.57
1:AA:958:A:N6	19:AS:77:THR:O	2.37	0.57
51:BS:54:LEU:HD22	51:BS:58:LEU:O	2.04	0.57
26:B0:7:LEU:CD2	49:BQ:81:VAL:HG23	2.33	0.57
48:BP:90:ARG:HD2	48:BP:91:PHE:CD1	2.39	0.57
47:BO:71:ARG:NH1	47:BO:71:ARG:HG3	2.17	0.57
8:AH:1:MET:N	8:AH:1:MET:HE2	2.19	0.57
36:BA:2307:G:N3	36:BA:2307:G:H3'	2.19	0.57
36:BA:2648:C:H2'	36:BA:2649:U:H6	1.67	0.57
1:AA:1498:U:H4'	1:AA:1519:A:H2	1.65	0.57
28:B2:4:SER:HA	28:B2:7:ARG:HH11	1.70	0.57
1:AA:594:G:H2'	1:AA:595:G:H5'	1.85	0.57
36:BA:2121:G:H2'	36:BA:2122:U:C6	2.39	0.57
25:AZ:404:LEU:HD12	25:AZ:405:GLU:HG3	1.85	0.57
1:AA:767:A:H2'	1:AA:768:A:O4'	2.04	0.57
36:BA:88:G:H2'	36:BA:88:G:N3	2.19	0.57
36:BA:438:G:O2'	36:BA:440:G:H5'	2.03	0.57
36:BA:1547:C:O2'	36:BA:1548:C:H5'	2.05	0.57
32:B6:13:CYS:HB2	32:B6:22:ALA:CB	2.33	0.57
38:BC:6:ARG:HD2	38:BC:34:THR:O	2.05	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:BH:85:LYS:HE2	43:BH:85:LYS:O	2.04	0.57
22:AW:55:U:H5''	38:BC:164:ARG:NH1	2.10	0.57
51:BS:30:ARG:HH22	51:BS:62:LYS:CG	2.17	0.57
36:BA:1999:C:H4'	36:BA:2723:C:O2	2.03	0.57
39:BD:26:LYS:O	39:BD:27:THR:HG22	2.04	0.57
52:BT:11:GLU:CD	52:BT:11:GLU:N	2.55	0.57
38:BC:53:ARG:HH11	38:BC:53:ARG:CB	2.14	0.57
42:BG:86:MET:N	42:BG:87:PRO:HD2	2.20	0.57
1:AA:192:U:O4'	20:AT:103:GLY:HA2	2.05	0.57
4:AD:33:MET:O	4:AD:37:PRO:HG3	2.04	0.57
8:AH:82:HIS:CD2	8:AH:138:TRP:HE1	2.23	0.57
1:AA:1441:G:H5''	1:AA:1442:G:O4'	2.04	0.57
55:BW:52:GLU:C	55:BW:54:ALA:H	2.08	0.57
49:BQ:67:ARG:HD3	49:BQ:102:VAL:HG12	1.86	0.57
39:BD:70:TRP:HB3	39:BD:190:TYR:CE1	2.39	0.57
36:BA:2529:G:OP2	36:BA:2530:A:H8	1.87	0.57
36:BA:2345:G:H5'	36:BA:2347:C:O4'	2.05	0.57
1:AA:1513:A:H2'	1:AA:1514:C:C6	2.38	0.57
36:BA:1255:U:C5	41:BF:73:ALA:HA	2.39	0.57
36:BA:1055:G:H1'	36:BA:1084:A:N6	2.20	0.57
1:AA:655:A:H2'	1:AA:656:C:H6	1.70	0.57
25:AZ:5:PHE:HB2	25:AZ:275:LYS:HB2	1.87	0.57
1:AA:972:C:O3'	10:AJ:57:LYS:HG2	2.05	0.57
22:AW:18:G:H1	22:AW:55:U:H1'	1.69	0.57
38:BC:59:ARG:HG3	38:BC:164:ARG:CG	2.35	0.57
30:B4:9:LEU:CD1	30:B4:10:VAL:H	2.18	0.57
40:BE:111:ARG:HB3	50:BR:2:ARG:HH12	1.67	0.57
36:BA:259:G:H1'	36:BA:621:A:HO2'	1.69	0.57
17:AQ:66:SER:O	17:AQ:70:ARG:NH1	2.38	0.57
14:AN:12:ARG:HB3	14:AN:14:PRO:HD2	1.87	0.57
43:BH:102:ALA:HA	43:BH:117:PRO:HD3	1.85	0.57
15:AO:17:ARG:HG3	15:AO:17:ARG:NH1	2.19	0.57
7:AG:86:GLN:HE22	22:AW:39:U:H5	1.53	0.57
22:AV:62:C:H2'	22:AV:63:G:C8	2.39	0.57
27:B1:80:LEU:HB3	27:B1:82:LEU:CD2	2.35	0.57
36:BA:614:U:C2'	36:BA:614(A):U:H5'	2.34	0.57
39:BD:2:ALA:O	39:BD:3:VAL:HB	2.03	0.57
10:AJ:16:LEU:HD11	10:AJ:70:ARG:CG	2.33	0.57
36:BA:13:A:H61	36:BA:525:U:H3'	1.68	0.57
13:AM:15:VAL:HG23	13:AM:34:LEU:HD11	1.86	0.57
16:AP:14:ASN:N	16:AP:15:PRO:HD3	2.20	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:BQ:36:ALA:HB2	49:BQ:103:MET:HE3	1.87	0.57
36:BA:115:C:O2'	36:BA:116:C:H5'	2.05	0.57
12:AL:119:LYS:O	12:AL:120:TYR:HB2	2.04	0.57
8:AH:103:VAL:HG12	8:AH:108:GLY:HA3	1.84	0.57
1:AA:655:A:H2'	1:AA:656:C:C6	2.39	0.57
25:AZ:86:ALA:O	25:AZ:88:TYR:N	2.35	0.57
10:AJ:94:VAL:HG12	10:AJ:95:GLU:N	2.19	0.57
36:BA:645:C:H3'	36:BA:645:C:O2	2.04	0.57
52:BT:124:ASP:HB3	52:BT:125:ARG:HH12	1.68	0.57
36:BA:64:A:H2'	36:BA:65:C:O4'	2.05	0.57
57:BY:13:VAL:HG23	57:BY:74:PRO:HA	1.86	0.57
1:AA:1202:G:C2'	1:AA:1203:C:H5'	2.35	0.57
36:BA:2524:G:H5'	36:BA:2524:G:H8	1.69	0.57
58:BZ:17:ALA:CA	58:BZ:20:ARG:HG2	2.34	0.57
54:BV:22:VAL:O	54:BV:23:GLU:HB2	2.04	0.57
38:BC:78:ALA:HB3	38:BC:95:GLY:CA	2.34	0.57
36:BA:2640:G:H1	36:BA:2774:C:H42	1.51	0.57
41:BF:162:LEU:H	41:BF:162:LEU:HD12	1.70	0.57
36:BA:2206:G:H21	36:BA:2207:G:H5'	1.67	0.57
1:AA:986:A:H1'	19:AS:54:GLY:O	2.04	0.57
41:BF:62:ARG:CZ	41:BF:62:ARG:HB3	2.35	0.57
3:AC:14:ILE:O	3:AC:15:THR:CB	2.53	0.57
9:AI:47:LEU:C	9:AI:49:PRO:HD2	2.24	0.57
36:BA:2577:A:C5'	36:BA:2578:G:H5'	2.35	0.57
39:BD:224:ALA:O	39:BD:225:ALA:HB2	2.03	0.57
16:AP:25:ARG:NH1	16:AP:25:ARG:HG3	2.20	0.57
53:BU:57:PHE:C	53:BU:59:ARG:N	2.56	0.57
36:BA:19:C:O2'	36:BA:20:C:H5'	2.03	0.57
56:BX:8:ILE:N	56:BX:8:ILE:HD12	2.20	0.57
29:B3:7:LYS:O	29:B3:54:VAL:HG13	2.05	0.57
56:BX:66:LEU:HD23	56:BX:67:GLY:N	2.19	0.57
49:BQ:116:GLU:O	49:BQ:120:ILE:HG12	2.04	0.57
30:B4:42:PHE:CG	30:B4:42:PHE:O	2.57	0.57
1:AA:1240:U:H4'	7:AG:38:LEU:HD21	1.87	0.57
37:BB:98:G:O2'	37:BB:99:G:H5'	2.04	0.57
32:B6:12:GLU:HG3	32:B6:23:THR:CG2	2.35	0.57
13:AM:98:VAL:HG12	13:AM:98:VAL:O	2.05	0.57
23:AX:16:A:H2'	23:AX:17:U:H5'	1.87	0.57
36:BA:1654:A:C2	40:BE:113:PHE:HD2	2.22	0.57
10:AJ:30:SER:CA	10:AJ:80:LYS:HD3	2.33	0.57
36:BA:2188:C:H2'	36:BA:2189:U:C2	2.40	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:235:C:H5'	17:AQ:70:ARG:HG2	1.85	0.57
47:BO:64:ARG:CZ	52:BT:70:VAL:HG21	2.35	0.57
36:BA:1556:C:H2'	36:BA:1557:C:C6	2.39	0.57
36:BA:1607:C:H4'	36:BA:1608:A:O5'	2.05	0.57
7:AG:41:ARG:HG3	9:AI:41:VAL:HG21	1.86	0.57
48:BP:121:LYS:HB2	48:BP:123:LEU:CD2	2.35	0.57
16:AP:45:THR:O	16:AP:47:ASP:N	2.32	0.57
36:BA:191:A:H2'	36:BA:192:C:C6	2.40	0.57
1:AA:80:G:H3'	1:AA:81:U:C5'	2.35	0.57
36:BA:70:G:H2'	36:BA:113:G:O2'	2.05	0.57
44:BJ:25:UNK:O	44:BJ:84:UNK:HA	2.04	0.57
57:BY:13:VAL:HG22	57:BY:73:ARG:O	2.04	0.57
1:AA:963:G:H21	10:AJ:55:LYS:CE	2.17	0.57
15:AO:82:ILE:HG12	15:AO:87:ILE:HB	1.86	0.57
58:BZ:6:LYS:N	58:BZ:6:LYS:HD3	2.20	0.57
13:AM:80:ARG:NH2	19:AS:69:HIS:NE2	2.52	0.57
19:AS:47:HIS:O	19:AS:62:ILE:CG2	2.52	0.57
1:AA:1146:A:C2	1:AA:1147:C:H1'	2.39	0.57
39:BD:27:THR:HG21	39:BD:83:GLU:HG2	1.86	0.57
25:AZ:138:VAL:O	25:AZ:140:MET:N	2.36	0.57
36:BA:2298:A:H2'	36:BA:2299:G:O4'	2.04	0.57
7:AG:15:ASP:HA	7:AG:24:THR:HG22	1.86	0.57
3:AC:50:ALA:HB1	3:AC:70:VAL:HG11	1.87	0.57
2:AB:165:VAL:HG23	2:AB:166:ASP:N	2.20	0.57
1:AA:68:G:C2	1:AA:69:G:H1'	2.40	0.57
17:AQ:8:GLY:HA3	17:AQ:21:VAL:HG12	1.85	0.57
36:BA:1773:A:C2'	36:BA:1774:C:H5'	2.34	0.57
1:AA:312:C:H2'	1:AA:313:A:C8	2.40	0.57
36:BA:852:G:O2'	36:BA:853:G:H5'	2.04	0.57
36:BA:324:A:H2'	36:BA:325:G:O4'	2.05	0.57
36:BA:197:A:C8	36:BA:197:A:H5'	2.39	0.57
36:BA:1520:G:H2'	36:BA:1523:U:H5'	1.87	0.57
1:AA:737:A:H2'	1:AA:738:C:C6	2.40	0.57
7:AG:80:VAL:HG12	7:AG:81:GLY:N	2.20	0.57
27:B1:11:ARG:HB3	27:B1:11:ARG:HH11	1.70	0.57
34:B8:32:LEU:HD12	34:B8:36:LYS:HZ3	1.70	0.57
2:AB:17:PHE:CD2	2:AB:17:PHE:O	2.58	0.57
38:BC:41:VAL:CB	38:BC:175:VAL:HB	2.35	0.57
52:BT:26:ASP:HB3	52:BT:89:VAL:O	2.04	0.57
52:BT:27:THR:HG22	52:BT:49:VAL:HB	1.85	0.57
52:BT:91:ARG:O	52:BT:117:ASP:CB	2.53	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BA:686:G:H21	36:BA:788:A:H61	1.53	0.57
36:BA:2467:C:H4'	49:BQ:123:HIS:CD2	2.40	0.57
48:BP:38:GLN:O	48:BP:39:LYS:HB2	2.05	0.57
2:AB:111:ARG:NH2	2:AB:114:ARG:HG2	2.20	0.57
48:BP:125:VAL:HG13	48:BP:125:VAL:O	2.05	0.57
49:BQ:137:TYR:OH	58:BZ:81:ARG:NE	2.37	0.57
3:AC:141:VAL:HG11	3:AC:149:ALA:HB2	1.87	0.57
15:AO:17:ARG:NH1	15:AO:77:ARG:NH1	2.53	0.57
36:BA:2579:C:O2'	36:BA:2580:U:H5'	2.04	0.57
25:AZ:341:GLN:HE22	25:AZ:390:GLU:HB2	1.69	0.57
12:AL:55:VAL:CG2	12:AL:67:THR:HG23	2.35	0.57
39:BD:99:ASP:OD2	39:BD:99:ASP:O	2.22	0.57
29:B3:11:SER:HB3	36:BA:988:A:O5'	2.04	0.57
51:BS:52:SER:HB3	51:BS:55:ALA:HB3	1.86	0.57
39:BD:155:LEU:HD23	39:BD:177:LEU:HD22	1.86	0.57
58:BZ:145:GLU:OE1	58:BZ:145:GLU:HA	2.05	0.57
40:BE:45:THR:O	40:BE:46:ALA:HB2	2.05	0.57
1:AA:657:G:O2'	1:AA:658:G:H5'	2.04	0.57
42:BG:5:VAL:HG12	42:BG:6:ALA:N	2.18	0.56
48:BP:47:ASP:HB3	48:BP:49:ARG:H	1.67	0.56
2:AB:47:THR:HA	2:AB:202:PRO:HG2	1.86	0.56
38:BC:74:VAL:HA	38:BC:112:ALA:HB3	1.87	0.56
52:BT:48:ILE:N	52:BT:48:ILE:HD12	2.20	0.56
35:B9:10:ILE:O	35:B9:11:CYS:CB	2.52	0.56
31:B5:40:LYS:HE2	31:B5:46:CYS:HB3	1.86	0.56
40:BE:186:GLY:O	40:BE:187:ALA:CB	2.52	0.56
58:BZ:108:PRO:HG2	58:BZ:111:VAL:HG23	1.87	0.56
37:BB:22:U:H2'	37:BB:23:G:H8	1.70	0.56
46:BN:58:ASP:C	46:BN:60:ILE:N	2.59	0.56
36:BA:582:G:H2'	36:BA:583:G:C8	2.39	0.56
1:AA:961:U:O2'	1:AA:962:C:O5'	2.23	0.56
40:BE:9:VAL:CG1	40:BE:25:VAL:HB	2.34	0.56
36:BA:760:G:H2'	36:BA:761:A:H5'	1.87	0.56
42:BG:16:ARG:NH1	42:BG:16:ARG:HG3	2.20	0.56
41:BF:32:LEU:C	41:BF:32:LEU:HD23	2.26	0.56
36:BA:2672:G:H2'	36:BA:2673:G:H5''	1.87	0.56
4:AD:13:ARG:O	4:AD:16:GLY:N	2.31	0.56
17:AQ:59:ILE:HG22	17:AQ:71:PHE:HD1	1.68	0.56
36:BA:1473:G:H2'	36:BA:1474:C:O4'	2.04	0.56
1:AA:775:G:O2'	1:AA:776:G:H5'	2.05	0.56
1:AA:532:A:N6	1:AA:1206:G:O2'	2.37	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:BC:14:VAL:HG22	38:BC:28:LEU:HD11	1.88	0.56
36:BA:1598:C:H2'	36:BA:1599:C:H6	1.69	0.56
40:BE:34:VAL:HG13	40:BE:48:GLN:HE21	1.70	0.56
36:BA:2492:U:O2'	36:BA:2493:U:H5'	2.06	0.56
36:BA:330:A:HO2'	36:BA:331:A:H8	1.51	0.56
38:BC:175:VAL:CG2	38:BC:189:ILE:HG12	2.35	0.56
51:BS:98:VAL:HG12	51:BS:100:ALA:N	2.20	0.56
36:BA:1301:A:O2'	36:BA:1302:A:C2'	2.46	0.56
1:AA:1503:A:N3	23:AX:16:A:N6	2.52	0.56
52:BT:35:LYS:NZ	52:BT:41:ARG:HD2	2.20	0.56
40:BE:114:ALA:CB	40:BE:160:TYR:HB3	2.35	0.56
40:BE:111:ARG:HB3	50:BR:2:ARG:NH1	2.20	0.56
36:BA:1192:G:O2'	36:BA:1193:G:H5'	2.05	0.56
1:AA:1126:U:OP2	1:AA:1281:U:O2	2.23	0.56
25:AZ:317:GLU:HG3	25:AZ:402:LYS:HB2	1.87	0.56
50:BR:58:GLY:HA2	50:BR:80:PHE:CE1	2.40	0.56
54:BV:28:GLU:O	54:BV:61:VAL:HG21	2.06	0.56
16:AP:45:THR:C	16:AP:47:ASP:H	2.07	0.56
39:BD:69:ARG:NH2	39:BD:128:GLY:O	2.32	0.56
1:AA:190:U:H2'	1:AA:191:G:H8	1.70	0.56
36:BA:654(T):C:H2'	36:BA:654(U):A:O4'	2.05	0.56
5:AE:147:ASP:HB3	5:AE:150:ARG:NH1	2.20	0.56
36:BA:1056:G:C2	36:BA:1102:C:H5	2.22	0.56
36:BA:2233:U:H2'	36:BA:2234:G:C8	2.40	0.56
31:B5:10:LYS:HB2	36:BA:2017:U:O2	2.04	0.56
52:BT:120:ARG:HA	52:BT:123:GLN:HG2	1.87	0.56
39:BD:243:GLY:O	39:BD:244:ARG:HB3	2.04	0.56
42:BG:34:LEU:C	42:BG:34:LEU:HD12	2.26	0.56
54:BV:46:VAL:HG13	54:BV:46:VAL:O	2.05	0.56
34:B8:35:GLN:O	34:B8:36:LYS:HG3	2.05	0.56
57:BY:6:HIS:H	57:BY:6:HIS:CD2	2.23	0.56
15:AO:82:ILE:HD13	15:AO:82:ILE:C	2.26	0.56
54:BV:3:ALA:HB3	54:BV:14:VAL:HG23	1.85	0.56
5:AE:87:SER:HB3	5:AE:131:ILE:HD13	1.86	0.56
38:BC:75:LEU:CD1	38:BC:113:VAL:HA	2.35	0.56
36:BA:2787:C:H2'	36:BA:2787:C:O2	2.05	0.56
35:B9:35:ARG:HH11	36:BA:2742:C:P	2.28	0.56
35:B9:4:ARG:NH1	36:BA:2477:C:N3	2.53	0.56
36:BA:1301:A:HO2'	36:BA:1302:A:P	2.27	0.56
31:B5:40:LYS:HE2	31:B5:46:CYS:SG	2.44	0.56
19:AS:9:VAL:O	19:AS:11:VAL:N	2.38	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:BT:82:LEU:N	52:BT:82:LEU:HD12	2.17	0.56
52:BT:30:VAL:CG2	52:BT:84:GLN:HG3	2.35	0.56
48:BP:16:ARG:HB2	48:BP:16:ARG:CZ	2.34	0.56
48:BP:16:ARG:CB	48:BP:16:ARG:NH1	2.62	0.56
5:AE:102:ALA:HB2	5:AE:120:THR:HG21	1.87	0.56
10:AJ:32:ALA:HB3	10:AJ:76:ASN:HB2	1.85	0.56
25:AZ:317:GLU:O	25:AZ:317:GLU:HG3	2.05	0.56
1:AA:1104:G:O5'	2:AB:111:ARG:HD2	2.06	0.56
43:BH:97:ARG:HG2	43:BH:98:LEU:N	2.18	0.56
43:BH:101:ARG:O	43:BH:117:PRO:HG3	2.04	0.56
48:BP:95:VAL:HG23	48:BP:125:VAL:HG23	1.87	0.56
58:BZ:103:ARG:HG3	58:BZ:103:ARG:NH1	2.18	0.56
25:AZ:104:LEU:HD21	25:AZ:120:ILE:HD11	1.87	0.56
46:BN:28:THR:CG2	46:BN:29:LYS:N	2.68	0.56
11:AK:84:VAL:O	11:AK:85:ARG:HG3	2.05	0.56
36:BA:2886:G:H2'	36:BA:2887:U:C6	2.40	0.56
7:AG:15:ASP:HA	7:AG:24:THR:CG2	2.35	0.56
36:BA:2580:U:C5'	40:BE:131:ALA:HB2	2.35	0.56
55:BW:4:LYS:HA	55:BW:106:ILE:HG22	1.86	0.56
1:AA:1151:A:O2'	1:AA:1152:A:H8	1.88	0.56
7:AG:26:PHE:HB2	7:AG:101:LEU:HD22	1.87	0.56
25:AZ:228:VAL:HG21	25:AZ:298:VAL:HG12	1.87	0.56
12:AL:67:THR:CG2	12:AL:96:VAL:HG22	2.36	0.56
1:AA:1030:C:C2'	1:AA:1030(A):G:H5'	2.34	0.56
55:BW:34:ASN:O	55:BW:37:ARG:HB3	2.05	0.56
39:BD:186:HIS:CD2	39:BD:188:GLU:HB2	2.40	0.56
39:BD:10:THR:HG23	39:BD:13:ARG:HB3	1.87	0.56
19:AS:16:LEU:H	19:AS:16:LEU:HD12	1.69	0.56
1:AA:737:A:H2'	1:AA:738:C:H6	1.70	0.56
40:BE:44:TYR:HD2	40:BE:45:THR:O	1.87	0.56
36:BA:1056:G:H21	36:BA:1104:C:N4	2.02	0.56
38:BC:116:THR:OG1	38:BC:119:VAL:HG22	2.05	0.56
36:BA:1001:A:H2'	36:BA:1002:G:O4'	2.05	0.56
40:BE:176:ILE:HG22	40:BE:178:GLU:HB3	1.86	0.56
1:AA:140:A:O2'	1:AA:141:A:H5'	2.05	0.56
36:BA:693:C:H2'	36:BA:694:U:C6	2.40	0.56
58:BZ:54:HIS:HB3	58:BZ:101:PRO:HG3	1.87	0.56
1:AA:398:C:O2'	1:AA:399:G:H5'	2.06	0.56
36:BA:862:G:H2'	36:BA:863:A:O4'	2.05	0.56
2:AB:23:ARG:O	2:AB:23:ARG:HG3	2.05	0.56
7:AG:76:ARG:HG2	7:AG:76:ARG:HH11	1.71	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:AP:19:ILE:N	16:AP:37:GLY:O	2.32	0.56
46:BN:107:LEU:HB3	46:BN:108:PRO:HD2	1.88	0.56
1:AA:272:C:H2'	1:AA:273:A:O4'	2.06	0.56
34:B8:24:ALA:O	34:B8:46:ARG:HA	2.05	0.56
1:AA:375:U:H4'	16:AP:17:TYR:CE2	2.40	0.56
42:BG:10:LYS:HE2	42:BG:14:GLU:OE2	2.05	0.56
36:BA:1515:G:H2'	36:BA:1516:C:C6	2.40	0.56
51:BS:15:ARG:O	51:BS:18:ILE:HG13	2.05	0.56
36:BA:2124:G:H22	38:BC:218:MET:HG2	1.70	0.56
38:BC:137:LEU:HD22	38:BC:138:PRO:HD2	1.86	0.56
38:BC:212:VAL:CG1	38:BC:224:ILE:HD11	2.36	0.56
51:BS:97:ARG:NH2	51:BS:98:VAL:CA	2.62	0.56
26:B0:67:VAL:HG12	26:B0:68:GLU:N	2.19	0.56
24:AY:61:C:O2'	24:AY:62:U:H5''	2.05	0.56
13:AM:14:ARG:HG3	13:AM:44:ARG:NH1	2.21	0.56
36:BA:1140:C:OP2	46:BN:66:LYS:HE2	2.06	0.56
3:AC:134:ILE:O	3:AC:138:VAL:HG12	2.05	0.56
36:BA:2369:A:H2'	36:BA:2370:G:H8	1.70	0.56
2:AB:8:LYS:HE2	2:AB:217:ARG:NH2	2.20	0.56
57:BY:39:VAL:HG12	57:BY:40:GLU:H	1.69	0.56
36:BA:1138:G:H2'	36:BA:1139:G:O4'	2.06	0.56
27:B1:11:ARG:HB3	27:B1:12:PRO:HD2	1.86	0.56
36:BA:1056:G:H21	36:BA:1104:C:H42	1.54	0.56
5:AE:63:ARG:O	5:AE:64:ARG:HB2	2.04	0.56
7:AG:36:LYS:O	7:AG:39:ALA:HB3	2.06	0.56
25:AZ:248:LYS:HB2	25:AZ:248:LYS:NZ	2.21	0.56
1:AA:328:C:H4'	1:AA:329:A:H5'	1.87	0.56
20:AT:93:GLU:CD	20:AT:93:GLU:C	2.63	0.56
1:AA:1101:A:H4'	1:AA:1102:A:O5'	2.06	0.56
32:B6:36:LEU:HD12	32:B6:50:ARG:CZ	2.36	0.56
38:BC:26:ALA:HB1	38:BC:185:LEU:HB2	1.86	0.56
56:BX:18:TYR:HA	56:BX:21:PHE:HE1	1.66	0.56
46:BN:2:LYS:NZ	54:BV:12:TYR:HA	2.21	0.56
51:BS:54:LEU:HD23	51:BS:59:LYS:O	2.05	0.56
35:B9:1:MET:SD	36:BA:2477:C:H2'	2.46	0.56
19:AS:46:GLY:H	19:AS:62:ILE:CG2	2.10	0.56
1:AA:1503:A:HO2'	23:AX:16:A:H61	1.54	0.56
1:AA:1305:G:C5'	21:AU:4:GLY:CA	2.83	0.56
55:BW:72:LYS:CE	55:BW:108:GLY:HA3	2.30	0.56
4:AD:107:ARG:NH1	4:AD:114:ARG:HH21	2.02	0.56
48:BP:66:GLY:O	48:BP:67:MET:HB2	2.06	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BA:1863:G:H2'	36:BA:1864:U:O4'	2.05	0.56
2:AB:114:ARG:HD3	2:AB:114:ARG:O	2.05	0.56
1:AA:336:C:O2'	1:AA:337:C:H5'	2.05	0.56
42:BG:47:LYS:HG2	42:BG:81:LYS:HE2	1.88	0.56
2:AB:97:TRP:HZ2	2:AB:102:LEU:HD13	1.71	0.56
2:AB:33:TYR:O	2:AB:34:ALA:HB2	2.05	0.56
8:AH:82:HIS:HD2	8:AH:138:TRP:HE1	1.53	0.56
36:BA:2307:G:N2	36:BA:2308:G:H5'	2.19	0.56
11:AK:69:ALA:HB1	11:AK:103:LEU:CD2	2.33	0.56
5:AE:20:GLN:HG2	5:AE:21:ALA:N	2.20	0.56
27:B1:53:VAL:O	27:B1:54:ALA:HB3	2.06	0.56
1:AA:1234:C:H2'	1:AA:1235:U:C6	2.40	0.56
47:BO:96:THR:O	47:BO:97:ARG:HG2	2.06	0.56
20:AT:93:GLU:O	20:AT:95:ALA:N	2.37	0.56
2:AB:50:GLU:O	2:AB:53:ARG:N	2.38	0.56
36:BA:1932:A:H2'	36:BA:1933:G:O4'	2.06	0.56
36:BA:1596:A:O2'	36:BA:1597:A:H5'	2.05	0.56
31:B5:43:HIS:N	31:B5:43:HIS:CD2	2.74	0.56
36:BA:608:A:H2'	36:BA:609:A:C8	2.39	0.56
36:BA:479:A:OP1	57:BY:34:LYS:NZ	2.38	0.56
57:BY:75:ILE:HD12	57:BY:79:CYS:CA	2.25	0.56
36:BA:850:C:O2'	36:BA:851:U:H5'	2.06	0.56
58:BZ:18:LEU:O	58:BZ:21:ALA:HB3	2.06	0.56
38:BC:41:VAL:CG1	38:BC:43:VAL:HG23	2.34	0.56
34:B8:3:LYS:HD3	36:BA:242:G:O5'	2.05	0.56
1:AA:1116:C:H2'	1:AA:1117:G:C5'	2.28	0.56
10:AJ:35:SER:OG	10:AJ:73:ASP:HB2	2.05	0.56
30:B4:9:LEU:HD12	30:B4:10:VAL:H	1.71	0.56
41:BF:158:THR:O	41:BF:160:ASN:N	2.32	0.56
7:AG:79:ARG:NH2	22:AW:33:U:H4'	2.19	0.56
46:BN:13:TRP:O	46:BN:135:PRO:HD2	2.06	0.56
58:BZ:103:ARG:HG3	58:BZ:103:ARG:HH11	1.70	0.56
36:BA:761:A:H3'	36:BA:761:A:C8	2.40	0.56
25:AZ:171:ILE:HD12	25:AZ:171:ILE:H	1.69	0.56
8:AH:7:ALA:CB	8:AH:85:ARG:HD3	2.35	0.56
9:AI:48:GLU:N	9:AI:49:PRO:CD	2.68	0.56
46:BN:44:PRO:O	46:BN:45:ASN:CB	2.53	0.56
1:AA:918:A:H2'	1:AA:919:A:H8	1.67	0.56
2:AB:165:VAL:HG23	2:AB:166:ASP:H	1.69	0.56
39:BD:70:TRP:CH2	39:BD:150:LYS:HA	2.41	0.56
36:BA:1374:G:H2'	36:BA:1375:C:C6	2.40	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BA:2231:C:H2'	36:BA:2232:U:C6	2.40	0.56
27:B1:75:GLU:OE1	27:B1:75:GLU:HA	2.05	0.56
36:BA:1316:U:H2'	36:BA:1317:A:C8	2.40	0.56
36:BA:1796:U:H2'	36:BA:1797:C:C6	2.40	0.56
45:BK:90:UNK:O	45:BK:95:UNK:HA	2.06	0.56
36:BA:1567:A:H5'	39:BD:58:HIS:CD2	2.40	0.56
49:BQ:43:THR:OG1	49:BQ:46:GLN:HB2	2.05	0.56
1:AA:56:U:H2'	1:AA:57:G:C8	2.40	0.56
42:BG:107:LEU:HD21	42:BG:178:PHE:CE1	2.41	0.56
40:BE:1:MET:H2	40:BE:84:PHE:HD2	1.52	0.56
38:BC:163:PHE:O	38:BC:164:ARG:HB2	2.05	0.56
34:B8:4:MET:HE2	36:BA:592:G:N3	2.21	0.56
36:BA:1297:C:OP1	36:BA:2710:C:H4'	2.05	0.56
43:BH:18:GLU:HB2	43:BH:25:LYS:N	2.20	0.56
51:BS:40:ILE:HB	51:BS:46:VAL:O	2.06	0.56
2:AB:21:ARG:HD2	2:AB:39:ILE:HG12	1.86	0.56
36:BA:1529:G:N1	36:BA:1541:G:N2	2.53	0.56
9:AI:81:ILE:O	9:AI:85:LEU:HG	2.06	0.56
43:BH:98:LEU:HD22	43:BH:125:VAL:HG23	1.86	0.56
7:AG:113:GLU:HG3	7:AG:119:ARG:HG2	1.88	0.56
36:BA:744:G:OP1	40:BE:132:HIS:HB3	2.05	0.56
39:BD:142:VAL:HG23	39:BD:192:THR:C	2.26	0.56
1:AA:1166:G:N2	1:AA:1169:A:H3'	2.19	0.56
41:BF:118:ALA:HA	41:BF:123:LEU:CB	2.35	0.56
40:BE:3:GLY:O	40:BE:4:ILE:HB	2.06	0.56
2:AB:236:TYR:H	2:AB:236:TYR:HD1	1.51	0.56
39:BD:9:TYR:CZ	39:BD:13:ARG:HD3	2.40	0.56
1:AA:1484:C:O2'	36:BA:1961:C:H5'	2.05	0.56
25:AZ:125:GLN:NE2	25:AZ:323:LEU:HD11	2.21	0.56
45:BK:82:UNK:CB	45:BK:98:UNK:H	2.19	0.56
36:BA:2240:C:O2'	36:BA:2241:A:H5'	2.06	0.56
36:BA:669:G:H2'	36:BA:669:G:N3	2.21	0.56
43:BH:33:LEU:HD12	43:BH:75:ALA:HA	1.87	0.56
36:BA:2393:A:H5'	48:BP:62:LEU:HB3	1.88	0.56
36:BA:301:G:OP2	57:BY:97:ARG:NH1	2.39	0.56
36:BA:336:C:H2'	36:BA:337:C:H6	1.71	0.56
25:AZ:66:ALA:O	25:AZ:67:HIS:CG	2.59	0.56
22:AV:46:G:C3'	22:AV:47:U:H5''	2.10	0.56
25:AZ:13:ASN:ND2	25:AZ:241:ARG:HG3	2.21	0.56
41:BF:185:ASP:HA	41:BF:188:ARG:HG2	1.87	0.56
38:BC:175:VAL:HG21	38:BC:189:ILE:CG1	2.34	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:BS:61:ASN:O	51:BS:62:LYS:CB	2.54	0.56
35:B9:31:LYS:O	35:B9:32:HIS:HD2	1.88	0.56
41:BF:7:TYR:CD2	41:BF:16:GLY:HA3	2.40	0.56
31:B5:36:CYS:SG	31:B5:49:CYS:SG	3.03	0.56
48:BP:146:VAL:HG13	48:BP:147:LEU:N	2.21	0.56
41:BF:103:LYS:HA	41:BF:106:ARG:HE	1.71	0.56
57:BY:95:LYS:HG3	57:BY:101:LYS:N	2.21	0.56
1:AA:976:G:H5'	1:AA:1358:U:O2'	2.06	0.56
25:AZ:338:TYR:HD2	25:AZ:353:VAL:HG21	1.70	0.56
26:B0:43:THR:HG21	36:BA:2336:A:H61	1.71	0.56
41:BF:90:PHE:O	41:BF:91:GLY:O	2.23	0.56
36:BA:271(F):C:O2'	36:BA:271(G):C:H5'	2.06	0.56
1:AA:29:G:C2'	1:AA:30:U:H5'	2.36	0.56
25:AZ:257:GLY:O	25:AZ:302:GLN:HB3	2.06	0.56
36:BA:875:G:H2'	36:BA:876:C:H6	1.69	0.56
14:AN:15:LYS:HB3	14:AN:16:PHE:CD2	2.40	0.56
49:BQ:110:THR:HG23	49:BQ:113:GLN:HG3	1.88	0.56
49:BQ:66:ILE:HG13	49:BQ:66:ILE:O	2.04	0.56
1:AA:513:C:H2'	1:AA:514:C:H6	1.68	0.56
42:BG:33:ARG:H	42:BG:162:THR:HB	1.70	0.56
40:BE:68:ALA:C	40:BE:70:ALA:H	2.09	0.56
42:BG:58:GLN:O	42:BG:62:LEU:HD13	2.06	0.56
4:AD:109:GLY:O	4:AD:161:ASN:HB3	2.06	0.56
53:BU:108:GLU:O	53:BU:112:ARG:HG2	2.06	0.56
28:B2:48:HIS:CD2	36:BA:96:G:H4'	2.41	0.56
57:BY:6:HIS:H	57:BY:6:HIS:HD2	1.54	0.56
38:BC:6:ARG:O	38:BC:10:LEU:CD2	2.54	0.56
38:BC:25:ALA:O	38:BC:29:VAL:HG13	2.05	0.56
56:BX:26:TYR:HD2	56:BX:92:LEU:HD12	1.70	0.56
36:BA:2893:G:H5'	36:BA:2894:G:C5'	2.23	0.56
50:BR:102:GLU:O	50:BR:103:ARG:C	2.43	0.56
1:AA:1004:A:N6	1:AA:1035:A:C5	2.74	0.56
36:BA:1568:G:OP2	39:BD:63:ARG:NH2	2.39	0.56
39:BD:35:LYS:N	39:BD:36:PRO:CD	2.65	0.56
7:AG:65:ALA:CB	7:AG:124:LEU:HD23	2.36	0.56
13:AM:19:LEU:O	13:AM:22:ILE:HD13	2.06	0.56
7:AG:52:GLU:O	7:AG:53:LYS:C	2.44	0.56
36:BA:2133:G:H1'	36:BA:2158:A:N6	2.20	0.56
53:BU:66:ASN:ND2	53:BU:76:TYR:HB2	2.20	0.56
37:BB:15:A:H3'	37:BB:16:G:C5'	2.35	0.56
27:B1:27:GLU:HG3	27:B1:28:GLY:N	2.21	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:BQ:79:LEU:HD23	49:BQ:80:GLU:N	2.20	0.56
36:BA:320:A:H2'	41:BF:136:THR:OG1	2.05	0.56
1:AA:1258:G:O2'	1:AA:1259:C:H5'	2.06	0.56
35:B9:16:VAL:HG11	36:BA:1032:A:H4'	1.86	0.56
25:AZ:65:THR:HG22	25:AZ:82:CYS:HA	1.87	0.56
36:BA:1240:U:O2'	36:BA:1241:A:H5'	2.06	0.56
51:BS:66:ALA:HA	51:BS:69:VAL:HG12	1.86	0.56
36:BA:810:U:OP1	36:BA:1253:A:N7	2.39	0.56
19:AS:50:ALA:HB1	19:AS:57:HIS:HB3	1.86	0.56
11:AK:108:ILE:N	11:AK:108:ILE:HD12	2.20	0.56
56:BX:30:VAL:HG11	56:BX:39:ILE:CD1	2.35	0.56
36:BA:7:G:HO2'	46:BN:13:TRP:HZ2	1.54	0.56
1:AA:1112:C:O2	3:AC:179:ARG:HG3	2.06	0.56
4:AD:8:VAL:HB	4:AD:21:LEU:HD12	1.87	0.56
36:BA:1333:C:O5'	36:BA:1333:C:H6	1.89	0.56
49:BQ:32:TYR:O	49:BQ:105:GLU:HB2	2.05	0.56
36:BA:523:C:O2'	36:BA:524:U:H5'	2.06	0.56
28:B2:7:ARG:HH11	28:B2:7:ARG:HG2	1.70	0.56
43:BH:152:ARG:O	43:BH:162:ILE:HG22	2.06	0.56
5:AE:11:ILE:CG2	5:AE:105:VAL:HG22	2.36	0.56
40:BE:65:GLY:HA2	40:BE:70:ALA:CB	2.36	0.56
27:B1:27:GLU:CG	27:B1:28:GLY:H	2.19	0.56
33:B7:7:PRO:HG3	36:BA:1612:C:H5'	1.87	0.56
58:BZ:67:LEU:HD12	58:BZ:67:LEU:N	2.21	0.56
35:B9:13:LYS:HD2	35:B9:28:GLU:HB2	1.88	0.56
16:AP:82:GLN:O	16:AP:83:GLU:HB2	2.05	0.56
32:B6:10:LEU:HD12	34:B8:34:TRP:CD1	2.40	0.55
32:B6:11:LEU:HD21	32:B6:51:GLU:HG2	1.87	0.55
32:B6:15:GLU:OE1	32:B6:18:ARG:CD	2.54	0.55
57:BY:13:VAL:CG1	57:BY:28:LYS:HD3	2.36	0.55
34:B8:50:LEU:N	34:B8:53:PRO:HD3	2.18	0.55
14:AN:32:SER:CB	14:AN:41:ARG:HG2	2.33	0.55
41:BF:170:LEU:HD13	41:BF:171:PRO:HD2	1.87	0.55
2:AB:42:ILE:CD1	2:AB:202:PRO:HB2	2.36	0.55
38:BC:124:GLY:O	38:BC:128:GLY:HA3	2.06	0.55
52:BT:28:VAL:HG13	52:BT:46:GLU:CA	2.34	0.55
52:BT:27:THR:HG21	52:BT:49:VAL:HB	1.88	0.55
52:BT:96:ARG:HH11	52:BT:96:ARG:HB2	1.70	0.55
26:B0:69:PHE:HB2	36:BA:857:C:OP2	2.07	0.55
41:BF:107:LYS:O	41:BF:110:LEU:N	2.39	0.55
1:AA:197:A:H4'	1:AA:198:G:O5'	2.06	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:BF:155:LEU:HD12	41:BF:174:VAL:O	2.06	0.55
36:BA:1448:G:H1'	36:BA:1528:A:N6	2.21	0.55
36:BA:1528(A):A:C8	36:BA:1529:G:C8	2.95	0.55
9:AI:95:LYS:NZ	9:AI:96:LEU:HD13	2.21	0.55
46:BN:3:THR:HG22	46:BN:4:TYR:N	2.17	0.55
48:BP:144:GLU:N	48:BP:145:PRO:HD3	2.21	0.55
27:B1:80:LEU:HD13	27:B1:82:LEU:HD21	1.87	0.55
36:BA:1722:A:C2	36:BA:1740:G:H8	2.24	0.55
1:AA:1152:A:OP1	10:AJ:68:HIS:HD2	1.88	0.55
39:BD:117:VAL:HG21	39:BD:128:GLY:C	2.26	0.55
1:AA:983:A:O2'	1:AA:1050:G:OP2	2.24	0.55
13:AM:29:ARG:O	13:AM:32:GLU:HB3	2.06	0.55
1:AA:169:C:H2'	1:AA:170:U:H5'	1.87	0.55
2:AB:193:ASP:OD2	2:AB:193:ASP:O	2.23	0.55
40:BE:146:THR:HA	40:BE:147:PRO:C	2.26	0.55
25:AZ:46:ASP:OD1	25:AZ:183:HIS:HE1	1.89	0.55
36:BA:2472:G:H3'	36:BA:2475:C:N4	2.21	0.55
36:BA:1173:G:H5'	36:BA:1174:A:O5'	2.06	0.55
1:AA:61:G:H2'	1:AA:62:U:O4'	2.06	0.55
12:AL:86:ARG:O	12:AL:86:ARG:HG2	2.05	0.55
42:BG:171:ALA:HA	42:BG:174:GLU:HB3	1.87	0.55
53:BU:24:TYR:CB	53:BU:29:SER:HB3	2.16	0.55
32:B6:19:ARG:CG	32:B6:20:ASN:N	2.69	0.55
36:BA:310:A:P	57:BY:18:GLY:HA2	2.47	0.55
36:BA:1349:A:N6	36:BA:1598:C:N4	2.54	0.55
36:BA:2839:G:H2'	36:BA:2840:C:C6	2.41	0.55
1:AA:1120:G:H2'	1:AA:1121:U:C6	2.39	0.55
41:BF:202:PHE:CE2	41:BF:206:ILE:HG13	2.41	0.55
25:AZ:321:TYR:HD1	25:AZ:367:ASN:HD22	1.54	0.55
36:BA:77:C:H2'	36:BA:78:A:C8	2.42	0.55
57:BY:2:ARG:CD	57:BY:3:VAL:HG23	2.37	0.55
36:BA:1010:A:H1'	36:BA:1153:C:C1'	2.34	0.55
11:AK:59:TYR:CE1	11:AK:63:LEU:HD21	2.41	0.55
1:AA:454:C:H5''	1:AA:455:C:C5	2.41	0.55
36:BA:2133:G:H1'	36:BA:2158:A:H61	1.72	0.55
40:BE:4:ILE:HG23	40:BE:4:ILE:O	2.06	0.55
36:BA:1106:G:H2'	36:BA:1107:G:O4'	2.05	0.55
4:AD:103:ASN:O	4:AD:106:TYR:HB3	2.07	0.55
53:BU:34:LYS:HE2	53:BU:34:LYS:HA	1.88	0.55
29:B3:23:LEU:CD2	29:B3:50:VAL:HG11	2.36	0.55
36:BA:2195:C:O2'	36:BA:2196:C:H5'	2.06	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BA:2295:C:H2'	36:BA:2296:U:H6	1.72	0.55
1:AA:909:A:OP1	12:AL:21:LYS:HD3	2.06	0.55
42:BG:37:VAL:HG21	42:BG:103:LEU:HD12	1.88	0.55
36:BA:2126:A:H1'	36:BA:2127:G:C8	2.41	0.55
38:BC:10:LEU:N	38:BC:10:LEU:HD22	2.21	0.55
51:BS:15:ARG:NH1	51:BS:18:ILE:HD11	2.19	0.55
38:BC:164:ARG:C	38:BC:171:ILE:HD12	2.25	0.55
2:AB:60:ASP:CB	2:AB:64:ARG:HH21	2.18	0.55
19:AS:41:VAL:HG23	19:AS:44:MET:HG2	1.88	0.55
19:AS:62:ILE:HD12	19:AS:66:MET:HG3	1.87	0.55
1:AA:1305:G:C5'	21:AU:4:GLY:C	2.75	0.55
48:BP:24:GLY:O	48:BP:25:SER:HB3	2.06	0.55
19:AS:28:LYS:HE2	19:AS:29:ARG:CZ	2.36	0.55
38:BC:51:PRO:HG2	38:BC:52:ARG:H	1.72	0.55
26:B0:41:ARG:O	26:B0:42:GLY:C	2.44	0.55
13:AM:23:TYR:HB3	13:AM:67:GLU:HB3	1.87	0.55
16:AP:21:VAL:CG1	16:AP:34:GLU:HB3	2.36	0.55
46:BN:35:ARG:NH2	46:BN:42:TRP:HH2	2.04	0.55
12:AL:8:ASN:ND2	17:AQ:34:LYS:HE2	2.21	0.55
1:AA:1429:C:H2'	1:AA:1430:C:H6	1.71	0.55
27:B1:4:VAL:HG23	27:B1:11:ARG:HG2	1.89	0.55
36:BA:43:A:O2'	36:BA:44:G:H5'	2.06	0.55
18:AR:36:ASN:HB2	18:AR:39:VAL:HG23	1.89	0.55
39:BD:242:ARG:HD2	39:BD:242:ARG:N	2.21	0.55
1:AA:368:U:P	25:AZ:291:ARG:HH11	2.29	0.55
36:BA:628:G:O2'	36:BA:629:G:H5''	2.05	0.55
31:B5:48:GLU:O	31:B5:49:CYS:CB	2.54	0.55
41:BF:9:ILE:HG12	41:BF:14:PRO:CA	2.30	0.55
30:B4:9:LEU:O	30:B4:10:VAL:HB	2.07	0.55
31:B5:2:ALA:HA	36:BA:2015:A:C1'	2.30	0.55
31:B5:2:ALA:CA	36:BA:2015:A:H1'	2.30	0.55
19:AS:49:ILE:O	19:AS:60:VAL:HG13	2.06	0.55
36:BA:671:C:H2'	36:BA:672:C:C6	2.42	0.55
2:AB:111:ARG:O	2:AB:145:LEU:HD11	2.07	0.55
1:AA:714:G:H2'	1:AA:715:A:C8	2.41	0.55
46:BN:22:THR:OG1	46:BN:25:ARG:HB2	2.06	0.55
36:BA:723:G:H2'	36:BA:724:U:H6	1.66	0.55
26:B0:40:GLN:HE22	26:B0:43:THR:HA	1.72	0.55
20:AT:100:ILE:C	20:AT:102:GLY:H	2.10	0.55
3:AC:130:VAL:HG12	3:AC:134:ILE:HD11	1.87	0.55
36:BA:1188:U:H4'	54:BV:79:VAL:CG1	2.37	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:BE:108:SER:O	40:BE:162:ALA:HA	2.07	0.55
36:BA:1064:C:C3'	36:BA:1065:U:H5''	2.37	0.55
1:AA:1019:C:O2'	1:AA:1020:U:H5'	2.05	0.55
36:BA:2469:A:N3	36:BA:2469:A:H5'	2.22	0.55
25:AZ:298:VAL:HA	25:AZ:302:GLN:OE1	2.06	0.55
2:AB:8:LYS:O	2:AB:10:LEU:N	2.40	0.55
1:AA:189(J):G:O2'	1:AA:189(K):U:H5'	2.06	0.55
39:BD:9:TYR:C	39:BD:10:THR:HG22	2.27	0.55
15:AO:32:LEU:HD12	15:AO:63:ARG:HB2	1.87	0.55
55:BW:21:VAL:C	55:BW:23:LEU:H	2.08	0.55
36:BA:1429:G:H2'	36:BA:1430:C:C6	2.40	0.55
25:AZ:133:VAL:HG12	25:AZ:134:PHE:N	2.22	0.55
24:AY:68:C:H2'	24:AY:69:C:C6	2.41	0.55
54:BV:38:LEU:C	54:BV:39:LEU:HD13	2.27	0.55
54:BV:39:LEU:N	54:BV:39:LEU:HD22	2.22	0.55
19:AS:19:VAL:O	19:AS:23:ASN:HB2	2.06	0.55
19:AS:43:GLU:C	19:AS:45:VAL:N	2.57	0.55
36:BA:2791:C:H41	36:BA:2801(A):A:H62	1.53	0.55
48:BP:24:GLY:CA	48:BP:33:ARG:NH1	2.67	0.55
41:BF:126:VAL:HG21	41:BF:129:PHE:CZ	2.42	0.55
43:BH:139:GLN:O	43:BH:143:GLN:HB2	2.06	0.55
53:BU:9:VAL:O	53:BU:13:LYS:HG2	2.05	0.55
3:AC:153:VAL:O	3:AC:154:SER:CB	2.54	0.55
4:AD:61:LYS:CE	4:AD:62:GLN:NE2	2.68	0.55
5:AE:41:VAL:HG13	5:AE:113:ALA:HA	1.89	0.55
25:AZ:341:GLN:N	25:AZ:341:GLN:NE2	2.53	0.55
1:AA:1498:U:C4'	1:AA:1519:A:H2	2.19	0.55
1:AA:1234:C:H2'	1:AA:1235:U:H6	1.71	0.55
3:AC:60:ALA:HB3	3:AC:63:ASN:ND2	2.22	0.55
37:BB:56:G:H4'	37:BB:57:A:O5'	2.06	0.55
34:B8:14:VAL:HG21	34:B8:22:VAL:HG12	1.89	0.55
39:BD:72:LYS:HD2	39:BD:103:ARG:HH11	1.71	0.55
36:BA:71:A:H5''	36:BA:73:A:C8	2.41	0.55
1:AA:1443:G:N3	1:AA:1443:G:H2'	2.21	0.55
1:AA:189(I):G:H2'	1:AA:189(J):G:C8	2.42	0.55
36:BA:64:A:C2	56:BX:66:LEU:HD13	2.42	0.55
36:BA:1831:G:H2'	36:BA:1832:C:C6	2.42	0.55
53:BU:38:THR:O	53:BU:41:ALA:HB3	2.06	0.55
36:BA:2078:C:H2'	36:BA:2079:U:C6	2.42	0.55
36:BA:880:G:H1	36:BA:897:C:H42	1.55	0.55
1:AA:735:C:H2'	1:AA:736:C:H6	1.70	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:370:C:O2'	1:AA:371:G:H5'	2.06	0.55
36:BA:1551:C:H2'	36:BA:1552:G:O4'	2.07	0.55
42:BG:110:ALA:HB2	42:BG:140:ILE:HD13	1.89	0.55
12:AL:47:LYS:CB	12:AL:48:PRO:CD	2.74	0.55
32:B6:19:ARG:O	32:B6:20:ASN:O	2.25	0.55
36:BA:1349:A:N6	36:BA:1598:C:H42	2.05	0.55
36:BA:2024:G:H2'	36:BA:2025:C:C6	2.42	0.55
38:BC:132:GLY:N	38:BC:133:PRO:CD	2.69	0.55
51:BS:66:ALA:CB	51:BS:99:LYS:HD3	2.37	0.55
52:BT:46:GLU:O	52:BT:65:LYS:HD2	2.07	0.55
51:BS:106:ARG:O	51:BS:106:ARG:HD2	2.07	0.55
36:BA:2185:C:H2'	36:BA:2186:G:C5'	2.34	0.55
46:BN:94:HIS:HA	46:BN:96:GLU:OE1	2.07	0.55
26:B0:36:ILE:HA	26:B0:60:PHE:HA	1.88	0.55
3:AC:131:ARG:HH11	3:AC:166:GLU:HG3	1.72	0.55
8:AH:89:PRO:HA	8:AH:92:ARG:HH11	1.71	0.55
36:BA:598:G:H2'	36:BA:599:G:O4'	2.07	0.55
16:AP:67:THR:HG22	16:AP:68:ASP:N	2.21	0.55
46:BN:108:PRO:HG2	46:BN:113:GLY:HA3	1.88	0.55
49:BQ:109:VAL:HG13	49:BQ:113:GLN:OE1	2.06	0.55
58:BZ:30:ASN:O	58:BZ:32:HIS:N	2.40	0.55
44:BJ:23:UNK:HA	44:BJ:118:UNK:CB	2.36	0.55
11:AK:17:GLY:O	11:AK:80:VAL:HA	2.06	0.55
36:BA:341:G:O2'	36:BA:342:G:H5'	2.06	0.55
42:BG:107:LEU:HD22	42:BG:177:GLY:O	2.05	0.55
53:BU:85:LYS:CD	53:BU:117:GLN:HE22	2.20	0.55
32:B6:5:VAL:O	32:B6:6:ARG:HB2	2.07	0.55
36:BA:61:G:H1	36:BA:94:C:N4	1.97	0.55
36:BA:337:C:OP1	57:BY:6:HIS:O	2.25	0.55
36:BA:1858:G:O2'	36:BA:1884:A:N6	2.39	0.55
40:BE:197:ILE:HD11	40:BE:199:ARG:NH2	2.22	0.55
51:BS:65:VAL:O	51:BS:69:VAL:HG12	2.06	0.55
36:BA:2717:G:O2'	52:BT:96:ARG:HD3	2.07	0.55
19:AS:41:VAL:CG2	19:AS:44:MET:HG2	2.36	0.55
39:BD:35:LYS:CB	39:BD:63:ARG:HA	2.36	0.55
37:BB:114:C:H2'	37:BB:115:G:H8	1.71	0.55
36:BA:610:G:N2	36:BA:619:G:H1'	2.22	0.55
22:AV:4:C:H2'	22:AV:5:G:C5'	2.33	0.55
1:AA:269:C:H2'	1:AA:270:A:H8	1.71	0.55
25:AZ:161:TYR:O	25:AZ:162:GLU:HB2	2.07	0.55
12:AL:24:VAL:CG1	12:AL:24:VAL:O	2.54	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:BN:28:THR:CG2	46:BN:29:LYS:H	2.18	0.55
42:BG:16:ARG:HD3	42:BG:31:VAL:HG21	1.87	0.55
49:BQ:32:TYR:CE2	49:BQ:111:GLU:HG3	2.40	0.55
50:BR:11:ASN:O	50:BR:12:ARG:CB	2.55	0.55
36:BA:2363:C:O2'	36:BA:2364:C:H5'	2.06	0.55
25:AZ:145:GLU:O	25:AZ:145:GLU:CG	2.54	0.55
36:BA:2854:G:H2'	36:BA:2855:C:H6	1.71	0.55
41:BF:137:LYS:HA	41:BF:140:LEU:HB3	1.87	0.55
1:AA:575:G:H4'	1:AA:576:G:C5'	2.37	0.55
49:BQ:70:PRO:HA	49:BQ:94:VAL:O	2.07	0.55
39:BD:218:ARG:HG3	39:BD:218:ARG:HH11	1.71	0.55
1:AA:1270:C:H5''	1:AA:1270:C:H6	1.72	0.55
1:AA:1525:G:O2'	1:AA:1526:G:H5'	2.07	0.55
24:AY:1:A:C5'	25:AZ:90:LYS:NZ	2.58	0.55
42:BG:103:LEU:HD21	42:BG:178:PHE:HZ	1.70	0.55
42:BG:36:LYS:HD3	42:BG:38:VAL:HG23	1.89	0.55
36:BA:654(M):C:H2'	36:BA:654(N):G:N7	2.21	0.55
32:B6:15:GLU:CD	32:B6:18:ARG:NH2	2.60	0.55
36:BA:996:A:H61	36:BA:1159:U:H3	1.55	0.55
38:BC:215:THR:CB	38:BC:221:SER:HA	2.36	0.55
52:BT:28:VAL:HG22	52:BT:46:GLU:C	2.27	0.55
52:BT:48:ILE:C	52:BT:63:VAL:HG13	2.27	0.55
1:AA:979:C:C3'	1:AA:980:C:C5'	2.81	0.55
43:BH:98:LEU:HD12	43:BH:102:ALA:O	2.06	0.55
15:AO:29:VAL:CG1	15:AO:67:LEU:HD21	2.36	0.55
5:AE:110:LEU:HD13	5:AE:118:ILE:HD13	1.88	0.55
25:AZ:188:THR:HG22	25:AZ:188:THR:O	2.07	0.55
40:BE:81:ILE:O	40:BE:81:ILE:HG22	2.07	0.55
1:AA:1402:C:H2'	1:AA:1403:C:O4'	2.07	0.55
36:BA:894:C:C2'	36:BA:895:U:H5'	2.37	0.55
1:AA:946:A:H2'	1:AA:947:G:C8	2.41	0.55
8:AH:103:VAL:HB	8:AH:109:ILE:H	1.71	0.55
11:AK:111:ASP:OD2	11:AK:111:ASP:O	2.24	0.55
36:BA:2197:U:H1'	36:BA:2198:A:C8	2.42	0.55
36:BA:272(D):G:H1	36:BA:364:C:H42	1.52	0.55
28:B2:47:ASN:ND2	36:BA:94(A):G:N3	2.55	0.55
56:BX:12:VAL:CG2	56:BX:13:LEU:N	2.69	0.55
38:BC:171:ILE:HG12	38:BC:196:LEU:HD21	1.88	0.55
50:BR:21:TYR:OH	50:BR:43:GLU:HG2	2.07	0.55
36:BA:2839:G:H1'	50:BR:93:GLY:H	1.72	0.55
35:B9:19:ARG:C	35:B9:21:GLY:H	2.10	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:AS:40:ILE:HG22	19:AS:67:VAL:HA	1.89	0.55
49:BQ:76:LYS:CB	49:BQ:91:GLU:HG3	2.29	0.55
41:BF:195:ASP:HB3	41:BF:198:ALA:HB3	1.89	0.55
7:AG:75:VAL:HG12	7:AG:88:PRO:CB	2.31	0.55
1:AA:266:G:H5'	1:AA:268:C:H41	1.71	0.55
36:BA:803:U:O2'	36:BA:804:A:H5'	2.06	0.55
36:BA:674:G:C1'	41:BF:74:ARG:HD3	2.36	0.55
48:BP:114:ILE:CG2	48:BP:130:PHE:CD1	2.89	0.55
39:BD:60:ARG:HG3	39:BD:86:PRO:CB	2.34	0.55
9:AI:40:LEU:O	9:AI:42:ARG:N	2.38	0.55
38:BC:99:ILE:HG23	38:BC:102:LYS:HD2	1.89	0.55
55:BW:17:VAL:C	55:BW:19:LEU:N	2.58	0.55
1:AA:158:G:H2'	1:AA:159:G:C8	2.41	0.55
1:AA:1228:C:OP1	13:AM:108:ARG:NH2	2.35	0.55
1:AA:1369:C:H2'	1:AA:1370:G:C8	2.42	0.55
1:AA:1308:U:H2'	1:AA:1309:G:C8	2.42	0.55
1:AA:1329:A:P	13:AM:28:ALA:HB3	2.46	0.55
1:AA:1327:C:H5''	21:AU:20:LYS:HD3	1.89	0.55
17:AQ:60:ILE:HG23	17:AQ:62:SER:OG	2.07	0.55
1:AA:122:G:H8	1:AA:122:G:O5'	1.90	0.55
50:BR:82:GLU:O	50:BR:86:ARG:HG3	2.07	0.55
46:BN:48:MET:H	46:BN:48:MET:HE3	1.71	0.55
6:AF:74:ASP:HB3	6:AF:77:ARG:HH21	1.70	0.55
40:BE:200:GLU:N	40:BE:200:GLU:OE2	2.40	0.55
36:BA:2632:A:C2	40:BE:61:ARG:HD2	2.42	0.55
36:BA:968:G:O2'	36:BA:969:U:H5'	2.07	0.55
30:B4:7:PRO:O	30:B4:8:LYS:CB	2.55	0.55
36:BA:1568:G:P	39:BD:63:ARG:HH22	2.29	0.55
36:BA:110:G:O2'	36:BA:111:A:H5'	2.07	0.55
39:BD:267:SER:C	39:BD:269:PHE:H	2.10	0.55
43:BH:143:GLN:NE2	43:BH:143:GLN:HA	2.19	0.55
1:AA:338:A:O2'	1:AA:339:C:H5'	2.07	0.55
20:AT:47:GLY:O	20:AT:49:ALA:N	2.33	0.55
7:AG:111:ARG:HD2	7:AG:123:GLU:HB2	1.88	0.55
48:BP:92:GLU:HG3	48:BP:121:LYS:NZ	2.22	0.55
54:BV:61:VAL:HG23	54:BV:61:VAL:O	2.05	0.55
1:AA:426:G:H2'	1:AA:427:U:C6	2.42	0.55
37:BB:15:A:H1'	37:BB:110:G:C5	2.42	0.55
49:BQ:109:VAL:HG12	49:BQ:113:GLN:HB2	1.89	0.55
36:BA:2881:C:C2	36:BA:2882:A:C8	2.94	0.55
1:AA:1291:G:H4'	9:AI:39:GLY:HA3	1.89	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BA:1341:U:OP1	36:BA:1397:U:N3	2.36	0.55
36:BA:2008:C:H2'	36:BA:2009:G:H8	1.71	0.55
42:BG:60:LEU:O	42:BG:63:ILE:HG12	2.06	0.54
54:BV:40:LEU:HA	54:BV:45:THR:HB	1.89	0.54
36:BA:2174:C:H5'	38:BC:3:HIS:NE2	2.21	0.54
32:B6:33:LYS:O	32:B6:34:LEU:HB2	2.07	0.54
15:AO:82:ILE:HG23	15:AO:83:GLU:N	2.22	0.54
38:BC:186:ALA:HB1	38:BC:190:ARG:CZ	2.36	0.54
36:BA:2892:A:N7	36:BA:2893:G:N3	2.55	0.54
29:B3:35:ARG:HG2	29:B3:36:VAL:N	2.22	0.54
36:BA:968:G:H2'	36:BA:969:U:C6	2.42	0.54
48:BP:146:VAL:O	48:BP:148:LEU:HG	2.07	0.54
51:BS:106:ARG:HB3	51:BS:106:ARG:HH11	1.73	0.54
51:BS:25:ARG:NH2	51:BS:40:ILE:HD11	2.21	0.54
36:BA:813:U:H2'	36:BA:814:C:C6	2.41	0.54
50:BR:63:ARG:HG3	50:BR:80:PHE:CE2	2.40	0.54
1:AA:346:G:HO2'	1:AA:347:G:H8	1.53	0.54
3:AC:6:HIS:CD2	3:AC:8:ILE:HB	2.43	0.54
11:AK:50:TYR:OH	11:AK:59:TYR:HE2	1.90	0.54
5:AE:80:ILE:HG21	5:AE:142:LEU:HD23	1.89	0.54
39:BD:131:LEU:HB2	39:BD:136:ILE:CD1	2.37	0.54
39:BD:9:TYR:CD2	39:BD:10:THR:HG22	2.42	0.54
1:AA:414:A:H2'	1:AA:415:A:O4'	2.07	0.54
11:AK:87:THR:HG22	11:AK:88:GLY:N	2.23	0.54
42:BG:28:VAL:O	42:BG:28:VAL:HG12	2.07	0.54
30:B4:25:TYR:O	30:B4:26:SER:HB3	2.07	0.54
36:BA:2020:A:OP1	53:BU:27:LEU:HD13	2.07	0.54
36:BA:94:C:H2'	36:BA:94:C:O2	2.07	0.54
57:BY:6:HIS:N	57:BY:6:HIS:CD2	2.72	0.54
51:BS:35:ILE:HD11	51:BS:99:LYS:HE3	1.89	0.54
52:BT:28:VAL:HG22	52:BT:47:GLY:H	1.69	0.54
26:B0:26:TYR:CD1	26:B0:26:TYR:N	2.74	0.54
38:BC:100:ILE:HD12	38:BC:126:LYS:HE2	1.88	0.54
33:B7:8:ASN:ND2	33:B7:10:ARG:N	2.55	0.54
19:AS:40:ILE:HD13	19:AS:62:ILE:CD1	2.38	0.54
36:BA:1053:C:H2'	36:BA:1054:A:C8	2.39	0.54
36:BA:587:C:H4'	36:BA:588:U:OP2	2.06	0.54
25:AZ:222:LEU:HD23	25:AZ:243:GLU:HG2	1.88	0.54
36:BA:1543:C:C3'	36:BA:1544:A:H5''	2.34	0.54
46:BN:23:LEU:HB3	46:BN:60:ILE:HG21	1.87	0.54
1:AA:1216:G:OP1	14:AN:2:ALA:CB	2.56	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:344:A:O2'	1:AA:345:C:OP2	2.24	0.54
53:BU:13:LYS:NZ	53:BU:16:LYS:HZ1	2.04	0.54
3:AC:153:VAL:O	3:AC:154:SER:HB3	2.07	0.54
27:B1:17:SER:O	27:B1:37:ILE:HA	2.07	0.54
36:BA:761:A:C8	36:BA:761:A:O5'	2.60	0.54
28:B2:28:LYS:O	28:B2:53:LEU:HD21	2.07	0.54
36:BA:1605:C:O4'	36:BA:1610:A:C6	2.60	0.54
1:AA:534:U:C6	1:AA:534:U:H5'	2.41	0.54
36:BA:2672:G:C2'	36:BA:2673:G:H5''	2.37	0.54
17:AQ:91:ARG:CB	17:AQ:91:ARG:HH11	2.20	0.54
49:BQ:48:GLU:HA	49:BQ:51:ARG:HB3	1.88	0.54
20:AT:16:HIS:O	20:AT:19:SER:HB3	2.07	0.54
49:BQ:87:LYS:O	49:BQ:88:GLY:O	2.24	0.54
1:AA:319:G:O2'	1:AA:320:C:H5'	2.07	0.54
7:AG:27:ILE:HD13	7:AG:40:ALA:HA	1.88	0.54
22:AV:65:G:H2'	22:AV:66:U:C6	2.42	0.54
36:BA:315:G:H2'	36:BA:316:C:C6	2.42	0.54
36:BA:426:C:O2'	36:BA:427:U:H5'	2.07	0.54
20:AT:41:ILE:HG22	20:AT:91:LEU:CD1	2.38	0.54
24:AY:75:C:C6	25:AZ:230:THR:O	2.60	0.54
1:AA:1202:G:C2	14:AN:42:ILE:HG21	2.43	0.54
36:BA:323:G:HO2'	36:BA:1205:U:H3	1.55	0.54
38:BC:175:VAL:HG11	38:BC:189:ILE:HG13	1.89	0.54
36:BA:2787:C:C2	40:BE:61:ARG:HD3	2.42	0.54
40:BE:61:ARG:HG2	40:BE:62:PRO:HD3	1.89	0.54
52:BT:29:ARG:HE	52:BT:86:ILE:CG2	2.20	0.54
35:B9:1:MET:HA	35:B9:4:ARG:CZ	2.37	0.54
31:B5:47:PRO:C	31:B5:49:CYS:H	2.10	0.54
39:BD:63:ARG:O	39:BD:65:ILE:HD13	2.06	0.54
51:BS:49:VAL:O	51:BS:50:SER:HB3	2.07	0.54
36:BA:1528(A):A:H8	36:BA:1529:G:C8	2.24	0.54
58:BZ:108:PRO:HG2	58:BZ:111:VAL:CG2	2.38	0.54
36:BA:1682:G:H2'	36:BA:1683:C:C6	2.42	0.54
49:BQ:26:TYR:CE1	49:BQ:28:ALA:HB2	2.42	0.54
52:BT:62:THR:HG22	52:BT:75:ILE:HG23	1.90	0.54
37:BB:87:G:H5''	37:BB:88:C:OP2	2.08	0.54
27:B1:65:SER:O	27:B1:66:HIS:ND1	2.40	0.54
1:AA:1030(C):G:O2'	1:AA:1030(D):A:H5'	2.07	0.54
17:AQ:58:GLU:OE1	17:AQ:75:ARG:NE	2.41	0.54
1:AA:1236:A:H4'	1:AA:1304:G:H4'	1.90	0.54
36:BA:1400:G:H2'	36:BA:1401:G:H8	1.72	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:BH:118:PRO:HG2	43:BH:121:ILE:HD12	1.89	0.54
36:BA:1997:G:OP1	40:BE:123:ALA:HB1	2.07	0.54
36:BA:1164:G:O2'	36:BA:1165:U:H5'	2.07	0.54
1:AA:398:C:O5'	1:AA:398:C:H6	1.90	0.54
18:AR:36:ASN:C	18:AR:38:GLU:H	2.11	0.54
20:AT:37:SER:O	20:AT:41:ILE:HG12	2.08	0.54
28:B2:9:GLN:O	28:B2:13:ALA:HB2	2.06	0.54
1:AA:261:U:O2	1:AA:263:A:C8	2.61	0.54
54:BV:45:THR:O	54:BV:46:VAL:HG12	2.07	0.54
32:B6:35:GLU:HA	32:B6:35:GLU:OE1	2.07	0.54
32:B6:53:LYS:CD	32:B6:54:ILE:H	2.17	0.54
36:BA:483:A:H1'	57:BY:60:PHE:CZ	2.42	0.54
38:BC:114:VAL:HG21	38:BC:149:ILE:HD11	1.90	0.54
1:AA:1196:U:H5''	23:AX:26:A:N1	2.22	0.54
52:BT:33:LYS:NZ	52:BT:43:GLN:HG2	2.22	0.54
41:BF:160:ASN:HD21	41:BF:162:LEU:CD1	2.14	0.54
36:BA:545:C:H2'	36:BA:547:A:C8	2.42	0.54
3:AC:10:PHE:CE2	3:AC:178:LEU:HD13	2.42	0.54
36:BA:78:A:H2'	36:BA:79:G:H8	1.72	0.54
36:BA:761:A:H8	36:BA:761:A:O5'	1.91	0.54
10:AJ:40:LEU:HD23	10:AJ:69:ASN:O	2.06	0.54
46:BN:39:ARG:C	46:BN:41:ASP:H	2.09	0.54
36:BA:995:C:O4'	53:BU:57:PHE:HD1	1.90	0.54
25:AZ:342:PHE:HB2	25:AZ:344:PHE:CE1	2.42	0.54
36:BA:2538:C:H2'	36:BA:2539:C:C6	2.42	0.54
7:AG:80:VAL:HG12	7:AG:81:GLY:H	1.71	0.54
39:BD:183:ARG:HH11	39:BD:183:ARG:HG2	1.72	0.54
1:AA:1323:G:H2'	1:AA:1324:A:C8	2.43	0.54
13:AM:87:TYR:HE1	19:AS:81:ARG:NH2	2.05	0.54
36:BA:2845:G:O2'	36:BA:2846:G:H5'	2.07	0.54
51:BS:30:ARG:HH22	51:BS:62:LYS:CD	2.21	0.54
29:B3:31:LEU:O	36:BA:1158:C:H4'	2.08	0.54
35:B9:10:ILE:HD12	35:B9:10:ILE:H	1.73	0.54
1:AA:1118:C:OP1	9:AI:104:ARG:NH1	2.41	0.54
36:BA:1308:A:H2'	36:BA:1309:G:O4'	2.07	0.54
36:BA:1654:A:C2	40:BE:113:PHE:CD2	2.96	0.54
1:AA:939:G:C5'	7:AG:102:ARG:NH2	2.67	0.54
36:BA:1067:A:C3'	36:BA:1068:G:H5''	2.34	0.54
58:BZ:105:VAL:O	58:BZ:141:VAL:HG23	2.07	0.54
29:B3:19:GLN:HE22	29:B3:52:HIS:HE1	1.55	0.54
36:BA:1257:C:H2'	36:BA:1258:C:C6	2.43	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:BG:42:GLY:CA	42:BG:90:LEU:H	2.20	0.54
2:AB:97:TRP:CZ2	2:AB:173:ALA:HA	2.42	0.54
48:BP:115:LEU:N	48:BP:115:LEU:HD23	2.22	0.54
25:AZ:138:VAL:HG23	25:AZ:173:GLY:O	2.06	0.54
14:AN:55:GLY:O	14:AN:56:VAL:O	2.25	0.54
54:BV:62:LEU:HD21	54:BV:95:LEU:HB2	1.89	0.54
46:BN:44:PRO:O	46:BN:45:ASN:HB3	2.06	0.54
36:BA:2649:U:H2'	36:BA:2650:U:C6	2.42	0.54
7:AG:72:ARG:HA	7:AG:96:GLN:NE2	2.20	0.54
36:BA:2688:U:H3'	36:BA:2688:U:O2	2.07	0.54
37:BB:75:G:H2'	58:BZ:85:HIS:CE1	2.42	0.54
11:AK:37:GLY:C	11:AK:38:ASN:HD22	2.11	0.54
36:BA:653:A:N3	36:BA:653:A:H2'	2.21	0.54
1:AA:860:A:H2'	1:AA:861:G:O4'	2.08	0.54
40:BE:64:LYS:O	40:BE:64:LYS:HG2	2.07	0.54
55:BW:10:VAL:HG23	55:BW:101:SER:O	2.08	0.54
41:BF:2:LYS:HG3	41:BF:25:PRO:HG2	1.88	0.54
36:BA:2305:A:H5''	42:BG:134:GLY:HA3	1.89	0.54
41:BF:34:TRP:CE3	48:BP:12:ALA:HA	2.43	0.54
2:AB:51:LEU:HD23	2:AB:201:ILE:HD12	1.88	0.54
36:BA:2173:A:O3'	38:BC:218:MET:HE1	2.08	0.54
37:BB:70:C:O2'	37:BB:71:C:H5'	2.08	0.54
36:BA:884:C:C2'	36:BA:885:C:H5'	2.31	0.54
19:AS:29:ARG:HD2	19:AS:29:ARG:N	2.22	0.54
38:BC:50:ASP:OD2	38:BC:53:ARG:HG3	2.08	0.54
47:BO:64:ARG:NH2	47:BO:100:GLY:HA3	2.22	0.54
53:BU:8:VAL:O	53:BU:12:ARG:HG3	2.07	0.54
1:AA:192:U:H2'	1:AA:193:C:C6	2.34	0.54
36:BA:614(A):U:C4'	36:BA:614(B):G:H5''	2.36	0.54
36:BA:298:G:C8	36:BA:298:G:OP2	2.61	0.54
36:BA:1794:U:H2'	36:BA:1795:C:H6	1.68	0.54
2:AB:122:PHE:HA	2:AB:139:LYS:HZ1	1.72	0.54
1:AA:1153:C:O2'	1:AA:1154:G:P	2.65	0.54
36:BA:2061:G:H5''	36:BA:2503:A:C2	2.42	0.54
36:BA:1844:C:H5'	39:BD:256:GLY:O	2.07	0.54
1:AA:135:C:H2'	1:AA:136:C:H5'	1.89	0.54
36:BA:1086:A:N3	36:BA:1086:A:H3'	2.23	0.54
36:BA:2735:G:H2'	36:BA:2736:G:H8	1.72	0.54
1:AA:632:A:C2	1:AA:633:G:H1'	2.43	0.54
36:BA:1270:C:H5''	36:BA:1271:G:O5'	2.08	0.54
36:BA:654(L):G:H5''	36:BA:654(L):G:N3	2.22	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:AZ:277:LEU:HD12	25:AZ:279:GLU:N	2.21	0.54
36:BA:1666:G:H5'	36:BA:1666:G:H8	1.71	0.54
40:BE:52:LEU:CD1	52:BT:1:MET:HG2	2.37	0.54
54:BV:47:VAL:HG23	54:BV:47:VAL:O	2.07	0.54
38:BC:78:ALA:HB3	38:BC:95:GLY:H	1.73	0.54
1:AA:1126:U:P	1:AA:1281:U:O2	2.65	0.54
42:BG:51:ARG:HD3	42:BG:53:LEU:CD2	2.35	0.54
11:AK:82:VAL:CG1	11:AK:108:ILE:HG23	2.38	0.54
1:AA:160:A:H1'	1:AA:344:A:N7	2.23	0.54
2:AB:93:VAL:HG21	2:AB:97:TRP:HD1	1.72	0.54
36:BA:733:G:O6	36:BA:761:A:C8	2.60	0.54
36:BA:2580:U:C5'	40:BE:131:ALA:N	2.71	0.54
1:AA:1040:U:H2'	1:AA:1041:A:C8	2.39	0.54
14:AN:19:ARG:O	14:AN:20:ALA:O	2.25	0.54
28:B2:61:LEU:HD12	36:BA:72:U:C6	2.42	0.54
36:BA:407:G:H2'	36:BA:408:G:H8	1.73	0.54
54:BV:82:ARG:HD2	54:BV:82:ARG:N	2.22	0.54
36:BA:181:A:H5'	36:BA:181:A:H8	1.72	0.54
18:AR:84:LYS:N	18:AR:84:LYS:NZ	2.55	0.54
1:AA:647:C:O2'	1:AA:648:A:H5'	2.08	0.54
32:B6:17:LYS:HB3	32:B6:18:ARG:NH1	2.23	0.54
13:AM:7:VAL:CG2	42:BG:115:ARG:HA	2.38	0.54
40:BE:1:MET:HB3	40:BE:200:GLU:CD	2.27	0.54
40:BE:30:PRO:O	40:BE:32:PRO:HD3	2.08	0.54
25:AZ:13:ASN:O	25:AZ:100:ASP:N	2.39	0.54
51:BS:34:HIS:CE1	51:BS:54:LEU:HB3	2.42	0.54
52:BT:29:ARG:HE	52:BT:86:ILE:HG23	1.72	0.54
36:BA:2792:G:O2'	36:BA:2793:G:H5'	2.08	0.54
41:BF:9:ILE:CG1	41:BF:14:PRO:HA	2.30	0.54
40:BE:114:ALA:HB3	40:BE:160:TYR:HB3	1.90	0.54
50:BR:3:HIS:O	50:BR:5:LYS:N	2.40	0.54
48:BP:24:GLY:N	48:BP:33:ARG:CZ	2.71	0.54
52:BT:12:SER:O	52:BT:13:ARG:NH2	2.41	0.54
4:AD:3:ARG:HG2	4:AD:3:ARG:HH21	1.71	0.54
17:AQ:67:LYS:CA	17:AQ:70:ARG:HH12	2.16	0.54
46:BN:67:LEU:HB3	46:BN:88:GLU:CG	2.37	0.54
12:AL:41:ARG:NH2	12:AL:57:LYS:NZ	2.52	0.54
36:BA:1779:U:C5	36:BA:1784:A:N7	2.68	0.54
49:BQ:134:ARG:CZ	58:BZ:122:ARG:NE	2.71	0.54
7:AG:111:ARG:HB3	7:AG:113:GLU:HG2	1.89	0.54
25:AZ:158:LEU:O	25:AZ:163:PHE:HB2	2.08	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:AZ:138:VAL:HG21	25:AZ:173:GLY:H	1.72	0.54
4:AD:61:LYS:HD2	4:AD:207:TYR:OH	2.08	0.54
2:AB:194:PRO:O	2:AB:197:VAL:N	2.39	0.54
43:BH:105:LEU:H	43:BH:105:LEU:CD2	2.21	0.54
2:AB:122:PHE:HA	2:AB:139:LYS:HZ2	1.72	0.54
1:AA:1152:A:H5''	10:AJ:13:HIS:HD2	1.71	0.54
1:AA:1328:C:O2'	1:AA:1329:A:H5'	2.08	0.54
34:B8:29:LYS:HG2	34:B8:44:LYS:HG2	1.90	0.54
8:AH:44:PHE:HE2	8:AH:109:ILE:HG21	1.72	0.54
25:AZ:42:VAL:HG23	25:AZ:70:TYR:HA	1.89	0.54
36:BA:2529:G:OP2	36:BA:2530:A:H5''	2.08	0.54
36:BA:2864:G:H2'	36:BA:2865:U:C6	2.43	0.54
24:AY:17:H2U:OP2	24:AY:18:G:H4'	2.08	0.54
24:AY:72:U:H2'	24:AY:73:G:C5'	2.37	0.54
34:B8:34:TRP:O	34:B8:35:GLN:HB2	2.08	0.54
28:B2:47:ASN:O	28:B2:48:HIS:C	2.46	0.54
57:BY:7:VAL:HG21	57:BY:8:LYS:HZ2	1.73	0.54
34:B8:50:LEU:N	34:B8:53:PRO:CD	2.71	0.54
36:BA:332:A:O2'	36:BA:333:G:O5'	2.26	0.54
22:AW:19:G:N2	36:BA:2169:A:H4'	2.23	0.54
38:BC:49:ILE:HG21	38:BC:208:PHE:HE1	1.73	0.54
25:AZ:356:PRO:HD3	25:AZ:370:PHE:HA	1.90	0.54
36:BA:634:C:H2'	36:BA:635:C:C6	2.43	0.54
1:AA:1503:A:C2	1:AA:1507:A:OP2	2.61	0.54
50:BR:4:LEU:HD12	50:BR:7:GLY:HA3	1.90	0.54
41:BF:113:ALA:HB2	41:BF:183:VAL:HG12	1.90	0.54
2:AB:21:ARG:HB3	2:AB:39:ILE:HA	1.90	0.54
52:BT:8:LYS:HA	52:BT:11:GLU:OE1	2.07	0.54
48:BP:58:THR:C	48:BP:61:ARG:HE	2.11	0.54
1:AA:255:G:H1'	17:AQ:16:GLN:NE2	2.23	0.54
36:BA:943:U:OP2	48:BP:38:GLN:HG2	2.08	0.54
48:BP:38:GLN:HG3	48:BP:39:LYS:N	2.23	0.54
26:B0:36:ILE:HG12	36:BA:2354:G:O2'	2.08	0.54
9:AI:9:ARG:CG	9:AI:14:VAL:HG22	2.35	0.54
27:B1:80:LEU:HB3	27:B1:82:LEU:HD23	1.89	0.54
10:AJ:90:LEU:N	10:AJ:91:PRO:HD3	2.22	0.54
1:AA:1023:G:C2'	1:AA:1024:G:H5'	2.36	0.54
9:AI:28:VAL:HA	9:AI:63:ILE:O	2.08	0.54
36:BA:1385:G:HO2'	36:BA:1396:U:H6	1.53	0.54
36:BA:142(A):C:O2'	36:BA:143:G:H5'	2.08	0.54
53:BU:36:ARG:HB2	53:BU:36:ARG:HH11	1.73	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:BB:55:U:H2'	37:BB:56:G:C8	2.43	0.54
53:BU:3:ARG:NH1	53:BU:5:LYS:HB3	2.22	0.54
39:BD:72:LYS:HB3	39:BD:72:LYS:HZ3	1.72	0.54
46:BN:76:SER:HB3	46:BN:81:GLY:O	2.07	0.54
1:AA:513:C:H2'	1:AA:514:C:C6	2.43	0.54
7:AG:141:VAL:O	7:AG:144:MET:HB2	2.08	0.54
9:AI:121:ARG:HG2	9:AI:121:ARG:NH1	2.23	0.54
36:BA:1842:G:H2'	36:BA:1843:C:C6	2.43	0.54
26:B0:45:PHE:HE2	26:B0:77:ARG:HH21	1.55	0.54
14:AN:4:LYS:O	14:AN:7:ILE:HG12	2.08	0.54
37:BB:73:A:H2'	37:BB:74:U:H5'	1.90	0.54
36:BA:2790:A:N3	36:BA:2790:A:H2'	2.22	0.54
1:AA:444:C:O2'	1:AA:445:G:H5'	2.08	0.54
1:AA:355:C:N4	1:AA:356:A:N6	2.56	0.54
38:BC:21:THR:OG1	38:BC:24:GLU:HB2	2.08	0.54
42:BG:115:ARG:HH22	42:BG:136:ARG:CB	2.03	0.54
1:AA:973:G:H1'	10:AJ:55:LYS:NZ	2.22	0.54
40:BE:2:LYS:HB3	40:BE:95:ILE:CG2	2.38	0.54
2:AB:42:ILE:HG12	2:AB:43:ASP:N	2.23	0.54
43:BH:85:LYS:HD2	43:BH:133:VAL:HB	1.90	0.54
22:AW:57:G:H2'	22:AW:58:A:C4'	2.38	0.54
38:BC:137:LEU:HD22	38:BC:138:PRO:CD	2.37	0.54
25:AZ:355:LEU:HD11	25:AZ:362:VAL:HG23	1.90	0.54
29:B3:4:LEU:HG	29:B3:39:ASP:HB2	1.89	0.54
26:B0:26:TYR:CE2	36:BA:857:C:H1'	2.43	0.54
2:AB:19:HIS:NE2	2:AB:206:ASP:HB2	2.22	0.54
36:BA:2394:C:O2'	36:BA:2395:C:H5'	2.08	0.54
46:BN:62:VAL:O	46:BN:63:THR:O	2.26	0.54
1:AA:750:G:N3	15:AO:23:GLY:HA3	2.23	0.54
53:BU:52:ARG:HH11	53:BU:52:ARG:CB	2.21	0.54
39:BD:44:ASN:CB	39:BD:49:ILE:HA	2.37	0.54
36:BA:1092:C:H42	36:BA:1100:C:N4	2.05	0.54
34:B8:5:LYS:HE2	36:BA:254:G:N7	2.23	0.54
36:BA:2236:C:H2'	36:BA:2237:G:O4'	2.08	0.54
36:BA:536:A:H2'	36:BA:537:C:C6	2.43	0.54
36:BA:2073:C:O2'	36:BA:2074:U:H5'	2.08	0.54
24:AY:75:C:H41	25:AZ:232:THR:HG1	1.55	0.53
42:BG:111:LEU:CD2	42:BG:179:PRO:HG2	2.38	0.53
14:AN:29:ARG:NH1	14:AN:29:ARG:HG2	2.19	0.53
58:BZ:8:TYR:HD2	58:BZ:38:TYR:HH	1.56	0.53
22:AW:19:G:C2	36:BA:2169:A:H4'	2.42	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:BT:91:ARG:HG2	52:BT:116:ALA:HA	1.89	0.53
55:BW:29:LEU:HG	55:BW:33:ARG:CD	2.29	0.53
1:AA:1503:A:HO2'	23:AX:16:A:N6	2.06	0.53
28:B2:19:VAL:CG1	28:B2:23:LYS:HE3	2.37	0.53
1:AA:1305:G:H5'	21:AU:4:GLY:CA	2.34	0.53
39:BD:261:LYS:CE	39:BD:263:ARG:NH2	2.70	0.53
19:AS:49:ILE:N	19:AS:49:ILE:HD12	2.16	0.53
36:BA:1946:U:H2'	36:BA:1947:C:C6	2.43	0.53
36:BA:1141:U:H2'	46:BN:63:THR:HG22	1.90	0.53
57:BY:2:ARG:C	57:BY:4:LYS:H	2.11	0.53
15:AO:23:GLY:O	15:AO:24:SER:HB3	2.08	0.53
3:AC:164:ARG:HH21	3:AC:166:GLU:HB2	1.73	0.53
1:AA:180:U:C2'	1:AA:181:G:H5'	2.39	0.53
8:AH:104:ARG:CZ	8:AH:138:TRP:CZ2	2.91	0.53
16:AP:53:VAL:O	16:AP:54:GLU:C	2.46	0.53
36:BA:1267:U:C5	36:BA:2012:G:C2	2.96	0.53
37:BB:15:A:H3'	37:BB:16:G:H5'	1.89	0.53
34:B8:29:LYS:HD3	34:B8:44:LYS:CB	2.38	0.53
1:AA:189(H):G:O2'	1:AA:189(I):G:H8	1.91	0.53
14:AN:57:ARG:HG3	14:AN:58:LYS:N	2.22	0.53
8:AH:103:VAL:CG2	8:AH:110:ALA:HB2	2.38	0.53
22:AW:12:U:H3	22:AW:23:A:H61	1.56	0.53
50:BR:65:LEU:O	50:BR:68:ARG:HB2	2.08	0.53
36:BA:1577:C:H2'	36:BA:1578:U:C1'	2.37	0.53
38:BC:15:ASP:N	38:BC:20:TYR:OH	2.42	0.53
13:AM:93:ARG:CG	36:BA:888:C:OP1	2.55	0.53
35:B9:30:PRO:HG2	36:BA:2528:U:OP1	2.07	0.53
41:BF:17:ARG:NH1	41:BF:17:ARG:HG3	2.21	0.53
31:B5:49:CYS:O	31:B5:56:LYS:HD2	2.08	0.53
36:BA:2640:G:H2'	36:BA:2641:G:C5'	2.33	0.53
36:BA:814:C:H2'	36:BA:815:C:H6	1.72	0.53
58:BZ:140:ASP:O	58:BZ:141:VAL:CG2	2.57	0.53
2:AB:145:LEU:O	2:AB:149:LEU:HB2	2.08	0.53
12:AL:45:PRO:HG3	12:AL:53:ARG:HD3	1.90	0.53
17:AQ:52:LYS:N	17:AQ:52:LYS:HD2	2.19	0.53
1:AA:177:C:H2'	1:AA:178:C:H6	1.72	0.53
36:BA:1275:A:C4	50:BR:16:HIS:ND1	2.77	0.53
39:BD:247:ALA:CA	39:BD:254:THR:HG22	2.38	0.53
36:BA:2012:G:H4'	55:BW:96:ILE:CD1	2.36	0.53
41:BF:43:LYS:HB2	41:BF:98:SER:HB2	1.90	0.53
36:BA:2065:C:H2'	36:BA:2066:C:C6	2.42	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:BG:126:ASP:O	42:BG:128:ARG:N	2.38	0.53
1:AA:381:C:H2'	1:AA:382:A:O4'	2.08	0.53
27:B1:75:GLU:O	27:B1:78:LYS:HG2	2.08	0.53
1:AA:865:A:H2'	1:AA:866:C:C6	2.42	0.53
42:BG:138:GLN:HG3	42:BG:139:LEU:N	2.23	0.53
42:BG:178:PHE:HB3	42:BG:180:PHE:CE1	2.43	0.53
26:B0:14:ARG:HD2	36:BA:2279:G:O6	2.08	0.53
56:BX:12:VAL:HG12	56:BX:27:THR:C	2.28	0.53
34:B8:49:VAL:HG12	34:B8:50:LEU:H	1.73	0.53
40:BE:78:LEU:C	40:BE:79:ARG:HD2	2.29	0.53
58:BZ:76:LEU:O	58:BZ:82:ARG:O	2.26	0.53
22:AW:53:G:O2'	22:AW:54:U:H5'	2.09	0.53
38:BC:191:ALA:HA	38:BC:194:ARG:CD	2.37	0.53
32:B6:45:LYS:H	32:B6:45:LYS:CD	1.99	0.53
52:BT:80:SER:CB	52:BT:81:PRO:CD	2.81	0.53
36:BA:605:C:C2'	36:BA:606:U:H5'	2.37	0.53
43:BH:12:PRO:HB2	43:BH:15:VAL:CG1	2.38	0.53
25:AZ:197:ASP:C	25:AZ:198:LYS:HE2	2.28	0.53
52:BT:106:SER:C	52:BT:107:ASP:OD1	2.46	0.53
4:AD:9:CYS:SG	4:AD:31:CYS:O	2.67	0.53
41:BF:40:GLN:HE22	41:BF:184:TYR:HB3	1.74	0.53
2:AB:178:ARG:NH2	8:AH:68:ARG:HH22	2.07	0.53
5:AE:33:VAL:HG21	5:AE:109:ILE:HG12	1.89	0.53
36:BA:2223:G:H2'	36:BA:2224:G:H5'	1.90	0.53
36:BA:863:A:H2'	36:BA:864:G:C8	2.44	0.53
36:BA:2819:G:H2'	36:BA:2821:A:N7	2.23	0.53
36:BA:2460:U:O2'	36:BA:2461:C:H5'	2.08	0.53
1:AA:1158:C:O2'	1:AA:1159:U:H4'	2.09	0.53
24:AY:73:G:H2'	24:AY:74:C:H5'	1.90	0.53
32:B6:19:ARG:HG3	32:B6:20:ASN:N	2.09	0.53
52:BT:61:PHE:HD2	52:BT:61:PHE:H	1.55	0.53
26:B0:27:GLU:CB	26:B0:68:GLU:HA	2.27	0.53
38:BC:100:ILE:HG21	38:BC:126:LYS:HE3	1.90	0.53
33:B7:9:ARG:NH1	33:B7:9:ARG:HG3	2.24	0.53
31:B5:55:ARG:HD3	31:B5:56:LYS:H	1.74	0.53
36:BA:271(M):G:C2'	36:BA:271(N):U:H5''	2.34	0.53
28:B2:64:LEU:O	28:B2:68:ARG:HB2	2.09	0.53
19:AS:29:ARG:HB3	19:AS:48:THR:HB	1.89	0.53
41:BF:168:ARG:HB2	41:BF:175:THR:HG21	1.91	0.53
37:BB:81:G:H2'	37:BB:82:G:H5'	1.91	0.53
36:BA:105:C:O2'	57:BY:2:ARG:HB2	2.08	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:AG:54:THR:HG22	7:AG:125:MET:CE	2.38	0.53
1:AA:628:G:O2'	1:AA:629:G:H5'	2.08	0.53
8:AH:125:ARG:HG3	8:AH:125:ARG:NH1	2.23	0.53
41:BF:95:ARG:CG	41:BF:95:ARG:O	2.57	0.53
1:AA:837:G:N1	1:AA:850:U:O2	2.42	0.53
36:BA:2753:A:O2'	36:BA:2754:U:H5'	2.08	0.53
24:AY:74:C:O2	25:AZ:295:ARG:NH2	2.40	0.53
36:BA:304:G:H2'	36:BA:305:U:C6	2.43	0.53
56:BX:27:THR:HA	56:BX:79:ALA:O	2.08	0.53
40:BE:13:ARG:O	52:BT:57:PHE:HE1	1.91	0.53
43:BH:35:VAL:HG11	43:BH:71:LEU:O	2.09	0.53
19:AS:11:VAL:CA	19:AS:38:SER:HB2	2.31	0.53
39:BD:26:LYS:O	39:BD:27:THR:CB	2.56	0.53
4:AD:107:ARG:NH1	4:AD:114:ARG:NH2	2.56	0.53
46:BN:93:THR:HG23	46:BN:93:THR:O	2.08	0.53
14:AN:13:THR:O	14:AN:14:PRO:O	2.26	0.53
36:BA:27:G:H22	36:BA:512:G:H2'	1.72	0.53
36:BA:1022:G:N7	46:BN:66:LYS:HE3	2.24	0.53
36:BA:1292:U:H6	36:BA:1292:U:H5'	1.73	0.53
48:BP:138:LEU:HD21	48:BP:143:GLY:O	2.09	0.53
1:AA:967:C:H4'	9:AI:125:TYR:CE2	2.36	0.53
36:BA:568:U:H2'	36:BA:570:G:OP2	2.09	0.53
36:BA:2408:U:H2'	36:BA:2409:G:H8	1.72	0.53
1:AA:300:A:H1'	1:AA:565:U:O2	2.09	0.53
4:AD:151:LYS:HG2	4:AD:151:LYS:O	2.07	0.53
1:AA:778:G:H21	11:AK:120:ARG:HD2	1.73	0.53
1:AA:475:G:O2'	1:AA:476:G:H5'	2.08	0.53
35:B9:22:ARG:HB2	35:B9:24:TYR:HE1	1.74	0.53
48:BP:120:ALA:HB3	48:BP:137:LYS:O	2.08	0.53
37:BB:42:C:O2'	37:BB:43:C:P	2.67	0.53
7:AG:48:LYS:O	7:AG:51:GLN:HB2	2.08	0.53
36:BA:2092:U:H5	36:BA:2226:C:OP2	1.92	0.53
48:BP:62:LEU:O	48:BP:62:LEU:HG	2.07	0.53
19:AS:64:GLU:O	19:AS:67:VAL:HG23	2.08	0.53
43:BH:66:GLY:CA	43:BH:69:ARG:HB3	2.35	0.53
36:BA:1509(B):A:C2'	36:BA:1510:G:H5'	2.39	0.53
20:AT:26:ASN:N	20:AT:26:ASN:HD22	2.05	0.53
25:AZ:194:GLU:O	25:AZ:198:LYS:HE3	2.08	0.53
12:AL:88:GLY:H	12:AL:98:TYR:HA	1.73	0.53
37:BB:86:G:H2'	37:BB:87:G:H8	1.73	0.53
25:AZ:55:GLU:O	25:AZ:56:GLU:C	2.45	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:AB:152:PHE:O	2:AB:153:ARG:CB	2.55	0.53
13:AM:49:THR:O	13:AM:53:VAL:HG23	2.07	0.53
49:BQ:56:ARG:HG3	49:BQ:56:ARG:HH11	1.74	0.53
36:BA:654(R):C:H2'	36:BA:654(S):G:C8	2.44	0.53
36:BA:145:G:H2'	36:BA:146:G:O4'	2.08	0.53
6:AF:48:LEU:HD13	6:AF:52:ILE:CG1	2.39	0.53
27:B1:43:TYR:N	27:B1:43:TYR:HD2	2.05	0.53
36:BA:1970:A:H5''	36:BA:1971:A:OP1	2.08	0.53
57:BY:12:THR:CG2	57:BY:75:ILE:HG21	2.39	0.53
1:AA:1053:G:H4'	1:AA:1054:C:C5'	2.14	0.53
56:BX:10:ALA:HB1	56:BX:11:PRO:CD	2.36	0.53
52:BT:54:ARG:HA	52:BT:59:THR:CB	2.38	0.53
51:BS:30:ARG:NH2	51:BS:62:LYS:HD3	2.24	0.53
1:AA:1124:G:H5'	10:AJ:35:SER:HB2	1.91	0.53
52:BT:38:ASN:ND2	52:BT:38:ASN:O	2.36	0.53
30:B4:8:LYS:O	30:B4:9:LEU:CB	2.56	0.53
42:BG:68:PRO:HA	42:BG:92:VAL:HB	1.91	0.53
41:BF:195:ASP:HB3	41:BF:198:ALA:CB	2.38	0.53
48:BP:24:GLY:HA3	48:BP:33:ARG:CZ	2.38	0.53
36:BA:610:G:H2'	36:BA:611:C:C6	2.44	0.53
39:BD:268:ARG:N	39:BD:270:ILE:HD11	2.23	0.53
58:BZ:144:LEU:CD1	58:BZ:150:LEU:HD22	2.36	0.53
25:AZ:352:VAL:HG12	25:AZ:353:VAL:N	2.24	0.53
9:AI:77:ILE:O	9:AI:81:ILE:HG12	2.09	0.53
36:BA:1292:U:H2'	36:BA:1293:C:C6	2.44	0.53
42:BG:42:GLY:HA2	42:BG:90:LEU:N	2.24	0.53
1:AA:429:U:C1'	1:AA:430:A:H5''	2.38	0.53
25:AZ:34:VAL:HG11	25:AZ:199:ILE:HG21	1.89	0.53
38:BC:107:TRP:NE1	38:BC:110:PHE:CE2	2.73	0.53
1:AA:1452:C:H5'	1:AA:1456:G:N2	2.24	0.53
9:AI:99:LEU:N	9:AI:99:LEU:HD22	2.24	0.53
9:AI:28:VAL:HG22	9:AI:63:ILE:HB	1.91	0.53
36:BA:2875:C:H4'	52:BT:5:ALA:CB	2.39	0.53
25:AZ:389:ARG:O	25:AZ:390:GLU:CB	2.56	0.53
40:BE:179:GLU:O	40:BE:180:ASN:HB2	2.09	0.53
1:AA:990:C:H2'	1:AA:991:U:C6	2.43	0.53
27:B1:50:ARG:HG2	27:B1:59:THR:HG22	1.91	0.53
1:AA:310:G:H2'	1:AA:311:C:H6	1.74	0.53
18:AR:84:LYS:HZ3	18:AR:84:LYS:N	2.06	0.53
40:BE:15:PHE:HE1	40:BE:20:ALA:HB2	1.73	0.53
27:B1:83:GLU:OE1	27:B1:83:GLU:N	2.42	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:AC:55:VAL:HG12	3:AC:55:VAL:O	2.08	0.53
1:AA:1342:C:O2'	1:AA:1343:G:H5'	2.08	0.53
1:AA:284:G:H2'	1:AA:285:G:H8	1.74	0.53
38:BC:7:TYR:OH	38:BC:11:LEU:HD21	2.08	0.53
36:BA:1025:G:N3	36:BA:1135:C:H1'	2.24	0.53
40:BE:77:ILE:CG2	40:BE:78:LEU:N	2.66	0.53
49:BQ:141:GLN:HB2	58:BZ:99:TYR:CD2	2.44	0.53
37:BB:7:G:H4'	51:BS:29:PHE:HD1	1.73	0.53
36:BA:2839:G:C5'	50:BR:46:GLY:HA2	2.39	0.53
1:AA:1128:C:N4	1:AA:1139:G:H2'	2.24	0.53
51:BS:25:ARG:HG2	51:BS:25:ARG:NH1	2.24	0.53
41:BF:107:LYS:C	41:BF:109:GLY:N	2.62	0.53
47:BO:61:VAL:HG12	47:BO:87:ILE:HD11	1.91	0.53
19:AS:49:ILE:O	19:AS:60:VAL:CG1	2.57	0.53
36:BA:672:C:O3'	41:BF:81:PRO:HG3	2.08	0.53
41:BF:83:PHE:O	41:BF:84:VAL:O	2.26	0.53
25:AZ:208:GLU:O	25:AZ:210:ILE:N	2.41	0.53
20:AT:50:GLU:HG3	20:AT:100:ILE:HG12	1.90	0.53
30:B4:30:GLU:C	30:B4:31:ILE:HD12	2.29	0.53
11:AK:52:GLY:N	11:AK:55:LYS:HE3	2.24	0.53
36:BA:1188:U:H4'	54:BV:79:VAL:HG13	1.91	0.53
36:BA:648:G:C4'	36:BA:2351:G:H5''	2.38	0.53
53:BU:36:ARG:HB2	53:BU:36:ARG:NH1	2.23	0.53
36:BA:1491:G:O4'	39:BD:99:ASP:OD2	2.27	0.53
39:BD:76:PRO:HG2	39:BD:98:VAL:CG2	2.38	0.53
4:AD:70:ILE:CG2	4:AD:71:SER:N	2.71	0.53
3:AC:96:GLY:O	3:AC:97:LYS:HG2	2.09	0.53
55:BW:12:ILE:HD12	55:BW:42:ARG:NH1	2.23	0.53
1:AA:137:C:H42	1:AA:226:G:H1	1.55	0.53
39:BD:141:VAL:HG23	39:BD:141:VAL:O	2.08	0.53
8:AH:28:ALA:H	8:AH:58:TYR:HA	1.73	0.53
38:BC:28:LEU:O	38:BC:32:LEU:HG	2.09	0.53
2:AB:46:LYS:O	2:AB:49:GLU:N	2.42	0.53
52:BT:29:ARG:CB	52:BT:85:LYS:HA	2.38	0.53
37:BB:106:G:H2'	37:BB:107:G:C8	2.39	0.53
36:BA:2478:A:H2'	36:BA:2479:G:H5'	1.91	0.53
57:BY:86:ARG:C	57:BY:88:LYS:HZ2	2.11	0.53
36:BA:543:C:N4	36:BA:549:G:H1	2.01	0.53
34:B8:25:MET:SD	48:BP:64:LYS:HD3	2.49	0.53
46:BN:103:VAL:O	46:BN:106:MET:N	2.42	0.53
46:BN:87:LEU:HD13	46:BN:87:LEU:C	2.30	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:AL:53:ARG:HB3	12:AL:93:LEU:HD11	1.90	0.53
22:AW:31:A:N1	22:AW:39:U:O4	2.42	0.53
11:AK:57:THR:HG22	11:AK:60:ALA:CB	2.39	0.53
38:BC:107:TRP:HZ3	38:BC:131:LEU:HD21	1.69	0.53
36:BA:2027:G:O2'	36:BA:2028:U:H5'	2.09	0.53
43:BH:76:VAL:C	43:BH:78:GLY:N	2.62	0.53
36:BA:2153:G:H2'	36:BA:2154:G:O4'	2.08	0.53
39:BD:73:VAL:HG13	39:BD:120:GLY:CA	2.39	0.53
1:AA:56:U:H2'	1:AA:57:G:H8	1.74	0.53
36:BA:2796:U:O2'	36:BA:2799:C:H5'	2.09	0.53
55:BW:60:ASN:OD1	55:BW:60:ASN:O	2.25	0.53
58:BZ:70:LEU:HD23	58:BZ:70:LEU:N	2.24	0.53
19:AS:13:ASP:O	19:AS:15:LEU:N	2.42	0.53
1:AA:1269:A:C2	1:AA:1325:C:O2	2.62	0.53
19:AS:4:SER:O	19:AS:5:LEU:O	2.26	0.53
58:BZ:8:TYR:HB2	58:BZ:38:TYR:CZ	2.44	0.53
2:AB:46:LYS:O	2:AB:47:THR:C	2.48	0.53
2:AB:51:LEU:O	2:AB:55:PHE:CD2	2.60	0.53
36:BA:2124:G:H3'	36:BA:2125:G:C8	2.44	0.53
36:BA:2631:G:H22	40:BE:61:ARG:NH1	2.06	0.53
25:AZ:356:PRO:CD	25:AZ:370:PHE:HA	2.39	0.53
10:AJ:6:ILE:HA	10:AJ:97:GLU:O	2.09	0.53
36:BA:2621:A:P	40:BE:119:ARG:HH22	2.32	0.53
36:BA:2820:A:O2'	40:BE:191:PRO:HG3	2.09	0.53
48:BP:21:ARG:HH11	48:BP:29:LYS:HG2	1.73	0.53
36:BA:2287:A:H2	36:BA:2346:A:C2	2.25	0.53
46:BN:101:HIS:O	46:BN:103:VAL:N	2.42	0.53
22:AV:61:C:H2'	22:AV:62:C:C5'	2.38	0.53
49:BQ:133:ARG:NH1	49:BQ:133:ARG:HB2	2.21	0.53
10:AJ:65:LEU:CD1	14:AN:56:VAL:H	2.18	0.53
36:BA:2317:C:H2'	36:BA:2318:G:C5'	2.36	0.53
40:BE:97:LYS:O	40:BE:100:GLU:HG3	2.09	0.53
39:BD:2:ALA:O	39:BD:3:VAL:CB	2.57	0.53
36:BA:519:U:H5''	55:BW:25:ARG:HH22	1.74	0.53
17:AQ:60:ILE:HB	17:AQ:74:LEU:HD23	1.89	0.53
27:B1:43:TYR:CD2	27:B1:43:TYR:N	2.75	0.53
1:AA:457:C:C2	1:AA:458:C:H5	2.27	0.53
1:AA:128:G:H5'	17:AQ:2:PRO:O	2.09	0.53
1:AA:1062:U:H2'	1:AA:1063:C:C6	2.43	0.53
4:AD:17:VAL:HG11	4:AD:197:PRO:HB2	1.91	0.53
36:BA:2392:A:H2	36:BA:2424:C:H42	1.57	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:AS:78:ARG:HB2	19:AS:81:ARG:NH1	2.25	0.52
29:B3:26:LEU:CB	29:B3:28:LEU:HD21	2.37	0.52
36:BA:2186:G:C2	36:BA:2187:G:C6	2.97	0.52
58:BZ:141:VAL:HA	58:BZ:144:LEU:HD23	1.91	0.52
38:BC:53:ARG:HD3	38:BC:56:GLN:NE2	2.24	0.52
51:BS:77:ALA:C	51:BS:79:ALA:H	2.12	0.52
52:BT:105:LEU:HD22	52:BT:109:GLU:OE1	2.10	0.52
39:BD:209:ALA:O	39:BD:212:SER:HB2	2.10	0.52
25:AZ:140:MET:O	25:AZ:141:VAL:O	2.26	0.52
36:BA:1556:C:H2'	36:BA:1557:C:H6	1.74	0.52
41:BF:40:GLN:NE2	41:BF:184:TYR:HB3	2.24	0.52
5:AE:82:VAL:HG21	5:AE:138:ALA:HA	1.91	0.52
1:AA:995:C:O2'	1:AA:996:A:P	2.66	0.52
36:BA:1047:G:N2	36:BA:1110:G:H2'	2.24	0.52
8:AH:108:GLY:C	8:AH:109:ILE:HG22	2.29	0.52
36:BA:528:A:H2	36:BA:2043:C:C5'	2.21	0.52
36:BA:319:C:O2'	36:BA:320:A:H5'	2.10	0.52
58:BZ:30:ASN:HA	58:BZ:89:PHE:HE2	1.73	0.52
1:AA:1105:A:O2'	1:AA:1106:G:H5'	2.09	0.52
1:AA:84:U:C2'	1:AA:88:A:H5'	2.39	0.52
36:BA:762:U:H4'	36:BA:763:G:O5'	2.08	0.52
29:B3:13:ILE:HG22	29:B3:13:ILE:O	2.09	0.52
16:AP:58:TYR:CD1	16:AP:58:TYR:C	2.82	0.52
36:BA:706:A:H2'	36:BA:707:G:O4'	2.08	0.52
31:B5:7:PRO:HA	36:BA:2615:U:C6	2.44	0.52
9:AI:57:GLY:O	9:AI:58:ARG:HB3	2.09	0.52
36:BA:1971:A:C4	39:BD:241:PRO:HD3	2.44	0.52
40:BE:51:PHE:O	40:BE:52:LEU:C	2.47	0.52
53:BU:65:ILE:HD11	53:BU:96:ALA:HB3	1.90	0.52
22:AW:56:C:OP2	38:BC:137:LEU:HB3	2.09	0.52
38:BC:74:VAL:CG2	38:BC:157:LYS:HG2	2.39	0.52
37:BB:7:G:H4'	51:BS:29:PHE:CD1	2.44	0.52
2:AB:61:LEU:HD23	2:AB:68:ILE:HD11	1.91	0.52
41:BF:8:GLN:O	41:BF:10:PRO:HD3	2.09	0.52
39:BD:35:LYS:HA	39:BD:63:ARG:HA	1.91	0.52
36:BA:1529:G:C2	36:BA:1541:G:N2	2.77	0.52
9:AI:53:VAL:HG11	9:AI:92:TYR:CE2	2.44	0.52
36:BA:1353:A:H4'	39:BD:38:LYS:CE	2.38	0.52
7:AG:18:TYR:C	7:AG:20:ASP:H	2.13	0.52
5:AE:20:GLN:HE22	5:AE:25:ARG:HH21	1.57	0.52
36:BA:1827:C:C2'	36:BA:1828:G:H5'	2.39	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:191:G:N3	20:AT:105:SER:HB3	2.24	0.52
53:BU:56:ASP:O	53:BU:60:LEU:HG	2.09	0.52
2:AB:7:VAL:HG13	2:AB:11:LEU:HD12	1.91	0.52
49:BQ:35:VAL:HG23	49:BQ:101:ARG:O	2.09	0.52
15:AO:59:MET:O	15:AO:62:GLN:HB3	2.09	0.52
1:AA:613:C:H2'	1:AA:614:A:C8	2.43	0.52
36:BA:2872:G:C2	36:BA:2873:A:N6	2.76	0.52
25:AZ:36:ALA:HA	25:AZ:42:VAL:HG11	1.89	0.52
26:B0:5:LYS:NZ	26:B0:5:LYS:HB3	2.25	0.52
36:BA:2296:U:O2	36:BA:2333:A:N3	2.42	0.52
14:AN:4:LYS:HD3	14:AN:7:ILE:HD11	1.91	0.52
43:BH:107:VAL:O	43:BH:107:VAL:HG23	2.10	0.52
2:AB:75:LYS:C	2:AB:75:LYS:HD3	2.30	0.52
31:B5:34:PRO:O	31:B5:35:GLU:HG2	2.08	0.52
25:AZ:385:ARG:HA	25:AZ:399:VAL:HG12	1.92	0.52
42:BG:6:ALA:HB3	42:BG:104:GLU:OE2	2.10	0.52
28:B2:47:ASN:HD22	36:BA:94(A):G:H21	1.55	0.52
56:BX:14:SER:OG	56:BX:17:ALA:HB2	2.09	0.52
40:BE:52:LEU:HD11	52:BT:1:MET:HG2	1.91	0.52
36:BA:1131:G:C8	36:BA:2025:C:H4'	2.44	0.52
43:BH:85:LYS:C	43:BH:85:LYS:HE2	2.29	0.52
36:BA:2119:A:C6	36:BA:2170:A:C6	2.98	0.52
38:BC:46:LYS:HG3	38:BC:210:ARG:HB2	1.91	0.52
38:BC:49:ILE:HD12	38:BC:49:ILE:C	2.29	0.52
49:BQ:140:ALA:O	49:BQ:141:GLN:HG2	2.09	0.52
58:BZ:126:VAL:HA	58:BZ:163:LEU:HA	1.91	0.52
35:B9:35:ARG:O	35:B9:36:GLN:O	2.27	0.52
38:BC:100:ILE:HD13	38:BC:126:LYS:CB	2.38	0.52
1:AA:1503:A:O2'	23:AX:16:A:N6	2.41	0.52
43:BH:12:PRO:HB2	43:BH:15:VAL:HG13	1.91	0.52
36:BA:1509(B):A:H2'	36:BA:1510:G:H5'	1.92	0.52
31:B5:3:LYS:HB2	36:BA:747:U:H5	1.71	0.52
20:AT:26:ASN:H	20:AT:26:ASN:ND2	2.08	0.52
46:BN:96:GLU:CD	46:BN:96:GLU:H	2.12	0.52
36:BA:1313:U:H3'	36:BA:1313:U:O2	2.09	0.52
12:AL:28:LYS:O	12:AL:29:GLY:C	2.47	0.52
27:B1:18:ILE:HG12	27:B1:37:ILE:HG22	1.91	0.52
4:AD:30:LYS:C	4:AD:32:ALA:N	2.62	0.52
36:BA:1658:C:OP1	40:BE:132:HIS:O	2.27	0.52
1:AA:642:A:H2'	1:AA:643:C:H6	1.73	0.52
28:B2:25:VAL:C	28:B2:27:GLU:N	2.62	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BA:2147:G:H2'	36:BA:2148:G:C5'	2.40	0.52
36:BA:445:C:O2'	36:BA:446:G:H5'	2.10	0.52
7:AG:80:VAL:C	7:AG:82:GLY:H	2.12	0.52
36:BA:1316:U:O2'	36:BA:1317:A:H5'	2.09	0.52
6:AF:48:LEU:HD13	6:AF:52:ILE:HD12	1.92	0.52
43:BH:126:PRO:HB2	43:BH:130:ARG:NH2	2.25	0.52
1:AA:36:C:H5'	12:AL:121:GLY:O	2.09	0.52
37:BB:78:A:H2'	37:BB:79:C:O4'	2.09	0.52
19:AS:17:GLU:O	19:AS:17:GLU:HG2	2.08	0.52
1:AA:1444:C:H2'	1:AA:1445:C:C6	2.44	0.52
46:BN:74:ARG:HH21	46:BN:83:LYS:HD3	1.74	0.52
1:AA:665:A:N3	1:AA:732:C:H2'	2.24	0.52
16:AP:75:ARG:O	16:AP:78:GLY:N	2.33	0.52
36:BA:1902:C:H5'	39:BD:246:PRO:HD3	1.91	0.52
40:BE:197:ILE:HD11	40:BE:199:ARG:HH22	1.74	0.52
40:BE:49:LEU:O	40:BE:78:LEU:CB	2.58	0.52
58:BZ:28:MET:SD	58:BZ:35:ARG:O	2.68	0.52
46:BN:55:VAL:CG2	46:BN:126:PRO:HA	2.40	0.52
35:B9:30:PRO:CB	36:BA:2527:C:H5'	2.28	0.52
31:B5:40:LYS:NZ	31:B5:46:CYS:N	2.42	0.52
1:AA:1306:A:N6	1:AA:1331:G:H1'	2.24	0.52
48:BP:30:THR:CG2	48:BP:31:ALA:N	2.72	0.52
4:AD:2:GLY:O	4:AD:3:ARG:C	2.47	0.52
19:AS:51:VAL:O	19:AS:58:VAL:HG22	2.09	0.52
36:BA:583:G:OP2	53:BU:10:ARG:NH1	2.42	0.52
48:BP:95:VAL:O	48:BP:125:VAL:HA	2.09	0.52
11:AK:57:THR:HG23	11:AK:59:TYR:H	1.75	0.52
36:BA:2317:C:O2'	36:BA:2318:G:H5'	2.09	0.52
25:AZ:56:GLU:CG	25:AZ:63:ILE:H	2.22	0.52
39:BD:75:ILE:H	39:BD:75:ILE:HD13	1.75	0.52
36:BA:2572:A:C5	40:BE:144:ARG:HD3	2.44	0.52
36:BA:519:U:H2'	36:BA:520:G:C8	2.43	0.52
17:AQ:5:VAL:HG13	17:AQ:59:ILE:O	2.10	0.52
36:BA:145:G:H3'	36:BA:146:G:H5''	1.92	0.52
36:BA:494:G:O2'	55:BW:5:ALA:O	2.27	0.52
36:BA:10:G:N2	36:BA:2895:U:H3	2.08	0.52
40:BE:183:LEU:N	40:BE:183:LEU:HD12	2.24	0.52
1:AA:511:C:HO2'	1:AA:512:U:H6	1.56	0.52
40:BE:70:ALA:O	40:BE:72:VAL:N	2.35	0.52
44:BJ:24:UNK:HA	44:BJ:86:UNK:HA	1.91	0.52
1:AA:502:G:O2'	1:AA:503:C:H5'	2.10	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:676:A:H1'	11:AK:115:PRO:HB3	1.91	0.52
10:AJ:15:THR:O	10:AJ:19:SER:HB3	2.09	0.52
48:BP:101:VAL:CG2	48:BP:102:ARG:N	2.72	0.52
36:BA:563:G:C4	36:BA:2018:G:C2	2.98	0.52
1:AA:386:C:C2'	1:AA:387:U:H5'	2.39	0.52
36:BA:2392:A:H1'	48:BP:60:MET:HB3	1.92	0.52
32:B6:14:THR:HG23	32:B6:16:CYS:H	1.75	0.52
25:AZ:67:HIS:CE1	25:AZ:80:VAL:HG22	2.44	0.52
40:BE:199:ARG:HH11	40:BE:199:ARG:CB	2.22	0.52
51:BS:35:ILE:HG23	51:BS:35:ILE:O	2.10	0.52
36:BA:2810:A:N3	40:BE:61:ARG:NH2	2.56	0.52
58:BZ:74:VAL:O	58:BZ:75:ASN:C	2.47	0.52
49:BQ:140:ALA:HA	58:BZ:99:TYR:CD1	2.44	0.52
43:BH:67:LEU:HG	43:BH:71:LEU:HD12	1.89	0.52
31:B5:46:CYS:SG	31:B5:48:GLU:HB2	2.48	0.52
52:BT:83:ILE:O	52:BT:84:GLN:O	2.27	0.52
2:AB:19:HIS:ND1	2:AB:204:ASN:OD1	2.43	0.52
55:BW:70:TYR:HE2	55:BW:72:LYS:HE2	1.74	0.52
1:AA:265:G:H2'	1:AA:267:C:H5	1.74	0.52
58:BZ:139:VAL:O	58:BZ:140:ASP:HB3	2.10	0.52
30:B4:5:ILE:CG1	30:B4:5:ILE:O	2.56	0.52
55:BW:1:MET:HE1	55:BW:62:HIS:CD2	2.45	0.52
53:BU:52:ARG:HG2	53:BU:55:ARG:HH12	1.75	0.52
3:AC:35:GLU:OE2	3:AC:59:ARG:NH1	2.31	0.52
39:BD:232:PRO:HD2	39:BD:249:PRO:HA	1.90	0.52
36:BA:2469:A:C5	36:BA:2470:G:H1'	2.45	0.52
22:AW:43:C:H6	22:AW:43:C:OP1	1.91	0.52
27:B1:48:LYS:HE3	27:B1:59:THR:HB	1.90	0.52
49:BQ:21:THR:CG2	49:BQ:101:ARG:HD2	2.40	0.52
36:BA:680:G:H2'	36:BA:681:G:H8	1.72	0.52
4:AD:58:LEU:HD23	4:AD:206:PHE:CE1	2.45	0.52
36:BA:528:A:H2	36:BA:2043:C:H5'	1.75	0.52
36:BA:440:G:H2'	36:BA:441:U:H6	1.75	0.52
27:B1:40:ARG:HH12	36:BA:2232:U:P	2.32	0.52
36:BA:2008:C:H2'	36:BA:2009:G:C8	2.44	0.52
36:BA:314:A:H2'	36:BA:315:G:C8	2.44	0.52
28:B2:10:LEU:O	28:B2:13:ALA:HB3	2.10	0.52
1:AA:502:G:OP1	12:AL:118:SER:CB	2.58	0.52
1:AA:589:C:O2'	1:AA:590:C:H5'	2.10	0.52
25:AZ:7:ARG:O	25:AZ:7:ARG:HG3	2.09	0.52
6:AF:63:TYR:O	6:AF:64:GLN:HB2	2.10	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:AB:163:PHE:HA	2:AB:185:ILE:O	2.09	0.52
34:B8:33:ASN:HA	34:B8:36:LYS:HD3	1.91	0.52
38:BC:30:LYS:CD	38:BC:185:LEU:HD11	2.40	0.52
54:BV:39:LEU:CD1	54:BV:51:VAL:HA	2.40	0.52
37:BB:106:G:H5''	58:BZ:31:ARG:HB3	1.92	0.52
36:BA:2839:G:H2'	36:BA:2840:C:H6	1.74	0.52
50:BR:48:VAL:HG13	50:BR:49:ASP:N	2.25	0.52
29:B3:31:LEU:HD23	29:B3:32:GLN:H	1.72	0.52
36:BA:2479:G:OP1	36:BA:2537:U:H1'	2.09	0.52
38:BC:104:LEU:HD22	38:BC:127:LEU:HD21	1.90	0.52
48:BP:16:ARG:HH11	48:BP:16:ARG:C	2.12	0.52
48:BP:146:VAL:CG2	48:BP:147:LEU:H	2.08	0.52
25:AZ:330:ARG:HG2	25:AZ:330:ARG:HH11	1.75	0.52
1:AA:858:G:C8	1:AA:858:G:C5'	2.88	0.52
12:AL:42:THR:HG23	12:AL:42:THR:O	2.09	0.52
47:BO:64:ARG:NH1	47:BO:83:ALA:HB2	2.25	0.52
46:BN:65:LYS:CB	46:BN:65:LYS:NZ	2.73	0.52
25:AZ:120:ILE:HG22	25:AZ:161:TYR:HD1	1.74	0.52
7:AG:20:ASP:HB3	7:AG:23:VAL:CG2	2.40	0.52
54:BV:28:GLU:O	54:BV:61:VAL:CG2	2.58	0.52
16:AP:45:THR:HG22	16:AP:47:ASP:N	2.24	0.52
17:AQ:26:GLN:O	17:AQ:27:PHE:CB	2.57	0.52
22:AW:43:C:H2'	22:AW:44:G:H1'	1.90	0.52
40:BE:68:ALA:O	40:BE:70:ALA:N	2.41	0.52
1:AA:1258:G:H2'	1:AA:1259:C:C6	2.44	0.52
2:AB:59:GLU:HB2	2:AB:221:LEU:HD11	1.91	0.52
16:AP:22:THR:HA	16:AP:33:ILE:HG12	1.91	0.52
36:BA:2749:A:H4'	43:BH:62:LYS:HG2	1.91	0.52
3:AC:23:TYR:CD2	3:AC:24:ALA:N	2.77	0.52
1:AA:167:G:O2'	1:AA:168:G:H5'	2.10	0.52
57:BY:69:ALA:O	57:BY:72:VAL:HG22	2.09	0.52
1:AA:1060:C:C4	3:AC:2:GLY:HA3	2.44	0.52
14:AN:29:ARG:CG	14:AN:29:ARG:HH11	2.14	0.52
19:AS:78:ARG:N	19:AS:81:ARG:NH1	2.54	0.52
58:BZ:6:LYS:HG3	58:BZ:60:GLU:HB2	1.91	0.52
38:BC:163:PHE:HD1	38:BC:171:ILE:HD11	1.75	0.52
51:BS:66:ALA:O	51:BS:67:ARG:C	2.48	0.52
34:B8:60:LEU:C	34:B8:63:PRO:HD2	2.30	0.52
43:BH:52:VAL:HG12	43:BH:65:HIS:ND1	2.24	0.52
31:B5:33:CYS:SG	31:B5:49:CYS:SG	3.05	0.52
10:AJ:6:ILE:CG1	10:AJ:72:VAL:HB	2.37	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:BP:16:ARG:O	48:BP:18:ARG:N	2.43	0.52
39:BD:32:SER:O	39:BD:36:PRO:HD3	2.10	0.52
47:BO:87:ILE:HG22	47:BO:88:ASN:O	2.10	0.52
41:BF:129:PHE:C	41:BF:131:GLY:H	2.13	0.52
46:BN:134:ARG:N	46:BN:135:PRO:HD3	2.23	0.52
25:AZ:124:ARG:HD2	25:AZ:163:PHE:CE2	2.44	0.52
38:BC:103:ILE:HG22	38:BC:103:ILE:O	2.10	0.52
36:BA:1798:U:H5'	39:BD:259:THR:CG2	2.37	0.52
3:AC:22:TRP:CD1	3:AC:59:ARG:HG3	2.44	0.52
41:BF:29:ASN:HB3	41:BF:112:MET:SD	2.50	0.52
18:AR:30:ASP:OD1	18:AR:32:ARG:HB3	2.09	0.52
36:BA:1064:C:H3'	36:BA:1065:U:C5'	2.40	0.52
3:AC:3:ASN:O	3:AC:4:LYS:CB	2.57	0.52
39:BD:77:ALA:HB1	39:BD:95:LEU:HD13	1.91	0.52
5:AE:64:ARG:HH11	5:AE:64:ARG:HG3	1.75	0.52
36:BA:2822:G:H2'	36:BA:2823:A:H5''	1.92	0.52
16:AP:58:TYR:O	16:AP:62:VAL:HG22	2.10	0.52
58:BZ:134:PRO:HG2	58:BZ:161:VAL:HG21	1.92	0.52
22:AW:7:A:C4	22:AW:49:C:H5	2.27	0.52
36:BA:1234:U:H2'	36:BA:1235:G:O4'	2.10	0.52
13:AM:69:GLU:HA	13:AM:69:GLU:OE1	2.09	0.52
1:AA:189(C):C:O2'	1:AA:189(D):C:H5'	2.09	0.52
36:BA:1902:C:C2'	36:BA:1903:G:O5'	2.58	0.52
32:B6:16:CYS:SG	32:B6:48:VAL:CG2	2.98	0.52
57:BY:14:LEU:O	57:BY:72:VAL:HA	2.09	0.52
36:BA:2126:A:O2'	36:BA:2127:G:H8	1.93	0.52
25:AZ:99:MET:HE2	25:AZ:102:ALA:CB	2.38	0.52
35:B9:10:ILE:HG12	36:BA:2477:C:C5	2.44	0.52
1:AA:1119:C:O2'	1:AA:1120:G:H5'	2.10	0.52
43:BH:50:VAL:HG12	43:BH:51:ARG:H	1.73	0.52
43:BH:12:PRO:N	43:BH:48:GLY:HA2	2.24	0.52
34:B8:13:ARG:HD3	48:BP:61:ARG:HD2	1.90	0.52
1:AA:223:U:H2'	1:AA:224:C:C6	2.45	0.52
36:BA:2692:C:H2'	36:BA:2693:A:C8	2.45	0.52
46:BN:72:TYR:HE1	46:BN:87:LEU:HD23	1.73	0.52
25:AZ:311:THR:CG2	25:AZ:312:PRO:HD2	2.38	0.52
43:BH:156:ALA:C	43:BH:158:HIS:N	2.63	0.52
36:BA:469:G:OP1	41:BF:78:ILE:HD11	2.10	0.52
36:BA:2385:C:O2'	36:BA:2386:C:H5'	2.10	0.52
25:AZ:125:GLN:HE22	25:AZ:323:LEU:HD11	1.74	0.52
8:AH:28:ALA:HB3	8:AH:57:PRO:HB2	1.90	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:1444:C:H2'	1:AA:1445:C:H6	1.75	0.52
45:BK:30:UNK:O	45:BK:31:UNK:CB	2.58	0.52
37:BB:37:C:H2'	37:BB:38:C:O4'	2.09	0.52
2:AB:35:GLU:HG2	2:AB:35:GLU:O	2.10	0.52
22:AW:1:G:H2'	22:AW:1:G:N3	2.25	0.52
37:BB:95:C:O2'	37:BB:96:U:H5'	2.10	0.52
36:BA:1050:A:N3	36:BA:1050:A:H2'	2.25	0.52
1:AA:814:A:H2'	1:AA:816:A:H5''	1.92	0.52
36:BA:1076:C:H2'	36:BA:1077:A:C8	2.44	0.52
57:BY:14:LEU:HG	57:BY:15:VAL:N	2.25	0.52
38:BC:6:ARG:NH1	38:BC:34:THR:O	2.43	0.52
40:BE:82:ARG:HG3	40:BE:83:ASP:H	1.75	0.52
25:AZ:11:HIS:CD2	25:AZ:12:VAL:N	2.77	0.52
25:AZ:355:LEU:HD11	25:AZ:362:VAL:CG2	2.40	0.52
42:BG:67:LYS:CD	42:BG:67:LYS:N	2.63	0.52
37:BB:70:C:H2'	37:BB:71:C:H6	1.75	0.52
38:BC:104:LEU:O	38:BC:105:ASP:CB	2.57	0.52
1:AA:96:U:H2'	1:AA:97:G:C8	2.45	0.52
52:BT:33:LYS:HE2	52:BT:43:GLN:NE2	2.24	0.52
39:BD:26:LYS:O	39:BD:27:THR:HB	2.09	0.52
36:BA:2287:A:N6	36:BA:2344:U:N3	2.50	0.52
36:BA:2289:G:O5'	36:BA:2289:G:H8	1.92	0.52
25:AZ:318:ALA:HA	25:AZ:401:THR:H	1.75	0.52
46:BN:22:THR:HA	46:BN:61:ARG:HB2	1.91	0.52
21:AU:12:LYS:HB3	21:AU:22:ARG:HD2	1.91	0.52
36:BA:1153:C:H2'	36:BA:1153:C:O2	2.09	0.52
25:AZ:148:ASP:HA	25:AZ:172:ARG:NH2	2.20	0.52
30:B4:31:ILE:CG2	30:B4:33:VAL:HG23	2.40	0.52
39:BD:142:VAL:HG21	39:BD:191:ALA:HB1	1.91	0.52
36:BA:1955:U:O4	36:BA:2554:U:H5	1.93	0.52
13:AM:108:ARG:N	13:AM:108:ARG:HD2	2.24	0.52
7:AG:26:PHE:O	7:AG:30:ILE:HG12	2.10	0.52
2:AB:8:LYS:C	2:AB:10:LEU:H	2.13	0.52
2:AB:8:LYS:O	2:AB:11:LEU:N	2.43	0.52
1:AA:105:G:H2'	1:AA:106:C:C6	2.44	0.52
36:BA:1845:G:O2'	36:BA:1846:G:H5'	2.10	0.52
13:AM:36:LYS:HE2	13:AM:59:TYR:CZ	2.44	0.52
36:BA:1026:U:OP2	36:BA:1026:U:C6	2.63	0.52
1:AA:22:G:H4'	1:AA:885:G:C8	2.45	0.52
40:BE:120:TRP:CD2	40:BE:155:LYS:HB3	2.44	0.52
40:BE:134:ILE:HA	40:BE:137:HIS:CD2	2.45	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:B6:53:LYS:HD3	32:B6:54:ILE:N	2.19	0.52
25:AZ:272:MET:O	25:AZ:275:LYS:HG2	2.10	0.52
36:BA:850:C:H2'	36:BA:851:U:C6	2.45	0.52
58:BZ:76:LEU:O	58:BZ:84:GLU:HG3	2.10	0.52
36:BA:1210:A:H5''	36:BA:1212:G:O4'	2.10	0.52
36:BA:332:A:H4'	36:BA:333:G:OP1	2.09	0.52
5:AE:122:GLU:OE2	5:AE:131:ILE:HG21	2.10	0.52
36:BA:2162:G:O2'	36:BA:2163:C:H5'	2.10	0.52
38:BC:123:VAL:HG13	38:BC:124:GLY:N	2.24	0.52
38:BC:59:ARG:HH11	38:BC:141:LYS:NZ	2.08	0.52
38:BC:62:VAL:O	38:BC:160:ARG:HG2	2.10	0.52
51:BS:74:ALA:HB1	51:BS:103:GLU:HG2	1.91	0.52
1:AA:1118:C:O2'	1:AA:1119:C:H5'	2.11	0.52
41:BF:16:GLY:O	41:BF:17:ARG:HG3	2.11	0.52
16:AP:48:TRP:O	16:AP:49:LEU:HB2	2.10	0.52
41:BF:160:ASN:ND2	41:BF:162:LEU:HB2	2.25	0.52
39:BD:270:ILE:HD12	39:BD:270:ILE:N	2.15	0.52
19:AS:31:ILE:HG22	19:AS:48:THR:O	2.10	0.52
20:AT:74:LYS:CG	20:AT:75:ASN:H	2.21	0.52
1:AA:234:C:H2'	1:AA:235:C:C6	2.45	0.52
36:BA:1038:C:C3'	36:BA:1039:G:H5''	2.40	0.52
41:BF:84:VAL:O	41:BF:85:GLY:C	2.48	0.52
56:BX:30:VAL:HG11	56:BX:39:ILE:HD12	1.91	0.52
20:AT:51:GLU:O	20:AT:55:ILE:HG12	2.10	0.52
36:BA:1251:C:P	53:BU:10:ARG:HG3	2.50	0.52
7:AG:120:ILE:O	7:AG:124:LEU:HB2	2.09	0.52
17:AQ:77:VAL:O	17:AQ:78:GLU:HB3	2.10	0.52
1:AA:1050:G:O2'	1:AA:1051:C:H6	1.93	0.52
56:BX:31:HIS:HB3	56:BX:34:ALA:HB2	1.91	0.52
48:BP:46:LYS:HB3	48:BP:52:GLU:HG2	1.92	0.52
53:BU:47:TYR:HE2	54:BV:74:LYS:HZ2	1.58	0.52
25:AZ:114:PRO:HA	25:AZ:117:ARG:HH12	1.75	0.52
20:AT:41:ILE:HG22	20:AT:91:LEU:HD12	1.91	0.52
44:BJ:72:UNK:O	44:BJ:73:UNK:CB	2.58	0.52
36:BA:2563:U:H4'	47:BO:28:SER:HA	1.92	0.52
44:BJ:79:UNK:O	44:BJ:80:UNK:CB	2.57	0.52
36:BA:1790:C:H5''	36:BA:1791:A:OP1	2.10	0.52
17:AQ:47:PRO:HG2	17:AQ:48:GLU:H	1.75	0.52
1:AA:725:G:O2'	1:AA:726:C:H5'	2.10	0.52
1:AA:1243:C:H2'	1:AA:1244:C:C6	2.45	0.52
36:BA:176:G:O2'	36:BA:177:G:H5'	2.10	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:B6:20:ASN:O	32:B6:21:TYR:CG	2.62	0.51
28:B2:50:ILE:N	28:B2:50:ILE:HD12	2.24	0.51
57:BY:31:LEU:CB	57:BY:32:PRO:CA	2.88	0.51
57:BY:14:LEU:HB3	57:BY:73:ARG:HB2	1.91	0.51
38:BC:6:ARG:NH1	38:BC:6:ARG:O	2.42	0.51
38:BC:8:ARG:O	38:BC:12:GLU:HG2	2.11	0.51
36:BA:1666:G:O3'	47:BO:6:THR:HG23	2.10	0.51
58:BZ:8:TYR:HB2	58:BZ:38:TYR:CE2	2.44	0.51
50:BR:53:HIS:O	50:BR:53:HIS:ND1	2.43	0.51
39:BD:267:SER:CA	39:BD:270:ILE:HD11	2.39	0.51
19:AS:31:ILE:O	19:AS:31:ILE:HG23	2.10	0.51
36:BA:1947:C:O2'	36:BA:1948:G:H5''	2.10	0.51
25:AZ:221:PHE:CE2	25:AZ:247:VAL:HG11	2.44	0.51
58:BZ:140:ASP:O	58:BZ:141:VAL:HG23	2.10	0.51
36:BA:631:A:H4'	48:BP:65:ARG:HD3	1.92	0.51
25:AZ:317:GLU:O	25:AZ:401:THR:HG22	2.09	0.51
54:BV:36:PRO:HA	54:BV:56:SER:HB2	1.92	0.51
25:AZ:212:THR:N	25:AZ:213:PRO:CD	2.72	0.51
58:BZ:103:ARG:HD2	58:BZ:136:PHE:CB	2.38	0.51
10:AJ:40:LEU:HB2	10:AJ:41:PRO:HD2	1.92	0.51
34:B8:21:LYS:HD3	34:B8:48:PHE:CE2	2.45	0.51
56:BX:64:LYS:HZ3	56:BX:73:ARG:HH21	1.54	0.51
39:BD:16:MET:HE1	39:BD:208:LYS:HD3	1.92	0.51
36:BA:1576:U:H2'	36:BA:1577:C:C6	2.45	0.51
40:BE:15:PHE:CE1	40:BE:20:ALA:HB2	2.45	0.51
48:BP:101:VAL:HG23	48:BP:102:ARG:N	2.25	0.51
49:BQ:63:LYS:HD2	58:BZ:175:VAL:HG21	1.92	0.51
36:BA:593:G:H2'	36:BA:594:U:O4'	2.11	0.51
11:AK:71:LYS:O	11:AK:74:ALA:HB3	2.10	0.51
11:AK:126:ARG:O	11:AK:128:ALA:N	2.43	0.51
44:BJ:74:UNK:C	44:BJ:76:UNK:H	2.23	0.51
41:BF:28:ILE:O	41:BF:28:ILE:HG12	2.10	0.51
8:AH:37:ARG:NH2	8:AH:41:ARG:HH22	2.08	0.51
36:BA:1810:A:H2'	36:BA:1811:G:O4'	2.09	0.51
36:BA:1902:C:H1'	39:BD:244:ARG:HG3	1.90	0.51
38:BC:30:LYS:HE2	38:BC:178:ALA:O	2.10	0.51
56:BX:18:TYR:HA	56:BX:21:PHE:CD1	2.44	0.51
36:BA:252:G:H2'	36:BA:253:C:H6	1.76	0.51
13:AM:79:LYS:O	13:AM:82:MET:HB3	2.11	0.51
40:BE:49:LEU:HD11	40:BE:91:VAL:HG21	1.92	0.51
38:BC:141:LYS:HB2	38:BC:141:LYS:HZ2	1.73	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:BS:97:ARG:C	51:BS:97:ARG:NE	2.64	0.51
36:BA:2892:A:H62	36:BA:2893:G:H21	1.57	0.51
52:BT:28:VAL:O	52:BT:29:ARG:CD	2.58	0.51
52:BT:92:GLY:O	52:BT:93:ARG:C	2.48	0.51
19:AS:63:THR:OG1	19:AS:64:GLU:N	2.43	0.51
43:BH:40:GLU:O	43:BH:41:MET:CB	2.58	0.51
39:BD:21:PHE:O	39:BD:24:ILE:HG23	2.11	0.51
51:BS:46:VAL:HG12	51:BS:47:THR:H	1.75	0.51
36:BA:812:C:C2	36:BA:813:U:C5	2.98	0.51
19:AS:28:LYS:HE2	19:AS:29:ARG:NH1	2.25	0.51
13:AM:12:ASN:N	13:AM:12:ASN:HD22	1.90	0.51
37:BB:82:G:O2'	37:BB:83:G:H5'	2.10	0.51
2:AB:116:GLU:C	2:AB:118:LEU:N	2.64	0.51
1:AA:1219:U:C2	1:AA:1220:G:C8	2.99	0.51
48:BP:105:LEU:N	48:BP:105:LEU:HD12	2.25	0.51
43:BH:98:LEU:HD22	43:BH:125:VAL:CG2	2.39	0.51
1:AA:347:G:H21	1:AA:348:G:H1'	1.75	0.51
46:BN:62:VAL:HG22	46:BN:66:LYS:HB2	1.90	0.51
54:BV:34:GLU:O	54:BV:36:PRO:HD2	2.10	0.51
42:BG:47:LYS:HZ1	42:BG:81:LYS:HB2	1.75	0.51
5:AE:80:ILE:HA	8:AH:104:ARG:NH2	2.25	0.51
37:BB:86:G:O2'	37:BB:87:G:H5'	2.10	0.51
16:AP:21:VAL:HG11	16:AP:34:GLU:HB3	1.91	0.51
5:AE:110:LEU:O	5:AE:113:ALA:HB3	2.09	0.51
1:AA:453:A:O2'	1:AA:454:C:H5''	2.09	0.51
22:AW:59:U:C2'	22:AW:60:U:H5'	2.38	0.51
18:AR:37:VAL:HG11	18:AR:78:LEU:HB3	1.92	0.51
36:BA:784:A:C6	39:BD:229:VAL:HG11	2.45	0.51
53:BU:57:PHE:C	53:BU:59:ARG:H	2.13	0.51
36:BA:117:G:C6	36:BA:119:A:C6	2.97	0.51
1:AA:1143:G:H2'	1:AA:1144:G:H8	1.73	0.51
36:BA:1316:U:H2'	36:BA:1317:A:H8	1.72	0.51
49:BQ:54:MET:CE	49:BQ:64:ILE:HD13	2.40	0.51
25:AZ:136:ASN:O	25:AZ:137:LYS:HB2	2.11	0.51
26:B0:16:SER:HB2	36:BA:2262:U:C5	2.45	0.51
36:BA:1769:G:O2'	36:BA:1958:C:OP1	2.22	0.51
36:BA:1148:A:N3	36:BA:1148:A:H2'	2.25	0.51
36:BA:2181:G:H2'	36:BA:2182:G:H8	1.75	0.51
36:BA:272(B):G:O2'	36:BA:272(C):G:H5'	2.10	0.51
36:BA:188:G:H2'	36:BA:189:G:H5'	1.92	0.51
25:AZ:253:VAL:HA	25:AZ:307:PRO:HD3	1.93	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:AZ:265:THR:HG22	25:AZ:266:VAL:H	1.74	0.51
2:AB:62:ALA:HB2	2:AB:222:ILE:HG23	1.92	0.51
42:BG:10:LYS:O	42:BG:15:VAL:HG23	2.11	0.51
32:B6:13:CYS:O	32:B6:21:TYR:HA	2.10	0.51
57:BY:81:LYS:NZ	57:BY:99:CYS:HB2	2.25	0.51
15:AO:82:ILE:HD11	15:AO:87:ILE:C	2.31	0.51
36:BA:1666:G:H2'	36:BA:1667:G:C5'	2.38	0.51
51:BS:54:LEU:C	51:BS:56:LEU:N	2.62	0.51
36:BA:2742:C:O2'	36:BA:2743:C:H5'	2.11	0.51
1:AA:1001(A):G:O2'	1:AA:1002:G:H5'	2.11	0.51
10:AJ:7:LYS:HG2	10:AJ:71:LEU:HD13	1.93	0.51
1:AA:221:C:H2'	1:AA:222:U:H6	1.75	0.51
36:BA:671:C:H2'	36:BA:672:C:H6	1.75	0.51
46:BN:54:VAL:HB	46:BN:122:VAL:HG22	1.92	0.51
36:BA:1187:G:H5''	54:BV:81:TYR:CZ	2.45	0.51
39:BD:254:THR:O	39:BD:254:THR:OG1	2.24	0.51
53:BU:5:LYS:HG3	53:BU:7:GLY:H	1.75	0.51
4:AD:126:ILE:CG2	4:AD:127:THR:N	2.73	0.51
1:AA:390:C:H2'	1:AA:391:G:C8	2.45	0.51
27:B1:23:LYS:HD2	27:B1:28:GLY:HA3	1.92	0.51
1:AA:60:A:H4'	1:AA:61:G:O5'	2.09	0.51
36:BA:830:G:H1'	36:BA:2448:A:N1	2.24	0.51
1:AA:1222:G:O2'	1:AA:1223:C:H5'	2.10	0.51
45:BK:62:UNK:O	45:BK:63:UNK:C	2.57	0.51
43:BH:88:LEU:HD22	43:BH:88:LEU:N	2.25	0.51
13:AM:9:ILE:N	13:AM:9:ILE:HD12	2.26	0.51
1:AA:1465:C:H2'	1:AA:1466:C:O4'	2.10	0.51
30:B4:36:CYS:HB2	42:BG:108:ASN:O	2.11	0.51
41:BF:2:LYS:HG3	41:BF:25:PRO:CG	2.40	0.51
32:B6:19:ARG:NH1	32:B6:43:CYS:SG	2.83	0.51
25:AZ:16:THR:HB	25:AZ:79:HIS:HE2	1.74	0.51
36:BA:1884:A:C3'	36:BA:1885:A:H5''	2.41	0.51
38:BC:183:GLU:HB2	38:BC:184:LYS:NZ	2.25	0.51
54:BV:47:VAL:O	54:BV:49:THR:N	2.44	0.51
52:BT:28:VAL:O	52:BT:28:VAL:HG12	2.10	0.51
2:AB:68:ILE:O	2:AB:90:MET:HE2	2.10	0.51
43:BH:68:THR:C	43:BH:70:THR:N	2.62	0.51
52:BT:16:ARG:H	52:BT:79:HIS:CD2	2.29	0.51
10:AJ:30:SER:HB2	10:AJ:80:LYS:HZ3	1.74	0.51
36:BA:1528:A:N1	36:BA:1542:A:H2	2.08	0.51
36:BA:1541:G:H1'	36:BA:1542:A:C4	2.45	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:BP:107:LYS:C	48:BP:109:GLY:N	2.62	0.51
3:AC:130:VAL:HG21	3:AC:157:ILE:HG23	1.92	0.51
36:BA:105:C:H2'	36:BA:106:C:C6	2.43	0.51
15:AO:74:ASP:CG	15:AO:77:ARG:HG2	2.30	0.51
28:B2:2:LYS:O	28:B2:6:VAL:HG23	2.10	0.51
36:BA:784:A:H5''	39:BD:227:ASN:OD1	2.10	0.51
27:B1:50:ARG:HD3	27:B1:57:GLU:OE1	2.10	0.51
1:AA:1176:A:H2'	1:AA:1177:G:C8	2.45	0.51
4:AD:108:LEU:CD1	4:AD:174:LEU:HD13	2.40	0.51
49:BQ:10:ARG:NH1	49:BQ:10:ARG:HB2	2.25	0.51
19:AS:16:LEU:O	19:AS:18:LYS:N	2.44	0.51
7:AG:80:VAL:O	7:AG:82:GLY:N	2.41	0.51
36:BA:863:A:O2'	36:BA:864:G:H5'	2.11	0.51
43:BH:136:ILE:HD12	43:BH:136:ILE:N	2.24	0.51
1:AA:35:G:H2'	1:AA:36:C:C6	2.45	0.51
36:BA:2262:U:H2'	36:BA:2263:C:H6	1.75	0.51
6:AF:24:GLU:O	6:AF:27:GLN:HB2	2.10	0.51
36:BA:2143:C:O2'	36:BA:2144:U:H5'	2.10	0.51
18:AR:25:THR:O	18:AR:26:LEU:HG	2.09	0.51
7:AG:87:VAL:HG13	7:AG:151:TYR:O	2.11	0.51
56:BX:54:VAL:CG2	56:BX:81:VAL:HG12	2.40	0.51
38:BC:147:PHE:C	38:BC:149:ILE:H	2.14	0.51
52:BT:46:GLU:OE2	52:BT:88:ILE:HG13	2.10	0.51
58:BZ:127:LYS:HB3	58:BZ:127:LYS:NZ	2.25	0.51
50:BR:93:GLY:C	50:BR:94:TYR:HD2	2.13	0.51
34:B8:61:LEU:C	34:B8:63:PRO:HD2	2.31	0.51
1:AA:1117:G:O3'	9:AI:104:ARG:NH1	2.43	0.51
47:BO:115:VAL:CG1	47:BO:121:VAL:HG21	2.39	0.51
48:BP:16:ARG:O	48:BP:16:ARG:NH1	2.44	0.51
43:BH:15:VAL:HG23	43:BH:16:SER:N	2.26	0.51
1:AA:235:C:H1'	17:AQ:61:GLU:OE1	2.11	0.51
1:AA:1265:G:C2	1:AA:1271:G:C2	2.98	0.51
36:BA:1257:C:H2'	36:BA:1258:C:H6	1.76	0.51
22:AV:73:A:H5'	22:AV:73:A:N3	2.26	0.51
48:BP:95:VAL:HG23	48:BP:95:VAL:O	2.10	0.51
49:BQ:32:TYR:OH	49:BQ:111:GLU:HB2	2.10	0.51
42:BG:114:ILE:O	42:BG:114:ILE:HG23	2.10	0.51
1:AA:954:G:O3'	13:AM:120:LYS:HD2	2.11	0.51
53:BU:79:PHE:CE1	53:BU:83:LEU:HD21	2.45	0.51
1:AA:1032:G:H2'	1:AA:1033:G:C8	2.46	0.51
13:AM:34:LEU:HD13	13:AM:41:PRO:HA	1.91	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BA:145:G:C2'	36:BA:146:G:H5''	2.40	0.51
55:BW:52:GLU:O	55:BW:54:ALA:N	2.35	0.51
1:AA:382:A:H2'	1:AA:383:A:C8	2.46	0.51
49:BQ:43:THR:O	49:BQ:46:GLN:HB2	2.10	0.51
1:AA:865:A:H5'	1:AA:1078:U:O4	2.10	0.51
2:AB:162:ILE:CG2	2:AB:184:VAL:HG22	2.41	0.51
53:BU:85:LYS:C	53:BU:87:GLY:N	2.64	0.51
54:BV:40:LEU:HD22	54:BV:40:LEU:N	2.26	0.51
36:BA:2020:A:O2'	36:BA:2021:C:H5'	2.10	0.51
32:B6:8:LYS:O	32:B6:9:LEU:HB3	2.11	0.51
57:BY:10:GLY:CA	57:BY:27:VAL:HG13	2.41	0.51
56:BX:18:TYR:HD1	56:BX:21:PHE:HE1	1.59	0.51
56:BX:36:LYS:HE2	56:BX:54:VAL:O	2.10	0.51
1:AA:1320:C:H2'	1:AA:1321:C:O4'	2.10	0.51
52:BT:28:VAL:HG22	52:BT:46:GLU:CA	2.41	0.51
36:BA:1221:C:H2'	36:BA:1221(A):C:C6	2.44	0.51
19:AS:19:VAL:CG1	19:AS:44:MET:HG3	2.40	0.51
31:B5:47:PRO:O	31:B5:49:CYS:N	2.34	0.51
36:BA:1654:A:OP2	50:BR:3:HIS:HD2	1.94	0.51
1:AA:254:G:N2	17:AQ:16:GLN:HE22	2.06	0.51
57:BY:86:ARG:CD	57:BY:88:LYS:HG3	2.40	0.51
9:AI:93:ARG:C	9:AI:95:LYS:N	2.64	0.51
36:BA:511:U:H5''	36:BA:512:G:OP2	2.09	0.51
36:BA:1278:A:H5''	50:BR:36:THR:HG22	1.93	0.51
1:AA:175:C:O2'	1:AA:176:C:H5'	2.11	0.51
1:AA:180:U:H2'	1:AA:181:G:H5'	1.92	0.51
13:AM:119:GLY:O	13:AM:120:LYS:CB	2.58	0.51
53:BU:83:LEU:CD1	53:BU:83:LEU:H	2.24	0.51
36:BA:2688:U:H1'	36:BA:2721:A:H61	1.73	0.51
13:AM:58:GLU:O	13:AM:62:ASN:HB2	2.10	0.51
36:BA:1766:U:H2'	36:BA:1767:C:C6	2.46	0.51
18:AR:53:ARG:C	18:AR:55:ARG:N	2.63	0.51
40:BE:65:GLY:O	40:BE:66:HIS:C	2.47	0.51
26:B0:45:PHE:HE2	26:B0:77:ARG:NH2	2.08	0.51
1:AA:502:G:OP1	12:AL:118:SER:HB2	2.11	0.51
24:AY:24:A:H2'	24:AY:25:C:C6	2.46	0.51
24:AY:37:MIA:H121	24:AY:38:A:N1	2.26	0.51
36:BA:2829:C:H2'	36:BA:2830:G:O4'	2.10	0.51
32:B6:41:PRO:HG3	32:B6:49:HIS:CE1	2.45	0.51
56:BX:55:ASN:HB2	56:BX:80:ILE:HG12	1.91	0.51
54:BV:47:VAL:CG1	54:BV:52:VAL:HB	2.25	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:BS:54:LEU:CD2	51:BS:58:LEU:O	2.59	0.51
58:BZ:98:MET:O	58:BZ:126:VAL:HG22	2.11	0.51
22:AV:18:G:H2'	22:AV:57:G:N2	2.25	0.51
1:AA:1216:G:H2'	1:AA:1217:C:H6	1.75	0.51
52:BT:106:SER:O	52:BT:107:ASP:CB	2.58	0.51
12:AL:27:LEU:O	12:AL:28:LYS:C	2.49	0.51
40:BE:24:THR:HB	40:BE:184:VAL:CG2	2.40	0.51
25:AZ:171:ILE:N	25:AZ:171:ILE:HD12	2.26	0.51
16:AP:3:LYS:O	16:AP:21:VAL:HA	2.11	0.51
36:BA:2580:U:H5'	40:BE:131:ALA:HB2	1.93	0.51
1:AA:1309:G:OP1	13:AM:92:HIS:HE1	1.92	0.51
39:BD:73:VAL:HG13	39:BD:120:GLY:HA3	1.92	0.51
35:B9:13:LYS:HD2	35:B9:28:GLU:CB	2.41	0.51
37:BB:73:A:C2'	37:BB:74:U:H5'	2.41	0.51
1:AA:417:C:O2'	1:AA:418:C:H5'	2.11	0.51
36:BA:963:U:H2'	36:BA:964:C:C6	2.46	0.51
36:BA:1801:G:OP2	39:BD:154:LYS:HE3	2.10	0.51
36:BA:1625:C:C2'	36:BA:1626:G:H5'	2.41	0.51
42:BG:96:ARG:HA	42:BG:99:MET:HE2	1.93	0.51
32:B6:22:ALA:O	32:B6:23:THR:HG23	2.09	0.51
36:BA:485:C:N3	36:BA:496:G:C2	2.79	0.51
36:BA:1131:G:H8	36:BA:2025:C:H4'	1.75	0.51
38:BC:76:ALA:HB2	38:BC:153:ILE:HD11	1.92	0.51
36:BA:2789:C:H1'	36:BA:2892:A:C2	2.45	0.51
35:B9:7:VAL:HG13	35:B9:34:GLN:CG	2.39	0.51
35:B9:1:MET:HB2	35:B9:34:GLN:OE1	2.11	0.51
1:AA:1128:C:O2'	1:AA:1130:A:N7	2.42	0.51
48:BP:24:GLY:CA	48:BP:33:ARG:CZ	2.89	0.51
22:AV:57:G:O2'	22:AV:58:A:H5'	2.10	0.51
57:BY:94:LYS:O	57:BY:101:LYS:HA	2.11	0.51
36:BA:2512:C:H4'	40:BE:122:PHE:CE2	2.45	0.51
25:AZ:334:PHE:CE2	25:AZ:353:VAL:HG11	2.45	0.51
42:BG:57:ALA:HA	42:BG:90:LEU:HD21	1.93	0.51
1:AA:176:C:H2'	1:AA:177:C:C5	2.46	0.51
2:AB:32:ILE:HD11	2:AB:40:HIS:CB	2.40	0.51
27:B1:67:ILE:N	27:B1:68:PRO:CD	2.74	0.51
13:AM:94:ARG:HH22	36:BA:887:A:H5'	1.76	0.51
1:AA:80:G:H3'	1:AA:81:U:H5'	1.92	0.51
56:BX:9:LEU:HD23	56:BX:9:LEU:N	2.25	0.51
36:BA:2735:G:H2'	36:BA:2736:G:C8	2.46	0.51
36:BA:1744:C:C2'	36:BA:1745:C:H5'	2.41	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BA:470:A:OP1	41:BF:59:TYR:CE2	2.63	0.51
36:BA:2483:C:H2'	36:BA:2483:C:O2	2.10	0.51
1:AA:622:A:C8	1:AA:623:C:C6	2.99	0.51
53:BU:109:LEU:O	53:BU:113:ALA:N	2.43	0.51
57:BY:31:LEU:CB	57:BY:32:PRO:HA	2.35	0.51
32:B6:27:LYS:O	32:B6:27:LYS:HG3	2.11	0.51
51:BS:12:PHE:H	51:BS:12:PHE:HD2	1.59	0.51
35:B9:10:ILE:HG12	36:BA:2477:C:H5	1.76	0.51
48:BP:29:LYS:HD2	48:BP:29:LYS:N	2.26	0.51
36:BA:229:A:H3'	36:BA:230:U:C5'	2.33	0.51
48:BP:113:LYS:HA	48:BP:129:ALA:O	2.10	0.51
42:BG:88:ILE:CG2	42:BG:89:GLY:N	2.73	0.51
36:BA:1149:G:H2'	36:BA:1150:C:C6	2.46	0.51
4:AD:47:ARG:HD3	4:AD:49:ARG:NH2	2.23	0.51
8:AH:11:THR:HA	8:AH:14:ARG:HH12	1.76	0.51
39:BD:69:ARG:HD2	39:BD:119:ALA:HB2	1.93	0.51
36:BA:270:A:H2'	36:BA:271:A:H5'	1.92	0.51
36:BA:89:G:H3'	36:BA:90:U:C5'	2.41	0.51
9:AI:11:LYS:O	9:AI:13:ALA:N	2.44	0.51
1:AA:502:G:H2'	1:AA:503:C:O4'	2.11	0.51
11:AK:117:ASN:N	11:AK:117:ASN:HD22	2.07	0.51
37:BB:111:G:O2'	37:BB:112:U:H5'	2.10	0.51
1:AA:1347:G:N2	1:AA:1373:G:H2'	2.25	0.51
1:AA:1351:U:H5'	7:AG:33:ASP:OD1	2.10	0.51
1:AA:355:C:N4	1:AA:356:A:H62	2.09	0.51
36:BA:310:A:OP1	57:BY:18:GLY:HA2	2.11	0.51
56:BX:24:GLY:O	56:BX:81:VAL:O	2.29	0.51
36:BA:2170:A:H4'	38:BC:133:PRO:HB3	1.92	0.51
51:BS:66:ALA:CA	51:BS:69:VAL:HG12	2.41	0.51
25:AZ:356:PRO:HB3	25:AZ:357:PRO:HD2	1.93	0.51
36:BA:1244:G:H2'	36:BA:1245:G:O4'	2.11	0.51
58:BZ:44:PHE:CD1	58:BZ:44:PHE:C	2.85	0.51
26:B0:67:VAL:HG12	26:B0:68:GLU:H	1.75	0.51
36:BA:272(H):C:H2'	36:BA:272(I):U:C5'	2.26	0.51
1:AA:1002:G:H2'	1:AA:1003:G:H8	1.74	0.51
1:AA:927:G:O3'	23:AX:15:A:H2	1.93	0.51
52:BT:83:ILE:HG13	52:BT:84:GLN:H	1.70	0.51
52:BT:13:ARG:HH12	52:BT:15:VAL:CG1	2.19	0.51
7:AG:75:VAL:O	7:AG:75:VAL:HG23	2.11	0.51
20:AT:74:LYS:HG2	20:AT:75:ASN:H	1.74	0.51
41:BF:154:VAL:CG1	41:BF:193:VAL:HG23	2.40	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:BP:111:ARG:NE	48:BP:149:GLU:HG3	2.26	0.51
46:BN:62:VAL:CG2	46:BN:66:LYS:HB2	2.41	0.51
42:BG:73:ALA:H	42:BG:87:PRO:CG	2.24	0.51
36:BA:761:A:C8	36:BA:761:A:C3'	2.93	0.51
36:BA:1354:A:H2'	36:BA:1355:G:O4'	2.11	0.51
1:AA:384:G:H2'	1:AA:385:C:H6	1.74	0.51
9:AI:43:ALA:O	9:AI:45:ALA:N	2.44	0.51
53:BU:3:ARG:HG2	53:BU:3:ARG:HH11	1.76	0.51
53:BU:46:ALA:O	53:BU:49:HIS:N	2.44	0.51
1:AA:839:U:H2'	1:AA:839:U:O2	2.11	0.51
36:BA:1327:C:H2'	36:BA:1328:G:O4'	2.10	0.51
33:B7:5:TRP:CZ3	36:BA:464:U:H4'	2.45	0.51
36:BA:491:G:H2'	36:BA:492:A:C8	2.46	0.51
6:AF:44:GLY:O	6:AF:60:PHE:N	2.43	0.51
15:AO:65:ARG:HH11	15:AO:65:ARG:HG2	1.76	0.51
8:AH:116:LYS:CD	8:AH:127:LEU:HD12	2.41	0.51
56:BX:27:THR:HG22	56:BX:80:ILE:CG2	2.39	0.50
36:BA:2491:U:O2'	36:BA:2492:U:H5'	2.11	0.50
58:BZ:86:VAL:O	58:BZ:87:ASP:OD1	2.29	0.50
50:BR:53:HIS:HD2	50:BR:94:TYR:OH	1.94	0.50
36:BA:686:G:N2	36:BA:788:A:N6	2.59	0.50
36:BA:2791:C:H4'	36:BA:2792:G:O5'	2.12	0.50
52:BT:78:LEU:O	52:BT:79:HIS:CG	2.64	0.50
39:BD:266:SER:O	39:BD:267:SER:O	2.29	0.50
25:AZ:352:VAL:O	25:AZ:372:VAL:HG23	2.11	0.50
47:BO:9:GLU:O	47:BO:83:ALA:HA	2.12	0.50
20:AT:97:ALA:O	20:AT:99:LEU:N	2.44	0.50
28:B2:14:ARG:NH2	36:BA:77:C:O3'	2.37	0.50
12:AL:33:ARG:HB3	12:AL:60:LEU:HD12	1.93	0.50
50:BR:114:VAL:HG23	50:BR:114:VAL:O	2.12	0.50
54:BV:17:GLY:C	54:BV:18:LEU:HD13	2.30	0.50
11:AK:52:GLY:H	11:AK:55:LYS:HE2	1.73	0.50
52:BT:131:ALA:C	52:BT:133:GLU:N	2.61	0.50
2:AB:8:LYS:HE2	2:AB:217:ARG:CZ	2.41	0.50
39:BD:166:GLN:HE21	39:BD:166:GLN:CA	2.19	0.50
36:BA:1637:A:H4'	36:BA:2711:A:O2'	2.11	0.50
36:BA:1826:G:H4'	39:BD:242:ARG:NH2	2.26	0.50
11:AK:25:TYR:HE1	11:AK:87:THR:HB	1.75	0.50
9:AI:121:ARG:HG2	9:AI:121:ARG:HH11	1.75	0.50
50:BR:72:ASP:HB3	50:BR:75:LEU:HB2	1.92	0.50
1:AA:259:G:O2'	1:AA:260:G:H5'	2.10	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BA:2758:A:O2'	36:BA:2759:G:H8	1.94	0.50
36:BA:2111:C:N3	36:BA:2145:C:H2'	2.25	0.50
39:BD:244:ARG:HG2	39:BD:245:PRO:HD3	1.93	0.50
32:B6:11:LEU:HD11	32:B6:51:GLU:CG	2.42	0.50
57:BY:67:LEU:HD23	57:BY:68:HIS:N	2.25	0.50
38:BC:14:VAL:HG12	38:BC:14:VAL:O	2.10	0.50
1:AA:1060:C:O2'	10:AJ:56:HIS:HD2	1.94	0.50
19:AS:6:LYS:CD	19:AS:6:LYS:N	2.54	0.50
58:BZ:19:ARG:HH12	58:BZ:84:GLU:CB	2.23	0.50
2:AB:42:ILE:HD12	2:AB:202:PRO:C	2.32	0.50
38:BC:190:ARG:O	38:BC:194:ARG:HG3	2.10	0.50
36:BA:2591:C:P	39:BD:239:ARG:HB2	2.51	0.50
36:BA:1301:A:HO2'	36:BA:1302:A:H2'	1.69	0.50
1:AA:495:A:H1'	1:AA:496:A:C8	2.45	0.50
57:BY:88:LYS:NZ	57:BY:93:GLY:N	2.58	0.50
36:BA:2464:C:O2'	36:BA:2465:C:P	2.69	0.50
50:BR:18:LEU:HD13	50:BR:18:LEU:C	2.32	0.50
50:BR:80:PHE:O	50:BR:85:PRO:HD3	2.11	0.50
46:BN:62:VAL:HG13	46:BN:62:VAL:O	2.11	0.50
25:AZ:34:VAL:HG11	25:AZ:199:ILE:HG22	1.93	0.50
40:BE:132:HIS:CA	40:BE:135:HIS:HE1	2.23	0.50
51:BS:17:ARG:O	51:BS:20:ARG:N	2.38	0.50
25:AZ:181:GLN:OE1	25:AZ:193:ASN:OD1	2.29	0.50
8:AH:103:VAL:HB	8:AH:109:ILE:N	2.26	0.50
1:AA:737:A:O2'	1:AA:738:C:H5'	2.11	0.50
9:AI:57:GLY:O	9:AI:58:ARG:CB	2.58	0.50
40:BE:134:ILE:C	40:BE:134:ILE:HD12	2.31	0.50
48:BP:17:LYS:O	48:BP:17:LYS:HG2	2.12	0.50
36:BA:363(E):U:H3'	36:BA:363(F):A:O4'	2.11	0.50
36:BA:276:A:O2'	36:BA:277:C:H5'	2.10	0.50
36:BA:1645:G:H5''	36:BA:1646:C:H5'	1.93	0.50
32:B6:10:LEU:HD12	34:B8:34:TRP:HD1	1.76	0.50
32:B6:16:CYS:SG	32:B6:48:VAL:HG22	2.51	0.50
57:BY:54:LYS:HE3	57:BY:55:TYR:HE1	1.73	0.50
57:BY:8:LYS:HE2	57:BY:72:VAL:HG23	1.92	0.50
56:BX:21:PHE:O	56:BX:22:ALA:C	2.49	0.50
36:BA:251:A:H5''	48:BP:51:PHE:CZ	2.46	0.50
54:BV:3:ALA:CB	54:BV:14:VAL:HG23	2.41	0.50
38:BC:200:LYS:HG3	38:BC:208:PHE:CD1	2.46	0.50
38:BC:43:VAL:HG22	38:BC:214:VAL:HG13	1.92	0.50
38:BC:100:ILE:HG23	38:BC:127:LEU:CD1	2.42	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:BH:46:GLU:OE1	43:BH:50:VAL:HG13	2.11	0.50
43:BH:64:LEU:O	43:BH:67:LEU:HB3	2.11	0.50
39:BD:35:LYS:HB2	39:BD:63:ARG:HG2	1.93	0.50
36:BA:1654:A:OP1	50:BR:3:HIS:N	2.45	0.50
48:BP:57:THR:C	48:BP:59:LEU:H	2.14	0.50
46:BN:103:VAL:O	46:BN:104:LYS:C	2.50	0.50
12:AL:41:ARG:HH12	12:AL:57:LYS:HZ3	1.59	0.50
36:BA:673:C:P	41:BF:81:PRO:HG3	2.52	0.50
36:BA:898:C:H2'	36:BA:899:A:C5'	2.36	0.50
36:BA:1227:G:O2'	36:BA:1228:G:H5'	2.10	0.50
20:AT:57:ARG:NH1	20:AT:103:GLY:N	2.59	0.50
20:AT:53:LEU:H	20:AT:53:LEU:HD12	1.76	0.50
25:AZ:162:GLU:OE2	25:AZ:162:GLU:N	2.45	0.50
31:B5:20:ARG:HA	31:B5:23:HIS:CE1	2.47	0.50
9:AI:99:LEU:HB3	9:AI:101:PHE:CD1	2.47	0.50
54:BV:19:LYS:HB2	54:BV:96:ILE:HD11	1.93	0.50
36:BA:2308:G:C2'	36:BA:2309:A:C8	2.95	0.50
36:BA:560:C:H4'	53:BU:52:ARG:NH2	2.26	0.50
25:AZ:185:ASN:OD1	25:AZ:188:THR:HG21	2.12	0.50
21:AU:24:ARG:O	21:AU:25:LYS:CB	2.59	0.50
27:B1:27:GLU:CG	27:B1:28:GLY:N	2.74	0.50
20:AT:41:ILE:HG21	20:AT:87:LYS:CG	2.41	0.50
1:AA:232:G:H1'	1:AA:262:A:N1	2.26	0.50
36:BA:308:G:H1'	36:BA:501:A:OP1	2.12	0.50
36:BA:776:G:H4'	36:BA:777:A:O5'	2.12	0.50
1:AA:882:C:O2'	1:AA:883:C:H5'	2.12	0.50
5:AE:76:ILE:HG12	5:AE:93:PRO:HG3	1.93	0.50
32:B6:42:TRP:CE3	32:B6:42:TRP:HA	2.47	0.50
36:BA:485:C:O2'	36:BA:486:C:H5'	2.11	0.50
56:BX:10:ALA:O	56:BX:28:PHE:CB	2.59	0.50
48:BP:47:ASP:HB3	48:BP:48:PRO:C	2.32	0.50
51:BS:12:PHE:N	51:BS:12:PHE:CD2	2.78	0.50
51:BS:12:PHE:O	51:BS:14:VAL:N	2.44	0.50
34:B8:6:THR:CG2	34:B8:63:PRO:HD3	2.42	0.50
31:B5:44:THR:HG21	50:BR:101:ALA:CB	2.28	0.50
1:AA:1392:G:H21	1:AA:1502:A:H8	1.56	0.50
36:BA:1178:C:H2'	36:BA:1179:C:H6	1.76	0.50
1:AA:268:C:O2'	1:AA:269:C:H5'	2.11	0.50
46:BN:102:ALA:O	46:BN:106:MET:HG3	2.12	0.50
26:B0:52:GLY:N	26:B0:62:LEU:HD21	2.26	0.50
36:BA:2330:G:H2'	36:BA:2331:G:O4'	2.12	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:AM:66:LEU:O	13:AM:70:LEU:HB2	2.11	0.50
1:AA:174:C:O5'	1:AA:174:C:H6	1.94	0.50
2:AB:195:ASP:O	8:AH:68:ARG:NH2	2.40	0.50
36:BA:933:A:H2'	36:BA:934:G:O4'	2.11	0.50
1:AA:1191:A:OP1	3:AC:3:ASN:ND2	2.45	0.50
36:BA:2290:G:H2'	36:BA:2291:U:O4'	2.12	0.50
27:B1:53:VAL:CG2	27:B1:74:VAL:HG13	2.40	0.50
26:B0:56:ASP:OD2	36:BA:2364:C:C5'	2.60	0.50
26:B0:2:ALA:HB3	36:BA:2602:A:N1	2.26	0.50
36:BA:2724:C:H2'	36:BA:2725:A:C8	2.46	0.50
1:AA:532:A:H2	1:AA:1206:G:H21	1.57	0.50
15:AO:28:GLN:O	15:AO:32:LEU:HG	2.12	0.50
36:BA:1270:C:H5''	36:BA:1271:G:C5'	2.41	0.50
1:AA:1242:C:O2'	1:AA:1243:C:H5'	2.12	0.50
1:AA:691:G:O2'	1:AA:797:C:H4'	2.11	0.50
6:AF:41:GLU:H	6:AF:62:TRP:HE3	1.60	0.50
18:AR:56:THR:HB	18:AR:58:LEU:HD12	1.92	0.50
24:AY:75:C:H1'	25:AZ:231:ILE:HD13	1.92	0.50
36:BA:335:C:H2'	36:BA:336:C:H6	1.73	0.50
57:BY:20:TYR:N	57:BY:20:TYR:CD1	2.79	0.50
57:BY:37:VAL:HG23	57:BY:38:ILE:N	2.26	0.50
36:BA:336:C:H4'	57:BY:7:VAL:HG21	1.94	0.50
25:AZ:16:THR:HG23	25:AZ:81:ASP:HA	1.93	0.50
42:BG:115:ARG:HG3	42:BG:137:GLU:OE1	2.12	0.50
1:AA:9:G:OP2	5:AE:121:LYS:HD2	2.12	0.50
1:AA:1124:G:H2'	1:AA:1145:C:H41	1.75	0.50
41:BF:36:VAL:HG11	41:BF:183:VAL:HG21	1.93	0.50
48:BP:23:PRO:C	48:BP:33:ARG:NE	2.65	0.50
48:BP:30:THR:CG2	48:BP:31:ALA:H	2.25	0.50
36:BA:2394:C:C2'	36:BA:2395:C:H5'	2.42	0.50
22:AV:5:G:H8	22:AV:5:G:H5'	1.76	0.50
36:BA:2152:G:OP1	38:BC:1:PRO:HA	2.11	0.50
36:BA:1862:G:O2'	36:BA:1863:G:H5'	2.12	0.50
2:AB:145:LEU:CD1	2:AB:149:LEU:HD12	2.41	0.50
58:BZ:155:LEU:CD2	58:BZ:155:LEU:N	2.74	0.50
50:BR:63:ARG:HA	50:BR:80:PHE:CZ	2.46	0.50
36:BA:1140:C:H5'	36:BA:1141:U:OP2	2.11	0.50
36:BA:2297:C:C2'	36:BA:2298:A:H5'	2.42	0.50
36:BA:142:A:H1'	36:BA:1408:C:O4'	2.11	0.50
4:AD:150:GLU:CD	4:AD:151:LYS:H	2.11	0.50
1:AA:16:A:N1	1:AA:919:A:H2	2.08	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:BH:87:LEU:CD2	43:BH:164:TYR:HA	2.40	0.50
36:BA:71:A:C2	56:BX:31:HIS:HE1	2.30	0.50
36:BA:679:C:O2'	36:BA:680:G:H5'	2.10	0.50
9:AI:11:LYS:O	9:AI:11:LYS:HG2	2.11	0.50
36:BA:845:G:O2'	36:BA:846:C:H5	1.95	0.50
20:AT:93:GLU:OE2	20:AT:94:ALA:N	2.44	0.50
44:BJ:23:UNK:O	44:BJ:86:UNK:HA	2.11	0.50
13:AM:65:LYS:CE	13:AM:73:GLU:HG3	2.42	0.50
36:BA:498:G:H2'	36:BA:499:U:H6	1.76	0.50
36:BA:1973:G:H2'	36:BA:1974:C:C6	2.46	0.50
24:AY:42:G:O2'	24:AY:43:G:H5'	2.11	0.50
25:AZ:4:GLU:O	25:AZ:6:ILE:HD12	2.12	0.50
42:BG:101:ILE:HG22	42:BG:105:LYS:NZ	2.26	0.50
57:BY:42:VAL:HG21	57:BY:67:LEU:CD1	2.40	0.50
38:BC:72:VAL:O	38:BC:157:LYS:HD3	2.11	0.50
1:AA:1128:C:H41	1:AA:1139:G:H2'	1.76	0.50
52:BT:16:ARG:HH12	52:BT:19:LEU:HD21	1.76	0.50
36:BA:2723:C:H4'	50:BR:2:ARG:NE	2.25	0.50
37:BB:82:G:H2'	37:BB:83:G:H8	1.76	0.50
46:BN:97:ARG:O	46:BN:101:HIS:HB2	2.12	0.50
25:AZ:338:TYR:O	25:AZ:353:VAL:HG23	2.11	0.50
36:BA:265:A:C8	36:BA:266:G:H1'	2.46	0.50
52:BT:45:PHE:CE1	52:BT:74:ARG:HG3	2.46	0.50
55:BW:3:ALA:O	55:BW:107:LEU:HD12	2.12	0.50
30:B4:14:ILE:HG13	30:B4:31:ILE:CB	2.41	0.50
36:BA:1061:U:H4'	36:BA:1070:A:C1'	2.42	0.50
42:BG:76:SER:HA	42:BG:83:ARG:HA	1.94	0.50
7:AG:54:THR:O	7:AG:56:GLN:N	2.44	0.50
46:BN:39:ARG:O	46:BN:41:ASP:N	2.43	0.50
1:AA:1368:G:OP2	9:AI:112:LYS:CD	2.59	0.50
41:BF:43:LYS:HB2	41:BF:98:SER:CB	2.42	0.50
1:AA:189(F):U:O4	17:AQ:62:SER:HB3	2.12	0.50
1:AA:838:G:C2'	1:AA:839:U:H5''	2.42	0.50
36:BA:2372:G:O2'	36:BA:2373:G:H5'	2.12	0.50
1:AA:1442(B):A:H5'	52:BT:122:ASP:OD1	2.11	0.50
27:B1:11:ARG:NH1	27:B1:11:ARG:HB3	2.27	0.50
58:BZ:70:LEU:HD23	58:BZ:70:LEU:H	1.76	0.50
17:AQ:86:GLU:OE1	17:AQ:86:GLU:HA	2.11	0.50
39:BD:161:THR:O	39:BD:196:VAL:HG23	2.11	0.50
43:BH:147:ASN:N	43:BH:147:ASN:HD22	2.08	0.50
36:BA:990:A:C6	36:BA:1186:G:H1'	2.47	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:BG:34:LEU:HA	42:BG:161:THR:HG22	1.93	0.50
36:BA:2392:A:H2	36:BA:2424:C:N4	2.09	0.50
56:BX:11:PRO:HG2	56:BX:13:LEU:HG	1.92	0.50
58:BZ:60:GLU:O	58:BZ:65:GLN:O	2.29	0.50
58:BZ:79:ARG:O	58:BZ:80:ARG:C	2.49	0.50
2:AB:17:PHE:HB2	2:AB:44:LEU:HD11	1.93	0.50
54:BV:12:TYR:HE2	54:BV:22:VAL:HG12	1.77	0.50
54:BV:2:PHE:CE1	54:BV:13:ARG:NH1	2.79	0.50
52:BT:27:THR:O	52:BT:28:VAL:HG23	2.12	0.50
46:BN:56:ASN:H	46:BN:125:GLY:N	2.10	0.50
36:BA:2801(A):A:H1'	36:BA:2803:C:C5	2.47	0.50
51:BS:106:ARG:HD2	51:BS:107:GLU:O	2.12	0.50
41:BF:110:LEU:HA	41:BF:183:VAL:CG1	2.42	0.50
48:BP:27:HIS:HA	48:BP:30:THR:OG1	2.12	0.50
28:B2:21:LEU:O	28:B2:24:LEU:HB3	2.12	0.50
57:BY:87:LYS:HG3	57:BY:88:LYS:N	2.27	0.50
37:BB:22:U:H2'	37:BB:23:G:C8	2.47	0.50
4:AD:31:CYS:C	4:AD:33:MET:H	2.14	0.50
12:AL:6:THR:O	12:AL:9:GLN:N	2.45	0.50
46:BN:18:ALA:CB	46:BN:26:LEU:HD22	2.41	0.50
1:AA:18:C:H5''	5:AE:127:ASN:ND2	2.26	0.50
25:AZ:225:VAL:HG23	25:AZ:302:GLN:O	2.11	0.50
1:AA:1169:A:H2'	1:AA:1170:A:C8	2.47	0.50
37:BB:53:A:C5	37:BB:54:G:N7	2.80	0.50
43:BH:86:GLU:OE2	43:BH:86:GLU:N	2.44	0.50
6:AF:14:LEU:HD13	6:AF:18:GLN:HB2	1.94	0.50
26:B0:24:LYS:O	26:B0:25:ARG:HG2	2.11	0.50
39:BD:12:SER:HB2	39:BD:208:LYS:HB3	1.94	0.50
12:AL:119:LYS:O	12:AL:120:TYR:CD1	2.65	0.50
36:BA:215:G:H4'	36:BA:216:A:H4'	1.92	0.50
41:BF:65:TRP:HZ3	41:BF:73:ALA:O	1.94	0.50
39:BD:147:LEU:HD11	39:BD:183:ARG:HD3	1.94	0.50
6:AF:53:ALA:O	6:AF:54:LYS:HG2	2.11	0.50
36:BA:2142:C:H2'	36:BA:2143:C:C6	2.47	0.50
1:AA:686:U:O4	1:AA:703:G:H1'	2.11	0.50
1:AA:1468:A:H2'	1:AA:1469:G:O4'	2.12	0.50
1:AA:156:G:C6	1:AA:166:G:C6	3.00	0.50
1:AA:355:C:C4	1:AA:356:A:N7	2.79	0.50
57:BY:20:TYR:CZ	57:BY:42:VAL:HA	2.47	0.50
14:AN:32:SER:O	14:AN:40:CYS:HA	2.12	0.50
1:AA:1322:C:OP2	1:AA:1322:C:H6	1.94	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:BE:77:ILE:CG2	40:BE:78:LEU:H	1.98	0.50
36:BA:951:C:O2'	36:BA:952:G:H5'	2.12	0.50
22:AV:68:C:O2'	22:AV:69:G:H5''	2.11	0.50
41:BF:185:ASP:HA	41:BF:188:ARG:CG	2.41	0.50
43:BH:85:LYS:NZ	43:BH:133:VAL:H	2.07	0.50
52:BT:48:ILE:O	52:BT:63:VAL:HA	2.11	0.50
12:AL:89:ARG:HH11	12:AL:91:LYS:CA	2.13	0.50
26:B0:70:GLN:NE2	26:B0:80:HIS:NE2	2.60	0.50
30:B4:7:PRO:HD2	42:BG:65:GLY:O	2.12	0.50
25:AZ:143:ASP:O	25:AZ:144:PRO:C	2.50	0.50
51:BS:47:THR:HG22	51:BS:49:VAL:O	2.12	0.50
36:BA:1947:C:C2'	36:BA:1948:G:C5'	2.82	0.50
36:BA:1677:A:H2'	36:BA:1678:G:H8	1.77	0.50
48:BP:111:ARG:N	48:BP:111:ARG:HD2	2.27	0.50
50:BR:34:ILE:HG22	50:BR:36:THR:HG23	1.94	0.50
54:BV:79:VAL:HG12	54:BV:79:VAL:O	2.12	0.50
36:BA:848:G:H5'	36:BA:848:G:H8	1.76	0.50
58:BZ:177:PRO:O	58:BZ:178:GLU:HG2	2.11	0.50
7:AG:91:VAL:O	7:AG:91:VAL:HG13	2.12	0.50
34:B8:44:LYS:HD2	34:B8:44:LYS:N	2.27	0.50
1:AA:310:G:H2'	1:AA:311:C:C6	2.46	0.50
16:AP:74:LEU:HD22	16:AP:79:VAL:HG21	1.94	0.50
36:BA:2078:C:H2'	36:BA:2079:U:H6	1.75	0.50
1:AA:952:U:H2'	1:AA:953:G:H8	1.77	0.50
50:BR:37:THR:HG23	50:BR:40:LYS:HE2	1.93	0.50
42:BG:109:VAL:O	42:BG:111:LEU:N	2.39	0.50
41:BF:20:LEU:HD12	41:BF:203:GLN:HE22	1.76	0.50
1:AA:978:A:C5	1:AA:1319:A:C2	3.00	0.50
36:BA:997:G:OP1	53:BU:93:LYS:HD3	2.12	0.50
58:BZ:28:MET:HE1	58:BZ:33:LEU:HD21	1.93	0.50
48:BP:16:ARG:CA	48:BP:16:ARG:HH11	2.24	0.50
36:BA:1054:A:H2'	36:BA:1054:A:N3	2.26	0.50
36:BA:2085:C:OP1	39:BD:261:LYS:NZ	2.43	0.50
1:AA:255:G:O6	1:AA:266:G:O6	2.29	0.50
20:AT:26:ASN:N	20:AT:26:ASN:ND2	2.58	0.50
25:AZ:338:TYR:HB3	25:AZ:353:VAL:HB	1.94	0.50
14:AN:23:ARG:HH11	14:AN:30:ALA:HB2	1.76	0.50
22:AW:38:A:H3'	22:AW:39:U:H5''	1.94	0.50
36:BA:782:A:N1	39:BD:226:MET:CE	2.75	0.50
40:BE:105:THR:OG1	40:BE:166:THR:HG23	2.12	0.50
5:AE:82:VAL:CG1	5:AE:83:GLU:N	2.74	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BA:264:C:H4'	36:BA:428:A:N1	2.27	0.50
46:BN:120:LEU:CD1	46:BN:122:VAL:HG23	2.42	0.50
6:AF:33:TYR:CE2	6:AF:75:LEU:HA	2.46	0.50
36:BA:2350:C:O2'	36:BA:2351:G:H5'	2.12	0.50
53:BU:79:PHE:CD1	53:BU:80:ILE:HD13	2.46	0.50
1:AA:1171:G:O2'	1:AA:1172:C:H5'	2.12	0.50
2:AB:235:SER:O	2:AB:237:ALA:N	2.45	0.50
36:BA:1714:G:H2'	36:BA:1717:G:O4'	2.11	0.50
4:AD:108:LEU:HD13	4:AD:174:LEU:HD13	1.94	0.50
3:AC:188:LEU:HD11	3:AC:195:VAL:HG11	1.93	0.50
3:AC:101:LEU:C	3:AC:101:LEU:HD23	2.32	0.50
36:BA:212:G:O2'	36:BA:213:A:H5'	2.11	0.50
12:AL:102:ARG:HH11	12:AL:102:ARG:CG	2.25	0.50
36:BA:1425:G:H2'	36:BA:1426:G:C8	2.47	0.50
33:B7:21:ARG:O	33:B7:27:GLY:HA3	2.12	0.50
58:BZ:45:ASP:OD2	58:BZ:49:ARG:HG2	2.12	0.50
36:BA:2392:A:H2'	36:BA:2393:A:O4'	2.12	0.49
56:BX:51:VAL:CG1	56:BX:54:VAL:HG23	2.42	0.49
10:AJ:50:ILE:HG13	14:AN:41:ARG:CZ	2.42	0.49
1:AA:1319:A:H2'	1:AA:1323:G:N7	2.27	0.49
40:BE:199:ARG:NH1	40:BE:199:ARG:CB	2.75	0.49
38:BC:156:ILE:HA	38:BC:160:ARG:HB3	1.93	0.49
37:BB:14:U:OP2	37:BB:71:C:H5'	2.12	0.49
36:BA:1310:G:H1	36:BA:1604:C:H42	1.60	0.49
43:BH:68:THR:O	43:BH:70:THR:N	2.45	0.49
36:BA:2134:A:H1'	36:BA:2159:G:N3	2.27	0.49
36:BA:2159:G:C3'	36:BA:2160:G:H5''	2.42	0.49
52:BT:11:GLU:C	52:BT:13:ARG:H	2.15	0.49
36:BA:2287:A:C2	36:BA:2346:A:N1	2.68	0.49
48:BP:113:LYS:HE2	48:BP:131:SER:HB3	1.93	0.49
25:AZ:156:ASP:O	25:AZ:160:GLN:HB2	2.12	0.49
17:AQ:56:VAL:O	17:AQ:76:LEU:HD12	2.12	0.49
22:AW:38:A:H2'	22:AW:39:U:C5'	2.39	0.49
36:BA:1478:G:HO2'	36:BA:1558:A:H2	1.60	0.49
36:BA:1802:A:H2'	36:BA:1803:A:C8	2.47	0.49
54:BV:18:LEU:HD22	54:BV:18:LEU:N	2.27	0.49
40:BE:38:THR:C	40:BE:40:GLU:H	2.15	0.49
2:AB:22:LYS:HE2	2:AB:22:LYS:N	2.27	0.49
1:AA:324:G:OP1	20:AT:70:SER:HB2	2.12	0.49
36:BA:2364:C:C2'	36:BA:2365:G:H5'	2.42	0.49
3:AC:113:ALA:HB1	3:AC:185:GLY:N	2.27	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:AB:7:VAL:O	2:AB:7:VAL:HG12	2.10	0.49
36:BA:2097:C:H6	36:BA:2097:C:O5'	1.94	0.49
1:AA:849:C:O2'	1:AA:850:U:H5'	2.12	0.49
47:BO:24:VAL:HG23	47:BO:24:VAL:O	2.12	0.49
6:AF:40:VAL:HG23	6:AF:62:TRP:O	2.11	0.49
7:AG:137:LYS:O	7:AG:138:LYS:C	2.49	0.49
42:BG:103:LEU:HD23	42:BG:103:LEU:O	2.12	0.49
30:B4:24:THR:HG21	42:BG:104:GLU:HG2	1.92	0.49
32:B6:12:GLU:OE1	32:B6:53:LYS:O	2.30	0.49
38:BC:6:ARG:O	38:BC:10:LEU:HD23	2.12	0.49
1:AA:1060:C:O2'	10:AJ:56:HIS:CD2	2.65	0.49
10:AJ:57:LYS:CE	10:AJ:60:ARG:NH2	2.75	0.49
36:BA:1241:A:N6	36:BA:1242:A:N6	2.60	0.49
10:AJ:4:ILE:HB	10:AJ:74:ILE:HD11	1.94	0.49
2:AB:187:LEU:CD1	2:AB:205:ASP:HB3	2.42	0.49
40:BE:181:LEU:HD21	52:BT:7:ILE:CG2	2.42	0.49
1:AA:223:U:H2'	1:AA:224:C:H6	1.77	0.49
36:BA:1336:A:H2'	36:BA:1337:G:H8	1.77	0.49
52:BT:67:SER:O	52:BT:68:TYR:HB2	2.12	0.49
13:AM:25:ILE:HG13	13:AM:66:LEU:HD23	1.95	0.49
27:B1:76:ARG:HB3	36:BA:271(R):G:OP1	2.12	0.49
53:BU:46:ALA:O	53:BU:47:TYR:C	2.51	0.49
10:AJ:46:ARG:HG2	10:AJ:46:ARG:NH1	2.27	0.49
47:BO:8:LEU:HD13	47:BO:8:LEU:N	2.26	0.49
36:BA:2295:C:C2	36:BA:2296:U:C5	3.00	0.49
46:BN:48:MET:N	46:BN:48:MET:HE3	2.27	0.49
20:AT:41:ILE:HG21	20:AT:87:LYS:HG2	1.93	0.49
4:AD:168:ARG:HD2	4:AD:168:ARG:N	2.27	0.49
56:BX:3:THR:HA	56:BX:6:ASP:OD2	2.12	0.49
36:BA:727:A:O2'	36:BA:728:G:H5'	2.12	0.49
42:BG:34:LEU:HD13	42:BG:99:MET:SD	2.52	0.49
41:BF:119:ARG:NH1	41:BF:119:ARG:HG2	2.27	0.49
36:BA:303:U:O2'	36:BA:304:G:H5'	2.12	0.49
57:BY:67:LEU:HD21	57:BY:71:LYS:CE	2.42	0.49
47:BO:20:MET:CE	47:BO:44:LYS:HE3	2.43	0.49
1:AA:1286:A:O2'	1:AA:1287:A:C5'	2.60	0.49
40:BE:35:GLN:CG	40:BE:36:ARG:H	2.21	0.49
40:BE:47:VAL:HG21	40:BE:85:ASN:HA	1.93	0.49
36:BA:1208:C:C4	36:BA:1209:G:N7	2.80	0.49
58:BZ:34:ASN:O	58:BZ:35:ARG:NE	2.44	0.49
39:BD:65:ILE:N	39:BD:65:ILE:HD13	2.27	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:AE:102:ALA:CB	5:AE:120:THR:HG21	2.42	0.49
39:BD:24:ILE:CD1	39:BD:25:THR:N	2.67	0.49
36:BA:2383:G:O2'	36:BA:2384:G:H5'	2.12	0.49
49:BQ:78:PRO:O	49:BQ:81:VAL:CG1	2.59	0.49
48:BP:71:VAL:H	48:BP:72:PRO:HD2	1.74	0.49
36:BA:2680:C:H5'	40:BE:189:PRO:HA	1.93	0.49
48:BP:38:GLN:CG	48:BP:39:LYS:H	2.18	0.49
25:AZ:140:MET:HE1	61:AZ:501:GCP:HN21	1.76	0.49
36:BA:1231:G:H2'	36:BA:1232:G:C8	2.40	0.49
36:BA:2712:U:H1'	36:BA:2712(A):A:H8	1.74	0.49
48:BP:122:PRO:HB3	48:BP:141:ALA:HB1	1.93	0.49
38:BC:99:ILE:HG22	38:BC:99:ILE:O	2.12	0.49
36:BA:2554:U:H2'	36:BA:2555:U:H6	1.77	0.49
1:AA:681:C:C2'	1:AA:682:G:H5'	2.42	0.49
40:BE:142:GLY:C	40:BE:143:ASN:HD22	2.14	0.49
41:BF:150:GLY:HA2	41:BF:172:TRP:CE3	2.46	0.49
36:BA:2360:A:C2	36:BA:2361:A:H1'	2.47	0.49
1:AA:1491:G:C5	59:AA:1601:PAR:H21	2.48	0.49
3:AC:23:TYR:CG	3:AC:24:ALA:N	2.80	0.49
1:AA:789:U:H2'	1:AA:791:G:OP2	2.13	0.49
1:AA:441:A:H3'	1:AA:442:C:H6	1.77	0.49
42:BG:172:LEU:HD23	42:BG:172:LEU:O	2.13	0.49
32:B6:20:ASN:C	32:B6:21:TYR:CD1	2.86	0.49
36:BA:500:G:H22	36:BA:503:A:P	2.36	0.49
1:AA:974:A:P	14:AN:29:ARG:HH22	2.35	0.49
36:BA:635:C:O2'	36:BA:639:U:H5''	2.12	0.49
36:BA:635:C:H2'	36:BA:636:G:O4'	2.12	0.49
49:BQ:140:ALA:HB1	58:BZ:99:TYR:CB	2.42	0.49
36:BA:2839:G:H5'	50:BR:46:GLY:HA2	1.93	0.49
36:BA:2188:C:H2'	36:BA:2189:U:N1	2.26	0.49
48:BP:111:ARG:HG2	48:BP:111:ARG:NH2	2.26	0.49
42:BG:85:GLY:C	42:BG:87:PRO:CD	2.80	0.49
42:BG:85:GLY:C	42:BG:87:PRO:HD3	2.32	0.49
45:BK:86:UNK:O	45:BK:87:UNK:CB	2.59	0.49
9:AI:118:LYS:O	9:AI:119:ALA:HB2	2.11	0.49
39:BD:96:HIS:CE1	39:BD:102:LYS:HZ3	2.29	0.49
1:AA:1228:C:O2'	13:AM:118:ALA:HB2	2.13	0.49
1:AA:1309:G:C6	1:AA:1329:A:C2	3.00	0.49
36:BA:67:U:H2'	36:BA:68:G:C8	2.47	0.49
36:BA:325:G:O2'	36:BA:326:G:H5'	2.11	0.49
1:AA:511:C:C2	1:AA:512:U:C5	3.00	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:AD:17:VAL:HG11	4:AD:197:PRO:CB	2.42	0.49
36:BA:1625:C:O2'	36:BA:1626:G:H5'	2.13	0.49
36:BA:2033:A:O2'	36:BA:2034:U:P	2.71	0.49
1:AA:853:G:O2'	1:AA:854:G:H5'	2.12	0.49
36:BA:2543:G:H2'	36:BA:2544:G:C8	2.48	0.49
25:AZ:217:VAL:HA	25:AZ:245:GLY:HA2	1.93	0.49
57:BY:31:LEU:HG	57:BY:34:LYS:HB2	1.95	0.49
36:BA:1859:A:N6	36:BA:1883:G:O2'	2.46	0.49
56:BX:51:VAL:HG11	56:BX:54:VAL:HG23	1.93	0.49
36:BA:323:G:C8	41:BF:171:PRO:HG3	2.47	0.49
37:BB:71:C:C2'	37:BB:72:G:H5'	2.42	0.49
58:BZ:96:VAL:O	58:BZ:127:LYS:HA	2.13	0.49
47:BO:107:ARG:HA	47:BO:112:MET:HE2	1.93	0.49
36:BA:658:C:H2'	36:BA:659:C:H6	1.76	0.49
36:BA:587:C:C5	48:BP:33:ARG:HG2	2.47	0.49
25:AZ:221:PHE:CE2	25:AZ:304:LEU:O	2.65	0.49
57:BY:86:ARG:NH2	57:BY:95:LYS:HZ3	2.11	0.49
42:BG:52:ILE:HD13	42:BG:52:ILE:N	2.23	0.49
36:BA:1337:G:H2'	36:BA:1338:G:H8	1.78	0.49
50:BR:67:LEU:HD11	50:BR:71:GLN:O	2.12	0.49
20:AT:57:ARG:NH1	20:AT:102:GLY:HA3	2.27	0.49
5:AE:6:PHE:HB2	5:AE:34:VAL:CG2	2.42	0.49
36:BA:85:G:O5'	57:BY:30:VAL:HB	2.11	0.49
5:AE:12:LEU:HD22	5:AE:12:LEU:C	2.32	0.49
40:BE:171:GLU:O	40:BE:184:VAL:HA	2.12	0.49
30:B4:31:ILE:HG22	30:B4:33:VAL:HG23	1.94	0.49
7:AG:37:ASN:HD21	9:AI:40:LEU:HA	1.77	0.49
16:AP:53:VAL:CG2	16:AP:54:GLU:H	2.22	0.49
50:BR:32:GLY:O	50:BR:115:GLU:HA	2.13	0.49
1:AA:642:A:N3	8:AH:113:SER:OG	2.44	0.49
47:BO:35:VAL:CG2	47:BO:69:ILE:HD11	2.43	0.49
16:AP:74:LEU:HB3	16:AP:79:VAL:HG21	1.93	0.49
49:BQ:45:GLN:NE2	49:BQ:45:GLN:H	2.10	0.49
4:AD:170:VAL:HG12	4:AD:174:LEU:HB2	1.93	0.49
36:BA:2360:A:O2'	36:BA:2361:A:C5'	2.61	0.49
36:BA:652:C:O2'	36:BA:653:A:O5'	2.30	0.49
6:AF:52:ILE:O	6:AF:53:ALA:HB3	2.12	0.49
1:AA:35:G:N2	12:AL:118:SER:OG	2.39	0.49
34:B8:38:GLY:O	34:B8:42:ARG:HB2	2.12	0.49
28:B2:33:MET:HG3	28:B2:37:PHE:CE1	2.48	0.49
49:BQ:58:PHE:O	49:BQ:58:PHE:HD1	1.96	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:B1:58:ILE:HD11	27:B1:91:LYS:CB	2.43	0.49
1:AA:277:C:O2'	1:AA:278:G:H5'	2.12	0.49
1:AA:242:C:H2'	1:AA:243:A:H5'	1.94	0.49
32:B6:20:ASN:CG	32:B6:21:TYR:N	2.65	0.49
38:BC:14:VAL:HA	38:BC:20:TYR:OH	2.12	0.49
36:BA:2631:G:N3	36:BA:2810:A:H2	2.10	0.49
23:AX:26:A:C3'	23:AX:27:A:C5'	2.90	0.49
36:BA:1169:G:H1	36:BA:1180:C:N4	2.04	0.49
36:BA:1678:G:O5'	36:BA:1678:G:H8	1.95	0.49
1:AA:1216:G:O2'	1:AA:1217:C:H5'	2.12	0.49
25:AZ:164:PRO:O	25:AZ:168:VAL:HG23	2.12	0.49
39:BD:60:ARG:CG	39:BD:86:PRO:HB2	2.38	0.49
5:AE:20:GLN:HE22	5:AE:25:ARG:CZ	2.24	0.49
36:BA:416:C:N4	36:BA:2407:G:H1	2.06	0.49
36:BA:29:U:O2'	36:BA:30:G:H5'	2.13	0.49
39:BD:131:LEU:CD1	39:BD:131:LEU:N	2.73	0.49
53:BU:83:LEU:HD12	53:BU:83:LEU:H	1.77	0.49
36:BA:660:G:C5'	41:BF:99:TYR:CE2	2.95	0.49
49:BQ:74:TYR:C	49:BQ:74:TYR:CD1	2.86	0.49
49:BQ:74:TYR:HD1	49:BQ:74:TYR:C	2.16	0.49
1:AA:697:U:C2'	1:AA:698:G:H5'	2.42	0.49
1:AA:1412:C:H2'	1:AA:1413:A:H8	1.75	0.49
19:AS:16:LEU:C	19:AS:18:LYS:N	2.65	0.49
36:BA:1103:A:H5'	36:BA:1104:C:OP2	2.12	0.49
1:AA:386:C:H2'	1:AA:387:U:H5'	1.94	0.49
15:AO:61:GLY:O	15:AO:65:ARG:HG3	2.12	0.49
1:AA:186:C:O3'	20:AT:82:SER:HB3	2.13	0.49
53:BU:85:LYS:HD3	53:BU:117:GLN:NE2	2.25	0.49
57:BY:17:SER:OG	57:BY:18:GLY:N	2.43	0.49
58:BZ:74:VAL:HG12	58:BZ:74:VAL:O	2.12	0.49
36:BA:1638:C:H4'	36:BA:2710:C:O2	2.13	0.49
52:BT:41:ARG:NH1	52:BT:41:ARG:HG2	2.27	0.49
36:BA:969:U:H6	36:BA:969:U:O5'	1.96	0.49
36:BA:600:G:H1	36:BA:657:U:H3	1.61	0.49
19:AS:25:LYS:HB3	19:AS:27:GLU:OE2	2.13	0.49
19:AS:48:THR:O	19:AS:48:THR:HG22	2.13	0.49
25:AZ:75:ARG:NH2	25:AZ:211:PRO:O	2.46	0.49
21:AU:8:THR:O	21:AU:12:LYS:HB2	2.13	0.49
36:BA:2297:C:O2'	36:BA:2298:A:H5'	2.13	0.49
12:AL:5:PRO:HG2	12:AL:10:LEU:CD2	2.42	0.49
1:AA:149:A:H2'	1:AA:150:C:C6	2.47	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:1152:A:H2'	1:AA:1153:C:C6	2.47	0.49
49:BQ:111:GLU:O	49:BQ:115:MET:HG2	2.12	0.49
36:BA:2777:G:C5'	36:BA:2778:A:H5'	2.42	0.49
47:BO:98:VAL:O	47:BO:119:PRO:HD3	2.11	0.49
36:BA:2137:C:O2'	36:BA:2138:C:H5'	2.11	0.49
1:AA:109:A:H2'	1:AA:326:G:N2	2.27	0.49
17:AQ:58:GLU:O	17:AQ:59:ILE:HD13	2.13	0.49
4:AD:74:GLN:HE22	4:AD:100:ARG:HH22	1.59	0.49
36:BA:534:U:O2'	53:BU:49:HIS:CD2	2.65	0.49
1:AA:992:U:H4'	1:AA:993:G:O5'	2.13	0.49
25:AZ:72:THR:C	25:AZ:74:LYS:N	2.65	0.49
3:AC:95:THR:O	3:AC:97:LYS:N	2.46	0.49
57:BY:90:LEU:HD23	57:BY:90:LEU:H	1.78	0.49
36:BA:197:A:H8	36:BA:197:A:H5'	1.76	0.49
26:B0:5:LYS:HG3	49:BQ:80:GLU:HB3	1.94	0.49
36:BA:2821:A:H2'	36:BA:2822:G:C8	2.48	0.49
36:BA:2562:U:H1'	47:BO:23:ARG:HH11	1.78	0.49
1:AA:1316:G:O3'	14:AN:18:VAL:HG22	2.12	0.49
1:AA:580:U:H2'	1:AA:581:G:O4'	2.12	0.49
36:BA:2520:C:C6	36:BA:2567:G:H1'	2.47	0.49
36:BA:271(J):C:O2	36:BA:271(J):C:H2'	2.12	0.49
1:AA:1478:C:H2'	1:AA:1479:C:C6	2.48	0.49
42:BG:131:TYR:HB3	42:BG:159:VAL:CG1	2.42	0.49
32:B6:35:GLU:HB3	32:B6:51:GLU:HB2	1.94	0.49
38:BC:10:LEU:HD12	38:BC:32:LEU:CA	2.21	0.49
38:BC:4:GLY:O	38:BC:8:ARG:HG3	2.12	0.49
38:BC:217:THR:HG22	38:BC:218:MET:N	2.27	0.49
58:BZ:72:ARG:NH2	58:BZ:97:GLU:O	2.45	0.49
26:B0:27:GLU:HG3	26:B0:69:PHE:CD1	2.37	0.49
55:BW:29:LEU:CD2	55:BW:33:ARG:HH11	2.26	0.49
52:BT:30:VAL:HG21	52:BT:84:GLN:HG3	1.94	0.49
36:BA:2159:G:H2'	36:BA:2160:G:C4'	2.42	0.49
58:BZ:109:ALA:HB3	58:BZ:144:LEU:O	2.12	0.49
3:AC:15:THR:HG23	3:AC:181:ASN:HB2	1.95	0.49
13:AM:23:TYR:C	13:AM:23:TYR:CD1	2.86	0.49
40:BE:132:HIS:CD2	40:BE:135:HIS:CE1	3.00	0.49
8:AH:101:PRO:HG2	8:AH:133:LEU:HD21	1.94	0.49
10:AJ:39:PRO:HA	10:AJ:70:ARG:HD3	1.94	0.49
1:AA:625:G:O2'	1:AA:626:U:H5'	2.12	0.49
36:BA:882:G:N2	36:BA:894:C:H42	2.11	0.49
7:AG:78:ARG:O	7:AG:78:ARG:CG	2.60	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BA:1166:C:H2'	36:BA:1167:U:C6	2.48	0.49
36:BA:528:A:C2	36:BA:2042:A:H2'	2.48	0.49
1:AA:126:G:H5'	1:AA:633:G:N2	2.28	0.49
36:BA:271(J):C:H2'	36:BA:271(K):U:H5''	1.94	0.49
1:AA:115:G:H1'	1:AA:116:A:N7	2.28	0.49
39:BD:181:GLU:HA	39:BD:272:ALA:O	2.13	0.49
5:AE:46:GLY:HA3	5:AE:58:ALA:HB2	1.95	0.49
6:AF:98:LEU:H	6:AF:98:LEU:HD12	1.76	0.49
13:AM:83:ASP:OD2	13:AM:84:ILE:N	2.46	0.49
47:BO:43:VAL:HG23	47:BO:56:ASP:O	2.13	0.49
36:BA:2684:U:O4'	47:BO:70:LYS:HD2	2.13	0.49
8:AH:120:THR:OG1	8:AH:123:GLU:HG3	2.12	0.49
2:AB:212:GLN:NE2	2:AB:216:SER:HB2	2.26	0.49
42:BG:100:TRP:O	42:BG:104:GLU:N	2.45	0.49
57:BY:80:GLY:O	57:BY:81:LYS:O	2.31	0.49
51:BS:98:VAL:O	51:BS:99:LYS:HB2	2.12	0.49
25:AZ:359:VAL:O	25:AZ:361:MET:N	2.46	0.49
39:BD:35:LYS:CD	39:BD:36:PRO:N	2.69	0.49
36:BA:258:G:O2'	36:BA:259:G:H5'	2.13	0.49
7:AG:88:PRO:O	7:AG:89:MET:HB3	2.13	0.49
40:BE:167:VAL:HG11	40:BE:187:ALA:O	2.11	0.49
1:AA:975:A:H8	1:AA:975:A:H5'	1.77	0.49
41:BF:135:LYS:HB3	41:BF:138:GLU:CG	2.37	0.49
20:AT:89:ARG:NH2	20:AT:104:LEU:CD2	2.75	0.49
20:AT:89:ARG:HD2	20:AT:104:LEU:HD21	1.95	0.49
9:AI:50:LEU:HG	9:AI:81:ILE:HG21	1.95	0.49
36:BA:1757:U:O4	36:BA:1762:A:C2	2.65	0.49
50:BR:29:LEU:HD22	50:BR:70:LEU:HD11	1.95	0.49
46:BN:61:ARG:HH11	46:BN:61:ARG:HG3	1.76	0.49
36:BA:580:C:H2'	36:BA:581:C:C6	2.48	0.49
15:AO:74:ASP:OD2	15:AO:76:GLU:HB3	2.13	0.49
5:AE:80:ILE:HD11	5:AE:138:ALA:CA	2.42	0.49
54:BV:15:GLU:O	54:BV:96:ILE:HB	2.13	0.49
9:AI:29:ASN:OD1	9:AI:65:VAL:N	2.46	0.49
40:BE:132:HIS:CD2	40:BE:135:HIS:HE2	2.30	0.49
36:BA:1827:C:OP2	39:BD:222:ARG:HD2	2.12	0.49
36:BA:937:U:C2	36:BA:938:G:C8	3.00	0.49
36:BA:2130:U:OP2	38:BC:5:LYS:HG2	2.12	0.49
25:AZ:258:LEU:CD2	25:AZ:349:VAL:HG11	2.43	0.49
47:BO:19:ILE:HB	47:BO:41:ALA:HB1	1.95	0.49
43:BH:86:GLU:O	43:BH:87:LEU:HD23	2.13	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:AB:189:ASP:O	2:AB:191:ASP:N	2.46	0.49
40:BE:169:ASN:C	40:BE:169:ASN:HD22	2.13	0.49
11:AK:34:ASP:OD2	11:AK:34:ASP:C	2.51	0.49
46:BN:78:TYR:N	46:BN:78:TYR:HD1	2.10	0.49
1:AA:1240:U:OP1	7:AG:116:ALA:HB2	2.12	0.49
1:AA:379:C:C2'	1:AA:380:G:H5'	2.43	0.49
36:BA:1578:U:H2'	36:BA:1579:A:H5''	1.95	0.49
36:BA:2092:U:H4'	36:BA:2093:G:H5''	1.95	0.49
13:AM:65:LYS:HE2	13:AM:73:GLU:HG3	1.95	0.49
40:BE:22:PRO:O	40:BE:185:LYS:O	2.31	0.49
50:BR:10:LEU:HA	50:BR:17:ARG:HD3	1.94	0.49
8:AH:9:MET:HG3	8:AH:26:VAL:HG11	1.95	0.49
1:AA:294:U:H2'	1:AA:295:C:H6	1.77	0.49
42:BG:139:LEU:HA	42:BG:144:ILE:HD13	1.94	0.49
53:BU:82:GLY:O	53:BU:85:LYS:N	2.46	0.49
1:AA:1286:A:O2'	1:AA:1287:A:OP2	2.29	0.49
36:BA:1131:G:C2	36:BA:1132:A:C5	3.00	0.49
40:BE:13:ARG:O	52:BT:57:PHE:CE1	2.66	0.49
49:BQ:141:GLN:OE1	58:BZ:72:ARG:HD3	2.13	0.49
50:BR:7:GLY:O	50:BR:8:ARG:CZ	2.61	0.49
1:AA:173:U:C5'	1:AA:197:A:O4'	2.55	0.49
36:BA:2679:A:H4'	40:BE:165:VAL:HG11	1.95	0.49
57:BY:84:ARG:HG2	57:BY:85:VAL:H	1.78	0.49
36:BA:631:A:H2'	36:BA:632:A:O4'	2.13	0.49
36:BA:2653:U:H5''	36:BA:2654:A:H2'	1.94	0.49
1:AA:1217:C:OP1	14:AN:9:LYS:HE3	2.13	0.49
1:AA:966:G:O2'	1:AA:967:C:C5'	2.61	0.49
52:BT:129:ARG:HG3	52:BT:129:ARG:HH11	1.78	0.49
25:AZ:249:VAL:HG22	25:AZ:269:GLY:HA2	1.94	0.49
22:AW:48:C:H2'	22:AW:59:U:H1'	1.94	0.49
39:BD:10:THR:HG23	39:BD:13:ARG:HB2	1.94	0.49
43:BH:137:ASP:OD2	43:BH:140:LYS:HE3	2.13	0.49
42:BG:128:ARG:O	42:BG:129:GLY:O	2.31	0.49
36:BA:1642:G:O2'	36:BA:1643:G:H5'	2.13	0.49
1:AA:738:C:H2'	1:AA:739:C:H6	1.78	0.49
5:AE:64:ARG:HB2	5:AE:64:ARG:CZ	2.43	0.49
36:BA:1376:C:O2'	36:BA:1377:G:H5'	2.12	0.49
36:BA:271(A):A:H5'	36:BA:271(B):C:OP2	2.13	0.49
36:BA:370:G:H4'	36:BA:371:A:OP2	2.13	0.49
28:B2:32:LEU:HD23	28:B2:32:LEU:C	2.34	0.49
1:AA:1047:G:C2'	1:AA:1048:G:H5'	2.43	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:AD:88:VAL:O	4:AD:92:VAL:HG23	2.13	0.49
4:AD:91:SER:O	4:AD:92:VAL:C	2.51	0.49
36:BA:2366:A:H2'	36:BA:2367:G:O4'	2.12	0.49
1:AA:245:C:O2	1:AA:283:C:N3	2.46	0.49
32:B6:32:ASN:O	32:B6:33:LYS:HB2	2.13	0.48
56:BX:50:LYS:HG2	56:BX:84:ALA:HB2	1.94	0.48
56:BX:51:VAL:HG11	56:BX:54:VAL:CG2	2.42	0.48
13:AM:82:MET:CG	13:AM:82:MET:O	2.60	0.48
36:BA:331:A:H1'	36:BA:332:A:OP1	2.13	0.48
2:AB:42:ILE:CD1	2:AB:202:PRO:C	2.81	0.48
22:AW:56:C:H5''	38:BC:137:LEU:HG	1.95	0.48
58:BZ:35:ARG:NE	58:BZ:35:ARG:CA	2.75	0.48
47:BO:1:MET:HE2	47:BO:32:TYR:CD2	2.48	0.48
36:BA:2820:A:O3'	50:BR:5:LYS:HE2	2.13	0.48
39:BD:25:THR:CG2	39:BD:26:LYS:HD2	2.41	0.48
40:BE:116:VAL:CG2	40:BE:122:PHE:CD2	2.96	0.48
41:BF:135:LYS:CB	41:BF:138:GLU:HG3	2.36	0.48
18:AR:45:SER:N	18:AR:51:LEU:HG	2.21	0.48
36:BA:27:G:O2'	36:BA:28:A:OP2	2.30	0.48
36:BA:708:C:N4	36:BA:723:G:H1	2.04	0.48
25:AZ:130:TYR:CG	25:AZ:211:PRO:HD3	2.48	0.48
20:AT:100:ILE:O	20:AT:102:GLY:N	2.43	0.48
20:AT:57:ARG:HH11	20:AT:57:ARG:HB2	1.77	0.48
52:BT:109:GLU:OE2	52:BT:112:ARG:NH2	2.45	0.48
57:BY:2:ARG:HD3	57:BY:3:VAL:HG23	1.95	0.48
17:AQ:55:ASP:O	17:AQ:57:VAL:HG13	2.13	0.48
37:BB:87:G:H3'	37:BB:88:C:C5'	2.40	0.48
12:AL:5:PRO:CG	12:AL:10:LEU:HD21	2.42	0.48
1:AA:1015:A:H2'	1:AA:1016:A:H8	1.75	0.48
50:BR:87:TYR:O	50:BR:89:ASP:N	2.41	0.48
3:AC:70:VAL:HG12	3:AC:71:ALA:N	2.28	0.48
25:AZ:89:ILE:HD13	25:AZ:389:ARG:NH1	2.28	0.48
39:BD:117:VAL:HG21	39:BD:128:GLY:HA3	1.94	0.48
30:B4:12:ALA:CB	30:B4:29:PRO:HA	2.42	0.48
36:BA:1417:C:H2'	36:BA:1418:G:O4'	2.12	0.48
36:BA:68:G:H2'	36:BA:69:C:C6	2.47	0.48
36:BA:1087:G:H2'	36:BA:1088:A:H4'	1.95	0.48
41:BF:148:LEU:C	41:BF:150:GLY:H	2.16	0.48
36:BA:2320:A:C2	36:BA:2333:A:C8	3.01	0.48
49:BQ:63:LYS:HD3	49:BQ:65:PHE:CZ	2.48	0.48
1:AA:1478:C:H2'	1:AA:1479:C:H6	1.78	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:78:G:H2'	1:AA:79:G:H4'	1.95	0.48
1:AA:433:C:H2'	1:AA:434:U:C6	2.48	0.48
39:BD:57:GLY:HA2	39:BD:214:TRP:O	2.13	0.48
36:BA:271(H):G:N2	36:BA:271(I):G:H1'	2.28	0.48
1:AA:567:G:H2'	1:AA:568:G:O4'	2.13	0.48
58:BZ:17:ALA:HA	58:BZ:20:ARG:CD	2.43	0.48
43:BH:85:LYS:NZ	43:BH:132:ARG:HA	2.28	0.48
38:BC:47:LEU:HD12	38:BC:47:LEU:N	2.28	0.48
38:BC:75:LEU:HD12	38:BC:76:ALA:N	2.28	0.48
37:BB:66:A:N6	37:BB:108:U:C6	2.82	0.48
10:AJ:35:SER:O	10:AJ:36:GLY:O	2.31	0.48
52:BT:38:ASN:O	52:BT:40:THR:N	2.43	0.48
52:BT:41:ARG:HG2	52:BT:41:ARG:HH11	1.78	0.48
1:AA:102:G:C4	1:AA:103:C:C6	3.01	0.48
13:AM:14:ARG:H	13:AM:44:ARG:NH1	2.08	0.48
7:AG:65:ALA:HB3	7:AG:124:LEU:HD23	1.95	0.48
39:BD:230:ASP:O	39:BD:231:HIS:HB2	2.12	0.48
36:BA:1435:G:H2'	36:BA:1436:G:O4'	2.12	0.48
5:AE:82:VAL:HG12	5:AE:83:GLU:N	2.27	0.48
55:BW:64:MET:O	55:BW:65:LEU:O	2.31	0.48
42:BG:16:ARG:NE	42:BG:31:VAL:HG11	2.28	0.48
39:BD:97:TYR:HE1	39:BD:103:ARG:HD3	1.76	0.48
25:AZ:113:MET:HB3	25:AZ:114:PRO:CD	2.43	0.48
1:AA:501:C:H2'	1:AA:502:G:C8	2.48	0.48
36:BA:594:U:H3	36:BA:663:G:H1	1.61	0.48
36:BA:2758:A:HO2'	36:BA:2759:G:H8	1.61	0.48
6:AF:40:VAL:HG13	6:AF:40:VAL:O	2.13	0.48
1:AA:114:U:H2'	1:AA:115:G:C8	2.48	0.48
36:BA:2861:G:O2'	36:BA:2862:G:H5'	2.13	0.48
36:BA:2689:U:H4'	36:BA:2690:C:C6	2.48	0.48
53:BU:25:TRP:CD1	53:BU:26:GLY:N	2.81	0.48
3:AC:103:VAL:O	3:AC:103:VAL:HG12	2.13	0.48
1:AA:145:G:H2'	1:AA:146:G:O4'	2.13	0.48
36:BA:1824:G:OP1	39:BD:52:ARG:NH1	2.46	0.48
41:BF:60:SER:OG	41:BF:61:GLY:N	2.46	0.48
21:AU:3:LYS:HD3	21:AU:14:TRP:CD1	2.47	0.48
25:AZ:176:LEU:O	25:AZ:180:GLU:HG3	2.13	0.48
36:BA:904:C:H2'	36:BA:905:U:C6	2.47	0.48
56:BX:63:LYS:HE2	56:BX:72:LYS:HG2	1.94	0.48
56:BX:88:LYS:HB2	56:BX:93:GLU:OE2	2.13	0.48
2:AB:88:ALA:HB2	2:AB:219:VAL:HG13	1.95	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:BU:21:ALA:HB1	53:BU:24:TYR:HD1	1.75	0.48
36:BA:61:G:H8	36:BA:61:G:O5'	1.96	0.48
36:BA:329:G:N7	57:BY:71:LYS:HE3	2.28	0.48
57:BY:64:GLU:O	57:BY:65:ALA:CB	2.61	0.48
57:BY:75:ILE:HG13	57:BY:76:CYS:N	2.28	0.48
25:AZ:272:MET:HB2	25:AZ:277:LEU:HD23	1.95	0.48
14:AN:29:ARG:NH1	14:AN:29:ARG:CG	2.75	0.48
25:AZ:102:ALA:HB2	25:AZ:128:VAL:HG11	1.94	0.48
53:BU:92:ARG:HH22	54:BV:10:LYS:HG2	1.77	0.48
43:BH:85:LYS:O	43:BH:132:ARG:HB2	2.13	0.48
52:BT:55:ASN:H	52:BT:59:THR:CG2	2.09	0.48
38:BC:215:THR:HB	38:BC:221:SER:N	2.28	0.48
51:BS:35:ILE:CD1	51:BS:99:LYS:HE3	2.43	0.48
50:BR:48:VAL:O	50:BR:51:LEU:HB2	2.13	0.48
29:B3:28:LEU:CD2	29:B3:28:LEU:N	2.69	0.48
36:BA:1378:A:O2'	36:BA:1379:A:C5'	2.54	0.48
57:BY:95:LYS:HG3	57:BY:101:LYS:H	1.77	0.48
26:B0:40:GLN:NE2	26:B0:43:THR:HA	2.28	0.48
22:AV:61:C:O2	22:AV:61:C:H2'	2.12	0.48
13:AM:22:ILE:CG2	13:AM:66:LEU:HD23	2.39	0.48
36:BA:1332:G:H5'	36:BA:1333:C:H5	1.78	0.48
4:AD:64:LEU:O	4:AD:67:ILE:HB	2.14	0.48
53:BU:57:PHE:CD2	53:BU:60:LEU:HD12	2.49	0.48
36:BA:2866:U:O2	36:BA:2866:U:H2'	2.13	0.48
42:BG:91:ARG:HH11	42:BG:91:ARG:HG3	1.78	0.48
36:BA:1536:C:H2'	36:BA:1537:G:H4'	1.95	0.48
1:AA:674:G:O2'	1:AA:675:A:H5'	2.13	0.48
36:BA:535:C:O3'	53:BU:53:ARG:NH1	2.47	0.48
2:AB:75:LYS:HD3	2:AB:75:LYS:O	2.13	0.48
1:AA:952:U:H2'	1:AA:953:G:C8	2.49	0.48
29:B3:3:ARG:HB2	29:B3:59:VAL:O	2.12	0.48
1:AA:729:A:H2'	1:AA:730:G:O4'	2.14	0.48
32:B6:12:GLU:HA	32:B6:23:THR:HA	1.94	0.48
57:BY:31:LEU:HD23	57:BY:36:ALA:H	1.79	0.48
56:BX:18:TYR:C	56:BX:20:GLY:H	2.16	0.48
58:BZ:6:LYS:N	58:BZ:6:LYS:CD	2.77	0.48
54:BV:47:VAL:C	54:BV:49:THR:H	2.16	0.48
36:BA:2715:C:O2'	36:BA:2716:U:H5'	2.13	0.48
52:BT:28:VAL:HB	52:BT:88:ILE:HG12	1.95	0.48
36:BA:628:G:C2'	36:BA:629:G:C5'	2.86	0.48
36:BA:2740:A:H2'	36:BA:2741:A:C8	2.48	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:1306:A:H61	1:AA:1331:G:H1'	1.77	0.48
36:BA:914:C:C2'	36:BA:915:C:H5'	2.33	0.48
36:BA:2187:G:H2'	36:BA:2188:C:H5'	1.94	0.48
20:AT:26:ASN:HB2	20:AT:71:THR:CG2	2.33	0.48
46:BN:27:ALA:HB1	46:BN:103:VAL:HG22	1.94	0.48
25:AZ:75:ARG:HD2	25:AZ:77:TYR:CZ	2.48	0.48
3:AC:15:THR:CG2	3:AC:181:ASN:HA	2.43	0.48
36:BA:2369:A:H2'	36:BA:2370:G:C8	2.48	0.48
15:AO:25:THR:O	15:AO:26:GLU:C	2.51	0.48
1:AA:429:U:H4'	1:AA:430:A:O5'	2.13	0.48
48:BP:92:GLU:HA	48:BP:123:LEU:HD13	1.93	0.48
39:BD:165:ILE:HG23	39:BD:173:VAL:HG21	1.94	0.48
1:AA:64:G:H4'	1:AA:65:U:C5'	2.44	0.48
12:AL:110:VAL:HG23	12:AL:120:TYR:HB3	1.95	0.48
4:AD:171:GLY:O	4:AD:173:TRP:N	2.46	0.48
36:BA:528:A:OP2	46:BN:114:ARG:NH1	2.43	0.48
1:AA:376:G:O2'	1:AA:377:G:H5'	2.13	0.48
1:AA:189(C):C:H2'	1:AA:189(D):C:O4'	2.13	0.48
5:AE:75:THR:OG1	5:AE:76:ILE:N	2.45	0.48
36:BA:2543:G:H8	36:BA:2543:G:H5'	1.78	0.48
8:AH:13:ILE:O	8:AH:17:THR:HG23	2.13	0.48
45:BK:55:UNK:CB	45:BK:69:UNK:HA	2.43	0.48
15:AO:4:THR:OG1	15:AO:7:GLU:HB2	2.14	0.48
31:B5:13:LYS:NZ	36:BA:517:C:OP2	2.36	0.48
4:AD:199:ASN:OD1	4:AD:201:GLN:HB2	2.13	0.48
36:BA:2238:G:N3	36:BA:2238:G:H2'	2.28	0.48
36:BA:247:G:H4'	36:BA:386:G:C5	2.48	0.48
17:AQ:17:LYS:HA	17:AQ:49:GLU:HG2	1.95	0.48
36:BA:1344:G:H4'	36:BA:1384:A:C5	2.48	0.48
3:AC:167:TRP:CD1	3:AC:168:ALA:N	2.81	0.48
1:AA:1108:G:H5'	3:AC:176:HIS:CD2	2.48	0.48
36:BA:1517:G:H5'	36:BA:1517:G:H8	1.78	0.48
32:B6:13:CYS:HA	32:B6:50:ARG:O	2.13	0.48
36:BA:301:G:H1'	36:BA:302:C:C6	2.49	0.48
57:BY:17:SER:HA	57:BY:71:LYS:HD2	1.95	0.48
1:AA:1053:G:O6	1:AA:1199:U:H2'	2.14	0.48
38:BC:37:PHE:CZ	38:BC:39:GLU:HG3	2.49	0.48
36:BA:1598:C:C5'	56:BX:36:LYS:HD2	2.43	0.48
58:BZ:7:ALA:HB3	58:BZ:61:LEU:HD23	1.96	0.48
53:BU:92:ARG:O	53:BU:94:ASN:N	2.46	0.48
38:BC:77:ILE:HB	38:BC:115:ALA:HA	1.95	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BA:970:C:H2'	36:BA:971:C:C6	2.48	0.48
39:BD:35:LYS:HG3	39:BD:63:ARG:CG	2.43	0.48
47:BO:32:TYR:CD1	47:BO:32:TYR:N	2.81	0.48
22:AV:18:G:H4'	22:AV:60:U:O2	2.14	0.48
57:BY:95:LYS:HE3	57:BY:100:ALA:HA	1.94	0.48
42:BG:41:GLN:C	42:BG:43:LEU:H	2.16	0.48
3:AC:154:SER:H	3:AC:157:ILE:HD11	1.79	0.48
57:BY:2:ARG:C	57:BY:4:LYS:N	2.67	0.48
12:AL:33:ARG:NE	12:AL:62:SER:HB3	2.29	0.48
2:AB:108:ILE:C	2:AB:110:GLN:H	2.17	0.48
36:BA:2413:G:H21	48:BP:70:GLN:NE2	2.06	0.48
12:AL:7:ILE:HG21	17:AQ:34:LYS:HB2	1.96	0.48
5:AE:31:LEU:HD23	5:AE:45:PHE:CD1	2.41	0.48
1:AA:108:G:H5'	1:AA:109:A:H5''	1.93	0.48
36:BA:523:C:C2'	36:BA:524:U:H5'	2.44	0.48
40:BE:3:GLY:O	40:BE:4:ILE:CB	2.61	0.48
2:AB:8:LYS:HE2	2:AB:217:ARG:NH1	2.27	0.48
13:AM:32:GLU:O	13:AM:35:GLU:HG2	2.13	0.48
4:AD:147:ALA:HB2	4:AD:182:LYS:HA	1.94	0.48
15:AO:62:GLN:NE2	15:AO:62:GLN:HA	2.27	0.48
36:BA:534:U:H5'	53:BU:42:ALA:CB	2.43	0.48
39:BD:129:ASN:O	39:BD:193:VAL:HG12	2.13	0.48
36:BA:1567:A:C5'	39:BD:58:HIS:CD2	2.97	0.48
25:AZ:46:ASP:O	25:AZ:50:ILE:HG12	2.13	0.48
36:BA:2295:C:O2'	36:BA:2296:U:H5'	2.14	0.48
14:AN:19:ARG:O	14:AN:20:ALA:HB3	2.13	0.48
36:BA:497:A:H2'	36:BA:498:G:H8	1.79	0.48
47:BO:68:GLU:OE2	47:BO:78:ARG:HD3	2.13	0.48
53:BU:92:ARG:CB	54:BV:11:GLN:NE2	2.76	0.48
38:BC:22:ILE:HD13	38:BC:190:ARG:HG2	1.95	0.48
38:BC:42:GLU:N	38:BC:215:THR:O	2.35	0.48
51:BS:34:HIS:HB3	51:BS:53:SER:HB3	1.95	0.48
52:BT:28:VAL:O	52:BT:29:ARG:CB	2.60	0.48
58:BZ:127:LYS:HD2	58:BZ:162:GLU:OE2	2.13	0.48
50:BR:45:ARG:O	50:BR:48:VAL:HG12	2.13	0.48
39:BD:26:LYS:HZ3	39:BD:26:LYS:HA	1.79	0.48
48:BP:147:LEU:O	48:BP:148:LEU:HB2	2.14	0.48
36:BA:1224:C:C5	36:BA:1225:G:C6	3.01	0.48
55:BW:70:TYR:CZ	55:BW:72:LYS:HG2	2.49	0.48
1:AA:858:G:C6	1:AA:869:G:C8	3.01	0.48
22:AV:5:G:O2'	22:AV:6:G:H5'	2.13	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:AZ:222:LEU:CD1	25:AZ:303:VAL:HG11	2.44	0.48
12:AL:41:ARG:HH22	12:AL:57:LYS:CE	2.26	0.48
36:BA:1682:G:H5'	36:BA:1762:A:O2'	2.14	0.48
1:AA:348:G:H2'	1:AA:349:A:H5'	1.96	0.48
20:AT:99:LEU:HB3	20:AT:100:ILE:HD12	1.96	0.48
3:AC:16:ARG:NH1	3:AC:16:ARG:HB2	2.29	0.48
36:BA:2580:U:P	40:BE:131:ALA:HB2	2.53	0.48
36:BA:2580:U:H5'	40:BE:131:ALA:CB	2.43	0.48
15:AO:70:LEU:O	15:AO:72:ARG:N	2.46	0.48
3:AC:60:ALA:CB	3:AC:63:ASN:HD21	2.25	0.48
2:AB:8:LYS:C	2:AB:10:LEU:N	2.64	0.48
36:BA:521:G:O2'	36:BA:522:G:H5'	2.13	0.48
10:AJ:8:LEU:HD22	10:AJ:20:ALA:HB2	1.95	0.48
1:AA:1442(A):G:C8	52:BT:118:ARG:NH2	2.82	0.48
36:BA:2234:G:O2'	36:BA:2235:G:H5'	2.13	0.48
16:AP:19:ILE:HG22	16:AP:36:ILE:HG13	1.95	0.48
49:BQ:79:LEU:O	49:BQ:80:GLU:HB2	2.14	0.48
36:BA:2880:C:O3'	50:BR:90:ARG:NH1	2.47	0.48
1:AA:633:G:H5'	1:AA:634:C:OP2	2.13	0.48
1:AA:84:U:O2'	1:AA:88:A:H5'	2.14	0.48
50:BR:14:SER:HA	50:BR:17:ARG:NH2	2.29	0.48
7:AG:85:TYR:CD1	7:AG:154:TYR:CE1	3.02	0.48
36:BA:139(A):G:H22	56:BX:44:GLU:CD	2.17	0.48
33:B7:47:ARG:HG3	33:B7:48:LYS:N	2.28	0.48
42:BG:111:LEU:CB	42:BG:112:PRO:HD3	2.43	0.48
36:BA:654(L):G:H3'	36:BA:654(L):G:N3	2.28	0.48
36:BA:1885:A:H8	36:BA:1885:A:H5'	1.78	0.48
36:BA:833:U:H2'	36:BA:834:C:C6	2.48	0.48
58:BZ:9:TYR:CE2	58:BZ:61:LEU:HD13	2.48	0.48
39:BD:35:LYS:HZ2	39:BD:36:PRO:CD	2.27	0.48
39:BD:21:PHE:HB3	39:BD:24:ILE:HG21	1.96	0.48
36:BA:605:C:H1'	36:BA:657:U:O2'	2.14	0.48
36:BA:606:U:H2'	36:BA:607:U:O4'	2.14	0.48
36:BA:623:G:H2'	36:BA:624:C:H6	1.78	0.48
1:AA:495:A:H61	4:AD:119:GLN:NE2	2.12	0.48
4:AD:129:ASN:HD21	4:AD:145:GLU:N	2.01	0.48
1:AA:975:A:H4'	1:AA:976:G:C5'	2.37	0.48
46:BN:72:TYR:CE1	46:BN:87:LEU:HD23	2.48	0.48
36:BA:1141:U:C5'	36:BA:1142(A):A:O4'	2.61	0.48
25:AZ:129:PRO:O	25:AZ:130:TYR:CB	2.62	0.48
4:AD:31:CYS:O	4:AD:32:ALA:HB3	2.13	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:BE:150:VAL:HG13	40:BE:154:LYS:HD3	1.95	0.48
48:BP:93:GLY:O	48:BP:123:LEU:HD12	2.13	0.48
42:BG:31:VAL:O	42:BG:31:VAL:HG13	2.13	0.48
7:AG:54:THR:O	7:AG:54:THR:HG23	2.13	0.48
27:B1:41:ARG:NH2	36:BA:1365:A:OP1	2.34	0.48
1:AA:1166:G:H22	1:AA:1169:A:H3'	1.79	0.48
22:AW:29:G:H1	22:AW:41:C:N4	2.11	0.48
58:BZ:11:GLU:OE2	58:BZ:13:GLU:HG3	2.14	0.48
6:AF:76:ALA:O	6:AF:80:ARG:HG3	2.14	0.48
36:BA:2360:A:O2'	36:BA:2361:A:P	2.72	0.48
1:AA:123:C:OP1	1:AA:312:C:H5'	2.14	0.48
50:BR:78:LYS:O	50:BR:83:ILE:HG12	2.13	0.48
36:BA:2009:G:O2'	36:BA:2010:G:H5'	2.13	0.48
1:AA:415:A:H2'	1:AA:416:G:C8	2.48	0.48
16:AP:75:ARG:HG3	16:AP:75:ARG:HH11	1.79	0.48
2:AB:59:GLU:CB	2:AB:221:LEU:HD11	2.43	0.48
36:BA:1809:A:C6	36:BA:1810:A:C6	3.01	0.48
36:BA:1809:A:H2'	36:BA:1810:A:C8	2.48	0.48
30:B4:35:VAL:HG12	30:B4:36:CYS:N	2.29	0.48
2:AB:160:ASP:O	2:AB:183:PRO:HD2	2.13	0.48
20:AT:81:LYS:C	20:AT:83:ARG:H	2.16	0.48
1:AA:1122:U:O2'	1:AA:1123:A:H5'	2.13	0.48
46:BN:10:GLU:HG3	46:BN:11:PRO:HD2	1.95	0.48
36:BA:1670:C:H2'	36:BA:1671:U:O4'	2.13	0.48
36:BA:1215:G:O2'	36:BA:1216:G:H5'	2.14	0.48
49:BQ:14:ARG:HG2	49:BQ:14:ARG:HH11	1.79	0.48
36:BA:198:C:O5'	36:BA:198:C:H6	1.97	0.48
1:AA:1423:G:H2'	1:AA:1424:C:H6	1.79	0.48
31:B5:52:TYR:HH	36:BA:2884:U:H1'	1.79	0.48
36:BA:2658:C:N4	36:BA:2664:G:N2	2.62	0.48
3:AC:173:VAL:HG12	3:AC:175:LEU:CD1	2.43	0.48
32:B6:11:LEU:HD21	32:B6:51:GLU:OE2	2.13	0.48
57:BY:77:PRO:O	57:BY:78:ALA:HB2	2.14	0.48
25:AZ:272:MET:O	25:AZ:273:HIS:HB2	2.14	0.48
36:BA:1858:G:N2	36:BA:1883:G:H2'	2.26	0.48
49:BQ:12:GLN:OE1	49:BQ:72:LYS:HG3	2.13	0.48
36:BA:1131:G:OP1	46:BN:80:GLY:N	2.47	0.48
58:BZ:77:ASP:O	58:BZ:79:ARG:N	2.46	0.48
22:AV:69:G:H5'	22:AV:69:G:C8	2.41	0.48
41:BF:185:ASP:HA	41:BF:188:ARG:CD	2.44	0.48
43:BH:83:TYR:HB2	43:BH:134:SER:HA	1.94	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BA:2845:G:H5''	52:BT:54:ARG:O	2.13	0.48
38:BC:43:VAL:CG2	38:BC:214:VAL:HG13	2.44	0.48
34:B8:4:MET:SD	34:B8:61:LEU:CD2	3.02	0.48
31:B5:49:CYS:O	31:B5:56:LYS:HB2	2.14	0.48
50:BR:4:LEU:O	50:BR:5:LYS:HD2	2.14	0.48
39:BD:24:ILE:HG23	39:BD:25:THR:H	1.79	0.48
41:BF:36:VAL:CG1	41:BF:183:VAL:HG21	2.43	0.48
13:AM:97:PRO:N	13:AM:110:ARG:HD3	2.28	0.48
36:BA:2289:G:C8	36:BA:2289:G:O5'	2.66	0.48
31:B5:2:ALA:HA	36:BA:2015:A:O2'	2.14	0.48
1:AA:266:G:H5'	1:AA:267:C:C5	2.48	0.48
36:BA:2533:A:C2'	36:BA:2534:A:H5'	2.44	0.48
1:AA:1217:C:O2'	1:AA:1218:C:H5'	2.14	0.48
48:BP:126:VAL:HG22	48:BP:145:PRO:HG2	1.95	0.48
3:AC:15:THR:HG21	3:AC:181:ASN:HA	1.95	0.48
25:AZ:104:LEU:N	25:AZ:132:VAL:O	2.47	0.48
36:BA:2050:C:H2'	36:BA:2051:A:O4'	2.14	0.48
3:AC:58:GLU:C	3:AC:59:ARG:HG2	2.34	0.48
2:AB:15:VAL:O	2:AB:15:VAL:HG23	2.14	0.48
27:B1:33:LYS:CD	27:B1:33:LYS:N	2.73	0.48
40:BE:80:GLU:O	40:BE:81:ILE:HD13	2.14	0.48
43:BH:53:GLU:C	43:BH:54:ARG:HG3	2.33	0.48
1:AA:591:U:H2'	1:AA:592:G:C8	2.49	0.48
41:BF:31:HIS:CE1	48:BP:13:ASN:HB2	2.49	0.48
50:BR:83:ILE:HA	50:BR:86:ARG:HD3	1.95	0.48
28:B2:34:GLU:O	28:B2:38:GLN:HG2	2.13	0.48
25:AZ:335:PHE:C	25:AZ:337:GLY:H	2.16	0.48
13:AM:63:THR:HG22	13:AM:64:TRP:N	2.28	0.48
50:BR:13:HIS:HE1	50:BR:15:SER:OG	1.96	0.48
41:BF:53:THR:HG23	41:BF:56:GLU:HG3	1.96	0.48
36:BA:1431:U:H2'	36:BA:1432:C:C6	2.49	0.48
36:BA:539:G:H2'	36:BA:540:C:H6	1.79	0.48
2:AB:215:LEU:O	2:AB:219:VAL:N	2.42	0.48
42:BG:138:GLN:HG3	42:BG:139:LEU:H	1.79	0.48
41:BF:20:LEU:HB2	41:BF:23:ASP:OD2	2.14	0.48
32:B6:25:LYS:NZ	36:BA:2284:C:H41	2.11	0.48
57:BY:29:GLU:OE1	57:BY:29:GLU:N	2.47	0.48
2:AB:209:ARG:HD3	2:AB:239:VAL:HG11	1.95	0.48
32:B6:33:LYS:HA	32:B6:33:LYS:CE	2.26	0.48
40:BE:197:ILE:O	40:BE:197:ILE:CG1	2.62	0.48
40:BE:50:GLY:HA2	40:BE:78:LEU:CB	2.29	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:BC:78:ALA:HB1	38:BC:83:ILE:HA	1.95	0.48
37:BB:71:C:H2'	37:BB:72:G:H5'	1.96	0.48
58:BZ:71:VAL:HA	58:BZ:87:ASP:O	2.14	0.48
46:BN:56:ASN:H	46:BN:125:GLY:H	1.62	0.48
35:B9:7:VAL:HG22	35:B9:34:GLN:CG	2.42	0.48
36:BA:814:C:H1'	36:BA:1225:G:N2	2.29	0.48
34:B8:13:ARG:HA	48:BP:63:PRO:HA	1.96	0.48
25:AZ:324:LYS:CG	25:AZ:364:PRO:HB3	2.34	0.48
40:BE:167:VAL:HG12	40:BE:189:PRO:HD3	1.95	0.48
36:BA:548:A:C2'	36:BA:549:G:H5'	2.41	0.48
36:BA:2533:A:OP1	36:BA:2665:A:H1'	2.14	0.48
48:BP:110:TYR:HE1	48:BP:149:GLU:OE1	1.97	0.48
12:AL:53:ARG:HD2	12:AL:53:ARG:N	2.26	0.48
46:BN:65:LYS:HB3	46:BN:65:LYS:HZ3	1.78	0.48
53:BU:8:VAL:CG2	53:BU:11:ARG:HH21	2.23	0.48
48:BP:91:PHE:N	48:BP:91:PHE:CD1	2.81	0.48
41:BF:51:THR:CB	41:BF:88:VAL:HG11	2.44	0.48
31:B5:16:ARG:HH11	31:B5:20:ARG:NH1	2.11	0.48
36:BA:752:A:H4'	36:BA:753:C:O5'	2.13	0.48
36:BA:534:U:H5'	53:BU:42:ALA:HB1	1.96	0.48
53:BU:47:TYR:HE2	54:BV:74:LYS:NZ	2.10	0.48
17:AQ:22:LEU:HD12	17:AQ:41:LYS:CG	2.44	0.48
29:B3:5:LYS:HB3	29:B3:57:GLU:HB3	1.96	0.48
36:BA:2223:G:O2'	36:BA:2224:G:H5'	2.14	0.48
36:BA:359:A:H2'	36:BA:360:G:O4'	2.13	0.48
1:AA:1442(A):G:H5'	1:AA:1442(B):A:OP1	2.13	0.48
44:BJ:64:UNK:HA	44:BJ:67:UNK:CB	2.44	0.48
36:BA:321:G:N3	41:BF:165:ARG:HD3	2.28	0.48
1:AA:1250:A:H2'	1:AA:1251:A:C8	2.49	0.48
49:BQ:25:ASP:OD2	58:BZ:78:LYS:HD3	2.13	0.48
51:BS:27:SER:O	51:BS:37:ALA:HA	2.14	0.48
30:B4:37:SER:O	30:B4:38:LYS:CB	2.62	0.48
13:AM:87:TYR:CE1	19:AS:81:ARG:NH2	2.82	0.48
58:BZ:60:GLU:C	58:BZ:61:LEU:HG	2.35	0.48
36:BA:1210:A:O2'	36:BA:1211:U:OP2	2.27	0.48
22:AW:56:C:H5''	38:BC:137:LEU:CB	2.43	0.48
38:BC:186:ALA:HB1	38:BC:190:ARG:HH22	1.77	0.48
36:BA:2760:C:C3'	36:BA:2761:G:H5''	2.43	0.48
33:B7:11:LYS:HE2	36:BA:686:G:C5'	2.42	0.48
41:BF:107:LYS:C	41:BF:109:GLY:H	2.17	0.48
27:B1:86:SER:O	27:B1:90:ILE:HG12	2.14	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:BF:157:VAL:HG12	41:BF:176:LEU:HB2	1.95	0.48
58:BZ:168:GLU:O	58:BZ:169:GLU:C	2.51	0.48
9:AI:53:VAL:HG13	9:AI:95:LYS:HZ1	1.79	0.48
36:BA:1757:U:O4	36:BA:1762:A:H2	1.97	0.48
12:AL:45:PRO:HG2	12:AL:51:ALA:HB3	1.96	0.48
50:BR:29:LEU:HD11	50:BR:52:ILE:HD11	1.95	0.48
2:AB:95:GLN:O	2:AB:96:ARG:HD2	2.14	0.48
36:BA:860:U:H2'	36:BA:861:A:H8	1.79	0.48
1:AA:409:G:H5'	4:AD:25:ARG:HB2	1.96	0.48
36:BA:744:G:C2'	36:BA:745:G:H5'	2.43	0.48
40:BE:38:THR:O	40:BE:42:ASP:HB2	2.12	0.48
1:AA:1510:U:H2'	1:AA:1511:G:H8	1.76	0.48
43:BH:150:ALA:O	43:BH:152:ARG:N	2.46	0.48
49:BQ:21:THR:C	49:BQ:23:GLY:H	2.17	0.48
36:BA:2572:A:C2	40:BE:144:ARG:NH1	2.82	0.48
1:AA:122:G:O2'	1:AA:123:C:H5'	2.13	0.48
5:AE:63:ARG:HG2	5:AE:66:MET:HE1	1.95	0.48
36:BA:1550:C:O2'	36:BA:1551:C:H5'	2.14	0.48
1:AA:1247:U:H1'	1:AA:1291:G:N2	2.29	0.48
55:BW:12:ILE:CG1	55:BW:42:ARG:HH12	2.27	0.48
34:B8:5:LYS:HG2	36:BA:254:G:O6	2.14	0.48
1:AA:137:C:H2'	1:AA:137:C:O2	2.14	0.48
3:AC:188:LEU:HD13	3:AC:195:VAL:HG13	1.96	0.48
36:BA:2229:C:O2'	36:BA:2230:G:H5'	2.14	0.48
2:AB:129:GLU:O	2:AB:130:ARG:O	2.31	0.48
36:BA:1142:U:H3'	36:BA:1142:U:H6	1.78	0.48
1:AA:555:C:H2'	1:AA:556:C:C6	2.49	0.48
54:BV:33:VAL:O	54:BV:59:ALA:O	2.32	0.48
36:BA:2582:G:OP2	36:BA:2583:G:OP2	2.30	0.48
32:B6:5:VAL:HB	36:BA:2284:C:OP2	2.13	0.47
1:AA:1321:C:HO2'	19:AS:77:THR:HG21	1.78	0.47
40:BE:5:LEU:HB2	40:BE:51:PHE:CD2	2.49	0.47
49:BQ:141:GLN:OXT	58:BZ:53:ILE:O	2.32	0.47
1:AA:1505:G:H4'	23:AX:16:A:N6	2.29	0.47
39:BD:24:ILE:HD13	39:BD:25:THR:CA	2.42	0.47
51:BS:39:ILE:HD12	51:BS:73:LEU:CD2	2.44	0.47
27:B1:84:GLY:C	27:B1:86:SER:H	2.15	0.47
36:BA:2189:U:H3'	36:BA:2190:G:H5''	1.95	0.47
36:BA:2654:A:N1	36:BA:2665:A:H5''	2.29	0.47
51:BS:82:ILE:O	51:BS:82:ILE:HG22	2.14	0.47
20:AT:51:GLU:HA	20:AT:54:LYS:CE	2.39	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:BN:21:LYS:HD3	46:BN:22:THR:H	1.79	0.47
48:BP:91:PHE:CE2	48:BP:95:VAL:HG12	2.48	0.47
12:AL:27:LEU:C	12:AL:29:GLY:N	2.66	0.47
54:BV:95:LEU:HD23	54:BV:95:LEU:C	2.34	0.47
16:AP:21:VAL:HG13	16:AP:34:GLU:H	1.78	0.47
28:B2:53:LEU:HD23	28:B2:53:LEU:O	2.13	0.47
39:BD:112:GLN:HG3	39:BD:115:GLN:NE2	2.29	0.47
36:BA:1407:C:H5'	36:BA:1408:C:OP2	2.13	0.47
36:BA:1064:C:H4'	45:BK:87:UNK:CB	2.44	0.47
24:AY:20:H2U:H4'	24:AY:21:A:H5'	1.96	0.47
39:BD:227:ASN:HB3	39:BD:228:PRO:HD2	1.96	0.47
4:AD:13:ARG:HD2	4:AD:38:TYR:O	2.14	0.47
7:AG:100:ALA:O	7:AG:104:LEU:HD22	2.14	0.47
7:AG:30:ILE:HD13	7:AG:105:VAL:HG22	1.96	0.47
13:AM:42:ALA:O	13:AM:43:THR:C	2.50	0.47
36:BA:90:U:O2	36:BA:90:U:C2'	2.61	0.47
1:AA:1310:G:H2'	1:AA:1311:G:H8	1.79	0.47
37:BB:73:A:H2'	37:BB:74:U:C5'	2.44	0.47
2:AB:59:GLU:HA	2:AB:221:LEU:HD11	1.95	0.47
25:AZ:109:ALA:HB3	25:AZ:137:LYS:HE2	1.95	0.47
1:AA:792:A:H4'	1:AA:793:U:O5'	2.14	0.47
1:AA:434:U:H2'	1:AA:435:C:C6	2.49	0.47
1:AA:1137:C:O2'	1:AA:1138:G:N2	2.47	0.47
1:AA:779:C:H2'	1:AA:780:A:O4'	2.14	0.47
1:AA:539:A:OP2	12:AL:115:LYS:HE3	2.13	0.47
24:AY:70:C:H2'	24:AY:71:C:C6	2.49	0.47
36:BA:1450(A):C:N4	36:BA:1451:C:H41	2.12	0.47
24:AY:1:A:H5'	25:AZ:90:LYS:HZ1	1.71	0.47
32:B6:11:LEU:O	32:B6:23:THR:HB	2.14	0.47
57:BY:13:VAL:CG2	57:BY:73:ARG:C	2.82	0.47
36:BA:336:C:O3'	57:BY:7:VAL:HG22	2.14	0.47
40:BE:32:PRO:O	40:BE:33:VAL:C	2.52	0.47
36:BA:2635:C:OP1	40:BE:77:ILE:HD13	2.14	0.47
2:AB:51:LEU:CD2	2:AB:55:PHE:HE2	2.27	0.47
53:BU:92:ARG:HH22	54:BV:10:LYS:HA	1.77	0.47
38:BC:147:PHE:C	38:BC:149:ILE:N	2.65	0.47
36:BA:2590:A:H2'	36:BA:2591:C:H6	1.78	0.47
52:BT:47:GLY:HA3	52:BT:63:VAL:HG12	1.95	0.47
58:BZ:126:VAL:HA	58:BZ:163:LEU:HB2	1.96	0.47
36:BA:1471:A:H2'	36:BA:1472:A:H8	1.77	0.47
39:BD:34:VAL:HG23	39:BD:35:LYS:H	1.78	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
39:BD:35:LYS:O	39:BD:37:LEU:HB2	2.13	0.47
39:BD:30:GLU:CG	39:BD:63:ARG:NE	2.65	0.47
28:B2:64:LEU:CD2	28:B2:68:ARG:HD2	2.45	0.47
28:B2:69:ARG:NH2	36:BA:111:A:H4'	2.29	0.47
36:BA:1800:C:OP1	39:BD:266:SER:OG	2.33	0.47
55:BW:72:LYS:HE3	55:BW:108:GLY:CA	2.35	0.47
25:AZ:19:HIS:ND1	25:AZ:115:GLN:HB2	2.29	0.47
56:BX:39:ILE:O	56:BX:43:VAL:HG23	2.13	0.47
48:BP:106:LEU:O	48:BP:107:LYS:HG2	2.14	0.47
50:BR:18:LEU:CD1	50:BR:22:ARG:NE	2.72	0.47
1:AA:713:G:H2'	1:AA:714:G:C8	2.48	0.47
36:BA:1798:U:H5''	39:BD:259:THR:HG22	1.93	0.47
16:AP:20:VAL:CG2	16:AP:32:TYR:HB2	2.44	0.47
36:BA:2051:A:H5'	36:BA:2578:G:O4'	2.15	0.47
7:AG:15:ASP:OD1	7:AG:18:TYR:HD1	1.96	0.47
36:BA:1264:G:C3'	36:BA:1265:A:H5''	2.42	0.47
39:BD:3:VAL:HG11	39:BD:17:THR:HB	1.95	0.47
36:BA:36:G:H2'	36:BA:37:C:H6	1.79	0.47
6:AF:99:ALA:HB3	18:AR:29:PHE:CE2	2.49	0.47
40:BE:3:GLY:HA3	40:BE:81:ILE:HG21	1.96	0.47
55:BW:31:GLU:O	55:BW:34:ASN:HB2	2.14	0.47
49:BQ:35:VAL:HG12	49:BQ:130:LYS:O	2.13	0.47
57:BY:40:GLU:HA	57:BY:40:GLU:OE2	2.14	0.47
39:BD:127:VAL:HA	39:BD:193:VAL:HG13	1.96	0.47
39:BD:126:GLN:HG2	39:BD:129:ASN:HD21	1.77	0.47
36:BA:1826:G:H4'	39:BD:242:ARG:HH21	1.79	0.47
36:BA:2880:C:O2'	50:BR:90:ARG:HD3	2.13	0.47
9:AI:121:ARG:NH1	9:AI:122:ALA:O	2.47	0.47
16:AP:59:TRP:O	16:AP:62:VAL:HG23	2.14	0.47
1:AA:620:C:H2'	1:AA:621:A:O4'	2.13	0.47
17:AQ:83:ASP:O	17:AQ:86:GLU:HB2	2.13	0.47
3:AC:188:LEU:CD1	3:AC:195:VAL:HG13	2.45	0.47
3:AC:101:LEU:HD23	3:AC:102:ASN:O	2.14	0.47
1:AA:537:G:H2'	1:AA:538:G:C8	2.49	0.47
1:AA:668:G:O2'	15:AO:46:HIS:HD2	1.97	0.47
36:BA:869:G:O2'	36:BA:870:A:H5'	2.14	0.47
30:B4:45:GLY:O	30:B4:46:GLN:HB2	2.12	0.47
18:AR:47:THR:O	18:AR:83:GLU:N	2.46	0.47
21:AU:13:ILE:O	21:AU:16:GLY:N	2.41	0.47
32:B6:10:LEU:HD12	34:B8:34:TRP:HB2	1.95	0.47
36:BA:482:A:H62	36:BA:506:G:HI'	1.79	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
57:BY:13:VAL:HG12	57:BY:28:LYS:HD3	1.96	0.47
57:BY:46:LYS:O	57:BY:47:LYS:HD2	2.14	0.47
36:BA:2128:C:O2'	36:BA:2129:C:O5'	2.31	0.47
38:BC:11:LEU:CD2	38:BC:220:PRO:HB3	2.45	0.47
1:AA:1201:A:H4'	1:AA:1202:G:H5''	1.95	0.47
58:BZ:5:LEU:C	58:BZ:6:LYS:HD3	2.34	0.47
36:BA:996:A:H4'	53:BU:92:ARG:CZ	2.45	0.47
53:BU:88:ILE:HB	53:BU:90:VAL:CG2	2.42	0.47
58:BZ:28:MET:O	58:BZ:34:ASN:HA	2.14	0.47
2:AB:61:LEU:HD12	2:AB:64:ARG:CD	2.41	0.47
36:BA:2476:A:H2'	36:BA:2476:A:N3	2.29	0.47
39:BD:61:LEU:O	39:BD:63:ARG:NH1	2.47	0.47
36:BA:814:C:H2'	36:BA:815:C:C6	2.50	0.47
36:BA:1512:U:O2	36:BA:1512:U:C2'	2.59	0.47
1:AA:222:U:C2	1:AA:223:U:C5	3.02	0.47
57:BY:86:ARG:NH2	57:BY:95:LYS:HZ2	2.11	0.47
46:BN:23:LEU:HB3	46:BN:60:ILE:CG2	2.45	0.47
46:BN:91:LEU:HA	46:BN:95:PRO:HA	1.96	0.47
36:BA:1141:U:H5''	36:BA:1142(A):A:O4'	2.15	0.47
12:AL:87:GLY:HA2	12:AL:98:TYR:CD2	2.50	0.47
55:BW:107:LEU:N	55:BW:107:LEU:HD12	2.24	0.47
1:AA:179:A:H2'	1:AA:180:U:C6	2.49	0.47
9:AI:16:ARG:HG3	9:AI:16:ARG:NH1	2.27	0.47
1:AA:1150:U:C4	1:AA:1151:A:N7	2.82	0.47
39:BD:96:HIS:HE1	39:BD:102:LYS:HZ3	1.60	0.47
36:BA:287:C:N4	36:BA:354:G:H1	2.11	0.47
28:B2:7:ARG:O	28:B2:11:GLU:HG3	2.14	0.47
43:BH:149:ARG:HD3	43:BH:164:TYR:CE1	2.49	0.47
36:BA:2422:A:H4'	36:BA:2423:U:OP1	2.14	0.47
1:AA:169:C:C2'	1:AA:170:U:H5'	2.44	0.47
55:BW:52:GLU:C	55:BW:54:ALA:N	2.67	0.47
36:BA:1523:U:H2'	36:BA:1524:G:C8	2.49	0.47
36:BA:693:C:H2'	36:BA:694:U:H6	1.79	0.47
36:BA:1406:U:N3	36:BA:1597:A:C2	2.83	0.47
36:BA:2320:A:N3	36:BA:2320:A:H2'	2.29	0.47
25:AZ:133:VAL:HB	25:AZ:170:VAL:HG22	1.96	0.47
31:B5:13:LYS:HZ1	36:BA:516:C:C5'	2.27	0.47
36:BA:539:G:H2'	36:BA:540:C:C6	2.50	0.47
1:AA:477:A:O2'	1:AA:479:C:H5'	2.14	0.47
38:BC:98:GLU:O	38:BC:98:GLU:HG3	2.15	0.47
1:AA:413:G:N2	1:AA:428:G:H1'	2.29	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BA:552:G:H1'	36:BA:1220:A:C2	2.49	0.47
2:AB:229:VAL:HG12	2:AB:230:VAL:N	2.28	0.47
26:B0:14:ARG:CG	26:B0:14:ARG:HH11	2.24	0.47
52:BT:61:PHE:N	52:BT:61:PHE:CD2	2.81	0.47
53:BU:92:ARG:O	53:BU:93:LYS:C	2.52	0.47
36:BA:2124:G:H5''	38:BC:174:PRO:HG3	1.96	0.47
38:BC:33:ALA:HB2	38:BC:216:THR:HG21	1.97	0.47
52:BT:50:ILE:HA	52:BT:99:LEU:CD1	2.44	0.47
52:BT:64:ARG:HB2	52:BT:73:GLU:HG2	1.96	0.47
58:BZ:34:ASN:C	58:BZ:35:ARG:HE	2.17	0.47
35:B9:35:ARG:NH1	36:BA:2741:A:O3'	2.48	0.47
39:BD:35:LYS:CA	39:BD:63:ARG:HA	2.44	0.47
36:BA:565:C:H5''	54:BV:80:GLN:HE22	1.80	0.47
1:AA:858:G:C8	1:AA:858:G:O5'	2.67	0.47
1:AA:254:G:O2'	1:AA:255:G:H5'	2.13	0.47
57:BY:85:VAL:HG12	57:BY:86:ARG:H	1.79	0.47
1:AA:102:G:O2'	1:AA:103:C:H5'	2.13	0.47
41:BF:131:GLY:HA3	41:BF:138:GLU:O	2.14	0.47
15:AO:10:LYS:CA	15:AO:10:LYS:HE3	2.42	0.47
17:AQ:76:LEU:HD12	17:AQ:77:VAL:N	2.25	0.47
13:AM:23:TYR:HB3	13:AM:67:GLU:HB2	1.97	0.47
36:BA:2026:C:C4	36:BA:2027:G:N7	2.82	0.47
16:AP:20:VAL:HG21	16:AP:32:TYR:HB2	1.94	0.47
2:AB:22:LYS:HZ1	2:AB:40:HIS:CE1	2.32	0.47
29:B3:56:VAL:O	29:B3:57:GLU:HB2	2.14	0.47
1:AA:475:G:H2'	1:AA:476:G:C8	2.47	0.47
10:AJ:58:ASP:O	10:AJ:59:SER:O	2.32	0.47
22:AV:66:U:O2'	22:AV:67:C:H5'	2.14	0.47
1:AA:432:A:H2'	1:AA:433:C:H5'	1.96	0.47
2:AB:52:GLU:OE1	2:AB:56:ARG:NH2	2.47	0.47
36:BA:2695:C:O2'	36:BA:2696:U:H5'	2.14	0.47
22:AV:74:C:O2	22:AV:74:C:H2'	2.15	0.47
36:BA:2629:A:N3	36:BA:2629:A:H2'	2.29	0.47
55:BW:84:ARG:HG2	55:BW:84:ARG:HH11	1.79	0.47
36:BA:2485:G:O2'	36:BA:2486:G:H5'	2.14	0.47
36:BA:271(C):C:H2'	36:BA:271(D):G:H8	1.79	0.47
42:BG:106:LEU:HD12	42:BG:110:ALA:HB3	1.96	0.47
42:BG:95:ARG:HH11	42:BG:95:ARG:HG2	1.79	0.47
32:B6:15:GLU:O	32:B6:16:CYS:C	2.53	0.47
36:BA:2128:C:OP1	38:BC:36:LYS:N	2.47	0.47
36:BA:1598:C:H5'	56:BX:36:LYS:HD2	1.97	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:B8:50:LEU:C	34:B8:52:LYS:H	2.17	0.47
1:AA:1269:A:C8	1:AA:1326:C:O4'	2.68	0.47
1:AA:1318:A:H1'	19:AS:37:ARG:HH21	1.80	0.47
58:BZ:19:ARG:C	58:BZ:21:ALA:N	2.65	0.47
36:BA:1210:A:H5''	36:BA:1212:G:H5'	1.96	0.47
43:BH:85:LYS:HZ1	43:BH:132:ARG:HA	1.79	0.47
30:B4:6:HIS:HB3	42:BG:67:LYS:CE	2.28	0.47
58:BZ:48:PHE:O	58:BZ:52:SER:N	2.47	0.47
2:AB:61:LEU:HD13	2:AB:64:ARG:NH1	2.28	0.47
10:AJ:85:LEU:C	10:AJ:87:THR:H	2.18	0.47
1:AA:619:U:N3	4:AD:134:ASP:OD1	2.42	0.47
27:B1:90:ILE:O	27:B1:94:LEU:HD13	2.15	0.47
3:AC:34:LEU:CG	14:AN:25:VAL:HG11	2.36	0.47
58:BZ:149:SER:HB2	58:BZ:172:ALA:O	2.15	0.47
12:AL:41:ARG:HG2	12:AL:42:THR:N	2.20	0.47
36:BA:1142(A):A:H5'	36:BA:1142(A):A:H8	1.79	0.47
3:AC:16:ARG:HH11	3:AC:16:ARG:HB2	1.80	0.47
5:AE:6:PHE:HB2	5:AE:34:VAL:HG22	1.92	0.47
4:AD:25:ARG:O	4:AD:28:SER:HB2	2.15	0.47
27:B1:80:LEU:HD22	27:B1:82:LEU:CD2	2.41	0.47
36:BA:2298:A:H62	36:BA:2318:G:H8	1.61	0.47
36:BA:1069:A:C1'	36:BA:1070:A:P	3.03	0.47
50:BR:118:GLU:HA	50:BR:118:GLU:OE1	2.15	0.47
36:BA:1252:G:N3	53:BU:33:ARG:CD	2.77	0.47
36:BA:590:A:H2'	36:BA:591:C:H6	1.79	0.47
4:AD:78:LEU:CD2	4:AD:96:LEU:HB3	2.44	0.47
25:AZ:181:GLN:OE1	25:AZ:193:ASN:ND2	2.46	0.47
1:AA:390:C:O3'	16:AP:28:ARG:NH1	2.47	0.47
36:BA:2538:C:O2'	36:BA:2539:C:H5'	2.15	0.47
36:BA:57:C:H2'	36:BA:58:G:O4'	2.14	0.47
36:BA:2342:C:O2'	36:BA:2374:C:H5''	2.14	0.47
1:AA:106:C:HO2'	1:AA:107:G:H5'	1.80	0.47
36:BA:839:U:H1'	36:BA:1191:G:H1'	1.96	0.47
56:BX:41:ASN:HD22	56:BX:41:ASN:N	2.12	0.47
4:AD:159:ARG:HG3	4:AD:159:ARG:NH1	2.28	0.47
36:BA:310:A:C4	36:BA:312:G:C8	3.03	0.47
38:BC:65:PRO:CD	38:BC:188:ASN:HA	2.34	0.47
10:AJ:50:ILE:CD1	14:AN:41:ARG:HD2	2.42	0.47
1:AA:1286:A:O2'	1:AA:1287:A:H5''	2.14	0.47
13:AM:78:ILE:O	13:AM:81:LEU:HB2	2.15	0.47
36:BA:2173:A:C2'	38:BC:218:MET:HE1	2.45	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:AZ:359:VAL:C	25:AZ:361:MET:H	2.17	0.47
58:BZ:48:PHE:HE2	58:BZ:52:SER:O	1.98	0.47
1:AA:927:G:HO2'	23:AX:15:A:H2	1.61	0.47
39:BD:24:ILE:HD13	39:BD:24:ILE:C	2.35	0.47
48:BP:32:THR:O	48:BP:33:ARG:O	2.32	0.47
36:BA:2289:G:C1'	36:BA:2346:A:H2	2.27	0.47
1:AA:1277:C:O2'	1:AA:1279:A:C8	2.56	0.47
41:BF:120:GLU:CB	41:BF:122:LYS:HE3	2.44	0.47
24:AY:62:U:C5'	24:AY:62:U:H6	2.24	0.47
36:BA:548:A:H2'	36:BA:549:G:C5'	2.41	0.47
36:BA:943:U:OP2	48:BP:38:GLN:CD	2.53	0.47
48:BP:108:LYS:O	48:BP:110:TYR:N	2.41	0.47
36:BA:1762:A:O5'	36:BA:1762:A:C8	2.51	0.47
54:BV:21:ARG:HG2	54:BV:91:TYR:CG	2.49	0.47
56:BX:64:LYS:HZ2	56:BX:73:ARG:HH21	1.57	0.47
36:BA:887:A:N3	36:BA:887:A:H2'	2.29	0.47
36:BA:2068:U:N3	36:BA:2430:A:H2	2.13	0.47
1:AA:1526:G:O2'	1:AA:1527:C:H5'	2.15	0.47
1:AA:501:C:H2'	1:AA:502:G:H8	1.79	0.47
13:AM:36:LYS:HG3	13:AM:59:TYR:CE2	2.49	0.47
41:BF:57:VAL:HG12	41:BF:59:TYR:H	1.79	0.47
36:BA:839:U:H2'	36:BA:840:C:C6	2.49	0.47
51:BS:42:ASP:O	51:BS:43:GLU:HB3	2.14	0.47
36:BA:793:A:OP2	36:BA:2072:G:H5'	2.15	0.47
36:BA:1202:C:H2'	36:BA:1203:G:H5'	1.96	0.47
20:AT:27:LYS:HD3	20:AT:27:LYS:C	2.34	0.47
37:BB:10:C:O2'	37:BB:11:C:H5'	2.14	0.47
1:AA:355:C:H42	1:AA:356:A:N6	2.13	0.47
36:BA:1516:C:H2'	36:BA:1517:G:C5'	2.19	0.47
57:BY:10:GLY:HA2	57:BY:27:VAL:HG13	1.96	0.47
57:BY:81:LYS:O	57:BY:82:PRO:O	2.33	0.47
38:BC:15:ASP:O	38:BC:20:TYR:HE1	1.98	0.47
38:BC:30:LYS:N	38:BC:30:LYS:HD2	2.29	0.47
38:BC:6:ARG:O	38:BC:10:LEU:HD21	2.15	0.47
34:B8:51:ALA:N	34:B8:53:PRO:HD2	2.30	0.47
1:AA:1320:C:H5'	1:AA:1320:C:C6	2.35	0.47
40:BE:74:PRO:HG3	40:BE:77:ILE:O	2.15	0.47
51:BS:14:VAL:HG12	51:BS:15:ARG:N	2.29	0.47
36:BA:1205:U:H4'	36:BA:1206:G:OP2	2.14	0.47
38:BC:120:MET:CE	38:BC:123:VAL:HG21	2.44	0.47
52:BT:58:ASN:ND2	52:BT:58:ASN:N	2.60	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BA:2167:U:H2'	36:BA:2168:G:H5'	1.95	0.47
36:BA:2849:U:O4	52:BT:23:ARG:NH2	2.43	0.47
31:B5:49:CYS:SG	31:B5:50:GLY:N	2.82	0.47
19:AS:8:GLY:O	19:AS:9:VAL:HG23	2.15	0.47
32:B6:45:LYS:O	32:B6:46:HIS:CB	2.63	0.47
10:AJ:83:GLU:HB3	10:AJ:84:GLN:H	1.61	0.47
52:BT:82:LEU:O	52:BT:82:LEU:HD13	2.15	0.47
41:BF:205:ARG:C	41:BF:206:ILE:HD13	2.35	0.47
1:AA:495:A:H61	4:AD:119:GLN:HE22	1.63	0.47
1:AA:404:U:C5'	4:AD:122:ARG:HD3	2.44	0.47
4:AD:122:ARG:NH1	4:AD:134:ASP:O	2.47	0.47
26:B0:7:LEU:CD2	49:BQ:81:VAL:CG2	2.90	0.47
29:B3:19:GLN:HE22	29:B3:52:HIS:CE1	2.31	0.47
11:AK:108:ILE:HD12	11:AK:108:ILE:H	1.79	0.47
1:AA:986:A:C2	1:AA:1220:G:C2	3.02	0.47
36:BA:1778:U:H2'	36:BA:1784:A:N6	2.30	0.47
36:BA:1020:A:N1	36:BA:1141:U:H1'	2.29	0.47
42:BG:47:LYS:HB3	42:BG:48:GLU:H	1.48	0.47
25:AZ:130:TYR:CZ	25:AZ:211:PRO:HD3	2.49	0.47
1:AA:192:U:C4'	20:AT:103:GLY:HA2	2.44	0.47
48:BP:96:THR:HG22	48:BP:126:VAL:CG2	2.45	0.47
36:BA:1566:A:OP1	39:BD:211:ARG:NH1	2.48	0.47
37:BB:87:G:N2	37:BB:89:G:H3'	2.30	0.47
11:AK:27:ASN:HB2	11:AK:55:LYS:HB2	1.96	0.47
41:BF:29:ASN:N	41:BF:112:MET:SD	2.77	0.47
46:BN:34:LEU:CD2	46:BN:120:LEU:HD23	2.43	0.47
40:BE:38:THR:HG22	40:BE:40:GLU:N	2.30	0.47
39:BD:142:VAL:CG2	39:BD:191:ALA:HB1	2.45	0.47
1:AA:1153:C:O2'	1:AA:1154:G:O5'	2.33	0.47
36:BA:2555:U:C2'	36:BA:2556:C:H5'	2.45	0.47
34:B8:2:PRO:HA	36:BA:591:C:H1'	1.96	0.47
26:B0:56:ASP:OD2	36:BA:2364:C:H4'	2.14	0.47
7:AG:101:LEU:HA	7:AG:104:LEU:HD23	1.96	0.47
1:AA:1030:C:H2'	1:AA:1030(A):G:O4'	2.14	0.47
30:B4:19:GLY:O	30:B4:20:ASN:C	2.52	0.47
49:BQ:74:TYR:HD1	49:BQ:75:THR:N	2.12	0.47
4:AD:187:ARG:HH11	4:AD:187:ARG:CB	2.27	0.47
40:BE:144:ARG:HB3	40:BE:145:LYS:H	1.55	0.47
5:AE:147:ASP:N	5:AE:147:ASP:OD2	2.48	0.47
36:BA:2539:C:O2'	36:BA:2540:C:H5'	2.14	0.47
36:BA:363:G:H2'	36:BA:363(A):A:H8	1.80	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:BQ:48:GLU:HG3	49:BQ:52:VAL:HG23	1.97	0.47
49:BQ:48:GLU:O	49:BQ:49:ALA:C	2.52	0.47
10:AJ:94:VAL:CG1	10:AJ:95:GLU:N	2.77	0.47
1:AA:271:C:O2'	1:AA:272:C:H5'	2.15	0.47
36:BA:1315:C:O2'	36:BA:1316:U:H5'	2.15	0.47
14:AN:15:LYS:O	14:AN:16:PHE:O	2.32	0.47
36:BA:1830:C:O2'	36:BA:1831:G:H5'	2.15	0.47
26:B0:45:PHE:HB2	26:B0:59:LEU:HD11	1.97	0.47
43:BH:127:GLU:HB2	43:BH:130:ARG:HB2	1.96	0.47
36:BA:2562:U:C2'	36:BA:2563:U:H5'	2.44	0.47
36:BA:1625:C:H2'	36:BA:1626:G:C5'	2.44	0.47
8:AH:9:MET:O	8:AH:13:ILE:HG12	2.14	0.47
17:AQ:15:MET:HB2	17:AQ:18:THR:HB	1.95	0.47
42:BG:165:THR:OG1	42:BG:168:GLU:HG3	2.15	0.47
13:AM:113:PRO:O	13:AM:114:ARG:C	2.52	0.47
36:BA:2439:A:C8	36:BA:2439:A:H5'	2.50	0.47
40:BE:201:THR:C	40:BE:202:LYS:HD2	2.35	0.47
36:BA:1572:A:O2'	36:BA:1573:G:H5'	2.14	0.47
32:B6:28:ARG:HH11	32:B6:28:ARG:HG2	1.80	0.47
55:BW:10:VAL:O	55:BW:11:ARG:CB	2.63	0.47
57:BY:80:GLY:O	57:BY:81:LYS:C	2.53	0.47
38:BC:14:VAL:HG21	38:BC:32:LEU:HD11	1.96	0.47
34:B8:52:LYS:O	34:B8:55:ALA:HB3	2.15	0.47
36:BA:1665:A:H2'	36:BA:1666:G:C5'	2.21	0.47
1:AA:1319:A:OP2	19:AS:5:LEU:HD21	2.15	0.47
2:AB:17:PHE:CD1	2:AB:44:LEU:HD11	2.50	0.47
36:BA:2175:C:H4'	38:BC:221:SER:CB	2.38	0.47
40:BE:59:VAL:O	40:BE:62:PRO:HG2	2.15	0.47
37:BB:65:C:H2'	37:BB:109:C:N4	2.29	0.47
58:BZ:99:TYR:CD2	58:BZ:99:TYR:N	2.83	0.47
33:B7:12:ARG:HH11	33:B7:12:ARG:HG3	1.79	0.47
28:B2:18:PRO:HG2	28:B2:19:VAL:N	2.29	0.47
20:AT:74:LYS:CG	20:AT:75:ASN:N	2.77	0.47
20:AT:73:HIS:CB	20:AT:74:LYS:HD3	2.37	0.47
40:BE:167:VAL:CG1	40:BE:189:PRO:HD3	2.45	0.47
36:BA:84:A:C5'	57:BY:9:LYS:HB3	2.36	0.47
37:BB:21:G:H2'	37:BB:22:U:O4'	2.15	0.47
46:BN:3:THR:C	46:BN:4:TYR:CG	2.88	0.47
57:BY:3:VAL:O	57:BY:3:VAL:HG12	2.15	0.47
13:AM:70:LEU:HD23	13:AM:74:VAL:HG23	1.97	0.47
11:AK:54:ARG:O	11:AK:57:THR:HB	2.15	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:AB:101:MET:HA	2:AB:108:ILE:HG13	1.96	0.47
42:BG:76:SER:OG	42:BG:83:ARG:HB3	2.15	0.47
39:BD:79:VAL:HG12	39:BD:113:VAL:HA	1.97	0.47
36:BA:2777:G:C4'	36:BA:2778:A:H5'	2.44	0.47
27:B1:66:HIS:C	27:B1:68:PRO:HD2	2.35	0.47
7:AG:22:LEU:HD22	7:AG:62:PHE:CZ	2.50	0.47
36:BA:225:A:C2'	36:BA:226:G:H5'	2.45	0.47
1:AA:1441:G:H1'	1:AA:1460:A:H61	1.79	0.47
43:BH:118:PRO:CG	43:BH:121:ILE:HD12	2.45	0.47
36:BA:2263:C:O2'	36:BA:2264:C:H5'	2.15	0.47
36:BA:2111:C:H1'	36:BA:2118:U:C4'	2.45	0.47
32:B6:42:TRP:HA	32:B6:42:TRP:HE3	1.78	0.47
3:AC:203:PHE:CE1	3:AC:205:GLY:O	2.67	0.47
36:BA:773:U:H4'	39:BD:47:GLY:HA3	1.97	0.47
3:AC:142:MET:CE	3:AC:171:GLY:HA3	2.44	0.47
36:BA:479:A:O2'	36:BA:481:G:H5'	2.14	0.47
56:BX:26:TYR:HD2	56:BX:92:LEU:CD1	2.28	0.47
1:AA:977:A:O2'	1:AA:978:A:H5'	2.12	0.47
51:BS:12:PHE:N	51:BS:12:PHE:HD2	2.13	0.47
25:AZ:92:MET:HE3	25:AZ:96:ALA:HB2	1.97	0.47
37:BB:91:C:O2'	37:BB:92:C:H5'	2.15	0.47
58:BZ:19:ARG:HG3	58:BZ:20:ARG:N	2.29	0.47
51:BS:34:HIS:CB	51:BS:36:TYR:HE1	2.28	0.47
43:BH:167:GLU:HG2	43:BH:168:PRO:CD	2.28	0.47
37:BB:70:C:HO2'	37:BB:71:C:H5'	1.80	0.47
1:AA:1503:A:C8	23:AX:15:A:C6	3.03	0.47
1:AA:76:C:N4	1:AA:93:G:H1	2.13	0.47
25:AZ:32:THR:HG22	25:AZ:44:VAL:HA	1.97	0.47
43:BH:24:VAL:HG12	43:BH:25:LYS:N	2.29	0.47
51:BS:85:VAL:H	51:BS:106:ARG:HA	1.80	0.47
1:AA:1278:U:H5''	1:AA:1279:A:O4'	2.15	0.47
25:AZ:324:LYS:HE3	25:AZ:364:PRO:HB3	1.97	0.47
36:BA:2275:C:O2	49:BQ:85:LYS:HD3	2.14	0.47
10:AJ:96:ILE:N	10:AJ:96:ILE:HD13	2.16	0.47
1:AA:127:G:N2	17:AQ:61:GLU:OE1	2.46	0.47
36:BA:1453:U:OP1	50:BR:77:ARG:HD3	2.14	0.47
48:BP:115:LEU:HD23	48:BP:115:LEU:H	1.79	0.47
5:AE:8:GLU:CA	5:AE:34:VAL:HG23	2.45	0.47
8:AH:85:ARG:HG3	8:AH:85:ARG:HH11	1.80	0.47
7:AG:18:TYR:O	7:AG:20:ASP:N	2.48	0.47
8:AH:20:TYR:CE1	8:AH:76:PRO:HG2	2.49	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AK:103:LEU:H	11:AK:103:LEU:HD22	1.79	0.47
36:BA:74:A:O2'	36:BA:75:G:OP2	2.25	0.47
43:BH:162:ILE:HG23	43:BH:162:ILE:O	2.15	0.47
2:AB:72:GLY:CA	2:AB:165:VAL:HG22	2.45	0.47
4:AD:127:THR:N	4:AD:147:ALA:O	2.48	0.47
1:AA:594:G:O2'	1:AA:595:G:H5'	2.14	0.47
25:AZ:344:PHE:CE2	25:AZ:380:LEU:HD21	2.50	0.47
39:BD:16:MET:HG3	39:BD:206:LEU:O	2.15	0.47
2:AB:142:LEU:O	2:AB:146:GLN:HB2	2.15	0.47
41:BF:148:LEU:C	41:BF:150:GLY:N	2.67	0.47
40:BE:44:TYR:O	40:BE:45:THR:CB	2.62	0.47
1:AA:369:C:HO2'	1:AA:370:C:C5'	2.28	0.47
49:BQ:63:LYS:NZ	58:BZ:175:VAL:HG21	2.29	0.47
4:AD:85:LYS:HD3	4:AD:92:VAL:HG11	1.96	0.47
40:BE:151:TYR:HB3	46:BN:79:PRO:HG3	1.96	0.47
12:AL:34:ARG:O	12:AL:61:THR:HG23	2.13	0.47
44:BJ:27:UNK:O	44:BJ:82:UNK:HA	2.15	0.47
54:BV:1:MET:SD	54:BV:43:GLU:HG2	2.54	0.47
1:AA:601:C:O2'	1:AA:602:A:H5'	2.14	0.47
57:BY:20:TYR:CE1	57:BY:42:VAL:HG22	2.50	0.47
36:BA:1485:G:H2'	36:BA:1486:A:C8	2.50	0.47
14:AN:41:ARG:NH2	14:AN:42:ILE:HD11	2.30	0.47
54:BV:12:TYR:CE2	54:BV:22:VAL:HG12	2.50	0.47
52:BT:58:ASN:H	52:BT:58:ASN:HD22	1.63	0.47
36:BA:2124:G:H4'	38:BC:174:PRO:HB3	1.96	0.47
38:BC:161:ILE:HD12	38:BC:161:ILE:C	2.35	0.47
38:BC:78:ALA:HB3	38:BC:95:GLY:N	2.29	0.47
58:BZ:71:VAL:HG12	58:BZ:73:GLN:H	1.80	0.47
2:AB:67:THR:HA	2:AB:90:MET:HE1	1.97	0.47
36:BA:686:G:H21	36:BA:788:A:N6	2.12	0.47
28:B2:41:ILE:HD11	28:B2:44:LEU:HD12	1.96	0.47
10:AJ:83:GLU:O	10:AJ:84:GLN:C	2.53	0.47
10:AJ:87:THR:OG1	10:AJ:88:LEU:N	2.48	0.47
36:BA:661:C:H4'	48:BP:18:ARG:HG2	1.96	0.47
50:BR:3:HIS:O	50:BR:4:LEU:C	2.52	0.47
41:BF:158:THR:HA	41:BF:198:ALA:HB2	1.97	0.47
36:BA:2286:A:H4'	36:BA:2287:A:O4'	2.14	0.47
36:BA:1511:C:C5	36:BA:1512:U:H5	2.33	0.47
1:AA:196:A:N3	1:AA:222:U:H1'	2.30	0.47
17:AQ:67:LYS:CA	17:AQ:70:ARG:NH1	2.75	0.47
48:BP:83:VAL:CG2	48:BP:105:LEU:HD22	2.40	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:BP:111:ARG:NH1	48:BP:149:GLU:HG3	2.29	0.47
18:AR:44:LEU:HD21	18:AR:79:LEU:HD22	1.97	0.47
54:BV:34:GLU:HG2	54:BV:36:PRO:HD3	1.95	0.47
48:BP:126:VAL:HG22	48:BP:145:PRO:CG	2.45	0.47
36:BA:1248:G:C8	41:BF:92:PRO:HD3	2.50	0.47
3:AC:32:LEU:HB3	3:AC:59:ARG:HH21	1.80	0.47
3:AC:59:ARG:HD3	3:AC:64:VAL:HG13	1.96	0.47
8:AH:102:ARG:N	8:AH:102:ARG:CD	2.78	0.47
39:BD:96:HIS:HE1	39:BD:102:LYS:NZ	2.09	0.47
43:BH:28:GLY:HA3	43:BH:79:VAL:HB	1.97	0.47
20:AT:25:ARG:CG	20:AT:25:ARG:HH11	2.26	0.47
36:BA:1416:G:O2'	36:BA:1417:C:H5	1.95	0.47
1:AA:946:A:C2	1:AA:1236:A:C2	3.03	0.47
37:BB:5:C:O2'	37:BB:27:C:O2	2.28	0.47
36:BA:2872:G:H2'	36:BA:2873:A:C8	2.50	0.47
36:BA:1890:A:C2'	36:BA:1891:G:H5'	2.44	0.47
37:BB:98:G:C2'	37:BB:99:G:H5'	2.45	0.47
36:BA:2231:C:H2'	36:BA:2232:U:H6	1.79	0.47
36:BA:342:G:H2'	36:BA:343:C:C6	2.50	0.47
1:AA:135:C:C2'	1:AA:136:C:H5'	2.45	0.47
39:BD:214:TRP:C	39:BD:216:GLY:H	2.18	0.47
1:AA:601:C:H2'	1:AA:602:A:H8	1.80	0.47
3:AC:159:GLY:HA2	3:AC:193:TYR:CD1	2.50	0.47
27:B1:20:ARG:HB3	27:B1:34:THR:HA	1.96	0.47
36:BA:1502:C:H2'	36:BA:1502:C:O2	2.13	0.47
58:BZ:24:LEU:HD12	58:BZ:41:LEU:HA	1.97	0.47
36:BA:821:A:H5'	36:BA:822:U:H6	1.80	0.47
38:BC:65:PRO:HG2	38:BC:187:ASP:O	2.15	0.46
32:B6:32:ASN:O	32:B6:33:LYS:CB	2.63	0.46
56:BX:18:TYR:O	56:BX:21:PHE:CD1	2.68	0.46
56:BX:27:THR:HG22	56:BX:80:ILE:CB	2.44	0.46
2:AB:51:LEU:CD2	2:AB:201:ILE:HD12	2.44	0.46
38:BC:163:PHE:CE2	38:BC:192:PHE:HE1	2.33	0.46
38:BC:104:LEU:CD2	38:BC:127:LEU:HD21	2.45	0.46
36:BA:1654:A:H2	40:BE:113:PHE:CD2	2.33	0.46
36:BA:2134:A:H2'	36:BA:2135:A:H8	1.80	0.46
48:BP:24:GLY:HA3	48:BP:33:ARG:HH12	1.79	0.46
36:BA:2679:A:O2'	36:BA:2680:C:H5'	2.16	0.46
36:BA:1988:C:O2'	36:BA:1989:G:H5'	2.15	0.46
2:AB:114:ARG:O	2:AB:118:LEU:HD12	2.15	0.46
2:AB:115:LEU:HD13	2:AB:145:LEU:HD12	1.97	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:BP:111:ARG:H	48:BP:111:ARG:CD	2.28	0.46
3:AC:8:ILE:O	3:AC:11:ARG:N	2.48	0.46
12:AL:26:ALA:O	12:AL:27:LEU:O	2.32	0.46
36:BA:1494:A:H2'	36:BA:1495:A:C5'	2.41	0.46
55:BW:1:MET:C	55:BW:64:MET:HE3	2.36	0.46
1:AA:585:G:H4'	12:AL:8:ASN:ND2	2.29	0.46
5:AE:20:GLN:NE2	5:AE:25:ARG:NH2	2.59	0.46
36:BA:222:A:H5''	36:BA:421:U:OP1	2.15	0.46
47:BO:35:VAL:HG23	47:BO:65:THR:HG23	1.95	0.46
1:AA:390:C:H4'	16:AP:28:ARG:HH11	1.80	0.46
12:AL:74:GLY:O	12:AL:102:ARG:NH2	2.47	0.46
46:BN:10:GLU:CG	46:BN:11:PRO:HD2	2.45	0.46
39:BD:237:GLU:HA	39:BD:237:GLU:OE2	2.16	0.46
3:AC:148:GLY:HA3	3:AC:172:ARG:O	2.15	0.46
11:AK:12:ARG:C	11:AK:13:GLN:HG3	2.36	0.46
45:BK:123:UNK:C	45:BK:125:UNK:N	2.78	0.46
18:AR:43:PHE:HD1	18:AR:66:LEU:HD11	1.80	0.46
53:BU:90:VAL:O	53:BU:92:ARG:N	2.48	0.46
52:BT:28:VAL:HG11	52:BT:46:GLU:OE1	2.15	0.46
39:BD:21:PHE:HB3	39:BD:24:ILE:CG2	2.45	0.46
36:BA:604:G:O2'	36:BA:605:C:H5'	2.15	0.46
22:AV:14:A:N6	22:AV:21:A:H2	2.12	0.46
48:BP:83:VAL:HA	48:BP:105:LEU:HD22	1.96	0.46
2:AB:80:ILE:HG12	2:AB:208:ILE:HG23	1.97	0.46
1:AA:1149:C:OP1	9:AI:9:ARG:NH1	2.48	0.46
42:BG:85:GLY:O	42:BG:86:MET:CB	2.63	0.46
3:AC:16:ARG:NH2	3:AC:183:ASP:HA	2.31	0.46
15:AO:26:GLU:O	15:AO:81:LEU:HD21	2.15	0.46
36:BA:1434:A:O2'	36:BA:1435:G:H5'	2.15	0.46
38:BC:110:PHE:O	38:BC:111:ASP:HB2	2.14	0.46
36:BA:973:A:H5'	36:BA:1188:U:H1'	1.97	0.46
39:BD:79:VAL:HG21	39:BD:111:LEU:HD21	1.96	0.46
2:AB:121:LEU:HA	2:AB:124:SER:HB3	1.97	0.46
36:BA:1887:C:H2'	36:BA:1888:G:H5''	1.96	0.46
48:BP:45:LEU:HD22	48:BP:46:LYS:H	1.80	0.46
36:BA:1831:G:H2'	36:BA:1832:C:H6	1.79	0.46
1:AA:284:G:H2'	1:AA:285:G:C8	2.50	0.46
33:B7:46:VAL:HG12	33:B7:47:ARG:N	2.29	0.46
1:AA:555:C:H2'	1:AA:556:C:H6	1.81	0.46
36:BA:2697:G:H2'	36:BA:2698:U:O4'	2.15	0.46
31:B5:18:ALA:O	31:B5:21:SER:HB3	2.15	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
58:BZ:146:ILE:O	58:BZ:147:GLY:O	2.32	0.46
36:BA:2087:G:O2'	36:BA:2088:G:H5'	2.15	0.46
16:AP:50:LYS:O	16:AP:51:VAL:HG23	2.14	0.46
2:AB:71:VAL:HG12	2:AB:170:GLU:HG2	1.97	0.46
57:BY:74:PRO:HG2	57:BY:80:GLY:O	2.14	0.46
56:BX:54:VAL:HG21	56:BX:81:VAL:HG12	1.97	0.46
58:BZ:63:ASP:C	58:BZ:65:GLN:H	2.16	0.46
36:BA:1754:C:N3	36:BA:2716:U:O2'	2.45	0.46
52:BT:50:ILE:HG23	52:BT:99:LEU:O	2.16	0.46
37:BB:13:A:H2'	37:BB:14:U:H5''	1.97	0.46
34:B8:61:LEU:CD1	34:B8:62:LEU:N	2.75	0.46
52:BT:31:SER:HB2	52:BT:32:TYR:CD2	2.51	0.46
36:BA:1178:C:H2'	36:BA:1179:C:C6	2.50	0.46
19:AS:36:ARG:HB3	19:AS:51:VAL:HG13	1.97	0.46
36:BA:1946:U:H2'	36:BA:1947:C:H6	1.78	0.46
31:B5:3:LYS:HD3	36:BA:747:U:OP1	2.15	0.46
55:BW:89:ALA:O	55:BW:90:ARG:HB2	2.15	0.46
22:AV:21:A:O2'	22:AV:22:G:H5''	2.16	0.46
2:AB:111:ARG:HG2	2:AB:111:ARG:NH1	2.31	0.46
3:AC:179:ARG:O	3:AC:206:GLU:O	2.33	0.46
7:AG:86:GLN:NE2	22:AW:39:U:H5	2.13	0.46
22:AW:71:G:C2'	22:AW:72:C:H5'	2.45	0.46
36:BA:718:A:C2'	36:BA:719:C:H5'	2.44	0.46
53:BU:58:ARG:O	53:BU:62:ILE:HG13	2.15	0.46
53:BU:76:TYR:O	53:BU:80:ILE:HG12	2.14	0.46
39:BD:273:ARG:O	39:BD:274:ARG:CG	2.64	0.46
49:BQ:21:THR:HG22	49:BQ:23:GLY:O	2.15	0.46
1:AA:1459:C:H2'	1:AA:1460:A:H8	1.80	0.46
4:AD:170:VAL:HG11	4:AD:174:LEU:HB2	1.96	0.46
4:AD:108:LEU:HG	4:AD:176:LEU:HD13	1.96	0.46
36:BA:1967:C:C2'	36:BA:1968:G:H5'	2.46	0.46
41:BF:31:HIS:HB2	48:BP:13:ASN:OD1	2.14	0.46
36:BA:693:C:O2'	36:BA:694:U:H5'	2.15	0.46
1:AA:186:C:H5'	20:AT:78:ALA:HB1	1.97	0.46
28:B2:32:LEU:HD23	28:B2:32:LEU:O	2.14	0.46
1:AA:556:C:O2'	1:AA:557:G:H5'	2.14	0.46
3:AC:142:MET:C	3:AC:144:SER:H	2.17	0.46
1:AA:1396:A:O4'	1:AA:1398:A:H1'	2.15	0.46
36:BA:2691:C:H5'	36:BA:2691:C:H6	1.80	0.46
36:BA:921:G:H4'	36:BA:2269:A:C5	2.51	0.46
1:AA:1521:G:H2'	1:AA:1522:U:H6	1.79	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:AC:52:LEU:HD23	3:AC:52:LEU:O	2.16	0.46
55:BW:18:ARG:HG3	55:BW:18:ARG:HH11	1.80	0.46
12:AL:64:TYR:N	12:AL:64:TYR:CD1	2.83	0.46
4:AD:83:SER:HA	4:AD:89:THR:HG21	1.97	0.46
36:BA:1075:C:OP1	49:BQ:59:ARG:NH2	2.49	0.46
36:BA:2856:C:O2'	36:BA:2857:G:H5'	2.15	0.46
28:B2:47:ASN:ND2	36:BA:94(A):G:H21	2.14	0.46
38:BC:14:VAL:CG1	38:BC:222:VAL:HG13	2.46	0.46
14:AN:41:ARG:HH21	14:AN:42:ILE:HD11	1.80	0.46
38:BC:149:ILE:CG2	38:BC:150:GLY:N	2.79	0.46
38:BC:75:LEU:HD11	38:BC:113:VAL:HG13	1.98	0.46
51:BS:30:ARG:NH2	51:BS:62:LYS:CD	2.79	0.46
52:BT:22:PHE:CD1	52:BT:22:PHE:C	2.89	0.46
23:AX:26:A:N3	23:AX:26:A:O2'	2.38	0.46
19:AS:43:GLU:O	19:AS:43:GLU:HG2	2.14	0.46
50:BR:7:GLY:O	50:BR:8:ARG:CB	2.59	0.46
1:AA:102:G:C4	1:AA:103:C:C5	3.04	0.46
46:BN:94:HIS:N	46:BN:95:PRO:CD	2.78	0.46
48:BP:130:PHE:CB	48:BP:135:LEU:HD23	2.46	0.46
3:AC:180:ALA:O	3:AC:181:ASN:CB	2.54	0.46
7:AG:86:GLN:NE2	22:AW:39:U:C5	2.84	0.46
4:AD:12:CYS:O	4:AD:33:MET:CE	2.62	0.46
1:AA:954:G:H4'	13:AM:120:LYS:HD2	1.97	0.46
4:AD:126:ILE:HD12	4:AD:126:ILE:N	2.30	0.46
48:BP:46:LYS:HG2	48:BP:52:GLU:OE2	2.16	0.46
4:AD:173:TRP:CD2	4:AD:189:PRO:HB3	2.50	0.46
36:BA:986:C:O2'	36:BA:987:G:H5'	2.15	0.46
36:BA:1536:C:N3	36:BA:1537:G:H1'	2.30	0.46
1:AA:782:A:H4'	1:AA:1514:C:O2'	2.15	0.46
43:BH:33:LEU:HD21	43:BH:136:ILE:HG22	1.97	0.46
36:BA:1270:C:H5''	36:BA:1271:G:H5'	1.98	0.46
1:AA:457:C:C2	1:AA:458:C:C5	3.04	0.46
13:AM:112:GLY:O	13:AM:113:PRO:C	2.53	0.46
1:AA:930:C:O2'	1:AA:931:C:H5'	2.15	0.46
58:BZ:125:LEU:HD23	58:BZ:164:ALA:O	2.16	0.46
7:AG:114:ARG:HG2	7:AG:114:ARG:H	1.51	0.46
1:AA:437:U:H2'	1:AA:438:G:C8	2.50	0.46
8:AH:43:GLY:O	8:AH:64:LYS:NZ	2.37	0.46
15:AO:75:PRO:O	15:AO:79:ARG:HG3	2.15	0.46
36:BA:2283:C:H2'	36:BA:2284:C:C5'	2.43	0.46
36:BA:92:A:H2'	36:BA:93:G:O4'	2.15	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BA:483:A:H4'	57:BY:48:ALA:O	2.16	0.46
38:BC:25:ALA:O	38:BC:29:VAL:HG22	2.14	0.46
54:BV:2:PHE:O	54:BV:3:ALA:HB2	2.15	0.46
38:BC:163:PHE:CD1	38:BC:171:ILE:HD11	2.50	0.46
58:BZ:29:TYR:HB3	58:BZ:34:ASN:HA	1.96	0.46
19:AS:40:ILE:CG2	19:AS:67:VAL:HA	2.45	0.46
1:AA:1001(A):G:H8	1:AA:1002:G:C8	2.33	0.46
25:AZ:29:ALA:O	25:AZ:32:THR:HB	2.14	0.46
25:AZ:19:HIS:CG	25:AZ:20:VAL:N	2.84	0.46
10:AJ:75:ILE:O	10:AJ:77:PRO:HD3	2.16	0.46
41:BF:157:VAL:O	41:BF:157:VAL:HG23	2.16	0.46
58:BZ:140:ASP:C	58:BZ:141:VAL:HG23	2.36	0.46
9:AI:89:ASN:HB3	9:AI:92:TYR:CD1	2.50	0.46
18:AR:44:LEU:O	18:AR:45:SER:C	2.54	0.46
1:AA:349:A:O2'	1:AA:350:G:H5'	2.16	0.46
36:BA:2836:U:C4	36:BA:2883:A:N6	2.83	0.46
3:AC:164:ARG:HH22	3:AC:166:GLU:CD	2.18	0.46
25:AZ:138:VAL:HG21	25:AZ:173:GLY:N	2.30	0.46
10:AJ:40:LEU:CD2	10:AJ:40:LEU:H	2.24	0.46
7:AG:16:LEU:HD23	7:AG:16:LEU:HA	1.80	0.46
36:BA:1060:U:H1'	36:BA:1061:U:C5'	2.46	0.46
39:BD:79:VAL:CG1	39:BD:113:VAL:HA	2.46	0.46
36:BA:2131:G:H5''	36:BA:2132:U:C5'	2.45	0.46
1:AA:625:G:H2'	1:AA:626:U:H6	1.80	0.46
1:AA:625:G:H4'	16:AP:16:HIS:CD2	2.50	0.46
36:BA:654(S):G:H2'	36:BA:654(T):C:O4'	2.14	0.46
37:BB:32:C:O4'	37:BB:53:A:N1	2.48	0.46
36:BA:2572:A:N7	40:BE:144:ARG:HD3	2.30	0.46
42:BG:91:ARG:HG3	42:BG:91:ARG:NH1	2.31	0.46
39:BD:16:MET:CE	39:BD:208:LYS:HD3	2.46	0.46
43:BH:137:ASP:HB3	43:BH:140:LYS:HB2	1.97	0.46
36:BA:2529:G:H5''	36:BA:2530:A:H5''	1.98	0.46
16:AP:4:ILE:HG23	16:AP:36:ILE:HD11	1.97	0.46
1:AA:155:C:O2'	1:AA:156:G:H5'	2.15	0.46
1:AA:186:C:C2	1:AA:187:C:H5	2.33	0.46
9:AI:126:SER:O	9:AI:127:LYS:HB3	2.15	0.46
1:AA:671:G:H2'	1:AA:672:U:C6	2.51	0.46
9:AI:82:ALA:O	9:AI:84:ALA:N	2.49	0.46
36:BA:2876:G:OP1	52:BT:4:GLY:HA3	2.16	0.46
41:BF:156:LEU:HD21	41:BF:163:VAL:CG1	2.45	0.46
1:AA:684:A:N6	1:AA:685:G:C6	2.84	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BA:948:G:O2'	36:BA:949:C:H5'	2.15	0.46
36:BA:1582:C:O2'	36:BA:1586:A:C8	2.66	0.46
2:AB:179:LYS:O	2:AB:179:LYS:HG2	2.15	0.46
54:BV:64:HIS:HA	54:BV:92:THR:HG22	1.97	0.46
36:BA:832:G:H21	48:BP:53:GLY:CA	2.28	0.46
36:BA:2488:A:O2'	36:BA:2489:G:H5'	2.16	0.46
25:AZ:265:THR:CG2	25:AZ:266:VAL:H	2.25	0.46
32:B6:8:LYS:CG	32:B6:25:LYS:HD3	2.46	0.46
57:BY:50:ARG:CG	57:BY:53:PRO:HA	2.45	0.46
38:BC:14:VAL:CG2	38:BC:28:LEU:HD21	2.45	0.46
32:B6:26:ASN:ND2	32:B6:32:ASN:OD1	2.48	0.46
40:BE:198:VAL:CG1	40:BE:199:ARG:N	2.79	0.46
2:AB:43:ASP:O	2:AB:45:GLN:N	2.49	0.46
36:BA:2787:C:H1'	40:BE:61:ARG:HG3	1.98	0.46
2:AB:60:ASP:OD2	2:AB:60:ASP:O	2.33	0.46
23:AX:26:A:H2'	23:AX:27:A:O4'	2.15	0.46
38:BC:70:LYS:HE3	38:BC:70:LYS:HA	1.97	0.46
10:AJ:4:ILE:HA	10:AJ:99:LYS:O	2.16	0.46
36:BA:622:G:H2'	36:BA:623:G:H8	1.81	0.46
41:BF:181:LEU:CD2	41:BF:202:PHE:HD1	2.28	0.46
36:BA:811:U:H6	48:BP:24:GLY:O	1.98	0.46
14:AN:12:ARG:HB3	14:AN:12:ARG:HH11	1.81	0.46
36:BA:1141:U:H6	46:BN:63:THR:HG21	1.81	0.46
49:BQ:134:ARG:NH1	58:BZ:122:ARG:NH2	2.64	0.46
54:BV:17:GLY:O	54:BV:18:LEU:HD13	2.15	0.46
36:BA:2107:C:H2'	36:BA:2108:C:H6	1.81	0.46
36:BA:1385:G:O2'	36:BA:1396:U:H6	1.98	0.46
1:AA:427:U:OP1	4:AD:13:ARG:NH2	2.48	0.46
47:BO:34:THR:HG23	47:BO:35:VAL:N	2.30	0.46
22:AV:75:C:OP1	36:BA:2602:A:H5''	2.16	0.46
11:AK:120:ARG:HG3	11:AK:120:ARG:NH1	2.28	0.46
36:BA:1889:A:N1	36:BA:2234:G:H1'	2.31	0.46
39:BD:58:HIS:HD2	39:BD:59:LYS:O	1.98	0.46
36:BA:2094:G:N2	36:BA:2196:C:H1'	2.31	0.46
36:BA:1368:G:O2'	36:BA:1369:G:H5'	2.16	0.46
1:AA:921:U:O2	5:AE:19:MET:HB2	2.15	0.46
55:BW:79:GLY:N	55:BW:100:THR:O	2.46	0.46
47:BO:3:GLN:O	47:BO:21:CYS:HB3	2.16	0.46
57:BY:29:GLU:OE2	57:BY:38:ILE:HG21	2.15	0.46
57:BY:78:ALA:O	57:BY:79:CYS:HB3	2.16	0.46
38:BC:21:THR:O	38:BC:25:ALA:CB	2.63	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:B8:53:PRO:O	34:B8:54:GLU:C	2.54	0.46
25:AZ:98:GLN:O	25:AZ:241:ARG:NH2	2.49	0.46
54:BV:52:VAL:HG22	54:BV:52:VAL:O	2.16	0.46
38:BC:120:MET:SD	38:BC:123:VAL:HG11	2.56	0.46
38:BC:74:VAL:HG21	38:BC:157:LYS:HG2	1.97	0.46
1:AA:1130:A:C2	1:AA:1146:A:C4	3.04	0.46
39:BD:35:LYS:HD2	39:BD:36:PRO:HA	1.97	0.46
4:AD:122:ARG:HA	4:AD:122:ARG:HH11	1.79	0.46
48:BP:56:SER:C	48:BP:57:THR:CG2	2.83	0.46
48:BP:110:TYR:CD2	48:BP:111:ARG:HD3	2.51	0.46
1:AA:344:A:H4'	1:AA:345:C:OP1	2.15	0.46
17:AQ:76:LEU:HD21	17:AQ:79:SER:HB2	1.98	0.46
36:BA:1590:U:O2'	36:BA:1591:G:H5''	2.16	0.46
17:AQ:34:LYS:HG2	17:AQ:35:VAL:N	2.31	0.46
42:BG:133:LEU:C	42:BG:133:LEU:HD12	2.36	0.46
2:AB:194:PRO:O	2:AB:195:ASP:C	2.52	0.46
53:BU:67:ALA:O	53:BU:71:GLN:HB2	2.16	0.46
36:BA:271(Q):G:O2'	36:BA:271(R):G:OP2	2.31	0.46
52:BT:115:ARG:NH1	52:BT:115:ARG:HG3	2.31	0.46
5:AE:147:ASP:O	5:AE:151:LEU:HG	2.16	0.46
34:B8:46:ARG:HH11	34:B8:46:ARG:HG2	1.80	0.46
36:BA:1173:G:H5'	36:BA:1174:A:P	2.56	0.46
36:BA:2461:C:H2'	36:BA:2462:U:C6	2.51	0.46
36:BA:1049:C:O2'	36:BA:1050:A:H5'	2.16	0.46
36:BA:1625:C:H2'	36:BA:1626:G:H5'	1.98	0.46
3:AC:112:SER:HB3	3:AC:115:LEU:HD12	1.98	0.46
52:BT:87:ASP:OD2	52:BT:87:ASP:O	2.33	0.46
39:BD:53:PHE:CE2	39:BD:220:HIS:ND1	2.83	0.46
10:AJ:45:ARG:NE	14:AN:36:PHE:CD2	2.84	0.46
36:BA:1517:G:H5'	36:BA:1517:G:C8	2.51	0.46
57:BY:13:VAL:CG1	57:BY:28:LYS:HZ3	2.27	0.46
36:BA:1204:A:C2	36:BA:1241:A:N1	2.84	0.46
53:BU:95:LEU:HD12	54:BV:11:GLN:HG3	1.96	0.46
43:BH:85:LYS:CE	43:BH:133:VAL:H	2.29	0.46
46:BN:55:VAL:HG21	46:BN:127:ASP:N	2.31	0.46
43:BH:42:ARG:HG2	43:BH:43:VAL:N	2.31	0.46
39:BD:30:GLU:HG3	39:BD:63:ARG:HH21	1.81	0.46
39:BD:26:LYS:O	39:BD:27:THR:CG2	2.63	0.46
41:BF:132:VAL:O	41:BF:134:GLY:N	2.48	0.46
48:BP:147:LEU:HG	48:BP:148:LEU:H	1.80	0.46
43:BH:23:ARG:O	43:BH:24:VAL:HG23	2.16	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:BT:13:ARG:NE	52:BT:13:ARG:HA	2.29	0.46
36:BA:2287:A:C2	36:BA:2346:A:C2	3.04	0.46
25:AZ:303:VAL:CG1	25:AZ:304:LEU:N	2.71	0.46
57:BY:95:LYS:HG3	57:BY:100:ALA:CA	2.35	0.46
36:BA:1543:C:C3'	36:BA:1544:A:C5'	2.87	0.46
36:BA:673:C:H6	36:BA:673:C:C5'	2.20	0.46
1:AA:966:G:C4	22:AV:34:G:H4'	2.51	0.46
9:AI:73:GLN:O	9:AI:76:ALA:HB3	2.15	0.46
48:BP:122:PRO:HB3	48:BP:141:ALA:HB3	1.98	0.46
36:BA:1062:G:C2	36:BA:1063:G:H1'	2.51	0.46
42:BG:16:ARG:HE	42:BG:31:VAL:HG11	1.81	0.46
39:BD:224:ALA:O	39:BD:225:ALA:CB	2.63	0.46
25:AZ:258:LEU:HD21	25:AZ:349:VAL:HG11	1.98	0.46
41:BF:118:ALA:O	41:BF:121:GLY:N	2.36	0.46
2:AB:136:VAL:O	2:AB:140:HIS:HB2	2.16	0.46
40:BE:44:TYR:CD2	40:BE:45:THR:O	2.69	0.46
36:BA:1373:A:H2'	36:BA:1374:G:O4'	2.16	0.46
1:AA:379:C:O2'	1:AA:380:G:H5'	2.16	0.46
36:BA:272(D):G:H1	36:BA:364:C:N4	2.13	0.46
26:B0:37:LEU:N	26:B0:59:LEU:O	2.48	0.46
1:AA:1158:C:O2	1:AA:1158:C:C2'	2.64	0.46
1:AA:35:G:H2'	1:AA:36:C:H6	1.80	0.46
2:AB:221:LEU:C	2:AB:221:LEU:HD13	2.37	0.46
1:AA:22:G:H2'	1:AA:23:C:H6	1.81	0.46
36:BA:947:G:H2'	36:BA:948:G:H8	1.81	0.46
1:AA:841:U:O2'	1:AA:848:C:H5'	2.16	0.46
1:AA:981:U:H6	1:AA:981:U:O5'	1.99	0.46
36:BA:1820:U:C2	39:BD:202:LYS:HB3	2.51	0.46
25:AZ:40:PRO:HG2	25:AZ:41:ASN:OD1	2.16	0.46
42:BG:171:ALA:O	42:BG:172:LEU:C	2.54	0.46
32:B6:15:GLU:OE2	32:B6:18:ARG:NH2	2.49	0.46
57:BY:38:ILE:CD1	57:BY:66:PRO:HG3	2.46	0.46
38:BC:21:THR:O	38:BC:25:ALA:HB3	2.16	0.46
1:AA:1286:A:O2'	1:AA:1287:A:P	2.74	0.46
40:BE:200:GLU:H	40:BE:200:GLU:CD	2.18	0.46
38:BC:72:VAL:HG11	38:BC:156:ILE:O	2.16	0.46
58:BZ:162:GLU:O	58:BZ:163:LEU:O	2.34	0.46
36:BA:2312:U:H4'	42:BG:71:THR:HG22	1.98	0.46
31:B5:40:LYS:HE2	31:B5:46:CYS:CB	2.46	0.46
23:AX:14:A:H2'	23:AX:15:A:O4'	2.16	0.46
1:AA:76:C:H42	1:AA:93:G:H1	1.63	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:BG:64:THR:HG1	42:BG:94:LEU:HD11	1.81	0.46
28:B2:68:ARG:C	28:B2:69:ARG:HG3	2.37	0.46
19:AS:60:VAL:O	19:AS:60:VAL:HG13	2.15	0.46
41:BF:152:GLU:OE1	41:BF:191:ARG:HD2	2.16	0.46
36:BA:807:U:H5	48:BP:39:LYS:HZ1	1.64	0.46
36:BA:943:U:OP2	48:BP:38:GLN:CG	2.64	0.46
36:BA:673:C:H2'	36:BA:674:G:H5'	1.98	0.46
48:BP:97:PRO:HD3	48:BP:126:VAL:O	2.15	0.46
12:AL:87:GLY:HA2	12:AL:98:TYR:HA	1.97	0.46
36:BA:733:G:N7	36:BA:761:A:C5	2.83	0.46
9:AI:65:VAL:HG22	9:AI:66:ARG:N	2.31	0.46
26:B0:20:ARG:CD	26:B0:20:ARG:H	2.27	0.46
34:B8:47:LYS:CB	34:B8:47:LYS:NZ	2.72	0.46
39:BD:132:PRO:O	39:BD:136:ILE:HD12	2.16	0.46
48:BP:77:ARG:HH11	48:BP:77:ARG:CG	2.29	0.46
30:B4:12:ALA:HB2	30:B4:29:PRO:HA	1.98	0.46
30:B4:28:LYS:HE2	30:B4:29:PRO:HD2	1.98	0.46
13:AM:32:GLU:O	13:AM:34:LEU:N	2.48	0.46
39:BD:97:TYR:C	39:BD:99:ASP:N	2.67	0.46
26:B0:23:VAL:HG22	26:B0:38:VAL:HG22	1.98	0.46
36:BA:69:C:H2'	36:BA:69:C:O2	2.16	0.46
1:AA:390:C:H2'	1:AA:391:G:H8	1.79	0.46
37:BB:75:G:H5'	37:BB:76:G:OP2	2.16	0.46
17:AQ:91:ARG:CB	17:AQ:91:ARG:NH1	2.79	0.46
36:BA:1109:C:C2'	36:BA:1110:G:H5'	2.46	0.46
1:AA:262:A:C6	1:AA:263:A:C6	3.03	0.46
7:AG:45:ASP:O	7:AG:48:LYS:HB2	2.16	0.46
58:BZ:70:LEU:N	58:BZ:70:LEU:CD2	2.79	0.46
2:AB:221:LEU:O	2:AB:221:LEU:HD13	2.15	0.46
36:BA:497:A:H2'	36:BA:498:G:C8	2.51	0.46
36:BA:1742:G:N7	36:BA:1743:C:C4	2.84	0.46
46:BN:123:TYR:CD1	46:BN:123:TYR:N	2.84	0.46
4:AD:157:LEU:N	4:AD:157:LEU:HD12	2.31	0.46
1:AA:147:G:N3	1:AA:147:G:H2'	2.30	0.46
1:AA:805:C:O2'	1:AA:806:C:H5'	2.15	0.46
54:BV:70:ILE:HG22	54:BV:71:LEU:N	2.31	0.46
46:BN:51:PHE:CE1	46:BN:119:ARG:HD2	2.51	0.46
54:BV:40:LEU:HD13	54:BV:46:VAL:HA	1.96	0.46
38:BC:14:VAL:HG11	38:BC:222:VAL:HG13	1.98	0.46
54:BV:37:VAL:HG23	54:BV:37:VAL:O	2.16	0.46
52:BT:56:GLY:O	52:BT:57:PHE:C	2.54	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:BB:71:C:H42	37:BB:106:G:H1	1.64	0.46
1:AA:1195:C:H5''	1:AA:1196:U:OP2	2.15	0.46
19:AS:46:GLY:N	19:AS:62:ILE:CG2	2.74	0.46
36:BA:2641:G:H2'	36:BA:2642:G:O4'	2.16	0.46
39:BD:35:LYS:O	39:BD:36:PRO:C	2.54	0.46
25:AZ:324:LYS:HE3	25:AZ:364:PRO:CB	2.46	0.46
7:AG:79:ARG:HA	7:AG:84:ASN:HA	1.98	0.46
48:BP:106:LEU:O	48:BP:107:LYS:CG	2.64	0.46
36:BA:510:C:H2'	36:BA:511:U:O4'	2.15	0.46
41:BF:139:PHE:HB2	41:BF:166:ALA:HB1	1.98	0.46
58:BZ:103:ARG:O	58:BZ:103:ARG:HG2	2.16	0.46
40:BE:188:VAL:O	40:BE:188:VAL:HG13	2.16	0.46
2:AB:41:ILE:O	2:AB:41:ILE:HG22	2.15	0.46
13:AM:19:LEU:HB3	13:AM:25:ILE:HG21	1.98	0.46
36:BA:615:G:H2'	36:BA:616:G:O4'	2.16	0.46
34:B8:48:PHE:CZ	36:BA:650:C:OP1	2.69	0.46
11:AK:69:ALA:O	11:AK:73:MET:HG3	2.15	0.46
5:AE:20:GLN:HE21	5:AE:25:ARG:NE	2.13	0.46
24:AY:28:C:O2'	24:AY:29:G:H5'	2.16	0.46
1:AA:324:G:N2	1:AA:326:G:H3'	2.32	0.46
24:AY:7:G:H3'	24:AY:8:4SU:C5'	2.46	0.46
30:B4:20:ASN:C	30:B4:20:ASN:ND2	2.69	0.46
13:AM:29:ARG:O	13:AM:32:GLU:N	2.48	0.46
36:BA:1788:C:H2'	36:BA:1789:A:H8	1.81	0.46
1:AA:274:A:O2'	1:AA:275:G:C8	2.64	0.46
36:BA:2223:G:H2'	36:BA:2224:G:C5'	2.45	0.46
36:BA:2870:C:H2'	36:BA:2871:C:H5'	1.97	0.46
36:BA:1375:C:O2'	36:BA:1376:C:H5'	2.16	0.46
36:BA:880:G:H2'	36:BA:881:G:H8	1.81	0.46
36:BA:491:G:H2'	36:BA:492:A:H8	1.79	0.46
8:AH:17:THR:HB	8:AH:78:GLN:OE1	2.16	0.46
11:AK:13:GLN:HG2	11:AK:75:TYR:O	2.15	0.46
1:AA:936:C:H2'	1:AA:937:A:O4'	2.16	0.46
36:BA:1398:C:H2'	36:BA:1399:C:C6	2.50	0.46
1:AA:911:U:H2'	1:AA:912:C:C6	2.51	0.46
20:AT:29:LYS:O	20:AT:33:ILE:HG13	2.16	0.46
36:BA:738:G:C6	36:BA:739:G:C6	3.03	0.46
36:BA:1517:G:C5'	36:BA:1517:G:H8	2.29	0.45
25:AZ:65:THR:HA	25:AZ:81:ASP:O	2.17	0.45
40:BE:34:VAL:HG12	40:BE:48:GLN:O	2.16	0.45
25:AZ:93:ILE:HG12	25:AZ:122:LEU:HD13	1.97	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:AY:5:G:O2'	24:AY:6:C:H5'	2.16	0.45
58:BZ:19:ARG:HA	58:BZ:23:LYS:O	2.16	0.45
2:AB:69:LEU:HD23	2:AB:155:LEU:HG	1.97	0.45
36:BA:1222:C:C3'	36:BA:1223:G:H5''	2.45	0.45
23:AX:26:A:O2'	23:AX:27:A:P	2.74	0.45
55:BW:6:ILE:HG12	55:BW:104:THR:CG2	2.45	0.45
41:BF:9:ILE:HG23	41:BF:13:SER:O	2.16	0.45
48:BP:23:PRO:HD2	48:BP:33:ARG:HH21	1.80	0.45
20:AT:59:ALA:C	20:AT:61:SER:N	2.68	0.45
25:AZ:222:LEU:HB3	25:AZ:243:GLU:HB3	1.98	0.45
1:AA:198:G:O2'	1:AA:199:G:O5'	2.34	0.45
57:BY:88:LYS:N	57:BY:88:LYS:HD2	2.31	0.45
57:BY:86:ARG:HD2	57:BY:88:LYS:HE3	1.96	0.45
34:B8:12:LYS:O	48:BP:65:ARG:HB2	2.17	0.45
12:AL:50:SER:O	12:AL:51:ALA:HB2	2.15	0.45
26:B0:43:THR:HG22	36:BA:2331:G:O2'	2.15	0.45
41:BF:89:VAL:HG12	41:BF:90:PHE:CD2	2.51	0.45
52:BT:109:GLU:O	52:BT:110:ILE:C	2.53	0.45
11:AK:57:THR:HG23	11:AK:59:TYR:N	2.31	0.45
36:BA:299:A:N6	36:BA:339:U:H3	2.15	0.45
36:BA:1069:A:H1'	36:BA:1070:A:OP1	2.16	0.45
36:BA:2579:C:O3'	40:BE:131:ALA:CB	2.63	0.45
39:BD:224:ALA:HA	39:BD:233:HIS:O	2.16	0.45
38:BC:99:ILE:CG2	38:BC:102:LYS:HD2	2.47	0.45
1:AA:790:A:N1	1:AA:1497:G:H5''	2.31	0.45
26:B0:56:ASP:O	26:B0:57:PHE:HB2	2.15	0.45
1:AA:1030:C:H2'	1:AA:1030(A):G:H5'	1.97	0.45
1:AA:1499:A:C1'	1:AA:1520:G:H5'	2.43	0.45
36:BA:887:A:H2	36:BA:889:C:OP2	1.99	0.45
36:BA:196:A:O4'	48:BP:46:LYS:HE2	2.17	0.45
36:BA:729:G:C6	39:BD:208:LYS:HB2	2.51	0.45
36:BA:1717:G:H2'	36:BA:1718:G:H5''	1.98	0.45
39:BD:70:TRP:C	39:BD:70:TRP:CD1	2.90	0.45
1:AA:1259:C:H6	1:AA:1259:C:O5'	1.99	0.45
1:AA:1343:G:H2'	1:AA:1344:C:C6	2.51	0.45
37:BB:78:A:C6	37:BB:100:A:C8	3.04	0.45
6:AF:22:GLU:O	6:AF:24:GLU:N	2.49	0.45
27:B1:58:ILE:HD11	27:B1:91:LYS:HB2	1.99	0.45
20:AT:27:LYS:O	20:AT:27:LYS:HD3	2.16	0.45
35:B9:2:LYS:HD3	35:B9:33:LYS:O	2.16	0.45
22:AV:44:G:N3	22:AV:44:G:H2'	2.31	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:BB:68:C:H2'	37:BB:69:G:H8	1.81	0.45
2:AB:131:PRO:O	2:AB:135:GLN:HG3	2.15	0.45
1:AA:358:U:H2'	1:AA:359:U:C6	2.51	0.45
1:AA:811:C:H4'	1:AA:900:A:N6	2.31	0.45
42:BG:7:LEU:HD22	42:BG:176:LEU:CD2	2.47	0.45
31:B5:12:SER:HB3	36:BA:2020:A:H5'	1.98	0.45
25:AZ:96:ALA:C	25:AZ:98:GLN:N	2.68	0.45
46:BN:73:THR:HG23	46:BN:82:LEU:CD1	2.26	0.45
36:BA:1210:A:H4'	36:BA:1211:U:O5'	2.17	0.45
38:BC:155:GLU:HG3	38:BC:160:ARG:HD3	1.96	0.45
38:BC:163:PHE:CD2	38:BC:192:PHE:CE1	3.03	0.45
38:BC:62:VAL:HG22	38:BC:63:SER:N	2.31	0.45
58:BZ:99:TYR:HA	58:BZ:124:ILE:O	2.16	0.45
58:BZ:69:THR:HG22	58:BZ:90:VAL:CA	2.31	0.45
1:AA:662:G:H2'	1:AA:663:A:C8	2.51	0.45
41:BF:132:VAL:CG2	41:BF:133:ASN:H	2.09	0.45
52:BT:7:ILE:O	52:BT:11:GLU:OE2	2.33	0.45
36:BA:83:G:H22	36:BA:102:G:C2'	2.24	0.45
1:AA:194:C:O3'	20:AT:68:LYS:HD3	2.16	0.45
46:BN:67:LEU:HD22	46:BN:88:GLU:HG2	1.97	0.45
46:BN:67:LEU:O	46:BN:68:GLU:CB	2.64	0.45
48:BP:107:LYS:HE3	48:BP:107:LYS:HB2	1.76	0.45
1:AA:338:A:H2'	1:AA:339:C:O4'	2.17	0.45
48:BP:125:VAL:CG1	48:BP:138:LEU:HD21	2.46	0.45
3:AC:181:ASN:ND2	3:AC:204:LEU:HB2	2.31	0.45
25:AZ:34:VAL:CG2	25:AZ:199:ILE:HG21	2.43	0.45
43:BH:20:ALA:CB	43:BH:21:PRO:CD	2.87	0.45
36:BA:2023:G:H4'	36:BA:2617:C:O3'	2.16	0.45
7:AG:23:VAL:CG1	7:AG:43:PHE:CE2	3.00	0.45
12:AL:6:THR:O	12:AL:7:ILE:C	2.54	0.45
39:BD:142:VAL:HG22	39:BD:143:HIS:N	2.31	0.45
36:BA:1980:G:O2'	36:BA:1982:C:OP2	2.27	0.45
36:BA:2131:G:C4'	36:BA:2133:G:H21	2.28	0.45
1:AA:1018:C:H2'	1:AA:1019:C:C6	2.51	0.45
36:BA:445:C:O3'	53:BU:3:ARG:HD3	2.17	0.45
4:AD:126:ILE:HG22	4:AD:127:THR:N	2.30	0.45
36:BA:1537:G:H2'	36:BA:1538:G:H8	1.80	0.45
1:AA:1298:C:H4'	1:AA:1299:A:C4	2.51	0.45
36:BA:1056:G:C4	36:BA:1102:C:H5	2.34	0.45
1:AA:575:G:H4'	1:AA:576:G:O5'	2.17	0.45
7:AG:144:MET:O	7:AG:148:ASN:ND2	2.49	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:187:C:OP1	20:AT:82:SER:HB2	2.16	0.45
36:BA:2691:C:C4	36:BA:2719:G:N2	2.85	0.45
16:AP:39:TYR:CD2	16:AP:73:LEU:HD11	2.52	0.45
41:BF:20:LEU:H	41:BF:24:LEU:HD21	1.82	0.45
36:BA:483:A:H5''	57:BY:49:VAL:CG2	2.46	0.45
57:BY:28:LYS:CA	57:BY:38:ILE:HG22	2.46	0.45
57:BY:7:VAL:HB	57:BY:8:LYS:H	1.53	0.45
25:AZ:281:ILE:HG12	25:AZ:284:ASP:OD1	2.15	0.45
36:BA:925:C:C3'	36:BA:926:A:H5''	2.47	0.45
9:AI:114:TYR:O	9:AI:114:TYR:HD2	2.00	0.45
40:BE:197:ILE:HG13	40:BE:197:ILE:O	2.17	0.45
5:AE:78:HIS:CD2	8:AH:107:LEU:HD12	2.51	0.45
1:AA:1004:A:N6	1:AA:1035:A:N7	2.64	0.45
36:BA:471:A:C2'	36:BA:472:A:C5'	2.93	0.45
36:BA:1999:C:O2'	36:BA:2000:G:H5'	2.17	0.45
36:BA:1654:A:P	50:BR:3:HIS:HB2	2.56	0.45
48:BP:147:LEU:HG	48:BP:148:LEU:N	2.30	0.45
48:BP:30:THR:HG22	48:BP:31:ALA:H	1.81	0.45
48:BP:23:PRO:O	48:BP:33:ARG:CD	2.65	0.45
36:BA:99:U:C6	36:BA:102:G:C2	3.04	0.45
37:BB:20:C:C3'	37:BB:21:G:H5''	2.47	0.45
25:AZ:371:THR:CG2	25:AZ:372:VAL:H	2.27	0.45
36:BA:673:C:C2'	36:BA:674:G:H5'	2.46	0.45
9:AI:4:TYR:CE2	9:AI:88:TYR:CB	3.00	0.45
30:B4:14:ILE:HG13	30:B4:31:ILE:HB	1.99	0.45
54:BV:18:LEU:CD2	54:BV:19:LYS:N	2.75	0.45
42:BG:133:LEU:HD13	42:BG:135:LEU:CD1	2.47	0.45
26:B0:20:ARG:HH12	36:BA:2271:G:H4'	1.81	0.45
1:AA:640:A:O2'	1:AA:641:U:H5'	2.17	0.45
3:AC:72:LYS:HD3	3:AC:75:VAL:HG21	1.96	0.45
51:BS:89:ARG:CB	51:BS:92:TYR:HB3	2.46	0.45
2:AB:233:SER:O	2:AB:235:SER:N	2.50	0.45
4:AD:78:LEU:HD21	4:AD:96:LEU:HB3	1.97	0.45
2:AB:132:LYS:O	2:AB:136:VAL:HG23	2.16	0.45
1:AA:1134:G:C2	1:AA:1142:G:N1	2.83	0.45
56:BX:23:GLU:N	56:BX:23:GLU:CD	2.70	0.45
1:AA:333:G:H2'	1:AA:334:C:C6	2.51	0.45
52:BT:134:GLU:O	52:BT:135:ALA:CB	2.64	0.45
15:AO:32:LEU:O	15:AO:35:ARG:N	2.49	0.45
36:BA:1578:U:H2'	36:BA:1579:A:C5'	2.46	0.45
47:BO:68:GLU:HB3	47:BO:78:ARG:HB2	1.98	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:1486:G:H2'	1:AA:1487:G:O4'	2.15	0.45
25:AZ:340:PRO:O	25:AZ:350:THR:HG23	2.16	0.45
9:AI:34:ASN:O	9:AI:38:GLN:HB2	2.16	0.45
6:AF:7:ASN:ND2	18:AR:34:TYR:OH	2.43	0.45
18:AR:50:ILE:HD13	18:AR:70:ILE:HG21	1.97	0.45
38:BC:67:GLY:CA	38:BC:159:GLY:HA3	2.46	0.45
32:B6:17:LYS:CB	32:B6:18:ARG:HH12	2.29	0.45
32:B6:20:ASN:C	32:B6:21:TYR:CG	2.90	0.45
32:B6:16:CYS:SG	32:B6:48:VAL:O	2.75	0.45
36:BA:2128:C:OP2	36:BA:2128:C:H6	1.99	0.45
14:AN:40:CYS:O	14:AN:41:ARG:C	2.53	0.45
40:BE:34:VAL:O	40:BE:35:GLN:CB	2.62	0.45
58:BZ:8:TYR:HD2	58:BZ:38:TYR:OH	1.99	0.45
48:BP:6:LEU:H	48:BP:6:LEU:CD2	2.13	0.45
52:BT:65:LYS:HE3	52:BT:66:VAL:N	2.07	0.45
52:BT:92:GLY:C	52:BT:94:ALA:N	2.69	0.45
58:BZ:35:ARG:HG3	58:BZ:35:ARG:HH11	1.81	0.45
58:BZ:99:TYR:HD2	58:BZ:99:TYR:N	2.14	0.45
35:B9:1:MET:N	35:B9:1:MET:SD	2.87	0.45
55:BW:29:LEU:CD2	55:BW:33:ARG:HD2	2.46	0.45
31:B5:50:GLY:HA3	31:B5:56:LYS:CB	2.45	0.45
36:BA:1403:C:H2'	36:BA:1404:C:O5'	2.16	0.45
41:BF:206:ILE:HG22	41:BF:207:GLY:N	2.21	0.45
1:AA:858:G:C5	1:AA:869:G:N7	2.83	0.45
36:BA:1257:C:H4'	41:BF:83:PHE:CE2	2.52	0.45
19:AS:52:TYR:CE2	19:AS:54:GLY:HA2	2.52	0.45
20:AT:100:ILE:CD1	20:AT:100:ILE:N	2.78	0.45
50:BR:33:ARG:O	50:BR:34:ILE:HG12	2.17	0.45
36:BA:297:C:N4	36:BA:298:G:C2	2.85	0.45
37:BB:86:G:H2'	37:BB:87:G:C8	2.49	0.45
9:AI:29:ASN:OD1	9:AI:64:THR:HA	2.16	0.45
36:BA:1658:C:H2'	36:BA:1659:U:H6	1.81	0.45
42:BG:16:ARG:HE	42:BG:31:VAL:CG1	2.30	0.45
1:AA:453:A:O2'	1:AA:454:C:C5'	2.65	0.45
16:AP:53:VAL:CG2	16:AP:54:GLU:N	2.74	0.45
36:BA:2508:G:O3'	36:BA:2555:U:H5'	2.16	0.45
53:BU:83:LEU:N	53:BU:83:LEU:HD12	2.31	0.45
22:AW:27:G:O6	22:AW:43:C:N4	2.46	0.45
39:BD:97:TYR:C	39:BD:99:ASP:H	2.19	0.45
43:BH:54:ARG:HD3	43:BH:56:SER:O	2.16	0.45
2:AB:138:LEU:O	2:AB:140:HIS:N	2.49	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:849:C:H2'	1:AA:850:U:C6	2.51	0.45
1:AA:1063:C:H2'	1:AA:1064:G:C8	2.52	0.45
18:AR:25:THR:O	18:AR:25:THR:HG22	2.16	0.45
36:BA:491:G:H2'	36:BA:492:A:O4'	2.16	0.45
1:AA:479:C:O2'	1:AA:480:U:H5'	2.16	0.45
44:BJ:27:UNK:O	44:BJ:83:UNK:N	2.49	0.45
1:AA:436:C:H2'	1:AA:437:U:C6	2.51	0.45
43:BH:103:LEU:HB2	43:BH:123:PHE:HD2	1.82	0.45
37:BB:19:G:H2'	37:BB:19:G:N3	2.31	0.45
1:AA:518:C:H2'	1:AA:530:G:C2	2.51	0.45
25:AZ:294:SER:C	25:AZ:296:GLU:H	2.20	0.45
36:BA:2396:G:O2'	36:BA:2397:G:H5'	2.16	0.45
42:BG:111:LEU:HB3	42:BG:112:PRO:HD3	1.97	0.45
42:BG:7:LEU:O	42:BG:8:LYS:C	2.54	0.45
54:BV:40:LEU:CD2	54:BV:40:LEU:N	2.80	0.45
36:BA:1484:G:C3'	36:BA:1485:G:H5''	2.46	0.45
40:BE:35:GLN:O	40:BE:36:ARG:HD2	2.16	0.45
36:BA:2491:U:C5'	36:BA:2570:G:H5''	2.22	0.45
25:AZ:98:GLN:O	25:AZ:99:MET:C	2.54	0.45
31:B5:4:HIS:CB	31:B5:5:PRO:CD	2.81	0.45
52:BT:57:PHE:C	52:BT:57:PHE:CD2	2.89	0.45
58:BZ:44:PHE:CE1	58:BZ:48:PHE:CD1	3.05	0.45
36:BA:2110:G:N2	36:BA:2178:C:H5	2.14	0.45
36:BA:941:A:H4'	48:BP:35:HIS:HE1	1.78	0.45
1:AA:404:U:H2'	1:AA:405:U:H6	1.79	0.45
4:AD:3:ARG:O	4:AD:4:TYR:C	2.54	0.45
48:BP:71:VAL:O	48:BP:72:PRO:C	2.55	0.45
24:AY:62:U:C6	24:AY:62:U:H5'	2.42	0.45
11:AK:108:ILE:O	18:AR:87:ARG:N	2.46	0.45
9:AI:95:LYS:HZ3	9:AI:96:LEU:HD13	1.81	0.45
43:BH:143:GLN:CA	43:BH:143:GLN:NE2	2.78	0.45
36:BA:1141:U:H4'	36:BA:1142(A):A:C8	2.50	0.45
48:BP:85:LEU:HA	48:BP:88:LEU:HB2	1.99	0.45
36:BA:782:A:N1	39:BD:226:MET:HE3	2.32	0.45
46:BN:9:VAL:HG11	46:BN:39:ARG:NH1	2.32	0.45
46:BN:120:LEU:HD13	46:BN:122:VAL:HG23	1.97	0.45
36:BA:2131:G:H4'	36:BA:2132:U:OP2	2.16	0.45
36:BA:142:A:H5''	36:BA:142(A):C:H5	1.82	0.45
36:BA:29:U:H2'	36:BA:30:G:C8	2.52	0.45
43:BH:76:VAL:O	43:BH:78:GLY:N	2.49	0.45
1:AA:1050:G:O2'	1:AA:1051:C:O5'	2.34	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:AG:92:SER:HB3	7:AG:95:ARG:CB	2.47	0.45
7:AG:95:ARG:HH11	7:AG:95:ARG:HG3	1.82	0.45
26:B0:17:GLN:HB3	36:BA:2261:C:OP1	2.16	0.45
55:BW:74:ALA:HB2	55:BW:105:VAL:HG13	1.97	0.45
36:BA:1139:G:H5''	46:BN:70:LYS:HZ1	1.78	0.45
56:BX:5:TYR:HE2	56:BX:46:ALA:HA	1.81	0.45
36:BA:2584:U:C2'	36:BA:2585:U:H5'	2.46	0.45
1:AA:62:U:O2'	1:AA:379:C:H1'	2.16	0.45
18:AR:84:LYS:HZ3	18:AR:84:LYS:H	1.65	0.45
26:B0:45:PHE:CE2	26:B0:77:ARG:NH2	2.85	0.45
1:AA:226:G:O2'	1:AA:227:G:H5'	2.16	0.45
8:AH:37:ARG:CZ	8:AH:41:ARG:HH22	2.29	0.45
50:BR:72:ASP:OD1	50:BR:75:LEU:HB2	2.17	0.45
4:AD:199:ASN:OD1	4:AD:199:ASN:C	2.54	0.45
36:BA:2450:A:O2'	36:BA:2451:A:H5'	2.16	0.45
1:AA:765:G:C6	1:AA:812:C:C2	3.05	0.45
1:AA:1245:A:H2'	1:AA:1246:C:O4'	2.17	0.45
1:AA:742:G:O2'	1:AA:743:U:H5'	2.17	0.45
1:AA:652:U:C2	1:AA:752:G:N2	2.84	0.45
25:AZ:234:ARG:HA	25:AZ:234:ARG:NE	2.21	0.45
2:AB:222:ILE:O	2:AB:223:ILE:C	2.55	0.45
34:B8:28:GLY:C	34:B8:32:LEU:HG	2.37	0.45
36:BA:483:A:H5''	57:BY:49:VAL:HG22	1.98	0.45
57:BY:17:SER:CB	57:BY:71:LYS:HB3	2.47	0.45
57:BY:27:VAL:HG12	57:BY:29:GLU:H	1.80	0.45
34:B8:52:LYS:H	34:B8:53:PRO:HD2	1.79	0.45
15:AO:82:ILE:HD13	15:AO:82:ILE:O	2.17	0.45
40:BE:33:VAL:HG23	40:BE:47:VAL:HG13	1.98	0.45
2:AB:17:PHE:HD1	2:AB:44:LEU:HD11	1.82	0.45
51:BS:99:LYS:C	51:BS:101:LEU:H	2.19	0.45
52:BT:50:ILE:H	52:BT:50:ILE:HD12	1.80	0.45
1:AA:1196:U:C5	23:AX:26:A:H1'	2.51	0.45
19:AS:12:ASP:H	19:AS:38:SER:HB3	1.82	0.45
36:BA:1224:C:O2'	54:BV:85:LYS:HA	2.15	0.45
48:BP:75:ILE:N	48:BP:75:ILE:HD12	2.17	0.45
26:B0:7:LEU:HD22	49:BQ:85:LYS:CG	2.45	0.45
41:BF:116:ASP:OD2	48:BP:5:ASP:HB2	2.16	0.45
26:B0:52:GLY:N	26:B0:62:LEU:CD2	2.80	0.45
9:AI:14:VAL:HG12	9:AI:15:ALA:N	2.31	0.45
36:BA:1011:G:O2'	36:BA:1013:C:C5'	2.65	0.45
36:BA:1299:G:C5	36:BA:1639:U:C5	3.05	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:AN:59:ALA:O	14:AN:60:SER:HB3	2.16	0.45
16:AP:21:VAL:HG12	16:AP:34:GLU:O	2.17	0.45
40:BE:132:HIS:CD2	40:BE:135:HIS:NE2	2.84	0.45
52:BT:129:ARG:HD2	52:BT:129:ARG:C	2.36	0.45
36:BA:2179:C:C5'	36:BA:2180:U:OP1	2.64	0.45
46:BN:24:GLY:C	46:BN:26:LEU:N	2.70	0.45
36:BA:2777:G:H5''	36:BA:2778:A:H5''	1.99	0.45
1:AA:1350:A:N7	9:AI:118:LYS:NZ	2.65	0.45
53:BU:35:ALA:O	53:BU:36:ARG:C	2.54	0.45
1:AA:1401:G:C2	1:AA:1402:C:H1'	2.52	0.45
28:B2:8:LYS:O	28:B2:11:GLU:HB2	2.16	0.45
36:BA:225:A:H2'	36:BA:226:G:H5'	1.98	0.45
30:B4:20:ASN:ND2	30:B4:21:VAL:N	2.63	0.45
49:BQ:21:THR:OG1	49:BQ:99:PRO:O	2.34	0.45
36:BA:1498:C:H2'	36:BA:1499:C:H5''	1.98	0.45
16:AP:74:LEU:C	16:AP:79:VAL:HG23	2.37	0.45
10:AJ:29:ARG:O	10:AJ:29:ARG:HG2	2.16	0.45
36:BA:2502:G:H5''	36:BA:2503:A:C5'	2.47	0.45
12:AL:119:LYS:O	12:AL:120:TYR:CG	2.70	0.45
36:BA:845:G:HO2'	36:BA:846:C:H5	1.64	0.45
1:AA:1442(B):A:C2	52:BT:118:ARG:CZ	3.00	0.45
29:B3:23:LEU:HD21	29:B3:50:VAL:HG11	1.97	0.45
1:AA:415:A:H2'	1:AA:416:G:H8	1.82	0.45
1:AA:78:G:H2'	1:AA:79:G:C4'	2.47	0.45
42:BG:9:ARG:HB3	42:BG:9:ARG:HH11	1.81	0.45
32:B6:6:ARG:CZ	32:B6:6:ARG:HB3	2.42	0.45
32:B6:15:GLU:O	32:B6:15:GLU:HG2	2.17	0.45
36:BA:302:C:H2'	36:BA:303:U:C6	2.52	0.45
57:BY:12:THR:HG22	57:BY:13:VAL:N	2.32	0.45
57:BY:50:ARG:HB3	57:BY:53:PRO:CG	2.43	0.45
56:BX:14:SER:O	56:BX:17:ALA:HB3	2.17	0.45
51:BS:12:PHE:O	51:BS:13:ARG:C	2.54	0.45
25:AZ:96:ALA:O	25:AZ:98:GLN:N	2.50	0.45
53:BU:95:LEU:O	53:BU:98:LEU:HG	2.15	0.45
51:BS:64:GLU:HA	51:BS:67:ARG:HG3	1.98	0.45
36:BA:1243:G:C3'	36:BA:1244:G:H5''	2.46	0.45
37:BB:65:C:H2'	37:BB:109:C:H41	1.81	0.45
49:BQ:141:GLN:H	58:BZ:53:ILE:CD1	2.25	0.45
58:BZ:96:VAL:HG22	58:BZ:97:GLU:N	2.30	0.45
26:B0:26:TYR:HA	26:B0:69:PHE:HE1	1.82	0.45
52:BT:39:ARG:CD	52:BT:39:ARG:H	2.16	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:AM:96:LEU:HB3	13:AM:97:PRO:HD2	1.97	0.45
36:BA:943:U:OP2	48:BP:38:GLN:OE1	2.35	0.45
1:AA:1216:G:H2'	1:AA:1217:C:C6	2.51	0.45
20:AT:50:GLU:C	20:AT:52:ALA:H	2.20	0.45
48:BP:96:THR:HG22	48:BP:126:VAL:HG23	1.99	0.45
22:AW:31:A:O2'	22:AW:32:U:H5'	2.16	0.45
12:AL:87:GLY:HA2	12:AL:98:TYR:HD2	1.82	0.45
47:BO:76:ALA:HB3	52:BT:75:ILE:HB	1.97	0.45
36:BA:236:C:H2'	36:BA:237:C:H6	1.82	0.45
58:BZ:129:SER:O	58:BZ:132:ASN:N	2.50	0.45
2:AB:22:LYS:NZ	2:AB:40:HIS:CE1	2.84	0.45
1:AA:1152:A:C6	1:AA:1153:C:N4	2.85	0.45
1:AA:1496:C:H2'	1:AA:1497:G:O4'	2.17	0.45
43:BH:30:LYS:HG2	43:BH:79:VAL:O	2.16	0.45
7:AG:69:VAL:HG13	7:AG:100:ALA:HA	1.98	0.45
36:BA:654(S):G:H2'	36:BA:654(T):C:C1'	2.47	0.45
22:AW:43:C:C3'	22:AW:44:G:O4'	2.64	0.45
1:AA:80:G:C3'	1:AA:81:U:C5'	2.94	0.45
36:BA:944:G:H5'	36:BA:945:A:C5'	2.47	0.45
29:B3:5:LYS:HD2	29:B3:57:GLU:CB	2.44	0.45
55:BW:52:GLU:OE2	55:BW:52:GLU:N	2.49	0.45
20:AT:10:LEU:HD12	20:AT:11:SER:N	2.32	0.45
51:BS:52:SER:CB	51:BS:55:ALA:HB3	2.46	0.45
1:AA:1270:C:C6	1:AA:1270:C:H3'	2.52	0.45
22:AW:7:A:C5	22:AW:49:C:H5	2.34	0.45
36:BA:271(H):G:H21	36:BA:271(I):G:H1'	1.82	0.45
36:BA:2238:G:N3	36:BA:2238:G:H5'	2.31	0.45
1:AA:1410:G:H2'	1:AA:1411:C:H6	1.82	0.45
41:BF:119:ARG:O	41:BF:119:ARG:HG2	2.17	0.45
41:BF:20:LEU:H	41:BF:24:LEU:CD2	2.29	0.45
32:B6:40:CYS:HA	32:B6:41:PRO:HD3	1.77	0.45
57:BY:96:ILE:HD12	57:BY:99:CYS:SG	2.57	0.45
38:BC:7:TYR:O	38:BC:10:LEU:HB2	2.16	0.45
56:BX:10:ALA:O	56:BX:28:PHE:HB2	2.16	0.45
38:BC:76:ALA:O	38:BC:94:VAL:HA	2.16	0.45
36:BA:1296:G:H2'	36:BA:1297:C:H6	1.82	0.45
19:AS:45:VAL:O	19:AS:45:VAL:HG23	2.15	0.45
36:BA:271(L):U:H4'	36:BA:271(M):G:N7	2.31	0.45
10:AJ:85:LEU:O	10:AJ:87:THR:N	2.50	0.45
47:BO:107:ARG:O	47:BO:112:MET:CE	2.64	0.45
52:BT:82:LEU:O	52:BT:83:ILE:O	2.34	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:BO:67:LYS:HG3	47:BO:67:LYS:O	2.16	0.45
36:BA:1053:C:O2'	36:BA:1054:A:H5'	2.17	0.45
47:BO:87:ILE:HG22	47:BO:88:ASN:H	1.81	0.45
39:BD:263:ARG:O	39:BD:264:LYS:C	2.55	0.45
25:AZ:315:LYS:HG2	25:AZ:373:GLU:CG	2.34	0.45
25:AZ:324:LYS:CD	25:AZ:325:LYS:H	2.30	0.45
36:BA:2106:G:O6	36:BA:2183:C:N3	2.50	0.45
31:B5:57:VAL:HG12	31:B5:58:LEU:N	2.32	0.45
36:BA:2665:A:H4'	36:BA:2665:A:OP1	2.17	0.45
1:AA:1216:G:P	14:AN:2:ALA:HB2	2.56	0.45
2:AB:97:TRP:CH2	2:AB:176:GLU:OE2	2.69	0.45
25:AZ:158:LEU:C	25:AZ:160:GLN:H	2.18	0.45
36:BA:1639:U:H2'	36:BA:1640:C:C5'	2.42	0.45
50:BR:97:VAL:HG13	50:BR:114:VAL:HG12	1.98	0.45
4:AD:12:CYS:SG	4:AD:19:LEU:O	2.74	0.45
3:AC:78:GLY:HA3	3:AC:82:GLU:OE2	2.17	0.45
4:AD:67:ILE:O	4:AD:67:ILE:CG2	2.65	0.45
1:AA:624:C:H2'	1:AA:625:G:H8	1.81	0.45
47:BO:11:ALA:O	47:BO:98:VAL:HG23	2.16	0.45
36:BA:1268:A:C6	36:BA:2013:A:C8	3.05	0.45
53:BU:59:ARG:O	53:BU:61:TRP:N	2.50	0.45
11:AK:38:ASN:N	11:AK:38:ASN:ND2	2.64	0.45
1:AA:376:G:H4'	16:AP:5:ARG:HH11	1.81	0.45
24:AY:18:G:N2	24:AY:58:A:O4'	2.49	0.45
36:BA:2006:C:O2'	36:BA:2823:A:N3	2.44	0.45
36:BA:563:G:OP2	36:BA:572:A:H5'	2.17	0.45
36:BA:1668:A:H4'	36:BA:1669:A:O5'	2.17	0.45
25:AZ:374:LEU:HD13	25:AZ:378:VAL:CG1	2.47	0.45
2:AB:212:GLN:O	2:AB:216:SER:CB	2.64	0.45
42:BG:141:PHE:C	42:BG:143:GLU:H	2.20	0.45
36:BA:1486:A:C2	36:BA:1504:C:N3	2.85	0.45
56:BX:18:TYR:C	56:BX:20:GLY:N	2.70	0.45
58:BZ:5:LEU:O	58:BZ:59:LEU:HA	2.17	0.45
22:AW:56:C:C5'	38:BC:132:GLY:HA3	2.47	0.45
31:B5:33:CYS:HG	31:B5:49:CYS:HG	1.59	0.45
12:AL:91:LYS:O	12:AL:92:ASP:CB	2.55	0.45
51:BS:39:ILE:HD12	51:BS:73:LEU:HD21	1.98	0.45
28:B2:68:ARG:HA	28:B2:71:ASN:O	2.17	0.45
4:AD:3:ARG:HG2	4:AD:118:ARG:NE	2.31	0.45
42:BG:53:LEU:HD22	42:BG:53:LEU:N	2.32	0.45
31:B5:57:VAL:HG12	31:B5:58:LEU:H	1.82	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BA:2533:A:H2'	36:BA:2534:A:H5'	1.99	0.45
36:BA:1336:A:O2'	36:BA:1337:G:H5'	2.17	0.45
1:AA:346:G:C2'	1:AA:346:G:N3	2.80	0.45
42:BG:41:GLN:O	42:BG:43:LEU:N	2.49	0.45
53:BU:10:ARG:O	53:BU:11:ARG:C	2.54	0.45
1:AA:1431:C:C2'	1:AA:1432:G:H5'	2.47	0.45
48:BP:143:GLY:C	48:BP:145:PRO:HD3	2.37	0.45
17:AQ:78:GLU:O	17:AQ:78:GLU:HG3	2.17	0.45
40:BE:8:LYS:HD2	40:BE:188:VAL:HG13	1.98	0.45
13:AM:66:LEU:CD1	13:AM:66:LEU:N	2.77	0.45
5:AE:41:VAL:HG13	5:AE:113:ALA:CA	2.46	0.45
36:BA:1331:A:H2'	36:BA:1332:G:H5''	1.98	0.45
10:AJ:16:LEU:CD1	10:AJ:70:ARG:CG	2.94	0.45
15:AO:56:LEU:O	15:AO:60:VAL:HG23	2.17	0.45
36:BA:36:G:O2'	36:BA:37:C:H5'	2.16	0.45
16:AP:8:ARG:HB3	16:AP:28:ARG:HH22	1.81	0.45
1:AA:992:U:O2'	1:AA:993:G:P	2.75	0.45
42:BG:128:ARG:HD3	42:BG:128:ARG:HA	1.67	0.45
1:AA:849:C:H2'	1:AA:850:U:O4'	2.17	0.45
4:AD:170:VAL:HG12	4:AD:171:GLY:N	2.31	0.45
49:BQ:54:MET:HE2	49:BQ:64:ILE:HD13	1.98	0.45
48:BP:17:LYS:C	48:BP:19:VAL:H	2.19	0.45
36:BA:768:G:H2'	36:BA:769:G:C8	2.52	0.45
1:AA:134:A:H1'	1:AA:325:A:C5	2.51	0.45
1:AA:754:C:H3'	1:AA:754:C:O2	2.17	0.45
8:AH:6:ILE:HD11	8:AH:31:PHE:CD2	2.52	0.45
1:AA:1097:C:O2'	1:AA:1098:C:H5'	2.17	0.45
36:BA:654(N):G:O2'	36:BA:654(O):G:H5'	2.16	0.45
31:B5:12:SER:OG	31:B5:14:ALA:HB3	2.17	0.45
36:BA:481:G:C2'	36:BA:482:A:OP2	2.65	0.45
25:AZ:68:VAL:CG2	25:AZ:79:HIS:HB3	2.22	0.45
38:BC:66:HIS:H	38:BC:188:ASN:ND2	2.15	0.45
1:AA:1200:C:O2'	1:AA:1201:A:OP2	2.32	0.45
22:AV:47:U:H3'	22:AV:48:C:H5'	1.99	0.45
1:AA:1286:A:H2	21:AU:18:TYR:HH	1.62	0.45
36:BA:2170:A:C5'	38:BC:133:PRO:HG2	2.44	0.45
41:BF:158:THR:O	41:BF:158:THR:HG23	2.17	0.45
13:AM:45:VAL:HG12	13:AM:45:VAL:O	2.17	0.45
19:AS:27:GLU:HB3	19:AS:28:LYS:H	1.59	0.45
58:BZ:151:HIS:O	58:BZ:152:ALA:C	2.54	0.45
41:BF:81:PRO:C	41:BF:82:ILE:O	2.48	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:BF:62:ARG:HH11	41:BF:62:ARG:CG	2.29	0.45
46:BN:65:LYS:O	46:BN:69:GLN:HG3	2.16	0.45
27:B1:80:LEU:CD2	27:B1:81:LYS:N	2.78	0.45
13:AM:25:ILE:HD11	13:AM:60:VAL:CG1	2.46	0.45
46:BN:41:ASP:C	53:BU:64:ARG:HH22	2.20	0.45
1:AA:425:G:O2'	1:AA:426:G:H5'	2.16	0.45
36:BA:187:G:N3	36:BA:1365:A:H2	2.15	0.45
12:AL:67:THR:HG22	12:AL:96:VAL:HG13	1.98	0.45
1:AA:1031:G:O2'	1:AA:1032:G:H5'	2.17	0.45
36:BA:449:A:O2'	53:BU:3:ARG:NE	2.49	0.45
36:BA:21:A:O2'	36:BA:22:C:H5'	2.16	0.45
39:BD:120:GLY:O	39:BD:123:ALA:HB3	2.17	0.45
40:BE:145:LYS:HD3	40:BE:145:LYS:HA	1.73	0.45
2:AB:138:LEU:C	2:AB:140:HIS:N	2.69	0.45
8:AH:33:GLU:HG2	8:AH:48:TYR:CZ	2.52	0.45
36:BA:1498:C:C2'	36:BA:1499:C:C5'	2.94	0.45
36:BA:1400:G:O2'	36:BA:1401:G:H5'	2.17	0.45
5:AE:36:ASP:O	5:AE:37:ARG:HB2	2.17	0.45
36:BA:1109:C:H2'	36:BA:1110:G:O4'	2.17	0.45
25:AZ:113:MET:O	25:AZ:116:THR:HB	2.17	0.45
36:BA:440:G:H2'	36:BA:441:U:C6	2.52	0.45
1:AA:738:C:OP1	6:AF:92:LYS:HE3	2.17	0.45
31:B5:6:VAL:CG2	31:B5:7:PRO:HD2	2.47	0.45
36:BA:556:G:H2'	36:BA:557:U:H6	1.81	0.45
55:BW:44:ALA:O	55:BW:45:TYR:C	2.55	0.45
2:AB:54:THR:O	2:AB:57:PHE:HB3	2.17	0.45
39:BD:170:GLY:C	39:BD:172:TYR:H	2.20	0.45
15:AO:8:LYS:HE3	15:AO:31:LEU:HD11	1.98	0.45
9:AI:44:VAL:HB	9:AI:51:ARG:HH22	1.81	0.45
56:BX:18:TYR:O	56:BX:21:PHE:HD1	2.00	0.44
56:BX:26:TYR:CD2	56:BX:92:LEU:HD12	2.49	0.44
1:AA:1321:C:H5'	13:AM:87:TYR:CE2	2.52	0.44
40:BE:35:GLN:CG	40:BE:36:ARG:N	2.73	0.44
36:BA:2176:A:H1'	38:BC:44:HIS:CG	2.52	0.44
52:BT:27:THR:O	52:BT:28:VAL:CG2	2.66	0.44
43:BH:41:MET:HA	43:BH:41:MET:HE3	1.99	0.44
19:AS:9:VAL:O	19:AS:11:VAL:HG12	2.17	0.44
1:AA:1128:C:C5	1:AA:1139:G:H2'	2.52	0.44
47:BO:107:ARG:HH21	47:BO:115:VAL:CG1	2.26	0.44
41:BF:162:LEU:H	41:BF:162:LEU:CD1	2.30	0.44
36:BA:1192:G:N7	48:BP:29:LYS:NZ	2.55	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BA:811:U:H3'	48:BP:25:SER:HA	1.99	0.44
17:AQ:66:SER:C	17:AQ:67:LYS:O	2.53	0.44
41:BF:80:ALA:HB1	41:BF:81:PRO:HD2	1.98	0.44
48:BP:108:LYS:C	48:BP:110:TYR:N	2.67	0.44
25:AZ:130:TYR:CD2	25:AZ:210:ILE:HA	2.52	0.44
36:BA:81:G:N2	57:BY:2:ARG:NH1	2.59	0.44
55:BW:62:HIS:O	55:BW:63:ASP:C	2.55	0.44
36:BA:1590:U:C2'	36:BA:1591:G:C5'	2.92	0.44
12:AL:8:ASN:O	12:AL:12:ARG:HG3	2.17	0.44
51:BS:16:ASN:OD1	51:BS:17:ARG:N	2.50	0.44
4:AD:155:LEU:HB2	4:AD:158:ILE:CG1	2.46	0.44
50:BR:59:ASP:O	50:BR:60:LEU:C	2.56	0.44
1:AA:1020:U:O2'	1:AA:1021:G:H5'	2.18	0.44
6:AF:3:ARG:CG	6:AF:3:ARG:HH11	2.28	0.44
1:AA:80:G:O2'	1:AA:81:U:H5'	2.17	0.44
30:B4:20:ASN:HD22	30:B4:20:ASN:C	2.20	0.44
37:BB:16:G:O2'	37:BB:17:C:O5'	2.35	0.44
53:BU:47:TYR:CD1	53:BU:47:TYR:C	2.88	0.44
39:BD:11:PRO:C	39:BD:13:ARG:H	2.21	0.44
36:BA:1121:C:H2'	36:BA:1122:G:O4'	2.17	0.44
9:AI:10:ARG:HD2	9:AI:75:ASP:HB2	1.99	0.44
1:AA:22:G:H2'	1:AA:23:C:C6	2.52	0.44
36:BA:2758:A:C2	36:BA:2759:G:H1'	2.52	0.44
36:BA:981:A:H1'	36:BA:2037:G:H1'	1.99	0.44
37:BB:48:A:H2'	37:BB:49:C:C6	2.52	0.44
20:AT:72:LEU:CD1	20:AT:80:ARG:HE	2.30	0.44
36:BA:1144:G:H2'	36:BA:1145:C:C6	2.52	0.44
36:BA:2733:A:O2'	36:BA:2734:A:H5'	2.17	0.44
36:BA:1090:U:H2'	36:BA:1091:G:O4'	2.18	0.44
2:AB:224:GLN:O	2:AB:226:ARG:N	2.50	0.44
42:BG:111:LEU:HD21	42:BG:179:PRO:CG	2.48	0.44
42:BG:143:GLU:O	42:BG:144:ILE:C	2.55	0.44
42:BG:144:ILE:O	42:BG:144:ILE:HG23	2.16	0.44
36:BA:2627:G:N3	36:BA:2781:A:H2	2.15	0.44
32:B6:16:CYS:SG	32:B6:48:VAL:HG23	2.58	0.44
43:BH:85:LYS:CD	43:BH:133:VAL:HB	2.47	0.44
52:BT:58:ASN:HD22	52:BT:58:ASN:N	2.15	0.44
38:BC:47:LEU:HB2	38:BC:169:GLY:O	2.18	0.44
38:BC:40:THR:HG22	38:BC:41:VAL:N	2.32	0.44
31:B5:40:LYS:CE	31:B5:46:CYS:SG	3.05	0.44
1:AA:1503:A:C2	23:AX:16:A:C5	3.04	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BA:2774:C:H2'	36:BA:2775:A:O4'	2.16	0.44
36:BA:812:C:H2'	36:BA:813:U:C6	2.47	0.44
4:AD:118:ARG:O	4:AD:121:VAL:N	2.51	0.44
1:AA:405:U:OP2	4:AD:3:ARG:HD2	2.17	0.44
25:AZ:363:MET:HB3	25:AZ:364:PRO:CD	2.43	0.44
25:AZ:221:PHE:CZ	25:AZ:247:VAL:HG11	2.52	0.44
58:BZ:144:LEU:HA	58:BZ:144:LEU:HD13	1.83	0.44
58:BZ:166:SER:HB2	58:BZ:167:PRO:HA	1.98	0.44
12:AL:41:ARG:NH1	12:AL:57:LYS:NZ	2.65	0.44
3:AC:134:ILE:CG2	3:AC:151:VAL:HB	2.47	0.44
3:AC:10:PHE:HD2	3:AC:11:ARG:NH1	2.16	0.44
3:AC:19:GLU:O	3:AC:56:ASP:HA	2.18	0.44
58:BZ:130:PRO:CA	58:BZ:133:ILE:HD11	2.43	0.44
38:BC:110:PHE:O	38:BC:111:ASP:CB	2.64	0.44
49:BQ:108:GLY:HA3	58:BZ:116:VAL:HG13	1.97	0.44
9:AI:70:LYS:O	9:AI:73:GLN:HB2	2.17	0.44
52:BT:128:GLU:CD	52:BT:129:ARG:N	2.70	0.44
11:AK:103:LEU:N	11:AK:103:LEU:HD22	2.33	0.44
25:AZ:341:GLN:NE2	25:AZ:390:GLU:HB2	2.30	0.44
9:AI:118:LYS:O	9:AI:119:ALA:HB3	2.17	0.44
53:BU:79:PHE:HE1	53:BU:83:LEU:HD21	1.83	0.44
36:BA:2720:U:H5'	36:BA:2721:A:OP2	2.17	0.44
3:AC:150:LYS:HE2	3:AC:152:ILE:HD11	1.99	0.44
49:BQ:67:ARG:HD3	49:BQ:102:VAL:CG1	2.47	0.44
36:BA:986:C:C2'	36:BA:987:G:H5'	2.46	0.44
36:BA:987:G:H2'	36:BA:988:A:O4'	2.16	0.44
46:BN:74:ARG:HH22	46:BN:85:ILE:HD11	1.83	0.44
46:BN:10:GLU:OE2	46:BN:11:PRO:HD2	2.17	0.44
36:BA:768:G:H2'	36:BA:769:G:H8	1.81	0.44
36:BA:654(E):G:H2'	36:BA:654(F):C:C6	2.52	0.44
36:BA:478:A:C6	36:BA:480:A:C6	3.05	0.44
36:BA:2850:A:C2	50:BR:61:HIS:CD2	3.05	0.44
2:AB:79:ASP:HA	2:AB:82:ARG:HB2	1.98	0.44
36:BA:1285:G:C6	36:BA:1329:U:C5	3.06	0.44
36:BA:999:U:O2	36:BA:1157:G:C2	2.70	0.44
42:BG:96:ARG:O	42:BG:97:ASP:CB	2.62	0.44
36:BA:502:A:H2'	36:BA:503:A:H5'	1.98	0.44
26:B0:10:THR:CG2	36:BA:2277:G:OP2	2.66	0.44
25:AZ:241:ARG:HB3	25:AZ:241:ARG:NH1	2.29	0.44
25:AZ:15:GLY:HA3	25:AZ:99:MET:SD	2.57	0.44
22:AW:54:U:C4	22:AW:55:U:C5	3.06	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:AW:56:C:C5'	38:BC:137:LEU:CB	2.95	0.44
38:BC:210:ARG:HD3	38:BC:210:ARG:HA	1.74	0.44
36:BA:2791:C:H41	36:BA:2801(A):A:N6	2.15	0.44
29:B3:17:LYS:HG2	36:BA:969:U:P	2.57	0.44
39:BD:64:ILE:C	39:BD:64:ILE:HD12	2.38	0.44
9:AI:88:TYR:O	9:AI:89:ASN:CG	2.56	0.44
20:AT:48:LYS:HB3	20:AT:51:GLU:HG2	1.99	0.44
42:BG:21:ARG:CZ	42:BG:22:ARG:HA	2.47	0.44
38:BC:107:TRP:H	38:BC:108:MET:HE3	1.82	0.44
55:BW:65:LEU:HD23	55:BW:68:ARG:CD	2.47	0.44
54:BV:18:LEU:CD2	54:BV:19:LYS:H	2.30	0.44
36:BA:848:G:O2'	36:BA:849:A:H5'	2.17	0.44
50:BR:117:VAL:HG22	50:BR:118:GLU:N	2.28	0.44
43:BH:105:LEU:N	43:BH:105:LEU:HD23	2.28	0.44
36:BA:1252:G:N2	53:BU:37:GLU:OE2	2.42	0.44
26:B0:28:GLY:O	36:BA:923:C:O2'	2.36	0.44
36:BA:1217:C:C2	36:BA:1218:C:C5	3.05	0.44
22:AW:40:C:H2'	22:AW:41:C:C6	2.49	0.44
42:BG:129:GLY:O	42:BG:130:ASN:CB	2.65	0.44
7:AG:149:ARG:NH1	7:AG:149:ARG:HG2	2.31	0.44
12:AL:110:VAL:H	12:AL:122:THR:HG22	1.82	0.44
9:AI:10:ARG:O	9:AI:11:LYS:CB	2.65	0.44
40:BE:44:TYR:O	40:BE:45:THR:OG1	2.28	0.44
1:AA:105:G:N2	1:AA:379:C:O3'	2.50	0.44
36:BA:1551:C:O2'	36:BA:1552:G:H5'	2.16	0.44
36:BA:1369:G:H1'	36:BA:1809:A:N1	2.33	0.44
25:AZ:252:GLU:HB3	25:AZ:307:PRO:HG2	2.00	0.44
36:BA:271(J):C:C2'	36:BA:271(K):U:H5''	2.47	0.44
40:BE:103:ASP:OD1	40:BE:201:THR:HA	2.15	0.44
38:BC:67:GLY:HA2	38:BC:159:GLY:HA3	2.00	0.44
36:BA:2450:A:C2'	36:BA:2451:A:H5'	2.48	0.44
1:AA:1410:G:H2'	1:AA:1411:C:C6	2.52	0.44
8:AH:6:ILE:HD11	8:AH:31:PHE:HD2	1.82	0.44
36:BA:1285:G:O3'	50:BR:105:ARG:NH1	2.51	0.44
5:AE:67:VAL:CG2	5:AE:140:ARG:HG3	2.47	0.44
36:BA:2447:G:O6	36:BA:2504:U:O4	2.35	0.44
3:AC:94:LEU:HD12	3:AC:94:LEU:C	2.37	0.44
50:BR:44:LEU:HD13	50:BR:44:LEU:C	2.36	0.44
1:AA:520:A:N1	1:AA:536:C:H1'	2.32	0.44
53:BU:112:ARG:CZ	54:BV:46:VAL:HG21	2.47	0.44
26:B0:10:THR:HG21	36:BA:2277:G:OP2	2.18	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BA:1504:C:O2'	36:BA:1505:C:C5'	2.66	0.44
13:AM:81:LEU:HD22	13:AM:86:CYS:SG	2.58	0.44
54:BV:35:LEU:C	54:BV:37:VAL:N	2.71	0.44
37:BB:104:U:C2'	37:BB:105:A:H5'	2.47	0.44
29:B3:27:GLY:O	29:B3:29:ARG:NH1	2.50	0.44
55:BW:6:ILE:HA	55:BW:104:THR:HA	1.99	0.44
36:BA:2643:G:H2'	36:BA:2644:G:C8	2.52	0.44
1:AA:499:A:C6	1:AA:547:A:C8	3.06	0.44
27:B1:30:VAL:HG23	27:B1:31:GLY:N	2.32	0.44
22:AV:19:G:C2	22:AV:57:G:C2	3.06	0.44
46:BN:93:THR:O	46:BN:94:HIS:HB2	2.18	0.44
25:AZ:317:GLU:HA	25:AZ:371:THR:HA	1.99	0.44
36:BA:1678:G:H22	36:BA:1989:G:N2	2.00	0.44
48:BP:107:LYS:O	48:BP:107:LYS:HG3	2.18	0.44
54:BV:21:ARG:HB3	54:BV:91:TYR:CB	2.40	0.44
52:BT:106:SER:O	52:BT:107:ASP:HB3	2.17	0.44
49:BQ:134:ARG:CZ	58:BZ:122:ARG:HH21	2.30	0.44
12:AL:31:PRO:HB2	12:AL:32:PHE:CD2	2.52	0.44
25:AZ:171:ILE:CG2	25:AZ:172:ARG:N	2.81	0.44
36:BA:1353:A:O4'	36:BA:1569:A:H2	1.99	0.44
36:BA:2580:U:H5''	40:BE:131:ALA:N	2.31	0.44
46:BN:120:LEU:HD13	46:BN:120:LEU:C	2.37	0.44
15:AO:56:LEU:HD12	15:AO:56:LEU:O	2.17	0.44
36:BA:1991:U:C2'	36:BA:1992:G:H5''	2.43	0.44
36:BA:18:C:O2'	53:BU:23:GLY:HA2	2.17	0.44
4:AD:127:THR:HB	4:AD:147:ALA:O	2.18	0.44
26:B0:24:LYS:O	26:B0:25:ARG:HD3	2.18	0.44
36:BA:2572:A:N3	40:BE:144:ARG:NH1	2.65	0.44
57:BY:39:VAL:CG1	57:BY:40:GLU:H	2.28	0.44
40:BE:176:ILE:CG2	40:BE:178:GLU:HB3	2.48	0.44
36:BA:2197:U:O2'	36:BA:2198:A:H2'	2.18	0.44
5:AE:98:THR:HB	5:AE:117:ASP:HB3	1.99	0.44
13:AM:73:GLU:O	13:AM:76:ALA:HB3	2.17	0.44
1:AA:55:A:C5	25:AZ:233:GLY:HA3	2.53	0.44
42:BG:121:ASN:ND2	42:BG:123:ASN:H	2.16	0.44
36:BA:381:G:O2'	36:BA:382:G:H5'	2.17	0.44
36:BA:2624:G:O2'	36:BA:2625:G:H5'	2.17	0.44
13:AM:107:ALA:O	13:AM:111:LYS:HG3	2.17	0.44
9:AI:100:GLY:O	9:AI:103:THR:N	2.43	0.44
24:AY:2:G:P	25:AZ:90:LYS:HZ1	2.40	0.44
34:B8:33:ASN:OD1	34:B8:35:GLN:N	2.51	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:B6:17:LYS:O	32:B6:18:ARG:HB3	2.17	0.44
32:B6:18:ARG:CG	32:B6:19:ARG:N	2.77	0.44
34:B8:58:ILE:O	48:BP:49:ARG:HD2	2.18	0.44
13:AM:81:LEU:O	13:AM:89:GLY:HA3	2.17	0.44
40:BE:74:PRO:CG	40:BE:77:ILE:O	2.66	0.44
25:AZ:122:LEU:O	25:AZ:126:VAL:N	2.48	0.44
37:BB:91:C:H5'	49:BQ:17:LEU:O	2.17	0.44
40:BE:60:ASN:O	40:BE:61:ARG:C	2.56	0.44
26:B0:27:GLU:CD	26:B0:27:GLU:N	2.68	0.44
2:AB:58:ILE:O	2:AB:61:LEU:HB3	2.17	0.44
19:AS:11:VAL:O	19:AS:11:VAL:HG13	2.18	0.44
30:B4:9:LEU:O	30:B4:10:VAL:CB	2.66	0.44
36:BA:2820:A:N6	40:BE:192:ASN:HB3	2.32	0.44
39:BD:21:PHE:O	39:BD:24:ILE:CG2	2.65	0.44
41:BF:117:ARG:HA	41:BF:117:ARG:HD3	1.74	0.44
36:BA:1170:G:N2	36:BA:1180:C:N3	2.66	0.44
4:AD:102:ASP:O	4:AD:117:ALA:HB1	2.18	0.44
1:AA:495:A:N6	4:AD:119:GLN:HE22	2.16	0.44
1:AA:939:G:H5''	7:AG:102:ARG:CZ	2.46	0.44
36:BA:1448:G:H5'	36:BA:1449:A:OP1	2.17	0.44
41:BF:82:ILE:O	41:BF:83:PHE:CB	2.66	0.44
46:BN:65:LYS:HZ2	46:BN:65:LYS:CB	2.30	0.44
26:B0:41:ARG:HB3	26:B0:42:GLY:H	1.58	0.44
42:BG:43:LEU:CD1	42:BG:153:ARG:HG3	2.41	0.44
42:BG:87:PRO:O	42:BG:88:ILE:HG12	2.17	0.44
30:B4:31:ILE:HG22	30:B4:31:ILE:O	2.18	0.44
36:BA:1847:A:H2'	36:BA:1847:A:N3	2.32	0.44
1:AA:489:C:H2'	1:AA:490:G:H8	1.83	0.44
9:AI:99:LEU:HB3	9:AI:101:PHE:HD1	1.82	0.44
7:AG:15:ASP:HB3	7:AG:19:GLY:N	2.32	0.44
36:BA:1658:C:H2'	36:BA:1659:U:C6	2.53	0.44
36:BA:2243:U:H2'	36:BA:2244:U:H6	1.74	0.44
17:AQ:27:PHE:C	17:AQ:27:PHE:CD1	2.91	0.44
25:AZ:389:ARG:O	25:AZ:390:GLU:HB2	2.17	0.44
1:AA:1030:C:N4	1:AA:1032:G:C2	2.85	0.44
2:AB:7:VAL:HA	2:AB:11:LEU:CG	2.48	0.44
48:BP:46:LYS:CB	48:BP:52:GLU:HG2	2.47	0.44
53:BU:17:ILE:HA	53:BU:20:LEU:HB2	1.99	0.44
36:BA:1551:C:C2'	36:BA:1552:G:H5'	2.48	0.44
36:BA:343:C:H2'	36:BA:343:C:O2	2.16	0.44
48:BP:102:ARG:O	48:BP:103:ALA:HB2	2.17	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BA:188:G:C2'	36:BA:189:G:H5'	2.47	0.44
36:BA:1651:G:H2'	36:BA:1652:A:O4'	2.17	0.44
1:AA:761:G:H2'	1:AA:762:C:C6	2.52	0.44
44:BJ:109:UNK:C	44:BJ:111:UNK:N	2.79	0.44
36:BA:2339:G:H2'	36:BA:2340:G:H8	1.83	0.44
39:BD:213:ARG:HA	39:BD:213:ARG:HD2	1.63	0.44
36:BA:2319:G:H4'	36:BA:2319:G:OP1	2.17	0.44
1:AA:748:C:O2'	1:AA:749:C:P	2.76	0.44
38:BC:31:GLU:O	38:BC:32:LEU:HD23	2.18	0.44
32:B6:27:LYS:CG	32:B6:30:THR:OG1	2.65	0.44
52:BT:63:VAL:O	52:BT:73:GLU:HA	2.17	0.44
36:BA:2801(A):A:C5'	36:BA:2802:G:H5'	2.48	0.44
1:AA:1125:U:O4	10:AJ:5:ARG:NE	2.31	0.44
36:BA:1403:C:C2'	36:BA:1404:C:O5'	2.66	0.44
39:BD:22:SER:O	39:BD:25:THR:OG1	2.20	0.44
51:BS:25:ARG:HA	51:BS:86:ALA:O	2.18	0.44
13:AM:97:PRO:HB2	13:AM:101:GLN:HE21	1.82	0.44
43:BH:15:VAL:O	43:BH:16:SER:OG	2.34	0.44
42:BG:42:GLY:O	42:BG:43:LEU:C	2.56	0.44
25:AZ:158:LEU:HD13	25:AZ:168:VAL:HG21	1.99	0.44
1:AA:966:G:H2'	1:AA:967:C:C6	2.53	0.44
36:BA:1569:A:H2'	36:BA:1570:A:O4'	2.17	0.44
36:BA:2157:G:O2'	36:BA:2158:A:H5'	2.18	0.44
36:BA:2556:C:H2'	36:BA:2557:G:O4'	2.16	0.44
22:AV:12:U:H3	22:AV:23:A:H61	1.64	0.44
3:AC:107:GLN:CD	3:AC:108:ASN:H	2.21	0.44
8:AH:36:LEU:O	8:AH:39:LEU:HB2	2.18	0.44
41:BF:65:TRP:CZ3	41:BF:72:ARG:HB2	2.52	0.44
1:AA:399:G:H2'	1:AA:400:C:C6	2.52	0.44
12:AL:86:ARG:HB2	12:AL:101:VAL:CG2	2.47	0.44
3:AC:188:LEU:HD11	3:AC:195:VAL:CG1	2.47	0.44
1:AA:186:C:O4'	20:AT:81:LYS:HE2	2.17	0.44
1:AA:116:A:H8	1:AA:116:A:O5'	2.00	0.44
1:AA:921:U:H2'	1:AA:922:G:O4'	2.18	0.44
43:BH:154:PRO:O	43:BH:155:SER:HB3	2.18	0.44
1:AA:1332:A:O2'	1:AA:1333:A:H5'	2.17	0.44
8:AH:49:GLU:HG3	8:AH:49:GLU:O	2.18	0.44
41:BF:3:GLU:O	41:BF:19:GLU:HG3	2.17	0.44
41:BF:20:LEU:O	41:BF:24:LEU:HD23	2.18	0.44
41:BF:4:VAL:HG13	41:BF:19:GLU:OE1	2.18	0.44
32:B6:5:VAL:O	32:B6:6:ARG:CB	2.66	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
56:BX:12:VAL:CB	56:BX:17:ALA:HB1	2.32	0.44
40:BE:33:VAL:HG22	40:BE:33:VAL:O	2.17	0.44
54:BV:47:VAL:C	54:BV:49:THR:N	2.71	0.44
52:BT:28:VAL:HG12	52:BT:29:ARG:NH1	2.33	0.44
49:BQ:140:ALA:HB3	58:BZ:53:ILE:CD1	2.45	0.44
36:BA:2313:C:O2'	36:BA:2314:C:H5'	2.18	0.44
29:B3:8:LEU:HD22	29:B3:31:LEU:CA	2.28	0.44
31:B5:33:CYS:HB3	31:B5:36:CYS:SG	2.58	0.44
36:BA:271(L):U:C5'	36:BA:271(M):G:H5'	2.31	0.44
41:BF:158:THR:C	41:BF:160:ASN:N	2.71	0.44
43:BH:17:VAL:O	43:BH:18:GLU:HG2	2.18	0.44
36:BA:812:C:H5'	48:BP:25:SER:CB	2.43	0.44
48:BP:33:ARG:O	48:BP:35:HIS:O	2.36	0.44
25:AZ:221:PHE:HE1	25:AZ:242:ILE:HG23	1.82	0.44
36:BA:2464:C:O2'	36:BA:2465:C:O5'	2.36	0.44
29:B3:52:HIS:CD2	37:BB:83:G:H4'	2.53	0.44
36:BA:676:A:H8	36:BA:2069:G:N2	2.02	0.44
36:BA:802:A:C5	36:BA:803:U:C4	3.05	0.44
9:AI:4:TYR:CG	9:AI:88:TYR:HB2	2.52	0.44
36:BA:626:U:C2	48:BP:105:LEU:HG	2.53	0.44
7:AG:113:GLU:HG3	7:AG:119:ARG:HA	1.99	0.44
36:BA:1494:A:C3'	36:BA:1494:A:N3	2.80	0.44
36:BA:1805:U:O2	39:BD:50:THR:HB	2.18	0.44
7:AG:50:ILE:HD12	7:AG:125:MET:HG2	1.99	0.44
11:AK:69:ALA:CB	11:AK:103:LEU:HD21	2.43	0.44
36:BA:1827:C:H2'	36:BA:1828:G:H5'	1.99	0.44
49:BQ:104:PHE:O	49:BQ:105:GLU:HB3	2.17	0.44
11:AK:15:ALA:HB1	11:AK:78:GLN:CB	2.46	0.44
53:BU:59:ARG:C	53:BU:61:TRP:H	2.21	0.44
2:AB:20:GLU:HG2	2:AB:189:ASP:OD1	2.17	0.44
30:B4:12:ALA:HB1	30:B4:29:PRO:O	2.18	0.44
39:BD:166:GLN:HA	39:BD:166:GLN:NE2	2.31	0.44
21:AU:20:LYS:HE3	21:AU:21:TYR:CZ	2.53	0.44
1:AA:1230:C:H2'	1:AA:1231:G:H8	1.82	0.44
3:AC:13:GLY:HA3	14:AN:57:ARG:CZ	2.48	0.44
1:AA:312:C:H2'	1:AA:313:A:H8	1.79	0.44
36:BA:1520:G:C2'	36:BA:1523:U:H5'	2.46	0.44
49:BQ:109:VAL:CG1	49:BQ:113:GLN:OE1	2.66	0.44
36:BA:2461:C:H2'	36:BA:2462:U:H6	1.82	0.44
48:BP:102:ARG:HG2	48:BP:102:ARG:O	2.17	0.44
50:BR:107:ASP:C	50:BR:107:ASP:OD2	2.56	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:AC:43:LEU:O	3:AC:47:LEU:HB2	2.18	0.44
19:AS:22:LEU:O	19:AS:22:LEU:HD13	2.17	0.44
8:AH:65:TYR:N	8:AH:65:TYR:CD1	2.86	0.44
36:BA:1901:A:H4'	36:BA:1901:A:OP2	2.18	0.44
27:B1:19:GLN:O	27:B1:35:THR:HG22	2.16	0.44
2:AB:84:GLU:OE1	2:AB:216:SER:HA	2.18	0.44
42:BG:161:THR:HG21	42:BG:172:LEU:HD13	2.00	0.44
32:B6:22:ALA:HB2	32:B6:39:TYR:CE2	2.52	0.44
57:BY:19:LYS:HB2	57:BY:20:TYR:CD1	2.53	0.44
57:BY:50:ARG:CD	57:BY:53:PRO:HA	2.46	0.44
57:BY:59:GLY:O	57:BY:60:PHE:CD1	2.71	0.44
36:BA:911:A:N1	36:BA:2277:G:O2'	2.46	0.44
9:AI:114:TYR:HE1	10:AJ:60:ARG:O	2.01	0.44
40:BE:34:VAL:O	40:BE:34:VAL:HG13	2.17	0.44
36:BA:2638:G:P	40:BE:82:ARG:HH21	2.41	0.44
51:BS:101:LEU:C	51:BS:101:LEU:HD12	2.38	0.44
51:BS:54:LEU:O	51:BS:57:LYS:N	2.51	0.44
29:B3:29:ARG:O	29:B3:30:ARG:C	2.55	0.44
36:BA:2740:A:C6	36:BA:2741:A:C6	3.06	0.44
12:AL:89:ARG:HD3	12:AL:91:LYS:N	2.33	0.44
52:BT:83:ILE:O	52:BT:84:GLN:C	2.56	0.44
1:AA:664:G:N2	1:AA:741:G:H1	1.85	0.44
39:BD:30:GLU:CD	39:BD:63:ARG:HE	2.21	0.44
58:BZ:141:VAL:O	58:BZ:143:GLY:N	2.43	0.44
9:AI:53:VAL:CG1	9:AI:95:LYS:HE3	2.39	0.44
46:BN:61:ARG:HG3	46:BN:61:ARG:NH1	2.33	0.44
20:AT:57:ARG:HB2	20:AT:57:ARG:NH1	2.32	0.44
7:AG:108:ALA:CB	7:AG:120:ILE:HD13	2.48	0.44
38:BC:131:LEU:HD22	38:BC:136:LEU:CD1	2.42	0.44
1:AA:1452:C:H4'	1:AA:1456:G:O5'	2.18	0.44
36:BA:1592:C:H2'	36:BA:1593:G:H8	1.82	0.44
7:AG:15:ASP:OD2	7:AG:44:TYR:OH	2.32	0.44
18:AR:69:THR:O	18:AR:72:ARG:HB2	2.17	0.44
36:BA:140:G:H1'	36:BA:141:A:H2	1.82	0.44
12:AL:55:VAL:HG22	12:AL:56:ALA:N	2.32	0.44
27:B1:50:ARG:NH2	36:BA:2200:C:OP2	2.50	0.44
49:BQ:39:PRO:HG3	49:BQ:99:PRO:HD3	2.00	0.44
1:AA:68:G:H2'	1:AA:69:G:O4'	2.18	0.44
25:AZ:342:PHE:N	25:AZ:342:PHE:CD1	2.86	0.44
25:AZ:344:PHE:N	25:AZ:344:PHE:CD1	2.86	0.44
36:BA:45:C:H2'	36:BA:47:C:C6	2.53	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:AZ:24:LYS:CB	25:AZ:24:LYS:NZ	2.80	0.44
28:B2:59:ARG:HA	28:B2:62:THR:HB	2.00	0.44
19:AS:13:ASP:C	19:AS:15:LEU:H	2.21	0.44
37:BB:77:U:O2'	37:BB:78:A:H5'	2.18	0.44
1:AA:1242:C:O5'	1:AA:1242:C:H6	2.01	0.44
36:BA:773:U:H4'	39:BD:47:GLY:CA	2.48	0.44
1:AA:1521:G:H2'	1:AA:1522:U:C6	2.53	0.44
36:BA:1583:A:O2'	36:BA:1586:A:N1	2.43	0.44
19:AS:72:GLY:C	19:AS:74:PHE:H	2.21	0.44
36:BA:755:C:H2'	36:BA:756:C:C6	2.53	0.44
13:AM:39:ILE:CD1	13:AM:56:LEU:HB2	2.48	0.44
36:BA:1382:G:H8	36:BA:1382:G:O5'	2.00	0.44
36:BA:1111:A:H2'	36:BA:1111:A:N3	2.33	0.44
15:AO:44:LYS:HE3	15:AO:44:LYS:HB2	1.74	0.44
1:AA:1421:G:H2'	1:AA:1422:G:O4'	2.18	0.44
1:AA:1261:A:H2'	1:AA:1262:C:H5'	1.98	0.44
3:AC:155:GLY:HA3	3:AC:196:LEU:HD13	1.99	0.44
36:BA:1534:U:H2'	36:BA:1535:A:O4'	2.17	0.44
1:AA:828:A:H2'	1:AA:829:G:O4'	2.18	0.44
1:AA:833:U:H2'	1:AA:834:C:C6	2.53	0.44
57:BY:76:CYS:O	57:BY:77:PRO:C	2.55	0.44
1:AA:1057:G:H2'	1:AA:1058:G:O4'	2.18	0.44
1:AA:1318:A:O3'	19:AS:10:PHE:CD2	2.71	0.44
36:BA:1204:A:H1'	36:BA:1206:G:N7	2.33	0.44
36:BA:1242:A:N1	48:BP:8:PRO:CG	2.78	0.44
36:BA:2168:G:H2'	36:BA:2169:A:H3'	1.99	0.44
38:BC:212:VAL:HG12	38:BC:224:ILE:HD11	2.00	0.44
36:BA:1754:C:H4'	52:BT:101:PHE:CD2	2.53	0.44
52:BT:64:ARG:HD2	52:BT:73:GLU:CD	2.38	0.44
28:B2:24:LEU:O	28:B2:24:LEU:HD23	2.17	0.44
39:BD:266:SER:C	39:BD:267:SER:O	2.56	0.44
25:AZ:322:VAL:HA	25:AZ:396:GLY:HA2	1.99	0.44
36:BA:1701:A:H5'	36:BA:1702:G:OP2	2.18	0.44
36:BA:782:A:N1	39:BD:226:MET:HE2	2.33	0.44
30:B4:5:ILE:N	30:B4:5:ILE:HD13	2.28	0.44
36:BA:614(A):U:C4'	36:BA:614(B):G:C5'	2.95	0.44
36:BA:1380:G:H2'	36:BA:1381:G:H8	1.83	0.44
9:AI:99:LEU:CB	9:AI:101:PHE:CD1	3.01	0.44
36:BA:983:A:H2'	36:BA:984:A:C8	2.53	0.44
36:BA:984:A:C5'	36:BA:985:C:H5	2.28	0.44
9:AI:40:LEU:C	9:AI:42:ARG:N	2.71	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:BV:29:PRO:HG2	54:BV:30:GLY:H	1.81	0.44
58:BZ:128:VAL:CG2	58:BZ:129:SER:H	2.24	0.44
47:BO:47:ILE:HG23	47:BO:48:PRO:CD	2.43	0.44
36:BA:2721:A:H2'	36:BA:2722:G:O4'	2.18	0.44
5:AE:33:VAL:HG11	5:AE:109:ILE:HA	1.99	0.44
43:BH:53:GLU:HB3	43:BH:54:ARG:H	1.66	0.44
39:BD:46:GLN:CD	39:BD:46:GLN:N	2.72	0.44
36:BA:1120:G:O2'	36:BA:1121:C:H5'	2.18	0.44
5:AE:37:ARG:O	5:AE:38:GLN:HG2	2.18	0.44
36:BA:2681:C:C2'	36:BA:2681:C:O2	2.65	0.44
49:BQ:6:ARG:C	49:BQ:7:MET:HG3	2.39	0.44
25:AZ:70:TYR:CD1	25:AZ:70:TYR:O	2.71	0.44
2:AB:163:PHE:HD2	2:AB:185:ILE:HB	1.83	0.44
1:AA:1047:G:O2'	1:AA:1048:G:H5'	2.18	0.44
1:AA:538:G:OP2	12:AL:115:LYS:HG3	2.17	0.44
36:BA:569:U:H1'	36:BA:947:G:O4'	2.18	0.44
22:AV:44:G:H2'	22:AV:45:U:H5'	2.00	0.44
36:BA:375:C:H2'	36:BA:376:C:C6	2.52	0.44
13:AM:33:ALA:O	13:AM:37:THR:HG23	2.17	0.44
1:AA:598:U:H4'	8:AH:94:TYR:CD1	2.53	0.44
6:AF:50:TYR:HB2	6:AF:51:PRO:HD2	2.00	0.44
47:BO:81:ASP:C	47:BO:81:ASP:OD1	2.56	0.44
25:AZ:259:ALA:HB1	25:AZ:260:PRO:CD	2.48	0.44
36:BA:2095:C:H2'	36:BA:2096:U:C6	2.52	0.44
1:AA:659:U:O2'	1:AA:660:G:H5'	2.18	0.44
1:AA:355:C:C2	1:AA:356:A:C8	3.06	0.43
32:B6:52:VAL:HG22	32:B6:53:LYS:N	2.30	0.43
57:BY:96:ILE:CD1	57:BY:99:CYS:SG	3.07	0.43
10:AJ:54:PHE:CE2	10:AJ:55:LYS:CD	2.98	0.43
48:BP:7:ARG:CB	48:BP:8:PRO:CD	2.95	0.43
54:BV:4:ILE:HA	54:BV:12:TYR:O	2.18	0.43
36:BA:2115:G:C2'	36:BA:2116:G:H5''	2.48	0.43
36:BA:1221(A):C:O2'	36:BA:1222:C:H5'	2.18	0.43
36:BA:1253:A:H3'	36:BA:1254:A:H5'	2.00	0.43
36:BA:578:A:H5'	36:BA:1254:A:OP1	2.18	0.43
36:BA:589:C:H6	36:BA:589:C:O5'	2.01	0.43
36:BA:99:U:C3'	36:BA:100:G:H5'	2.48	0.43
36:BA:2206:G:H21	36:BA:2207:G:C5'	2.31	0.43
36:BA:1528:A:C2	36:BA:1542:A:H2	2.36	0.43
48:BP:39:LYS:CD	48:BP:40:SER:H	2.29	0.43
48:BP:97:PRO:O	48:BP:98:GLU:CB	2.57	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:BP:85:LEU:N	48:BP:85:LEU:HD23	2.33	0.43
15:AO:29:VAL:HG21	15:AO:67:LEU:HD23	1.99	0.43
40:BE:38:THR:HG23	40:BE:39:PRO:HD2	1.99	0.43
49:BQ:56:ARG:NH1	49:BQ:56:ARG:HG3	2.33	0.43
53:BU:57:PHE:O	53:BU:58:ARG:C	2.56	0.43
30:B4:27:THR:O	30:B4:28:LYS:HB3	2.17	0.43
1:AA:594:G:H2'	1:AA:595:G:C5'	2.48	0.43
36:BA:59:U:O2'	36:BA:73:A:H2'	2.17	0.43
11:AK:61:ALA:CB	11:AK:90:GLY:HA3	2.46	0.43
14:AN:15:LYS:HB3	14:AN:16:PHE:CE2	2.53	0.43
1:AA:633:G:C5'	1:AA:634:C:OP2	2.66	0.43
36:BA:2262:U:H2'	36:BA:2263:C:C6	2.52	0.43
2:AB:162:ILE:HG22	2:AB:183:PRO:O	2.18	0.43
1:AA:441:A:H3'	1:AA:442:C:C6	2.52	0.43
36:BA:1649:G:O2'	36:BA:1650:G:H5'	2.18	0.43
15:AO:22:THR:O	15:AO:27:VAL:HG11	2.18	0.43
36:BA:2745:C:H4'	43:BH:142:GLY:O	2.17	0.43
36:BA:627:A:C5	36:BA:637:A:N7	2.85	0.43
42:BG:37:VAL:HG22	42:BG:159:VAL:HG23	1.99	0.43
34:B8:32:LEU:HB3	34:B8:36:LYS:CE	2.48	0.43
34:B8:34:TRP:CA	36:BA:2420:C:OP1	2.67	0.43
32:B6:11:LEU:HD21	32:B6:51:GLU:CD	2.38	0.43
28:B2:47:ASN:O	28:B2:50:ILE:CD1	2.66	0.43
36:BA:1024:G:H3'	36:BA:1025:G:C5'	2.25	0.43
13:AM:79:LYS:O	13:AM:82:MET:SD	2.76	0.43
53:BU:95:LEU:O	53:BU:97:ASP:N	2.52	0.43
36:BA:2168:G:O2'	36:BA:2169:A:C8	2.68	0.43
51:BS:98:VAL:CG1	51:BS:100:ALA:HB2	2.48	0.43
26:B0:69:PHE:CE2	26:B0:79:VAL:HG22	2.53	0.43
19:AS:20:LEU:HA	19:AS:23:ASN:HB3	1.99	0.43
52:BT:32:TYR:CG	52:BT:81:PRO:HB3	2.53	0.43
41:BF:117:ARG:HH21	41:BF:187:VAL:HA	1.82	0.43
36:BA:940:G:H2'	36:BA:941:A:O4'	2.18	0.43
25:AZ:246:LYS:O	25:AZ:247:VAL:HG13	2.18	0.43
41:BF:142:TRP:O	41:BF:145:GLU:HB2	2.17	0.43
46:BN:57:ALA:O	46:BN:58:ASP:C	2.56	0.43
1:AA:1264:C:H1'	1:AA:1272:G:N2	2.33	0.43
25:AZ:334:PHE:CD1	25:AZ:334:PHE:N	2.86	0.43
25:AZ:334:PHE:HE2	25:AZ:353:VAL:HG11	1.82	0.43
8:AH:97:VAL:HG13	8:AH:98:LYS:N	2.32	0.43
2:AB:115:LEU:O	2:AB:118:LEU:HB2	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BA:581:C:H2'	36:BA:582:G:C8	2.41	0.43
36:BA:79:G:H2'	36:BA:80:G:H8	1.83	0.43
55:BW:56:ALA:C	55:BW:58:ALA:H	2.20	0.43
1:AA:455:C:O5'	1:AA:455:C:H6	2.01	0.43
58:BZ:128:VAL:CG2	58:BZ:129:SER:N	2.78	0.43
51:BS:19:LYS:HB3	51:BS:20:ARG:NH2	2.33	0.43
36:BA:191:A:H2'	36:BA:192:C:H6	1.83	0.43
1:AA:1073:U:O2'	1:AA:1074:G:H5'	2.17	0.43
36:BA:893:C:O2'	36:BA:894:C:H5'	2.18	0.43
36:BA:2199:A:H2'	36:BA:2199:A:N3	2.34	0.43
36:BA:59:U:H3	36:BA:68:G:H1	1.66	0.43
1:AA:67:C:O2'	1:AA:171:A:H1'	2.18	0.43
3:AC:13:GLY:HA3	14:AN:57:ARG:NH2	2.33	0.43
8:AH:111:ILE:HG22	8:AH:112:LEU:N	2.34	0.43
1:AA:1260:C:OP1	1:AA:1284:C:H4'	2.17	0.43
16:AP:82:GLN:O	16:AP:83:GLU:CB	2.65	0.43
1:AA:106:C:O2'	1:AA:107:G:H5'	2.18	0.43
37:BB:43:C:H3'	37:BB:44:G:C5'	2.48	0.43
36:BA:1958:C:O2'	36:BA:1959:G:H5'	2.18	0.43
25:AZ:252:GLU:O	25:AZ:253:VAL:HG13	2.18	0.43
36:BA:870:A:C2	36:BA:871:U:H1'	2.53	0.43
25:AZ:227:ASP:HB3	25:AZ:229:PHE:CE1	2.54	0.43
19:AS:79:THR:O	19:AS:80:TYR:CB	2.66	0.43
36:BA:2704:C:H2'	36:BA:2705:A:C8	2.53	0.43
57:BY:50:ARG:O	57:BY:52:SER:N	2.51	0.43
36:BA:910:A:C6	36:BA:911:A:C6	3.07	0.43
42:BG:136:ARG:HG2	42:BG:136:ARG:NH1	2.33	0.43
34:B8:52:LYS:O	34:B8:56:GLU:OE1	2.36	0.43
19:AS:70:LYS:O	19:AS:73:GLU:HB2	2.18	0.43
58:BZ:38:TYR:CG	58:BZ:38:TYR:O	2.71	0.43
51:BS:54:LEU:HD13	51:BS:54:LEU:O	2.19	0.43
36:BA:2808:U:H2'	36:BA:2809:A:H5'	2.00	0.43
58:BZ:29:TYR:HE2	58:BZ:87:ASP:OD2	2.02	0.43
37:BB:7:G:O5'	51:BS:29:PHE:HE1	2.01	0.43
10:AJ:34:VAL:CG1	10:AJ:73:ASP:O	2.66	0.43
42:BG:47:LYS:NZ	42:BG:81:LYS:CB	2.81	0.43
36:BA:586:A:H5'	41:BF:89:VAL:HG11	1.99	0.43
48:BP:84:ASN:O	48:BP:87:ASP:N	2.47	0.43
1:AA:1112:C:N3	3:AC:178:LEU:N	2.55	0.43
1:AA:411:A:OP2	4:AD:25:ARG:NH2	2.50	0.43
40:BE:8:LYS:HD2	40:BE:188:VAL:CG1	2.48	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:AM:23:TYR:CE1	13:AM:70:LEU:HD22	2.53	0.43
36:BA:1352:U:O2'	36:BA:1353:A:H5'	2.19	0.43
12:AL:7:ILE:HG22	12:AL:8:ASN:N	2.32	0.43
39:BD:112:GLN:H	39:BD:115:GLN:NE2	2.15	0.43
1:AA:1007:C:H42	1:AA:1022:G:H1	1.66	0.43
4:AD:13:ARG:O	4:AD:14:ARG:C	2.57	0.43
13:AM:108:ARG:HH11	13:AM:108:ARG:HG3	1.82	0.43
36:BA:2510:C:O2'	36:BA:2511:U:H5'	2.18	0.43
36:BA:2866:U:C5	36:BA:2868:A:H1'	2.52	0.43
36:BA:519:U:H5''	55:BW:25:ARG:HH12	1.82	0.43
36:BA:1082:U:H5'	45:BK:116:UNK:O	2.18	0.43
55:BW:5:ALA:HB3	55:BW:105:VAL:H	1.83	0.43
49:BQ:52:VAL:O	49:BQ:53:ALA:C	2.55	0.43
2:AB:181:PHE:O	2:AB:183:PRO:HD3	2.19	0.43
1:AA:156:G:C6	1:AA:166:G:O6	2.72	0.43
36:BA:1426:G:H8	36:BA:1426:G:O5'	2.02	0.43
25:AZ:217:VAL:O	25:AZ:217:VAL:HG23	2.18	0.43
36:BA:2727:G:O2'	47:BO:70:LYS:HE2	2.19	0.43
4:AD:199:ASN:O	4:AD:199:ASN:OD1	2.36	0.43
36:BA:49:A:H4'	36:BA:50:U:O5'	2.18	0.43
36:BA:60:G:C8	36:BA:63:U:C5	3.06	0.43
1:AA:599:C:O2'	1:AA:600:C:H5'	2.19	0.43
47:BO:18:LYS:HB2	47:BO:45:GLU:HB3	2.00	0.43
37:BB:62:C:C2	37:BB:63:G:C8	3.05	0.43
36:BA:1780:A:H5'	36:BA:1780:A:H8	1.82	0.43
54:BV:75:PHE:C	54:BV:75:PHE:CD1	2.91	0.43
33:B7:16:HIS:ND1	36:BA:465:G:H4'	2.33	0.43
56:BX:28:PHE:CZ	56:BX:81:VAL:HG21	2.53	0.43
40:BE:34:VAL:O	40:BE:34:VAL:HG22	2.18	0.43
54:BV:13:ARG:HG2	54:BV:13:ARG:O	2.17	0.43
54:BV:35:LEU:C	54:BV:37:VAL:H	2.22	0.43
38:BC:196:LEU:C	38:BC:198:ALA:N	2.72	0.43
36:BA:1223:G:H5'	36:BA:1223:G:C8	2.49	0.43
29:B3:8:LEU:HD13	29:B3:29:ARG:O	2.17	0.43
36:BA:1747:G:H2'	36:BA:1747(A):G:H8	1.83	0.43
36:BA:2747:G:O6	36:BA:2755:C:H5''	2.18	0.43
51:BS:25:ARG:O	51:BS:39:ILE:HA	2.19	0.43
36:BA:1510:G:H2'	36:BA:1511:C:C6	2.54	0.43
36:BA:2206:G:N3	36:BA:2207:G:H5'	2.33	0.43
25:AZ:194:GLU:HG3	25:AZ:195:TRP:H	1.84	0.43
58:BZ:108:PRO:HA	58:BZ:141:VAL:HG12	1.93	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:AL:41:ARG:NH2	12:AL:57:LYS:HZ3	2.14	0.43
56:BX:30:VAL:HG21	56:BX:39:ILE:HD11	2.00	0.43
46:BN:14:VAL:HG12	46:BN:15:LEU:N	2.34	0.43
36:BA:1334:G:O2'	36:BA:1335:U:H5'	2.19	0.43
26:B0:52:GLY:HA3	26:B0:60:PHE:CZ	2.53	0.43
2:AB:97:TRP:CH2	2:AB:176:GLU:CD	2.92	0.43
36:BA:782:A:N3	39:BD:226:MET:HG2	2.32	0.43
1:AA:542:G:P	4:AD:10:ARG:HH22	2.40	0.43
25:AZ:171:ILE:HD13	25:AZ:202:LEU:CD1	2.48	0.43
46:BN:35:ARG:HH21	46:BN:42:TRP:HH2	1.66	0.43
22:AV:56:C:N3	42:BG:83:ARG:HD3	2.34	0.43
46:BN:30:ILE:HG22	46:BN:34:LEU:HD23	1.99	0.43
46:BN:31:ALA:HA	46:BN:34:LEU:HB2	2.00	0.43
3:AC:70:VAL:O	3:AC:106:VAL:HG23	2.17	0.43
36:BA:753:C:O2'	36:BA:754:C:H5'	2.17	0.43
6:AF:86:ARG:O	6:AF:87:ARG:HG2	2.18	0.43
22:AV:75:C:OP1	36:BA:2602:A:C5'	2.65	0.43
36:BA:289:A:H2'	36:BA:290:G:H8	1.81	0.43
36:BA:986:C:O5'	36:BA:986:C:H6	2.00	0.43
25:AZ:33:PHE:O	25:AZ:36:ALA:HB3	2.19	0.43
41:BF:72:ARG:HB3	41:BF:72:ARG:NH1	2.33	0.43
1:AA:1270:C:C6	1:AA:1270:C:C3'	3.01	0.43
36:BA:407:G:H2'	36:BA:408:G:C8	2.52	0.43
11:AK:126:ARG:C	11:AK:128:ALA:N	2.72	0.43
17:AQ:86:GLU:O	17:AQ:90:ILE:HG12	2.19	0.43
12:AL:102:ARG:HA	12:AL:102:ARG:HD2	1.58	0.43
1:AA:1423:G:H2'	1:AA:1424:C:C6	2.53	0.43
4:AD:159:ARG:HG3	4:AD:159:ARG:HH11	1.84	0.43
1:AA:601:C:H2'	1:AA:602:A:C8	2.54	0.43
1:AA:1161:C:H2'	1:AA:1162:C:H6	1.84	0.43
54:BV:31:ALA:O	54:BV:60:GLU:HG3	2.18	0.43
36:BA:2816:C:H2'	36:BA:2817:G:H8	1.82	0.43
56:BX:70:LEU:HD23	56:BX:71:GLY:N	2.34	0.43
33:B7:40:TRP:CD2	36:BA:459:U:C5'	3.01	0.43
24:AY:73:G:C6	24:AY:74:C:C2	3.07	0.43
24:AY:73:G:H2'	24:AY:74:C:C5'	2.49	0.43
25:AZ:232:THR:C	25:AZ:234:ARG:H	2.22	0.43
57:BY:17:SER:HB3	57:BY:71:LYS:HB3	1.99	0.43
57:BY:46:LYS:CG	57:BY:47:LYS:N	2.72	0.43
24:AY:77:TRP:CE2	25:AZ:67:HIS:CD2	3.07	0.43
1:AA:1060:C:H4'	10:AJ:52:GLY:N	2.33	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:AS:4:SER:C	19:AS:5:LEU:O	2.57	0.43
40:BE:35:GLN:HG2	40:BE:36:ARG:O	2.18	0.43
40:BE:34:VAL:CG1	40:BE:48:GLN:HE21	2.32	0.43
40:BE:93:VAL:C	40:BE:95:ILE:N	2.72	0.43
54:BV:4:ILE:HB	54:BV:39:LEU:O	2.18	0.43
51:BS:30:ARG:HH22	51:BS:62:LYS:HD3	1.80	0.43
46:BN:55:VAL:HG22	46:BN:56:ASN:H	1.83	0.43
39:BD:63:ARG:HH11	39:BD:63:ARG:HG3	1.84	0.43
5:AE:89:ILE:HG12	5:AE:90:VAL:N	2.34	0.43
36:BA:2620:C:H2'	36:BA:2621:A:O4'	2.17	0.43
41:BF:132:VAL:CG2	41:BF:162:LEU:HD23	2.40	0.43
41:BF:102:PRO:C	41:BF:104:LYS:N	2.71	0.43
36:BA:1224:C:C5	36:BA:1225:G:C5	3.06	0.43
36:BA:810:U:C4	48:BP:32:THR:HA	2.53	0.43
25:AZ:330:ARG:CG	25:AZ:395:VAL:HB	2.45	0.43
46:BN:57:ALA:O	46:BN:58:ASP:O	2.36	0.43
46:BN:68:GLU:HA	46:BN:86:PRO:HB2	2.01	0.43
42:BG:73:ALA:CB	42:BG:87:PRO:HG3	2.49	0.43
12:AL:25:PRO:C	12:AL:27:LEU:H	2.21	0.43
36:BA:1479:G:H5'	36:BA:1558:A:C2	2.53	0.43
43:BH:19:VAL:HG12	43:BH:20:ALA:N	2.33	0.43
38:BC:131:LEU:HB3	38:BC:136:LEU:HB2	2.00	0.43
8:AH:75:ARG:HB2	8:AH:75:ARG:HE	1.56	0.43
36:BA:1188:U:H2'	36:BA:1189:A:H5'	1.99	0.43
40:BE:4:ILE:HD11	40:BE:28:ALA:HB1	2.01	0.43
36:BA:1498:C:C2'	36:BA:1499:C:H5''	2.49	0.43
36:BA:1643:G:C4	36:BA:1644:C:C6	3.06	0.43
36:BA:363:G:C4	36:BA:363(A):A:N7	2.87	0.43
36:BA:528:A:C2	36:BA:2043:C:C5'	3.00	0.43
36:BA:1523:U:H2'	36:BA:1524:G:H8	1.83	0.43
36:BA:2796:U:C3'	36:BA:2799:C:H5'	2.49	0.43
6:AF:63:TYR:O	6:AF:64:GLN:CB	2.66	0.43
39:BD:182:LEU:HA	39:BD:182:LEU:HD23	1.73	0.43
25:AZ:229:PHE:CD1	25:AZ:229:PHE:N	2.86	0.43
39:BD:175:LEU:HD12	39:BD:185:VAL:HG21	2.00	0.43
1:AA:1181:G:O2'	1:AA:1182:G:H5'	2.18	0.43
57:BY:62:GLU:CD	57:BY:62:GLU:N	2.72	0.43
36:BA:910:A:H62	49:BQ:12:GLN:HA	1.83	0.43
38:BC:6:ARG:HG2	38:BC:6:ARG:O	2.18	0.43
56:BX:21:PHE:HD2	56:BX:26:TYR:CE2	2.36	0.43
1:AA:1321:C:OP2	1:AA:1322:C:H2'	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:AM:77:ASN:O	13:AM:81:LEU:HG	2.19	0.43
49:BQ:16:ARG:HH21	49:BQ:18:LYS:NZ	2.16	0.43
58:BZ:10:ARG:O	58:BZ:36:LYS:HG3	2.19	0.43
2:AB:201:ILE:O	2:AB:202:PRO:C	2.56	0.43
40:BE:12:THR:HG23	40:BE:13:ARG:N	2.33	0.43
36:BA:2115:G:H2'	36:BA:2116:G:H5''	1.99	0.43
58:BZ:48:PHE:CE2	58:BZ:52:SER:O	2.71	0.43
23:AX:26:A:C3'	23:AX:27:A:H5''	2.29	0.43
33:B7:8:ASN:HD21	33:B7:10:ARG:N	2.16	0.43
1:AA:1003:G:N2	1:AA:1038:C:N3	2.66	0.43
39:BD:39:LYS:HB2	39:BD:62:TYR:HB2	1.99	0.43
36:BA:658:C:C2	36:BA:659:C:C5	3.07	0.43
52:BT:34:VAL:HG22	52:BT:39:ARG:HG3	2.01	0.43
17:AQ:69:LYS:O	17:AQ:70:ARG:HD2	2.19	0.43
57:BY:85:VAL:CG1	57:BY:86:ARG:N	2.80	0.43
25:AZ:194:GLU:CG	25:AZ:195:TRP:N	2.78	0.43
34:B8:15:LYS:HD3	48:BP:65:ARG:HH22	1.84	0.43
46:BN:58:ASP:HB3	46:BN:95:PRO:HB2	2.00	0.43
36:BA:804:A:H2'	36:BA:806:C:C4	2.53	0.43
36:BA:1681:G:O2'	36:BA:1762:A:C2'	2.65	0.43
50:BR:84:ALA:HB3	50:BR:85:PRO:CD	2.41	0.43
1:AA:346:G:O2'	1:AA:347:G:P	2.76	0.43
52:BT:102:ILE:HD12	52:BT:110:ILE:CD1	2.46	0.43
36:BA:86:C:O2'	36:BA:104:U:H1'	2.19	0.43
3:AC:83:ARG:O	3:AC:87:LEU:HG	2.18	0.43
36:BA:1060:U:C4	36:BA:1062:G:OP1	2.71	0.43
36:BA:2580:U:C5	36:BA:2581:G:C6	3.06	0.43
50:BR:87:TYR:C	50:BR:89:ASP:H	2.22	0.43
1:AA:1152:A:H5'	10:AJ:70:ARG:HH21	1.83	0.43
22:AW:72:C:H2'	22:AW:73:A:O4'	2.19	0.43
39:BD:227:ASN:HB3	39:BD:228:PRO:CD	2.49	0.43
53:BU:59:ARG:C	53:BU:61:TRP:N	2.72	0.43
36:BA:2720:U:C2	36:BA:2721:A:C8	3.07	0.43
36:BA:889:C:O2'	36:BA:890:A:P	2.77	0.43
1:AA:1174:G:O2'	1:AA:1175:G:H5'	2.18	0.43
36:BA:2852:G:O2'	36:BA:2853:C:H5'	2.18	0.43
36:BA:528:A:H3'	36:BA:528:A:H8	1.84	0.43
30:B4:42:PHE:CD2	30:B4:42:PHE:O	2.71	0.43
36:BA:1056:G:C2	36:BA:1102:C:C5	3.05	0.43
1:AA:633:G:H3'	1:AA:634:C:H6	1.83	0.43
1:AA:791:G:H2'	1:AA:792:A:H5'	2.00	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:431:A:H2'	1:AA:432:A:O4'	2.19	0.43
31:B5:13:LYS:HZ1	36:BA:516:C:H5''	1.83	0.43
19:AS:72:GLY:C	19:AS:74:PHE:N	2.71	0.43
36:BA:2410:G:C2	36:BA:2411:A:H1'	2.53	0.43
1:AA:1406:U:C2'	1:AA:1407:C:H5'	2.49	0.43
36:BA:2514:U:H2'	36:BA:2515:C:C6	2.53	0.43
36:BA:532:A:N3	36:BA:532:A:H2'	2.33	0.43
53:BU:22:LYS:HD3	53:BU:22:LYS:HA	1.89	0.43
5:AE:74:GLY:HA3	5:AE:116:THR:OG1	2.18	0.43
1:AA:630:G:H2'	1:AA:631:G:O4'	2.19	0.43
1:AA:706:A:H1'	11:AK:29:ILE:HD11	2.00	0.43
42:BG:9:ARG:C	42:BG:11:TYR:H	2.22	0.43
36:BA:329:G:H1	57:BY:19:LYS:HE3	1.84	0.43
32:B6:27:LYS:HG3	32:B6:30:THR:CB	2.48	0.43
36:BA:1349:A:H5'	36:BA:1349:A:N3	2.33	0.43
1:AA:1202:G:H2'	1:AA:1203:C:C5'	2.46	0.43
36:BA:1058:G:N1	36:BA:1059:G:N7	2.66	0.43
36:BA:323:G:C2	36:BA:333:G:H1'	2.54	0.43
43:BH:85:LYS:HZ3	43:BH:132:ARG:C	2.17	0.43
36:BA:2170:A:H4'	38:BC:133:PRO:HB2	1.98	0.43
36:BA:2125:G:N2	36:BA:2173:A:H61	2.15	0.43
52:BT:92:GLY:O	52:BT:94:ALA:N	2.52	0.43
58:BZ:127:LYS:HG3	58:BZ:127:LYS:O	2.18	0.43
39:BD:85:ASP:OD1	39:BD:87:ASN:ND2	2.49	0.43
36:BA:2101:G:H2'	36:BA:2102:U:C4'	2.49	0.43
36:BA:2741:A:C2'	36:BA:2742:C:H5'	2.48	0.43
19:AS:9:VAL:CG1	19:AS:39:THR:HB	2.49	0.43
52:BT:83:ILE:CD1	52:BT:84:GLN:HG2	2.49	0.43
39:BD:32:SER:O	39:BD:36:PRO:CD	2.66	0.43
36:BA:1999:C:H5''	36:BA:2723:C:O2'	2.19	0.43
48:BP:23:PRO:C	48:BP:33:ARG:CZ	2.87	0.43
28:B2:64:LEU:HD23	28:B2:64:LEU:C	2.37	0.43
49:BQ:78:PRO:HD2	49:BQ:81:VAL:HG11	2.00	0.43
36:BA:1786:A:N1	36:BA:2606:C:O4'	2.52	0.43
9:AI:4:TYR:HA	9:AI:88:TYR:CD1	2.54	0.43
36:BA:1337:G:C4	36:BA:1338:G:C8	3.06	0.43
49:BQ:26:TYR:CD1	49:BQ:28:ALA:HB2	2.53	0.43
48:BP:115:LEU:CD2	48:BP:115:LEU:N	2.82	0.43
36:BA:2370:G:C6	36:BA:2371:G:C6	3.06	0.43
25:AZ:199:ILE:O	25:AZ:202:LEU:HB3	2.18	0.43
54:BV:16:PRO:HA	54:BV:96:ILE:O	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:AB:124:SER:OG	2:AB:125:PRO:HD2	2.18	0.43
53:BU:80:ILE:HG22	53:BU:80:ILE:O	2.19	0.43
6:AF:3:ARG:NH1	6:AF:38:GLU:OE1	2.51	0.43
37:BB:53:A:N7	37:BB:54:G:N7	2.67	0.43
2:AB:190:THR:O	2:AB:191:ASP:HB2	2.18	0.43
36:BA:710:G:H2'	36:BA:711:G:H8	1.83	0.43
49:BQ:39:PRO:O	49:BQ:40:ALA:CB	2.65	0.43
3:AC:84:ILE:O	3:AC:84:ILE:CG1	2.67	0.43
49:BQ:5:ARG:O	49:BQ:6:ARG:HG2	2.19	0.43
36:BA:2341:G:H2'	36:BA:2342:C:C6	2.54	0.43
36:BA:326:G:H2'	36:BA:327:G:O4'	2.19	0.43
1:AA:865:A:O2'	1:AA:866:C:H5'	2.18	0.43
25:AZ:306:LYS:HG2	25:AZ:307:PRO:HD2	1.99	0.43
1:AA:621:A:O2'	1:AA:622:A:H5'	2.19	0.43
17:AQ:90:ILE:O	17:AQ:93:GLN:HB3	2.18	0.43
17:AQ:89:LEU:O	17:AQ:93:GLN:N	2.52	0.43
12:AL:102:ARG:HG3	12:AL:102:ARG:NH1	2.33	0.43
36:BA:627:A:C6	36:BA:637:A:C8	3.07	0.43
11:AK:29:ILE:HG12	11:AK:29:ILE:O	2.19	0.43
4:AD:52:SER:O	4:AD:55:ALA:N	2.51	0.43
1:AA:783:C:O2'	1:AA:784:C:H5'	2.19	0.43
36:BA:781:A:H2	36:BA:1776:G:N3	2.15	0.43
6:AF:71:ARG:HG3	6:AF:71:ARG:HH11	1.84	0.43
1:AA:189(A):C:O2'	1:AA:189(B):C:H5'	2.18	0.43
42:BG:101:ILE:O	42:BG:104:GLU:HB3	2.18	0.43
41:BF:3:GLU:O	41:BF:19:GLU:CB	2.66	0.43
36:BA:301:G:C6	36:BA:317:G:C5	3.07	0.43
38:BC:30:LYS:HZ3	38:BC:178:ALA:HB1	1.80	0.43
47:BO:7:TYR:CE1	47:BO:20:MET:HB2	2.54	0.43
54:BV:55:ALA:HB1	54:BV:101:GLY:HA2	2.00	0.43
43:BH:83:TYR:CD1	43:BH:84:SER:N	2.87	0.43
52:BT:90:GLN:O	52:BT:91:ARG:C	2.57	0.43
58:BZ:35:ARG:CZ	58:BZ:35:ARG:HA	2.48	0.43
29:B3:8:LEU:HD12	29:B3:28:LEU:HB2	2.00	0.43
43:BH:65:HIS:CE1	43:BH:69:ARG:NH1	2.87	0.43
36:BA:1471:A:H2'	36:BA:1472:A:C8	2.54	0.43
40:BE:119:ARG:NH1	40:BE:158:GLY:HA3	2.34	0.43
36:BA:1052:C:O2'	36:BA:1053:C:P	2.76	0.43
41:BF:110:LEU:C	41:BF:110:LEU:HD13	2.39	0.43
34:B8:13:ARG:HD3	48:BP:61:ARG:O	2.19	0.43
20:AT:69:GLY:O	20:AT:73:HIS:CD2	2.71	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BA:1116:C:H2'	36:BA:1117:G:C8	2.46	0.43
48:BP:65:ARG:O	48:BP:68:GLN:OE1	2.36	0.43
36:BA:7:G:O2'	36:BA:8:A:H5'	2.19	0.43
7:AG:111:ARG:NH1	7:AG:111:ARG:HG2	2.33	0.43
7:AG:120:ILE:HG22	7:AG:124:LEU:HD12	2.00	0.43
36:BA:1495:A:C4	36:BA:1496:A:H2	2.36	0.43
40:BE:104:VAL:HG12	40:BE:105:THR:N	2.33	0.43
1:AA:174:C:O2'	1:AA:175:C:H5'	2.17	0.43
36:BA:1591:G:H8	36:BA:1591:G:H5'	1.84	0.43
28:B2:31:GLU:CB	28:B2:53:LEU:HD11	2.49	0.43
24:AY:76:A:N1	25:AZ:269:GLY:C	2.72	0.43
22:AW:43:C:H2'	22:AW:44:G:C1'	2.49	0.43
6:AF:14:LEU:HD13	6:AF:18:GLN:CB	2.49	0.43
36:BA:67:U:H2'	36:BA:68:G:H8	1.84	0.43
36:BA:2681:C:H5	36:BA:2725:A:H62	1.62	0.43
36:BA:2674:G:H2'	36:BA:2675:A:H8	1.84	0.43
27:B1:3:LYS:HB3	27:B1:4:VAL:H	1.60	0.43
46:BN:108:PRO:HG2	46:BN:113:GLY:CA	2.48	0.43
20:AT:93:GLU:CD	20:AT:94:ALA:N	2.72	0.43
1:AA:512:U:H2'	1:AA:513:C:C6	2.54	0.43
25:AZ:46:ASP:OD2	25:AZ:47:TYR:N	2.47	0.43
1:AA:909:A:H2'	1:AA:910:C:O4'	2.19	0.43
36:BA:2864:G:OP1	52:BT:119:LYS:HD2	2.19	0.43
19:AS:13:ASP:C	19:AS:15:LEU:N	2.72	0.43
1:AA:1106:G:O2'	1:AA:1107:C:H5'	2.19	0.43
25:AZ:107:SER:OG	25:AZ:137:LYS:NZ	2.41	0.43
36:BA:962:G:O2'	36:BA:963:U:H5'	2.19	0.43
50:BR:44:LEU:HD13	50:BR:44:LEU:O	2.17	0.43
45:BK:48:UNK:O	45:BK:49:UNK:CB	2.66	0.43
36:BA:1934:C:O2'	36:BA:1935:G:H5'	2.19	0.43
12:AL:104:VAL:O	12:AL:105:TYR:C	2.57	0.43
55:BW:50:VAL:HG13	55:BW:50:VAL:O	2.18	0.43
2:AB:214:ILE:O	2:AB:218:ALA:CB	2.67	0.43
4:AD:132:ARG:O	4:AD:132:ARG:HD2	2.18	0.43
34:B8:11:LYS:HG2	34:B8:11:LYS:O	2.19	0.43
3:AC:145:GLY:O	3:AC:146:ALA:O	2.37	0.43
9:AI:46:ALA:HB2	9:AI:74:ILE:HG23	2.01	0.43
4:AD:15:GLU:OE1	4:AD:59:ARG:NE	2.52	0.43
2:AB:220:ASP:OD1	2:AB:223:ILE:HD12	2.19	0.43
42:BG:105:LYS:HD2	42:BG:142:PRO:HG3	2.00	0.43
42:BG:159:VAL:HG13	42:BG:159:VAL:O	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:BG:7:LEU:O	42:BG:11:TYR:N	2.52	0.43
57:BY:32:PRO:O	57:BY:35:TYR:N	2.52	0.43
26:B0:12:ASN:HA	26:B0:14:ARG:HH12	1.84	0.43
36:BA:1598:C:C5'	56:BX:36:LYS:CD	2.97	0.43
36:BA:252:G:O2'	36:BA:253:C:H5'	2.19	0.43
48:BP:50:ARG:CG	48:BP:51:PHE:N	2.79	0.43
51:BS:13:ARG:O	51:BS:15:ARG:N	2.52	0.43
58:BZ:19:ARG:C	58:BZ:21:ALA:H	2.22	0.43
22:AW:19:G:C6	36:BA:2169:A:O2'	2.62	0.43
36:BA:2889:C:H2'	36:BA:2891:G:O4'	2.19	0.43
36:BA:272(I):U:O2'	36:BA:272(J):C:H5'	2.18	0.43
1:AA:1399:C:C2	1:AA:1502:A:N6	2.87	0.43
41:BF:195:ASP:O	41:BF:199:TRP:HB2	2.18	0.43
36:BA:600:G:H2'	36:BA:601:C:C6	2.54	0.43
1:AA:498:U:O2'	1:AA:499:A:P	2.77	0.43
34:B8:13:ARG:NH1	48:BP:59:LEU:HG	2.33	0.43
36:BA:2275:C:O2	49:BQ:85:LYS:CD	2.67	0.43
1:AA:254:G:OP1	17:AQ:67:LYS:O	2.37	0.43
41:BF:157:VAL:HG21	41:BF:194:MET:HG2	2.00	0.43
36:BA:1530:C:H6	36:BA:1530:C:O5'	2.02	0.43
4:AD:104:VAL:HA	4:AD:107:ARG:HB2	2.01	0.43
58:BZ:108:PRO:C	58:BZ:110:GLY:N	2.69	0.43
22:AV:14:A:N6	22:AV:21:A:C2	2.87	0.43
20:AT:57:ARG:HH11	20:AT:103:GLY:N	2.16	0.43
22:AV:72:C:C3'	22:AV:73:A:C5'	2.96	0.43
58:BZ:135:GLU:HB3	58:BZ:136:PHE:H	1.66	0.43
36:BA:78:A:H2'	36:BA:79:G:C8	2.53	0.43
36:BA:1248:G:P	41:BF:92:PRO:HG3	2.59	0.43
10:AJ:9:ARG:HG2	10:AJ:69:ASN:OD1	2.19	0.43
39:BD:44:ASN:HD22	39:BD:45:ASN:N	2.17	0.43
36:BA:647:G:N2	36:BA:2350:C:H4'	2.33	0.43
55:BW:17:VAL:O	55:BW:19:LEU:N	2.52	0.43
39:BD:118:VAL:CG2	39:BD:119:ALA:H	2.30	0.43
39:BD:117:VAL:CG2	39:BD:128:GLY:C	2.87	0.43
41:BF:64:ILE:HD12	41:BF:78:ILE:HG23	2.01	0.43
56:BX:47:PHE:C	56:BX:49:VAL:H	2.17	0.43
36:BA:1267:U:C5	36:BA:2012:G:N2	2.87	0.43
2:AB:7:VAL:HG13	2:AB:11:LEU:CD1	2.48	0.43
37:BB:17:C:O2'	37:BB:18:G:H5'	2.18	0.43
1:AA:1303:C:N4	1:AA:1304:G:C6	2.86	0.43
39:BD:197:GLY:C	39:BD:199:ALA:N	2.71	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:1134:G:C2	1:AA:1142:G:C6	3.06	0.43
6:AF:35:ALA:HB1	6:AF:65:VAL:CG1	2.49	0.43
9:AI:11:LYS:O	9:AI:11:LYS:CG	2.66	0.43
36:BA:324:A:N6	36:BA:338:G:O2'	2.52	0.43
25:AZ:248:LYS:O	25:AZ:267:VAL:HG21	2.19	0.43
35:B9:9:ARG:HD2	35:B9:16:VAL:CG2	2.49	0.43
36:BA:341:G:H2'	36:BA:342:G:H8	1.83	0.43
36:BA:536:A:OP1	53:BU:53:ARG:NH1	2.51	0.43
1:AA:153:C:N4	1:AA:168:G:H1	2.17	0.43
39:BD:52:ARG:HH11	39:BD:52:ARG:HD3	1.71	0.43
36:BA:919:G:N2	36:BA:2269:A:OP2	2.51	0.43
50:BR:104:ARG:HD3	50:BR:107:ASP:CG	2.39	0.43
1:AA:402:G:O2'	1:AA:403:C:H5'	2.18	0.43
9:AI:128:ARG:HG2	9:AI:128:ARG:OXT	2.19	0.43
5:AE:28:PHE:N	5:AE:28:PHE:CD1	2.87	0.43
1:AA:1354:C:O2'	1:AA:1355:G:H5'	2.18	0.43
47:BO:105:GLU:O	47:BO:109:LYS:CG	2.67	0.43
5:AE:95:ALA:O	5:AE:96:PRO:C	2.56	0.43
27:B1:14:VAL:HG12	27:B1:14:VAL:O	2.17	0.43
45:BK:24:UNK:O	45:BK:28:UNK:CB	2.67	0.43
42:BG:111:LEU:HD21	42:BG:179:PRO:CD	2.49	0.43
1:AA:1314:C:H2'	1:AA:1315:U:H6	1.84	0.43
58:BZ:38:TYR:O	58:BZ:38:TYR:CD1	2.72	0.43
22:AW:56:C:H2'	22:AW:57:G:C8	2.54	0.43
36:BA:2175:C:O4'	38:BC:215:THR:HG21	2.19	0.43
36:BA:2809:A:H2'	36:BA:2810:A:C8	2.53	0.43
37:BB:107:G:O2'	37:BB:108:U:H5'	2.18	0.43
36:BA:2840:C:H4'	50:BR:53:HIS:CD2	2.54	0.43
36:BA:272(I):U:C2'	36:BA:272(J):C:H5'	2.49	0.43
36:BA:1124:C:H2'	36:BA:1125:G:O4'	2.18	0.43
40:BE:119:ARG:HG3	40:BE:160:TYR:CD2	2.53	0.43
1:AA:66:G:C4'	1:AA:173:U:C5	2.98	0.43
58:BZ:153:SER:H	58:BZ:167:PRO:HB2	1.84	0.43
41:BF:130:ALA:HB3	41:BF:142:TRP:HD1	1.84	0.43
33:B7:38:GLY:O	36:BA:458:G:C5'	2.58	0.43
36:BA:2645:G:H8	36:BA:2645:G:OP2	2.02	0.43
42:BG:88:ILE:HG22	42:BG:89:GLY:N	2.34	0.43
15:AO:24:SER:O	15:AO:25:THR:C	2.58	0.43
36:BA:1614:A:H2'	36:BA:1615:C:C5'	2.39	0.43
25:AZ:139:ASP:O	25:AZ:140:MET:HE2	2.19	0.43
2:AB:36:ARG:HH11	2:AB:36:ARG:HG3	1.84	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:179:A:O2'	1:AA:180:U:H5'	2.18	0.43
36:BA:1331:A:O2'	36:BA:1332:G:H5''	2.19	0.43
36:BA:191:A:O2'	36:BA:192:C:C5'	2.66	0.43
49:BQ:32:TYR:CD1	49:BQ:32:TYR:N	2.86	0.43
36:BA:139:G:C6	36:BA:140:G:H2'	2.53	0.43
36:BA:2552:U:H2'	36:BA:2554:U:H5''	2.01	0.43
25:AZ:290:LEU:HD12	25:AZ:298:VAL:HG21	2.01	0.43
39:BD:75:ILE:HG21	39:BD:99:ASP:HB2	2.00	0.43
17:AQ:5:VAL:HA	17:AQ:59:ILE:O	2.19	0.43
36:BA:1218:C:H2'	36:BA:1218:C:O2	2.17	0.43
16:AP:8:ARG:CB	16:AP:28:ARG:HH22	2.32	0.43
58:BZ:11:GLU:CD	58:BZ:11:GLU:N	2.71	0.43
55:BW:91:GLY:O	55:BW:92:ARG:O	2.36	0.43
36:BA:736:C:O2'	36:BA:737:C:H5'	2.19	0.43
24:AY:54:5MU:H2'	24:AY:55:PSU:O4'	2.19	0.43
36:BA:1429:G:H2'	36:BA:1430:C:H6	1.82	0.43
1:AA:84:U:H2'	1:AA:88:A:H5'	2.00	0.43
36:BA:1790:C:H2'	36:BA:1791:A:C5	2.54	0.43
1:AA:439:A:H2'	1:AA:441:A:O4'	2.18	0.43
1:AA:186:C:C2	1:AA:187:C:C5	3.07	0.43
28:B2:29:LYS:O	28:B2:32:LEU:N	2.51	0.43
2:AB:74:LYS:O	2:AB:76:GLN:N	2.52	0.43
36:BA:2284:C:H2'	36:BA:2285:C:C6	2.48	0.42
34:B8:30:ARG:NH1	36:BA:2419:U:O4	2.51	0.42
26:B0:14:ARG:CG	26:B0:14:ARG:NH1	2.81	0.42
38:BC:3:HIS:O	38:BC:8:ARG:HG3	2.18	0.42
53:BU:95:LEU:HD12	54:BV:11:GLN:NE2	2.32	0.42
38:BC:132:GLY:N	38:BC:133:PRO:HD3	2.33	0.42
36:BA:2124:G:N2	38:BC:217:THR:O	2.52	0.42
36:BA:2478:A:C2'	36:BA:2479:G:H5'	2.49	0.42
1:AA:1004:A:C5'	1:AA:1025:U:O4	2.66	0.42
36:BA:970:C:H2'	36:BA:971:C:H6	1.83	0.42
36:BA:2726:U:H6	47:BO:67:LYS:NZ	2.17	0.42
43:BH:18:GLU:CB	43:BH:25:LYS:HB2	2.48	0.42
51:BS:85:VAL:HG22	51:BS:106:ARG:HB2	1.99	0.42
36:BA:622:G:C2'	36:BA:623:G:H5'	2.48	0.42
36:BA:1253:A:C3'	36:BA:1254:A:H5'	2.48	0.42
4:AD:121:VAL:O	4:AD:134:ASP:HA	2.18	0.42
27:B1:29:GLY:O	27:B1:30:VAL:CG2	2.65	0.42
36:BA:1227:G:H5'	53:BU:13:LYS:HZ2	1.83	0.42
58:BZ:119:GLU:HG2	58:BZ:122:ARG:HH11	1.82	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BA:1013:C:C2'	36:BA:1014:U:H5'	2.50	0.42
52:BT:62:THR:HG22	52:BT:75:ILE:HG13	2.01	0.42
5:AE:82:VAL:HG21	5:AE:138:ALA:CA	2.49	0.42
8:AH:77:GLU:OE2	8:AH:81:HIS:NE2	2.46	0.42
46:BN:45:ASN:N	46:BN:45:ASN:HD22	2.15	0.42
36:BA:847:U:OP2	36:BA:928:G:O6	2.36	0.42
36:BA:29:U:H2'	36:BA:30:G:H8	1.84	0.42
3:AC:3:ASN:OD1	3:AC:3:ASN:N	2.52	0.42
1:AA:1497:G:C2'	1:AA:1498:U:H5'	2.49	0.42
1:AA:1006:C:H2'	1:AA:1007:C:C6	2.54	0.42
36:BA:752:A:HO2'	36:BA:753:C:P	2.39	0.42
36:BA:2199:A:C5'	36:BA:2200:C:OP2	2.66	0.42
36:BA:1490:A:C2	39:BD:75:ILE:HD12	2.54	0.42
1:AA:1371:G:OP2	9:AI:11:LYS:HD2	2.19	0.42
36:BA:2854:G:O2'	36:BA:2855:C:H5'	2.18	0.42
36:BA:1636:C:H2'	36:BA:1637:A:H8	1.83	0.42
5:AE:60:TYR:CZ	5:AE:64:ARG:NH2	2.86	0.42
1:AA:666:G:H5'	1:AA:726:C:H1'	2.01	0.42
5:AE:75:THR:HB	5:AE:117:ASP:O	2.19	0.42
1:AA:256:U:H5'	17:AQ:17:LYS:NZ	2.34	0.42
1:AA:537:G:H2'	1:AA:538:G:H8	1.84	0.42
36:BA:2768:C:O2'	36:BA:2769:C:H5'	2.19	0.42
42:BG:8:LYS:O	42:BG:11:TYR:HB3	2.19	0.42
42:BG:15:VAL:HG12	42:BG:19:LEU:HD11	2.01	0.42
42:BG:60:LEU:O	42:BG:60:LEU:HD13	2.20	0.42
32:B6:25:LYS:HE2	34:B8:34:TRP:HE1	1.83	0.42
32:B6:15:GLU:OE1	32:B6:18:ARG:CG	2.66	0.42
24:AY:77:TRP:NE1	25:AZ:67:HIS:CD2	2.87	0.42
10:AJ:57:LYS:O	10:AJ:57:LYS:HD2	2.19	0.42
24:AY:4:G:C3'	24:AY:5:G:H5''	2.48	0.42
2:AB:17:PHE:H	2:AB:17:PHE:HD2	1.66	0.42
36:BA:2166:G:H2'	36:BA:2167:U:C6	2.54	0.42
36:BA:2167:U:N3	36:BA:2171:A:N6	2.64	0.42
36:BA:2125:G:O4'	38:BC:217:THR:HG23	2.19	0.42
36:BA:2787:C:H1'	40:BE:61:ARG:HD3	2.00	0.42
52:BT:88:ILE:HG22	52:BT:89:VAL:HG23	1.99	0.42
29:B3:31:LEU:O	29:B3:32:GLN:CB	2.66	0.42
10:AJ:6:ILE:CD1	10:AJ:23:ILE:HG21	2.48	0.42
52:BT:83:ILE:CG1	52:BT:84:GLN:HG2	2.48	0.42
36:BA:1169:G:H2'	36:BA:1170:G:O4'	2.17	0.42
40:BE:181:LEU:HD21	52:BT:7:ILE:HG23	2.02	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
39:BD:261:LYS:HZ2	39:BD:263:ARG:CZ	2.30	0.42
19:AS:29:ARG:O	19:AS:31:ILE:N	2.53	0.42
36:BA:747:U:O3'	55:BW:89:ALA:HB3	2.19	0.42
4:AD:175:SER:OG	4:AD:184:LYS:HB2	2.18	0.42
36:BA:1756:G:H4'	36:BA:1758:G:O4'	2.19	0.42
18:AR:45:SER:OG	18:AR:46:GLU:N	2.49	0.42
36:BA:1291:C:C2'	36:BA:1292:U:C5'	2.95	0.42
20:AT:57:ARG:CZ	20:AT:102:GLY:HA3	2.50	0.42
36:BA:1152:C:H2'	36:BA:1153:C:H6	1.84	0.42
22:AW:39:U:O4'	22:AW:39:U:O2	2.36	0.42
25:AZ:27:LEU:O	25:AZ:31:LEU:HG	2.19	0.42
1:AA:17:U:H2'	1:AA:18:C:H6	1.80	0.42
39:BD:108:PRO:HB3	39:BD:143:HIS:CE1	2.54	0.42
1:AA:1152:A:OP1	10:AJ:68:HIS:CD2	2.70	0.42
25:AZ:332:THR:HB	25:AZ:333:GLY:H	1.54	0.42
1:AA:625:G:H2'	1:AA:626:U:C6	2.53	0.42
51:BS:87:PHE:CD2	51:BS:88:ASP:N	2.83	0.42
39:BD:118:VAL:CG2	39:BD:119:ALA:N	2.81	0.42
25:AZ:257:GLY:O	25:AZ:258:LEU:HB2	2.19	0.42
41:BF:125:LEU:CD2	41:BF:125:LEU:N	2.80	0.42
17:AQ:62:SER:HB2	17:AQ:72:ARG:HG3	2.01	0.42
42:BG:40:ASN:HB2	42:BG:91:ARG:HB2	2.00	0.42
37:BB:16:G:O2'	37:BB:17:C:H6	1.99	0.42
1:AA:692:U:OP1	11:AK:124:LYS:HE2	2.19	0.42
1:AA:389:A:N3	1:AA:389:A:H2'	2.33	0.42
52:BT:121:ILE:HG22	52:BT:122:ASP:N	2.34	0.42
1:AA:735:C:H2'	1:AA:736:C:C6	2.53	0.42
1:AA:866:C:H2'	1:AA:867:G:O4'	2.19	0.42
1:AA:949:A:C2	1:AA:1233:G:N3	2.88	0.42
11:AK:89:ALA:C	11:AK:91:ARG:H	2.22	0.42
36:BA:402:A:C2'	36:BA:403:U:H5'	2.48	0.42
5:AE:71:LEU:HD13	5:AE:114:GLY:O	2.20	0.42
54:BV:89:GLN:OE1	54:BV:89:GLN:HA	2.19	0.42
1:AA:1070:U:H2'	1:AA:1071:C:C6	2.54	0.42
36:BA:692:C:C5'	39:BD:42:GLY:H	2.32	0.42
1:AA:46:G:O2'	1:AA:365:U:H1'	2.19	0.42
36:BA:909:A:H2'	36:BA:912:C:C5	2.53	0.42
25:AZ:219:LYS:HB3	25:AZ:220:PRO:HD2	2.00	0.42
41:BF:20:LEU:C	41:BF:23:ASP:OD2	2.57	0.42
32:B6:11:LEU:HA	32:B6:11:LEU:HD22	1.83	0.42
56:BX:52:VAL:CG2	56:BX:84:ALA:HA	2.49	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:AZ:93:ILE:CG1	25:AZ:122:LEU:HD13	2.50	0.42
58:BZ:7:ALA:HB3	58:BZ:61:LEU:CD2	2.49	0.42
2:AB:200:ILE:HG22	2:AB:202:PRO:HD3	2.00	0.42
51:BS:54:LEU:O	51:BS:56:LEU:N	2.52	0.42
37:BB:104:U:O2'	58:BZ:72:ARG:HD2	2.19	0.42
58:BZ:102:LEU:HD21	58:BZ:124:ILE:CG1	2.50	0.42
19:AS:45:VAL:HA	19:AS:62:ILE:HG13	2.00	0.42
19:AS:61:TYR:O	19:AS:62:ILE:CB	2.66	0.42
10:AJ:27:ALA:HA	10:AJ:30:SER:OG	2.19	0.42
1:AA:858:G:N1	1:AA:869:G:C8	2.87	0.42
10:AJ:32:ALA:HB2	10:AJ:76:ASN:HB2	2.00	0.42
40:BE:14:ILE:HG13	40:BE:21:VAL:HG23	2.00	0.42
1:AA:1216:G:OP2	14:AN:2:ALA:HB2	2.20	0.42
36:BA:1615:C:H2'	36:BA:1617:C:C5	2.54	0.42
39:BD:209:ALA:C	39:BD:210:GLY:O	2.53	0.42
25:AZ:171:ILE:HG12	25:AZ:202:LEU:HA	2.01	0.42
36:BA:1351:C:H2'	36:BA:1352:U:C6	2.54	0.42
42:BG:76:SER:HB3	42:BG:83:ARG:CB	2.45	0.42
36:BA:236:C:H2'	36:BA:237:C:C6	2.54	0.42
1:AA:1152:A:H2'	1:AA:1153:C:H6	1.83	0.42
50:BR:12:ARG:HD3	50:BR:16:HIS:HD2	1.83	0.42
30:B4:18:CYS:SG	30:B4:19:GLY:N	2.93	0.42
36:BA:1106:G:C2'	36:BA:1107:G:H5'	2.49	0.42
52:BT:121:ILE:O	52:BT:124:ASP:HB2	2.18	0.42
5:AE:63:ARG:O	5:AE:64:ARG:CB	2.67	0.42
11:AK:25:TYR:CE1	11:AK:87:THR:HB	2.52	0.42
36:BA:2796:U:C2'	36:BA:2799:C:H5'	2.49	0.42
2:AB:59:GLU:CA	2:AB:221:LEU:HD11	2.48	0.42
1:AA:413:G:H1'	1:AA:428:G:N2	2.34	0.42
42:BG:168:GLU:O	42:BG:169:ALA:C	2.58	0.42
9:AI:82:ALA:C	9:AI:84:ALA:N	2.73	0.42
3:AC:112:SER:OG	3:AC:115:LEU:HG	2.20	0.42
36:BA:2704:C:H2'	36:BA:2705:A:O4'	2.20	0.42
36:BA:286:C:H42	36:BA:355:G:H1	1.68	0.42
1:AA:731:G:H5'	1:AA:766:A:H4'	2.01	0.42
43:BH:135:GLY:HA3	43:BH:141:VAL:HG22	2.01	0.42
12:AL:82:VAL:O	12:AL:106:ASP:HB2	2.18	0.42
36:BA:2059:A:O3'	41:BF:69:HIS:HA	2.19	0.42
1:AA:314:C:O2'	1:AA:315:A:H5'	2.19	0.42
36:BA:210:C:H2'	36:BA:211:A:C8	2.54	0.42
36:BA:955:C:N4	36:BA:956:G:C5	2.87	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:AE:24:ARG:HG2	5:AE:24:ARG:HH11	1.85	0.42
50:BR:111:LEU:HD12	50:BR:111:LEU:N	2.35	0.42
15:AO:21:ASP:OD2	15:AO:21:ASP:C	2.57	0.42
36:BA:2456:C:O2'	36:BA:2457:U:H5'	2.19	0.42
42:BG:109:VAL:HG21	42:BG:142:PRO:HB3	2.02	0.42
53:BU:27:LEU:C	53:BU:29:SER:H	2.21	0.42
34:B8:33:ASN:HD22	36:BA:2419:U:H5''	1.81	0.42
34:B8:30:ARG:CZ	36:BA:2419:U:O4	2.66	0.42
32:B6:20:ASN:OD1	32:B6:21:TYR:N	2.52	0.42
32:B6:53:LYS:CG	32:B6:54:ILE:N	2.83	0.42
1:AA:1060:C:C5	3:AC:2:GLY:CA	3.02	0.42
1:AA:1313:U:C2	1:AA:1314:C:C5	3.07	0.42
19:AS:10:PHE:CE2	19:AS:37:ARG:O	2.72	0.42
40:BE:49:LEU:HD22	40:BE:49:LEU:N	2.34	0.42
38:BC:161:ILE:HD13	38:BC:173:ALA:CB	2.40	0.42
51:BS:101:LEU:C	51:BS:102:ALA:O	2.58	0.42
36:BA:2894:G:N3	36:BA:2894:G:H2'	2.35	0.42
29:B3:26:LEU:CD2	29:B3:43:ILE:HG23	2.49	0.42
36:BA:2476:A:O2'	36:BA:2477:C:H5''	2.18	0.42
43:BH:50:VAL:CG1	43:BH:51:ARG:N	2.80	0.42
41:BF:8:GLN:HG3	41:BF:9:ILE:N	2.35	0.42
42:BG:61:ALA:HB2	42:BG:68:PRO:HD3	2.01	0.42
43:BH:17:VAL:CG1	43:BH:18:GLU:N	2.81	0.42
41:BF:107:LYS:O	41:BF:109:GLY:N	2.52	0.42
50:BR:38:VAL:HB	50:BR:39:PRO:CD	2.36	0.42
36:BA:2014:A:H2'	36:BA:2015:A:C8	2.54	0.42
26:B0:7:LEU:HD13	49:BQ:85:LYS:HG3	2.01	0.42
25:AZ:195:TRP:O	25:AZ:198:LYS:HB2	2.20	0.42
36:BA:631:A:H5''	48:BP:65:ARG:HH11	1.80	0.42
7:AG:77:SER:HB2	7:AG:84:ASN:ND2	2.32	0.42
9:AI:9:ARG:HG3	9:AI:14:VAL:HG13	2.02	0.42
42:BG:81:LYS:HB3	42:BG:82:LEU:H	1.59	0.42
36:BA:85:G:N2	36:BA:103:A:C2	2.85	0.42
27:B1:37:ILE:HD12	27:B1:37:ILE:C	2.39	0.42
25:AZ:34:VAL:HG21	25:AZ:199:ILE:CG2	2.44	0.42
36:BA:1720:U:H2'	36:BA:1721:G:H5''	2.01	0.42
25:AZ:35:THR:HG22	25:AZ:203:LEU:HD13	2.00	0.42
40:BE:154:LYS:O	40:BE:156:MET:HG3	2.20	0.42
39:BD:142:VAL:HG21	39:BD:191:ALA:CB	2.49	0.42
3:AC:70:VAL:HG12	3:AC:72:LYS:N	2.33	0.42
51:BS:93:LYS:HA	51:BS:93:LYS:HD2	1.74	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BA:288:C:H2'	36:BA:288:C:O2	2.19	0.42
15:AO:70:LEU:HD12	15:AO:70:LEU:HA	1.82	0.42
1:AA:1032:G:H2'	1:AA:1033:G:H8	1.82	0.42
41:BF:43:LYS:HA	41:BF:98:SER:HA	2.00	0.42
20:AT:10:LEU:O	20:AT:13:LEU:CD2	2.68	0.42
41:BF:65:TRP:CH2	41:BF:75:HIS:HD2	2.38	0.42
36:BA:645:C:C2'	36:BA:645:C:O2	2.66	0.42
38:BC:116:THR:H	38:BC:119:VAL:CG2	2.31	0.42
11:AK:115:PRO:C	11:AK:117:ASN:H	2.23	0.42
41:BF:28:ILE:HD13	41:BF:28:ILE:H	1.83	0.42
36:BA:2111:C:H1'	36:BA:2118:U:H4'	2.00	0.42
20:AT:86:ARG:O	20:AT:90:GLN:HG2	2.18	0.42
39:BD:182:LEU:HB2	39:BD:272:ALA:HB3	2.00	0.42
36:BA:271(H):G:HO2'	36:BA:271(I):G:P	2.43	0.42
3:AC:73:PRO:O	3:AC:76:VAL:HG22	2.20	0.42
36:BA:1431:U:H2'	36:BA:1432:C:O4'	2.19	0.42
36:BA:1005:C:H2'	36:BA:1006:C:C6	2.55	0.42
45:BK:5:UNK:O	45:BK:6:UNK:C	2.67	0.42
36:BA:1445(A):C:H2'	36:BA:1446:C:H6	1.85	0.42
36:BA:443:A:N7	41:BF:45:ARG:HG2	2.34	0.42
1:AA:356:A:C2	1:AA:368:U:O2	2.72	0.42
42:BG:99:MET:O	42:BG:103:LEU:HB2	2.20	0.42
36:BA:527:C:N4	36:BA:2779:U:OP2	2.53	0.42
57:BY:81:LYS:HZ3	57:BY:99:CYS:HB2	1.83	0.42
1:AA:1320:C:H41	19:AS:37:ARG:HB3	1.84	0.42
40:BE:47:VAL:CG2	40:BE:85:ASN:HA	2.49	0.42
25:AZ:12:VAL:HG13	25:AZ:100:ASP:OD2	2.20	0.42
46:BN:1:MET:SD	46:BN:2:LYS:N	2.93	0.42
54:BV:3:ALA:O	54:BV:13:ARG:HA	2.20	0.42
38:BC:49:ILE:HG21	38:BC:208:PHE:CE1	2.54	0.42
52:BT:28:VAL:HG12	52:BT:29:ARG:HD3	2.00	0.42
36:BA:857:C:C4	36:BA:858:U:C4	3.07	0.42
36:BA:2102:U:H2'	36:BA:2103:C:C1'	2.49	0.42
36:BA:1274:A:C2	36:BA:1302:A:C2	3.08	0.42
36:BA:2641:G:C8	36:BA:2641:G:C5'	2.96	0.42
2:AB:19:HIS:O	2:AB:39:ILE:CG2	2.65	0.42
48:BP:25:SER:O	48:BP:27:HIS:N	2.51	0.42
36:BA:2679:A:H5'	40:BE:165:VAL:HG21	2.01	0.42
20:AT:26:ASN:CB	20:AT:71:THR:OG1	2.65	0.42
41:BF:176:LEU:HB3	41:BF:177:ALA:H	1.59	0.42
36:BA:631:A:OP1	48:BP:64:LYS:HE2	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:BP:112:LEU:O	48:BP:127:ALA:HB1	2.20	0.42
51:BS:48:LEU:CD1	51:BS:48:LEU:H	2.32	0.42
5:AE:13:ILE:HA	5:AE:29:GLY:O	2.19	0.42
17:AQ:52:LYS:O	17:AQ:55:ASP:OD1	2.37	0.42
13:AM:23:TYR:C	13:AM:23:TYR:HD1	2.22	0.42
7:AG:18:TYR:CG	7:AG:59:LEU:HD13	2.55	0.42
40:BE:132:HIS:CG	40:BE:135:HIS:CE1	3.07	0.42
3:AC:36:ASP:OD2	3:AC:59:ARG:NH2	2.52	0.42
36:BA:235:U:H2'	36:BA:236:C:H6	1.84	0.42
46:BN:6:PRO:CB	46:BN:41:ASP:OD1	2.66	0.42
53:BU:31:SER:C	53:BU:33:ARG:H	2.22	0.42
4:AD:150:GLU:C	4:AD:152:SER:H	2.23	0.42
39:BD:117:VAL:HG21	39:BD:128:GLY:CA	2.50	0.42
1:AA:1228:C:H4'	13:AM:116:THR:HA	2.00	0.42
49:BQ:101:ARG:HH11	49:BQ:101:ARG:CG	2.32	0.42
36:BA:2572:A:C8	40:BE:144:ARG:HB3	2.54	0.42
16:AP:8:ARG:HB2	16:AP:28:ARG:NH2	2.35	0.42
36:BA:1914:C:O4'	36:BA:1914:C:O2	2.36	0.42
36:BA:1963:U:C2'	36:BA:1963:U:O2	2.65	0.42
36:BA:1644:C:C2'	36:BA:1644:C:O2	2.67	0.42
40:BE:176:ILE:HG22	40:BE:178:GLU:CB	2.50	0.42
43:BH:33:LEU:HD12	43:BH:75:ALA:CA	2.47	0.42
58:BZ:30:ASN:HA	58:BZ:89:PHE:CE2	2.53	0.42
36:BA:2881:C:O2'	36:BA:2882:A:H5'	2.19	0.42
36:BA:1576:U:H2'	36:BA:1577:C:H6	1.84	0.42
6:AF:48:LEU:HD13	6:AF:52:ILE:CD1	2.49	0.42
8:AH:27:PRO:HG3	8:AH:58:TYR:CE2	2.54	0.42
3:AC:188:LEU:CD1	3:AC:195:VAL:CG1	2.98	0.42
49:BQ:58:PHE:CD1	49:BQ:58:PHE:O	2.73	0.42
1:AA:728:A:H2'	1:AA:729:A:C8	2.54	0.42
10:AJ:44:VAL:HG12	10:AJ:45:ARG:N	2.34	0.42
20:AT:72:LEU:HD11	20:AT:80:ARG:HE	1.83	0.42
36:BA:284:U:O2'	36:BA:285:C:H5'	2.20	0.42
26:B0:32:ARG:O	26:B0:35:ASN:HB2	2.19	0.42
22:AW:34:G:O2'	22:AW:35:A:H5'	2.18	0.42
44:BJ:114:UNK:O	44:BJ:115:UNK:CB	2.67	0.42
1:AA:143:A:H2	1:AA:220:G:H1	1.67	0.42
55:BW:75:TYR:N	55:BW:75:TYR:CD1	2.88	0.42
25:AZ:174:SER:OG	25:AZ:177:LEU:HB2	2.19	0.42
1:AA:291:C:O2'	1:AA:292:G:H5'	2.19	0.42
32:B6:10:LEU:CD1	34:B8:34:TRP:CD1	3.02	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
57:BY:20:TYR:HB3	57:BY:23:ARG:HG3	2.02	0.42
38:BC:64:LEU:HD22	38:BC:188:ASN:HB3	2.02	0.42
32:B6:26:ASN:HD22	32:B6:32:ASN:CG	2.17	0.42
56:BX:10:ALA:O	56:BX:28:PHE:HB3	2.19	0.42
1:AA:1269:A:C2	1:AA:1313:U:HI'	2.55	0.42
58:BZ:8:TYR:CD1	58:BZ:8:TYR:N	2.86	0.42
36:BA:2163:C:OP1	36:BA:2172:U:H5	2.02	0.42
38:BC:86:ALA:O	38:BC:91:ALA:HB3	2.19	0.42
52:BT:50:ILE:N	52:BT:50:ILE:HD12	2.35	0.42
36:BA:2476:A:C2	36:BA:2477:C:C6	3.02	0.42
1:AA:1139:G:C5'	1:AA:1140:C:OP1	2.63	0.42
36:BA:1816:G:N7	39:BD:62:TYR:CE1	2.88	0.42
36:BA:259:G:N2	36:BA:621:A:C8	2.75	0.42
36:BA:2206:G:H3'	36:BA:2207:G:C5'	2.49	0.42
48:BP:112:LEU:HD13	48:BP:112:LEU:O	2.19	0.42
36:BA:723:G:H2'	36:BA:724:U:O4'	2.20	0.42
36:BA:1495:A:N3	36:BA:1496:A:H2	2.13	0.42
31:B5:20:ARG:O	31:B5:23:HIS:HB2	2.19	0.42
55:BW:1:MET:HE1	55:BW:62:HIS:HB3	2.01	0.42
11:AK:52:GLY:N	11:AK:55:LYS:CE	2.76	0.42
42:BG:133:LEU:HD12	42:BG:157:ILE:HB	2.00	0.42
16:AP:45:THR:HG22	16:AP:47:ASP:CB	2.48	0.42
38:BC:99:ILE:HD12	38:BC:102:LYS:HZ2	1.84	0.42
21:AU:10:ARG:O	21:AU:11:GLY:C	2.58	0.42
27:B1:8:SER:HB3	27:B1:66:HIS:CD2	2.54	0.42
1:AA:1030:C:N4	1:AA:1032:G:N2	2.67	0.42
27:B1:48:LYS:HE3	27:B1:59:THR:CB	2.50	0.42
36:BA:1853:A:H2'	36:BA:1854:A:C8	2.55	0.42
39:BD:72:LYS:NZ	39:BD:75:ILE:HG13	2.33	0.42
48:BP:45:LEU:CD2	48:BP:46:LYS:H	2.32	0.42
7:AG:91:VAL:O	7:AG:92:SER:C	2.58	0.42
25:AZ:344:PHE:HD2	25:AZ:384:LEU:HD23	1.84	0.42
29:B3:54:VAL:CG1	29:B3:55:ARG:N	2.81	0.42
36:BA:438:G:H2'	36:BA:440:G:H8	1.85	0.42
18:AR:36:ASN:C	18:AR:38:GLU:N	2.73	0.42
1:AA:443:C:H2'	1:AA:444:C:C6	2.55	0.42
58:BZ:115:GLY:HA2	58:BZ:175:VAL:O	2.18	0.42
40:BE:103:ASP:OD2	40:BE:168:MET:HE2	2.20	0.42
2:AB:82:ARG:HH11	2:AB:82:ARG:HG2	1.83	0.42
36:BA:1837:C:O2	36:BA:1927:A:H2	2.02	0.42
36:BA:1304:C:O2'	36:BA:1305:C:H5'	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:1055:A:H2'	3:AC:156:ARG:HD2	2.01	0.42
1:AA:823:G:H2'	1:AA:824:C:C6	2.55	0.42
25:AZ:329:GLY:O	25:AZ:393:ARG:NE	2.53	0.42
36:BA:1818:U:H2'	39:BD:157:ARG:HG3	2.02	0.42
36:BA:486:C:H2'	36:BA:487:C:C6	2.50	0.42
1:AA:971:G:H5''	1:AA:972:C:H5''	2.01	0.42
58:BZ:18:LEU:CD2	58:BZ:18:LEU:H	2.33	0.42
36:BA:323:G:O2'	36:BA:1205:U:N3	2.51	0.42
26:B0:27:GLU:OE1	36:BA:856:C:H1'	2.19	0.42
2:AB:69:LEU:HB2	2:AB:159:PRO:HG2	2.01	0.42
33:B7:12:ARG:HG3	36:BA:686:G:O6	2.19	0.42
38:BC:70:LYS:CE	38:BC:177:LYS:HZ3	2.32	0.42
1:AA:1002:G:H8	1:AA:1002:G:O5'	2.02	0.42
1:AA:1003:G:O2'	1:AA:1004:A:H4'	2.18	0.42
1:AA:93:G:H3'	1:AA:96:U:C5	2.54	0.42
52:BT:35:LYS:HZ1	52:BT:41:ARG:HD2	1.84	0.42
1:AA:663:A:O2'	1:AA:664:G:H5'	2.19	0.42
36:BA:662:G:P	48:BP:18:ARG:HD2	2.60	0.42
4:AD:118:ARG:O	4:AD:119:GLN:C	2.58	0.42
36:BA:2657:A:N3	36:BA:2657:A:H5'	2.35	0.42
48:BP:39:LYS:CD	48:BP:40:SER:N	2.83	0.42
9:AI:4:TYR:HD2	9:AI:85:LEU:HA	1.85	0.42
48:BP:112:LEU:C	48:BP:112:LEU:HD22	2.40	0.42
46:BN:65:LYS:HD3	46:BN:69:GLN:HE21	1.84	0.42
36:BA:1495:A:C2	36:BA:1496:A:C2	3.08	0.42
52:BT:62:THR:HA	52:BT:74:ARG:O	2.20	0.42
1:AA:966:G:O2'	1:AA:967:C:H5'	2.20	0.42
49:BQ:108:GLY:HA3	58:BZ:116:VAL:HG11	2.01	0.42
36:BA:2712:U:HO2'	36:BA:2712(A):A:H3'	1.84	0.42
3:AC:82:GLU:HB2	3:AC:83:ARG:H	1.70	0.42
48:BP:121:LYS:HA	48:BP:122:PRO:HD3	1.91	0.42
36:BA:1386:C:O2'	36:BA:1387:C:H5'	2.20	0.42
39:BD:79:VAL:N	39:BD:115:GLN:O	2.52	0.42
36:BA:1042:G:N2	36:BA:1043:C:H1'	2.35	0.42
43:BH:76:VAL:HG12	43:BH:77:LYS:N	2.34	0.42
6:AF:8:ILE:CD1	6:AF:26:ILE:HD13	2.48	0.42
25:AZ:302:GLN:HB3	25:AZ:302:GLN:HE21	1.69	0.42
22:AV:12:U:H5''	36:BA:1908:C:O2'	2.20	0.42
1:AA:1402:C:O2	1:AA:1500:A:N1	2.52	0.42
36:BA:890:A:H2'	36:BA:892:G:O4'	2.20	0.42
46:BN:137:LYS:HB3	46:BN:138:LEU:H	1.56	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BA:2443:C:O2'	36:BA:2444:G:H5'	2.20	0.42
1:AA:1231:G:C6	1:AA:1232:U:C4	3.08	0.42
42:BG:40:ASN:OD1	42:BG:156:ASP:HB2	2.19	0.42
25:AZ:342:PHE:O	25:AZ:348:ASP:HA	2.19	0.42
5:AE:147:ASP:CA	5:AE:150:ARG:NH1	2.82	0.42
10:AJ:20:ALA:O	10:AJ:22:LYS:N	2.51	0.42
25:AZ:248:LYS:HB2	25:AZ:248:LYS:HZ2	1.85	0.42
14:AN:15:LYS:HD3	14:AN:16:PHE:CE2	2.55	0.42
27:B1:23:LYS:CD	27:B1:28:GLY:HA3	2.49	0.42
28:B2:61:LEU:O	28:B2:62:THR:C	2.57	0.42
36:BA:2822:G:OP1	40:BE:159:HIS:NE2	2.52	0.42
36:BA:2092:U:C5	36:BA:2226:C:OP2	2.73	0.42
25:AZ:106:VAL:HG12	25:AZ:107:SER:N	2.34	0.42
13:AM:65:LYS:O	13:AM:65:LYS:HG3	2.20	0.42
36:BA:2484:G:O2'	36:BA:2485:G:H5'	2.20	0.42
40:BE:201:THR:OG1	40:BE:202:LYS:N	2.52	0.42
37:BB:68:C:O2'	37:BB:69:G:H5'	2.19	0.42
25:AZ:351:GLY:HA3	25:AZ:374:LEU:HD23	2.01	0.42
44:BJ:48:UNK:O	44:BJ:49:UNK:CB	2.66	0.42
42:BG:167:GLU:O	42:BG:170:ARG:HB3	2.19	0.42
36:BA:972:G:OP2	36:BA:974:G:H5''	2.20	0.42
17:AQ:53:LEU:HD23	17:AQ:53:LEU:C	2.40	0.42
36:BA:2568:C:H6	36:BA:2568:C:O5'	2.03	0.42
36:BA:2453:A:O2'	36:BA:2454:G:H5'	2.20	0.42
36:BA:1787:A:O4'	36:BA:2589:A:H4'	2.20	0.42
36:BA:1553:A:H2'	36:BA:1554:A:H5''	2.02	0.42
57:BY:43:ASN:HB3	57:BY:64:GLU:CA	2.30	0.42
38:BC:11:LEU:HD23	38:BC:220:PRO:CB	2.49	0.42
56:BX:13:LEU:O	56:BX:14:SER:HB3	2.19	0.42
56:BX:50:LYS:HG3	56:BX:51:VAL:N	2.34	0.42
10:AJ:55:LYS:HE3	10:AJ:55:LYS:CA	2.49	0.42
1:AA:1269:A:H2	1:AA:1325:C:O2	2.01	0.42
36:BA:996:A:N6	36:BA:1159:U:H3	2.17	0.42
46:BN:2:LYS:HZ2	54:BV:12:TYR:HB3	1.84	0.42
38:BC:123:VAL:CG1	38:BC:124:GLY:N	2.82	0.42
34:B8:6:THR:HG22	34:B8:63:PRO:HD3	2.01	0.42
2:AB:67:THR:HG22	2:AB:90:MET:HE3	2.02	0.42
38:BC:100:ILE:O	38:BC:100:ILE:HG22	2.19	0.42
36:BA:2642:G:O2'	36:BA:2643:G:H5'	2.20	0.42
39:BD:35:LYS:HG2	39:BD:62:TYR:O	2.20	0.42
39:BD:35:LYS:HB2	39:BD:63:ARG:CG	2.50	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BA:2375:G:N3	36:BA:2379:G:N1	2.67	0.42
51:BS:106:ARG:HD2	51:BS:106:ARG:C	2.40	0.42
36:BA:2346:A:H5'	36:BA:2383:G:O4'	2.20	0.42
20:AT:74:LYS:HD3	20:AT:74:LYS:N	2.35	0.42
27:B1:86:SER:HB2	27:B1:89:GLU:HB2	2.01	0.42
40:BE:167:VAL:O	40:BE:170:LEU:HD11	2.20	0.42
25:AZ:383:GLY:H	25:AZ:400:VAL:HB	1.85	0.42
1:AA:986:A:H2'	1:AA:987:G:O4'	2.19	0.42
36:BA:1336:A:H2'	36:BA:1337:G:C8	2.53	0.42
10:AJ:24:VAL:CG2	10:AJ:37:PRO:HG3	2.42	0.42
50:BR:29:LEU:HD23	50:BR:70:LEU:HD11	2.01	0.42
43:BH:101:ARG:HG2	43:BH:117:PRO:HG3	2.02	0.42
1:AA:192:U:O2'	20:AT:57:ARG:HG3	2.20	0.42
36:BA:1266:G:O6	55:BW:13:SER:OG	2.23	0.42
7:AG:113:GLU:HB2	7:AG:119:ARG:CG	2.47	0.42
5:AE:41:VAL:CG1	5:AE:113:ALA:HB2	2.49	0.42
46:BN:18:ALA:HB2	46:BN:26:LEU:HD13	2.02	0.42
16:AP:45:THR:C	16:AP:47:ASP:N	2.68	0.42
15:AO:36:ILE:HG23	15:AO:56:LEU:HD11	2.02	0.42
36:BA:2192:G:H2'	36:BA:2193:G:H5'	2.02	0.42
1:AA:81:U:C2	1:AA:83:U:H5	2.38	0.42
2:AB:20:GLU:HG3	2:AB:190:THR:O	2.18	0.42
36:BA:21:A:C2	36:BA:22:C:C2	3.08	0.42
1:AA:264:U:H4'	17:AQ:63:ARG:HD3	2.01	0.42
1:AA:1443:G:C6	1:AA:1460:A:C2	3.07	0.42
36:BA:144:C:H2'	36:BA:145:G:C8	2.54	0.42
49:BQ:97:VAL:HG11	49:BQ:103:MET:HE2	2.02	0.42
47:BO:22:ILE:HA	47:BO:22:ILE:HD13	1.81	0.42
21:AU:24:ARG:HG2	21:AU:24:ARG:O	2.20	0.42
36:BA:1718:G:C8	36:BA:1718:G:H5'	2.51	0.42
29:B3:45:GLY:O	29:B3:48:GLU:N	2.52	0.42
1:AA:501:C:H1'	1:AA:549:C:H1'	2.02	0.42
1:AA:1222:G:C2'	1:AA:1223:C:H5'	2.49	0.42
1:AA:743:U:O2'	1:AA:744:C:H5'	2.20	0.42
55:BW:47:VAL:HA	55:BW:50:VAL:HG12	2.02	0.42
36:BA:355:G:H2'	36:BA:356:G:C8	2.54	0.42
3:AC:53:ALA:O	3:AC:69:HIS:HB2	2.20	0.42
4:AD:50:ARG:HA	4:AD:51:PRO:HD3	1.87	0.42
26:B0:55:ARG:HE	26:B0:55:ARG:HB3	1.49	0.42
5:AE:69:VAL:HA	5:AE:70:PRO:HD2	1.92	0.42
38:BC:148:ASN:HD22	38:BC:151:GLU:CD	2.23	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:AF:89:MET:SD	18:AR:76:LEU:HD21	2.60	0.42
34:B8:32:LEU:HD13	36:BA:2391:G:OP1	2.20	0.42
57:BY:46:LYS:H	57:BY:62:GLU:CG	2.33	0.42
25:AZ:67:HIS:ND1	25:AZ:80:VAL:HG22	2.35	0.42
26:B0:12:ASN:N	26:B0:12:ASN:OD1	2.53	0.42
38:BC:20:TYR:O	38:BC:225:ASN:N	2.53	0.42
42:BG:136:ARG:HG2	42:BG:136:ARG:HH11	1.85	0.42
13:AM:82:MET:CB	13:AM:93:ARG:NH1	2.82	0.42
58:BZ:77:ASP:OD2	58:BZ:79:ARG:O	2.38	0.42
38:BC:94:VAL:O	38:BC:95:GLY:C	2.57	0.42
52:BT:66:VAL:HA	52:BT:71:GLY:HA2	2.02	0.42
51:BS:28:VAL:CG1	51:BS:29:PHE:N	2.81	0.42
50:BR:21:TYR:HB3	50:BR:47:PHE:CD2	2.55	0.42
29:B3:26:LEU:HB2	29:B3:28:LEU:CD2	2.46	0.42
36:BA:2741:A:H2'	36:BA:2742:C:O4'	2.18	0.42
19:AS:62:ILE:HA	19:AS:66:MET:CE	2.50	0.42
8:AH:114:THR:OG1	8:AH:117:GLY:O	2.35	0.42
48:BP:21:ARG:O	48:BP:22:GLY:C	2.58	0.42
36:BA:1800:C:P	39:BD:266:SER:HG	2.43	0.42
4:AD:4:TYR:CD1	4:AD:4:TYR:C	2.92	0.42
27:B1:89:GLU:O	27:B1:92:LYS:HD2	2.19	0.42
37:BB:81:G:N3	37:BB:81:G:H5'	2.35	0.42
20:AT:89:ARG:CB	20:AT:104:LEU:HD11	2.39	0.42
9:AI:4:TYR:HA	9:AI:88:TYR:CE1	2.55	0.42
20:AT:48:LYS:HD2	20:AT:51:GLU:OE2	2.20	0.42
36:BA:1022:G:C5	36:BA:1140:C:C4	3.08	0.42
26:B0:47:PRO:HB3	26:B0:51:VAL:O	2.20	0.42
42:BG:18:GLU:O	42:BG:22:ARG:N	2.44	0.42
42:BG:47:LYS:HZ1	42:BG:81:LYS:CB	2.32	0.42
15:AO:23:GLY:O	15:AO:24:SER:CB	2.68	0.42
36:BA:1278:A:O2'	36:BA:1279:G:H5'	2.20	0.42
1:AA:176:C:C4	1:AA:177:C:N4	2.88	0.42
55:BW:1:MET:HE2	55:BW:2:GLU:N	2.35	0.42
36:BA:570:G:C5	36:BA:2030:A:C2	3.08	0.42
54:BV:95:LEU:CD2	54:BV:95:LEU:C	2.88	0.42
7:AG:37:ASN:HD21	9:AI:41:VAL:H	1.67	0.42
36:BA:1264:G:O5'	36:BA:1264:G:H8	2.02	0.42
39:BD:3:VAL:H	39:BD:20:ASP:HB2	1.85	0.42
6:AF:25:ILE:CD1	6:AF:25:ILE:O	2.66	0.42
36:BA:2137:C:N4	36:BA:2154:G:H22	2.15	0.42
1:AA:1530:G:H2'	1:AA:1531:A:C8	2.55	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:189(F):U:O2	17:AQ:63:ARG:NH2	2.53	0.42
7:AG:92:SER:HB3	7:AG:95:ARG:HB3	2.01	0.42
4:AD:65:ARG:NH1	4:AD:70:ILE:O	2.52	0.42
36:BA:764:A:OP1	39:BD:208:LYS:HE3	2.20	0.42
1:AA:119:A:C4'	1:AA:120:A:O5'	2.66	0.42
36:BA:363:G:H2'	36:BA:363(A):A:C8	2.55	0.42
48:BP:136:GLU:O	48:BP:139:LYS:N	2.51	0.42
52:BT:125:ARG:HG2	52:BT:125:ARG:NH1	2.35	0.42
34:B8:46:ARG:NH1	34:B8:46:ARG:HG2	2.34	0.42
1:AA:374:A:C6	1:AA:375:U:C4	3.07	0.42
37:BB:39:A:C2	37:BB:44:G:N3	2.88	0.42
6:AF:48:LEU:HD13	6:AF:52:ILE:HG13	2.01	0.42
2:AB:185:ILE:HG23	2:AB:199:TYR:HB2	2.01	0.42
36:BA:2562:U:H2'	36:BA:2563:U:H5'	2.00	0.42
25:AZ:22:HIS:CD2	25:AZ:107:SER:HB3	2.55	0.42
28:B2:37:PHE:C	28:B2:39:ALA:H	2.22	0.42
20:AT:82:SER:O	20:AT:86:ARG:HD3	2.20	0.42
4:AD:91:SER:O	4:AD:93:PHE:N	2.53	0.42
21:AU:3:LYS:HB3	21:AU:14:TRP:CD1	2.55	0.42
36:BA:756:C:O2'	36:BA:757:U:H5'	2.20	0.42
13:AM:39:ILE:HD11	13:AM:56:LEU:HB2	2.02	0.42
36:BA:2455:G:C2	36:BA:2498:C:N4	2.88	0.42
1:AA:124:G:C6	1:AA:125:U:C4	3.08	0.42
1:AA:32:A:H2'	1:AA:33:A:C8	2.55	0.42
36:BA:2858:C:H5	36:BA:2859:G:C5	2.38	0.42
36:BA:309:G:H1'	36:BA:329:G:O2'	2.19	0.42
36:BA:483:A:H1'	57:BY:60:PHE:HZ	1.85	0.42
1:AA:1269:A:H2	1:AA:1313:U:C2	2.38	0.42
36:BA:2490:G:H4'	36:BA:2491:U:OP1	2.20	0.42
53:BU:92:ARG:HD2	54:BV:11:GLN:CD	2.39	0.42
38:BC:112:ALA:O	38:BC:113:VAL:HG23	2.20	0.42
38:BC:208:PHE:O	38:BC:209:LEU:HD23	2.20	0.42
36:BA:2840:C:O2'	36:BA:2841:C:H5'	2.19	0.42
35:B9:4:ARG:HG2	35:B9:34:GLN:HE21	1.85	0.42
36:BA:2801(A):A:H4'	36:BA:2802:G:H2'	2.02	0.42
1:AA:523:A:N1	12:AL:92:ASP:HB2	2.35	0.42
47:BO:104:ARG:NE	52:BT:33:LYS:HD2	2.35	0.42
36:BA:577:G:C6	36:BA:578:A:C6	3.08	0.42
1:AA:1277:C:O2'	1:AA:1279:A:H1'	2.20	0.42
13:AM:12:ASN:N	13:AM:12:ASN:ND2	2.61	0.42
46:BN:103:VAL:O	46:BN:106:MET:HB2	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:AV:21:A:H2'	22:AV:22:G:C5'	2.42	0.42
36:BA:2246:G:O2'	36:BA:2247:A:H5'	2.20	0.42
36:BA:1757:U:H2'	36:BA:1758:G:OP1	2.20	0.42
14:AN:23:ARG:O	14:AN:24:CYS:C	2.56	0.42
1:AA:192:U:O2'	1:AA:193:C:H5'	2.19	0.42
36:BA:860:U:O4'	36:BA:860:U:O2	2.38	0.42
36:BA:392:C:O2'	36:BA:393:C:H5'	2.20	0.42
13:AM:66:LEU:O	13:AM:70:LEU:CB	2.68	0.42
11:AK:63:LEU:N	11:AK:63:LEU:HD23	2.35	0.42
4:AD:9:CYS:HA	4:AD:12:CYS:HB2	2.01	0.42
36:BA:2712:U:O2	36:BA:2712:U:H5''	2.19	0.42
36:BA:2132:U:O4	38:BC:5:LYS:HE3	2.19	0.42
53:BU:79:PHE:CE1	53:BU:83:LEU:CD2	3.02	0.42
12:AL:55:VAL:HG22	12:AL:56:ALA:H	1.83	0.42
36:BA:654(Q):C:H2'	36:BA:654(R):C:C6	2.55	0.42
13:AM:29:ARG:O	13:AM:30:ALA:C	2.58	0.42
36:BA:1887:C:C2'	36:BA:1888:G:H5''	2.49	0.42
36:BA:194:G:H2'	36:BA:195:A:O4'	2.19	0.42
55:BW:51:LEU:O	55:BW:54:ALA:HB3	2.19	0.42
8:AH:103:VAL:CB	8:AH:109:ILE:H	2.33	0.42
52:BT:124:ASP:HB3	52:BT:125:ARG:NH1	2.33	0.42
37:BB:98:G:H2'	37:BB:99:G:C5'	2.50	0.42
37:BB:77:U:C2'	37:BB:78:A:H5'	2.50	0.42
37:BB:78:A:C2	37:BB:100:A:C4	3.07	0.42
3:AC:23:TYR:CD2	3:AC:23:TYR:C	2.92	0.42
6:AF:22:GLU:C	6:AF:24:GLU:N	2.73	0.42
36:BA:2718:G:C6	36:BA:2719:G:C5	3.07	0.42
55:BW:20:VAL:HG23	55:BW:47:VAL:HG21	2.01	0.42
1:AA:1253:G:H1'	1:AA:1355:G:O2'	2.19	0.42
37:BB:34:U:H5''	37:BB:35:U:OP1	2.19	0.42
36:BA:1680:U:O2	36:BA:1763:G:H3'	2.20	0.42
17:AQ:36:ILE:HG12	17:AQ:36:ILE:H	1.68	0.42
8:AH:50:ARG:HA	8:AH:59:LEU:HD23	2.01	0.42
36:BA:454:A:H4'	36:BA:455:C:OP2	2.20	0.42
9:AI:18:PHE:HB2	9:AI:62:TYR:HB3	2.02	0.42
41:BF:2:LYS:HG3	41:BF:25:PRO:HB2	2.02	0.41
57:BY:13:VAL:HG11	57:BY:28:LYS:HD3	2.01	0.41
57:BY:27:VAL:C	57:BY:28:LYS:HG3	2.40	0.41
38:BC:184:LYS:HE2	38:BC:184:LYS:H	1.81	0.41
2:AB:209:ARG:HD3	2:AB:239:VAL:CG1	2.50	0.41
56:BX:52:VAL:HG23	56:BX:84:ALA:HA	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:BE:6:GLY:HA2	40:BE:51:PHE:CE2	2.53	0.41
38:BC:162:GLU:O	38:BC:173:ALA:HB2	2.20	0.41
51:BS:96:GLY:C	51:BS:98:VAL:N	2.72	0.41
58:BZ:28:MET:SD	58:BZ:33:LEU:HG	2.60	0.41
36:BA:2312:U:H4'	42:BG:71:THR:CG2	2.50	0.41
36:BA:2103:C:H2'	36:BA:2104:G:C5'	2.50	0.41
52:BT:32:TYR:CG	52:BT:81:PRO:CB	3.03	0.41
36:BA:968:G:H2'	36:BA:969:U:H6	1.84	0.41
36:BA:1996:C:H5	47:BO:32:TYR:OH	2.03	0.41
41:BF:179:GLU:HB3	41:BF:205:ARG:NH2	2.34	0.41
1:AA:498:U:O2'	1:AA:499:A:O5'	2.38	0.41
25:AZ:324:LYS:HD2	25:AZ:326:GLU:HG2	2.02	0.41
1:AA:858:G:C4'	1:AA:858:G:C8	3.03	0.41
41:BF:154:VAL:HG12	41:BF:155:LEU:N	2.34	0.41
1:AA:1103:C:H2'	1:AA:1104:G:O4'	2.20	0.41
20:AT:50:GLU:C	20:AT:52:ALA:N	2.73	0.41
52:BT:108:ARG:HA	52:BT:111:ARG:NH1	2.35	0.41
48:BP:85:LEU:CD2	48:BP:116:GLY:HA3	2.50	0.41
36:BA:85:G:H5''	36:BA:85:G:H8	1.84	0.41
50:BR:28:LEU:HD12	50:BR:114:VAL:CG2	2.47	0.41
36:BA:2029:G:C4	36:BA:2031:A:OP2	2.73	0.41
36:BA:1332:G:N2	36:BA:1610:A:C8	2.88	0.41
47:BO:29:ASN:O	47:BO:30:ALA:C	2.55	0.41
36:BA:415:A:C2	36:BA:2409:G:N1	2.88	0.41
7:AG:7:ALA:O	7:AG:8:GLU:HB2	2.20	0.41
25:AZ:89:ILE:HD13	25:AZ:389:ARG:HH12	1.84	0.41
1:AA:393:A:H2'	1:AA:394:G:H5'	2.00	0.41
26:B0:23:VAL:C	26:B0:24:LYS:HD3	2.39	0.41
37:BB:75:G:N3	58:BZ:85:HIS:HE1	2.18	0.41
36:BA:1967:C:H2'	36:BA:1968:G:C5'	2.50	0.41
22:AV:27:G:O2'	22:AV:28:G:H5'	2.20	0.41
33:B7:6:GLN:HA	33:B7:7:PRO:HD2	1.82	0.41
31:B5:7:PRO:HG2	36:BA:2016:U:O2	2.20	0.41
20:AT:82:SER:O	20:AT:86:ARG:HB3	2.19	0.41
3:AC:76:VAL:CG2	3:AC:103:VAL:HG11	2.50	0.41
36:BA:2696:U:H2'	36:BA:2697:G:C8	2.55	0.41
11:AK:13:GLN:HB3	11:AK:75:TYR:O	2.20	0.41
1:AA:358:U:O4'	25:AZ:233:GLY:HA2	2.20	0.41
1:AA:1485:U:O2'	1:AA:1486:G:H5'	2.20	0.41
1:AA:748:C:H1'	1:AA:749:C:H5	1.85	0.41
36:BA:2455:G:H2'	36:BA:2456:C:C6	2.55	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:B7:30:VAL:CG1	36:BA:466:A:H5''	2.50	0.41
36:BA:1137:G:O2'	36:BA:2039:C:H5''	2.20	0.41
36:BA:306:U:H2'	36:BA:307:G:O4'	2.21	0.41
36:BA:1987:G:C8	36:BA:1987:G:H5''	2.55	0.41
25:AZ:289:LEU:HD12	25:AZ:289:LEU:HA	1.85	0.41
36:BA:2284:C:C2	36:BA:2285:C:C5	3.08	0.41
32:B6:22:ALA:HB2	32:B6:39:TYR:CZ	2.55	0.41
36:BA:484:C:P	57:BY:49:VAL:HG13	2.59	0.41
36:BA:483:A:O3'	57:BY:49:VAL:HG22	2.20	0.41
38:BC:7:TYR:CZ	38:BC:11:LEU:HD21	2.54	0.41
58:BZ:7:ALA:O	58:BZ:61:LEU:HA	2.19	0.41
22:AW:56:C:C2	22:AW:57:G:N7	2.88	0.41
52:BT:28:VAL:O	52:BT:29:ARG:HB2	2.19	0.41
2:AB:91:PRO:HG2	2:AB:155:LEU:HD23	2.01	0.41
36:BA:1028:A:N6	36:BA:1125:G:H2'	2.35	0.41
47:BO:104:ARG:NH1	52:BT:35:LYS:HD3	2.35	0.41
36:BA:1539:G:C2'	36:BA:1540:U:H5'	2.50	0.41
36:BA:2533:A:H2'	36:BA:2534:A:O4'	2.20	0.41
36:BA:676:A:N1	36:BA:802:A:N1	2.69	0.41
36:BA:807:U:H1'	36:BA:2445:G:OP1	2.20	0.41
25:AZ:352:VAL:HG12	25:AZ:353:VAL:H	1.84	0.41
48:BP:114:ILE:CG2	48:BP:130:PHE:HD1	2.30	0.41
48:BP:83:VAL:HG12	48:BP:112:LEU:CD2	2.42	0.41
42:BG:56:ALA:CA	42:BG:153:ARG:HH21	2.27	0.41
1:AA:1111:A:O2'	1:AA:1112:C:H5'	2.20	0.41
27:B1:18:ILE:HD12	36:BA:380:U:H5'	2.02	0.41
13:AM:70:LEU:HD23	13:AM:70:LEU:C	2.39	0.41
8:AH:81:HIS:N	8:AH:138:TRP:O	2.52	0.41
36:BA:2580:U:H4'	40:BE:130:GLY:CA	2.50	0.41
43:BH:106:THR:HG22	43:BH:112:PRO:CA	2.45	0.41
46:BN:18:ALA:HB3	46:BN:26:LEU:CD2	2.49	0.41
46:BN:26:LEU:HG	46:BN:30:ILE:CD1	2.49	0.41
1:AA:955:U:H5'	13:AM:120:LYS:NZ	2.35	0.41
36:BA:520:G:H2'	36:BA:521:G:C8	2.55	0.41
17:AQ:59:ILE:HG22	17:AQ:60:ILE:N	2.35	0.41
1:AA:389:A:C6	1:AA:390:C:H1'	2.54	0.41
9:AI:11:LYS:C	9:AI:13:ALA:H	2.24	0.41
41:BF:148:LEU:HB3	41:BF:172:TRP:CZ3	2.53	0.41
27:B1:4:VAL:CG2	27:B1:11:ARG:HG2	2.49	0.41
36:BA:2010:G:H5''	55:BW:42:ARG:HB2	2.02	0.41
29:B3:13:ILE:HD11	36:BA:989:G:C8	2.55	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:B6:42:TRP:CD2	36:BA:2348:U:O2'	2.74	0.41
20:AT:80:ARG:NH1	20:AT:80:ARG:HG2	2.36	0.41
50:BR:104:ARG:HD3	50:BR:107:ASP:OD2	2.21	0.41
36:BA:1987:G:H8	36:BA:1987:G:H5''	1.85	0.41
9:AI:97:LYS:O	9:AI:98:PRO:C	2.59	0.41
36:BA:201:C:C2'	36:BA:202:U:H5'	2.50	0.41
2:AB:83:MET:C	2:AB:85:ALA:H	2.23	0.41
36:BA:1493:C:C2'	36:BA:1493:C:O2	2.68	0.41
40:BE:55:ASN:O	40:BE:56:PRO:C	2.59	0.41
36:BA:1518:U:H2'	36:BA:1519:G:O4'	2.19	0.41
17:AQ:6:LEU:HB3	17:AQ:23:VAL:HG11	2.02	0.41
1:AA:553:A:H2'	1:AA:554:C:C6	2.55	0.41
2:AB:103:THR:HA	2:AB:180:LEU:HD11	2.02	0.41
42:BG:7:LEU:HD22	42:BG:176:LEU:HD23	2.02	0.41
53:BU:110:VAL:O	53:BU:113:ALA:HB3	2.20	0.41
53:BU:115:ALA:C	53:BU:117:GLN:H	2.22	0.41
32:B6:15:GLU:OE2	32:B6:41:PRO:HB2	2.15	0.41
57:BY:12:THR:CG2	57:BY:13:VAL:N	2.83	0.41
26:B0:12:ASN:C	26:B0:14:ARG:H	2.24	0.41
1:AA:973:G:H3'	1:AA:974:A:H5''	2.02	0.41
47:BO:6:THR:HG22	47:BO:7:TYR:N	2.35	0.41
40:BE:199:ARG:HG2	40:BE:200:GLU:N	2.27	0.41
40:BE:76:ARG:O	40:BE:77:ILE:C	2.58	0.41
25:AZ:13:ASN:ND2	25:AZ:241:ARG:CG	2.82	0.41
58:BZ:18:LEU:H	58:BZ:18:LEU:HD22	1.86	0.41
43:BH:83:TYR:O	43:BH:84:SER:C	2.58	0.41
51:BS:68:GLN:C	51:BS:70:GLY:N	2.74	0.41
36:BA:2809:A:H62	36:BA:2891:G:H2'	1.85	0.41
51:BS:28:VAL:CG1	51:BS:29:PHE:H	2.31	0.41
36:BA:1296:G:OP1	36:BA:2709:G:H4'	2.21	0.41
19:AS:62:ILE:HA	19:AS:66:MET:HE1	2.01	0.41
38:BC:38:ASP:OD2	38:BC:177:LYS:HB3	2.20	0.41
36:BA:1168:G:O2'	36:BA:1169:G:H5'	2.20	0.41
27:B1:30:VAL:O	36:BA:2395:C:O2'	2.37	0.41
46:BN:7:LYS:O	46:BN:8:GLN:O	2.38	0.41
36:BA:1259:G:H2'	36:BA:1260:G:C8	2.55	0.41
50:BR:67:LEU:CD1	50:BR:71:GLN:O	2.67	0.41
48:BP:95:VAL:HG23	48:BP:125:VAL:HA	2.02	0.41
48:BP:96:THR:HG22	48:BP:126:VAL:HB	2.02	0.41
48:BP:97:PRO:C	48:BP:99:LEU:H	2.23	0.41
3:AC:154:SER:HB2	3:AC:165:THR:HB	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:AZ:138:VAL:C	25:AZ:140:MET:N	2.68	0.41
1:AA:174:C:H2'	1:AA:175:C:C6	2.55	0.41
8:AH:104:ARG:O	8:AH:105:ARG:C	2.59	0.41
5:AE:41:VAL:HG11	5:AE:113:ALA:HB2	2.03	0.41
7:AG:18:TYR:C	7:AG:20:ASP:N	2.73	0.41
1:AA:452:A:H1'	1:AA:453:A:H5''	2.03	0.41
1:AA:1015:A:H2'	1:AA:1016:A:O4'	2.20	0.41
36:BA:848:G:O6	36:BA:928:G:H2'	2.20	0.41
4:AD:67:ILE:O	4:AD:67:ILE:HG22	2.21	0.41
36:BA:2146:C:H4'	36:BA:2147:G:C5	2.54	0.41
1:AA:407:G:H2'	1:AA:408:A:H8	1.86	0.41
39:BD:165:ILE:HG23	39:BD:173:VAL:CG2	2.50	0.41
26:B0:50:ASN:ND2	26:B0:63:VAL:HG21	2.32	0.41
49:BQ:20:ALA:O	49:BQ:21:THR:OG1	2.33	0.41
26:B0:24:LYS:O	26:B0:25:ARG:CG	2.68	0.41
37:BB:15:A:H1'	37:BB:110:G:C4	2.55	0.41
4:AD:74:GLN:O	4:AD:78:LEU:HB2	2.20	0.41
36:BA:493:G:H2'	36:BA:494:G:O4'	2.19	0.41
43:BH:44:VAL:CG1	43:BH:45:VAL:N	2.82	0.41
1:AA:321:A:O2'	1:AA:322:C:H5'	2.19	0.41
36:BA:528:A:C8	36:BA:528:A:H3'	2.54	0.41
1:AA:375:U:C4	1:AA:376:G:N7	2.88	0.41
1:AA:633:G:H3'	1:AA:634:C:C6	2.54	0.41
49:BQ:63:LYS:HZ3	58:BZ:175:VAL:HG11	1.86	0.41
36:BA:1670:C:OP2	36:BA:1671:U:O4	2.38	0.41
2:AB:82:ARG:O	2:AB:86:GLU:HG3	2.20	0.41
36:BA:2038:G:H2'	36:BA:2039:C:C6	2.55	0.41
1:AA:877:C:H5''	8:AH:88:LYS:HD3	2.03	0.41
36:BA:2405:G:HO2'	36:BA:2406:U:P	2.43	0.41
36:BA:1411:C:H2'	36:BA:1412:A:H8	1.85	0.41
54:BV:7:THR:HG23	54:BV:7:THR:O	2.21	0.41
7:AG:63:LYS:O	7:AG:63:LYS:HD2	2.21	0.41
36:BA:2294:C:H2'	36:BA:2294:C:O2	2.20	0.41
5:AE:5:ASP:OD1	5:AE:5:ASP:O	2.36	0.41
1:AA:1163:C:H2'	1:AA:1164:G:H8	1.84	0.41
1:AA:803:G:H2'	1:AA:804:U:O4'	2.20	0.41
1:AA:825:G:O2'	1:AA:826:C:H5'	2.20	0.41
51:BS:22:GLY:O	51:BS:23:ARG:O	2.38	0.41
1:AA:1288:A:H1'	1:AA:1352:C:O2'	2.20	0.41
26:B0:11:ARG:C	26:B0:14:ARG:HH22	2.22	0.41
1:AA:1054:C:OP2	1:AA:1197:G:OP2	2.37	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:BC:34:THR:O	38:BC:35:ALA:HB2	2.20	0.41
38:BC:64:LEU:HA	38:BC:65:PRO:HD3	1.92	0.41
36:BA:1666:G:O2'	36:BA:1667:G:H5'	2.19	0.41
36:BA:1131:G:H21	46:BN:73:THR:CG2	2.29	0.41
41:BF:34:TRP:CZ3	48:BP:12:ALA:HA	2.55	0.41
54:BV:57:VAL:HG22	54:BV:58:VAL:N	2.35	0.41
38:BC:192:PHE:C	38:BC:194:ARG:N	2.73	0.41
38:BC:200:LYS:HE3	38:BC:208:PHE:HB2	2.01	0.41
58:BZ:102:LEU:HD21	58:BZ:124:ILE:HG12	2.01	0.41
43:BH:38:SER:C	43:BH:40:GLU:H	2.23	0.41
1:AA:1129:C:OP1	1:AA:1130:A:H5''	2.21	0.41
1:AA:663:A:H5'	1:AA:836:G:OP1	2.20	0.41
48:BP:23:PRO:HB2	48:BP:33:ARG:CG	2.37	0.41
28:B2:63:VAL:C	28:B2:65:ASN:N	2.72	0.41
25:AZ:221:PHE:CA	25:AZ:244:ARG:HG3	2.49	0.41
11:AK:46:GLY:O	11:AK:48:ILE:O	2.38	0.41
41:BF:164:ARG:HD3	41:BF:175:THR:OG1	2.20	0.41
13:AM:13:LYS:O	13:AM:14:ARG:C	2.59	0.41
25:AZ:14:VAL:HA	25:AZ:101:GLY:O	2.20	0.41
57:BY:4:LYS:HG3	57:BY:5:MET:N	2.34	0.41
38:BC:106:GLY:O	38:BC:107:TRP:HB2	2.19	0.41
10:AJ:48:THR:HG23	10:AJ:62:HIS:ND1	2.35	0.41
36:BA:570:G:C6	36:BA:2030:A:C2	3.08	0.41
54:BV:16:PRO:O	54:BV:96:ILE:O	2.38	0.41
36:BA:1331:A:O2'	36:BA:1332:G:H8	2.02	0.41
36:BA:744:G:H2'	36:BA:745:G:C5'	2.50	0.41
48:BP:121:LYS:HB2	48:BP:123:LEU:HD22	2.00	0.41
6:AF:19:LEU:C	6:AF:19:LEU:HD23	2.40	0.41
36:BA:848:G:C2	36:BA:933:A:H1'	2.55	0.41
36:BA:149:A:H2'	36:BA:150:C:O4'	2.19	0.41
28:B2:25:VAL:O	28:B2:27:GLU:N	2.54	0.41
9:AI:118:LYS:HB3	9:AI:118:LYS:HE2	1.67	0.41
7:AG:26:PHE:HB2	7:AG:62:PHE:HZ	1.86	0.41
41:BF:123:LEU:HD12	41:BF:124:LEU:H	1.85	0.41
39:BD:75:ILE:N	39:BD:75:ILE:CD1	2.80	0.41
7:AG:71:PRO:O	7:AG:91:VAL:CG1	2.67	0.41
36:BA:1113:U:H2'	36:BA:1114:G:C8	2.55	0.41
36:BA:1112:G:O2'	36:BA:1113:U:H5'	2.21	0.41
1:AA:771:G:H2'	1:AA:772:U:C6	2.56	0.41
40:BE:115:GLY:HA2	40:BE:157:ALA:CB	2.49	0.41
25:AZ:133:VAL:CG1	25:AZ:134:PHE:N	2.83	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BA:1144:G:O2'	36:BA:1145:C:H5'	2.21	0.41
8:AH:49:GLU:HG2	8:AH:62:TYR:HE2	1.85	0.41
27:B1:19:GLN:OE1	27:B1:19:GLN:HA	2.20	0.41
33:B7:40:TRP:CD2	36:BA:459:U:H5''	2.56	0.41
36:BA:1129:A:H4'	36:BA:2515:C:O2'	2.21	0.41
24:AY:10:G:C2	24:AY:26:A:H1'	2.55	0.41
12:AL:71:PRO:HG3	12:AL:99:HIS:HD2	1.85	0.41
1:AA:341:C:O2'	1:AA:342:C:H5'	2.21	0.41
1:AA:707:C:H4'	11:AK:20:TYR:CD1	2.55	0.41
42:BG:107:LEU:HD21	42:BG:178:PHE:CD1	2.56	0.41
38:BC:66:HIS:CE1	38:BC:184:LYS:HD3	2.55	0.41
1:AA:1318:A:C1'	19:AS:37:ARG:HH21	2.34	0.41
19:AS:35:SER:C	19:AS:37:ARG:H	2.23	0.41
37:BB:92:C:H5''	58:BZ:79:ARG:HH12	1.85	0.41
53:BU:97:ASP:O	53:BU:100:VAL:N	2.51	0.41
38:BC:212:VAL:HG11	38:BC:224:ILE:HD11	2.02	0.41
51:BS:30:ARG:HH22	51:BS:62:LYS:HG2	1.83	0.41
36:BA:2761:G:H8	36:BA:2761:G:H5'	1.85	0.41
43:BH:66:GLY:O	43:BH:67:LEU:C	2.58	0.41
31:B5:54:GLY:O	31:B5:55:ARG:C	2.57	0.41
36:BA:2726:U:H4'	47:BO:1:MET:HE3	2.03	0.41
41:BF:110:LEU:HD12	41:BF:206:ILE:CD1	2.51	0.41
36:BA:1771:C:O2'	36:BA:1786:A:H8	1.93	0.41
1:AA:142:G:N3	1:AA:196:A:H2	2.19	0.41
36:BA:2188:C:H2'	36:BA:2189:U:C6	2.56	0.41
41:BF:159:GLY:CA	41:BF:164:ARG:HH21	2.28	0.41
48:BP:110:TYR:CZ	48:BP:111:ARG:NE	2.89	0.41
14:AN:23:ARG:NH1	14:AN:30:ALA:HB2	2.36	0.41
50:BR:69:ASP:O	50:BR:70:LEU:C	2.57	0.41
20:AT:50:GLU:CB	20:AT:100:ILE:HD13	2.48	0.41
7:AG:111:ARG:HE	7:AG:123:GLU:HB2	1.84	0.41
8:AH:104:ARG:NH2	8:AH:138:TRP:CZ2	2.88	0.41
1:AA:488:C:O2'	1:AA:489:C:H5'	2.20	0.41
36:BA:2136:C:H2'	36:BA:2137:C:H6	1.86	0.41
40:BE:143:ASN:ND2	40:BE:143:ASN:N	2.69	0.41
36:BA:45:C:OP2	36:BA:215:G:H2'	2.20	0.41
36:BA:2585:U:O2	36:BA:2585:U:O4'	2.38	0.41
6:AF:74:ASP:HB3	6:AF:77:ARG:NH2	2.34	0.41
36:BA:407:G:C2	36:BA:408:G:C5	3.08	0.41
1:AA:445:G:H2'	1:AA:446:G:H8	1.86	0.41
37:BB:39:A:C2	37:BB:44:G:C2	3.08	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:BB:100:A:C4	37:BB:101:G:C8	3.07	0.41
37:BB:94:C:H2'	37:BB:95:C:C6	2.56	0.41
18:AR:24:ALA:C	18:AR:26:LEU:H	2.23	0.41
36:BA:964:C:O2'	36:BA:2273:A:N3	2.43	0.41
8:AH:116:LYS:HD3	8:AH:127:LEU:HD12	2.01	0.41
36:BA:2111:C:O2	36:BA:2111:C:H2'	2.20	0.41
17:AQ:81:ARG:O	17:AQ:83:ASP:N	2.54	0.41
36:BA:920:G:O2'	36:BA:921:G:H5'	2.20	0.41
9:AI:97:LYS:HB3	9:AI:98:PRO:HD3	2.03	0.41
9:AI:8:GLY:HA2	9:AI:79:LEU:HD12	2.01	0.41
39:BD:134:ARG:HG2	39:BD:187:GLY:O	2.21	0.41
43:BH:92:ILE:C	43:BH:94:TYR:H	2.23	0.41
8:AH:18:ARG:HD3	8:AH:18:ARG:HA	1.69	0.41
36:BA:699:A:H2'	36:BA:700:G:O4'	2.21	0.41
36:BA:1458:C:H4'	36:BA:1459:G:O4'	2.21	0.41
36:BA:828:U:H2'	36:BA:829:A:C8	2.55	0.41
25:AZ:231:ILE:CG2	25:AZ:234:ARG:HG3	2.51	0.41
42:BG:110:ALA:HB1	42:BG:140:ILE:HD13	2.03	0.41
41:BF:18:ARG:O	41:BF:19:GLU:HB3	2.21	0.41
38:BC:10:LEU:N	38:BC:10:LEU:CD2	2.83	0.41
40:BE:93:VAL:C	40:BE:95:ILE:H	2.23	0.41
53:BU:93:LYS:H	53:BU:93:LYS:CD	2.28	0.41
38:BC:163:PHE:CD2	38:BC:192:PHE:HE1	2.37	0.41
52:BT:85:LYS:O	52:BT:86:ILE:C	2.58	0.41
58:BZ:163:LEU:HD23	58:BZ:163:LEU:O	2.20	0.41
2:AB:105:PHE:CE1	2:AB:155:LEU:HD12	2.55	0.41
2:AB:60:ASP:HB3	2:AB:64:ARG:NH2	2.32	0.41
36:BA:1301:A:O2'	36:BA:1302:A:P	2.78	0.41
43:BH:43:VAL:HB	43:BH:46:GLU:OE2	2.20	0.41
43:BH:51:ARG:O	43:BH:52:VAL:CB	2.69	0.41
16:AP:42:ARG:O	16:AP:43:LYS:C	2.58	0.41
39:BD:35:LYS:NZ	39:BD:36:PRO:HD3	2.36	0.41
52:BT:10:VAL:C	52:BT:12:SER:N	2.74	0.41
19:AS:49:ILE:H	19:AS:49:ILE:CD1	2.15	0.41
36:BA:1541:G:O2'	36:BA:1542:A:H5''	2.21	0.41
36:BA:687:C:H42	36:BA:787:U:H4'	1.85	0.41
41:BF:129:PHE:C	41:BF:131:GLY:N	2.73	0.41
33:B7:35:ARG:O	33:B7:38:GLY:N	2.52	0.41
9:AI:53:VAL:C	9:AI:55:ALA:N	2.73	0.41
9:AI:95:LYS:HD3	9:AI:96:LEU:HB2	2.02	0.41
41:BF:139:PHE:CE2	41:BF:167:ALA:HB2	2.56	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:AB:100:GLY:N	2:AB:176:GLU:OE2	2.47	0.41
1:AA:1431:C:H2'	1:AA:1432:G:H5'	2.02	0.41
36:BA:1313:U:H3'	36:BA:1314:C:H5'	2.03	0.41
52:BT:45:PHE:CE2	52:BT:74:ARG:HB2	2.55	0.41
1:AA:1456:G:H8	20:AT:58:LYS:HD3	1.85	0.41
55:BW:1:MET:CE	55:BW:62:HIS:CD2	3.04	0.41
36:BA:2713:A:C3'	36:BA:2714:G:C5'	2.96	0.41
50:BR:116:LEU:O	50:BR:117:VAL:O	2.38	0.41
36:BA:74:A:C5'	36:BA:75:G:O4'	2.64	0.41
1:AA:1008:C:N4	1:AA:1021:G:H1	2.12	0.41
26:B0:56:ASP:OD1	26:B0:56:ASP:O	2.39	0.41
7:AG:21:VAL:HG23	7:AG:22:LEU:N	2.35	0.41
2:AB:8:LYS:HE2	2:AB:217:ARG:HH22	1.86	0.41
39:BD:71:ASP:CB	39:BD:103:ARG:HH22	2.33	0.41
1:AA:1310:G:H2'	1:AA:1311:G:C8	2.55	0.41
36:BA:2006:C:H2'	36:BA:2007:C:H6	1.84	0.41
1:AA:128:G:O2'	17:AQ:3:LYS:HE2	2.20	0.41
2:AB:162:ILE:HG23	2:AB:184:VAL:HA	2.03	0.41
17:AQ:86:GLU:O	17:AQ:87:LYS:C	2.58	0.41
50:BR:9:LYS:O	50:BR:10:LEU:HD23	2.20	0.41
27:B1:14:VAL:HG13	27:B1:39:LYS:HG3	2.03	0.41
44:BJ:90:UNK:O	44:BJ:91:UNK:C	2.68	0.41
36:BA:2063:C:C4	36:BA:2064:C:C4	3.09	0.41
36:BA:123:G:H2'	36:BA:124:G:O4'	2.19	0.41
1:AA:77:G:H2'	1:AA:77:G:N3	2.36	0.41
1:AA:528:C:H41	12:AL:49:ASN:ND2	2.18	0.41
12:AL:69:TYR:HB2	12:AL:90:VAL:HG21	2.02	0.41
36:BA:1602:U:H3'	36:BA:1603:A:H5'	2.01	0.41
1:AA:807:A:H2'	1:AA:808:C:C6	2.55	0.41
18:AR:40:LEU:O	18:AR:41:LYS:C	2.59	0.41
24:AY:73:G:C2'	24:AY:74:C:H5'	2.50	0.41
53:BU:82:GLY:O	53:BU:84:LYS:N	2.54	0.41
32:B6:8:LYS:HA	32:B6:8:LYS:HD2	1.84	0.41
34:B8:27:THR:HG22	48:BP:62:LEU:CD2	2.51	0.41
36:BA:482:A:H2'	36:BA:482:A:N3	2.36	0.41
57:BY:31:LEU:HD23	57:BY:36:ALA:O	2.21	0.41
25:AZ:272:MET:HE2	25:AZ:285:ASN:H	1.86	0.41
36:BA:1503:U:C4	36:BA:1504:C:N4	2.83	0.41
32:B6:27:LYS:O	32:B6:29:ASN:N	2.54	0.41
58:BZ:8:TYR:O	58:BZ:9:TYR:C	2.59	0.41
22:AW:57:G:O2'	22:AW:58:A:H5'	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BA:2165:G:H2'	36:BA:2166:G:C8	2.55	0.41
25:AZ:355:LEU:HA	25:AZ:356:PRO:HD3	1.96	0.41
51:BS:31:SER:OG	51:BS:32:LEU:N	2.54	0.41
36:BA:2178:C:O4'	36:BA:2178:C:O2	2.37	0.41
38:BC:104:LEU:O	38:BC:105:ASP:HB3	2.21	0.41
43:BH:70:THR:C	43:BH:72:ILE:N	2.74	0.41
41:BF:160:ASN:HD21	41:BF:162:LEU:HB2	1.83	0.41
51:BS:104:GLY:C	51:BS:106:ARG:N	2.72	0.41
51:BS:85:VAL:HB	51:BS:86:ALA:H	1.66	0.41
41:BF:117:ARG:NH2	41:BF:186:ILE:O	2.51	0.41
48:BP:25:SER:C	48:BP:27:HIS:N	2.74	0.41
20:AT:36:LEU:HA	20:AT:36:LEU:HD22	1.93	0.41
28:B2:21:LEU:HD11	28:B2:63:VAL:CG1	2.49	0.41
1:AA:975:A:C8	1:AA:975:A:H5'	2.55	0.41
36:BA:1676:A:N6	36:BA:1677:A:C6	2.89	0.41
1:AA:340:U:C2	1:AA:350:G:N2	2.88	0.41
58:BZ:119:GLU:CG	58:BZ:122:ARG:NH1	2.79	0.41
7:AG:113:GLU:HG2	7:AG:119:ARG:HG2	2.00	0.41
36:BA:1011:G:C6	36:BA:1151:G:C6	3.08	0.41
36:BA:1593:G:N3	36:BA:1593:G:H2'	2.35	0.41
43:BH:158:HIS:O	43:BH:159:GLU:HB3	2.21	0.41
41:BF:29:ASN:HD22	41:BF:32:LEU:CB	2.33	0.41
36:BA:120:U:C2	36:BA:149:A:N6	2.88	0.41
36:BA:121:G:C2	36:BA:131:G:C5	3.08	0.41
1:AA:1152:A:H5'	10:AJ:70:ARG:HH22	1.82	0.41
7:AG:26:PHE:CB	7:AG:101:LEU:HD22	2.49	0.41
1:AA:1368:G:O2'	1:AA:1369:C:H5'	2.20	0.41
1:AA:993:G:H4'	1:AA:994:A:OP2	2.20	0.41
1:AA:1283:G:O2'	1:AA:1284:C:OP2	2.39	0.41
55:BW:21:VAL:C	55:BW:23:LEU:N	2.74	0.41
49:BQ:54:MET:CE	49:BQ:64:ILE:HG23	2.51	0.41
31:B5:52:TYR:OH	36:BA:2884:U:H1'	2.21	0.41
36:BA:556:G:H2'	36:BA:557:U:C6	2.56	0.41
1:AA:484:G:H4'	1:AA:485:G:O5'	2.21	0.41
26:B0:31:VAL:O	26:B0:64:ASP:HA	2.20	0.41
36:BA:2267:A:H5''	36:BA:2268:A:C5'	2.50	0.41
1:AA:493:G:H8	1:AA:493:G:O5'	2.04	0.41
33:B7:29:LYS:O	33:B7:33:ARG:HB2	2.21	0.41
1:AA:653:A:P	8:AH:56:LYS:HZ1	2.44	0.41
32:B6:17:LYS:CB	32:B6:18:ARG:NH1	2.84	0.41
57:BY:35:TYR:CD2	57:BY:68:HIS:HE1	2.32	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:BC:18:LYS:HE3	38:BC:20:TYR:OH	2.20	0.41
13:AM:90:LEU:CA	13:AM:93:ARG:HB2	2.42	0.41
36:BA:1209:G:H21	36:BA:1210:A:H62	1.67	0.41
54:BV:38:LEU:CD1	54:BV:57:VAL:HB	2.47	0.41
36:BA:2177:C:H4'	38:BC:46:LYS:HD3	2.02	0.41
51:BS:58:LEU:CD2	51:BS:65:VAL:HG13	2.46	0.41
51:BS:65:VAL:O	51:BS:69:VAL:N	2.47	0.41
36:BA:2787:C:C2'	36:BA:2787:C:O2	2.69	0.41
37:BB:13:A:C2'	37:BB:14:U:H5''	2.51	0.41
36:BA:272(I):U:C4	36:BA:363(B):G:C6	3.09	0.41
46:BN:56:ASN:N	46:BN:125:GLY:N	2.67	0.41
35:B9:31:LYS:HE3	36:BA:2528:U:H5''	2.02	0.41
43:BH:37:VAL:CG1	43:BH:38:SER:N	2.84	0.41
41:BF:9:ILE:HG23	41:BF:13:SER:C	2.41	0.41
52:BT:40:THR:O	52:BT:41:ARG:O	2.38	0.41
52:BT:32:TYR:CB	52:BT:81:PRO:HB3	2.48	0.41
36:BA:472:A:C2'	36:BA:473:G:H5'	2.49	0.41
36:BA:2155:G:C6	36:BA:2156:G:C2	3.09	0.41
17:AQ:24:GLU:HA	17:AQ:39:SER:HA	2.02	0.41
36:BA:588:U:OP2	36:BA:588:U:C6	2.74	0.41
1:AA:1307:U:O3'	13:AM:110:ARG:HD2	2.21	0.41
36:BA:1947:C:H2'	36:BA:1948:G:H5'	2.02	0.41
1:AA:858:G:H8	1:AA:858:G:H5''	1.84	0.41
36:BA:2189:U:C3'	36:BA:2190:G:H4'	2.50	0.41
29:B3:12:PRO:O	29:B3:15:TYR:HD1	2.04	0.41
46:BN:57:ALA:C	46:BN:58:ASP:O	2.57	0.41
46:BN:86:PRO:HD2	46:BN:89:LYS:HG3	2.01	0.41
25:AZ:319:SER:H	25:AZ:401:THR:HB	1.86	0.41
36:BA:1141:U:H6	46:BN:63:THR:CG2	2.33	0.41
8:AH:1:MET:HE1	8:AH:3:THR:HG23	2.03	0.41
50:BR:113:LEU:HD23	50:BR:114:VAL:N	2.35	0.41
9:AI:70:LYS:O	9:AI:73:GLN:N	2.53	0.41
43:BH:158:HIS:CE1	43:BH:169:VAL:O	2.73	0.41
2:AB:16:HIS:HB3	2:AB:210:SER:CB	2.51	0.41
36:BA:1413:G:H2'	36:BA:1414:G:H8	1.86	0.41
13:AM:49:THR:O	13:AM:51:ALA:N	2.53	0.41
1:AA:723:U:C2'	1:AA:723:U:O2	2.65	0.41
36:BA:890:A:C2'	36:BA:892:G:H5'	2.51	0.41
36:BA:882:G:H22	36:BA:894:C:H42	1.67	0.41
47:BO:14:THR:CG2	47:BO:94:ARG:HB2	2.50	0.41
47:BO:14:THR:HG22	47:BO:94:ARG:HB2	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BA:2618:G:C6	36:BA:2619:C:C4	3.09	0.41
36:BA:520:G:H2'	36:BA:521:G:H8	1.85	0.41
43:BH:54:ARG:NH1	43:BH:54:ARG:HG2	2.35	0.41
25:AZ:342:PHE:H	25:AZ:342:PHE:HD1	1.69	0.41
1:AA:1174:G:H2'	1:AA:1175:G:H8	1.86	0.41
4:AD:57:ARG:HB3	4:AD:206:PHE:HB2	2.02	0.41
36:BA:1375:C:H2'	36:BA:1376:C:H6	1.86	0.41
40:BE:65:GLY:HA2	40:BE:70:ALA:HB1	2.02	0.41
1:AA:226:G:C2'	1:AA:227:G:H5'	2.51	0.41
17:AQ:13:ASP:C	17:AQ:15:MET:H	2.23	0.41
32:B6:28:ARG:NH1	32:B6:28:ARG:HG2	2.35	0.41
3:AC:142:MET:C	3:AC:144:SER:N	2.73	0.41
58:BZ:125:LEU:HB3	58:BZ:164:ALA:O	2.21	0.41
14:AN:39:LEU:HD11	14:AN:47:LEU:HD12	2.02	0.41
36:BA:353:G:H2'	36:BA:353:G:N3	2.36	0.41
49:BQ:125:LEU:HD13	49:BQ:125:LEU:HA	1.88	0.41
42:BG:142:PRO:C	42:BG:143:GLU:HG2	2.39	0.41
36:BA:654(N):G:H2'	36:BA:654(O):G:C5'	2.51	0.41
57:BY:28:LYS:C	57:BY:38:ILE:HG22	2.42	0.41
13:AM:7:VAL:HG23	42:BG:115:ARG:HA	2.02	0.41
42:BG:113:ARG:O	42:BG:115:ARG:N	2.54	0.41
32:B6:33:LYS:O	32:B6:34:LEU:CB	2.68	0.41
34:B8:59:LYS:HE3	34:B8:59:LYS:HB2	1.83	0.41
1:AA:973:G:H2'	1:AA:974:A:OP1	2.21	0.41
1:AA:977:A:N6	1:AA:1224:G:O5'	2.54	0.41
40:BE:7:VAL:HG21	52:BT:1:MET:SD	2.61	0.41
1:AA:1326:C:H5'	21:AU:18:TYR:O	2.21	0.41
48:BP:6:LEU:HG	48:BP:9:ASN:CB	2.51	0.41
54:BV:5:VAL:O	54:BV:11:GLN:HA	2.21	0.41
54:BV:4:ILE:HG22	54:BV:39:LEU:HD23	2.03	0.41
5:AE:84:PHE:N	5:AE:87:SER:O	2.43	0.41
5:AE:125:SER:O	5:AE:126:ARG:HG3	2.21	0.41
38:BC:61:THR:HG23	38:BC:142:ALA:O	2.21	0.41
43:BH:81:GLU:HA	43:BH:83:TYR:CE2	2.56	0.41
22:AW:18:G:O4'	22:AW:58:A:C2	2.74	0.41
52:BT:49:VAL:HG13	52:BT:49:VAL:O	2.21	0.41
52:BT:99:LEU:HB2	52:BT:101:PHE:CE1	2.56	0.41
52:BT:22:PHE:HE2	52:BT:85:LYS:NZ	2.19	0.41
52:BT:28:VAL:CG1	52:BT:29:ARG:NH1	2.84	0.41
2:AB:61:LEU:CD1	2:AB:64:ARG:NH1	2.83	0.41
2:AB:68:ILE:HA	2:AB:161:ALA:O	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:B5:33:CYS:CB	31:B5:36:CYS:HG	2.32	0.41
1:AA:1127:G:O2'	1:AA:1128:C:H5'	2.21	0.41
47:BO:104:ARG:CB	47:BO:104:ARG:CZ	2.99	0.41
47:BO:73:ASP:CG	52:BT:32:TYR:HE1	2.23	0.41
39:BD:35:LYS:CG	39:BD:63:ARG:HG3	2.49	0.41
5:AE:90:VAL:O	5:AE:120:THR:HA	2.21	0.41
36:BA:2377:A:O2'	36:BA:2378:A:C5'	2.67	0.41
36:BA:2159:G:H2'	36:BA:2160:G:O4'	2.21	0.41
19:AS:36:ARG:HB3	19:AS:51:VAL:CG1	2.50	0.41
25:AZ:388:ILE:HG22	25:AZ:395:VAL:HG22	2.03	0.41
10:AJ:28:ARG:HH12	10:AJ:33:GLN:CD	2.23	0.41
41:BF:164:ARG:CD	41:BF:175:THR:OG1	2.69	0.41
1:AA:1266:G:C4	1:AA:1268:A:C2	3.08	0.41
25:AZ:318:ALA:CA	25:AZ:401:THR:HG22	2.40	0.41
38:BC:50:ASP:OD1	38:BC:52:ARG:NH1	2.54	0.41
1:AA:346:G:O2'	1:AA:347:G:O5'	2.38	0.41
1:AA:1432:G:OP1	52:BT:108:ARG:HG2	2.21	0.41
3:AC:141:VAL:CG1	3:AC:149:ALA:HB2	2.50	0.41
7:AG:108:ALA:N	7:AG:123:GLU:HG2	2.36	0.41
7:AG:119:ARG:O	7:AG:120:ILE:C	2.59	0.41
22:AW:37:A:H3'	22:AW:38:A:H8	1.85	0.41
15:AO:29:VAL:HG21	15:AO:67:LEU:CD2	2.51	0.41
1:AA:542:G:O2'	1:AA:543:C:H5'	2.21	0.41
9:AI:64:THR:O	9:AI:64:THR:HG22	2.21	0.41
9:AI:16:ARG:NH2	9:AI:64:THR:HG21	2.35	0.41
9:AI:65:VAL:O	9:AI:66:ARG:HB2	2.21	0.41
46:BN:45:ASN:O	46:BN:46:VAL:HB	2.21	0.41
36:BA:1813:G:H1'	39:BD:50:THR:HG1	1.84	0.41
46:BN:12:ARG:CG	46:BN:50:ASP:OD2	2.65	0.41
36:BA:1827:C:O2'	36:BA:1828:G:H5'	2.21	0.41
36:BA:2242:G:H2'	36:BA:2243:U:O5'	2.21	0.41
1:AA:565:U:H3'	1:AA:566:G:H2'	2.03	0.41
7:AG:93:PRO:O	7:AG:96:GLN:HB3	2.21	0.41
26:B0:56:ASP:OD1	26:B0:56:ASP:C	2.58	0.41
1:AA:407:G:H2'	1:AA:408:A:C8	2.56	0.41
40:BE:80:GLU:C	40:BE:81:ILE:HG12	2.41	0.41
41:BF:98:SER:O	41:BF:99:TYR:HB3	2.21	0.41
36:BA:449:A:O2'	53:BU:3:ARG:CD	2.69	0.41
39:BD:97:TYR:HE1	39:BD:103:ARG:CG	2.34	0.41
39:BD:73:VAL:HG12	39:BD:74:GLY:N	2.36	0.41
55:BW:103:ILE:HG13	55:BW:103:ILE:H	1.53	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AK:124:LYS:NZ	11:AK:124:LYS:CB	2.84	0.41
16:AP:8:ARG:NH2	16:AP:15:PRO:HG3	2.36	0.41
25:AZ:342:PHE:CB	25:AZ:344:PHE:CE1	3.04	0.41
11:AK:18:ARG:HB3	11:AK:33:THR:OG1	2.21	0.41
36:BA:1045:A:N3	36:BA:1047:G:C2	2.89	0.41
10:AJ:20:ALA:C	10:AJ:22:LYS:N	2.73	0.41
36:BA:1155:A:HO2'	36:BA:1156:A:H2'	1.85	0.41
25:AZ:88:TYR:CD1	25:AZ:88:TYR:N	2.88	0.41
44:BJ:23:UNK:HA	44:BJ:118:UNK:HA	2.03	0.41
36:BA:2880:C:C2	36:BA:2881:C:C5	3.09	0.41
7:AG:51:GLN:HA	7:AG:51:GLN:OE1	2.21	0.41
47:BO:23:ARG:HG3	47:BO:24:VAL:N	2.36	0.41
25:AZ:136:ASN:O	25:AZ:137:LYS:CB	2.69	0.41
50:BR:72:ASP:HB3	50:BR:75:LEU:CB	2.50	0.41
5:AE:92:LYS:HA	5:AE:93:PRO:HD3	1.92	0.41
36:BA:2366:A:O2'	36:BA:2367:G:H5'	2.21	0.41
1:AA:78:G:H1	1:AA:91:C:H42	1.69	0.41
55:BW:84:ARG:HG2	55:BW:84:ARG:NH1	2.35	0.41
3:AC:142:MET:HE1	3:AC:171:GLY:HA3	2.03	0.41
9:AI:82:ALA:C	9:AI:84:ALA:H	2.25	0.41
1:AA:1261:A:C2'	1:AA:1262:C:H5'	2.51	0.41
36:BA:553:G:O2'	36:BA:554:U:H5'	2.20	0.41
1:AA:1213:A:C4	1:AA:1215:G:C8	3.09	0.41
43:BH:99:VAL:HG12	43:BH:100:GLY:N	2.35	0.41
2:AB:28:PHE:O	2:AB:28:PHE:CD1	2.73	0.41
26:B0:75:LEU:HD23	26:B0:75:LEU:O	2.20	0.41
14:AN:3:ARG:HG2	14:AN:3:ARG:O	2.21	0.41
25:AZ:51:ASP:OD1	25:AZ:62:THR:HG23	2.21	0.41
38:BC:195:ALA:O	38:BC:199:HIS:ND1	2.54	0.41
36:BA:217:G:H2'	36:BA:218:A:O4'	2.21	0.41
36:BA:2525:G:O2'	36:BA:2526:G:H5'	2.21	0.41
24:AY:60:U:OP1	24:AY:60:U:H6	2.04	0.41
39:BD:88:ARG:CZ	39:BD:88:ARG:HB3	2.51	0.41
36:BA:2519:U:OP1	36:BA:2519:U:H3'	2.21	0.41
52:BT:113:LYS:HA	52:BT:113:LYS:HD3	1.95	0.41
12:AL:126:LYS:HA	12:AL:126:LYS:HD2	1.86	0.41
36:BA:654(N):G:O6	36:BA:654(O):G:N2	2.54	0.41
36:BA:1858:G:H1'	36:BA:1884:A:N6	2.36	0.41
49:BQ:12:GLN:HG2	49:BQ:73:PRO:HD2	2.03	0.41
36:BA:2305:A:O2'	42:BG:136:ARG:HG2	2.20	0.41
32:B6:30:THR:O	32:B6:31:PRO:C	2.60	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:B8:50:LEU:O	34:B8:52:LYS:N	2.49	0.41
40:BE:29:GLY:H	40:BE:51:PHE:HZ	1.69	0.41
40:BE:82:ARG:O	40:BE:84:PHE:N	2.54	0.41
25:AZ:98:GLN:HB2	25:AZ:99:MET:H	1.68	0.41
36:BA:311:A:H5'	36:BA:332:A:N3	2.35	0.41
46:BN:2:LYS:NZ	54:BV:13:ARG:H	2.19	0.41
36:BA:2171:A:O2'	36:BA:2172:U:C5	2.72	0.41
51:BS:58:LEU:CG	51:BS:59:LYS:N	2.69	0.41
36:BA:2478:A:H2'	36:BA:2479:G:C5'	2.51	0.41
33:B7:12:ARG:HG3	33:B7:12:ARG:NH1	2.36	0.41
1:AA:1004:A:C6	1:AA:1037:C:N4	2.89	0.41
36:BA:1403:C:C5'	36:BA:1471:A:H1'	2.34	0.41
1:AA:1305:G:OP1	21:AU:2:GLY:N	2.54	0.41
36:BA:1177:A:H5''	36:BA:1178:C:O5'	2.21	0.41
28:B2:24:LEU:HD23	28:B2:24:LEU:C	2.41	0.41
39:BD:267:SER:C	39:BD:270:ILE:HD11	2.40	0.41
36:BA:2346:A:H5'	36:BA:2383:G:C1'	2.51	0.41
25:AZ:222:LEU:HD12	25:AZ:303:VAL:HG11	2.02	0.41
36:BA:1543:C:H3'	36:BA:1544:A:H5'	1.97	0.41
46:BN:60:ILE:HD13	46:BN:99:LEU:CD2	2.38	0.41
25:AZ:371:THR:CG2	25:AZ:372:VAL:N	2.78	0.41
36:BA:1258:C:O2'	36:BA:1259:G:H5'	2.21	0.41
48:BP:104:GLY:C	48:BP:105:LEU:HD12	2.42	0.41
41:BF:62:ARG:NH1	41:BF:62:ARG:CG	2.84	0.41
46:BN:22:THR:HA	46:BN:61:ARG:CB	2.50	0.41
3:AC:164:ARG:HB2	3:AC:164:ARG:HE	1.71	0.41
25:AZ:202:LEU:O	25:AZ:205:ALA:HB3	2.21	0.41
31:B5:16:ARG:NH1	31:B5:17:ASP:OD1	2.54	0.41
36:BA:1557:C:H5''	36:BA:1558:A:OP2	2.21	0.41
38:BC:103:ILE:HG23	38:BC:107:TRP:CD1	2.56	0.41
55:BW:1:MET:O	55:BW:64:MET:HE3	2.21	0.41
40:BE:96:PHE:O	40:BE:175:VAL:HG11	2.20	0.41
5:AE:45:PHE:CD2	5:AE:47:LYS:HD2	2.56	0.41
22:AW:71:G:O2'	22:AW:72:C:H5'	2.20	0.41
51:BS:89:ARG:HB3	51:BS:92:TYR:HB2	2.03	0.41
38:BC:139:ASN:OD1	38:BC:140:PRO:HD2	2.21	0.41
1:AA:189(J):G:C2'	1:AA:189(K):U:H5'	2.51	0.41
36:BA:1055:G:N2	36:BA:1085:A:N3	2.69	0.41
1:AA:1240:U:C4'	7:AG:38:LEU:HD21	2.50	0.41
1:AA:738:C:H2'	1:AA:739:C:C6	2.56	0.41
31:B5:10:LYS:HG3	36:BA:1263:U:O4'	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:AT:45:GLN:HA	20:AT:91:LEU:HB3	2.03	0.41
36:BA:2033:A:O2'	36:BA:2034:U:OP1	2.37	0.41
40:BE:54:GLN:O	40:BE:55:ASN:HB2	2.20	0.41
1:AA:101:A:H2	1:AA:152:A:O2'	2.03	0.41
1:AA:582:U:C2	1:AA:760:G:C6	3.09	0.41
27:B1:7:ILE:HD12	27:B1:70:VAL:HG22	2.03	0.41
29:B3:6:VAL:O	29:B3:6:VAL:HG23	2.21	0.41
22:AW:45:U:H6	22:AW:45:U:H3'	1.85	0.41
36:BA:185:U:H2'	36:BA:186:G:C8	2.56	0.41
36:BA:730:C:H2'	36:BA:731:C:H6	1.85	0.41
2:AB:219:VAL:O	2:AB:223:ILE:HG13	2.21	0.40
42:BG:138:GLN:C	42:BG:140:ILE:H	2.24	0.40
42:BG:178:PHE:CB	42:BG:180:PHE:CE1	3.04	0.40
53:BU:113:ALA:C	53:BU:115:ALA:N	2.75	0.40
53:BU:115:ALA:C	53:BU:117:GLN:N	2.73	0.40
57:BY:27:VAL:HG12	57:BY:29:GLU:OE1	2.20	0.40
57:BY:31:LEU:HD22	57:BY:31:LEU:H	1.87	0.40
1:AA:1054:C:OP1	1:AA:1197:G:OP1	2.39	0.40
1:AA:963:G:N2	10:AJ:55:LYS:CD	2.71	0.40
13:AM:86:CYS:O	13:AM:89:GLY:N	2.54	0.40
13:AM:90:LEU:O	13:AM:91:ARG:CG	2.67	0.40
40:BE:48:GLN:CD	40:BE:78:LEU:HD13	2.40	0.40
52:BT:76:PHE:HA	52:BT:77:PRO:HD3	1.72	0.40
58:BZ:76:LEU:O	58:BZ:77:ASP:CB	2.64	0.40
43:BH:85:LYS:HD3	43:BH:133:VAL:H	1.86	0.40
38:BC:124:GLY:HA2	38:BC:128:GLY:HA3	2.03	0.40
38:BC:189:ILE:HG22	38:BC:190:ARG:N	2.35	0.40
37:BB:66:A:C2	37:BB:109:C:C2	3.10	0.40
51:BS:29:PHE:CE2	51:BS:31:SER:HB2	2.56	0.40
35:B9:19:ARG:NH1	36:BA:2755:C:C5	2.89	0.40
1:AA:1391:U:H2'	1:AA:1392:G:C8	2.57	0.40
52:BT:19:LEU:HA	52:BT:20:PRO:HD3	1.80	0.40
36:BA:2723:C:C5'	50:BR:2:ARG:HE	2.34	0.40
43:BH:17:VAL:CG1	43:BH:18:GLU:H	2.28	0.40
36:BA:565:C:H4'	36:BA:1253:A:N1	2.35	0.40
50:BR:38:VAL:CB	50:BR:39:PRO:CD	2.97	0.40
36:BA:1511:C:C4	36:BA:1512:U:C5	3.09	0.40
25:AZ:221:PHE:HA	25:AZ:244:ARG:HG3	2.03	0.40
48:BP:65:ARG:HB3	48:BP:68:GLN:NE2	2.36	0.40
46:BN:101:HIS:C	46:BN:103:VAL:N	2.74	0.40
27:B1:10:LYS:O	27:B1:44:PRO:HG3	2.20	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:AN:12:ARG:CB	14:AN:12:ARG:HH11	2.33	0.40
36:BA:1697:G:C3'	36:BA:1698:A:H5''	2.40	0.40
9:AI:53:VAL:O	9:AI:55:ALA:N	2.53	0.40
1:AA:348:G:C2'	1:AA:349:A:H5'	2.51	0.40
36:BA:1022:G:OP2	46:BN:69:GLN:NE2	2.44	0.40
36:BA:582:G:H2'	36:BA:583:G:H8	1.86	0.40
25:AZ:130:TYR:CD1	25:AZ:211:PRO:HD3	2.57	0.40
36:BA:2368:C:O2'	36:BA:2369:A:H5'	2.21	0.40
15:AO:26:GLU:OE2	15:AO:77:ARG:HD2	2.21	0.40
1:AA:490:G:O2'	1:AA:491:G:H5'	2.21	0.40
25:AZ:31:LEU:O	25:AZ:35:THR:HG23	2.20	0.40
9:AI:26:VAL:HG12	9:AI:28:VAL:HG23	2.03	0.40
48:BP:140:ALA:O	48:BP:141:ALA:HB3	2.21	0.40
36:BA:1061:U:H4'	36:BA:1070:A:C4'	2.51	0.40
36:BA:1060:U:O2'	36:BA:1061:U:OP2	2.30	0.40
39:BD:43:ARG:HB2	39:BD:54:ARG:HB2	2.02	0.40
36:BA:13:A:C6	36:BA:525:U:C2	3.09	0.40
39:BD:73:VAL:O	39:BD:75:ILE:N	2.47	0.40
22:AV:76:A:H5''	36:BA:2602:A:N7	2.36	0.40
36:BA:1247:A:OP1	41:BF:95:ARG:NH2	2.48	0.40
1:AA:738:C:P	6:AF:92:LYS:HE3	2.61	0.40
1:AA:1342:C:O2'	9:AI:124:GLN:HG3	2.21	0.40
36:BA:1790:C:H2'	36:BA:1791:A:C4	2.56	0.40
23:AX:23:G:C5	24:AY:36:A:C2	3.09	0.40
28:B2:37:PHE:C	28:B2:39:ALA:N	2.74	0.40
12:AL:117:ARG:NH2	12:AL:124:LYS:HB2	2.37	0.40
10:AJ:14:LYS:HE3	10:AJ:14:LYS:HB2	1.71	0.40
15:AO:64:ARG:HG3	15:AO:64:ARG:HH11	1.86	0.40
7:AG:136:LYS:HB3	7:AG:136:LYS:HE3	1.92	0.40
14:AN:21:TYR:N	14:AN:21:TYR:CD1	2.88	0.40
36:BA:514:A:O2'	36:BA:515:A:H5'	2.21	0.40
36:BA:529:A:H4'	36:BA:530:G:O5'	2.20	0.40
2:AB:224:GLN:O	2:AB:227:GLY:N	2.54	0.40
36:BA:2627:G:O2'	36:BA:2781:A:N1	2.45	0.40
57:BY:50:ARG:HG3	57:BY:53:PRO:HA	2.03	0.40
57:BY:50:ARG:CB	57:BY:53:PRO:HG3	2.47	0.40
57:BY:73:ARG:HA	57:BY:74:PRO:HD2	1.91	0.40
25:AZ:271:GLU:HA	25:AZ:277:LEU:H	1.86	0.40
25:AZ:282:ALA:C	25:AZ:284:ASP:H	2.24	0.40
1:AA:1188:A:H2'	1:AA:1189:C:H5'	2.02	0.40
1:AA:1202:G:H1'	14:AN:29:ARG:CD	2.51	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BA:997:G:C2	36:BA:1159:U:O2	2.75	0.40
46:BN:1:MET:C	46:BN:2:LYS:HD2	2.42	0.40
53:BU:97:ASP:O	53:BU:98:LEU:C	2.59	0.40
53:BU:90:VAL:HG21	54:BV:47:VAL:HG23	2.02	0.40
43:BH:84:SER:O	43:BH:85:LYS:HB3	2.20	0.40
51:BS:54:LEU:HD22	51:BS:58:LEU:C	2.42	0.40
36:BA:2810:A:C2'	40:BE:61:ARG:HH21	2.34	0.40
52:BT:29:ARG:HG2	52:BT:86:ILE:HG22	2.03	0.40
2:AB:58:ILE:O	2:AB:61:LEU:N	2.54	0.40
36:BA:2101:G:C2'	36:BA:2102:U:C5'	2.93	0.40
36:BA:1309:G:O2'	36:BA:1310:G:H5'	2.22	0.40
1:AA:1145:C:O2'	1:AA:1146:A:C8	2.71	0.40
52:BT:79:HIS:O	52:BT:80:SER:CB	2.69	0.40
36:BA:1190:G:H5'	48:BP:35:HIS:H	1.86	0.40
48:BP:22:GLY:HA2	48:BP:23:PRO:HD3	1.86	0.40
22:AV:18:G:C2	22:AV:58:A:C6	3.09	0.40
1:AA:173:U:H5'	1:AA:197:A:C1'	2.48	0.40
41:BF:192:LEU:O	41:BF:192:LEU:HD23	2.21	0.40
1:AA:102:G:C5	1:AA:103:C:C5	3.09	0.40
29:B3:15:TYR:HD2	29:B3:19:GLN:HE22	1.69	0.40
9:AI:95:LYS:HZ3	9:AI:96:LEU:CD1	2.35	0.40
36:BA:2592:G:H2'	36:BA:2593:U:O4'	2.21	0.40
36:BA:1018:C:O2'	36:BA:1019:U:H5'	2.21	0.40
42:BG:47:LYS:NZ	42:BG:81:LYS:HG3	2.37	0.40
36:BA:585:G:H2'	36:BA:1251:C:H42	1.85	0.40
40:BE:127:ASP:HA	40:BE:135:HIS:CD2	2.57	0.40
12:AL:10:LEU:O	12:AL:14:GLY:N	2.54	0.40
1:AA:1039:C:C6	1:AA:1040:U:C5	3.09	0.40
52:BT:129:ARG:HG3	52:BT:129:ARG:NH1	2.37	0.40
36:BA:2661:G:C6	36:BA:2662:A:C2	3.09	0.40
15:AO:39:LEU:CD2	15:AO:43:LEU:HG	2.51	0.40
2:AB:7:VAL:HA	2:AB:11:LEU:CD1	2.50	0.40
36:BA:270:A:H2'	36:BA:271:A:C5'	2.51	0.40
39:BD:74:GLY:O	39:BD:76:PRO:HD3	2.22	0.40
2:AB:30:ARG:HG3	2:AB:31:TYR:N	2.36	0.40
2:AB:30:ARG:CG	2:AB:31:TYR:N	2.84	0.40
1:AA:189(H):G:O2'	1:AA:189(I):G:C8	2.73	0.40
39:BD:197:GLY:O	39:BD:198:ASN:C	2.59	0.40
9:AI:11:LYS:C	9:AI:13:ALA:N	2.74	0.40
39:BD:146:GLU:HG2	39:BD:153:ALA:N	2.36	0.40
36:BA:645:C:C3'	36:BA:645:C:O2	2.69	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:BH:136:ILE:CD1	43:BH:136:ILE:N	2.84	0.40
36:BA:314:A:H2'	36:BA:315:G:H8	1.85	0.40
22:AW:9:A:N6	22:AW:23:A:C8	2.90	0.40
36:BA:572:A:H5''	54:BV:78:LYS:HZ1	1.85	0.40
30:B4:35:VAL:CG1	30:B4:36:CYS:N	2.84	0.40
15:AO:65:ARG:NH1	15:AO:65:ARG:HG2	2.36	0.40
1:AA:165:C:O2'	1:AA:166:G:H5'	2.21	0.40
29:B3:3:ARG:HB2	29:B3:59:VAL:C	2.41	0.40
12:AL:64:TYR:HD1	12:AL:64:TYR:H	1.69	0.40
1:AA:1415:G:C6	1:AA:1486:G:C5	3.09	0.40
4:AD:59:ARG:HA	4:AD:59:ARG:NE	2.35	0.40
36:BA:2038:G:H2'	36:BA:2039:C:O4'	2.20	0.40
12:AL:124:LYS:HD2	12:AL:125:PRO:HD2	2.02	0.40
36:BA:1389:G:H2'	36:BA:1390:U:H6	1.86	0.40
25:AZ:38:GLU:O	25:AZ:38:GLU:CD	2.59	0.40
36:BA:2505:G:O6	36:BA:2576:G:H2'	2.21	0.40
3:AC:174:PRO:HB2	3:AC:177:THR:HB	2.03	0.40
57:BY:27:VAL:CG1	57:BY:29:GLU:OE1	2.69	0.40
57:BY:74:PRO:O	57:BY:79:CYS:O	2.38	0.40
1:AA:1058:G:H2'	1:AA:1059:C:C6	2.57	0.40
1:AA:1318:A:O2'	19:AS:10:PHE:HD2	2.04	0.40
40:BE:1:MET:O	40:BE:2:LYS:C	2.60	0.40
36:BA:1204:A:N1	36:BA:1241:A:C2	2.89	0.40
38:BC:46:LYS:HD2	38:BC:47:LEU:N	2.37	0.40
52:BT:50:ILE:HA	52:BT:99:LEU:HD11	2.03	0.40
35:B9:29:ASN:HD21	35:B9:32:HIS:CE1	2.40	0.40
36:BA:1638:C:H5''	36:BA:2710:C:O2'	2.20	0.40
31:B5:47:PRO:C	31:B5:49:CYS:N	2.73	0.40
42:BG:64:THR:HG23	42:BG:65:GLY:N	2.37	0.40
36:BA:1996:C:H5	47:BO:32:TYR:HH	1.68	0.40
28:B2:17:SER:CB	28:B2:18:PRO:CD	2.90	0.40
36:BA:814:C:O2'	36:BA:815:C:H5'	2.21	0.40
36:BA:1800:C:OP1	39:BD:264:LYS:HE2	2.22	0.40
1:AA:495:A:H4'	1:AA:496:A:O5'	2.21	0.40
36:BA:246:C:H5'	48:BP:71:VAL:HG23	2.03	0.40
17:AQ:16:GLN:HB2	17:AQ:16:GLN:HE21	1.63	0.40
36:BA:1542:A:C6	36:BA:1544:A:C8	3.09	0.40
38:BC:54:SER:C	38:BC:56:GLN:H	2.25	0.40
36:BA:1682:G:H2'	36:BA:1683:C:H6	1.84	0.40
50:BR:55:ALA:HB2	50:BR:79:LEU:HD13	2.02	0.40
50:BR:63:ARG:HA	50:BR:80:PHE:CE2	2.56	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:BU:13:LYS:HD2	53:BU:16:LYS:HZ2	1.86	0.40
7:AG:111:ARG:NH1	7:AG:113:GLU:OE2	2.54	0.40
36:BA:86:C:H1'	36:BA:103:A:H2	1.86	0.40
47:BO:71:ARG:HH12	52:BT:74:ARG:NH2	2.19	0.40
16:AP:21:VAL:HG13	16:AP:21:VAL:O	2.22	0.40
48:BP:123:LEU:HD23	48:BP:123:LEU:N	2.35	0.40
36:BA:718:A:H3'	36:BA:719:C:H6	1.86	0.40
1:AA:109:A:C6	1:AA:326:G:C5	3.09	0.40
30:B4:15:ILE:HD13	30:B4:21:VAL:HG13	2.03	0.40
36:BA:271(R):G:O2'	36:BA:271(S):G:H5'	2.21	0.40
36:BA:2870:C:C2'	36:BA:2871:C:H5'	2.51	0.40
35:B9:16:VAL:HG11	36:BA:1032:A:O3'	2.21	0.40
1:AA:261:U:OP1	20:AT:79:ARG:NH2	2.53	0.40
49:BQ:65:PHE:CZ	58:BZ:118:GLN:OE1	2.75	0.40
11:AK:126:ARG:O	11:AK:127:LYS:C	2.60	0.40
6:AF:22:GLU:C	6:AF:24:GLU:H	2.25	0.40
24:AY:36:A:C4	24:AY:37:MIA:C8	3.04	0.40
28:B2:29:LYS:O	28:B2:32:LEU:HB3	2.21	0.40
36:BA:139(A):G:N2	56:BX:44:GLU:OE1	2.52	0.40
36:BA:321:G:N2	41:BF:165:ARG:HE	2.19	0.40
36:BA:947:G:H2'	36:BA:948:G:C8	2.57	0.40
27:B1:35:THR:HG21	36:BA:2080:G:OP1	2.21	0.40
36:BA:1535:A:O5'	36:BA:1535:A:H8	2.03	0.40
1:AA:828:A:H4'	1:AA:828:A:OP1	2.21	0.40
1:AA:49:U:H5	1:AA:365:U:O4	2.05	0.40
4:AD:190:ASP:HB3	4:AD:193:ASP:OD2	2.21	0.40
1:AA:862:C:C2'	1:AA:863:U:H5'	2.51	0.40
36:BA:2517:C:O2'	36:BA:2542:A:C2	2.65	0.40
36:BA:2001:A:H2'	36:BA:2002:G:C8	2.57	0.40
36:BA:271(X):G:C2	36:BA:271(Y):U:O4	2.74	0.40
1:AA:355:C:N3	1:AA:356:A:N7	2.69	0.40
32:B6:53:LYS:CD	32:B6:54:ILE:N	2.81	0.40
36:BA:2400:G:N2	36:BA:2417:C:C2	2.90	0.40
57:BY:27:VAL:CG1	57:BY:28:LYS:N	2.84	0.40
57:BY:96:ILE:CD1	57:BY:99:CYS:HB3	2.51	0.40
26:B0:10:THR:HG22	26:B0:11:ARG:N	2.37	0.40
34:B8:54:GLU:O	34:B8:58:ILE:HG12	2.22	0.40
15:AO:82:ILE:CG2	15:AO:83:GLU:N	2.84	0.40
51:BS:15:ARG:NH1	51:BS:15:ARG:CB	2.80	0.40
54:BV:57:VAL:HG23	54:BV:98:GLU:O	2.21	0.40
36:BA:2176:A:H2	38:BC:172:HIS:HE2	1.68	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:BC:171:ILE:HG12	38:BC:196:LEU:CD2	2.51	0.40
52:BT:50:ILE:CD1	52:BT:64:ARG:HB2	2.50	0.40
36:BA:2839:G:H5''	50:BR:46:GLY:HA2	2.03	0.40
35:B9:1:MET:CA	35:B9:4:ARG:NH2	2.71	0.40
36:BA:1748:G:H5'	36:BA:1748:G:H8	1.87	0.40
36:BA:607:U:O2	36:BA:621:A:N1	2.55	0.40
55:BW:70:TYR:O	55:BW:72:LYS:N	2.54	0.40
22:AV:59:U:O2'	22:AV:60:U:O5'	2.39	0.40
26:B0:7:LEU:O	26:B0:8:GLY:O	2.40	0.40
36:BA:673:C:C3'	36:BA:673:C:C6	3.04	0.40
36:BA:671:C:C5	48:BP:42:SER:HA	2.57	0.40
51:BS:48:LEU:HD12	51:BS:48:LEU:N	2.36	0.40
20:AT:49:ALA:O	20:AT:52:ALA:HB3	2.21	0.40
49:BQ:26:TYR:HA	49:BQ:137:TYR:CD1	2.56	0.40
5:AE:12:LEU:CD2	5:AE:12:LEU:C	2.90	0.40
36:BA:1151:G:H2'	36:BA:1152:C:H6	1.83	0.40
39:BD:226:MET:HB3	39:BD:230:ASP:CB	2.47	0.40
36:BA:614(A):U:H4'	36:BA:614(B):G:OP2	2.21	0.40
10:AJ:40:LEU:HG	10:AJ:69:ASN:HB2	2.01	0.40
46:BN:18:ALA:C	46:BN:20:GLY:N	2.73	0.40
36:BA:1708:C:H2'	36:BA:1709:U:H6	1.87	0.40
25:AZ:341:GLN:H	25:AZ:341:GLN:NE2	2.20	0.40
1:AA:1190:G:OP1	3:AC:4:LYS:HA	2.21	0.40
51:BS:89:ARG:NH1	51:BS:91:PRO:O	2.55	0.40
55:BW:96:ILE:O	55:BW:96:ILE:CG2	2.69	0.40
13:AM:27:LYS:HG3	13:AM:31:LYS:HE3	2.03	0.40
47:BO:35:VAL:CG2	47:BO:65:THR:HG23	2.50	0.40
46:BN:129:PRO:O	46:BN:130:HIS:CB	2.69	0.40
36:BA:764:A:N1	36:BA:1789:A:O2'	2.48	0.40
36:BA:1773:A:H2'	36:BA:1774:C:C5'	2.50	0.40
36:BA:2203:U:O2'	39:BD:151:LYS:HG2	2.21	0.40
8:AH:35:ILE:HG23	8:AH:111:ILE:HD13	2.03	0.40
1:AA:272:C:O2'	1:AA:273:A:H5'	2.22	0.40
16:AP:6:LEU:HB3	16:AP:17:TYR:CD2	2.56	0.40
36:BA:1578:U:C2'	36:BA:1579:A:H5''	2.51	0.40
55:BW:84:ARG:HA	55:BW:84:ARG:HD3	1.93	0.40
18:AR:50:ILE:CD1	18:AR:70:ILE:HG21	2.50	0.40
1:AA:518:C:H2'	1:AA:530:G:N3	2.37	0.40
20:AT:30:LYS:NZ	20:AT:72:LEU:HD21	2.36	0.40
1:AA:342:C:O2'	1:AA:343:U:H5'	2.20	0.40
1:AA:956:U:O2	1:AA:1225:A:C2	2.74	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:AZ:216:ASP:C	25:AZ:216:ASP:OD1	2.59	0.40
41:BF:47:GLY:O	41:BF:94:PRO:HA	2.22	0.40
1:AA:636:U:O2'	1:AA:637:G:H5'	2.21	0.40
36:BA:714:U:H2'	36:BA:716:A:OP2	2.21	0.40
58:BZ:46:LYS:O	58:BZ:50:GLN:HG3	2.21	0.40
1:AA:368:U:C5	25:AZ:234:ARG:CZ	3.05	0.40
42:BG:63:ILE:HG22	42:BG:143:GLU:HG3	2.04	0.40
42:BG:95:ARG:NH1	42:BG:95:ARG:HG2	2.37	0.40
36:BA:2392:A:C2	36:BA:2424:C:N4	2.87	0.40
36:BA:503:A:C6	36:BA:506:G:C6	3.10	0.40
57:BY:19:LYS:HB2	57:BY:20:TYR:CE1	2.56	0.40
32:B6:26:ASN:ND2	32:B6:32:ASN:CG	2.75	0.40
1:AA:1201:A:H4'	1:AA:1202:G:C5'	2.51	0.40
14:AN:33:VAL:HA	14:AN:40:CYS:HA	2.03	0.40
1:AA:1314:C:H2'	1:AA:1315:U:C6	2.56	0.40
40:BE:199:ARG:HB2	40:BE:199:ARG:CZ	2.50	0.40
52:BT:1:MET:O	52:BT:1:MET:HG3	2.21	0.40
34:B8:4:MET:HE1	36:BA:592:G:H21	1.86	0.40
19:AS:9:VAL:HG12	19:AS:11:VAL:HG12	2.04	0.40
10:AJ:74:ILE:HG13	10:AJ:74:ILE:O	2.22	0.40
30:B4:10:VAL:CG2	30:B4:11:PRO:CD	2.96	0.40
36:BA:1664:A:H1'	36:BA:2726:U:C5	2.56	0.40
36:BA:2048:G:N2	40:BE:113:PHE:CZ	2.88	0.40
1:AA:495:A:O2'	1:AA:496:A:P	2.79	0.40
40:BE:167:VAL:HG12	40:BE:189:PRO:CD	2.52	0.40
10:AJ:28:ARG:NH1	10:AJ:28:ARG:HG2	2.36	0.40
36:BA:2206:G:H3'	36:BA:2206:G:N3	2.37	0.40
36:BA:2208:A:H1'	36:BA:2219:G:N7	2.36	0.40
41:BF:84:VAL:CG1	41:BF:85:GLY:N	2.66	0.40
2:AB:116:GLU:O	2:AB:118:LEU:N	2.54	0.40
49:BQ:135:ASP:C	49:BQ:137:TYR:H	2.25	0.40
25:AZ:124:ARG:CD	25:AZ:161:TYR:O	2.70	0.40
2:AB:34:ALA:O	2:AB:41:ILE:HB	2.21	0.40
4:AD:18:LYS:HA	4:AD:33:MET:HE3	2.04	0.40
5:AE:83:GLU:HG2	5:AE:88:LYS:HG3	2.02	0.40
9:AI:28:VAL:O	9:AI:29:ASN:HB2	2.22	0.40
40:BE:132:HIS:CG	40:BE:135:HIS:HE1	2.39	0.40
3:AC:65:ALA:O	3:AC:66:VAL:C	2.59	0.40
36:BA:203:C:C3'	36:BA:204:A:H5''	2.45	0.40
36:BA:139:G:N1	36:BA:143:G:N1	2.70	0.40
1:AA:1191:A:H2'	1:AA:1192:C:C6	2.56	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:982:U:O2'	1:AA:983:A:OP2	2.35	0.40
13:AM:15:VAL:HG23	13:AM:16:ASP:H	1.84	0.40
1:AA:1044:A:C5	1:AA:1045:C:H1'	2.57	0.40
25:AZ:117:ARG:HB2	25:AZ:117:ARG:NH1	2.37	0.40
36:BA:652:C:HO2'	36:BA:653:A:P	2.44	0.40
1:AA:590:C:OP1	8:AH:30:ARG:HB2	2.21	0.40
1:AA:621:A:C6	1:AA:622:A:C6	3.10	0.40
12:AL:102:ARG:NH1	12:AL:102:ARG:CG	2.81	0.40
21:AU:3:LYS:HD3	21:AU:14:TRP:HD1	1.85	0.40
36:BA:903:C:H2'	36:BA:904:C:C6	2.57	0.40
36:BA:1342:A:O2'	36:BA:1344:G:OP2	2.34	0.40
15:AO:31:LEU:HD12	15:AO:31:LEU:HA	1.92	0.40
36:BA:1339:G:N2	36:BA:1603:A:H1'	2.37	0.40
36:BA:553:G:H2'	36:BA:554:U:O4'	2.21	0.40
36:BA:2531:A:H2'	36:BA:2532:G:H8	1.87	0.40
47:BO:25:LEU:HB2	47:BO:38:VAL:O	2.22	0.40
1:AA:787:A:N1	1:AA:795:C:N4	2.70	0.40
36:BA:300:A:H2'	36:BA:334:C:O2'	2.22	0.40
16:AP:80:PHE:CD1	16:AP:80:PHE:N	2.89	0.40
39:BD:257:LEU:CD2	39:BD:257:LEU:C	2.90	0.40
7:AG:66:VAL:HG12	7:AG:67:GLU:N	2.36	0.40

All (2) symmetry-related close contacts are listed below. The label for Atom-2 includes the symmetry operator and encoded unit-cell translations to be applied.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:1267:C:O5'	36:BA:654(I):C:O4'[2_746]	1.83	0.37
1:AA:1266:G:O3'	36:BA:654(I):C:O4'[2_746]	2.16	0.04

5.3 Torsion angles [i](#)

5.3.1 Protein backbone [i](#)

In the following table, the Percentiles column shows the percent Ramachandran outliers of the chain as a percentile score with respect to all 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	
2	AB	232/256 (91%)	163 (70%)	41 (18%)	28 (12%)	0	2
3	AC	204/239 (85%)	155 (76%)	33 (16%)	16 (8%)	1	6
4	AD	206/209 (99%)	157 (76%)	34 (16%)	15 (7%)	1	7
5	AE	148/162 (91%)	125 (84%)	16 (11%)	7 (5%)	3	17
6	AF	99/101 (98%)	81 (82%)	11 (11%)	7 (7%)	1	8
7	AG	153/156 (98%)	118 (77%)	25 (16%)	10 (6%)	1	9
8	AH	136/138 (99%)	118 (87%)	16 (12%)	2 (2%)	13	46
9	AI	125/128 (98%)	83 (66%)	29 (23%)	13 (10%)	1	3
10	AJ	96/105 (91%)	67 (70%)	17 (18%)	12 (12%)	0	1
11	AK	117/129 (91%)	94 (80%)	19 (16%)	4 (3%)	5	25
12	AL	122/135 (90%)	89 (73%)	20 (16%)	13 (11%)	0	3
13	AM	122/126 (97%)	74 (61%)	27 (22%)	21 (17%)	0	0
14	AN	58/61 (95%)	37 (64%)	11 (19%)	10 (17%)	0	0
15	AO	86/89 (97%)	65 (76%)	17 (20%)	4 (5%)	3	17
16	AP	81/88 (92%)	62 (76%)	14 (17%)	5 (6%)	2	10
17	AQ	97/105 (92%)	74 (76%)	18 (19%)	5 (5%)	2	15
18	AR	68/88 (77%)	49 (72%)	14 (21%)	5 (7%)	1	7
19	AS	76/93 (82%)	41 (54%)	21 (28%)	14 (18%)	0	0
20	AT	97/106 (92%)	63 (65%)	26 (27%)	8 (8%)	1	6
21	AU	22/27 (82%)	17 (77%)	4 (18%)	1 (4%)	3	17
25	AZ	403/405 (100%)	285 (71%)	83 (21%)	35 (9%)	1	5
26	B0	82/85 (96%)	65 (79%)	12 (15%)	5 (6%)	2	11
27	B1	91/98 (93%)	73 (80%)	9 (10%)	9 (10%)	1	4
28	B2	69/72 (96%)	46 (67%)	15 (22%)	8 (12%)	0	2
29	B3	57/60 (95%)	40 (70%)	9 (16%)	8 (14%)	0	1
30	B4	42/71 (59%)	23 (55%)	11 (26%)	8 (19%)	0	0
31	B5	57/60 (95%)	42 (74%)	8 (14%)	7 (12%)	0	2
32	B6	48/54 (89%)	23 (48%)	12 (25%)	13 (27%)	0	0
33	B7	46/49 (94%)	39 (85%)	7 (15%)	0	100	100
34	B8	61/65 (94%)	34 (56%)	17 (28%)	10 (16%)	0	0
35	B9	35/37 (95%)	21 (60%)	9 (26%)	5 (14%)	0	1
38	BC	226/229 (99%)	161 (71%)	46 (20%)	19 (8%)	1	6

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
39	BD	273/276 (99%)	219 (80%)	28 (10%)	26 (10%)	1	4
40	BE	202/206 (98%)	116 (57%)	53 (26%)	33 (16%)	0	0
41	BF	205/210 (98%)	144 (70%)	35 (17%)	26 (13%)	0	1
42	BG	179/182 (98%)	107 (60%)	47 (26%)	25 (14%)	0	1
43	BH	157/180 (87%)	96 (61%)	42 (27%)	19 (12%)	0	2
46	BN	136/140 (97%)	93 (68%)	21 (15%)	22 (16%)	0	0
47	BO	120/122 (98%)	97 (81%)	16 (13%)	7 (6%)	2	12
48	BP	144/150 (96%)	74 (51%)	36 (25%)	34 (24%)	0	0
49	BQ	139/141 (99%)	108 (78%)	24 (17%)	7 (5%)	3	16
50	BR	115/118 (98%)	72 (63%)	28 (24%)	15 (13%)	0	1
51	BS	96/112 (86%)	37 (38%)	37 (38%)	22 (23%)	0	0
52	BT	135/146 (92%)	85 (63%)	27 (20%)	23 (17%)	0	0
53	BU	115/118 (98%)	72 (63%)	34 (30%)	9 (8%)	1	6
54	BV	99/101 (98%)	69 (70%)	13 (13%)	17 (17%)	0	0
55	BW	111/113 (98%)	81 (73%)	21 (19%)	9 (8%)	1	6
56	BX	90/96 (94%)	67 (74%)	15 (17%)	8 (9%)	1	5
57	BY	98/110 (89%)	45 (46%)	26 (26%)	27 (28%)	0	0
58	BZ	174/206 (84%)	108 (62%)	39 (22%)	27 (16%)	0	0
All	All	6150/6553 (94%)	4274 (70%)	1193 (19%)	683 (11%)	0	3

All (683) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
2	AB	191	ASP
2	AB	194	PRO
2	AB	195	ASP
3	AC	146	ALA
4	AD	4	TYR
4	AD	24	GLU
4	AD	30	LYS
4	AD	44	GLY
4	AD	125	HIS
5	AE	64	ARG
6	AF	64	GLN
7	AG	53	LYS
8	AH	109	ILE

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Mol	Chain	Res	Type
9	AI	41	VAL
9	AI	58	ARG
9	AI	89	ASN
10	AJ	36	GLY
10	AJ	55	LYS
10	AJ	83	GLU
10	AJ	86	MET
12	AL	18	VAL
12	AL	27	LEU
12	AL	28	LYS
12	AL	47	LYS
12	AL	92	ASP
12	AL	122	THR
13	AM	12	ASN
13	AM	14	ARG
13	AM	53	VAL
13	AM	83	ASP
13	AM	91	ARG
13	AM	117	VAL
13	AM	124	PRO
14	AN	14	PRO
14	AN	15	LYS
14	AN	23	ARG
14	AN	56	VAL
14	AN	59	ALA
16	AP	17	TYR
16	AP	45	THR
17	AQ	27	PHE
19	AS	5	LEU
19	AS	10	PHE
19	AS	28	LYS
19	AS	61	TYR
19	AS	62	ILE
19	AS	80	TYR
20	AT	48	LYS
25	AZ	19	HIS
25	AZ	85	HIS
25	AZ	99	MET
25	AZ	141	VAL
25	AZ	188	THR
25	AZ	194	GLU
25	AZ	213	PRO

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Mol	Chain	Res	Type
25	AZ	220	PRO
25	AZ	276	THR
25	AZ	360	GLU
25	AZ	364	PRO
25	AZ	390	GLU
25	AZ	404	LEU
26	B0	43	THR
27	B1	83	GLU
27	B1	85	LEU
28	B2	17	SER
28	B2	18	PRO
28	B2	47	ASN
28	B2	48	HIS
29	B3	3	ARG
29	B3	13	ILE
30	B4	26	SER
31	B5	4	HIS
31	B5	24	ALA
31	B5	49	CYS
32	B6	17	LYS
32	B6	18	ARG
32	B6	20	ASN
32	B6	27	LYS
32	B6	28	ARG
32	B6	31	PRO
32	B6	33	LYS
32	B6	46	HIS
32	B6	52	VAL
34	B8	33	ASN
34	B8	34	TRP
34	B8	35	GLN
34	B8	46	ARG
35	B9	11	CYS
35	B9	36	GLN
38	BC	4	GLY
38	BC	78	ALA
38	BC	95	GLY
38	BC	109	ASP
38	BC	111	ASP
38	BC	126	LYS
38	BC	149	ILE
38	BC	217	THR

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Mol	Chain	Res	Type
39	BD	25	THR
39	BD	26	LYS
39	BD	27	THR
39	BD	36	PRO
39	BD	267	SER
40	BE	2	LYS
40	BE	4	ILE
40	BE	33	VAL
40	BE	35	GLN
40	BE	45	THR
40	BE	53	PRO
40	BE	66	HIS
40	BE	88	GLY
40	BE	90	THR
40	BE	178	GLU
40	BE	187	ALA
41	BF	10	PRO
41	BF	11	VAL
41	BF	14	PRO
41	BF	21	ALA
41	BF	84	VAL
41	BF	133	ASN
42	BG	3	LEU
42	BG	28	VAL
42	BG	79	ASN
42	BG	82	LEU
42	BG	84	LYS
42	BG	86	MET
42	BG	96	ARG
42	BG	126	ASP
42	BG	137	GLU
43	BH	41	MET
43	BH	84	SER
43	BH	92	ILE
43	BH	155	SER
43	BH	158	HIS
43	BH	159	GLU
46	BN	7	LYS
46	BN	8	GLN
46	BN	45	ASN
46	BN	46	VAL
46	BN	58	ASP

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Mol	Chain	Res	Type
46	BN	63	THR
46	BN	129	PRO
46	BN	130	HIS
47	BO	48	PRO
47	BO	68	GLU
48	BP	9	ASN
48	BP	17	LYS
48	BP	21	ARG
48	BP	30	THR
48	BP	31	ALA
48	BP	33	ARG
48	BP	36	LYS
48	BP	40	SER
48	BP	47	ASP
48	BP	65	ARG
48	BP	67	MET
48	BP	70	GLN
48	BP	71	VAL
48	BP	103	ALA
48	BP	106	LEU
48	BP	108	LYS
48	BP	111	ARG
49	BQ	135	ASP
50	BR	6	SER
50	BR	8	ARG
50	BR	9	LYS
50	BR	58	GLY
50	BR	117	VAL
51	BS	23	ARG
51	BS	39	ILE
51	BS	62	LYS
51	BS	94	TYR
51	BS	97	ARG
51	BS	98	VAL
51	BS	103	GLU
51	BS	105	ALA
52	BT	24	PRO
52	BT	27	THR
52	BT	28	VAL
52	BT	32	TYR
52	BT	69	GLY
52	BT	80	SER

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Mol	Chain	Res	Type
52	BT	83	ILE
52	BT	84	GLN
52	BT	88	ILE
52	BT	107	ASP
52	BT	135	ALA
53	BU	91	ASP
54	BV	16	PRO
54	BV	18	LEU
54	BV	24	LYS
54	BV	53	GLU
54	BV	97	LYS
55	BW	65	LEU
55	BW	92	ARG
56	BX	48	LYS
56	BX	87	GLN
57	BY	17	SER
57	BY	26	LYS
57	BY	46	LYS
57	BY	50	ARG
57	BY	53	PRO
57	BY	56	PRO
57	BY	57	GLN
57	BY	64	GLU
57	BY	65	ALA
57	BY	76	CYS
57	BY	77	PRO
57	BY	78	ALA
57	BY	79	CYS
57	BY	81	LYS
57	BY	82	PRO
58	BZ	34	ASN
58	BZ	38	TYR
58	BZ	77	ASP
58	BZ	141	VAL
58	BZ	163	LEU
58	BZ	177	PRO
2	AB	9	GLU
2	AB	14	GLY
2	AB	18	GLY
2	AB	44	LEU
2	AB	75	LYS
2	AB	150	SER

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Mol	Chain	Res	Type
2	AB	153	ARG
2	AB	204	ASN
2	AB	224	GLN
2	AB	234	PRO
2	AB	236	TYR
3	AC	81	GLY
3	AC	160	ALA
3	AC	204	LEU
4	AD	13	ARG
4	AD	92	VAL
5	AE	22	GLY
5	AE	126	ARG
5	AE	153	LYS
6	AF	37	VAL
6	AF	54	LYS
7	AG	147	ALA
9	AI	12	GLU
9	AI	70	LYS
9	AI	94	ALA
9	AI	119	ALA
10	AJ	30	SER
10	AJ	59	SER
10	AJ	84	GLN
11	AK	127	LYS
12	AL	72	GLY
12	AL	87	GLY
13	AM	5	ALA
13	AM	33	ALA
13	AM	60	VAL
13	AM	114	ARG
13	AM	120	LYS
14	AN	16	PHE
14	AN	20	ALA
15	AO	71	GLN
16	AP	28	ARG
16	AP	43	LYS
16	AP	49	LEU
17	AQ	78	GLU
17	AQ	82	MET
18	AR	32	ARG
18	AR	47	THR
19	AS	9	VAL

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Mol	Chain	Res	Type
19	AS	14	HIS
19	AS	17	GLU
19	AS	25	LYS
19	AS	30	LEU
20	AT	98	PRO
25	AZ	67	HIS
25	AZ	139	ASP
25	AZ	209	TYR
25	AZ	211	PRO
25	AZ	212	THR
25	AZ	260	PRO
26	B0	8	GLY
26	B0	42	GLY
29	B3	30	ARG
29	B3	57	GLU
30	B4	8	LYS
30	B4	43	TYR
31	B5	35	GLU
31	B5	48	GLU
31	B5	55	ARG
32	B6	16	CYS
32	B6	34	LEU
34	B8	31	HIS
34	B8	50	LEU
34	B8	61	LEU
35	B9	10	ILE
35	B9	33	LYS
38	BC	45	ALA
38	BC	59	ARG
38	BC	105	ASP
38	BC	202	GLU
38	BC	221	SER
39	BD	3	VAL
39	BD	41	GLY
39	BD	42	GLY
39	BD	127	VAL
39	BD	225	ALA
40	BE	69	LYS
40	BE	77	ILE
40	BE	82	ARG
40	BE	83	ASP
40	BE	117	MET

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Mol	Chain	Res	Type
41	BF	91	GLY
41	BF	134	GLY
42	BG	43	LEU
42	BG	87	PRO
42	BG	110	ALA
42	BG	129	GLY
42	BG	138	GLN
43	BH	45	VAL
43	BH	52	VAL
43	BH	160	LYS
46	BN	64	GLY
46	BN	76	SER
46	BN	102	ALA
46	BN	133	GLN
47	BO	5	GLN
47	BO	49	ARG
48	BP	11	GLY
48	BP	20	GLY
48	BP	32	THR
48	BP	39	LYS
48	BP	104	GLY
48	BP	110	TYR
49	BQ	2	LEU
49	BQ	21	THR
49	BQ	88	GLY
50	BR	4	LEU
50	BR	14	SER
50	BR	70	LEU
50	BR	82	GLU
50	BR	93	GLY
50	BR	103	ARG
50	BR	107	ASP
51	BS	14	VAL
51	BS	24	LEU
51	BS	50	SER
51	BS	90	GLY
51	BS	102	ALA
52	BT	4	GLY
52	BT	33	LYS
52	BT	41	ARG
52	BT	129	ARG
53	BU	46	ALA

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Mol	Chain	Res	Type
53	BU	58	ARG
53	BU	83	LEU
53	BU	90	VAL
53	BU	93	LYS
53	BU	102	GLU
54	BV	19	LYS
54	BV	40	LEU
54	BV	50	PRO
55	BW	11	ARG
55	BW	22	ASP
55	BW	63	ASP
55	BW	71	VAL
56	BX	19	ALA
56	BX	62	LYS
56	BX	93	GLU
57	BY	3	VAL
57	BY	7	VAL
57	BY	38	ILE
57	BY	39	VAL
57	BY	51	VAL
58	BZ	31	ARG
58	BZ	80	ARG
58	BZ	113	ALA
58	BZ	140	ASP
58	BZ	142	SER
58	BZ	147	GLY
58	BZ	150	LEU
58	BZ	152	ALA
2	AB	19	HIS
2	AB	130	ARG
2	AB	139	LYS
2	AB	190	THR
2	AB	225	ALA
2	AB	235	SER
2	AB	238	LEU
3	AC	4	LYS
3	AC	15	THR
3	AC	66	VAL
3	AC	129	ALA
3	AC	181	ASN
4	AD	3	ARG
4	AD	14	ARG

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Mol	Chain	Res	Type
4	AD	159	ARG
4	AD	172	PRO
5	AE	125	SER
6	AF	16	GLN
6	AF	23	LYS
7	AG	80	VAL
7	AG	100	ALA
8	AH	2	LEU
9	AI	44	VAL
9	AI	54	ASP
9	AI	82	ALA
9	AI	95	LYS
10	AJ	21	GLN
10	AJ	27	ALA
10	AJ	88	LEU
11	AK	50	TYR
11	AK	123	LYS
12	AL	29	GLY
12	AL	91	LYS
12	AL	115	LYS
13	AM	43	THR
13	AM	75	ALA
14	AN	22	THR
15	AO	25	THR
17	AQ	68	ARG
18	AR	45	SER
19	AS	72	GLY
20	AT	25	ARG
20	AT	49	ALA
25	AZ	40	PRO
25	AZ	43	GLU
25	AZ	66	ALA
25	AZ	97	ALA
25	AZ	130	TYR
25	AZ	142	ASP
25	AZ	186	PRO
25	AZ	332	THR
25	AZ	366	ASP
26	B0	75	LEU
28	B2	26	ARG
28	B2	68	ARG
29	B3	51	ALA

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Mol	Chain	Res	Type
30	B4	9	LEU
30	B4	20	ASN
31	B5	57	VAL
34	B8	37	SER
38	BC	68	LEU
39	BD	87	ASN
39	BD	196	VAL
39	BD	215	LEU
39	BD	273	ARG
40	BE	46	ALA
40	BE	56	PRO
40	BE	60	ASN
40	BE	71	GLY
41	BF	3	GLU
41	BF	24	LEU
41	BF	43	LYS
41	BF	58	ALA
41	BF	62	ARG
41	BF	98	SER
41	BF	171	PRO
42	BG	97	ASP
42	BG	112	PRO
42	BG	115	ARG
42	BG	127	GLY
42	BG	144	ILE
43	BH	69	ARG
43	BH	77	LYS
43	BH	151	ILE
46	BN	44	PRO
46	BN	59	LYS
46	BN	68	GLU
48	BP	6	LEU
48	BP	23	PRO
48	BP	25	SER
48	BP	34	GLY
48	BP	46	LYS
49	BQ	28	ALA
50	BR	45	ARG
51	BS	13	ARG
51	BS	55	ALA
51	BS	57	LYS
52	BT	45	PHE

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Mol	Chain	Res	Type
53	BU	60	LEU
54	BV	27	ALA
54	BV	36	PRO
54	BV	46	VAL
54	BV	48	GLY
57	BY	91	GLU
57	BY	99	CYS
58	BZ	63	ASP
58	BZ	78	LYS
58	BZ	151	HIS
58	BZ	166	SER
2	AB	78	GLN
2	AB	83	MET
3	AC	51	GLY
3	AC	206	GLU
4	AD	118	ARG
7	AG	8	GLU
7	AG	19	GLY
7	AG	52	GLU
9	AI	83	ARG
10	AJ	90	LEU
11	AK	48	ILE
13	AM	10	PRO
13	AM	42	ALA
14	AN	24	CYS
15	AO	70	LEU
19	AS	6	LYS
20	AT	71	THR
20	AT	74	LYS
20	AT	82	SER
20	AT	99	LEU
21	AU	24	ARG
25	AZ	38	GLU
25	AZ	367	ASN
26	B0	64	ASP
27	B1	52	ARG
27	B1	53	VAL
27	B1	91	LYS
27	B1	94	LEU
28	B2	70	GLN
30	B4	28	LYS
32	B6	23	THR

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Mol	Chain	Res	Type
32	B6	44	ARG
34	B8	49	VAL
35	B9	13	LYS
38	BC	97	GLU
39	BD	156	ALA
39	BD	211	ARG
39	BD	242	ARG
39	BD	244	ARG
40	BE	52	LEU
40	BE	54	GLN
40	BE	129	HIS
40	BE	185	LYS
41	BF	25	PRO
41	BF	164	ARG
41	BF	172	TRP
42	BG	143	GLU
46	BN	5	VAL
46	BN	40	PRO
46	BN	47	ALA
46	BN	57	ALA
47	BO	18	LYS
48	BP	12	ALA
48	BP	35	HIS
48	BP	132	LYS
50	BR	11	ASN
51	BS	18	ILE
51	BS	79	ALA
51	BS	88	ASP
52	BT	38	ASN
52	BT	39	ARG
52	BT	68	TYR
52	BT	91	ARG
55	BW	6	ILE
55	BW	35	ILE
56	BX	14	SER
56	BX	24	GLY
58	BZ	14	LYS
58	BZ	22	GLY
58	BZ	41	LEU
2	AB	216	SER
3	AC	12	LEU
3	AC	55	VAL

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Mol	Chain	Res	Type
4	AD	5	ILE
4	AD	102	ASP
5	AE	8	GLU
6	AF	51	PRO
9	AI	101	PHE
12	AL	94	PRO
13	AM	3	ARG
14	AN	60	SER
17	AQ	14	LYS
19	AS	63	THR
25	AZ	117	ARG
25	AZ	310	ILE
25	AZ	345	ARG
27	B1	66	HIS
27	B1	81	LYS
28	B2	58	ALA
29	B3	32	GLN
30	B4	10	VAL
38	BC	164	ARG
39	BD	9	TYR
39	BD	12	SER
39	BD	246	PRO
40	BE	29	GLY
40	BE	58	ARG
40	BE	72	VAL
41	BF	54	ARG
41	BF	82	ILE
41	BF	83	PHE
41	BF	96	ASP
41	BF	168	ARG
42	BG	19	LEU
42	BG	42	GLY
42	BG	74	LYS
43	BH	20	ALA
43	BH	76	VAL
47	BO	91	LEU
48	BP	10	PRO
48	BP	141	ALA
49	BQ	137	TYR
50	BR	60	LEU
51	BS	61	ASN
51	BS	107	GLU

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Mol	Chain	Res	Type
52	BT	26	ASP
52	BT	132	LYS
53	BU	92	ARG
54	BV	23	GLU
54	BV	79	VAL
55	BW	57	ASN
56	BX	4	ALA
57	BY	42	VAL
58	BZ	143	GLY
2	AB	15	VAL
2	AB	26	PRO
3	AC	154	SER
4	AD	23	GLY
5	AE	70	PRO
6	AF	40	VAL
7	AG	79	ARG
7	AG	81	GLY
13	AM	6	GLY
18	AR	41	LYS
18	AR	56	THR
25	AZ	245	GLY
39	BD	44	ASN
39	BD	245	PRO
39	BD	268	ARG
40	BE	43	GLY
40	BE	44	TYR
40	BE	55	ASN
40	BE	189	PRO
41	BF	7	TYR
41	BF	132	VAL
43	BH	15	VAL
43	BH	85	LYS
47	BO	35	VAL
52	BT	93	ARG
57	BY	37	VAL
57	BY	96	ILE
58	BZ	139	VAL
10	AJ	77	PRO
12	AL	71	PRO
30	B4	19	GLY
38	BC	51	PRO
38	BC	224	ILE

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Mol	Chain	Res	Type
40	BE	197	ILE
41	BF	159	GLY
43	BH	21	PRO
46	BN	108	PRO
46	BN	135	PRO
54	BV	47	VAL
58	BZ	12	GLY
58	BZ	37	VAL
58	BZ	53	ILE
3	AC	77	ILE
13	AM	4	ILE
13	AM	7	VAL
13	AM	74	VAL
25	AZ	164	PRO
29	B3	2	PRO
29	B3	16	PRO
34	B8	58	ILE
39	BD	24	ILE
42	BG	114	ILE
43	BH	55	PRO
46	BN	110	GLY
49	BQ	15	GLY
51	BS	85	VAL
54	BV	67	GLY
57	BY	31	LEU
57	BY	66	PRO
2	AB	93	VAL
3	AC	153	VAL
38	BC	161	ILE
39	BD	74	GLY
43	BH	43	VAL
54	BV	51	VAL
2	AB	227	GLY
15	AO	87	ILE
27	B1	30	VAL
40	BE	73	GLU
48	BP	146	VAL
7	AG	88	PRO
42	BG	111	LEU
58	BZ	146	ILE

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	
2	AB	202/220 (92%)	171 (85%)	31 (15%)	3	14
3	AC	160/188 (85%)	139 (87%)	21 (13%)	5	21
4	AD	180/181 (99%)	159 (88%)	21 (12%)	7	26
5	AE	115/123 (94%)	96 (84%)	19 (16%)	3	12
6	AF	90/90 (100%)	79 (88%)	11 (12%)	6	24
7	AG	126/127 (99%)	118 (94%)	8 (6%)	22	58
8	AH	119/119 (100%)	104 (87%)	15 (13%)	5	22
9	AI	98/99 (99%)	85 (87%)	13 (13%)	5	20
10	AJ	88/92 (96%)	75 (85%)	13 (15%)	4	16
11	AK	90/99 (91%)	80 (89%)	10 (11%)	8	29
12	AL	104/111 (94%)	88 (85%)	16 (15%)	3	14
13	AM	99/101 (98%)	85 (86%)	14 (14%)	4	18
14	AN	49/50 (98%)	39 (80%)	10 (20%)	1	6
15	AO	79/80 (99%)	73 (92%)	6 (8%)	16	51
16	AP	72/74 (97%)	64 (89%)	8 (11%)	8	29
17	AQ	94/97 (97%)	87 (93%)	7 (7%)	17	51
18	AR	61/77 (79%)	55 (90%)	6 (10%)	10	36
19	AS	69/80 (86%)	54 (78%)	15 (22%)	1	5
20	AT	76/82 (93%)	66 (87%)	10 (13%)	5	20
21	AU	19/22 (86%)	18 (95%)	1 (5%)	28	64
25	AZ	339/339 (100%)	289 (85%)	50 (15%)	4	16
26	B0	66/67 (98%)	55 (83%)	11 (17%)	3	11
27	B1	78/83 (94%)	65 (83%)	13 (17%)	3	11
28	B2	66/67 (98%)	61 (92%)	5 (8%)	16	51
29	B3	51/52 (98%)	48 (94%)	3 (6%)	24	60
30	B4	39/63 (62%)	30 (77%)	9 (23%)	1	4

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
31	B5	51/52 (98%)	46 (90%)	5 (10%)	10	36
32	B6	49/52 (94%)	39 (80%)	10 (20%)	1	6
33	B7	41/42 (98%)	35 (85%)	6 (15%)	4	16
34	B8	53/55 (96%)	43 (81%)	10 (19%)	2	8
35	B9	34/34 (100%)	27 (79%)	7 (21%)	1	6
38	BC	180/181 (99%)	159 (88%)	21 (12%)	7	26
39	BD	217/218 (100%)	175 (81%)	42 (19%)	2	7
40	BE	165/166 (99%)	142 (86%)	23 (14%)	4	19
41	BF	165/166 (99%)	149 (90%)	16 (10%)	10	36
42	BG	155/156 (99%)	132 (85%)	23 (15%)	4	16
43	BH	132/148 (89%)	124 (94%)	8 (6%)	23	59
46	BN	117/119 (98%)	102 (87%)	15 (13%)	5	21
47	BO	100/100 (100%)	92 (92%)	8 (8%)	15	48
48	BP	112/116 (97%)	87 (78%)	25 (22%)	1	5
49	BQ	111/111 (100%)	97 (87%)	14 (13%)	5	22
50	BR	100/101 (99%)	81 (81%)	19 (19%)	2	8
51	BS	77/88 (88%)	66 (86%)	11 (14%)	4	17
52	BT	120/127 (94%)	96 (80%)	24 (20%)	1	7
53	BU	92/94 (98%)	81 (88%)	11 (12%)	6	24
54	BV	82/82 (100%)	72 (88%)	10 (12%)	6	24
55	BW	91/92 (99%)	80 (88%)	11 (12%)	6	24
56	BX	74/78 (95%)	68 (92%)	6 (8%)	15	47
57	BY	84/91 (92%)	71 (84%)	13 (16%)	3	14
58	BZ	155/179 (87%)	129 (83%)	26 (17%)	2	11
All	All	5186/5431 (96%)	4476 (86%)	710 (14%)	4	19

All (710) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
2	AB	16	HIS
2	AB	17	PHE
2	AB	24	TRP
2	AB	26	PRO
2	AB	36	ARG

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Mol	Chain	Res	Type
2	AB	69	LEU
2	AB	79	ASP
2	AB	83	MET
2	AB	93	VAL
2	AB	106	LYS
2	AB	116	GLU
2	AB	130	ARG
2	AB	137	ARG
2	AB	140	HIS
2	AB	145	LEU
2	AB	146	GLN
2	AB	162	ILE
2	AB	178	ARG
2	AB	187	LEU
2	AB	189	ASP
2	AB	193	ASP
2	AB	196	LEU
2	AB	200	ILE
2	AB	204	ASN
2	AB	213	LEU
2	AB	217	ARG
2	AB	221	LEU
2	AB	222	ILE
2	AB	226	ARG
2	AB	236	TYR
2	AB	238	LEU
3	AC	5	ILE
3	AC	14	ILE
3	AC	16	ARG
3	AC	21	ARG
3	AC	26	LYS
3	AC	37	GLN
3	AC	38	ARG
3	AC	59	ARG
3	AC	62	ASP
3	AC	82	GLU
3	AC	85	ARG
3	AC	94	LEU
3	AC	107	GLN
3	AC	154	SER
3	AC	165	THR
3	AC	167	TRP

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Mol	Chain	Res	Type
3	AC	178	LEU
3	AC	179	ARG
3	AC	188	LEU
3	AC	191	THR
3	AC	192	THR
4	AD	3	ARG
4	AD	8	VAL
4	AD	10	ARG
4	AD	15	GLU
4	AD	19	LEU
4	AD	25	ARG
4	AD	49	ARG
4	AD	50	ARG
4	AD	78	LEU
4	AD	108	LEU
4	AD	122	ARG
4	AD	131	ARG
4	AD	132	ARG
4	AD	135	LEU
4	AD	150	GLU
4	AD	162	LEU
4	AD	181	MET
4	AD	190	ASP
4	AD	198	VAL
4	AD	201	GLN
4	AD	209	ARG
5	AE	10	MET
5	AE	12	LEU
5	AE	13	ILE
5	AE	20	GLN
5	AE	31	LEU
5	AE	40	ARG
5	AE	41	VAL
5	AE	52	PRO
5	AE	53	LEU
5	AE	73	ASN
5	AE	75	THR
5	AE	76	ILE
5	AE	79	GLU
5	AE	80	ILE
5	AE	91	LEU
5	AE	107	ARG

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Mol	Chain	Res	Type
5	AE	128	PRO
5	AE	140	ARG
5	AE	147	ASP
6	AF	14	LEU
6	AF	21	LEU
6	AF	25	ILE
6	AF	43	LEU
6	AF	47	ARG
6	AF	55	ASP
6	AF	57	GLN
6	AF	61	LEU
6	AF	69	GLU
6	AF	83	ASP
6	AF	98	LEU
7	AG	66	VAL
7	AG	78	ARG
7	AG	89	MET
7	AG	104	LEU
7	AG	113	GLU
7	AG	114	ARG
7	AG	124	LEU
7	AG	156	TRP
8	AH	1	MET
8	AH	2	LEU
8	AH	18	ARG
8	AH	22	GLU
8	AH	26	VAL
8	AH	27	PRO
8	AH	29	SER
8	AH	30	ARG
8	AH	39	LEU
8	AH	52	ASP
8	AH	91	ARG
8	AH	102	ARG
8	AH	104	ARG
8	AH	109	ILE
8	AH	127	LEU
9	AI	3	GLN
9	AI	10	ARG
9	AI	53	VAL
9	AI	85	LEU
9	AI	93	ARG

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Mol	Chain	Res	Type
9	AI	95	LYS
9	AI	102	LEU
9	AI	104	ARG
9	AI	105	ASP
9	AI	112	LYS
9	AI	114	TYR
9	AI	121	ARG
9	AI	128	ARG
10	AJ	17	ASP
10	AJ	40	LEU
10	AJ	49	VAL
10	AJ	50	ILE
10	AJ	54	PHE
10	AJ	55	LYS
10	AJ	57	LYS
10	AJ	59	SER
10	AJ	67	THR
10	AJ	73	ASP
10	AJ	78	ASN
10	AJ	83	GLU
10	AJ	96	ILE
11	AK	29	ILE
11	AK	31	THR
11	AK	51	LYS
11	AK	57	THR
11	AK	62	GLN
11	AK	93	GLN
11	AK	104	GLN
11	AK	114	VAL
11	AK	117	ASN
11	AK	126	ARG
12	AL	7	ILE
12	AL	20	LYS
12	AL	27	LEU
12	AL	33	ARG
12	AL	36	VAL
12	AL	47	LYS
12	AL	48	PRO
12	AL	50	SER
12	AL	53	ARG
12	AL	64	TYR
12	AL	83	VAL

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Mol	Chain	Res	Type
12	AL	84	LEU
12	AL	85	ILE
12	AL	89	ARG
12	AL	102	ARG
12	AL	122	THR
13	AM	12	ASN
13	AM	23	TYR
13	AM	36	LYS
13	AM	47	ASP
13	AM	64	TRP
13	AM	66	LEU
13	AM	67	GLU
13	AM	73	GLU
13	AM	82	MET
13	AM	93	ARG
13	AM	101	GLN
13	AM	108	ARG
13	AM	115	LYS
13	AM	120	LYS
14	AN	4	LYS
14	AN	14	PRO
14	AN	16	PHE
14	AN	17	LYS
14	AN	18	VAL
14	AN	23	ARG
14	AN	29	ARG
14	AN	41	ARG
14	AN	45	ARG
14	AN	57	ARG
15	AO	10	LYS
15	AO	24	SER
15	AO	38	ARG
15	AO	66	LEU
15	AO	81	LEU
15	AO	82	ILE
16	AP	1	MET
16	AP	2	VAL
16	AP	16	HIS
16	AP	22	THR
16	AP	27	LYS
16	AP	44	THR
16	AP	62	VAL

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Mol	Chain	Res	Type
16	AP	69	THR
17	AQ	25	ARG
17	AQ	36	ILE
17	AQ	49	GLU
17	AQ	52	LYS
17	AQ	64	PRO
17	AQ	74	LEU
17	AQ	87	LYS
18	AR	29	PHE
18	AR	31	LEU
18	AR	36	ASN
18	AR	38	GLU
18	AR	44	LEU
18	AR	84	LYS
19	AS	5	LEU
19	AS	6	LYS
19	AS	7	LYS
19	AS	10	PHE
19	AS	15	LEU
19	AS	27	GLU
19	AS	29	ARG
19	AS	37	ARG
19	AS	40	ILE
19	AS	41	VAL
19	AS	42	PRO
19	AS	44	MET
19	AS	49	ILE
19	AS	65	ASN
19	AS	77	THR
20	AT	13	LEU
20	AT	23	ARG
20	AT	26	ASN
20	AT	27	LYS
20	AT	36	LEU
20	AT	41	ILE
20	AT	45	GLN
20	AT	73	HIS
20	AT	74	LYS
20	AT	93	GLU
21	AU	12	LYS
25	AZ	16	THR
25	AZ	20	VAL

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Mol	Chain	Res	Type
25	AZ	26	THR
25	AZ	39	ASN
25	AZ	52	LYS
25	AZ	65	THR
25	AZ	78	SER
25	AZ	92	MET
25	AZ	107	SER
25	AZ	110	ASP
25	AZ	138	VAL
25	AZ	141	VAL
25	AZ	145	GLU
25	AZ	152	MET
25	AZ	182	MET
25	AZ	188	THR
25	AZ	197	ASP
25	AZ	198	LYS
25	AZ	203	LEU
25	AZ	208	GLU
25	AZ	210	ILE
25	AZ	212	THR
25	AZ	216	ASP
25	AZ	218	ASP
25	AZ	220	PRO
25	AZ	234	ARG
25	AZ	241	ARG
25	AZ	243	GLU
25	AZ	244	ARG
25	AZ	248	LYS
25	AZ	252	GLU
25	AZ	265	THR
25	AZ	274	ARG
25	AZ	277	LEU
25	AZ	278	GLN
25	AZ	284	ASP
25	AZ	291	ARG
25	AZ	299	GLU
25	AZ	311	THR
25	AZ	317	GLU
25	AZ	324	LYS
25	AZ	325	LYS
25	AZ	332	THR
25	AZ	341	GLN

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Mol	Chain	Res	Type
25	AZ	355	LEU
25	AZ	356	PRO
25	AZ	364	PRO
25	AZ	378	VAL
25	AZ	403	ILE
25	AZ	404	LEU
26	B0	12	ASN
26	B0	14	ARG
26	B0	16	SER
26	B0	20	ARG
26	B0	26	TYR
26	B0	27	GLU
26	B0	30	VAL
26	B0	37	LEU
26	B0	62	LEU
26	B0	75	LEU
26	B0	84	LEU
27	B1	13	ILE
27	B1	21	ARG
27	B1	26	ARG
27	B1	38	SER
27	B1	39	LYS
27	B1	43	TYR
27	B1	49	VAL
27	B1	52	ARG
27	B1	56	GLN
27	B1	73	LEU
27	B1	83	GLU
27	B1	92	LYS
27	B1	93	GLU
28	B2	3	LEU
28	B2	7	ARG
28	B2	33	MET
28	B2	59	ARG
28	B2	68	ARG
29	B3	28	LEU
29	B3	35	ARG
29	B3	46	ASN
30	B4	5	ILE
30	B4	6	HIS
30	B4	9	LEU
30	B4	20	ASN

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Mol	Chain	Res	Type
30	B4	22	ILE
30	B4	27	THR
30	B4	32	TYR
30	B4	34	GLU
30	B4	47	GLN
31	B5	3	LYS
31	B5	4	HIS
31	B5	21	SER
31	B5	26	THR
31	B5	51	TYR
32	B6	11	LEU
32	B6	14	THR
32	B6	17	LYS
32	B6	18	ARG
32	B6	19	ARG
32	B6	31	PRO
32	B6	42	TRP
32	B6	44	ARG
32	B6	45	LYS
32	B6	53	LYS
33	B7	4	THR
33	B7	8	ASN
33	B7	19	ARG
33	B7	44	PRO
33	B7	47	ARG
33	B7	48	LYS
34	B8	30	ARG
34	B8	31	HIS
34	B8	32	LEU
34	B8	34	TRP
34	B8	35	GLN
34	B8	41	ILE
34	B8	44	LYS
34	B8	47	LYS
34	B8	61	LEU
34	B8	64	TYR
35	B9	1	MET
35	B9	2	LYS
35	B9	11	CYS
35	B9	18	ARG
35	B9	20	HIS
35	B9	28	GLU

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Mol	Chain	Res	Type
35	B9	29	ASN
38	BC	3	HIS
38	BC	28	LEU
38	BC	30	LYS
38	BC	38	ASP
38	BC	52	ARG
38	BC	55	ASP
38	BC	58	VAL
38	BC	101	GLN
38	BC	104	LEU
38	BC	108	MET
38	BC	111	ASP
38	BC	134	ARG
38	BC	139	ASN
38	BC	147	PHE
38	BC	162	GLU
38	BC	182	PRO
38	BC	183	GLU
38	BC	184	LYS
38	BC	209	LEU
38	BC	215	THR
38	BC	225	ASN
39	BD	5	LYS
39	BD	10	THR
39	BD	14	ARG
39	BD	18	VAL
39	BD	20	ASP
39	BD	24	ILE
39	BD	26	LYS
39	BD	27	THR
39	BD	35	LYS
39	BD	37	LEU
39	BD	43	ARG
39	BD	46	GLN
39	BD	49	ILE
39	BD	61	LEU
39	BD	64	ILE
39	BD	65	ILE
39	BD	69	ARG
39	BD	71	ASP
39	BD	75	ILE
39	BD	88	ARG

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Mol	Chain	Res	Type
39	BD	92	ILE
39	BD	111	LEU
39	BD	117	VAL
39	BD	131	LEU
39	BD	134	ARG
39	BD	138	VAL
39	BD	157	ARG
39	BD	166	GLN
39	BD	176	ARG
39	BD	188	GLU
39	BD	192	THR
39	BD	211	ARG
39	BD	212	SER
39	BD	221	VAL
39	BD	229	VAL
39	BD	239	ARG
39	BD	254	THR
39	BD	257	LEU
39	BD	259	THR
39	BD	268	ARG
39	BD	270	ILE
39	BD	275	LYS
40	BE	18	ASP
40	BE	21	VAL
40	BE	33	VAL
40	BE	36	ARG
40	BE	53	PRO
40	BE	54	GLN
40	BE	55	ASN
40	BE	57	LYS
40	BE	58	ARG
40	BE	61	ARG
40	BE	67	PHE
40	BE	76	ARG
40	BE	78	LEU
40	BE	82	ARG
40	BE	111	ARG
40	BE	121	ASN
40	BE	146	THR
40	BE	154	LYS
40	BE	169	ASN
40	BE	171	GLU

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Mol	Chain	Res	Type
40	BE	197	ILE
40	BE	202	LYS
40	BE	203	LYS
41	BF	19	GLU
41	BF	23	ASP
41	BF	28	ILE
41	BF	62	ARG
41	BF	65	TRP
41	BF	67	GLN
41	BF	70	THR
41	BF	78	ILE
41	BF	83	PHE
41	BF	122	LYS
41	BF	125	LEU
41	BF	160	ASN
41	BF	170	LEU
41	BF	172	TRP
41	BF	179	GLU
41	BF	192	LEU
42	BG	10	LYS
42	BG	21	ARG
42	BG	22	ARG
42	BG	26	GLN
42	BG	33	ARG
42	BG	36	LYS
42	BG	39	ILE
42	BG	40	ASN
42	BG	52	ILE
42	BG	58	GLN
42	BG	67	LYS
42	BG	72	ARG
42	BG	80	PHE
42	BG	82	LEU
42	BG	84	LYS
42	BG	88	ILE
42	BG	104	GLU
42	BG	111	LEU
42	BG	125	PHE
42	BG	143	GLU
42	BG	146	TYR
42	BG	152	LEU
42	BG	153	ARG

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Mol	Chain	Res	Type
43	BH	41	MET
43	BH	43	VAL
43	BH	53	GLU
43	BH	54	ARG
43	BH	85	LYS
43	BH	143	GLN
43	BH	153	LYS
43	BH	170	ARG
46	BN	1	MET
46	BN	12	ARG
46	BN	19	GLU
46	BN	25	ARG
46	BN	34	LEU
46	BN	45	ASN
46	BN	48	MET
46	BN	56	ASN
46	BN	63	THR
46	BN	65	LYS
46	BN	76	SER
46	BN	78	TYR
46	BN	99	LEU
46	BN	123	TYR
46	BN	127	ASP
47	BO	8	LEU
47	BO	34	THR
47	BO	47	ILE
47	BO	48	PRO
47	BO	49	ARG
47	BO	80	ASP
47	BO	94	ARG
47	BO	98	VAL
48	BP	6	LEU
48	BP	10	PRO
48	BP	16	ARG
48	BP	18	ARG
48	BP	21	ARG
48	BP	32	THR
48	BP	39	LYS
48	BP	42	SER
48	BP	45	LEU
48	BP	47	ASP
48	BP	48	PRO

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Mol	Chain	Res	Type
48	BP	55	ARG
48	BP	57	THR
48	BP	61	ARG
48	BP	65	ARG
48	BP	67	MET
48	BP	75	ILE
48	BP	77	ARG
48	BP	85	LEU
48	BP	90	ARG
48	BP	91	PHE
48	BP	110	TYR
48	BP	111	ARG
48	BP	112	LEU
48	BP	136	GLU
49	BQ	1	MET
49	BQ	25	ASP
49	BQ	45	GLN
49	BQ	46	GLN
49	BQ	51	ARG
49	BQ	54	MET
49	BQ	55	VAL
49	BQ	58	PHE
49	BQ	59	ARG
49	BQ	74	TYR
49	BQ	81	VAL
49	BQ	89	ASN
49	BQ	110	THR
49	BQ	133	ARG
50	BR	2	ARG
50	BR	4	LEU
50	BR	5	LYS
50	BR	8	ARG
50	BR	21	TYR
50	BR	29	LEU
50	BR	35	THR
50	BR	37	THR
50	BR	63	ARG
50	BR	67	LEU
50	BR	68	ARG
50	BR	75	LEU
50	BR	82	GLU
50	BR	89	ASP

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Mol	Chain	Res	Type
50	BR	94	TYR
50	BR	97	VAL
50	BR	99	LYS
50	BR	100	LEU
50	BR	117	VAL
51	BS	11	LYS
51	BS	12	PHE
51	BS	15	ARG
51	BS	26	LEU
51	BS	29	PHE
51	BS	36	TYR
51	BS	54	LEU
51	BS	67	ARG
51	BS	73	LEU
51	BS	97	ARG
51	BS	106	ARG
52	BT	11	GLU
52	BT	13	ARG
52	BT	16	ARG
52	BT	24	PRO
52	BT	27	THR
52	BT	29	ARG
52	BT	32	TYR
52	BT	38	ASN
52	BT	41	ARG
52	BT	51	ARG
52	BT	58	ASN
52	BT	61	PHE
52	BT	65	LYS
52	BT	67	SER
52	BT	78	LEU
52	BT	82	LEU
52	BT	83	ILE
52	BT	90	GLN
52	BT	99	LEU
52	BT	100	TYR
52	BT	105	LEU
52	BT	121	ILE
52	BT	124	ASP
52	BT	128	GLU
53	BU	9	VAL
53	BU	14	HIS

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Mol	Chain	Res	Type
53	BU	20	LEU
53	BU	47	TYR
53	BU	66	ASN
53	BU	72	HIS
53	BU	74	LEU
53	BU	81	HIS
53	BU	103	PRO
53	BU	108	GLU
53	BU	114	LYS
54	BV	16	PRO
54	BV	18	LEU
54	BV	19	LYS
54	BV	21	ARG
54	BV	39	LEU
54	BV	51	VAL
54	BV	72	VAL
54	BV	82	ARG
54	BV	89	GLN
54	BV	99	ILE
55	BW	11	ARG
55	BW	51	LEU
55	BW	52	GLU
55	BW	63	ASP
55	BW	71	VAL
55	BW	75	TYR
55	BW	85	VAL
55	BW	88	ARG
55	BW	102	HIS
55	BW	103	ILE
55	BW	107	LEU
56	BX	15	GLU
56	BX	28	PHE
56	BX	35	THR
56	BX	57	LEU
56	BX	68	ARG
56	BX	76	ARG
57	BY	2	ARG
57	BY	6	HIS
57	BY	9	LYS
57	BY	13	VAL
57	BY	29	GLU
57	BY	50	ARG

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Mol	Chain	Res	Type
57	BY	56	PRO
57	BY	57	GLN
57	BY	62	GLU
57	BY	68	HIS
57	BY	76	CYS
57	BY	77	PRO
57	BY	99	CYS
58	BZ	3	TYR
58	BZ	6	LYS
58	BZ	11	GLU
58	BZ	20	ARG
58	BZ	24	LEU
58	BZ	28	MET
58	BZ	35	ARG
58	BZ	38	TYR
58	BZ	48	PHE
58	BZ	70	LEU
58	BZ	73	GLN
58	BZ	76	LEU
58	BZ	86	VAL
58	BZ	87	ASP
58	BZ	93	ASP
58	BZ	97	GLU
58	BZ	99	TYR
58	BZ	103	ARG
58	BZ	104	PHE
58	BZ	119	GLU
58	BZ	123	ASP
58	BZ	127	LYS
58	BZ	150	LEU
58	BZ	155	LEU
58	BZ	163	LEU
58	BZ	175	VAL

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

Mol	Chain	Res	Type
2	AB	45	GLN
2	AB	78	GLN
2	AB	146	GLN
2	AB	204	ASN
2	AB	212	GLN

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Mol	Chain	Res	Type
2	AB	224	GLN
3	AC	6	HIS
3	AC	28	GLN
3	AC	118	GLN
3	AC	170	GLN
3	AC	176	HIS
3	AC	181	ASN
4	AD	62	GLN
4	AD	74	GLN
4	AD	129	ASN
5	AE	20	GLN
5	AE	73	ASN
5	AE	141	GLN
6	AF	7	ASN
6	AF	27	GLN
6	AF	84	ASN
6	AF	100	ASN
7	AG	13	GLN
7	AG	37	ASN
7	AG	68	ASN
7	AG	86	GLN
7	AG	96	GLN
8	AH	82	HIS
9	AI	3	GLN
9	AI	73	GLN
9	AI	89	ASN
9	AI	124	GLN
10	AJ	13	HIS
10	AJ	56	HIS
10	AJ	68	HIS
10	AJ	78	ASN
10	AJ	84	GLN
11	AK	38	ASN
11	AK	99	GLN
11	AK	117	ASN
12	AL	8	ASN
12	AL	9	GLN
12	AL	49	ASN
12	AL	75	HIS
13	AM	12	ASN
13	AM	40	ASN
13	AM	77	ASN

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Mol	Chain	Res	Type
13	AM	92	HIS
13	AM	101	GLN
15	AO	9	GLN
15	AO	37	ASN
15	AO	46	HIS
15	AO	62	GLN
16	AP	65	GLN
16	AP	76	GLN
17	AQ	16	GLN
19	AS	14	HIS
19	AS	47	HIS
20	AT	16	HIS
20	AT	26	ASN
20	AT	42	GLN
20	AT	75	ASN
25	AZ	39	ASN
25	AZ	67	HIS
25	AZ	98	GLN
25	AZ	115	GLN
25	AZ	125	GLN
25	AZ	159	ASN
25	AZ	183	HIS
25	AZ	193	ASN
25	AZ	341	GLN
25	AZ	367	ASN
26	B0	29	GLN
26	B0	35	ASN
26	B0	50	ASN
26	B0	70	GLN
27	B1	45	ASN
28	B2	43	GLN
28	B2	47	ASN
28	B2	65	ASN
29	B3	19	GLN
29	B3	32	GLN
29	B3	46	ASN
29	B3	52	HIS
30	B4	20	ASN
30	B4	40	HIS
30	B4	47	GLN
31	B5	43	HIS
32	B6	26	ASN

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Mol	Chain	Res	Type
32	B6	29	ASN
33	B7	8	ASN
34	B8	35	GLN
35	B9	29	ASN
35	B9	32	HIS
38	BC	57	ASN
38	BC	66	HIS
38	BC	188	ASN
38	BC	225	ASN
39	BD	58	HIS
39	BD	96	HIS
39	BD	115	GLN
39	BD	126	GLN
39	BD	166	GLN
39	BD	186	HIS
39	BD	198	ASN
40	BE	48	GLN
40	BE	54	GLN
40	BE	55	ASN
40	BE	121	ASN
40	BE	135	HIS
40	BE	143	ASN
41	BF	29	ASN
41	BF	40	GLN
41	BF	69	HIS
41	BF	75	HIS
41	BF	133	ASN
41	BF	160	ASN
41	BF	169	ASN
41	BF	203	GLN
42	BG	121	ASN
42	BG	123	ASN
43	BH	61	HIS
43	BH	74	ASN
43	BH	143	GLN
43	BH	147	ASN
46	BN	45	ASN
46	BN	56	ASN
46	BN	131	GLN
48	BP	35	HIS
48	BP	70	GLN
48	BP	81	GLN

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Mol	Chain	Res	Type
48	BP	84	ASN
48	BP	128	HIS
49	BQ	45	GLN
50	BR	3	HIS
50	BR	13	HIS
50	BR	23	ASN
50	BR	53	HIS
50	BR	61	HIS
50	BR	71	GLN
51	BS	95	HIS
52	BT	43	GLN
52	BT	58	ASN
52	BT	79	HIS
52	BT	123	GLN
53	BU	49	HIS
53	BU	66	ASN
53	BU	94	ASN
53	BU	117	GLN
54	BV	11	GLN
54	BV	80	GLN
55	BW	57	ASN
55	BW	60	ASN
55	BW	62	HIS
56	BX	31	HIS
56	BX	41	ASN
56	BX	55	ASN
57	BY	6	HIS
57	BY	43	ASN
57	BY	68	HIS
58	BZ	55	HIS
58	BZ	85	HIS
58	BZ	118	GLN
58	BZ	151	HIS

5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	AA	1503/1522 (98%)	247 (16%)	56 (3%)
22	AV	75/76 (98%)	22 (29%)	0
22	AW	75/76 (98%)	17 (22%)	0
23	AX	13/14 (92%)	2 (15%)	1 (7%)

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Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
24	AY	74/77 (96%)	23 (31%)	2 (2%)
36	BA	2900/2915 (99%)	547 (18%)	52 (1%)
37	BB	118/122 (96%)	24 (20%)	2 (1%)
All	All	4758/4802 (99%)	882 (18%)	113 (2%)

All (882) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	AA	7	G
1	AA	9	G
1	AA	31	G
1	AA	32	A
1	AA	39	G
1	AA	47	C
1	AA	48	C
1	AA	51	A
1	AA	61	G
1	AA	65	U
1	AA	79	G
1	AA	80	G
1	AA	81	U
1	AA	82	U
1	AA	89	C
1	AA	90	U
1	AA	109	A
1	AA	110	C
1	AA	116	A
1	AA	120	A
1	AA	121	C
1	AA	122	G
1	AA	131	C
1	AA	144	G
1	AA	146	G
1	AA	147	G
1	AA	189(G)	G
1	AA	189(H)	G
1	AA	189(I)	G
1	AA	195	A
1	AA	197	A
1	AA	198	G
1	AA	199	G
1	AA	202	U

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Mol	Chain	Res	Type
1	AA	203	U
1	AA	216	G
1	AA	244	U
1	AA	247	G
1	AA	251	G
1	AA	252	U
1	AA	267	C
1	AA	274	A
1	AA	275	G
1	AA	289	G
1	AA	321	A
1	AA	328	C
1	AA	330	C
1	AA	332	G
1	AA	344	A
1	AA	345	C
1	AA	346	G
1	AA	347	G
1	AA	348	G
1	AA	352	C
1	AA	353	A
1	AA	354	G
1	AA	367	U
1	AA	368	U
1	AA	369	C
1	AA	370	C
1	AA	372	C
1	AA	373	A
1	AA	389	A
1	AA	397	A
1	AA	412	A
1	AA	413	G
1	AA	414	A
1	AA	421	U
1	AA	422	C
1	AA	428	G
1	AA	429	U
1	AA	430	A
1	AA	435	C
1	AA	439	A
1	AA	442	C
1	AA	452	A

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Mol	Chain	Res	Type
1	AA	453	A
1	AA	454	C
1	AA	461	A
1	AA	470	C
1	AA	484	G
1	AA	485	G
1	AA	495	A
1	AA	496	A
1	AA	498	U
1	AA	499	A
1	AA	508	C
1	AA	509	A
1	AA	518	C
1	AA	527	G
1	AA	531	U
1	AA	532	A
1	AA	533	A
1	AA	534	U
1	AA	548	G
1	AA	559	A
1	AA	561	U
1	AA	562	C
1	AA	572	A
1	AA	573	A
1	AA	576	G
1	AA	577	G
1	AA	632	A
1	AA	653	A
1	AA	665	A
1	AA	688	G
1	AA	701	C
1	AA	702	A
1	AA	721	G
1	AA	722	A
1	AA	723	U
1	AA	731	G
1	AA	734	G
1	AA	749	C
1	AA	755	G
1	AA	777	A
1	AA	792	A
1	AA	793	U

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Mol	Chain	Res	Type
1	AA	794	A
1	AA	816	A
1	AA	817	C
1	AA	827	U
1	AA	828	A
1	AA	839	U
1	AA	840	C
1	AA	841	U
1	AA	848	C
1	AA	858	G
1	AA	859	A
1	AA	872	A
1	AA	914	A
1	AA	927	G
1	AA	934	C
1	AA	935	A
1	AA	960	U
1	AA	962	C
1	AA	966	G
1	AA	967	C
1	AA	968	A
1	AA	969	A
1	AA	971	G
1	AA	974	A
1	AA	975	A
1	AA	976	G
1	AA	977	A
1	AA	978	A
1	AA	980	C
1	AA	981	U
1	AA	982	U
1	AA	983	A
1	AA	991	U
1	AA	992	U
1	AA	993	G
1	AA	996	A
1	AA	1004	A
1	AA	1026	G
1	AA	1030	C
1	AA	1050	G
1	AA	1051	C
1	AA	1054	C

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Mol	Chain	Res	Type
1	AA	1066	C
1	AA	1087	G
1	AA	1094	G
1	AA	1095	U
1	AA	1101	A
1	AA	1102	A
1	AA	1117	G
1	AA	1124	G
1	AA	1125	U
1	AA	1126	U
1	AA	1127	G
1	AA	1129	C
1	AA	1130	A
1	AA	1131	G
1	AA	1137	C
1	AA	1138	G
1	AA	1139	G
1	AA	1140	C
1	AA	1141	C
1	AA	1145	C
1	AA	1152	A
1	AA	1154	G
1	AA	1158	C
1	AA	1159	U
1	AA	1184	G
1	AA	1190	G
1	AA	1191	A
1	AA	1196	U
1	AA	1197	G
1	AA	1199	U
1	AA	1200	C
1	AA	1201	A
1	AA	1212	U
1	AA	1213	A
1	AA	1238	A
1	AA	1240	U
1	AA	1256	A
1	AA	1257	U
1	AA	1267	C
1	AA	1268	A
1	AA	1273	G
1	AA	1281	U

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Mol	Chain	Res	Type
1	AA	1284	C
1	AA	1285	A
1	AA	1286	A
1	AA	1287	A
1	AA	1299	A
1	AA	1300	G
1	AA	1302	U
1	AA	1303	C
1	AA	1305	G
1	AA	1317	C
1	AA	1320	C
1	AA	1321	C
1	AA	1322	C
1	AA	1327	C
1	AA	1331	G
1	AA	1335	C
1	AA	1346	A
1	AA	1347	G
1	AA	1353	G
1	AA	1363	C
1	AA	1364	U
1	AA	1379	G
1	AA	1387	G
1	AA	1394	A
1	AA	1397	C
1	AA	1398	A
1	AA	1400	C
1	AA	1419	G
1	AA	1422	G
1	AA	1442(A)	G
1	AA	1442(B)	A
1	AA	1452	C
1	AA	1456	G
1	AA	1487	G
1	AA	1492	A
1	AA	1499	A
1	AA	1503	A
1	AA	1504	G
1	AA	1505	G
1	AA	1506	U
1	AA	1517	G
1	AA	1519	A

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Mol	Chain	Res	Type
1	AA	1520	G
1	AA	1529	G
1	AA	1530	G
22	AV	4	C
22	AV	5	G
22	AV	7	A
22	AV	8	U
22	AV	17	C
22	AV	18	G
22	AV	19	G
22	AV	20	U
22	AV	22	G
22	AV	37	A
22	AV	44	G
22	AV	45	U
22	AV	46	G
22	AV	47	U
22	AV	48	C
22	AV	60	U
22	AV	61	C
22	AV	62	C
22	AV	69	G
22	AV	73	A
22	AV	75	C
22	AV	76	A
22	AW	6	G
22	AW	9	A
22	AW	18	G
22	AW	19	G
22	AW	20	U
22	AW	21	A
22	AW	34	G
22	AW	39	U
22	AW	43	C
22	AW	44	G
22	AW	45	U
22	AW	47	U
22	AW	48	C
22	AW	50	U
22	AW	59	U
22	AW	61	C
22	AW	65	G

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Mol	Chain	Res	Type
23	AX	17	U
23	AX	27	A
24	AY	5	G
24	AY	8	4SU
24	AY	9	A
24	AY	10	G
24	AY	16	H2U
24	AY	17	H2U
24	AY	18	G
24	AY	19	G
24	AY	20	H2U
24	AY	21	A
24	AY	22	G
24	AY	36	A
24	AY	38	A
24	AY	44	G
24	AY	45	U
24	AY	46	7MG
24	AY	58	A
24	AY	59	G
24	AY	61	C
24	AY	62	U
24	AY	73	G
24	AY	75	C
24	AY	76	A
36	BA	10	G
36	BA	15	G
36	BA	45	C
36	BA	50	U
36	BA	71	A
36	BA	72	U
36	BA	74	A
36	BA	75	G
36	BA	84	A
36	BA	85	G
36	BA	88	G
36	BA	90	U
36	BA	92	A
36	BA	94	C
36	BA	95	G
36	BA	100	G
36	BA	102	G

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Mol	Chain	Res	Type
36	BA	118	A
36	BA	119	A
36	BA	120	U
36	BA	129	C
36	BA	139(A)	G
36	BA	141	A
36	BA	146	G
36	BA	149	A
36	BA	155	U
36	BA	156	U
36	BA	181	A
36	BA	196	A
36	BA	197	A
36	BA	199	A
36	BA	204	A
36	BA	205	G
36	BA	221	A
36	BA	222	A
36	BA	228	A
36	BA	229	A
36	BA	233	A
36	BA	245	G
36	BA	248	G
36	BA	252	G
36	BA	267	C
36	BA	271(I)	G
36	BA	271(K)	U
36	BA	271(L)	U
36	BA	271(M)	G
36	BA	271(O)	C
36	BA	271(P)	C
36	BA	271(R)	G
36	BA	271(Y)	U
36	BA	272(A)	U
36	BA	272(B)	G
36	BA	272(I)	U
36	BA	276	A
36	BA	284	U
36	BA	288	C
36	BA	294	A
36	BA	311	A
36	BA	329	G

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Mol	Chain	Res	Type
36	BA	330	A
36	BA	332	A
36	BA	333	G
36	BA	343	C
36	BA	349	G
36	BA	352	G
36	BA	353	G
36	BA	356	G
36	BA	358	U
36	BA	362	U
36	BA	363	G
36	BA	363(E)	U
36	BA	363(F)	A
36	BA	386	G
36	BA	387	U
36	BA	388	G
36	BA	405	U
36	BA	406	G
36	BA	411	G
36	BA	428	A
36	BA	444	C
36	BA	448	U
36	BA	451	C
36	BA	456	C
36	BA	457	A
36	BA	470	A
36	BA	472	A
36	BA	473	G
36	BA	481	G
36	BA	482	A
36	BA	494	G
36	BA	505	A
36	BA	508	G
36	BA	509	C
36	BA	512	G
36	BA	528	A
36	BA	530	G
36	BA	531	C
36	BA	532	A
36	BA	533	G
36	BA	537	C
36	BA	563	G

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Mol	Chain	Res	Type
36	BA	573	G
36	BA	575	A
36	BA	586	A
36	BA	588	U
36	BA	603	A
36	BA	604	G
36	BA	607	U
36	BA	613	G
36	BA	614(B)	G
36	BA	614(C)	A
36	BA	615	G
36	BA	622	G
36	BA	627	A
36	BA	629	G
36	BA	637	A
36	BA	645	C
36	BA	646	A
36	BA	651	G
36	BA	653	A
36	BA	654	A
36	BA	654(D)	G
36	BA	654(J)	A
36	BA	654(K)	C
36	BA	654(L)	G
36	BA	654(M)	C
36	BA	656	G
36	BA	669	G
36	BA	670	A
36	BA	673	C
36	BA	686	G
36	BA	708	C
36	BA	722	A
36	BA	730	C
36	BA	753	C
36	BA	761	A
36	BA	764	A
36	BA	765	G
36	BA	776	G
36	BA	782	A
36	BA	784	A
36	BA	785	G
36	BA	790	C

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Mol	Chain	Res	Type
36	BA	791	C
36	BA	792	G
36	BA	805	G
36	BA	812	C
36	BA	819	A
36	BA	827	U
36	BA	828	U
36	BA	830	G
36	BA	848	G
36	BA	856	C
36	BA	857	C
36	BA	859	G
36	BA	866	A
36	BA	878	A
36	BA	885	C
36	BA	890	A
36	BA	896	A
36	BA	897	C
36	BA	910	A
36	BA	917	A
36	BA	926	A
36	BA	932	G
36	BA	941	A
36	BA	945	A
36	BA	946	G
36	BA	958	U
36	BA	959	A
36	BA	961	C
36	BA	964	C
36	BA	965	C
36	BA	973	A
36	BA	974	G
36	BA	975	C
36	BA	983	A
36	BA	991	C
36	BA	996	A
36	BA	1005	C
36	BA	1011	G
36	BA	1012	U
36	BA	1013	C
36	BA	1022	G
36	BA	1025	G

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Mol	Chain	Res	Type
36	BA	1026	U
36	BA	1039	G
36	BA	1045	A
36	BA	1046	A
36	BA	1047	G
36	BA	1048	A
36	BA	1051	G
36	BA	1053	C
36	BA	1059	G
36	BA	1061	U
36	BA	1062	G
36	BA	1065	U
36	BA	1067	A
36	BA	1068	G
36	BA	1069	A
36	BA	1070	A
36	BA	1071	G
36	BA	1072	C
36	BA	1073	A
36	BA	1075	C
36	BA	1079	C
36	BA	1087	G
36	BA	1088	A
36	BA	1090	U
36	BA	1103	A
36	BA	1107	G
36	BA	1108	U
36	BA	1111	A
36	BA	1112	G
36	BA	1114	G
36	BA	1130	U
36	BA	1135	C
36	BA	1136	G
36	BA	1142	U
36	BA	1142(A)	A
36	BA	1143	A
36	BA	1155	A
36	BA	1167	U
36	BA	1171	G
36	BA	1174	A
36	BA	1175	U
36	BA	1176	G

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Mol	Chain	Res	Type
36	BA	1178	C
36	BA	1195	G
36	BA	1204	A
36	BA	1205	U
36	BA	1210	A
36	BA	1211	U
36	BA	1212	G
36	BA	1221	C
36	BA	1223	G
36	BA	1244	G
36	BA	1247	A
36	BA	1248	G
36	BA	1253	A
36	BA	1256	G
36	BA	1265	A
36	BA	1271	G
36	BA	1272	A
36	BA	1273	U
36	BA	1292	U
36	BA	1300	U
36	BA	1301	A
36	BA	1302	A
36	BA	1314	C
36	BA	1319	G
36	BA	1321	A
36	BA	1332	G
36	BA	1349	A
36	BA	1359	A
36	BA	1360	A
36	BA	1365	A
36	BA	1379	A
36	BA	1380	G
36	BA	1384	A
36	BA	1385	G
36	BA	1386	C
36	BA	1396	U
36	BA	1404	C
36	BA	1407	C
36	BA	1416	G
36	BA	1419	A
36	BA	1420	U
36	BA	1421	G

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Mol	Chain	Res	Type
36	BA	1427	A
36	BA	1428	C
36	BA	1437	C
36	BA	1445	A
36	BA	1449	A
36	BA	1450	G
36	BA	1452	A
36	BA	1455	G
36	BA	1460	A
36	BA	1461	G
36	BA	1467	C
36	BA	1471	A
36	BA	1475	G
36	BA	1478	G
36	BA	1482	G
36	BA	1485	G
36	BA	1490	A
36	BA	1493	C
36	BA	1494	A
36	BA	1495	A
36	BA	1496	A
36	BA	1497	U
36	BA	1499	C
36	BA	1502	C
36	BA	1505	C
36	BA	1509	C
36	BA	1509(A)	A
36	BA	1517	G
36	BA	1528(A)	A
36	BA	1537	G
36	BA	1541	G
36	BA	1542	A
36	BA	1544	A
36	BA	1554	A
36	BA	1558	A
36	BA	1559	G
36	BA	1569	A
36	BA	1575	C
36	BA	1578	U
36	BA	1579	A
36	BA	1580	A
36	BA	1584	C

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Mol	Chain	Res	Type
36	BA	1586	A
36	BA	1588	C
36	BA	1591	G
36	BA	1598	C
36	BA	1603	A
36	BA	1608	A
36	BA	1610	A
36	BA	1615	C
36	BA	1616	A
36	BA	1617	C
36	BA	1618	A
36	BA	1640	C
36	BA	1648	C
36	BA	1654	A
36	BA	1666	G
36	BA	1674	G
36	BA	1696	G
36	BA	1698	A
36	BA	1718	G
36	BA	1721	G
36	BA	1722	A
36	BA	1739	U
36	BA	1740	G
36	BA	1742	G
36	BA	1744	C
36	BA	1748	G
36	BA	1756	G
36	BA	1763	G
36	BA	1764	G
36	BA	1773	A
36	BA	1780	A
36	BA	1781	C
36	BA	1791	A
36	BA	1799	G
36	BA	1800	C
36	BA	1801	G
36	BA	1816	G
36	BA	1820	U
36	BA	1835	G
36	BA	1847	A
36	BA	1853	A
36	BA	1858	G

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Mol	Chain	Res	Type
36	BA	1866	C
36	BA	1878	G
36	BA	1881	C
36	BA	1882	C
36	BA	1885	A
36	BA	1888	G
36	BA	1889	A
36	BA	1900	A
36	BA	1903	G
36	BA	1906	G
36	BA	1912	A
36	BA	1913	A
36	BA	1929	G
36	BA	1936	A
36	BA	1937	A
36	BA	1938	A
36	BA	1948	G
36	BA	1955	U
36	BA	1963	U
36	BA	1967	C
36	BA	1970	A
36	BA	1971	A
36	BA	1972	A
36	BA	1982	C
36	BA	1987	G
36	BA	1992	G
36	BA	1993	U
36	BA	1997	G
36	BA	2023	G
36	BA	2031	A
36	BA	2033	A
36	BA	2034	U
36	BA	2036	C
36	BA	2043	C
36	BA	2055	C
36	BA	2056	G
36	BA	2060	A
36	BA	2061	G
36	BA	2062	A
36	BA	2069	G
36	BA	2093	G
36	BA	2096	U

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Mol	Chain	Res	Type
36	BA	2100	G
36	BA	2102	U
36	BA	2103	C
36	BA	2104	G
36	BA	2105	C
36	BA	2107	C
36	BA	2108	C
36	BA	2109	U
36	BA	2111	C
36	BA	2112	G
36	BA	2113	U
36	BA	2115	G
36	BA	2116	G
36	BA	2117	A
36	BA	2118	U
36	BA	2127	G
36	BA	2129	C
36	BA	2131	G
36	BA	2132	U
36	BA	2133	G
36	BA	2146	C
36	BA	2147	G
36	BA	2157	G
36	BA	2159	G
36	BA	2160	G
36	BA	2169	A
36	BA	2172	U
36	BA	2173	A
36	BA	2174	C
36	BA	2178	C
36	BA	2179	C
36	BA	2180	U
36	BA	2185	C
36	BA	2186	G
36	BA	2187	G
36	BA	2189	U
36	BA	2190	G
36	BA	2193	G
36	BA	2198	A
36	BA	2199	A
36	BA	2200	C
36	BA	2207	G

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Mol	Chain	Res	Type
36	BA	2208	A
36	BA	2218	U
36	BA	2219	G
36	BA	2221	G
36	BA	2225	A
36	BA	2238	G
36	BA	2239	G
36	BA	2268	A
36	BA	2275	C
36	BA	2279	G
36	BA	2283	C
36	BA	2287	A
36	BA	2288	A
36	BA	2305	A
36	BA	2307	G
36	BA	2308	G
36	BA	2309	A
36	BA	2311	A
36	BA	2313	C
36	BA	2319	G
36	BA	2320	A
36	BA	2327	A
36	BA	2336	A
36	BA	2343	C
36	BA	2345	G
36	BA	2347	C
36	BA	2361	A
36	BA	2383	G
36	BA	2385	C
36	BA	2392	A
36	BA	2399	G
36	BA	2402	C
36	BA	2406	U
36	BA	2423	U
36	BA	2424	C
36	BA	2425	A
36	BA	2429	G
36	BA	2430	A
36	BA	2439	A
36	BA	2441	C
36	BA	2448	A
36	BA	2465	C

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Mol	Chain	Res	Type
36	BA	2469	A
36	BA	2470	G
36	BA	2476	A
36	BA	2477	C
36	BA	2478	A
36	BA	2482	G
36	BA	2484	G
36	BA	2494	G
36	BA	2502	G
36	BA	2505	G
36	BA	2518	A
36	BA	2524	G
36	BA	2529	G
36	BA	2543	G
36	BA	2554	U
36	BA	2566	A
36	BA	2567	G
36	BA	2573	C
36	BA	2578	G
36	BA	2602	A
36	BA	2610	C
36	BA	2611	U
36	BA	2612	C
36	BA	2615	U
36	BA	2630	G
36	BA	2641	G
36	BA	2646	C
36	BA	2654	A
36	BA	2657	A
36	BA	2673	G
36	BA	2690	C
36	BA	2691	C
36	BA	2712	U
36	BA	2712(A)	A
36	BA	2713	A
36	BA	2720	U
36	BA	2726	U
36	BA	2750	A
36	BA	2751	G
36	BA	2752	C
36	BA	2757	A
36	BA	2759	G

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Mol	Chain	Res	Type
36	BA	2761	G
36	BA	2762	G
36	BA	2765	A
36	BA	2766	G
36	BA	2778	A
36	BA	2779	U
36	BA	2780	G
36	BA	2781	A
36	BA	2787	C
36	BA	2789	C
36	BA	2790	A
36	BA	2791	C
36	BA	2794	C
36	BA	2801	A
36	BA	2802	G
36	BA	2803	C
36	BA	2808	U
36	BA	2818	G
36	BA	2820	A
36	BA	2821	A
36	BA	2823	A
36	BA	2830	G
36	BA	2833	G
36	BA	2834	G
36	BA	2849	U
36	BA	2872	G
37	BB	2	C
37	BB	8	U
37	BB	13	A
37	BB	15	A
37	BB	16	G
37	BB	17	C
37	BB	21	G
37	BB	25	A
37	BB	27	C
37	BB	35	U
37	BB	40	U
37	BB	41	U
37	BB	42	C
37	BB	43	C
37	BB	45	A
37	BB	53	A

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Mol	Chain	Res	Type
37	BB	57	A
37	BB	68	C
37	BB	73	A
37	BB	75	G
37	BB	81	G
37	BB	82	G
37	BB	88	C
37	BB	110	G

All (113) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	AA	30	U
1	AA	60	A
1	AA	79	G
1	AA	109	A
1	AA	115	G
1	AA	119	A
1	AA	197	A
1	AA	202	U
1	AA	243	A
1	AA	250	A
1	AA	251	G
1	AA	266	G
1	AA	274	A
1	AA	344	A
1	AA	347	G
1	AA	351	G
1	AA	353	A
1	AA	368	U
1	AA	369	C
1	AA	388	G
1	AA	412	A
1	AA	428	G
1	AA	429	U
1	AA	484	G
1	AA	495	A
1	AA	508	C
1	AA	534	U
1	AA	547	A
1	AA	560	U
1	AA	573	A

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Mol	Chain	Res	Type
1	AA	575	G
1	AA	687	A
1	AA	748	C
1	AA	792	A
1	AA	966	G
1	AA	968	A
1	AA	980	C
1	AA	982	U
1	AA	992	U
1	AA	1049	U
1	AA	1050	G
1	AA	1053	G
1	AA	1101	A
1	AA	1124	G
1	AA	1139	G
1	AA	1157	A
1	AA	1200	C
1	AA	1239	A
1	AA	1267	C
1	AA	1269	A
1	AA	1285	A
1	AA	1319	A
1	AA	1399	C
1	AA	1452	C
1	AA	1498	U
1	AA	1504	G
23	AX	26	A
24	AY	18	G
24	AY	75	C
36	BA	49	A
36	BA	71	A
36	BA	74	A
36	BA	197	A
36	BA	221	A
36	BA	331	A
36	BA	332	A
36	BA	387	U
36	BA	472	A
36	BA	481	G
36	BA	587	C
36	BA	603	A
36	BA	614(C)	A

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Mol	Chain	Res	Type
36	BA	654(I)	C
36	BA	654(K)	C
36	BA	669	G
36	BA	752	A
36	BA	764	A
36	BA	790	C
36	BA	856	C
36	BA	1052	C
36	BA	1060	U
36	BA	1068	G
36	BA	1069	A
36	BA	1210	A
36	BA	1300	U
36	BA	1301	A
36	BA	1378	A
36	BA	1395	A
36	BA	1427	A
36	BA	1541	G
36	BA	1558	A
36	BA	1653	G
36	BA	1799	G
36	BA	1819	A
36	BA	1912	A
36	BA	1970	A
36	BA	1992	G
36	BA	2033	A
36	BA	2110	G
36	BA	2126	A
36	BA	2131	G
36	BA	2179	C
36	BA	2282	G
36	BA	2422	A
36	BA	2439	A
36	BA	2481	G
36	BA	2610	C
36	BA	2689	U
36	BA	2750	A
36	BA	2756	U
36	BA	2762	G
37	BB	34	U
37	BB	56	G

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

9 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$
24	H2U	AY	16	24	17,21,22	0.96	1 (5%)	23,30,33	1.87	4 (17%)
24	H2U	AY	17	24	17,21,22	1.02	2 (11%)	23,30,33	1.88	5 (21%)
24	H2U	AY	20	24	17,21,22	0.99	1 (5%)	23,30,33	1.93	6 (26%)
24	OMC	AY	32	24	13,22,23	0.76	0	20,31,34	0.96	2 (10%)
24	MIA	AY	37	24	21,31,32	1.10	2 (9%)	26,44,47	1.74	4 (15%)
24	7MG	AY	46	24	19,26,27	1.64	3 (15%)	24,39,42	2.27	3 (12%)
24	5MU	AY	54	24	12,22,23	1.42	2 (16%)	14,32,35	4.54	3 (21%)
24	PSU	AY	55	24	13,21,22	1.20	2 (15%)	18,30,33	3.82	7 (38%)
24	4SU	AY	8	24	11,21,22	1.42	3 (27%)	13,30,33	2.25	1 (7%)

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
24	H2U	AY	16	24	-	0/7/38/39	0/2/2/2
24	H2U	AY	17	24	-	0/7/38/39	0/2/2/2
24	H2U	AY	20	24	-	0/7/38/39	0/2/2/2
24	OMC	AY	32	24	-	0/5/27/28	0/2/2/2
24	MIA	AY	37	24	-	0/11/33/34	0/3/3/3
24	7MG	AY	46	24	-	0/7/37/38	0/3/3/3
24	5MU	AY	54	24	-	0/3/25/26	0/2/2/2
24	PSU	AY	55	24	-	0/7/25/26	0/2/2/2
24	4SU	AY	8	24	-	0/3/25/26	0/2/2/2

All (16) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
24	AY	46	7MG	C8-N9	-4.89	1.38	1.45
24	AY	46	7MG	C8-N7	-2.76	1.30	1.43
24	AY	37	MIA	C12-N6	-2.28	1.40	1.46
24	AY	8	4SU	C6-C5	-2.27	1.33	1.38
24	AY	37	MIA	C13-C14	-2.00	1.36	1.51
24	AY	17	H2U	C1'-N1	2.00	1.49	1.45
24	AY	16	H2U	C6-N1	2.00	1.49	1.47
24	AY	8	4SU	C6-N1	2.01	1.38	1.35
24	AY	20	H2U	C1'-N1	2.02	1.49	1.45
24	AY	17	H2U	C2-N1	2.10	1.38	1.35
24	AY	55	PSU	C6-N1	2.62	1.40	1.34
24	AY	54	5MU	C6-N1	2.75	1.39	1.35
24	AY	55	PSU	C4-N3	2.97	1.38	1.33
24	AY	8	4SU	C5-C4	2.99	1.42	1.38
24	AY	54	5MU	C4-N3	3.21	1.39	1.33
24	AY	46	7MG	C6-N1	3.54	1.39	1.33

All (35) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
24	AY	55	PSU	N1-C2-N3	-12.96	120.06	128.33
24	AY	54	5MU	C5-C4-N3	-8.92	115.20	125.14
24	AY	8	4SU	C5-C4-N3	-7.94	115.85	123.63
24	AY	46	7MG	C5-C6-N1	-7.76	111.54	123.46
24	AY	17	H2U	C4-N3-C2	-4.77	121.85	125.79
24	AY	16	H2U	C4-N3-C2	-4.59	122.01	125.79
24	AY	20	H2U	C4-N3-C2	-4.49	122.08	125.79
24	AY	37	MIA	C5-C6-N1	-3.03	117.36	120.48
24	AY	55	PSU	C5-C6-N1	-2.90	120.31	124.39
24	AY	16	H2U	O2-C2-N1	-2.49	120.04	123.30
24	AY	32	OMC	CM2-O2'-C2'	-2.19	108.41	114.59
24	AY	20	H2U	O2-C2-N1	-2.12	120.52	123.30
24	AY	20	H2U	O4'-C1'-C2'	-2.12	101.66	106.58
24	AY	17	H2U	O2-C2-N1	-2.12	120.53	123.30
24	AY	54	5MU	C5M-C5-C6	2.14	122.92	118.62
24	AY	37	MIA	C5-C6-N6	2.25	124.17	120.47
24	AY	46	7MG	CM7-N7-C8	2.31	127.06	120.52
24	AY	55	PSU	O3'-C3'-C4'	2.40	118.26	111.05
24	AY	17	H2U	C1'-N1-C2	2.43	121.64	118.27
24	AY	20	H2U	C1'-N1-C2	2.74	122.06	118.27
24	AY	55	PSU	O3'-C3'-C2'	3.04	121.72	111.83
24	AY	55	PSU	O4'-C1'-C2'	3.07	107.86	104.73
24	AY	32	OMC	C2-N3-C4	3.10	119.98	115.61

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
24	AY	55	PSU	C6-N1-C2	3.59	121.24	115.47
24	AY	37	MIA	C12-N6-C6	3.97	128.36	123.42
24	AY	20	H2U	C5-C4-N3	4.14	120.60	116.71
24	AY	17	H2U	C5-C4-N3	4.29	120.75	116.71
24	AY	16	H2U	C5-C4-N3	4.30	120.75	116.71
24	AY	17	H2U	N3-C2-N1	4.36	120.96	116.60
24	AY	20	H2U	N3-C2-N1	4.45	121.04	116.60
24	AY	16	H2U	N3-C2-N1	4.64	121.23	116.60
24	AY	37	MIA	C11-S10-C2	5.74	105.94	102.26
24	AY	55	PSU	C4-N3-C2	6.53	120.89	115.25
24	AY	46	7MG	C6-N1-C2	6.64	125.16	115.94
24	AY	54	5MU	C4-N3-C2	14.23	127.55	115.25

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

7 monomers are involved in 12 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
24	AY	16	H2U	1	0
24	AY	17	H2U	1	0
24	AY	20	H2U	3	0
24	AY	37	MIA	2	0
24	AY	54	5MU	2	0
24	AY	55	PSU	1	0
24	AY	8	4SU	3	0

5.5 Carbohydrates [i](#)

There are no carbohydrates in this entry.

5.6 Ligand geometry [i](#)

Of 7 ligands modelled in this entry, 5 are monoatomic - leaving 2 for Mogul analysis.

In the following table, the Counts columns list the number of bonds (or angles) for which Mogul statistics could be retrieved, the number of bonds (or angles) that are observed in the model and the number of bonds (or angles) that are defined in the chemical component dictionary. The Link column lists molecule types, if any, to which the group is linked. The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected

value. A bond length (or angle) with $|Z| > 2$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\# Z > 2$	Counts	RMSZ	$\# Z > 2$
59	PAR	AA	1601	-	45,45,45	1.41	5 (11%)	59,67,67	1.26	5 (8%)
61	GCP	AZ	501	62	26,34,34	1.95	6 (23%)	34,54,54	1.79	9 (26%)

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
59	PAR	AA	1601	-	-	0/18/94/94	0/4/4/4
61	GCP	AZ	501	62	-	0/15/38/38	0/3/3/3

All (11) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
61	AZ	501	GCP	PG-O2G	-3.70	1.45	1.54
61	AZ	501	GCP	C8-N7	-2.86	1.29	1.34
61	AZ	501	GCP	PG-O3G	-2.28	1.49	1.54
59	AA	1601	PAR	O51-C11	2.24	1.47	1.41
59	AA	1601	PAR	O54-C54	2.31	1.50	1.44
61	AZ	501	GCP	C2-N1	2.52	1.39	1.35
59	AA	1601	PAR	C64-C54	2.78	1.59	1.52
59	AA	1601	PAR	O54-C14	2.93	1.49	1.41
61	AZ	501	GCP	C4-N3	3.03	1.40	1.35
59	AA	1601	PAR	C52-C42	3.33	1.59	1.52
61	AZ	501	GCP	C6-N1	6.40	1.45	1.33

All (14) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
61	AZ	501	GCP	C5-C6-N1	-4.97	116.79	123.59
61	AZ	501	GCP	C6-C5-C4	-4.40	115.64	120.90
61	AZ	501	GCP	O2G-PG-O1G	-2.60	105.75	112.40
61	AZ	501	GCP	O3G-PG-O1G	-2.44	106.17	112.40
61	AZ	501	GCP	PA-O3A-PB	-2.01	127.08	132.73
59	AA	1601	PAR	O11-C11-C21	2.14	111.93	107.96
61	AZ	501	GCP	O2'-C2'-C3'	2.22	119.03	111.83
61	AZ	501	GCP	C6-N1-C2	2.36	119.21	115.94
59	AA	1601	PAR	O52-C13-C23	2.87	113.72	107.75

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
61	AZ	501	GCP	O3G-PG-O2G	2.87	116.55	108.13
61	AZ	501	GCP	C4-C5-N7	3.54	112.74	109.48
59	AA	1601	PAR	C14-O54-C54	3.58	120.69	113.75
59	AA	1601	PAR	O54-C54-C64	3.65	113.23	106.10
59	AA	1601	PAR	O33-C14-C24	4.58	116.45	107.96

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

2 monomers are involved in 7 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
59	AA	1601	PAR	2	0
61	AZ	501	GCP	5	0

5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

6 Fit of model and data ⓘ

6.1 Protein, DNA and RNA chains ⓘ

In the following table, the column labelled ‘#RSRZ> 2’ contains the number (and percentage) of RSRZ outliers, followed by percent RSRZ outliers for the chain as percentile scores relative to all X-ray entries and entries of similar resolution. The OWAB column contains the minimum, median, 95th 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 ²)	Q<0.9
1	AA	1504/1522 (98%)	0.06	34 (2%) 64 40	25, 58, 149, 200	0
2	AB	234/256 (91%)	0.06	13 (5%) 28 11	35, 74, 133, 147	0
3	AC	206/239 (86%)	-0.33	1 (0%) 91 83	34, 57, 91, 103	0
4	AD	208/209 (99%)	-0.06	2 (0%) 84 69	44, 68, 96, 102	0
5	AE	150/162 (92%)	-0.33	0 100 100	33, 52, 82, 102	0
6	AF	101/101 (100%)	-0.09	1 (0%) 84 69	52, 74, 89, 100	0
7	AG	155/156 (99%)	-0.22	2 (1%) 79 62	46, 71, 96, 119	0
8	AH	138/138 (100%)	-0.17	1 (0%) 89 78	38, 58, 78, 87	0
9	AI	127/128 (99%)	0.15	5 (3%) 43 21	41, 74, 103, 112	0
10	AJ	98/105 (93%)	0.24	6 (6%) 25 10	35, 75, 111, 117	0
11	AK	119/129 (92%)	-0.07	4 (3%) 49 24	39, 59, 95, 117	0
12	AL	124/135 (91%)	-0.10	5 (4%) 42 20	36, 48, 77, 112	0
13	AM	124/126 (98%)	0.43	8 (6%) 22 8	50, 80, 107, 132	0
14	AN	60/61 (98%)	-0.16	0 100 100	32, 48, 76, 83	0
15	AO	88/89 (98%)	0.00	0 100 100	42, 64, 89, 93	0
16	AP	83/88 (94%)	0.05	0 100 100	50, 65, 85, 114	0
17	AQ	99/105 (94%)	0.13	0 100 100	45, 70, 95, 97	0
18	AR	70/88 (79%)	0.00	1 (1%) 78 60	46, 65, 97, 111	0
19	AS	78/93 (83%)	0.45	9 (11%) 6 2	58, 84, 115, 123	0
20	AT	99/106 (93%)	0.78	11 (11%) 7 2	56, 86, 128, 131	0
21	AU	24/27 (88%)	0.09	1 (4%) 40 19	52, 64, 79, 91	0
22	AV	76/76 (100%)	1.06	15 (19%) 1 0	35, 127, 168, 176	0
22	AW	76/76 (100%)	2.25	37 (48%) 0 0	60, 175, 200, 200	0
23	AX	14/14 (100%)	0.79	2 (14%) 4 2	35, 57, 98, 114	0

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å ²)	Q<0.9
24	AY	68/77 (88%)	0.44	3 (4%) 38 17	47, 110, 160, 196	0
25	AZ	405/405 (100%)	0.25	20 (4%) 33 14	57, 100, 135, 143	0
26	B0	84/85 (98%)	0.78	9 (10%) 8 3	59, 75, 116, 136	0
27	B1	93/98 (94%)	0.29	5 (5%) 29 12	44, 65, 106, 114	0
28	B2	71/72 (98%)	0.75	7 (9%) 9 3	75, 108, 124, 146	0
29	B3	59/60 (98%)	0.82	7 (11%) 6 2	72, 93, 110, 135	0
30	B4	44/71 (61%)	0.56	3 (6%) 20 7	103, 134, 142, 149	0
31	B5	59/60 (98%)	0.58	4 (6%) 20 7	57, 89, 151, 155	0
32	B6	50/54 (92%)	0.97	7 (14%) 4 2	52, 81, 99, 108	0
33	B7	48/49 (97%)	0.31	1 (2%) 67 44	49, 59, 99, 117	0
34	B8	63/65 (96%)	0.39	2 (3%) 51 27	53, 73, 91, 106	0
35	B9	37/37 (100%)	1.01	7 (18%) 2 1	61, 82, 96, 97	0
36	BA	2901/2915 (99%)	0.41	223 (7%) 16 5	28, 76, 190, 200	0
37	BB	119/122 (97%)	0.17	4 (3%) 49 24	74, 103, 134, 150	0
38	BC	228/229 (99%)	3.51	150 (65%) 0 0	125, 160, 177, 186	0
39	BD	275/276 (99%)	-0.18	4 (1%) 76 58	24, 45, 71, 93	0
40	BE	204/206 (99%)	0.37	10 (4%) 33 14	50, 77, 128, 135	0
41	BF	207/210 (98%)	0.70	24 (11%) 6 2	47, 97, 149, 155	0
42	BG	181/182 (99%)	0.45	15 (8%) 14 5	79, 101, 126, 137	0
43	BH	159/180 (88%)	0.90	29 (18%) 2 1	80, 119, 144, 150	0
44	BJ	0/130	-	-	-	-
45	BK	0/140	-	-	-	-
46	BN	138/140 (98%)	0.45	5 (3%) 46 23	68, 93, 127, 132	0
47	BO	122/122 (100%)	-0.21	0 100 100	42, 59, 72, 83	0
48	BP	146/150 (97%)	0.75	12 (8%) 14 5	55, 90, 121, 146	0
49	BQ	141/141 (100%)	0.08	6 (4%) 39 18	50, 68, 100, 134	0
50	BR	117/118 (99%)	0.33	3 (2%) 59 35	58, 81, 100, 105	0
51	BS	98/112 (87%)	0.58	9 (9%) 11 4	70, 93, 121, 126	0
52	BT	137/146 (93%)	0.38	11 (8%) 15 5	54, 80, 139, 161	0
53	BU	117/118 (99%)	0.34	6 (5%) 32 13	68, 88, 113, 120	0
54	BV	101/101 (100%)	1.01	16 (15%) 3 1	67, 117, 132, 137	0
55	BW	113/113 (100%)	0.39	5 (4%) 38 17	65, 88, 115, 135	0

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å ²)	Q<0.9
56	BX	92/96 (95%)	0.52	7 (7%) 17 6	65, 85, 101, 107	0
57	BY	100/110 (90%)	1.78	43 (43%) 0 0	94, 125, 149, 158	0
58	BZ	176/206 (85%)	0.63	17 (9%) 10 3	69, 102, 125, 134	0
All	All	11008/11625 (94%)	0.37	832 (7%) 17 6	24, 77, 158, 200	0

All (832) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
38	BC	220	PRO	12.8
58	BZ	114	GLY	12.2
38	BC	111	ASP	11.5
38	BC	123	VAL	11.4
36	BA	654(P)	C	11.4
38	BC	79	LYS	10.8
38	BC	109	ASP	10.8
38	BC	127	LEU	10.6
36	BA	654(Q)	C	10.5
36	BA	654(O)	G	10.1
38	BC	88	GLU	10.1
38	BC	2	LYS	10.0
38	BC	1	PRO	9.8
38	BC	62	VAL	9.6
36	BA	1073	A	9.5
36	BA	654(L)	G	9.5
38	BC	131	LEU	9.1
22	AW	17	C	9.0
38	BC	107	TRP	9.0
22	AW	18	G	8.9
36	BA	654(H)	G	8.9
38	BC	3	HIS	8.9
36	BA	654(M)	C	8.8
36	BA	1074	G	8.6
36	BA	654(T)	C	8.6
38	BC	133	PRO	8.5
28	B2	72	ALA	8.5
48	BP	150	ALA	8.5
38	BC	8	ARG	8.5
13	AM	124	PRO	8.4
36	BA	654(N)	G	8.4
38	BC	144	THR	8.3
38	BC	146	GLY	8.2

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Mol	Chain	Res	Type	RSRZ
49	BQ	140	ALA	8.2
36	BA	271(N)	U	8.2
26	B0	2	ALA	8.2
36	BA	1075	C	8.2
36	BA	1064	C	8.1
36	BA	654(B)	C	8.1
38	BC	29	VAL	8.0
13	AM	123	ALA	8.0
36	BA	1104	C	8.0
36	BA	1093	G	8.0
36	BA	1091	G	7.9
38	BC	39	GLU	7.9
36	BA	654(D)	G	7.8
38	BC	163	PHE	7.8
36	BA	2802	G	7.8
36	BA	1090	U	7.7
36	BA	1534	U	7.7
38	BC	91	ALA	7.7
54	BV	36	PRO	7.6
36	BA	1068	G	7.6
38	BC	90	GLY	7.6
29	B3	1	MET	7.5
42	BG	49	ASP	7.5
36	BA	654(A)	G	7.5
38	BC	36	LYS	7.4
36	BA	1103	A	7.3
38	BC	93	TYR	7.3
36	BA	1535	A	7.3
36	BA	2897	U	7.2
38	BC	38	ASP	7.1
38	BC	28	LEU	7.1
38	BC	105	ASP	7.1
42	BG	48	GLU	7.1
22	AW	12	U	7.1
36	BA	2795	G	7.0
1	AA	81	U	7.0
36	BA	654(E)	G	6.9
36	BA	654(J)	A	6.9
38	BC	97	GLU	6.8
38	BC	17	ASN	6.8
38	BC	89	ALA	6.8
38	BC	27	ARG	6.7

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Mol	Chain	Res	Type	RSRZ
38	BC	135	GLY	6.7
38	BC	108	MET	6.6
22	AW	15	G	6.6
38	BC	219	GLY	6.6
22	AV	19	G	6.5
36	BA	1094	U	6.5
52	BT	135	ALA	6.5
43	BH	53	GLU	6.5
36	BA	654(C)	G	6.5
36	BA	1088	A	6.5
13	AM	121	LYS	6.4
36	BA	1080	C	6.4
38	BC	31	GLU	6.4
36	BA	654	A	6.4
31	B5	58	LEU	6.3
22	AW	22	G	6.3
36	BA	1174	A	6.3
38	BC	104	LEU	6.2
38	BC	210	ARG	6.2
38	BC	102	LYS	6.2
36	BA	1076	C	6.2
36	BA	1078	U	6.2
38	BC	143	GLY	6.2
38	BC	222	VAL	6.2
42	BG	50	ALA	6.2
38	BC	106	GLY	6.1
36	BA	2799	C	6.1
36	BA	654(U)	A	6.1
36	BA	1087	G	6.1
41	BF	2	LYS	6.0
1	AA	89	C	6.0
38	BC	80	GLY	6.0
36	BA	654(R)	C	6.0
36	BA	2161	C	5.9
38	BC	126	LYS	5.9
38	BC	221	SER	5.9
1	AA	88	A	5.9
22	AW	56	C	5.9
38	BC	112	ALA	5.8
38	BC	223	ARG	5.8
52	BT	1	MET	5.8
51	BS	108	GLY	5.8

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Mol	Chain	Res	Type	RSRZ
36	BA	2145	C	5.8
38	BC	83	ILE	5.8
36	BA	654(K)	C	5.8
57	BY	89	PHE	5.8
36	BA	2144	U	5.7
57	BY	55	TYR	5.7
38	BC	130	ILE	5.7
26	B0	5	LYS	5.7
35	B9	1	MET	5.7
38	BC	176	GLY	5.7
38	BC	175	VAL	5.6
26	B0	3	HIS	5.6
38	BC	98	GLU	5.6
38	BC	35	ALA	5.6
41	BF	25	PRO	5.6
30	B4	42	PHE	5.6
36	BA	1099	G	5.6
58	BZ	115	GLY	5.6
38	BC	125	SER	5.5
12	AL	128	ALA	5.5
54	BV	25	LEU	5.5
1	AA	80	G	5.5
36	BA	2146	C	5.5
1	AA	82	U	5.4
38	BC	78	ALA	5.4
38	BC	228	SER	5.4
57	BY	2	ARG	5.4
36	BA	1067	A	5.4
36	BA	1095	A	5.4
38	BC	4	GLY	5.3
36	BA	654(S)	G	5.3
40	BE	69	LYS	5.3
22	AW	11	C	5.3
22	AV	17	C	5.2
36	BA	1509	C	5.2
43	BH	13	LYS	5.2
38	BC	103	ILE	5.2
41	BF	18	ARG	5.2
58	BZ	162	GLU	5.2
36	BA	1057	A	5.2
26	B0	85	ALA	5.1
36	BA	2133	G	5.1

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Mol	Chain	Res	Type	RSRZ
36	BA	2125	G	5.1
38	BC	50	ASP	5.1
38	BC	73	ARG	5.1
36	BA	654(F)	C	5.0
22	AW	14	A	5.0
2	AB	128	GLU	4.9
36	BA	896	A	4.9
38	BC	12	GLU	4.9
49	BQ	141	GLN	4.9
36	BA	1066	U	4.9
43	BH	83	TYR	4.9
36	BA	654(G)	C	4.9
41	BF	1	MET	4.8
38	BC	227	HIS	4.8
38	BC	48	GLY	4.8
31	B5	60	VAL	4.8
38	BC	136	LEU	4.8
36	BA	2892	A	4.8
36	BA	1063	G	4.7
38	BC	92	ASP	4.7
55	BW	112	GLY	4.7
38	BC	71	GLN	4.7
38	BC	224	ILE	4.7
31	B5	59	GLU	4.7
38	BC	60	GLY	4.7
36	BA	1089	G	4.7
38	BC	120	MET	4.7
36	BA	1079	C	4.6
38	BC	122	ALA	4.6
10	AJ	36	GLY	4.6
36	BA	1071	G	4.6
36	BA	2162	G	4.6
38	BC	7	TYR	4.6
40	BE	204	ALA	4.6
32	B6	42	TRP	4.6
38	BC	99	ILE	4.6
38	BC	67	GLY	4.5
1	AA	83	U	4.5
22	AW	55	U	4.5
31	B5	2	ALA	4.5
22	AW	50	U	4.5
35	B9	37	GLY	4.5

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Mol	Chain	Res	Type	RSRZ
57	BY	28	LYS	4.5
57	BY	71	LYS	4.5
36	BA	1097	U	4.5
22	AW	13	C	4.5
38	BC	16	PRO	4.5
1	AA	470	C	4.5
36	BA	1065	U	4.5
36	BA	1059	G	4.5
38	BC	181	PRO	4.4
38	BC	87	GLU	4.4
1	AA	96	U	4.4
41	BF	24	LEU	4.4
22	AW	44	G	4.4
36	BA	2143	C	4.3
38	BC	182	PRO	4.3
36	BA	2894	G	4.3
11	AK	129	SER	4.3
36	BA	2796	U	4.3
7	AG	156	TRP	4.3
46	BN	53	VAL	4.3
13	AM	122	LYS	4.3
51	BS	81	GLY	4.3
36	BA	508	G	4.3
22	AW	46	G	4.2
36	BA	889	C	4.2
38	BC	70	LYS	4.2
38	BC	110	PHE	4.2
36	BA	1533	G	4.2
36	BA	2789	C	4.2
26	B0	7	LEU	4.2
38	BC	69	GLY	4.2
36	BA	1176	G	4.1
1	AA	84	U	4.1
56	BX	68	ARG	4.1
38	BC	9	ALA	4.1
54	BV	17	GLY	4.1
36	BA	275	G	4.1
36	BA	2165	G	4.1
22	AW	48	C	4.1
1	AA	1267	C	4.1
38	BC	119	VAL	4.1
41	BF	19	GLU	4.1

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Mol	Chain	Res	Type	RSRZ
22	AW	9	A	4.0
36	BA	10	G	4.0
43	BH	57	ASP	4.0
20	AT	106	ALA	4.0
43	BH	169	VAL	4.0
57	BY	45	VAL	4.0
36	BA	884	C	4.0
38	BC	18	LYS	4.0
36	BA	2166	G	4.0
36	BA	157	U	4.0
38	BC	124	GLY	4.0
36	BA	6	A	4.0
1	AA	162	A	4.0
25	AZ	330	ARG	4.0
36	BA	883	G	4.0
1	AA	163	C	4.0
36	BA	2132	U	3.9
57	BY	26	LYS	3.9
22	AW	7	A	3.9
36	BA	2131	G	3.9
36	BA	2801(A)	A	3.9
46	BN	133	GLN	3.9
22	AV	20	U	3.9
38	BC	37	PHE	3.9
57	BY	32	PRO	3.9
22	AW	19	G	3.9
36	BA	7	G	3.9
36	BA	2187	G	3.9
57	BY	56	PRO	3.9
36	BA	1098	A	3.9
36	BA	2117	A	3.9
38	BC	225	ASN	3.9
26	B0	6	GLY	3.9
38	BC	196	LEU	3.8
36	BA	1173	G	3.8
26	B0	4	LYS	3.8
9	AI	88	TYR	3.8
22	AW	45	U	3.8
36	BA	2142	C	3.8
36	BA	2186	G	3.8
38	BC	19	VAL	3.8
6	AF	101	ALA	3.8

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Mol	Chain	Res	Type	RSRZ
43	BH	170	ARG	3.8
22	AW	21	A	3.8
20	AT	101	GLY	3.8
29	B3	2	PRO	3.8
9	AI	87	GLN	3.8
41	BF	12	LEU	3.8
36	BA	1092	C	3.8
38	BC	134	ARG	3.8
20	AT	99	LEU	3.8
38	BC	139	ASN	3.7
1	AA	91	C	3.7
2	AB	131	PRO	3.7
41	BF	134	GLY	3.7
57	BY	39	VAL	3.7
38	BC	202	GLU	3.7
36	BA	2801	A	3.7
53	BU	117	GLN	3.7
54	BV	18	LEU	3.7
22	AV	1	G	3.7
22	AW	10	G	3.7
38	BC	59	ARG	3.7
36	BA	2896	C	3.7
38	BC	153	ILE	3.7
32	B6	54	ILE	3.7
36	BA	2140	C	3.7
25	AZ	334	PHE	3.6
27	B1	85	LEU	3.6
38	BC	68	LEU	3.6
38	BC	41	VAL	3.6
58	BZ	113	ALA	3.6
38	BC	100	ILE	3.6
57	BY	37	VAL	3.6
1	AA	1030(B)	C	3.6
57	BY	72	VAL	3.6
1	AA	1030(C)	G	3.6
22	AW	47	U	3.6
13	AM	125	ARG	3.6
36	BA	1100	C	3.6
38	BC	11	LEU	3.6
53	BU	9	VAL	3.6
38	BC	154	ARG	3.6
13	AM	7	VAL	3.6

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Mol	Chain	Res	Type	RSRZ
28	B2	38	GLN	3.6
43	BH	51	ARG	3.5
36	BA	277	C	3.5
36	BA	2139	C	3.5
19	AS	81	ARG	3.5
36	BA	2310	A	3.5
43	BH	100	GLY	3.5
38	BC	53	ARG	3.5
19	AS	10	PHE	3.5
36	BA	1072	C	3.5
36	BA	2629	A	3.5
36	BA	2893	G	3.5
38	BC	115	ALA	3.5
36	BA	156	U	3.5
38	BC	218	MET	3.5
36	BA	1536	C	3.5
38	BC	32	LEU	3.5
24	AY	19	G	3.5
36	BA	2141	G	3.5
36	BA	1053	C	3.5
58	BZ	167	PRO	3.5
2	AB	136	VAL	3.5
36	BA	2157	G	3.5
38	BC	216	THR	3.5
52	BT	91	ARG	3.5
48	BP	15	ARG	3.5
38	BC	86	ALA	3.4
1	AA	1031	G	3.4
38	BC	118	ASP	3.4
36	BA	2803	C	3.4
36	BA	2118	U	3.4
23	AX	14	A	3.4
36	BA	271(M)	G	3.4
36	BA	1081	U	3.4
57	BY	41	GLY	3.4
57	BY	59	GLY	3.4
42	BG	2	PRO	3.4
36	BA	1056	G	3.4
38	BC	96	GLY	3.4
11	AK	127	LYS	3.4
13	AM	120	LYS	3.4
55	BW	111	HIS	3.4

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Mol	Chain	Res	Type	RSRZ
20	AT	9	ASN	3.4
52	BT	134	GLU	3.4
36	BA	2185	C	3.4
38	BC	101	GLN	3.4
22	AW	60	U	3.4
58	BZ	112	ARG	3.4
53	BU	118	GLY	3.4
38	BC	213	TYR	3.4
36	BA	271(K)	U	3.4
36	BA	2151	G	3.3
38	BC	156	ILE	3.3
22	AW	63	G	3.3
48	BP	119	GLU	3.3
1	AA	1129	C	3.3
36	BA	1061	U	3.3
57	BY	54	LYS	3.3
30	B4	32	TYR	3.3
36	BA	2155	G	3.3
37	BB	88	C	3.3
1	AA	839	U	3.3
34	B8	48	PHE	3.3
51	BS	87	PHE	3.3
36	BA	2159	G	3.2
50	BR	105	ARG	3.2
43	BH	81	GLU	3.2
36	BA	1085	A	3.2
38	BC	204	ALA	3.2
22	AW	61	C	3.2
38	BC	193	ILE	3.2
57	BY	60	PHE	3.2
36	BA	1055	G	3.2
38	BC	214	VAL	3.2
19	AS	20	LEU	3.2
36	BA	654(I)	C	3.2
36	BA	881	G	3.2
48	BP	51	PHE	3.2
54	BV	101	GLY	3.2
57	BY	61	ILE	3.2
1	AA	93	G	3.2
36	BA	2804	C	3.1
36	BA	271(L)	U	3.1
28	B2	71	ASN	3.1

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Mol	Chain	Res	Type	RSRZ
36	BA	1102	C	3.1
38	BC	215	THR	3.1
7	AG	2	ALA	3.1
41	BF	156	LEU	3.1
20	AT	98	PRO	3.1
38	BC	211	SER	3.1
38	BC	84	LYS	3.1
39	BD	276	LYS	3.1
36	BA	34	C	3.1
36	BA	2106	G	3.1
28	B2	16	LEU	3.1
32	B6	46	HIS	3.1
36	BA	2794	C	3.1
37	BB	66	A	3.1
36	BA	1847	A	3.1
1	AA	77	G	3.1
50	BR	3	HIS	3.1
57	BY	36	ALA	3.0
58	BZ	142	SER	3.0
36	BA	1177	A	3.0
36	BA	2153	G	3.0
36	BA	2175	C	3.0
41	BF	8	GLN	3.0
36	BA	353	G	3.0
51	BS	83	LYS	3.0
54	BV	30	GLY	3.0
56	BX	90	GLU	3.0
38	BC	192	PHE	3.0
38	BC	116	THR	3.0
38	BC	189	ILE	3.0
1	AA	1001(A)	G	3.0
36	BA	2116	G	3.0
40	BE	75	VAL	3.0
1	AA	723	U	3.0
57	BY	22	GLY	3.0
25	AZ	326	GLU	3.0
42	BG	4	ASP	3.0
36	BA	2129	C	3.0
36	BA	1083	U	3.0
36	BA	2167	U	3.0
36	BA	2895	U	3.0
36	BA	2156	G	3.0

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Mol	Chain	Res	Type	RSRZ
25	AZ	1	ALA	2.9
36	BA	2602	A	2.9
35	B9	15	LYS	2.9
46	BN	8	GLN	2.9
43	BH	34	GLU	2.9
55	BW	5	ALA	2.9
36	BA	158	U	2.9
38	BC	169	GLY	2.9
10	AJ	100	THR	2.9
36	BA	1086	A	2.9
57	BY	64	GLU	2.9
54	BV	54	GLY	2.9
36	BA	654(V)	A	2.9
36	BA	11	G	2.9
36	BA	1740	G	2.9
36	BA	2154	G	2.9
36	BA	2207	G	2.9
36	BA	1082	U	2.9
36	BA	2104	G	2.9
58	BZ	175	VAL	2.9
36	BA	1762	A	2.9
36	BA	894	C	2.9
43	BH	101	ARG	2.9
22	AW	20	U	2.9
57	BY	27	VAL	2.9
35	B9	36	GLN	2.9
38	BC	157	LYS	2.9
36	BA	2791	C	2.9
38	BC	212	VAL	2.9
9	AI	4	TYR	2.9
42	BG	51	ARG	2.9
10	AJ	80	LYS	2.8
36	BA	1537	G	2.8
36	BA	2147	G	2.8
38	BC	147	PHE	2.8
36	BA	1105	U	2.8
57	BY	30	VAL	2.8
58	BZ	165	VAL	2.8
38	BC	161	ILE	2.8
36	BA	882	G	2.8
42	BG	146	TYR	2.8
38	BC	207	THR	2.8

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Mol	Chain	Res	Type	RSRZ
43	BH	85	LYS	2.8
11	AK	11	LYS	2.8
55	BW	113	LYS	2.8
57	BY	67	LEU	2.8
57	BY	83	THR	2.8
36	BA	2160	G	2.8
36	BA	2793	G	2.8
22	AW	54	U	2.8
36	BA	2402	C	2.8
1	AA	1136	U	2.8
43	BH	52	VAL	2.8
36	BA	271(O)	C	2.8
54	BV	42	GLY	2.8
57	BY	11	ASP	2.8
36	BA	2100	G	2.8
36	BA	1509(A)	A	2.8
57	BY	17	SER	2.7
57	BY	86	ARG	2.7
38	BC	145	VAL	2.7
57	BY	5	MET	2.7
52	BT	136	GLN	2.7
40	BE	76	ARG	2.7
38	BC	158	ALA	2.7
36	BA	2111	C	2.7
22	AV	60	U	2.7
22	AW	34	G	2.7
22	AW	49	C	2.7
48	BP	93	GLY	2.7
51	BS	84	GLN	2.7
36	BA	614(A)	U	2.7
2	AB	137	ARG	2.7
52	BT	3	ARG	2.7
12	AL	127	GLU	2.7
57	BY	52	SER	2.7
54	BV	27	ALA	2.7
22	AV	18	G	2.7
2	AB	132	LYS	2.7
41	BF	194	MET	2.7
36	BA	932	G	2.7
41	BF	131	GLY	2.7
41	BF	207	GLY	2.7
43	BH	82	GLY	2.7

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Mol	Chain	Res	Type	RSRZ
2	AB	240	GLN	2.7
25	AZ	340	PRO	2.7
58	BZ	153	SER	2.7
25	AZ	35	THR	2.7
38	BC	205	LYS	2.6
28	B2	66	GLU	2.6
51	BS	80	LEU	2.6
43	BH	54	ARG	2.6
22	AV	16	U	2.6
25	AZ	382	GLU	2.6
25	AZ	38	GLU	2.6
25	AZ	339	ARG	2.6
36	BA	1106	G	2.6
27	B1	56	GLN	2.6
43	BH	167	GLU	2.6
57	BY	84	ARG	2.6
2	AB	127	ILE	2.6
36	BA	1052	C	2.6
12	AL	28	LYS	2.6
36	BA	2127	G	2.6
41	BF	128	ALA	2.6
56	BX	88	LYS	2.6
25	AZ	333	GLY	2.6
58	BZ	7	ALA	2.6
36	BA	885	C	2.6
36	BA	2177	C	2.6
20	AT	90	GLN	2.6
22	AW	26	A	2.6
25	AZ	184	ARG	2.6
36	BA	2168	G	2.6
36	BA	888	C	2.6
25	AZ	405	GLU	2.6
51	BS	107	GLU	2.6
1	AA	78	G	2.5
38	BC	114	VAL	2.5
20	AT	104	LEU	2.5
36	BA	2172	U	2.5
56	BX	64	LYS	2.5
1	AA	1268	A	2.5
48	BP	149	GLU	2.5
22	AW	8	U	2.5
43	BH	160	LYS	2.5

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Mol	Chain	Res	Type	RSRZ
46	BN	121	LYS	2.5
36	BA	229	A	2.5
38	BC	226	PRO	2.5
29	B3	18	ASP	2.5
36	BA	1171	G	2.5
38	BC	203	GLY	2.5
42	BG	127	GLY	2.5
38	BC	179	SER	2.5
40	BE	58	ARG	2.5
22	AV	66	U	2.5
36	BA	172	C	2.5
54	BV	19	LYS	2.5
1	AA	1026	G	2.5
22	AW	53	G	2.5
36	BA	2833	G	2.5
2	AB	227	GLY	2.5
22	AW	59	U	2.5
36	BA	2135	A	2.5
42	BG	3	LEU	2.5
57	BY	65	ALA	2.5
48	BP	5	ASP	2.5
22	AW	16	U	2.5
27	B1	51	VAL	2.5
57	BY	51	VAL	2.5
41	BF	135	LYS	2.5
38	BC	55	ASP	2.5
29	B3	59	VAL	2.5
34	B8	64	TYR	2.4
32	B6	44	ARG	2.4
1	AA	97	G	2.4
36	BA	2101	G	2.4
36	BA	2891	G	2.4
36	BA	357	A	2.4
52	BT	132	LYS	2.4
52	BT	130	ALA	2.4
41	BF	199	TRP	2.4
9	AI	126	SER	2.4
22	AW	51	U	2.4
11	AK	12	ARG	2.4
1	AA	1038	C	2.4
38	BC	72	VAL	2.4
49	BQ	1	MET	2.4

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Mol	Chain	Res	Type	RSRZ
35	B9	34	GLN	2.4
20	AT	84	LEU	2.4
38	BC	75	LEU	2.4
57	BY	98	VAL	2.4
36	BA	363(F)	A	2.4
36	BA	2126	A	2.4
43	BH	66	GLY	2.4
42	BG	26	GLN	2.4
20	AT	10	LEU	2.4
36	BA	1077	A	2.4
36	BA	272(A)	U	2.4
36	BA	2115	G	2.4
36	BA	2189	U	2.4
36	BA	2792	G	2.4
37	BB	87	G	2.4
57	BY	95	LYS	2.4
40	BE	54	GLN	2.4
36	BA	2110	G	2.3
25	AZ	403	ILE	2.3
36	BA	2134	A	2.3
19	AS	12	ASP	2.3
54	BV	66	ARG	2.3
51	BS	103	GLU	2.3
41	BF	196	LEU	2.3
58	BZ	139	VAL	2.3
19	AS	28	LYS	2.3
25	AZ	189	ARG	2.3
57	BY	58	GLY	2.3
43	BH	114	VAL	2.3
36	BA	9	U	2.3
39	BD	244	ARG	2.3
22	AW	36	A	2.3
41	BF	20	LEU	2.3
28	B2	68	ARG	2.3
10	AJ	83	GLU	2.3
19	AS	43	GLU	2.3
36	BA	1591	G	2.3
41	BF	167	ALA	2.3
9	AI	128	ARG	2.3
38	BC	82	LYS	2.3
22	AV	54	U	2.3
38	BC	63	SER	2.3

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Mol	Chain	Res	Type	RSRZ
43	BH	161	GLY	2.3
22	AV	53	G	2.3
36	BA	1044	G	2.3
37	BB	89	G	2.3
38	BC	117	PRO	2.3
20	AT	37	SER	2.3
18	AR	31	LEU	2.3
29	B3	8	LEU	2.3
36	BA	1043	C	2.3
24	AY	57	G	2.3
36	BA	2173	A	2.3
48	BP	110	TYR	2.3
43	BH	123	PHE	2.3
42	BG	27	ASN	2.3
52	BT	2	ASN	2.3
1	AA	1137	C	2.3
22	AW	23	A	2.3
25	AZ	152	MET	2.3
42	BG	86	MET	2.3
43	BH	103	LEU	2.3
54	BV	100	ARG	2.2
1	AA	92	C	2.2
38	BC	51	PRO	2.2
20	AT	85	MET	2.2
38	BC	30	LYS	2.2
38	BC	56	GLN	2.2
48	BP	144	GLU	2.2
19	AS	30	LEU	2.2
29	B3	17	LYS	2.2
57	BY	66	PRO	2.2
43	BH	115	VAL	2.2
36	BA	1033	U	2.2
36	BA	1070	A	2.2
2	AB	130	ARG	2.2
3	AC	79	ARG	2.2
54	BV	70	ILE	2.2
10	AJ	29	ARG	2.2
4	AD	190	ASP	2.2
38	BC	142	ALA	2.2
53	BU	116	ALA	2.2
36	BA	1538	G	2.2
12	AL	19	ARG	2.2

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Mol	Chain	Res	Type	RSRZ
36	BA	362	U	2.2
58	BZ	157	LEU	2.2
32	B6	31	PRO	2.2
25	AZ	37	ALA	2.2
52	BT	39	ARG	2.2
8	AH	98	LYS	2.2
41	BF	146	ALA	2.2
2	AB	121	LEU	2.2
36	BA	1046	A	2.2
38	BC	74	VAL	2.2
53	BU	85	LYS	2.2
46	BN	10	GLU	2.2
43	BH	59	ARG	2.2
49	BQ	89	ASN	2.2
41	BF	163	VAL	2.2
43	BH	45	VAL	2.2
41	BF	27	GLU	2.2
57	BY	92	ASN	2.2
22	AV	65	G	2.2
24	AY	44	G	2.2
36	BA	271(J)	C	2.2
36	BA	1541	G	2.2
27	B1	57	GLU	2.2
43	BH	116	GLU	2.2
39	BD	275	LYS	2.2
36	BA	1214	A	2.2
50	BR	93	GLY	2.2
38	BC	58	VAL	2.2
1	AA	76	C	2.2
1	AA	1036	G	2.2
22	AW	27	G	2.2
26	B0	84	LEU	2.2
1	AA	90	U	2.1
36	BA	1026	U	2.1
38	BC	15	ASP	2.2
33	B7	1	MET	2.1
10	AJ	88	LEU	2.1
36	BA	1543	C	2.1
39	BD	273	ARG	2.1
40	BE	53	PRO	2.1
58	BZ	80	ARG	2.1
58	BZ	138	GLU	2.1

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Mol	Chain	Res	Type	RSRZ
29	B3	5	LYS	2.1
36	BA	276	A	2.1
36	BA	282	A	2.1
42	BG	128	ARG	2.1
4	AD	189	PRO	2.1
12	AL	16	GLU	2.1
26	B0	43	THR	2.1
41	BF	30	PRO	2.1
32	B6	21	TYR	2.1
53	BU	91	ASP	2.1
36	BA	2158	A	2.1
57	BY	74	PRO	2.1
57	BY	82	PRO	2.1
2	AB	19	HIS	2.1
32	B6	11	LEU	2.1
48	BP	65	ARG	2.1
51	BS	26	LEU	2.1
38	BC	159	GLY	2.1
40	BE	88	GLY	2.1
35	B9	10	ILE	2.1
38	BC	197	GLU	2.1
38	BC	160	ARG	2.1
57	BY	35	TYR	2.1
58	BZ	163	LEU	2.1
54	BV	48	GLY	2.1
2	AB	134	GLU	2.1
38	BC	162	GLU	2.1
54	BV	56	SER	2.1
43	BH	90	LYS	2.1
56	BX	82	GLN	2.1
49	BQ	60	ARG	2.1
25	AZ	143	ASP	2.1
25	AZ	347	THR	2.1
48	BP	102	ARG	2.1
52	BT	137	LYS	2.1
36	BA	2150	U	2.1
19	AS	17	GLU	2.1
43	BH	42	ARG	2.1
58	BZ	131	ARG	2.1
36	BA	1051	G	2.1
36	BA	1509(B)	A	2.1
1	AA	72	C	2.1

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Mol	Chain	Res	Type	RSRZ
30	B4	47	GLN	2.1
42	BG	81	LYS	2.1
54	BV	29	PRO	2.1
22	AV	76	A	2.1
25	AZ	173	GLY	2.1
27	B1	58	ILE	2.1
2	AB	122	PHE	2.1
19	AS	24	ALA	2.1
57	BY	38	ILE	2.0
36	BA	272(J)	C	2.0
36	BA	2174	C	2.0
41	BF	155	LEU	2.0
13	AM	27	LYS	2.0
22	AV	63	G	2.0
23	AX	18	G	2.0
40	BE	73	GLU	2.0
56	BX	12	VAL	2.0
42	BG	20	ILE	2.0
49	BQ	10	ARG	2.0
55	BW	49	LYS	2.0
36	BA	1069	A	2.0
38	BC	81	GLU	2.0
40	BE	151	TYR	2.0
36	BA	892	G	2.0
36	BA	1062	G	2.0
56	BX	70	LEU	2.0
22	AV	47	U	2.0
38	BC	85	GLU	2.0
48	BP	92	GLU	2.0
57	BY	10	GLY	2.0
36	BA	1531	C	2.0
36	BA	2119	A	2.0
35	B9	20	HIS	2.0
43	BH	124	GLU	2.0
28	B2	50	ILE	2.0
36	BA	2130	U	2.0
38	BC	168	THR	2.0
22	AV	64	A	2.0
36	BA	2790	A	2.0
25	AZ	192	GLU	2.0
21	AU	24	ARG	2.0
57	BY	88	LYS	2.0

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Mol	Chain	Res	Type	RSRZ
36	BA	1170	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. LLDF column lists the quality of electron density of the group with respect to its neighbouring residues in protein, DNA or RNA chains. The B-factors column lists the minimum, median, 95th 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	LLDF	B-factors(Å ²)	Q<0.9
24	PSU	AY	55	20/21	0.71	0.31	-	154,158,159,160	0
24	H2U	AY	17	20/21	0.61	0.79	-	191,199,200,200	0
24	MIA	AY	37	29/30	0.94	0.27	-	48,63,74,86	0
24	OMC	AY	32	21/22	0.92	0.24	-	76,80,87,88	0
24	5MU	AY	54	21/22	0.65	0.36	-	145,152,154,155	0
24	H2U	AY	20	20/21	0.75	0.31	-	185,187,191,191	0
24	7MG	AY	46	24/25	0.88	0.24	-	112,114,120,121	0
24	H2U	AY	16	20/21	0.55	0.42	-	171,185,187,190	0
24	4SU	AY	8	20/21	0.79	0.24	-	104,105,107,108	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. LLDF column lists the quality of electron density of the group with respect to its neighbouring residues in protein, DNA or RNA chains. The B-factors column lists the minimum, median, 95th 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	LLDF	B-factors(Å ²)	Q<0.9
59	PAR	AA	1601	42/42	0.95	0.21	4.22	33,42,58,62	0
60	ZN	AN	101	1/1	1.00	0.19	2.20	45,45,45,45	0
62	MG	AZ	502	1/1	0.93	0.24	0.70	55,55,55,55	0
61	GCP	AZ	501	32/32	0.93	0.23	-0.03	89,110,116,117	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	LLDF	B-factors(\AA^2)	Q<0.9
60	ZN	B9	101	1/1	0.99	0.12	-1.20	92,92,92,92	0
60	ZN	B4	101	1/1	0.92	0.08	-1.92	132,132,132,132	0
60	ZN	AD	301	1/1	0.98	0.33	-	58,58,58,58	0

6.5 Other polymers [i](#)

There are no such residues in this entry.