



# Full wwPDB X-ray Structure Validation Report ⓘ

Apr 14, 2025 – 05:02 PM JST

PDB ID : 8KAL / pdb\_00008kal  
Title : Crystal structure of SpyCas9 in complex with sgRNA and 17nt target DNA  
Authors : Chen, Y.; Chen, J.; Liu, L.  
Deposited on : 2023-08-03  
Resolution : 3.16 Å(reported)

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

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

A user guide is available at

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

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

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

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

MolProbity : 4.02b-467  
Mogul : 1.8.5 (274361), CSD as541be (2020)  
Xtriage (Phenix) : 2.0rc1  
EDS : 3.0  
Percentile statistics : 20231227.v01 (using entries in the PDB archive December 27th 2023)  
CCP4 : 9.0.006 (Gargrove)  
Density-Fitness : 1.0.12  
Ideal geometry (proteins) : Engh & Huber (2001)  
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)  
Validation Pipeline (wwPDB-VP) : 2.42

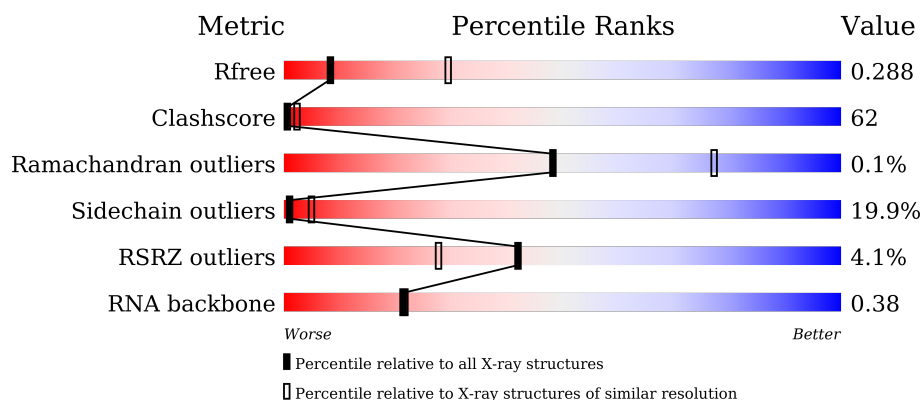
# 1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

*X-RAY DIFFRACTION*

The reported resolution of this entry is 3.16 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))
$R_{free}$	164625	2168 (3.20-3.12)
Clashscore	180529	2333 (3.20-3.12)
Ramachandran outliers	177936	2266 (3.20-3.12)
Sidechain outliers	177891	2265 (3.20-3.12)
RSRZ outliers	164620	2169 (3.20-3.12)
RNA backbone	3690	1016 (3.42-2.90)

The table below summarises the geometric issues observed across the polymeric chains and their fit to the electron density. The red, orange, yellow and green segments of the lower bar indicate the fraction of residues that contain outliers for  $\geq 3$ , 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions  $\leq 5\%$ . The upper red bar (where present) indicates the fraction of residues that have poor fit to the electron density. The numeric value is given above the bar.

Mol	Chain	Length	Quality of chain
1	A	98	<div> <div>11%</div> <div>48%</div> <div>32%</div> <div>5%</div> </div>
1	E	98	<div> <div>16%</div> <div>49%</div> <div>28%</div> </div>
2	B	1368	<div> <div>4%</div> <div>30%</div> <div>52%</div> <div>14%</div> </div>
2	G	1368	<div> <div>4%</div> <div>32%</div> <div>52%</div> <div>13%</div> </div>

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Mol	Chain	Length	Quality of chain
3	C	25	
3	H	25	
4	D	11	
4	J	11	

## 2 Entry composition

There are 6 unique types of molecules in this entry. The entry contains 27214 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 RNA (98-MER).

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	94	Total	C	N	O	P	0	0	0
			2009	899	362	654	94			
1	E	95	Total	C	N	O	P	0	0	0
			2029	908	365	661	95			

- Molecule 2 is a protein called CRISPR-associated endonuclease Cas9/Csn1.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
2	B	1326	Total	C	N	O	S	0	0	0
			10821	6892	1877	2030	22			
2	G	1326	Total	C	N	O	S	0	0	0
			10822	6892	1879	2029	22			

There are 4 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
B	10	ALA	ASP	engineered mutation	UNP Q99ZW2
B	840	ALA	HIS	engineered mutation	UNP Q99ZW2
G	10	ALA	ASP	engineered mutation	UNP Q99ZW2
G	840	ALA	HIS	engineered mutation	UNP Q99ZW2

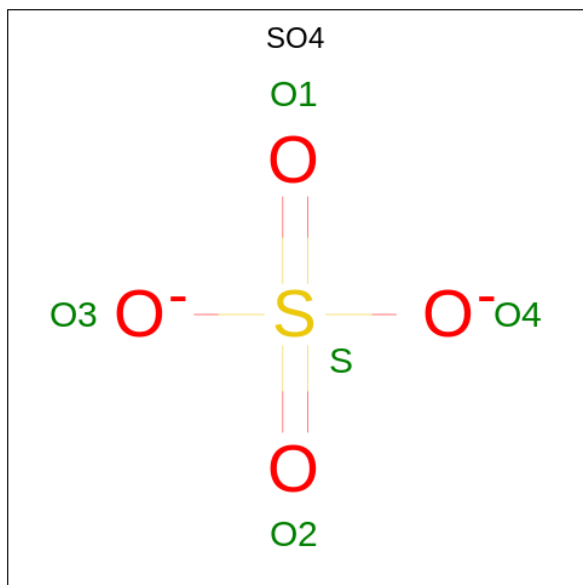
- Molecule 3 is a DNA chain called DNA (25-MER).

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
3	C	25	Total	C	N	O	P	0	0	0
			505	243	93	145	24			
3	H	25	Total	C	N	O	P	0	0	0
			505	243	93	145	24			

- Molecule 4 is a DNA chain called DNA (5'-D(\*TP\*TP\*TP\*AP\*GP\*GP\*TP\*AP\*TP\*TP\*G)-3').

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
4	D	11	Total	C	N	O	P	0	0	0
			225	110	37	68	10			
4	J	11	Total	C	N	O	P	0	0	0
			225	110	37	68	10			

- Molecule 5 is SULFATE ION (CCD ID: SO4) (formula: O<sub>4</sub>S).



Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
5	B	1	Total	O	S	0	0
			5	4	1		
5	G	1	Total	O	S	0	0
			5	4	1		

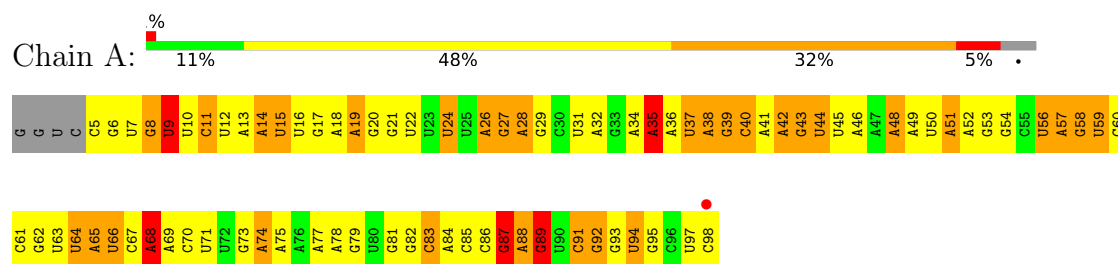
- Molecule 6 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
6	A	3	Total	O	0	0
			3	3		
6	B	26	Total	O	0	0
			26	26		
6	C	1	Total	O	0	0
			1	1		
6	E	3	Total	O	0	0
			3	3		
6	G	29	Total	O	0	0
			29	29		
6	H	1	Total	O	0	0
			1	1		

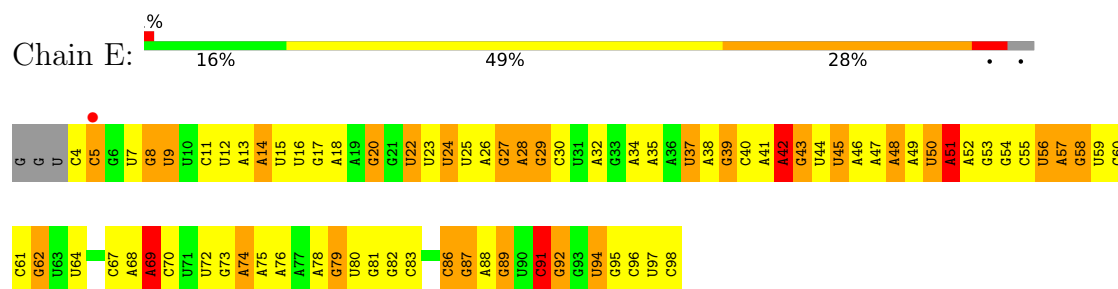
### 3 Residue-property plots [i](#)

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

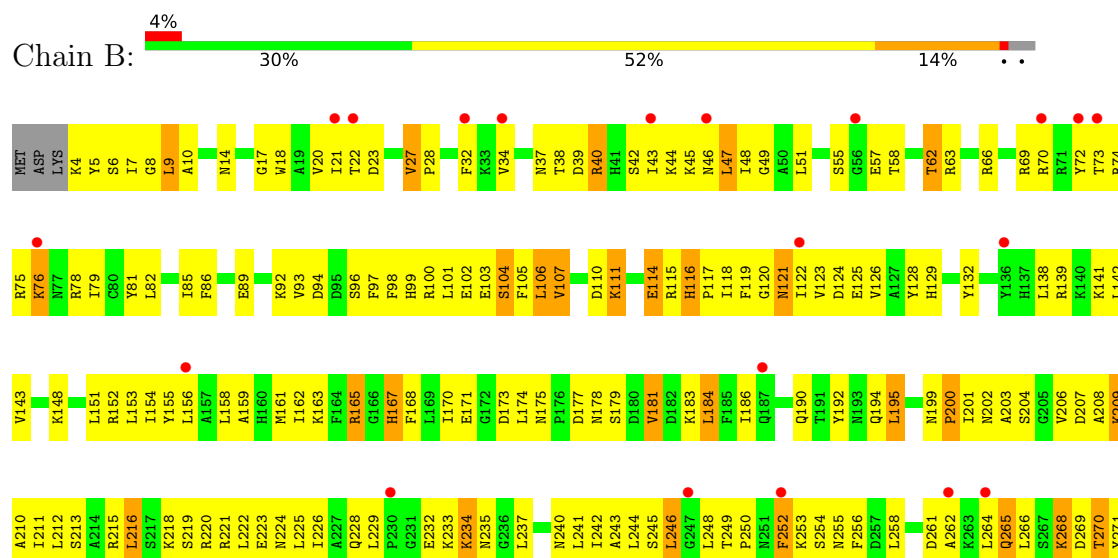
#### • Molecule 1: RNA (98-MER)

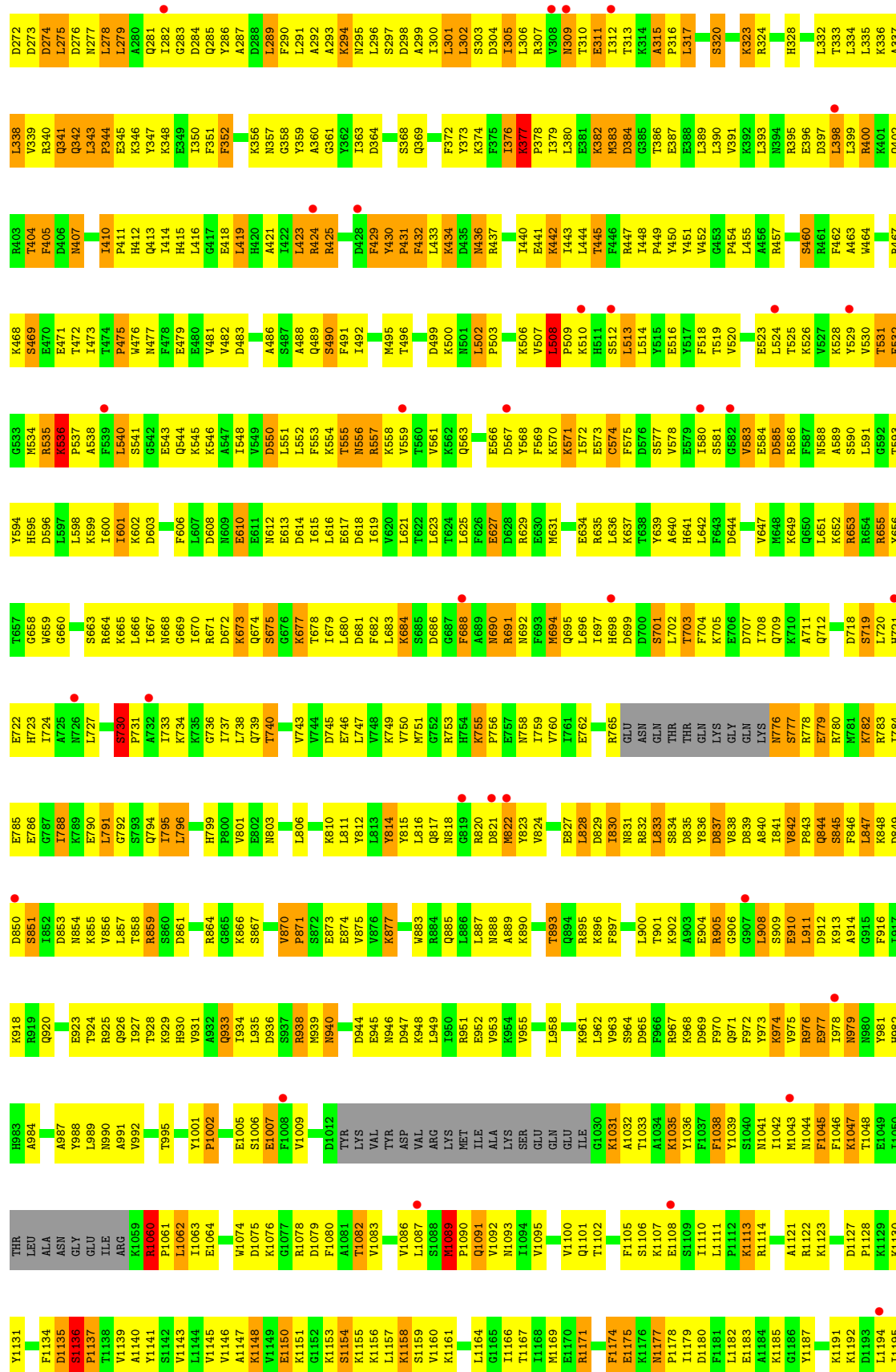


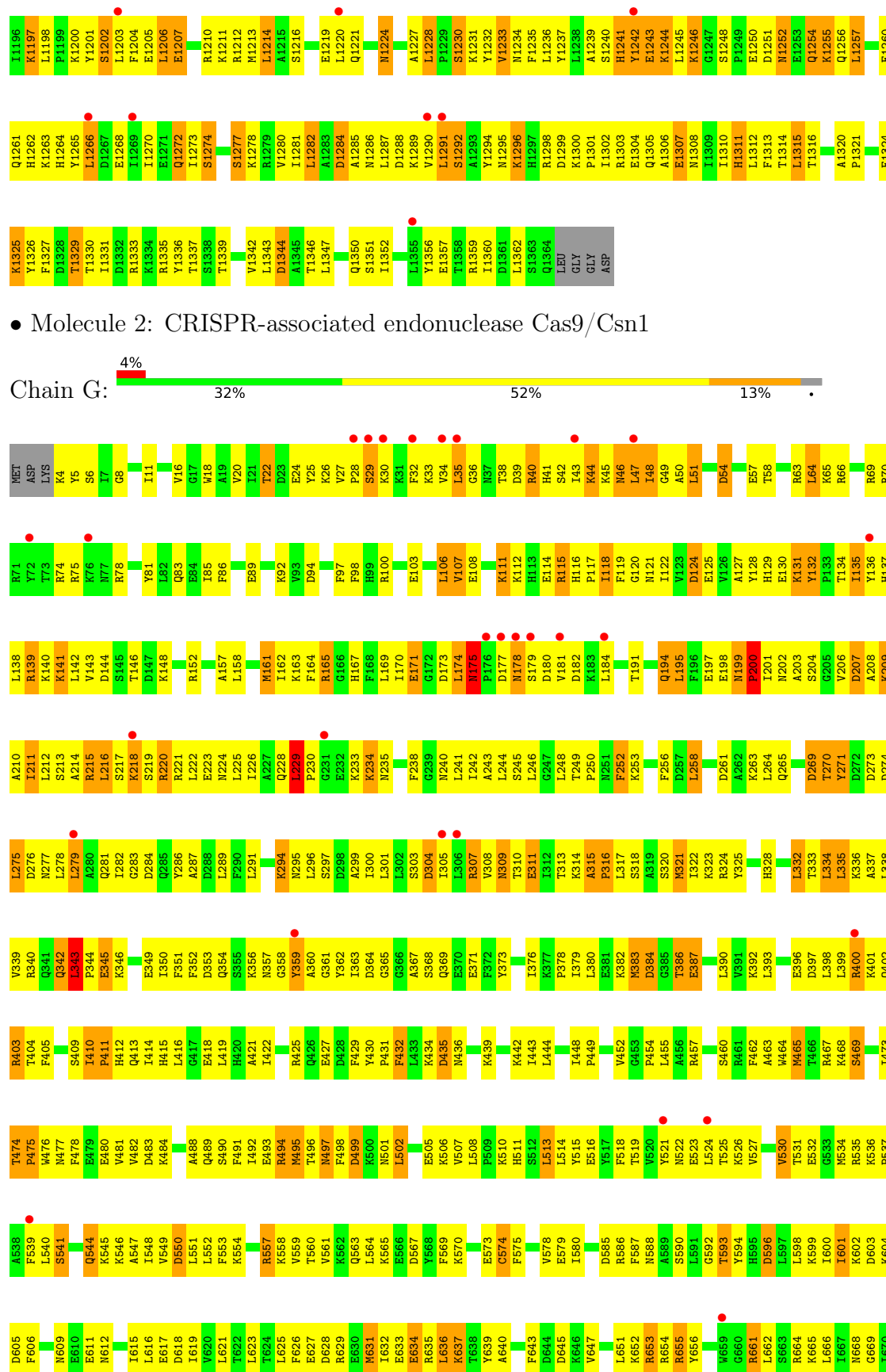
#### • Molecule 1: RNA (98-MER)



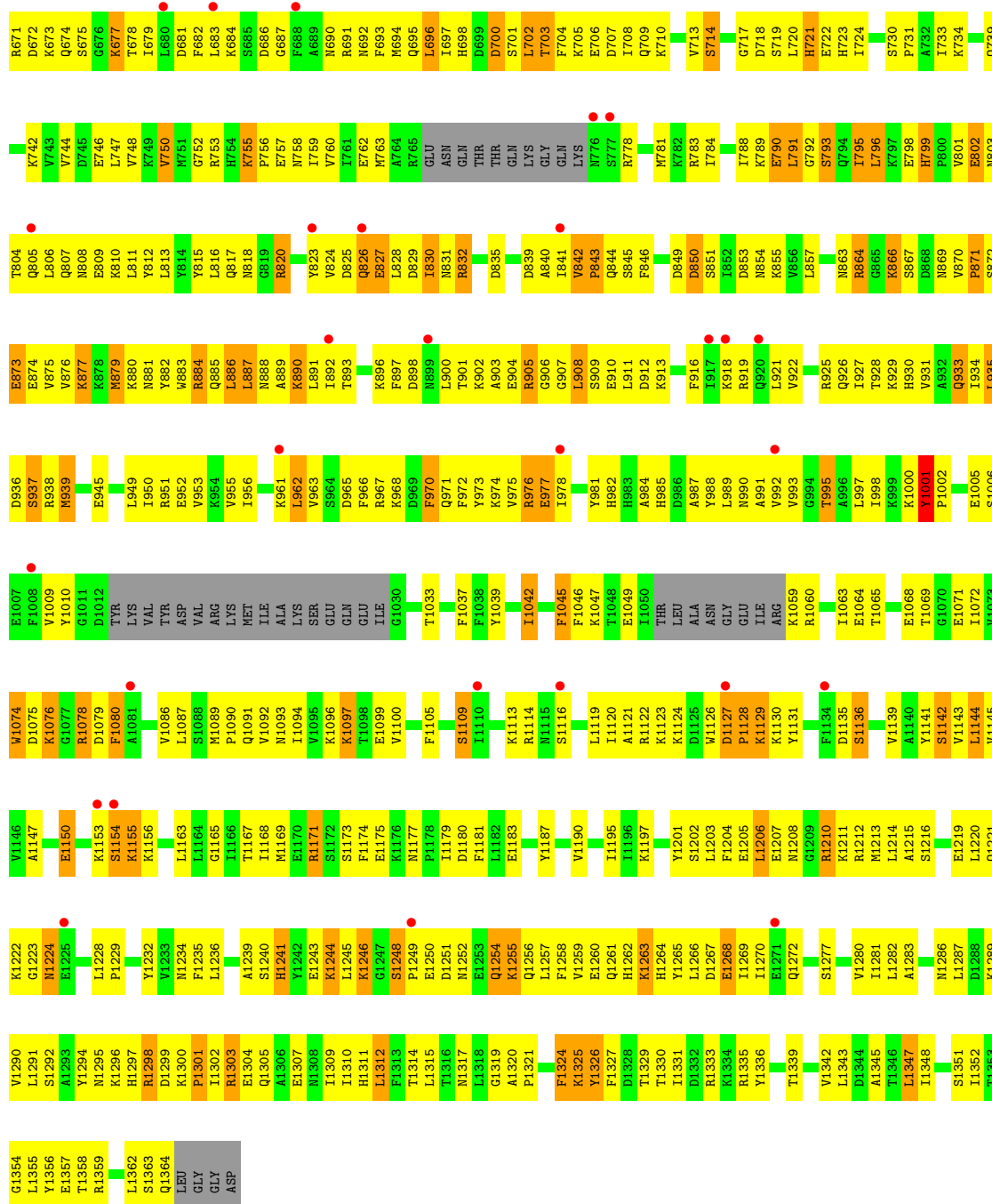
#### • Molecule 2: CRISPR-associated endonuclease Cas9/Csn1





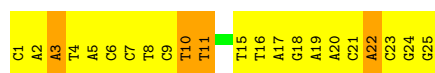






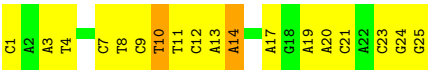
• Molecule 3: DNA (25-MER)

Chain C: 12% 72% 16%

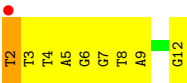


• Molecule 3: DNA (25-MER)

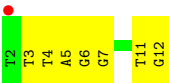
Chain H: 28% 64% 8%



● Molecule 4: DNA (5'-D(\*TP\*TP\*TP\*AP\*GP\*GP\*TP\*AP\*TP\*TP\*G)-3')



● Molecule 4: DNA (5'-D(\*TP\*TP\*TP\*AP\*GP\*GP\*TP\*AP\*TP\*TP\*G)-3')



## 4 Data and refinement statistics

Property	Value	Source
Space group	C 1 2 1	Depositor
Cell constants a, b, c, $\alpha$ , $\beta$ , $\gamma$	362.05Å 70.96Å 200.10Å 90.00° 101.52° 90.00°	Depositor
Resolution (Å)	50.17 – 3.16 50.17 – 3.16	Depositor EDS
% Data completeness (in resolution range)	65.6 (50.17-3.16) 65.6 (50.17-3.16)	Depositor EDS
$R_{merge}$	(Not available)	Depositor
$R_{sym}$	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ <sup>1</sup>	2.79 (at 3.19Å)	Xtriage
Refinement program	PHENIX 1.17.1_3660	Depositor
R, $R_{free}$	0.251 , 0.288 0.248 , 0.288	Depositor DCC
$R_{free}$ test set	4281 reflections (4.94%)	wwPDB-VP
Wilson B-factor (Å <sup>2</sup> )	58.3	Xtriage
Anisotropy	0.329	Xtriage
Bulk solvent $k_{sol}$ (e/Å <sup>3</sup> ), $B_{sol}$ (Å <sup>2</sup> )	0.29 , 58.2	EDS
L-test for twinning <sup>2</sup>	$\langle  L  \rangle = 0.39$ , $\langle L^2 \rangle = 0.22$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
$F_o, F_c$ correlation	0.86	EDS
Total number of atoms	27214	wwPDB-VP
Average B, all atoms (Å <sup>2</sup> )	59.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The analyses of the Patterson function reveals a significant off-origin peak that is 43.87 % of the origin peak, indicating pseudo-translational symmetry. The chance of finding a peak of this or larger height randomly in a structure without pseudo-translational symmetry is equal to 1.6562e-04. The detected translational NCS is most likely also responsible for the elevated intensity ratio.*

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

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

## 5 Model quality ⓘ

### 5.1 Standard geometry ⓘ

Bond lengths and bond angles in the following residue types are not validated in this section: SO4

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	A	0.87	1/2249 (0.0%)	1.58	39/3503 (1.1%)
1	E	0.84	0/2271	1.55	31/3537 (0.9%)
2	B	0.62	11/11013 (0.1%)	0.73	29/14802 (0.2%)
2	G	0.60	9/11013 (0.1%)	0.71	22/14799 (0.1%)
3	C	1.25	2/566 (0.4%)	1.24	6/870 (0.7%)
3	H	1.38	2/566 (0.4%)	1.21	1/870 (0.1%)
4	D	1.40	2/251 (0.8%)	1.27	0/387
4	J	1.29	2/251 (0.8%)	1.20	0/387
All	All	0.71	29/28180 (0.1%)	0.97	128/39155 (0.3%)

All (29) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	H	10	DT	C3'-O3'	-7.60	1.34	1.44
4	J	3	DT	C1'-N1	6.21	1.57	1.49
4	D	3	DT	N1-C2	5.78	1.42	1.38
4	J	4	DT	C3'-O3'	-5.67	1.36	1.44
3	H	14	DA	N9-C4	-5.66	1.34	1.37
2	B	27	VAL	CA-C	5.59	1.67	1.52
3	C	8	DT	C3'-O3'	5.54	1.51	1.44
3	C	15	DT	C1'-N1	-5.35	1.39	1.47
2	B	1002	PRO	N-CD	5.32	1.55	1.47
2	B	431	PRO	N-CD	5.31	1.55	1.47
2	G	1301	PRO	N-CD	5.30	1.55	1.47
2	G	344	PRO	N-CD	5.29	1.55	1.47
1	A	46	A	N9-C4	5.23	1.41	1.37
2	G	843	PRO	N-CD	5.23	1.55	1.47
2	B	344	PRO	N-CD	5.21	1.55	1.47
2	B	475	PRO	N-CD	5.14	1.55	1.47
2	B	1301	PRO	N-CD	5.14	1.55	1.47
2	B	316	PRO	N-CD	5.10	1.54	1.47

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	B	1061	PRO	N-CD	5.09	1.54	1.47
2	G	411	PRO	N-CD	5.08	1.54	1.47
2	B	1137	PRO	N-CD	5.08	1.54	1.47
2	G	1249	PRO	N-CD	5.08	1.54	1.47
2	G	475	PRO	N-CD	5.06	1.54	1.47
2	B	1178	PRO	N-CD	5.06	1.54	1.47
2	B	871	PRO	N-CD	5.04	1.54	1.47
4	D	2	DT	N1-C2	5.03	1.42	1.38
2	G	871	PRO	N-CD	5.03	1.54	1.47
2	G	316	PRO	N-CD	5.03	1.54	1.47
2	G	1128	PRO	N-CD	5.00	1.54	1.47

All (128) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	E	14	A	O5'-P-OP2	-9.27	97.36	105.70
2	B	684	LYS	N-CA-C	-9.20	86.15	111.00
1	E	51	A	C8-N9-C4	-9.21	102.12	105.80
2	G	506	LYS	N-CA-C	-9.19	86.20	111.00
2	G	507	VAL	N-CA-CB	-9.01	91.67	111.50
1	A	15	U	N3-C4-C5	8.94	119.96	114.60
1	A	60	C	C6-N1-C2	-8.76	116.80	120.30
1	A	52	A	N1-C6-N6	-8.74	113.35	118.60
1	E	60	C	C6-N1-C2	-8.71	116.81	120.30
1	E	51	A	N9-C4-C5	8.30	109.12	105.80
1	A	15	U	C6-N1-C2	8.15	125.89	121.00
1	A	50	U	C2-N1-C1'	-8.12	107.96	117.70
1	A	60	C	C2-N1-C1'	7.98	127.58	118.80
1	A	46	A	C8-N9-C4	-7.79	102.68	105.80
1	E	87	G	C8-N9-C4	-7.70	103.32	106.40
1	E	42	A	C8-N9-C4	-7.52	102.79	105.80
3	C	3	DA	O5'-P-OP2	-7.43	99.02	105.70
2	G	506	LYS	CB-CA-C	-7.32	95.75	110.40
1	E	94	U	C6-N1-C2	-7.32	116.61	121.00
1	A	66	U	N3-C4-O4	7.25	124.48	119.40
1	A	52	A	N9-C4-C5	7.20	108.68	105.80
1	A	52	A	C5-C6-N6	7.11	129.38	123.70
1	E	86	C	C6-N1-C2	-7.03	117.49	120.30
1	E	58	G	C8-N9-C4	-6.91	103.64	106.40
1	E	51	A	C5-C6-N6	6.88	129.20	123.70
1	A	15	U	C5-C4-O4	-6.78	121.83	125.90
1	A	64	U	N3-C2-O2	-6.76	117.47	122.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	E	80	U	C5-C4-O4	-6.69	121.89	125.90
1	A	52	A	C4-C5-N7	-6.58	107.41	110.70
1	A	38	A	C8-N9-C4	6.50	108.40	105.80
2	B	199	ASN	C-N-CD	6.38	141.81	128.40
1	A	60	C	C5-C6-N1	6.37	124.19	121.00
1	E	18	A	N1-C6-N6	6.29	122.38	118.60
2	B	175	ASN	C-N-CD	6.25	141.52	128.40
2	B	799	HIS	C-N-CD	6.21	141.45	128.40
2	G	502	LEU	C-N-CD	6.21	141.44	128.40
1	E	51	A	N7-C8-N9	6.20	116.90	113.80
2	G	430	TYR	C-N-CD	6.18	141.37	128.40
2	G	199	ASN	C-N-CD	6.14	141.29	128.40
1	E	62	G	N3-C4-C5	6.13	131.67	128.60
1	A	35	A	N1-C6-N6	6.12	122.27	118.60
2	G	175	ASN	C-N-CD	6.11	141.24	128.40
1	A	83	C	C6-N1-C2	-6.11	117.86	120.30
2	B	116	HIS	C-N-CD	6.07	141.15	128.40
2	B	1198	LEU	C-N-CD	6.05	141.11	128.40
1	A	21	G	N3-C4-C5	6.05	131.62	128.60
1	A	19	A	N1-C6-N6	6.04	122.22	118.60
1	E	42	A	N7-C8-N9	6.00	116.80	113.80
2	B	755	LYS	C-N-CD	5.99	140.98	128.40
2	B	536	LYS	C-N-CD	5.98	140.96	128.40
2	G	755	LYS	C-N-CD	5.97	140.94	128.40
2	G	1001	TYR	C-N-CD	5.95	140.89	128.40
2	G	1136	SER	C-N-CD	5.94	140.88	128.40
1	E	79	G	N1-C6-O6	5.94	123.46	119.90
2	G	1127	ASP	C-N-CD	5.93	140.86	128.40
1	A	26	A	N1-C6-N6	5.93	122.16	118.60
1	A	48	A	C8-N9-C4	-5.91	103.44	105.80
2	G	799	HIS	C-N-CD	5.89	140.77	128.40
1	A	68	A	C8-N9-C4	-5.88	103.45	105.80
2	G	1320	ALA	C-N-CD	5.88	140.74	128.40
1	A	58	G	C8-N9-C4	-5.87	104.05	106.40
2	B	377	LYS	C-N-CD	5.87	140.72	128.40
2	B	410	ILE	C-N-CD	5.87	140.72	128.40
2	G	842	VAL	C-N-CD	5.84	140.66	128.40
2	B	1089	MET	C-N-CD	5.83	140.64	128.40
2	B	1228	LEU	C-N-CD	5.82	140.62	128.40
2	B	842	VAL	C-N-CD	5.82	140.61	128.40
2	B	1177	ASN	C-N-CD	5.80	140.59	128.40
1	A	15	U	C2-N3-C4	-5.80	123.52	127.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	50	U	C6-N1-C1'	5.79	129.31	121.20
2	B	730	SER	C-N-CD	5.78	140.55	128.40
2	B	870	VAL	C-N-CD	5.78	140.53	128.40
2	B	508	LEU	C-N-CD	5.75	140.47	128.40
1	E	64	U	N1-C2-N3	5.74	118.35	114.90
2	G	474	THR	C-N-CD	5.74	140.46	128.40
2	B	684	LYS	CB-CA-C	-5.73	98.95	110.40
2	B	315	ALA	C-N-CD	5.72	140.41	128.40
2	G	315	ALA	C-N-CD	5.70	140.38	128.40
1	A	65	A	N3-C4-C5	-5.70	122.81	126.80
2	B	1300	LYS	C-N-CD	5.70	140.37	128.40
1	A	64	U	N1-C2-N3	5.68	118.31	114.90
2	B	343	LEU	C-N-CD	5.68	140.32	128.40
2	B	1136	SER	C-N-CD	5.67	140.31	128.40
1	E	58	G	N7-C8-N9	5.67	115.93	113.10
1	A	66	U	C5-C4-O4	-5.66	122.51	125.90
2	B	430	TYR	C-N-CD	5.65	140.27	128.40
2	G	410	ILE	C-N-CD	5.64	140.25	128.40
2	B	1060	ARG	C-N-CD	5.63	140.22	128.40
2	G	1300	LYS	C-N-CD	5.62	140.19	128.40
1	A	60	C	N3-C4-C5	-5.61	119.66	121.90
2	B	1001	TYR	C-N-CD	5.56	140.07	128.40
2	G	343	LEU	C-N-CD	5.53	140.01	128.40
1	A	64	U	C6-N1-C2	-5.51	117.69	121.00
1	A	65	A	C2-N3-C4	5.49	113.34	110.60
1	A	87	G	C8-N9-C4	-5.43	104.23	106.40
1	E	51	A	N1-C6-N6	-5.42	115.35	118.60
1	A	89	G	C8-N9-C4	5.40	108.56	106.40
2	G	513	LEU	CA-CB-CG	-5.39	102.91	115.30
1	A	60	C	N3-C4-N4	5.37	121.76	118.00
1	E	94	U	N3-C4-C5	-5.34	111.39	114.60
2	G	229	LEU	C-N-CD	5.33	139.59	128.40
3	C	10	DT	N3-C4-O4	5.32	123.09	119.90
1	E	62	G	C8-N9-C4	5.32	108.53	106.40
2	G	200	PRO	CA-N-CD	-5.30	104.08	111.50
3	C	21	DC	C1'-O4'-C4'	-5.29	104.81	110.10
1	E	17	G	C8-N9-C4	-5.25	104.30	106.40
1	E	72	U	N3-C2-O2	-5.23	118.54	122.20
1	E	94	U	N1-C2-N3	5.22	118.03	114.90
1	E	62	G	N1-C6-O6	5.20	123.02	119.90
1	E	45	U	C5-C4-O4	-5.18	122.79	125.90
1	A	94	U	C6-N1-C2	-5.18	117.89	121.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	C	10	DT	C5-C4-O4	-5.17	121.28	124.90
2	B	947	ASP	CB-CG-OD2	5.17	122.95	118.30
1	E	91	C	C6-N1-C2	5.17	122.37	120.30
1	A	14	A	N1-C6-N6	5.16	121.70	118.60
2	B	200	PRO	CA-N-CD	-5.16	104.28	111.50
1	A	9	U	N3-C2-O2	-5.12	118.61	122.20
2	B	906	GLY	N-CA-C	-5.12	100.30	113.10
1	E	48	A	O5'-P-OP1	-5.10	101.11	105.70
1	E	22	U	C6-N1-C2	-5.10	117.94	121.00
3	C	22	DA	O4'-C1'-N9	5.10	111.57	108.00
2	B	1111	LEU	CA-CB-CG	5.09	127.00	115.30
3	C	11	DT	O4'-C4'-C3'	-5.08	102.47	104.50
1	A	89	G	O4'-C1'-N9	-5.06	104.15	108.20
1	A	48	A	N7-C8-N9	5.05	116.32	113.80
3	H	14	DA	O4'-C4'-C3'	-5.04	102.48	104.50
1	E	50	U	N1-C2-O2	-5.01	119.29	122.80
1	E	69	A	N1-C6-N6	5.01	121.60	118.60

There are no chirality outliers.

There are no planarity outliers.

## 5.2 Too-close contacts

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	2009	0	1009	110	0
1	E	2029	0	1020	127	0
2	B	10821	0	10948	1507	0
2	G	10822	0	10967	1594	0
3	C	505	0	283	31	0
3	H	505	0	283	23	0
4	D	225	0	129	18	0
4	J	225	0	129	6	0
5	B	5	0	0	0	0
5	G	5	0	0	1	0
6	A	3	0	0	0	0
6	B	26	0	0	7	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
6	C	1	0	0	0	0
6	E	3	0	0	1	0
6	G	29	0	0	10	0
6	H	1	0	0	0	0
All	All	27214	0	24768	3234	0

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 62.

All (3234) 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)
2:G:530:VAL:CG1	2:G:537:PRO:HB3	1.21	1.65
2:B:181:VAL:HG11	2:B:300:ILE:CD1	1.14	1.59
2:G:279:LEU:CD1	2:G:287:ALA:HB2	1.28	1.59
2:G:279:LEU:HD11	2:G:287:ALA:CB	1.21	1.59
2:G:870:VAL:CG2	2:G:908:LEU:CD2	1.77	1.59
2:B:179:SER:HB2	2:B:310:THR:CG2	1.18	1.57
2:G:747:LEU:HA	2:G:750:VAL:CG2	1.29	1.56
2:B:1270:ILE:HD12	2:B:1294:TYR:CE2	1.37	1.55
2:B:181:VAL:CG1	2:B:300:ILE:CD1	1.83	1.54
2:G:530:VAL:HG13	2:G:537:PRO:CB	1.38	1.53
2:G:870:VAL:CG2	2:G:908:LEU:HD23	1.10	1.52
2:G:278:LEU:CD1	2:G:282:ILE:HD11	1.39	1.51
2:B:1270:ILE:CD1	2:B:1294:TYR:CE2	1.91	1.49
2:B:179:SER:CB	2:B:310:THR:HG21	1.38	1.47
2:B:870:VAL:HG21	2:B:908:LEU:CD2	1.41	1.47
2:G:195:LEU:HD21	2:G:286:TYR:CD2	1.48	1.47
2:G:870:VAL:HG22	2:G:908:LEU:CD2	1.36	1.46
2:B:179:SER:CB	2:B:310:THR:CB	1.93	1.44
2:B:870:VAL:CG2	2:B:908:LEU:CD2	1.87	1.44
2:B:179:SER:CB	2:B:310:THR:CG2	1.88	1.44
2:B:870:VAL:CG2	2:B:908:LEU:HD21	0.97	1.44
2:G:557:ARG:HH12	2:G:599:LYS:NZ	1.14	1.43
2:G:116:HIS:NE2	2:G:122:ILE:HG12	1.29	1.42
2:G:342:GLN:NE2	2:G:383:MET:HB3	1.27	1.42
2:B:981:TYR:CE2	2:B:1092:VAL:CG2	2.02	1.41
2:G:561:VAL:CG2	2:G:585:ASP:O	1.67	1.41
2:B:297:SER:OG	2:B:301:LEU:CD1	1.68	1.41
2:B:1270:ILE:CD1	2:B:1294:TYR:CD2	2.04	1.40
2:G:115:ARG:NH2	2:G:122:ILE:HD11	1.31	1.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:823:TYR:C	2:G:879:MET:CE	1.89	1.40
2:G:887:LEU:N	2:G:892:ILE:HD12	1.30	1.40
2:B:181:VAL:CG1	2:B:300:ILE:HD11	1.40	1.39
2:B:665:LYS:CA	2:B:669:GLY:HA3	1.52	1.39
2:B:369:GLN:NE2	2:B:404:THR:CG2	1.87	1.38
2:G:342:GLN:NE2	2:G:383:MET:CB	1.87	1.38
2:B:979:ASN:ND2	2:B:981:TYR:CD1	1.92	1.38
2:B:981:TYR:CE2	2:B:1092:VAL:HG23	1.55	1.38
2:G:181:VAL:CG1	2:G:300:ILE:HD11	1.55	1.37
2:G:179:SER:CA	2:G:310:THR:HG21	1.55	1.36
2:G:332:LEU:HD22	2:G:359:TYR:CE1	1.58	1.36
2:B:369:GLN:NE2	2:B:404:THR:HG21	1.05	1.36
2:G:195:LEU:CD2	2:G:286:TYR:CE2	2.09	1.36
2:G:747:LEU:CA	2:G:750:VAL:CG2	2.01	1.36
1:E:52:A:OP1	2:G:1123:LYS:CE	1.75	1.35
2:B:179:SER:HB2	2:B:310:THR:CB	1.51	1.34
2:G:179:SER:N	2:G:310:THR:HG21	1.04	1.34
2:G:342:GLN:CD	2:G:383:MET:HB3	1.46	1.34
2:B:179:SER:CB	2:B:310:THR:OG1	1.72	1.34
2:G:618:ASP:CG	2:G:639:TYR:OH	1.66	1.34
2:G:380:LEU:HD22	2:G:386:THR:CG2	1.56	1.33
2:G:823:TYR:C	2:G:879:MET:HE1	1.42	1.33
2:G:332:LEU:CD2	2:G:359:TYR:CE1	2.11	1.32
2:G:25:TYR:CE2	2:G:1074:TRP:HZ3	1.46	1.32
2:B:530:VAL:CG2	2:B:537:PRO:HB3	1.57	1.32
1:E:81:G:N2	2:G:35:LEU:HD11	1.46	1.31
2:B:557:ARG:HH22	2:B:599:LYS:NZ	1.28	1.31
2:G:823:TYR:O	2:G:879:MET:HE1	1.27	1.31
2:G:278:LEU:HD12	2:G:282:ILE:CD1	1.62	1.30
2:G:25:TYR:CE2	2:G:1074:TRP:CZ3	2.21	1.29
2:G:747:LEU:O	2:G:750:VAL:HG23	1.14	1.29
2:G:718:ASP:HB3	2:G:722:GLU:OE1	1.31	1.29
2:G:342:GLN:HE22	2:G:383:MET:CB	1.41	1.28
2:G:195:LEU:CD2	2:G:286:TYR:CD2	2.14	1.28
2:G:718:ASP:CB	2:G:722:GLU:OE1	1.80	1.28
2:B:979:ASN:ND2	2:B:981:TYR:HD1	1.22	1.27
2:B:178:ASN:O	2:B:299:ALA:CB	1.80	1.27
2:B:1060:ARG:NH1	2:B:1064:GLU:OE2	1.66	1.27
2:G:179:SER:N	2:G:310:THR:CG2	1.96	1.27
2:G:195:LEU:HD23	2:G:286:TYR:CE2	1.66	1.27
2:G:1295:ASN:OD1	2:G:1298:ARG:NH2	1.64	1.27

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:178:ASN:O	2:B:299:ALA:HB1	1.14	1.26
2:B:181:VAL:CG2	2:B:209:LYS:CG	2.12	1.26
2:G:846:PHE:CZ	2:G:913:LYS:HD3	1.69	1.26
2:B:178:ASN:HB3	2:B:299:ALA:CB	1.65	1.26
2:G:263:LYS:O	2:G:264:LEU:HD12	1.24	1.26
2:G:697:ILE:O	2:G:705:LYS:HB2	1.28	1.25
2:G:116:HIS:CE1	2:G:122:ILE:HG12	1.69	1.25
2:G:790:GLU:OE1	2:G:889:ALA:HA	1.14	1.24
2:B:195:LEU:HD21	2:B:286:TYR:CD2	1.72	1.24
2:G:115:ARG:NH2	2:G:122:ILE:CD1	2.00	1.24
2:B:179:SER:OG	2:B:310:THR:OG1	1.56	1.23
2:G:886:LEU:CB	2:G:892:ILE:HG13	1.67	1.23
2:G:790:GLU:OE1	2:G:889:ALA:CA	1.86	1.23
2:G:489:GLN:OE1	2:G:635:ARG:NH2	1.72	1.23
2:G:747:LEU:C	2:G:750:VAL:HG23	1.56	1.23
2:B:179:SER:CA	2:B:310:THR:HG21	1.69	1.22
2:G:886:LEU:HB3	2:G:892:ILE:CG1	1.69	1.22
2:G:672:ASP:OD2	2:G:703:THR:HG22	1.07	1.21
2:G:781:MET:HG3	2:G:803:ASN:OD1	1.35	1.21
2:G:1000:LYS:NZ	2:G:1064:GLU:OE1	1.71	1.21
2:B:338:LEU:CD1	2:B:386:THR:HG22	1.70	1.21
2:B:178:ASN:CB	2:B:299:ALA:HB2	1.69	1.20
2:B:665:LYS:HA	2:B:669:GLY:CA	1.70	1.20
2:B:672:ASP:OD1	2:B:703:THR:HG22	1.02	1.20
2:B:780:ARG:NH1	2:B:812:TYR:CD2	2.08	1.20
2:B:342:GLN:HG3	2:B:383:MET:CE	1.71	1.20
2:G:115:ARG:HH21	2:G:122:ILE:CD1	1.54	1.20
2:B:207:ASP:HB3	2:B:210:ALA:CB	1.69	1.19
2:G:1270:ILE:HD12	2:G:1294:TYR:CD2	1.77	1.19
2:G:148:LYS:HB2	2:G:429:PHE:CE1	1.76	1.19
2:G:181:VAL:CG1	2:G:300:ILE:CD1	2.20	1.19
2:G:179:SER:CB	2:G:310:THR:OG1	1.91	1.19
2:G:1265:TYR:HA	2:G:1268:GLU:HG3	1.20	1.19
2:B:1146:VAL:HG11	2:B:1194:LEU:CD1	1.73	1.19
2:G:672:ASP:HB2	2:G:704:PHE:CE2	1.77	1.19
2:G:181:VAL:HG13	2:G:300:ILE:CD1	1.72	1.18
2:G:557:ARG:NH1	2:G:599:LYS:NZ	1.91	1.18
2:B:207:ASP:CB	2:B:210:ALA:HB3	1.74	1.18
2:B:297:SER:OG	2:B:301:LEU:HD12	1.42	1.18
2:B:1251:ASP:HA	2:B:1254:GLN:NE2	1.57	1.18
2:G:179:SER:HB3	2:G:310:THR:OG1	1.02	1.18

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:1123:LYS:HD2	6:G:1504:HOH:O	1.42	1.18
2:G:672:ASP:OD2	2:G:703:THR:CG2	1.91	1.17
2:G:864:ARG:NH2	2:G:869:ASN:O	1.77	1.17
1:E:41:A:P	2:G:340:ARG:NH2	2.18	1.17
2:G:592:GLY:O	2:G:596:ASP:OD1	1.63	1.17
2:G:1314:THR:HG21	2:G:1324:PHE:CB	1.72	1.17
2:B:195:LEU:CD2	2:B:286:TYR:CD2	2.27	1.16
2:B:755:LYS:NZ	2:B:939:MET:O	1.78	1.16
2:B:981:TYR:CD2	2:B:1092:VAL:HG21	1.81	1.16
2:G:718:ASP:CG	2:G:722:GLU:OE1	1.81	1.16
2:B:870:VAL:HG23	2:B:908:LEU:HD21	1.25	1.16
2:G:961:LYS:NZ	2:G:965:ASP:OD2	1.77	1.16
2:G:1264:HIS:ND1	2:G:1268:GLU:OE2	1.79	1.16
2:B:981:TYR:HE2	2:B:1092:VAL:CG2	1.49	1.15
2:B:1062:LEU:O	2:B:1076:LYS:HG3	1.46	1.15
2:G:672:ASP:HB2	2:G:704:PHE:HE2	1.07	1.15
2:G:1141:TYR:OH	2:G:1175:GLU:OE2	1.64	1.15
1:E:81:G:N2	2:G:35:LEU:CD1	2.09	1.15
2:B:178:ASN:ND2	2:B:298:ASP:HB2	1.62	1.15
2:B:530:VAL:HG22	2:B:537:PRO:HB3	1.23	1.15
2:G:886:LEU:HB2	2:G:892:ILE:CD1	1.76	1.14
2:G:278:LEU:CD1	2:G:282:ILE:CD1	2.22	1.13
2:B:905:ARG:NH1	3:C:24:DG:OP1	1.78	1.13
2:B:1251:ASP:HA	2:B:1254:GLN:CD	1.69	1.13
2:G:617:GLU:HG3	2:G:664:ARG:HH12	1.01	1.13
2:B:297:SER:OG	2:B:301:LEU:HD11	1.43	1.13
1:E:52:A:OP1	2:G:1123:LYS:HE2	0.98	1.13
2:G:545:LYS:HZ1	2:G:690:ASN:ND2	1.45	1.13
2:B:338:LEU:HD12	2:B:386:THR:HG22	1.22	1.12
2:G:143:VAL:HG13	2:G:421:ALA:HB3	1.13	1.12
2:G:263:LYS:C	2:G:264:LEU:HD12	1.70	1.12
2:G:398:LEU:HG	2:G:399:LEU:HD13	1.27	1.12
2:B:178:ASN:ND2	2:B:298:ASP:CB	2.12	1.12
2:G:179:SER:HB3	2:G:310:THR:CB	1.79	1.12
2:G:887:LEU:HA	2:G:892:ILE:HB	1.29	1.12
2:B:672:ASP:OD1	2:B:703:THR:CG2	1.97	1.11
2:B:926:GLN:HA	2:B:929:LYS:HG3	1.21	1.11
2:G:508:LEU:HD21	2:G:664:ARG:CB	1.79	1.11
2:B:810:LYS:O	2:B:833:LEU:CD1	1.99	1.11
2:G:49:GLY:O	2:G:984:ALA:CB	1.97	1.11
2:G:720:LEU:O	2:G:724:ILE:N	1.81	1.11

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:806:LEU:HD22	2:B:811:LEU:HD12	1.32	1.11
2:G:29:SER:HB2	2:G:44:LYS:CE	1.79	1.11
2:G:561:VAL:HG23	2:G:585:ASP:O	0.94	1.11
2:B:107:VAL:HG22	2:B:1131:TYR:OH	1.51	1.11
2:G:705:LYS:HG2	2:G:709:GLN:HE21	1.16	1.11
2:B:1205:GLU:O	2:B:1346:THR:OG1	1.69	1.10
2:G:1357:GLU:OE1	2:G:1359:ARG:NH1	1.82	1.10
2:B:181:VAL:CG2	2:B:209:LYS:HG3	1.79	1.10
2:B:179:SER:HB3	2:B:310:THR:CB	1.71	1.10
2:G:106:LEU:O	2:G:111:LYS:HE3	1.49	1.10
2:G:195:LEU:HD21	2:G:286:TYR:CE2	1.80	1.10
2:B:704:PHE:O	2:B:708:ILE:HG12	1.51	1.10
2:G:212:LEU:O	2:G:221:ARG:NH1	1.83	1.10
2:B:378:PRO:HG2	2:B:379:ILE:HD12	1.15	1.09
2:B:195:LEU:CD2	2:B:286:TYR:CE2	2.36	1.09
2:G:278:LEU:CG	2:G:282:ILE:HD11	1.81	1.09
2:B:914:ALA:HB1	2:B:1035:LYS:HD3	1.29	1.09
2:G:672:ASP:CG	2:G:703:THR:HG22	1.72	1.09
2:G:1258:PHE:CE1	2:G:1262:HIS:ND1	2.20	1.09
2:G:1258:PHE:HE1	2:G:1262:HIS:ND1	1.49	1.09
2:G:226:ILE:HA	2:G:229:LEU:CD1	1.83	1.08
2:G:1264:HIS:CE1	2:G:1268:GLU:OE2	2.06	1.08
2:B:870:VAL:HG22	2:B:908:LEU:HD21	1.34	1.08
2:B:1146:VAL:CG1	2:B:1194:LEU:HD12	1.84	1.08
2:B:557:ARG:NH2	2:B:599:LYS:NZ	2.00	1.08
2:B:1270:ILE:HD13	2:B:1294:TYR:CD2	1.80	1.08
2:B:14:ASN:OD1	2:B:55:SER:OG	1.71	1.08
2:G:179:SER:CA	2:G:310:THR:CG2	2.31	1.08
2:G:1314:THR:HG21	2:G:1324:PHE:HB3	1.12	1.08
2:B:278:LEU:HD11	2:B:282:ILE:HD11	1.28	1.07
2:B:551:LEU:O	2:B:555:THR:OG1	1.71	1.07
2:G:1145:VAL:HG21	2:G:1187:TYR:CE1	1.89	1.07
2:G:1312:LEU:HD21	2:G:1326:TYR:HD1	1.12	1.07
2:B:58:THR:HG22	2:B:731:PRO:HG3	1.30	1.07
2:B:181:VAL:CG1	2:B:300:ILE:HD13	1.60	1.07
1:E:41:A:OP1	2:G:340:ARG:CZ	2.03	1.07
2:G:137:HIS:CD2	2:G:322:ILE:CD1	2.37	1.07
2:B:1326:TYR:CE2	2:B:1327:PHE:CE2	2.41	1.07
2:G:707:ASP:OD1	2:G:710:LYS:NZ	1.88	1.07
2:G:887:LEU:N	2:G:892:ILE:CD1	2.18	1.07
2:B:1270:ILE:HD12	2:B:1294:TYR:CD2	1.77	1.07

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:180:ASP:HB3	2:G:184:LEU:HG	1.32	1.07
2:G:273:ASP:OD1	2:G:277:ASN:ND2	1.88	1.07
2:G:673:LYS:H	2:G:703:THR:HG21	1.06	1.06
2:G:886:LEU:CB	2:G:892:ILE:CG1	2.27	1.06
2:B:665:LYS:HA	2:B:669:GLY:HA3	1.08	1.06
2:G:525:THR:HG22	2:G:690:ASN:HB3	1.33	1.06
2:B:273:ASP:O	2:B:277:ASN:N	1.88	1.06
2:B:335:LEU:O	2:B:339:VAL:HG23	1.53	1.06
1:E:52:A:H5''	2:G:1123:LYS:HD3	1.31	1.06
2:G:29:SER:HB2	2:G:44:LYS:HE2	1.35	1.06
2:G:508:LEU:CD2	2:G:664:ARG:HB2	1.86	1.06
2:G:747:LEU:O	2:G:750:VAL:CG2	2.04	1.06
2:G:965:ASP:OD1	2:G:968:LYS:NZ	1.88	1.06
2:G:403:ARG:NH2	6:G:1501:HOH:O	1.88	1.06
2:G:545:LYS:NZ	2:G:690:ASN:ND2	2.04	1.06
1:A:63:U:O2'	2:B:62:THR:HG23	1.54	1.06
2:B:1062:LEU:HA	2:B:1076:LYS:HD2	1.36	1.06
2:G:25:TYR:HE2	2:G:1074:TRP:CE3	1.73	1.06
2:G:121:ASN:OD1	2:G:124:ASP:N	1.88	1.06
2:G:195:LEU:HD23	2:G:286:TYR:HE2	0.91	1.06
2:G:756:PRO:O	2:G:953:VAL:HG22	1.52	1.06
2:B:278:LEU:CD1	2:B:282:ILE:HD11	1.86	1.05
2:B:870:VAL:HG23	2:B:908:LEU:CD2	1.76	1.05
2:G:870:VAL:CG2	2:G:908:LEU:HD22	1.81	1.05
2:B:121:ASN:HD21	2:B:124:ASP:HB2	1.15	1.05
2:B:665:LYS:O	2:B:669:GLY:CA	2.04	1.05
2:B:1270:ILE:HD11	2:B:1294:TYR:CE2	1.87	1.05
2:G:1270:ILE:HD12	2:G:1294:TYR:CE2	1.90	1.05
2:B:1292:SER:OG	2:B:1296:LYS:NZ	1.88	1.05
2:G:788:ILE:HG13	2:G:796:LEU:HD21	1.34	1.05
2:B:215:ARG:NE	2:B:215:ARG:O	1.88	1.05
2:B:393:LEU:HD12	2:B:398:LEU:HD12	1.07	1.05
2:B:832:ARG:NH1	2:B:835:ASP:OD2	1.88	1.05
1:E:41:A:OP1	2:G:340:ARG:NH2	1.88	1.05
2:G:25:TYR:HE2	2:G:1074:TRP:CZ3	1.67	1.05
2:G:252:PHE:HE1	2:G:278:LEU:HD21	1.21	1.05
2:G:672:ASP:HA	2:G:703:THR:HG23	1.37	1.05
1:A:19:A:H4'	2:B:407:ASN:O	1.57	1.04
2:B:665:LYS:C	2:B:669:GLY:HA3	1.77	1.04
2:G:380:LEU:HD22	2:G:386:THR:HG23	1.30	1.04
2:G:886:LEU:CB	2:G:892:ILE:CD1	2.35	1.04

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:137:HIS:CG	2:G:322:ILE:HD11	1.93	1.04
2:G:886:LEU:HB2	2:G:892:ILE:HD11	1.07	1.04
2:B:70:ARG:NH2	2:B:462:PHE:HD2	1.56	1.04
2:B:339:VAL:HA	2:B:383:MET:HE1	1.39	1.04
2:B:596:ASP:OD2	2:B:656:TYR:OH	1.75	1.04
2:B:1239:ALA:HB1	2:B:1306:ALA:HB1	1.40	1.04
2:B:317:LEU:O	2:B:320:SER:OG	1.76	1.04
2:B:530:VAL:HG22	2:B:537:PRO:CB	1.86	1.04
2:G:380:LEU:CD2	2:G:386:THR:CG2	2.35	1.03
2:G:557:ARG:HH12	2:G:599:LYS:HZ3	1.05	1.03
2:B:846:PHE:O	2:B:916:PHE:HB3	1.57	1.03
2:G:25:TYR:CD2	2:G:1074:TRP:HZ3	1.76	1.03
2:G:279:LEU:HA	2:G:282:ILE:HD13	1.40	1.03
2:G:297:SER:O	2:G:301:LEU:HG	1.55	1.03
2:B:635:ARG:NH1	6:B:1501:HOH:O	1.88	1.02
2:B:672:ASP:HA	2:B:703:THR:CG2	1.89	1.02
2:B:704:PHE:O	2:B:708:ILE:CG1	2.05	1.02
2:B:178:ASN:HB3	2:B:299:ALA:HB2	1.03	1.02
2:B:342:GLN:HG3	2:B:383:MET:HE3	1.41	1.02
2:B:668:ASN:OD1	2:B:678:THR:OG1	1.74	1.02
2:G:342:GLN:HE22	2:G:383:MET:CA	1.71	1.02
1:E:57:A:H5'	2:G:457:ARG:NH2	1.74	1.02
2:G:179:SER:CB	2:G:310:THR:HG1	1.69	1.02
2:G:416:LEU:HD13	2:G:444:LEU:HD22	1.41	1.02
1:A:59:U:OP1	2:B:467:ARG:NH2	1.93	1.02
2:G:103:GLU:O	2:G:106:LEU:HD12	1.60	1.02
2:G:903:ALA:HA	2:G:906:GLY:HA3	1.40	1.01
2:G:106:LEU:HD12	2:G:106:LEU:H	1.21	1.01
2:B:275:LEU:HD12	2:B:279:LEU:HB2	1.40	1.01
2:B:530:VAL:HG21	2:B:537:PRO:HB3	1.42	1.01
2:G:1297:HIS:O	2:G:1305:GLN:NE2	1.92	1.01
2:B:342:GLN:HG3	2:B:383:MET:HE2	1.40	1.01
2:B:179:SER:HB2	2:B:310:THR:HG23	1.43	1.01
2:B:1143:VAL:CG1	2:B:1195:ILE:CG2	2.38	1.01
2:B:340:ARG:O	2:B:344:PRO:HG3	1.61	1.00
2:G:114:GLU:OE2	2:G:115:ARG:N	1.93	1.00
2:G:557:ARG:NH1	2:G:599:LYS:HZ2	1.52	1.00
2:G:1312:LEU:HD21	2:G:1326:TYR:CD1	1.94	1.00
2:G:137:HIS:CD2	2:G:322:ILE:HD12	1.94	1.00
2:G:226:ILE:CA	2:G:229:LEU:HD12	1.92	1.00
2:B:114:GLU:OE2	2:B:120:GLY:O	1.77	1.00

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:378:PRO:HG2	2:B:379:ILE:CD1	1.91	1.00
2:B:641:HIS:CD2	2:B:642:LEU:HG	1.95	1.00
2:G:332:LEU:CD2	2:G:359:TYR:CZ	2.43	1.00
2:B:393:LEU:CD1	2:B:398:LEU:HD12	1.91	1.00
2:G:823:TYR:C	2:G:879:MET:HE3	1.77	1.00
2:G:103:GLU:O	2:G:106:LEU:CD1	2.10	1.00
2:B:181:VAL:HG21	2:B:209:LYS:HG2	1.43	0.99
2:G:530:VAL:CG1	2:G:537:PRO:CB	2.12	0.99
2:B:696:LEU:CD1	2:B:702:LEU:CD1	2.40	0.99
2:B:1326:TYR:CE2	2:B:1327:PHE:HE2	1.76	0.99
2:B:376:ILE:HD12	2:B:376:ILE:H	1.27	0.99
2:G:181:VAL:HG13	2:G:300:ILE:HD11	1.02	0.99
2:G:258:LEU:HD11	2:G:281:GLN:CD	1.81	0.99
1:E:52:A:H5''	2:G:1123:LYS:CD	1.91	0.99
2:G:207:ASP:HB2	2:G:210:ALA:HB3	1.42	0.99
2:B:424:ARG:HB3	2:B:424:ARG:HH11	1.25	0.99
2:G:332:LEU:HD21	2:G:359:TYR:CE1	1.94	0.99
2:B:1305:GLN:HA	2:B:1327:PHE:CZ	1.97	0.99
2:G:545:LYS:HZ1	2:G:690:ASN:HD21	1.02	0.99
2:B:393:LEU:HD12	2:B:398:LEU:CD1	1.93	0.99
2:G:530:VAL:HG23	2:G:579:GLU:HB3	1.41	0.99
2:B:195:LEU:HD23	2:B:286:TYR:CE2	1.97	0.98
3:C:23:DC:H2''	3:C:24:DG:H5'	1.44	0.98
2:B:181:VAL:HG12	2:B:300:ILE:CD1	1.94	0.98
2:B:780:ARG:NH1	2:B:812:TYR:HD2	1.53	0.98
2:G:181:VAL:HG11	2:G:300:ILE:CD1	1.93	0.98
2:G:978:ILE:HD12	2:G:1228:LEU:HD23	1.46	0.98
2:B:1062:LEU:CD2	2:B:1063:ILE:HG13	1.93	0.98
2:G:116:HIS:NE2	2:G:122:ILE:CG1	2.25	0.98
2:G:705:LYS:HG2	2:G:709:GLN:NE2	1.77	0.98
2:B:277:ASN:HD22	2:B:653:ARG:HD3	1.27	0.98
2:B:1305:GLN:HA	2:B:1327:PHE:HZ	1.26	0.98
2:B:704:PHE:O	2:B:708:ILE:CD1	2.12	0.98
2:G:870:VAL:HG23	2:G:908:LEU:CD2	1.63	0.98
2:B:945:GLU:N	2:B:945:GLU:OE1	1.94	0.98
2:B:343:LEU:HD21	2:B:346:LYS:HB2	1.44	0.98
2:B:528:LYS:HB2	2:B:581:SER:OG	1.63	0.98
2:B:181:VAL:HG11	2:B:300:ILE:HD13	1.20	0.98
2:G:143:VAL:HG13	2:G:421:ALA:CB	1.92	0.97
2:G:226:ILE:HA	2:G:229:LEU:HD12	0.99	0.97
2:G:1270:ILE:CD1	2:G:1294:TYR:CD2	2.47	0.97

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:70:ARG:NH2	2:B:462:PHE:CD2	2.31	0.97
2:G:886:LEU:CB	2:G:892:ILE:HD11	1.94	0.97
2:B:258:LEU:HD11	6:B:1519:HOH:O	1.64	0.97
2:G:362:TYR:HA	2:G:367:ALA:HB3	1.45	0.97
2:B:181:VAL:CG2	2:B:209:LYS:HG2	1.95	0.97
2:B:681:ASP:O	2:B:684:LYS:O	1.83	0.97
2:G:1207:GLU:HG3	2:G:1208:ASN:H	1.26	0.97
2:B:311:GLU:OE1	2:B:311:GLU:N	1.97	0.97
2:B:372:PHE:O	2:B:376:ILE:HD11	1.65	0.97
2:G:179:SER:H	2:G:310:THR:HG21	1.15	0.97
2:B:207:ASP:HB3	2:B:210:ALA:HB3	0.98	0.97
2:G:541:SER:HB2	2:G:544:GLN:HB2	1.47	0.97
2:B:279:LEU:HD11	2:B:287:ALA:HA	1.47	0.96
2:B:195:LEU:HD21	2:B:286:TYR:CE2	1.99	0.96
2:B:1230:SER:HA	2:B:1233:VAL:HG23	1.45	0.96
1:E:57:A:H5'	2:G:457:ARG:HH22	1.29	0.96
2:B:195:LEU:HD23	2:B:286:TYR:HE2	1.29	0.96
2:B:178:ASN:HB3	2:B:299:ALA:CA	1.95	0.96
2:B:279:LEU:HD11	2:B:287:ALA:CA	1.95	0.96
2:B:1148:LYS:HB3	2:B:1158:LYS:O	1.65	0.96
2:B:1224:ASN:CG	2:B:1280:VAL:HG11	1.85	0.96
3:C:24:DG:H2''	3:C:25:DG:H5'	1.47	0.96
2:B:1143:VAL:HG11	2:B:1195:ILE:CG2	1.95	0.96
2:B:340:ARG:O	2:B:344:PRO:CG	2.14	0.96
2:B:1146:VAL:HG11	2:B:1194:LEU:HD12	0.98	0.96
1:E:91:C:C5	2:G:44:LYS:HG2	2.01	0.96
2:G:45:LYS:HD3	2:G:1093:ASN:OD1	1.66	0.95
2:G:617:GLU:HG3	2:G:664:ARG:NH1	1.78	0.95
2:G:747:LEU:HA	2:G:750:VAL:HG21	0.96	0.95
2:B:359:TYR:HE1	2:B:399:LEU:HD23	1.30	0.95
2:G:332:LEU:HD22	2:G:359:TYR:HE1	0.80	0.95
2:G:755:LYS:HG2	2:G:939:MET:CE	1.96	0.95
2:B:179:SER:HB3	2:B:310:THR:HB	1.47	0.95
2:B:184:LEU:HD12	2:B:296:LEU:HA	1.47	0.95
2:B:696:LEU:HD13	2:B:702:LEU:CD1	1.97	0.95
2:G:148:LYS:HB2	2:G:429:PHE:HE1	1.25	0.95
2:G:541:SER:OG	2:G:544:GLN:OE1	1.85	0.95
2:G:1065:THR:OG1	2:G:1071:GLU:O	1.85	0.95
2:B:279:LEU:HD11	2:B:287:ALA:CB	1.95	0.94
2:B:244:LEU:HG	2:B:266:LEU:CD1	1.96	0.94
2:B:278:LEU:HD11	2:B:282:ILE:CD1	1.96	0.94

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:432:PHE:O	2:B:436:ASN:ND2	1.99	0.94
2:G:746:GLU:O	2:G:750:VAL:HG22	1.67	0.94
2:B:248:LEU:HD13	2:B:250:PRO:N	1.83	0.94
2:G:49:GLY:O	2:G:984:ALA:HB1	1.67	0.94
2:G:909:SER:OG	2:G:912:ASP:OD2	1.85	0.94
2:B:849:ASP:HB3	2:B:854:ASN:HD22	1.29	0.94
2:B:1313:PHE:O	2:B:1316:THR:OG1	1.85	0.94
2:G:1314:THR:CG2	2:G:1324:PHE:HB3	1.98	0.94
1:A:32:A:N6	1:A:37:U:O4	2.01	0.94
2:B:806:LEU:CD2	2:B:811:LEU:HD12	1.97	0.94
2:B:1135:ASP:OD1	2:B:1136:SER:OG	1.85	0.94
2:G:49:GLY:O	2:G:984:ALA:HB2	1.63	0.94
2:B:310:THR:OG1	2:B:311:GLU:OE1	1.85	0.94
2:B:557:ARG:NH2	2:B:599:LYS:HZ2	1.63	0.94
2:B:844:GLN:HE21	2:B:848:LYS:HG2	1.32	0.94
2:G:279:LEU:CD1	2:G:287:ALA:CB	2.08	0.94
2:G:618:ASP:OD2	2:G:639:TYR:OH	1.82	0.94
1:A:89:G:N1	2:B:1272:GLN:OE1	2.01	0.94
2:B:1326:TYR:HE2	2:B:1327:PHE:HE2	0.98	0.94
2:G:977:GLU:N	2:G:977:GLU:OE2	2.00	0.94
2:B:275:LEU:O	2:B:279:LEU:N	2.01	0.94
2:B:1270:ILE:HD12	2:B:1294:TYR:HE2	1.25	0.94
2:G:116:HIS:CE1	2:G:122:ILE:CG1	2.51	0.93
2:G:179:SER:HB3	2:G:310:THR:HG1	1.14	0.93
2:B:1326:TYR:HE2	2:B:1327:PHE:CE2	1.80	0.93
2:G:672:ASP:CB	2:G:704:PHE:HE2	1.81	0.93
2:B:181:VAL:HG22	2:B:209:LYS:HG3	1.47	0.93
2:B:1204:PHE:CE2	2:B:1214:LEU:HD12	2.03	0.93
2:G:240:ASN:HD21	2:G:252:PHE:HD2	1.12	0.93
2:G:308:VAL:HG12	2:G:309:ASN:H	1.30	0.93
2:G:121:ASN:HD21	2:G:124:ASP:HB2	1.33	0.93
2:G:672:ASP:HA	2:G:703:THR:CG2	1.99	0.93
2:G:137:HIS:CE1	2:G:322:ILE:HD13	2.04	0.93
2:G:252:PHE:CE1	2:G:278:LEU:HD21	2.02	0.93
2:B:703:THR:OG1	2:B:707:ASP:OD2	1.85	0.93
2:B:981:TYR:CD2	2:B:1092:VAL:CG2	2.45	0.93
2:B:1314:THR:HG21	2:B:1324:PHE:CB	1.98	0.93
2:G:317:LEU:O	2:G:320:SER:OG	1.85	0.93
2:B:641:HIS:HD2	2:B:642:LEU:HG	1.30	0.93
2:G:46:ASN:HD22	2:G:1089:MET:CE	1.82	0.93
2:B:1045:PHE:CZ	2:B:1046:PHE:CE2	2.57	0.93

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:1273:ILE:O	2:B:1277:SER:OG	1.85	0.92
2:G:195:LEU:CD2	2:G:286:TYR:HE2	1.61	0.92
2:G:432:PHE:O	2:G:436:ASN:ND2	2.00	0.92
2:B:1224:ASN:OD1	2:B:1280:VAL:HG11	1.69	0.92
2:G:824:VAL:N	2:G:879:MET:HE3	1.83	0.92
2:G:258:LEU:HD21	2:G:281:GLN:HE22	1.32	0.92
1:E:91:C:N4	2:G:44:LYS:NZ	2.18	0.92
1:A:57:A:H5'	2:B:457:ARG:NH2	1.83	0.92
2:G:668:ASN:OD1	2:G:678:THR:OG1	1.85	0.92
2:G:1222:LYS:N	2:G:1319:GLY:O	2.01	0.92
1:A:24:U:O2	2:B:105:PHE:CD1	2.23	0.92
2:B:978:ILE:HD13	2:B:1228:LEU:HD23	1.50	0.92
2:B:1105:PHE:CD2	2:B:1169:MET:HG3	2.04	0.92
2:G:823:TYR:CA	2:G:879:MET:CE	2.47	0.92
1:A:63:U:H2'	2:B:62:THR:CG2	2.00	0.92
2:B:369:GLN:CD	2:B:404:THR:HG21	1.91	0.92
2:G:798:GLU:HG2	2:G:799:HIS:CE1	2.05	0.92
2:G:747:LEU:CA	2:G:750:VAL:HG22	1.96	0.91
2:B:305:ILE:HD13	2:B:306:LEU:N	1.84	0.91
3:C:23:DC:C2'	3:C:24:DG:H5'	2.01	0.91
2:G:886:LEU:HB3	2:G:892:ILE:HG13	0.92	0.91
2:G:1135:ASP:OD1	2:G:1136:SER:OG	1.85	0.91
2:B:179:SER:HA	2:B:310:THR:HG21	1.50	0.91
2:B:557:ARG:HH11	2:B:557:ARG:HG3	1.34	0.91
2:G:672:ASP:HB3	2:G:675:SER:HB3	1.53	0.91
2:G:673:LYS:N	2:G:703:THR:HG21	1.84	0.91
2:B:209:LYS:O	2:B:213:SER:CB	2.19	0.91
2:G:400:ARG:HH11	2:G:400:ARG:HG3	1.34	0.91
2:B:1114:ARG:NH1	4:D:9:DA:OP1	2.04	0.91
2:B:1230:SER:HA	2:B:1233:VAL:CG2	2.01	0.91
1:E:41:A:OP2	2:G:340:ARG:NH2	2.03	0.91
2:G:902:LYS:O	2:G:906:GLY:N	2.04	0.91
2:B:1171:ARG:HG2	2:B:1171:ARG:HH11	1.33	0.91
2:G:49:GLY:HA2	2:G:1092:VAL:HG12	1.52	0.91
2:B:70:ARG:HH22	2:B:462:PHE:HB2	1.32	0.91
2:B:691:ARG:NH1	2:B:699:ASP:OD2	2.03	0.91
2:B:978:ILE:HD12	2:B:1233:VAL:HG13	1.52	0.91
2:G:297:SER:HB2	2:G:301:LEU:HD11	1.50	0.90
2:G:410:ILE:HG23	2:G:414:ILE:HD11	1.53	0.90
1:A:63:U:C2'	2:B:62:THR:CG2	2.49	0.90
2:B:178:ASN:CA	2:B:299:ALA:HB2	2.01	0.90

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:299:ALA:O	2:B:302:LEU:CD2	2.18	0.90
2:G:887:LEU:H	2:G:892:ILE:HD12	0.87	0.90
2:B:784:ILE:HG22	2:B:788:ILE:HD11	1.50	0.90
2:B:1270:ILE:HD11	2:B:1294:TYR:CZ	2.06	0.90
2:G:136:TYR:CD1	2:G:321:MET:HG3	2.06	0.90
2:B:285:GLN:OE1	2:B:285:GLN:N	2.03	0.90
2:B:1091:GLN:NE2	2:B:1091:GLN:O	2.05	0.90
2:G:132:TYR:HB3	2:G:137:HIS:HB2	1.52	0.90
2:G:137:HIS:NE2	2:G:322:ILE:CD1	2.34	0.90
2:B:1243:GLU:O	2:B:1244:LYS:NZ	2.05	0.90
2:G:148:LYS:CB	2:G:429:PHE:CE1	2.54	0.90
2:G:282:ILE:HG22	2:G:286:TYR:CD1	2.05	0.90
2:B:181:VAL:HG21	2:B:209:LYS:CG	1.93	0.90
2:G:195:LEU:HD21	2:G:286:TYR:HD2	1.09	0.90
2:B:849:ASP:OD1	2:B:851:SER:OG	1.88	0.90
2:G:173:ASP:C	2:G:174:LEU:HD13	1.91	0.90
2:B:926:GLN:CA	2:B:929:LYS:HG3	2.02	0.90
2:B:1260:GLU:HA	2:B:1263:LYS:HB2	1.51	0.90
2:G:345:GLU:OE1	2:G:345:GLU:N	2.04	0.90
2:G:706:GLU:HA	2:G:709:GLN:CD	1.92	0.90
2:B:305:ILE:HD13	2:B:306:LEU:H	1.36	0.90
2:G:148:LYS:HB2	2:G:429:PHE:CD1	2.06	0.90
2:G:342:GLN:OE1	2:G:383:MET:HB3	1.70	0.90
2:B:665:LYS:O	2:B:669:GLY:HA3	1.68	0.89
2:B:977:GLU:HG3	2:B:1310:ILE:CG2	2.02	0.89
2:G:253:LYS:HE3	2:G:261:ASP:CA	2.01	0.89
2:G:791:LEU:HD13	2:G:889:ALA:HB2	1.51	0.89
2:B:1031:LYS:NZ	2:G:1068:GLU:OE2	2.05	0.89
2:G:1109:SER:OG	3:H:9:DC:OP2	1.90	0.89
2:B:209:LYS:O	2:B:213:SER:HB3	1.73	0.89
2:G:137:HIS:CE1	2:G:322:ILE:CD1	2.55	0.89
2:B:107:VAL:HG22	2:B:1131:TYR:CZ	2.08	0.89
2:B:297:SER:HG	2:B:301:LEU:HD11	1.37	0.89
1:E:91:C:N4	2:G:44:LYS:HZ3	1.70	0.89
2:G:273:ASP:O	2:G:277:ASN:ND2	2.04	0.89
2:G:933:GLN:O	2:G:937:SER:OG	1.91	0.89
2:G:1277:SER:HB3	2:G:1287:LEU:HD22	1.51	0.89
2:B:181:VAL:HG21	2:B:209:LYS:HA	1.52	0.89
2:B:195:LEU:CD2	2:B:286:TYR:HD2	1.81	0.89
2:G:148:LYS:HG3	2:G:429:PHE:CD1	2.07	0.89
2:B:178:ASN:ND2	2:B:298:ASP:HB3	1.87	0.89

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:531:THR:HG22	2:B:534:MET:SD	2.13	0.89
2:G:416:LEU:CD1	2:G:444:LEU:HD22	2.01	0.89
2:B:569:PHE:O	2:B:574:CYS:N	2.04	0.89
2:G:180:ASP:O	2:G:184:LEU:N	2.06	0.89
2:G:194:GLN:OE1	2:G:194:GLN:N	2.06	0.89
2:G:207:ASP:HB2	2:G:210:ALA:CB	2.02	0.89
2:G:380:LEU:CB	2:G:386:THR:HG21	2.03	0.89
1:E:25:U:O2'	2:G:111:LYS:NZ	2.05	0.89
2:G:544:GLN:NE2	2:G:573:GLU:OE1	2.06	0.89
2:G:887:LEU:CA	2:G:892:ILE:HB	2.02	0.89
2:B:143:VAL:HG11	2:B:315:ALA:HB2	1.55	0.89
2:G:1145:VAL:HG21	2:G:1187:TYR:HE1	1.35	0.89
2:G:1251:ASP:O	2:G:1254:GLN:NE2	2.06	0.89
2:G:195:LEU:CD2	2:G:286:TYR:HD2	1.70	0.88
2:B:1062:LEU:HD23	2:B:1063:ILE:H	1.36	0.88
2:G:747:LEU:CA	2:G:750:VAL:HG23	1.87	0.88
2:B:530:VAL:CG2	2:B:537:PRO:CB	2.46	0.88
2:G:530:VAL:HG11	2:G:537:PRO:HB3	1.53	0.88
2:G:781:MET:CG	2:G:803:ASN:OD1	2.19	0.88
1:A:63:U:C2'	2:B:62:THR:HG23	2.02	0.88
2:B:634:GLU:HA	2:B:637:LYS:HE2	1.55	0.88
2:G:179:SER:HB3	2:G:310:THR:CG2	2.03	0.88
2:G:258:LEU:HG	2:G:281:GLN:NE2	1.88	0.88
2:G:383:MET:O	2:G:386:THR:OG1	1.91	0.88
2:G:747:LEU:HA	2:G:750:VAL:HG22	1.48	0.88
2:B:78:ARG:NH1	2:B:162:ILE:O	2.06	0.88
2:B:1221:GLN:NE2	4:D:6:DG:OP2	2.05	0.88
2:G:1290:VAL:HG11	2:G:1312:LEU:HD13	1.56	0.88
2:B:755:LYS:HD3	2:B:939:MET:CE	2.02	0.88
2:G:66:ARG:NH1	2:G:462:PHE:CZ	2.42	0.88
2:G:1277:SER:CB	2:G:1287:LEU:HD22	2.04	0.88
2:G:206:VAL:HG13	2:G:211:ILE:HD11	1.56	0.88
2:B:372:PHE:O	2:B:376:ILE:CD1	2.22	0.88
2:G:148:LYS:CG	2:G:429:PHE:HD1	1.86	0.88
2:G:258:LEU:CD2	2:G:281:GLN:HE22	1.85	0.87
2:G:334:LEU:O	2:G:338:LEU:N	2.06	0.87
2:B:378:PRO:O	2:B:382:LYS:HG2	1.74	0.87
1:E:81:G:H21	2:G:35:LEU:HD11	1.35	0.87
2:G:884:ARG:HG3	2:G:884:ARG:HH11	1.35	0.87
2:G:1204:PHE:CE2	2:G:1342:VAL:HG11	2.09	0.87
2:G:334:LEU:C	2:G:338:LEU:HD12	1.94	0.87

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:747:LEU:C	2:G:750:VAL:CG2	2.26	0.87
2:G:870:VAL:HG23	2:G:908:LEU:HD23	0.88	0.87
2:B:914:ALA:HB1	2:B:1035:LYS:CD	2.03	0.87
2:G:148:LYS:CB	2:G:429:PHE:CD1	2.57	0.87
2:B:244:LEU:HD12	2:B:250:PRO:CD	2.04	0.87
2:G:369:GLN:OE1	2:G:400:ARG:CD	2.22	0.87
2:G:692:ASN:CB	2:G:695:GLN:HG3	2.04	0.87
2:G:1251:ASP:HA	2:G:1254:GLN:OE1	1.75	0.87
1:A:24:U:C2	2:B:105:PHE:CE1	2.63	0.87
2:B:909:SER:N	2:B:912:ASP:OD2	2.08	0.87
2:G:234:LYS:HD3	2:G:235:ASN:ND2	1.89	0.87
2:B:70:ARG:O	2:B:74:ARG:HD2	1.75	0.87
2:B:248:LEU:HD13	2:B:249:THR:N	1.89	0.87
2:G:278:LEU:HD12	2:G:282:ILE:HD11	0.88	0.87
2:B:195:LEU:HD22	2:B:289:LEU:CD1	2.05	0.86
2:B:600:ILE:O	2:B:647:VAL:HG13	1.74	0.86
2:B:905:ARG:HG2	2:B:905:ARG:HH11	1.38	0.86
2:G:332:LEU:HD21	2:G:359:TYR:CZ	2.08	0.86
2:G:349:GLU:HG3	2:G:356:LYS:HD2	1.57	0.86
1:A:24:U:O2	2:B:105:PHE:HD1	1.56	0.86
2:B:1326:TYR:CD2	2:B:1327:PHE:CD2	2.63	0.86
2:G:573:GLU:HB3	2:G:575:PHE:CE1	2.10	0.86
2:G:617:GLU:CG	2:G:664:ARG:HH12	1.88	0.86
2:G:824:VAL:N	2:G:879:MET:CE	2.36	0.86
2:G:197:GLU:OE2	6:G:1502:HOH:O	1.93	0.86
2:G:342:GLN:NE2	2:G:383:MET:HB2	1.90	0.86
2:G:499:ASP:CB	2:G:502:LEU:O	2.23	0.86
2:G:846:PHE:HZ	2:G:913:LYS:HD3	1.35	0.86
2:B:279:LEU:CD1	2:B:287:ALA:HB2	2.06	0.86
2:G:139:ARG:O	2:G:143:VAL:HG23	1.75	0.86
2:B:544:GLN:O	2:B:548:ILE:HG13	1.74	0.86
2:B:1062:LEU:HD23	2:B:1063:ILE:N	1.90	0.86
2:G:252:PHE:HE1	2:G:278:LEU:CD2	1.88	0.86
2:G:263:LYS:C	2:G:264:LEU:CD1	2.44	0.86
2:B:1105:PHE:CG	2:B:1169:MET:HG3	2.11	0.86
2:G:882:TYR:O	2:G:886:LEU:HD12	1.74	0.86
1:E:52:A:C5'	2:G:1123:LYS:HD3	2.06	0.86
2:G:263:LYS:O	2:G:264:LEU:CD1	2.19	0.86
2:B:557:ARG:HH22	2:B:599:LYS:HZ3	0.90	0.86
2:B:931:VAL:O	2:B:935:LEU:HD13	1.76	0.86
2:B:181:VAL:CG2	2:B:209:LYS:CB	2.53	0.85

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:258:LEU:CG	2:G:281:GLN:NE2	2.38	0.85
1:E:46:A:H5'	2:G:135:ILE:HG21	1.58	0.85
2:B:1357:GLU:OE1	2:B:1359:ARG:NH1	2.09	0.85
2:G:1321:PRO:HB2	2:G:1333:ARG:HD2	1.58	0.85
2:B:121:ASN:HD21	2:B:124:ASP:CB	1.89	0.85
2:B:810:LYS:O	2:B:833:LEU:HD13	1.76	0.85
2:G:495:MET:HG3	3:H:17:DA:H1'	1.57	0.85
2:B:563:GLN:O	2:B:567:ASP:HB2	1.77	0.85
2:B:1305:GLN:CA	2:B:1327:PHE:HZ	1.89	0.85
2:G:275:LEU:HD12	2:G:275:LEU:O	1.76	0.85
2:G:970:PHE:CE1	2:G:1080:PHE:HZ	1.93	0.85
2:B:27:VAL:CG1	2:B:1086:VAL:HG13	2.06	0.85
2:B:1290:VAL:HG22	2:B:1331:ILE:HD13	1.57	0.85
1:E:91:C:H41	2:G:44:LYS:NZ	1.75	0.85
2:G:258:LEU:CD2	2:G:281:GLN:NE2	2.40	0.85
2:B:181:VAL:HG23	2:B:209:LYS:CB	2.06	0.85
2:B:220:ARG:HH11	2:B:220:ARG:HG3	1.40	0.85
2:B:981:TYR:CE2	2:B:1092:VAL:CB	2.59	0.85
2:G:258:LEU:HD21	2:G:281:GLN:NE2	1.91	0.85
2:G:869:ASN:OD1	2:G:908:LEU:HB3	1.76	0.85
3:H:1:DC:H42	4:J:12:DG:H1	1.25	0.85
2:B:1204:PHE:HE2	2:B:1214:LEU:HD12	1.37	0.85
2:G:294:LYS:O	2:G:297:SER:OG	1.94	0.85
2:G:603:ASP:OD1	2:G:606:PHE:N	2.08	0.85
2:B:1045:PHE:CZ	2:B:1046:PHE:HE2	1.95	0.84
1:E:83:C:OP1	2:G:30:LYS:NZ	2.09	0.84
2:G:121:ASN:ND2	2:G:124:ASP:HB2	1.92	0.84
2:G:148:LYS:CG	2:G:429:PHE:CD1	2.60	0.84
2:B:178:ASN:CB	2:B:299:ALA:CA	2.54	0.84
2:B:229:LEU:HD13	2:B:232:GLU:H	1.42	0.84
2:B:704:PHE:O	2:B:708:ILE:HD11	1.77	0.84
2:B:970:PHE:HE1	2:B:1080:PHE:HZ	1.18	0.84
2:B:981:TYR:HE2	2:B:1092:VAL:HG23	0.70	0.84
2:G:380:LEU:HD22	2:G:386:THR:HG22	1.57	0.84
2:B:679:ILE:HD11	2:B:704:PHE:CD1	2.11	0.84
2:B:424:ARG:HH11	2:B:424:ARG:CB	1.91	0.84
2:B:699:ASP:OD1	2:B:701:SER:OG	1.93	0.84
2:G:116:HIS:HE2	2:G:122:ILE:HG12	1.39	0.84
2:G:180:ASP:CB	2:G:184:LEU:HG	2.06	0.84
2:G:215:ARG:O	2:G:215:ARG:NE	2.11	0.84
2:G:178:ASN:O	2:G:181:VAL:HG23	1.78	0.84

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:179:SER:CB	2:G:310:THR:CG2	2.56	0.84
2:B:181:VAL:HG12	2:B:300:ILE:HD11	1.52	0.84
2:B:181:VAL:HG23	2:B:209:LYS:CG	2.07	0.84
2:B:248:LEU:CD1	2:B:250:PRO:N	2.40	0.84
2:B:671:ARG:HG3	2:B:678:THR:HG22	1.58	0.84
1:E:52:A:P	2:G:1123:LYS:HE2	2.17	0.84
2:G:252:PHE:CZ	2:G:264:LEU:HD22	2.12	0.84
2:B:672:ASP:HA	2:B:703:THR:HG21	1.59	0.83
2:G:29:SER:CB	2:G:44:LYS:HE2	2.07	0.83
2:G:881:ASN:O	2:G:885:GLN:HG3	1.78	0.83
2:G:1039:TYR:O	2:G:1042:ILE:HG22	1.77	0.83
2:B:1314:THR:HG21	2:B:1324:PHE:HB3	1.58	0.83
2:G:137:HIS:CG	2:G:322:ILE:CD1	2.60	0.83
2:G:492:ILE:HG22	2:G:496:THR:CG2	2.07	0.83
2:G:967:ARG:HG2	2:G:972:PHE:O	1.77	0.83
2:B:436:ASN:O	2:B:440:ILE:HD12	1.78	0.83
2:G:870:VAL:HG12	2:G:871:PRO:HD2	1.58	0.83
1:A:17:G:OP2	2:B:74:ARG:NH1	2.11	0.83
2:B:926:GLN:HA	2:B:929:LYS:CG	2.06	0.83
2:B:1203:LEU:CD1	2:B:1213:MET:HG3	2.08	0.83
2:G:136:TYR:O	2:G:318:SER:OG	1.95	0.83
3:C:19:DA:H8	3:C:19:DA:H5''	1.42	0.83
2:G:988:TYR:O	2:G:992:VAL:HG23	1.77	0.83
2:G:219:SER:O	2:G:222:LEU:HG	1.79	0.83
2:B:870:VAL:HG12	2:B:871:PRO:CD	2.08	0.83
2:G:118:ILE:HB	2:G:119:PHE:CD2	2.14	0.83
2:G:279:LEU:HD11	2:G:287:ALA:CA	2.08	0.83
2:G:317:LEU:O	2:G:317:LEU:HD12	1.79	0.83
2:G:332:LEU:CD2	2:G:359:TYR:HE1	1.64	0.83
2:B:178:ASN:HD22	2:B:298:ASP:CB	1.85	0.83
2:B:806:LEU:HD22	2:B:811:LEU:CD1	2.07	0.83
4:D:6:DG:H2''	4:D:7:DG:H5'	1.61	0.83
1:E:14:A:OP2	2:G:63:ARG:HD3	1.78	0.83
2:B:317:LEU:O	2:B:317:LEU:HD12	1.76	0.83
2:B:569:PHE:HD1	2:B:575:PHE:CD2	1.96	0.83
2:B:679:ILE:HG12	2:B:704:PHE:CE1	2.14	0.83
2:G:148:LYS:HG3	2:G:429:PHE:HD1	1.41	0.83
2:G:380:LEU:CA	2:G:386:THR:HG21	2.09	0.82
2:G:508:LEU:HD21	2:G:664:ARG:HB2	0.92	0.82
2:B:569:PHE:HD1	2:B:575:PHE:HD2	1.26	0.82
2:B:1314:THR:CG2	2:B:1324:PHE:CG	2.62	0.82

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:81:G:C2	2:G:35:LEU:HD11	2.12	0.82
2:G:1326:TYR:CE2	2:G:1327:PHE:HD2	1.95	0.82
2:G:398:LEU:O	2:G:399:LEU:HD12	1.79	0.82
2:G:573:GLU:O	2:G:574:CYS:SG	2.37	0.82
2:G:790:GLU:OE1	2:G:889:ALA:N	2.13	0.82
2:G:870:VAL:HG12	2:G:871:PRO:CD	2.09	0.82
2:G:1212:ARG:CZ	2:G:1336:TYR:HE2	1.92	0.82
2:B:359:TYR:CE1	2:B:399:LEU:HD23	2.12	0.82
2:G:332:LEU:CD2	2:G:359:TYR:OH	2.28	0.82
2:G:1047:LYS:HE2	2:G:1049:GLU:O	1.80	0.82
2:G:115:ARG:HH21	2:G:122:ILE:HD11	0.68	0.82
2:G:531:THR:OG1	2:G:534:MET:HG2	1.80	0.82
2:B:99:HIS:O	2:B:103:GLU:HG2	1.80	0.82
2:G:46:ASN:HD22	2:G:1089:MET:HE1	1.44	0.82
2:G:976:ARG:HE	2:G:976:ARG:H	1.23	0.82
2:B:1230:SER:CA	2:B:1233:VAL:HG23	2.09	0.82
1:E:45:U:H2'	1:E:46:A:H8	1.45	0.82
2:G:1204:PHE:CG	2:G:1342:VAL:HG13	2.15	0.82
2:B:107:VAL:CG2	2:B:1131:TYR:OH	2.28	0.82
2:B:395:ARG:O	2:B:396:GLU:HB2	1.79	0.81
2:G:1251:ASP:HA	2:G:1254:GLN:CD	2.00	0.81
2:B:121:ASN:ND2	2:B:124:ASP:HB2	1.93	0.81
2:B:513:LEU:HD11	2:B:616:LEU:CB	2.10	0.81
2:B:1062:LEU:O	2:B:1076:LYS:CG	2.27	0.81
2:B:1143:VAL:CG1	2:B:1195:ILE:HG23	2.09	0.81
2:B:1244:LYS:N	2:B:1244:LYS:HD3	1.94	0.81
2:G:903:ALA:C	2:G:906:GLY:H	1.83	0.81
2:B:733:ILE:O	2:B:737:ILE:HG13	1.80	0.81
2:B:1302:ILE:O	2:B:1306:ALA:CB	2.27	0.81
2:G:806:LEU:HD23	2:G:812:TYR:HA	1.63	0.81
2:B:691:ARG:HB3	2:B:696:LEU:HD22	1.60	0.81
2:B:1107:LYS:NZ	3:C:7:DC:O2	2.13	0.81
2:B:277:ASN:ND2	2:B:653:ARG:HD3	1.94	0.81
2:G:592:GLY:C	2:G:596:ASP:OD1	2.19	0.81
2:B:101:LEU:O	2:B:104:SER:OG	1.97	0.81
2:B:1062:LEU:HD21	2:B:1063:ILE:HG13	1.61	0.81
2:B:1127:ASP:HB3	2:B:1130:LYS:HB2	1.62	0.81
2:G:1256:GLN:HE22	2:G:1260:GLU:HG2	1.46	0.81
2:B:70:ARG:HH21	2:B:462:PHE:HD2	1.26	0.81
2:B:955:VAL:O	2:B:1009:VAL:HG13	1.80	0.81
2:G:218:LYS:H	2:G:218:LYS:HD2	1.44	0.81

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:1063:ILE:HG23	2:G:1072:ILE:CG2	2.11	0.81
2:G:1204:PHE:CZ	2:G:1342:VAL:HG11	2.14	0.81
2:G:499:ASP:HB3	2:G:502:LEU:H	1.45	0.81
2:G:525:THR:CG2	2:G:690:ASN:HB3	2.10	0.81
2:B:181:VAL:HG11	2:B:300:ILE:HD11	0.83	0.81
2:B:696:LEU:HD12	2:B:702:LEU:HD13	1.60	0.81
2:B:961:LYS:NZ	2:B:965:ASP:OD2	2.10	0.81
2:G:278:LEU:HD12	2:G:278:LEU:O	1.79	0.81
2:G:565:LYS:HG2	2:G:578:VAL:CG1	2.11	0.81
2:B:181:VAL:HG13	2:B:300:ILE:HD13	1.61	0.81
2:B:207:ASP:O	2:B:211:ILE:N	2.14	0.81
2:B:241:LEU:HD21	2:B:290:PHE:HE2	1.45	0.81
2:B:745:ASP:OD2	2:B:938:ARG:NH2	2.14	0.81
2:G:286:TYR:O	2:G:289:LEU:N	2.12	0.81
2:G:541:SER:CB	2:G:544:GLN:HB2	2.11	0.81
2:B:665:LYS:O	2:B:669:GLY:N	2.13	0.80
2:G:179:SER:CB	2:G:310:THR:HG21	2.10	0.80
2:G:492:ILE:HG22	2:G:496:THR:HG23	1.62	0.80
2:G:598:LEU:O	2:G:598:LEU:HD23	1.81	0.80
1:E:78:A:H2'	1:E:79:G:H8	1.47	0.80
2:G:1315:LEU:O	2:G:1315:LEU:HD12	1.80	0.80
2:B:297:SER:C	2:B:301:LEU:HD12	2.01	0.80
2:B:398:LEU:O	2:B:399:LEU:HD12	1.80	0.80
2:B:1251:ASP:HA	2:B:1254:GLN:OE1	1.81	0.80
2:G:278:LEU:CD1	2:G:282:ILE:CG1	2.60	0.80
2:G:297:SER:HB2	2:G:301:LEU:CD1	2.11	0.80
2:G:335:LEU:HA	2:G:338:LEU:HB2	1.62	0.80
2:G:978:ILE:CD1	2:G:1228:LEU:HD23	2.11	0.80
2:B:1086:VAL:O	2:B:1089:MET:HE2	1.81	0.80
2:G:548:ILE:HG23	2:G:552:LEU:HD12	1.62	0.80
1:A:62:G:C8	2:B:69:ARG:NH1	2.49	0.80
2:G:143:VAL:CG1	2:G:421:ALA:HB3	2.05	0.80
2:G:1078:ARG:HB3	2:G:1078:ARG:HH11	1.47	0.80
2:B:249:THR:HG22	2:B:265:GLN:NE2	1.96	0.80
2:B:1312:LEU:HD11	2:B:1326:TYR:CD1	2.16	0.80
2:G:139:ARG:NH1	2:G:418:GLU:OE1	2.15	0.80
2:G:1314:THR:CG2	2:G:1324:PHE:CB	2.58	0.80
1:A:19:A:O2'	2:B:405:PHE:O	2.00	0.80
2:B:165:ARG:HH21	2:B:168:PHE:HZ	1.29	0.80
2:B:1236:LEU:HD22	2:B:1310:ILE:HG13	1.64	0.80
2:B:1302:ILE:O	2:B:1306:ALA:N	2.15	0.80

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:41:A:OP1	2:G:340:ARG:NE	2.14	0.80
2:G:103:GLU:OE2	2:G:111:LYS:HG2	1.81	0.80
2:G:108:GLU:OE2	2:G:115:ARG:HD3	1.81	0.80
2:G:321:MET:HE1	2:G:402:GLN:O	1.82	0.80
2:G:870:VAL:HG22	2:G:908:LEU:HD21	1.60	0.80
2:G:956:ILE:HD11	2:G:998:ILE:HD13	1.62	0.80
2:G:970:PHE:CE1	2:G:1080:PHE:CZ	2.70	0.80
2:G:1255:LYS:O	2:G:1259:VAL:HG23	1.81	0.80
2:B:89:GLU:O	2:B:93:VAL:HG23	1.81	0.80
2:B:178:ASN:CB	2:B:299:ALA:CB	2.41	0.80
2:G:874:GLU:HA	2:G:877:LYS:NZ	1.96	0.80
1:A:59:U:OP2	2:B:472:THR:HG23	1.81	0.80
2:G:701:SER:OG	2:G:702:LEU:HD23	1.82	0.80
2:B:755:LYS:HD3	2:B:939:MET:HE1	1.63	0.79
2:B:788:ILE:O	2:B:792:GLY:N	2.15	0.79
2:B:1041:ASN:HB3	2:B:1044:ASN:OD1	1.82	0.79
2:B:244:LEU:HG	2:B:266:LEU:HD12	1.62	0.79
2:G:666:LEU:O	2:G:666:LEU:HD23	1.82	0.79
2:G:818:ASN:O	2:G:818:ASN:ND2	2.15	0.79
2:G:886:LEU:C	2:G:892:ILE:HD12	2.02	0.79
2:B:970:PHE:HE1	2:B:1080:PHE:CZ	2.00	0.79
1:E:57:A:OP1	2:G:457:ARG:NH2	2.14	0.79
2:G:1213:MET:HE3	2:G:1221:GLN:HE21	1.47	0.79
2:G:1321:PRO:HB3	2:G:1333:ARG:HB2	1.64	0.79
2:B:212:LEU:HD21	2:B:225:LEU:HD12	1.65	0.79
2:B:518:PHE:CD1	2:B:667:ILE:HG23	2.17	0.79
2:B:842:VAL:HG12	2:B:854:ASN:OD1	1.82	0.79
2:B:1207:GLU:OE2	2:B:1210:ARG:HD3	1.82	0.79
2:G:106:LEU:O	2:G:111:LYS:CE	2.29	0.79
2:B:557:ARG:NH2	2:B:599:LYS:HZ3	1.68	0.79
2:G:1290:VAL:CG1	2:G:1312:LEU:HD13	2.12	0.79
2:B:874:GLU:O	2:B:877:LYS:HG3	1.82	0.79
1:A:24:U:H1'	2:B:105:PHE:CE1	2.18	0.79
2:G:490:SER:O	2:G:494:ARG:HG2	1.83	0.79
2:G:827:GLU:O	2:G:828:LEU:HD23	1.82	0.79
2:B:100:ARG:NE	2:B:117:PRO:O	2.16	0.79
2:B:1143:VAL:HG13	2:B:1195:ILE:HG22	1.65	0.79
2:G:1143:VAL:HG12	2:G:1144:LEU:O	1.83	0.79
2:B:672:ASP:CG	2:B:703:THR:HG22	2.02	0.79
2:B:1179:ILE:O	2:B:1183:GLU:HG3	1.82	0.79
2:G:1239:ALA:O	2:G:1303:ARG:HA	1.82	0.79

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:1045:PHE:CE1	2:B:1046:PHE:CE2	2.71	0.79
2:G:398:LEU:HG	2:G:399:LEU:CD1	2.12	0.79
1:A:56:U:O2	1:A:58:G:N2	2.15	0.78
2:B:8:GLY:O	2:B:987:ALA:HB1	1.83	0.78
2:B:343:LEU:CD2	2:B:346:LYS:HB2	2.12	0.78
2:G:324:ARG:NH2	2:G:400:ARG:HH12	1.81	0.78
2:G:1075:ASP:O	2:G:1079:ASP:HB2	1.83	0.78
2:B:637:LYS:HA	2:B:640:ALA:HB2	1.63	0.78
2:G:1321:PRO:HG2	2:G:1335:ARG:HA	1.65	0.78
2:B:508:LEU:HD12	2:B:663:SER:C	2.04	0.78
1:E:67:C:OP1	2:G:742:LYS:NZ	2.13	0.78
2:G:256:PHE:CE2	2:G:282:ILE:HG23	2.17	0.78
2:G:332:LEU:HD23	2:G:359:TYR:OH	1.82	0.78
2:G:489:GLN:O	2:G:493:GLU:HG3	1.84	0.78
2:B:114:GLU:HG2	2:B:120:GLY:HA2	1.63	0.78
2:G:672:ASP:CG	2:G:703:THR:CG2	2.45	0.78
2:G:750:VAL:HG11	2:G:1355:LEU:HD12	1.62	0.78
2:G:1270:ILE:CD1	2:G:1294:TYR:CG	2.66	0.78
2:G:1290:VAL:CG1	2:G:1312:LEU:CD1	2.62	0.78
2:B:279:LEU:CD1	2:B:287:ALA:CB	2.61	0.78
2:B:512:SER:OG	2:B:617:GLU:OE1	2.02	0.78
2:B:1303:ARG:O	2:B:1307:GLU:HG3	1.82	0.78
2:G:1312:LEU:CD2	2:G:1326:TYR:HD1	1.94	0.78
2:B:870:VAL:HG12	2:B:871:PRO:HD2	1.66	0.78
2:B:1242:TYR:HD1	2:B:1242:TYR:H	1.32	0.78
2:B:249:THR:CG2	2:B:265:GLN:NE2	2.47	0.78
2:B:279:LEU:HD11	2:B:287:ALA:HB2	1.62	0.78
2:B:219:SER:O	2:B:222:LEU:HG	1.84	0.78
2:G:201:ILE:CD1	2:G:238:PHE:CD1	2.66	0.78
2:G:691:ARG:NH1	2:G:702:LEU:HD21	1.99	0.78
2:G:253:LYS:HE3	2:G:261:ASP:N	1.98	0.78
2:G:351:PHE:O	2:G:360:ALA:HB2	1.84	0.78
2:G:1298:ARG:HA	2:G:1305:GLN:HE22	1.50	0.77
2:B:45:LYS:HE3	2:B:1093:ASN:OD1	1.83	0.77
2:B:1326:TYR:HD2	2:B:1327:PHE:HD2	1.31	0.77
2:G:634:GLU:O	2:G:637:LYS:HG3	1.85	0.77
2:G:839:ASP:OD2	2:G:864:ARG:HD2	1.84	0.77
1:A:41:A:H2'	1:A:42:A:H5''	1.65	0.77
2:B:812:TYR:CE1	2:B:816:LEU:HD21	2.19	0.77
2:B:1274:SER:O	2:B:1278:LYS:HG3	1.84	0.77
2:G:1296:LYS:C	2:G:1297:HIS:HD1	1.88	0.77

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:359:TYR:CE2	2:G:363:ILE:HD11	2.20	0.77
2:G:846:PHE:CZ	2:G:913:LYS:CD	2.62	0.77
2:G:747:LEU:CA	2:G:750:VAL:HG21	1.92	0.77
2:B:1287:LEU:HD12	2:B:1287:LEU:O	1.84	0.77
2:G:1348:ILE:CD1	2:G:1359:ARG:NH2	2.47	0.77
1:A:15:U:H2'	1:A:16:U:H6	1.50	0.77
2:B:78:ARG:NE	2:B:165:ARG:HH11	1.83	0.77
2:B:338:LEU:CD1	2:B:386:THR:CG2	2.59	0.77
1:A:24:U:C2	2:B:105:PHE:HE1	2.01	0.77
2:G:78:ARG:NH1	2:G:162:ILE:O	2.17	0.77
2:G:508:LEU:HD11	2:G:664:ARG:HA	1.67	0.77
2:G:672:ASP:OD1	2:G:702:LEU:HA	1.85	0.77
2:G:720:LEU:HA	2:G:723:HIS:HB3	1.67	0.77
2:B:1082:THR:O	2:B:1086:VAL:HG23	1.85	0.77
2:B:1243:GLU:C	2:B:1244:LYS:HD3	2.04	0.77
2:G:100:ARG:NE	2:G:117:PRO:O	2.17	0.77
1:E:20:G:OP2	2:G:403:ARG:NH1	2.16	0.76
2:G:278:LEU:HD11	2:G:282:ILE:CG1	2.14	0.76
2:G:324:ARG:CZ	2:G:400:ARG:NH1	2.48	0.76
2:G:380:LEU:HA	2:G:386:THR:HG21	1.66	0.76
2:G:561:VAL:HG23	2:G:585:ASP:C	2.02	0.76
2:G:970:PHE:HE1	2:G:1080:PHE:HZ	1.32	0.76
2:B:908:LEU:HD23	2:B:908:LEU:H	1.50	0.76
1:E:32:A:N6	1:E:37:U:O4	2.18	0.76
2:G:545:LYS:NZ	2:G:690:ASN:HD22	1.81	0.76
2:G:870:VAL:HG22	2:G:908:LEU:HD23	1.04	0.76
2:B:369:GLN:CD	2:B:404:THR:CG2	2.51	0.76
2:B:398:LEU:HD22	2:B:399:LEU:HD13	1.67	0.76
2:B:483:ASP:OD1	2:B:486:ALA:HB3	1.86	0.76
2:B:1303:ARG:O	2:B:1307:GLU:CG	2.34	0.76
2:G:29:SER:CB	2:G:44:LYS:CE	2.62	0.76
2:B:970:PHE:CE1	2:B:1080:PHE:CZ	2.73	0.76
2:B:45:LYS:CE	2:B:1093:ASN:OD1	2.33	0.76
2:B:1256:GLN:NE2	2:B:1260:GLU:OE2	2.17	0.76
2:B:1290:VAL:HG22	2:B:1331:ILE:CD1	2.15	0.76
2:G:174:LEU:HD21	2:G:413:GLN:HB2	1.67	0.76
2:G:790:GLU:CD	2:G:889:ALA:HA	2.04	0.76
2:B:1143:VAL:CG1	2:B:1195:ILE:HG22	2.13	0.76
2:B:1206:LEU:O	2:B:1207:GLU:HG3	1.84	0.76
2:G:181:VAL:HG22	2:G:299:ALA:HB1	1.67	0.76
2:G:672:ASP:CB	2:G:704:PHE:CE2	2.60	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:706:GLU:HA	2:G:709:GLN:OE1	1.84	0.76
2:B:784:ILE:CG2	2:B:788:ILE:HD11	2.16	0.76
2:G:1145:VAL:HG21	2:G:1187:TYR:CD1	2.21	0.76
2:B:847:LEU:HD21	2:B:849:ASP:HB2	1.66	0.76
2:B:1206:LEU:C	2:B:1207:GLU:HG3	2.06	0.76
2:B:114:GLU:HG2	2:B:120:GLY:CA	2.15	0.75
2:B:621:LEU:O	2:B:625:LEU:HB2	1.85	0.75
2:B:98:PHE:O	2:B:102:GLU:HG3	1.85	0.75
2:B:818:ASN:ND2	2:B:818:ASN:O	2.19	0.75
2:B:842:VAL:CG1	2:B:854:ASN:HD21	1.99	0.75
2:G:321:MET:CE	2:G:402:GLN:O	2.34	0.75
2:G:378:PRO:HG2	2:G:379:ILE:HD12	1.68	0.75
2:G:1114:ARG:HD2	2:G:1116:SER:HB3	1.68	0.75
2:B:100:ARG:NH2	2:B:117:PRO:O	2.19	0.75
2:B:839:ASP:OD1	2:B:864:ARG:NH1	2.18	0.75
2:B:1171:ARG:HG2	2:B:1171:ARG:NH1	2.01	0.75
2:G:174:LEU:HD21	2:G:413:GLN:CB	2.16	0.75
2:G:244:LEU:O	2:G:246:LEU:O	2.04	0.75
2:G:530:VAL:CG2	2:G:579:GLU:HB3	2.17	0.75
2:B:618:ASP:OD2	2:B:639:TYR:OH	2.03	0.75
2:B:914:ALA:CB	2:B:1035:LYS:HD3	2.13	0.75
2:B:963:VAL:HG21	2:B:990:ASN:ND2	2.02	0.75
3:C:19:DA:H5"	3:C:19:DA:C8	2.22	0.75
2:G:705:LYS:O	2:G:709:GLN:HG3	1.86	0.75
2:B:341:GLN:HG3	2:B:342:GLN:HG2	1.69	0.75
2:B:518:PHE:HD1	2:B:667:ILE:HG23	1.51	0.75
2:G:313:THR:OG1	2:G:315:ALA:O	2.04	0.75
1:A:24:U:C2	2:B:105:PHE:CD1	2.75	0.75
2:B:299:ALA:O	2:B:302:LEU:HD22	1.84	0.75
2:B:970:PHE:CE1	2:B:1080:PHE:HZ	2.04	0.75
2:B:1031:LYS:NZ	2:G:1068:GLU:CD	2.39	0.75
1:E:52:A:H5"	2:G:1123:LYS:CE	2.17	0.75
2:G:872:SER:OG	2:G:875:VAL:HG23	1.87	0.75
2:B:106:LEU:O	2:B:111:LYS:HE3	1.84	0.75
2:B:278:LEU:CD1	2:B:282:ILE:CD1	2.59	0.75
2:B:696:LEU:HD12	2:B:702:LEU:CD1	2.15	0.75
2:B:967:ARG:NH1	2:B:974:LYS:HB2	2.01	0.75
2:B:1224:ASN:CG	2:B:1280:VAL:CG1	2.55	0.75
2:G:563:GLN:O	2:G:567:ASP:HB2	1.87	0.75
2:B:234:LYS:HD3	2:B:235:ASN:ND2	2.02	0.75
2:B:908:LEU:HD23	2:B:908:LEU:N	2.02	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:165:ARG:O	2:G:415:HIS:ND1	2.19	0.75
2:G:279:LEU:CA	2:G:282:ILE:HD13	2.15	0.75
2:G:398:LEU:CG	2:G:399:LEU:HD13	2.12	0.75
2:G:515:TYR:HE1	2:G:662:LEU:HB2	1.51	0.75
2:G:1326:TYR:CE2	2:G:1327:PHE:CD2	2.74	0.75
1:A:45:U:H5'	2:B:402:GLN:HG2	1.68	0.74
2:G:400:ARG:HG3	2:G:400:ARG:NH1	1.98	0.74
2:G:989:LEU:O	2:G:993:VAL:HG23	1.87	0.74
2:G:1290:VAL:HG11	2:G:1312:LEU:CD1	2.17	0.74
2:B:1105:PHE:CD2	2:B:1169:MET:CG	2.70	0.74
2:G:297:SER:O	2:G:301:LEU:CG	2.35	0.74
2:G:380:LEU:CD2	2:G:386:THR:HG21	2.17	0.74
2:B:244:LEU:CD1	2:B:250:PRO:CD	2.66	0.74
2:B:679:ILE:HD11	2:B:704:PHE:CE1	2.22	0.74
2:B:1304:GLU:HB3	2:B:1327:PHE:HE1	1.52	0.74
2:G:297:SER:C	2:G:301:LEU:HG	2.08	0.74
2:G:315:ALA:HB1	2:G:418:GLU:OE2	1.86	0.74
1:E:91:C:C6	2:G:44:LYS:HG2	2.22	0.74
2:G:515:TYR:CE1	2:G:662:LEU:HB2	2.22	0.74
2:G:1326:TYR:CD2	2:G:1327:PHE:HD2	2.05	0.74
2:G:798:GLU:HG2	2:G:799:HIS:ND1	2.02	0.74
2:G:874:GLU:HG2	2:G:877:LYS:NZ	2.02	0.74
2:B:780:ARG:HD2	2:B:812:TYR:CE2	2.23	0.74
2:B:78:ARG:NE	2:B:165:ARG:NH1	2.35	0.74
2:B:297:SER:O	2:B:301:LEU:HD12	1.88	0.74
1:E:56:U:O2	1:E:58:G:N2	2.20	0.74
2:G:252:PHE:HZ	2:G:264:LEU:HD22	1.51	0.74
2:G:1078:ARG:HH11	2:G:1078:ARG:CB	1.99	0.74
2:G:1143:VAL:HG11	2:G:1195:ILE:HG23	1.68	0.74
2:G:1311:HIS:O	2:G:1314:THR:HG22	1.88	0.74
2:B:275:LEU:CD1	2:B:279:LEU:HB2	2.15	0.74
2:G:416:LEU:HD12	2:G:444:LEU:HD13	1.69	0.74
2:B:981:TYR:CE2	2:B:1092:VAL:HB	2.22	0.74
2:G:121:ASN:HD21	2:G:124:ASP:CB	2.00	0.74
2:G:561:VAL:HG21	2:G:585:ASP:O	1.82	0.74
2:B:870:VAL:HG21	2:B:908:LEU:HD21	0.75	0.74
2:G:369:GLN:OE1	2:G:400:ARG:HD3	1.86	0.74
2:B:114:GLU:CG	2:B:120:GLY:HA2	2.17	0.73
2:B:244:LEU:HG	2:B:266:LEU:HD11	1.70	0.73
2:B:1221:GLN:NE2	2:B:1320:ALA:HB2	2.03	0.73
2:B:961:LYS:HG2	2:B:965:ASP:OD2	1.88	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:672:ASP:CA	2:G:703:THR:CG2	2.66	0.73
2:B:278:LEU:HD12	2:B:278:LEU:O	1.88	0.73
2:G:128:TYR:HD2	2:G:129:HIS:HD2	1.35	0.73
2:G:206:VAL:CG1	2:G:211:ILE:HD11	2.18	0.73
2:G:282:ILE:HG22	2:G:286:TYR:HD1	1.51	0.73
2:G:1256:GLN:HE22	2:G:1260:GLU:CG	2.00	0.73
1:A:63:U:H2'	2:B:62:THR:HG22	1.69	0.73
2:B:340:ARG:C	2:B:344:PRO:HG3	2.08	0.73
2:B:635:ARG:NH1	2:B:635:ARG:HG3	2.04	0.73
2:B:940:ASN:OD1	2:B:951:ARG:HA	1.88	0.73
2:B:1251:ASP:CA	2:B:1254:GLN:NE2	2.39	0.73
2:G:238:PHE:CE2	2:G:242:ILE:HD11	2.24	0.73
2:G:495:MET:HG3	3:H:17:DA:C1'	2.18	0.73
2:G:706:GLU:O	2:G:709:GLN:HB2	1.87	0.73
2:G:1145:VAL:CG2	2:G:1187:TYR:HE1	2.00	0.73
2:B:216:LEU:HD23	2:B:216:LEU:N	2.03	0.73
2:B:244:LEU:HD12	2:B:250:PRO:HD3	1.71	0.73
2:B:981:TYR:HD2	2:B:1092:VAL:HG21	1.48	0.73
1:E:86:C:N4	1:E:92:G:O6	2.19	0.73
2:G:234:LYS:O	2:G:234:LYS:HE3	1.88	0.73
2:G:253:LYS:HE3	2:G:261:ASP:HA	1.69	0.73
2:G:499:ASP:HB3	2:G:502:LEU:O	1.88	0.73
1:E:41:A:P	2:G:340:ARG:HH21	2.09	0.73
2:G:174:LEU:HD22	2:G:174:LEU:H	1.51	0.73
2:G:222:LEU:HD12	2:G:223:GLU:N	2.03	0.73
2:B:181:VAL:HG23	2:B:209:LYS:HB2	1.68	0.73
2:B:273:ASP:OD1	2:B:274:ASP:N	2.22	0.73
2:G:817:GLN:O	2:G:882:TYR:OH	2.06	0.73
2:B:22:THR:HG22	2:B:23:ASP:H	1.54	0.73
2:B:27:VAL:HG12	2:B:1086:VAL:HG13	1.70	0.73
2:B:407:ASN:ND2	2:B:407:ASN:H	1.86	0.73
2:G:631:MET:O	2:G:634:GLU:N	2.21	0.73
2:G:1265:TYR:HA	2:G:1268:GLU:CG	2.11	0.73
2:B:874:GLU:HA	2:B:877:LYS:HD2	1.68	0.73
2:B:1031:LYS:HZ1	2:G:1068:GLU:CD	1.91	0.73
2:B:1127:ASP:O	2:B:1131:TYR:N	2.22	0.73
2:B:1246:LYS:HB2	2:B:1246:LYS:NZ	2.04	0.73
2:G:625:LEU:HG	2:G:626:PHE:CE1	2.24	0.73
2:B:181:VAL:HG22	2:B:209:LYS:CG	2.05	0.73
2:B:209:LYS:O	2:B:213:SER:OG	2.07	0.73
2:B:281:GLN:HB3	6:B:1519:HOH:O	1.88	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:302:LEU:HD23	2:B:303:SER:N	2.04	0.73
2:B:340:ARG:NH2	2:B:347:TYR:CE1	2.57	0.73
2:B:842:VAL:HG12	2:B:854:ASN:ND2	2.03	0.73
2:B:1308:ASN:O	2:B:1311:HIS:HB2	1.89	0.73
2:G:47:LEU:N	2:G:47:LEU:HD23	2.02	0.73
2:G:874:GLU:HG2	2:G:877:LYS:HZ1	1.54	0.73
2:B:369:GLN:HE22	2:B:404:THR:CG2	1.73	0.72
2:B:1314:THR:HG21	2:B:1324:PHE:CG	2.22	0.72
1:E:15:U:H2'	1:E:16:U:H6	1.54	0.72
2:G:621:LEU:HD21	2:G:625:LEU:HD22	1.71	0.72
2:G:720:LEU:HA	2:G:723:HIS:CB	2.19	0.72
2:G:790:GLU:OE1	2:G:888:ASN:C	2.27	0.72
2:G:25:TYR:CD2	2:G:1074:TRP:CZ3	2.62	0.72
2:G:830:ILE:N	2:G:830:ILE:HD12	2.04	0.72
1:A:45:U:H5''	2:B:402:GLN:HB2	1.72	0.72
2:B:70:ARG:NH1	2:B:454:PRO:HG3	2.04	0.72
2:B:1272:GLN:C	2:B:1272:GLN:HE21	1.93	0.72
2:B:34:VAL:HG21	2:B:43:ILE:HG13	1.71	0.72
2:B:284:ASP:N	2:B:285:GLN:OE1	2.22	0.72
2:G:278:LEU:HG	2:G:282:ILE:HD11	1.71	0.72
2:G:1256:GLN:NE2	2:G:1256:GLN:O	2.22	0.72
2:G:1265:TYR:CA	2:G:1268:GLU:HG3	2.12	0.72
2:B:178:ASN:HD22	2:B:298:ASP:HB3	1.46	0.72
2:B:178:ASN:HD21	2:B:298:ASP:CB	2.00	0.72
2:B:449:PRO:HD2	2:B:452:VAL:HG21	1.71	0.72
2:B:513:LEU:HD11	2:B:616:LEU:HB3	1.71	0.72
2:B:844:GLN:NE2	2:B:848:LYS:HG2	2.04	0.72
2:B:1135:ASP:OD1	2:B:1136:SER:N	2.22	0.72
2:G:702:LEU:HD23	2:G:702:LEU:N	2.04	0.72
2:G:887:LEU:H	2:G:892:ILE:CD1	1.84	0.72
2:B:241:LEU:HD21	2:B:290:PHE:CE2	2.24	0.72
2:G:977:GLU:HG3	2:G:1310:ILE:HG23	1.71	0.72
2:B:379:ILE:HD12	2:B:379:ILE:H	1.55	0.72
2:G:116:HIS:CD2	2:G:122:ILE:HA	2.23	0.72
2:G:116:HIS:CD2	2:G:122:ILE:HG12	2.23	0.72
2:G:386:THR:O	2:G:390:LEU:HG	1.88	0.72
2:B:841:ILE:HD13	2:B:900:LEU:HD23	1.71	0.72
2:B:1224:ASN:OD1	2:B:1280:VAL:CG1	2.37	0.72
2:G:25:TYR:CE2	2:G:1074:TRP:CE3	2.61	0.72
2:G:297:SER:O	2:G:301:LEU:N	2.21	0.72
2:G:1113:LYS:HB2	2:G:1129:LYS:O	1.88	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:178:ASN:HB3	2:B:299:ALA:N	2.04	0.72
1:E:97:U:OP2	1:E:98:C:N4	2.22	0.72
2:G:308:VAL:HG12	2:G:309:ASN:N	2.04	0.72
2:G:510:LYS:HB3	2:G:511:HIS:HD2	1.55	0.72
2:B:27:VAL:HG11	2:B:1086:VAL:HG13	1.70	0.71
2:B:58:THR:HG22	2:B:731:PRO:CG	2.17	0.71
2:B:424:ARG:HB3	2:B:424:ARG:NH1	2.04	0.71
2:B:830:ILE:N	2:B:830:ILE:HD12	2.04	0.71
2:B:842:VAL:HG12	2:B:854:ASN:CG	2.10	0.71
2:G:559:VAL:O	2:G:587:PHE:HD1	1.71	0.71
1:A:24:U:N1	2:B:105:PHE:HE1	1.88	0.71
2:G:841:ILE:HD13	2:G:900:LEU:CD2	2.20	0.71
2:G:1045:PHE:H	2:G:1045:PHE:HD1	1.37	0.71
2:B:248:LEU:HD22	2:B:249:THR:H	1.55	0.71
2:B:338:LEU:HD12	2:B:386:THR:CG2	2.12	0.71
2:B:373:TYR:HA	2:B:376:ILE:HD11	1.71	0.71
2:B:842:VAL:CG1	2:B:854:ASN:ND2	2.54	0.71
2:B:1203:LEU:HD12	2:B:1213:MET:HG3	1.71	0.71
1:E:8:G:H2'	1:E:9:U:C6	2.25	0.71
1:E:15:U:OP1	2:G:70:ARG:NH2	2.22	0.71
2:G:278:LEU:CG	2:G:282:ILE:CD1	2.63	0.71
2:G:874:GLU:HA	2:G:877:LYS:HZ2	1.54	0.71
2:B:489:GLN:HG3	2:B:625:LEU:HD21	1.73	0.71
2:B:810:LYS:C	2:B:833:LEU:HD12	2.11	0.71
2:G:106:LEU:HD12	2:G:106:LEU:N	2.02	0.71
1:A:61:C:OP1	2:B:70:ARG:NH2	2.24	0.71
2:B:181:VAL:HG21	2:B:209:LYS:CA	2.20	0.71
2:B:1252:ASN:HD22	2:B:1252:ASN:N	1.89	0.71
2:G:673:LYS:H	2:G:703:THR:CG2	1.95	0.71
2:G:1060:ARG:HD3	2:G:1064:GLU:OE2	1.90	0.71
2:B:1243:GLU:C	2:B:1244:LYS:HZ2	1.94	0.71
2:G:393:LEU:HD23	2:G:393:LEU:O	1.90	0.71
2:B:1302:ILE:O	2:B:1306:ALA:HB3	1.91	0.71
2:B:340:ARG:O	2:B:344:PRO:HG2	1.91	0.71
1:E:91:C:H41	2:G:44:LYS:HZ3	1.36	0.71
2:G:143:VAL:CG1	2:G:421:ALA:CB	2.67	0.71
2:G:720:LEU:O	2:G:723:HIS:N	2.24	0.71
2:B:148:LYS:HE3	2:B:429:PHE:HB3	1.72	0.71
2:B:379:ILE:HD12	2:B:379:ILE:N	2.05	0.71
2:G:174:LEU:HD13	2:G:174:LEU:N	2.03	0.71
2:G:201:ILE:HD12	2:G:238:PHE:CD1	2.26	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:625:LEU:HG	2:G:626:PHE:HE1	1.56	0.71
2:B:557:ARG:HH22	2:B:599:LYS:HZ2	1.24	0.70
2:B:841:ILE:HD13	2:B:900:LEU:CD2	2.20	0.70
2:G:299:ALA:O	2:G:303:SER:HB3	1.89	0.70
2:B:780:ARG:HH12	2:B:812:TYR:HD2	1.37	0.70
2:B:870:VAL:HG23	2:B:908:LEU:CG	2.20	0.70
2:G:137:HIS:ND1	2:G:322:ILE:HD11	2.06	0.70
2:G:884:ARG:HG3	2:G:884:ARG:NH1	2.03	0.70
2:G:601:ILE:HD12	2:G:603:ASP:H	1.57	0.70
2:G:1063:ILE:CG2	2:G:1072:ILE:HG23	2.21	0.70
2:G:692:ASN:HB3	2:G:695:GLN:HG3	1.73	0.70
2:B:178:ASN:HB2	2:B:299:ALA:HA	1.72	0.70
2:B:557:ARG:HH12	2:B:599:LYS:NZ	1.88	0.70
2:B:746:GLU:O	2:B:750:VAL:HG23	1.90	0.70
2:G:349:GLU:CG	2:G:356:LYS:HD2	2.21	0.70
2:B:75:ARG:NH2	6:B:1502:HOH:O	2.23	0.70
2:B:265:GLN:HB3	2:B:268:LYS:HB2	1.73	0.70
2:B:317:LEU:HB2	2:B:414:ILE:HD12	1.73	0.70
2:B:350:ILE:HG22	2:B:351:PHE:CD2	2.26	0.70
2:B:1143:VAL:HG13	2:B:1195:ILE:CG2	2.17	0.70
2:G:46:ASN:ND2	2:G:1089:MET:HE2	2.07	0.70
2:G:672:ASP:CA	2:G:703:THR:HG23	2.19	0.70
2:G:967:ARG:CG	2:G:972:PHE:O	2.39	0.70
2:G:1321:PRO:CB	2:G:1333:ARG:HB2	2.22	0.70
2:B:870:VAL:HG21	2:B:908:LEU:HD23	1.68	0.70
2:B:967:ARG:HA	2:B:972:PHE:HB2	1.73	0.70
2:B:1344:ASP:OD2	2:B:1344:ASP:N	2.25	0.70
2:G:747:LEU:HD23	2:G:750:VAL:HG21	1.73	0.70
2:G:1258:PHE:CE1	2:G:1262:HIS:CE1	2.80	0.70
2:B:1219:GLU:HG3	2:B:1336:TYR:O	1.91	0.70
2:G:179:SER:HA	2:G:310:THR:CG2	2.21	0.70
2:G:256:PHE:CE2	2:G:282:ILE:CG2	2.75	0.70
2:G:279:LEU:HA	2:G:282:ILE:CD1	2.21	0.70
2:G:893:THR:HG23	2:G:896:LYS:H	1.57	0.70
4:J:11:DT:H2''	4:J:12:DG:H5'	1.73	0.70
2:G:115:ARG:NH2	2:G:122:ILE:HD13	2.01	0.70
2:G:158:LEU:HD21	2:G:422:ILE:HG21	1.73	0.70
2:G:823:TYR:O	2:G:879:MET:CE	2.17	0.70
2:B:167:HIS:ND1	2:B:411:PRO:HA	2.07	0.70
2:B:338:LEU:O	2:B:383:MET:CE	2.40	0.70
2:G:171:GLU:OE2	2:G:269:ASP:HB3	1.91	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:178:ASN:HD21	2:B:298:ASP:HB2	1.51	0.69
2:B:679:ILE:CD1	2:B:704:PHE:CE1	2.75	0.69
1:E:24:U:H2'	1:E:25:U:H6	1.57	0.69
2:G:672:ASP:N	2:G:704:PHE:CE2	2.59	0.69
2:G:869:ASN:OD1	2:G:908:LEU:CB	2.39	0.69
2:B:208:ALA:O	2:B:212:LEU:HB2	1.92	0.69
2:B:696:LEU:HD13	2:B:702:LEU:HD12	1.74	0.69
2:G:755:LYS:HD2	2:G:952:GLU:OE1	1.93	0.69
2:B:1239:ALA:HB1	2:B:1306:ALA:CB	2.21	0.69
1:E:81:G:H21	2:G:35:LEU:CD1	1.95	0.69
2:G:240:ASN:OD1	2:G:241:LEU:N	2.25	0.69
2:G:560:THR:OG1	2:G:563:GLN:HB2	1.92	0.69
2:B:1204:PHE:CE1	2:B:1347:LEU:HG	2.28	0.69
1:E:49:A:N3	2:G:1122:ARG:NH1	2.37	0.69
2:G:291:LEU:HD23	2:G:291:LEU:O	1.92	0.69
2:B:940:ASN:HD22	2:B:940:ASN:N	1.90	0.69
2:B:1326:TYR:CD2	2:B:1327:PHE:HD2	2.06	0.69
2:G:278:LEU:HG	2:G:282:ILE:CD1	2.22	0.69
2:G:307:ARG:CZ	2:G:307:ARG:HB2	2.23	0.69
2:G:902:LYS:O	2:G:906:GLY:CA	2.40	0.69
2:B:195:LEU:HD22	2:B:289:LEU:HD13	1.73	0.69
2:B:107:VAL:HG23	2:B:110:ASP:HB2	1.75	0.69
2:B:275:LEU:HD12	2:B:275:LEU:O	1.92	0.69
2:B:339:VAL:CA	2:B:383:MET:HE1	2.20	0.69
2:B:343:LEU:O	2:B:343:LEU:HD23	1.93	0.69
2:B:442:LYS:HE2	2:B:476:TRP:HA	1.75	0.69
2:B:679:ILE:CG1	2:B:704:PHE:CE1	2.75	0.69
2:B:699:ASP:HB3	2:B:702:LEU:HB2	1.75	0.69
2:G:282:ILE:HG22	2:G:286:TYR:CE1	2.27	0.69
2:G:672:ASP:HB2	2:G:704:PHE:CD2	2.26	0.69
2:G:755:LYS:HG2	2:G:939:MET:HE2	1.73	0.69
2:G:886:LEU:C	2:G:892:ILE:CG1	2.60	0.69
2:B:1272:GLN:O	2:B:1272:GLN:NE2	2.26	0.69
2:G:1047:LYS:CE	2:G:1049:GLU:O	2.41	0.69
2:B:70:ARG:HH22	2:B:462:PHE:CB	2.04	0.69
1:E:15:U:H2'	1:E:16:U:C6	2.27	0.69
2:G:208:ALA:CA	2:G:212:LEU:HD23	2.22	0.69
2:B:806:LEU:CD2	2:B:811:LEU:CD1	2.69	0.68
2:B:1315:LEU:HD12	2:B:1315:LEU:O	1.92	0.68
2:G:94:ASP:OD2	2:G:100:ARG:NH2	2.25	0.68
2:G:178:ASN:C	2:G:310:THR:HG21	2.05	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:202:ASN:OD1	2:G:204:SER:N	2.26	0.68
2:G:380:LEU:CB	2:G:386:THR:CG2	2.72	0.68
2:G:809:GLU:O	2:G:813:LEU:HB2	1.92	0.68
2:G:1042:ILE:HD12	2:G:1042:ILE:O	1.93	0.68
1:A:35:A:H2'	1:A:36:A:C8	2.28	0.68
2:B:106:LEU:HD23	2:B:110:ASP:HB3	1.75	0.68
2:B:178:ASN:C	2:B:299:ALA:CB	2.61	0.68
2:B:376:ILE:HD12	2:B:376:ILE:N	2.03	0.68
2:B:696:LEU:HD13	2:B:702:LEU:HD11	1.75	0.68
2:G:691:ARG:HH12	2:G:702:LEU:HD21	1.55	0.68
2:G:864:ARG:NH1	2:G:866:LYS:O	2.25	0.68
2:G:882:TYR:CE2	2:G:886:LEU:HD11	2.28	0.68
2:B:178:ASN:O	2:B:299:ALA:HB2	1.87	0.68
2:B:444:LEU:O	2:B:444:LEU:HD23	1.92	0.68
2:G:342:GLN:HE22	2:G:383:MET:C	1.96	0.68
2:G:631:MET:HA	2:G:634:GLU:HB2	1.76	0.68
2:G:1078:ARG:HB3	2:G:1078:ARG:NH1	2.07	0.68
2:B:433:LEU:O	2:B:437:ARG:N	2.27	0.68
2:B:1243:GLU:HA	2:B:1243:GLU:OE1	1.92	0.68
2:G:49:GLY:C	2:G:984:ALA:CB	2.61	0.68
2:G:629:ARG:HH21	2:G:655:ARG:NH2	1.92	0.68
2:G:1001:TYR:CE2	2:G:1042:ILE:CD1	2.76	0.68
2:G:208:ALA:HA	2:G:212:LEU:HD23	1.76	0.68
2:B:1045:PHE:H	2:B:1045:PHE:HD1	1.41	0.68
2:B:1326:TYR:CE2	2:B:1327:PHE:CD2	2.81	0.68
1:E:24:U:H2'	1:E:25:U:C6	2.27	0.68
1:E:61:C:OP1	2:G:70:ARG:NH1	2.26	0.68
2:G:1001:TYR:CE2	2:G:1042:ILE:HD11	2.28	0.68
2:B:373:TYR:CE1	2:B:398:LEU:HB3	2.28	0.68
2:B:500:LYS:O	2:B:712:GLN:NE2	2.27	0.68
2:B:1236:LEU:HD22	2:B:1310:ILE:CG1	2.23	0.68
2:B:181:VAL:HG23	2:B:209:LYS:HG3	1.67	0.68
2:B:557:ARG:CZ	2:B:599:LYS:NZ	2.55	0.68
2:B:696:LEU:CD1	2:B:702:LEU:HD11	2.24	0.68
2:B:977:GLU:HG3	2:B:1310:ILE:HG23	1.73	0.68
2:B:1062:LEU:CG	2:B:1063:ILE:HG13	2.24	0.68
2:B:1257:LEU:H	2:B:1257:LEU:HD12	1.59	0.68
2:G:32:PHE:CE1	2:G:1355:LEU:HB3	2.29	0.68
2:B:393:LEU:HD23	2:B:393:LEU:C	2.14	0.68
2:B:1246:LYS:HB2	2:B:1246:LYS:HZ2	1.59	0.68
2:G:35:LEU:CD1	2:G:1358:THR:HG22	2.24	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:207:ASP:O	2:G:211:ILE:HG13	1.94	0.68
2:G:218:LYS:H	2:G:218:LYS:CD	2.03	0.68
2:B:817:GLN:OE1	2:B:856:VAL:HG13	1.94	0.68
2:G:601:ILE:CD1	2:G:603:ASP:O	2.42	0.68
2:B:495:MET:O	3:C:17:DA:H2''	1.94	0.67
2:B:730:SER:O	2:B:733:ILE:HG22	1.93	0.67
2:B:1063:ILE:HG23	2:B:1074:TRP:O	1.94	0.67
2:G:38:THR:HG22	2:G:39:ASP:N	2.09	0.67
2:G:332:LEU:HD12	2:G:332:LEU:O	1.94	0.67
2:G:378:PRO:O	2:G:382:LYS:HG2	1.93	0.67
2:G:103:GLU:O	2:G:106:LEU:HD13	1.95	0.67
2:G:246:LEU:N	2:G:246:LEU:HD12	2.09	0.67
2:G:469:SER:O	2:G:481:VAL:HG13	1.95	0.67
2:G:976:ARG:NH2	2:G:977:GLU:OE1	2.28	0.67
2:B:51:LEU:HD13	2:B:1352:ILE:HG13	1.75	0.67
2:B:179:SER:HB2	2:B:310:THR:OG1	1.58	0.67
2:B:530:VAL:HG22	2:B:537:PRO:CA	2.25	0.67
2:B:692:ASN:HB3	2:B:695:GLN:HG3	1.76	0.67
2:B:784:ILE:O	2:B:788:ILE:HG12	1.93	0.67
2:G:36:GLY:HA3	2:G:1359:ARG:O	1.94	0.67
2:G:442:LYS:HE3	2:G:476:TRP:HA	1.76	0.67
2:B:507:VAL:HG11	2:B:660:GLY:O	1.93	0.67
2:B:552:LEU:O	2:B:556:ASN:ND2	2.28	0.67
2:G:137:HIS:NE2	2:G:322:ILE:HD13	2.03	0.67
2:G:181:VAL:HG22	2:G:299:ALA:CB	2.24	0.67
2:B:117:PRO:HD2	2:B:125:GLU:OE2	1.93	0.67
2:B:296:LEU:HD23	2:B:296:LEU:C	2.15	0.67
2:B:483:ASP:OD1	2:B:486:ALA:CB	2.42	0.67
2:B:845:SER:O	2:B:920:GLN:NE2	2.27	0.67
2:B:901:THR:O	2:B:904:GLU:HG2	1.95	0.67
2:B:283:GLY:C	2:B:285:GLN:OE1	2.33	0.67
2:B:569:PHE:CD1	2:B:575:PHE:CD2	2.81	0.67
1:E:7:U:H2'	1:E:8:G:H8	1.60	0.67
2:G:28:PRO:O	2:G:47:LEU:HG	1.94	0.67
2:G:174:LEU:HD22	2:G:174:LEU:N	2.09	0.67
2:G:573:GLU:HB3	2:G:575:PHE:CZ	2.30	0.67
2:B:513:LEU:HD11	2:B:616:LEU:HB2	1.75	0.67
2:G:211:ILE:O	2:G:221:ARG:HG2	1.95	0.67
2:G:618:ASP:OD1	2:G:639:TYR:OH	2.13	0.67
2:G:842:VAL:CG1	2:G:854:ASN:HD21	2.06	0.67
2:G:930:HIS:O	2:G:934:ILE:HG13	1.94	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:1204:PHE:CD2	2:G:1342:VAL:HG13	2.29	0.67
2:B:777:SER:OG	4:D:2:DT:O5'	2.01	0.67
2:B:1060:ARG:NH1	2:B:1064:GLU:CD	2.48	0.67
2:B:1307:GLU:O	2:B:1310:ILE:HB	1.95	0.67
2:G:143:VAL:O	2:G:425:ARG:NE	2.26	0.67
2:G:790:GLU:OE1	2:G:888:ASN:O	2.12	0.67
2:G:1060:ARG:NH1	2:G:1064:GLU:OE2	2.28	0.67
2:G:1143:VAL:CG1	2:G:1195:ILE:HG23	2.24	0.67
4:J:5:DA:H2''	4:J:6:DG:C8	2.30	0.67
2:B:317:LEU:HD23	2:B:414:ILE:HG13	1.77	0.67
2:B:557:ARG:HG3	2:B:557:ARG:NH1	2.09	0.67
2:B:963:VAL:HG21	2:B:990:ASN:CG	2.15	0.67
2:B:1044:ASN:O	2:B:1047:LYS:HG3	1.95	0.67
1:E:78:A:H2'	1:E:79:G:C8	2.28	0.67
2:B:256:PHE:CD2	2:B:282:ILE:HD13	2.31	0.66
2:B:918:LYS:HG3	2:B:1039:TYR:CE2	2.30	0.66
2:B:1281:ILE:HG21	2:B:1315:LEU:HD11	1.77	0.66
2:G:275:LEU:HD12	2:G:275:LEU:C	2.15	0.66
2:G:1232:TYR:HB3	2:G:1269:ILE:HD11	1.77	0.66
2:G:1296:LYS:C	2:G:1297:HIS:ND1	2.48	0.66
1:A:78:A:H2'	1:A:79:G:H8	1.60	0.66
2:B:342:GLN:CG	2:B:383:MET:HE3	2.20	0.66
2:B:557:ARG:NH1	2:B:599:LYS:NZ	2.43	0.66
2:B:939:MET:HE2	2:B:953:VAL:HG21	1.77	0.66
2:G:830:ILE:HD12	2:G:830:ILE:H	1.58	0.66
2:B:275:LEU:HD12	2:B:275:LEU:C	2.15	0.66
2:B:873:GLU:HG2	2:B:874:GLU:N	2.09	0.66
2:G:222:LEU:HD12	2:G:222:LEU:C	2.15	0.66
2:G:633:GLU:HG3	2:G:652:LYS:HD2	1.77	0.66
2:B:340:ARG:NH2	2:B:347:TYR:CZ	2.63	0.66
2:B:1248:SER:O	2:B:1252:ASN:ND2	2.29	0.66
2:B:830:ILE:CD1	2:B:831:ASN:H	2.09	0.66
1:E:41:A:H2'	1:E:42:A:H5''	1.77	0.66
2:G:296:LEU:C	2:G:296:LEU:HD23	2.15	0.66
2:B:1312:LEU:HD11	2:B:1326:TYR:CE1	2.30	0.66
2:G:1244:LYS:O	2:G:1246:LYS:HD2	1.95	0.66
2:B:248:LEU:HD13	2:B:249:THR:C	2.16	0.66
2:B:275:LEU:O	2:B:279:LEU:HB2	1.96	0.66
2:B:93:VAL:HG21	2:B:151:LEU:HD23	1.76	0.66
2:G:573:GLU:C	2:G:574:CYS:SG	2.73	0.66
2:G:585:ASP:OD1	2:G:586:ARG:N	2.29	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:1314:THR:CG2	2:G:1324:PHE:CG	2.79	0.66
2:B:143:VAL:HG22	2:B:421:ALA:HB3	1.77	0.66
2:B:275:LEU:HD11	2:B:279:LEU:CG	2.26	0.66
2:B:278:LEU:HD12	2:B:278:LEU:C	2.16	0.66
2:B:350:ILE:HG22	2:B:351:PHE:CE2	2.30	0.66
2:B:810:LYS:C	2:B:833:LEU:CD1	2.64	0.66
2:B:970:PHE:CD1	2:B:1080:PHE:CE1	2.84	0.66
2:G:801:VAL:HG13	2:G:815:TYR:OH	1.95	0.66
2:G:886:LEU:C	2:G:892:ILE:HG13	2.16	0.66
2:G:898:ASP:OD2	3:H:23:DC:H2''	1.96	0.66
2:B:141:LYS:HG2	2:B:142:LEU:HD23	1.77	0.66
2:B:229:LEU:CD1	2:B:232:GLU:H	2.09	0.66
2:B:1122:ARG:HD3	2:B:1134:PHE:CE2	2.31	0.66
3:C:24:DG:C2'	3:C:25:DG:H5'	2.25	0.66
2:G:245:SER:O	2:G:301:LEU:HD21	1.96	0.66
2:G:518:PHE:HZ	2:G:693:PHE:CD1	2.14	0.66
2:G:1241:HIS:HE1	2:G:1245:LEU:CD1	2.09	0.66
2:B:302:LEU:HD23	2:B:302:LEU:C	2.16	0.65
2:B:615:ILE:O	2:B:619:ILE:N	2.28	0.65
2:B:755:LYS:HD3	2:B:939:MET:HE3	1.77	0.65
1:E:7:U:H2'	1:E:8:G:C8	2.30	0.65
2:G:489:GLN:HG3	2:G:625:LEU:HD21	1.76	0.65
2:G:705:LYS:CG	2:G:709:GLN:HE21	2.03	0.65
2:B:252:PHE:CZ	2:B:264:LEU:HD13	2.31	0.65
2:B:279:LEU:HD13	2:B:287:ALA:HB2	1.76	0.65
2:B:844:GLN:HE21	2:B:848:LYS:CG	2.08	0.65
2:B:944:ASP:OD1	2:B:946:ASN:O	2.13	0.65
2:B:1256:GLN:NE2	2:B:1260:GLU:CD	2.49	0.65
2:G:380:LEU:HB3	2:G:386:THR:CG2	2.26	0.65
2:G:492:ILE:HD12	2:G:625:LEU:O	1.96	0.65
2:G:1135:ASP:OD1	2:G:1136:SER:N	2.28	0.65
1:A:57:A:H5'	2:B:457:ARG:HH21	1.60	0.65
2:B:100:ARG:CZ	2:B:117:PRO:O	2.45	0.65
2:G:600:ILE:HG22	2:G:647:VAL:HG13	1.78	0.65
2:G:970:PHE:CD1	2:G:1080:PHE:CZ	2.84	0.65
2:G:1324:PHE:CE1	2:G:1331:ILE:HB	2.31	0.65
2:B:1062:LEU:HA	2:B:1076:LYS:CD	2.21	0.65
2:B:1257:LEU:H	2:B:1257:LEU:CD1	2.10	0.65
2:B:1257:LEU:HD12	2:B:1257:LEU:N	2.11	0.65
3:C:19:DA:H2''	3:C:20:DA:O4'	1.97	0.65
3:H:7:DC:H2'	3:H:8:DT:C6	2.31	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:317:LEU:HD12	2:G:320:SER:OG	1.96	0.65
2:G:618:ASP:OD2	2:G:639:TYR:CE2	2.50	0.65
2:G:1363:SER:C	2:G:1364:GLN:HG2	2.16	0.65
2:B:1325:LYS:HB2	2:B:1329:THR:O	1.95	0.65
2:B:1220:LEU:HD11	2:B:1339:THR:HA	1.79	0.65
2:G:558:LYS:HE3	2:G:586:ARG:NH1	2.12	0.65
2:G:1063:ILE:CG2	2:G:1072:ILE:CG2	2.74	0.65
2:B:794:GLN:H	2:B:794:GLN:CD	2.00	0.65
2:B:1060:ARG:HH12	2:B:1064:GLU:CD	1.98	0.65
2:B:1230:SER:C	2:B:1233:VAL:HG23	2.17	0.65
1:E:50:U:OP1	6:E:101:HOH:O	2.14	0.65
2:G:103:GLU:HA	2:G:106:LEU:HD11	1.77	0.65
2:G:893:THR:HG22	2:G:896:LYS:HB2	1.79	0.65
2:G:1171:ARG:O	2:G:1175:GLU:HG3	1.96	0.65
1:A:15:U:H2'	1:A:16:U:C6	2.31	0.65
2:B:320:SER:O	2:B:323:LYS:HB3	1.97	0.65
2:B:1045:PHE:CE1	2:B:1046:PHE:CD2	2.85	0.65
2:G:719:SER:O	2:G:723:HIS:N	2.29	0.65
2:G:801:VAL:CG1	2:G:815:TYR:OH	2.44	0.65
2:G:820:ARG:HG3	2:G:827:GLU:HA	1.78	0.65
2:G:1075:ASP:CG	2:G:1078:ARG:HG3	2.18	0.65
2:G:1348:ILE:HD13	2:G:1359:ARG:NH2	2.11	0.65
1:A:59:U:OP1	2:B:473:ILE:HG13	1.97	0.65
2:B:121:ASN:OD1	2:B:124:ASP:N	2.25	0.65
2:B:680:LEU:O	2:B:684:LYS:HG3	1.97	0.65
2:G:214:ALA:HB1	2:G:216:LEU:HD21	1.79	0.65
2:G:886:LEU:C	2:G:892:ILE:CD1	2.62	0.65
2:G:886:LEU:CA	2:G:892:ILE:CD1	2.75	0.65
2:G:956:ILE:HD11	2:G:998:ILE:CD1	2.26	0.65
2:G:970:PHE:HE1	2:G:1080:PHE:CZ	2.11	0.65
2:B:407:ASN:H	2:B:407:ASN:HD22	1.44	0.64
2:B:627:GLU:OE1	2:B:627:GLU:N	2.30	0.64
2:B:1230:SER:O	2:B:1233:VAL:HG23	1.96	0.64
2:G:208:ALA:O	2:G:212:LEU:HB2	1.97	0.64
2:G:600:ILE:HG21	2:G:651:LEU:HG	1.79	0.64
2:G:1348:ILE:HD11	2:G:1359:ARG:NH2	2.10	0.64
2:B:107:VAL:HG22	2:B:1131:TYR:CE1	2.31	0.64
2:B:234:LYS:HE2	2:B:234:LYS:O	1.97	0.64
2:G:240:ASN:ND2	2:G:252:PHE:CD2	2.59	0.64
2:G:393:LEU:HD23	2:G:393:LEU:C	2.17	0.64
2:G:963:VAL:CG2	2:G:990:ASN:OD1	2.45	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:1009:VAL:HG12	2:G:1010:TYR:H	1.62	0.64
2:B:1200:LYS:NZ	4:D:6:DG:OP1	2.31	0.64
2:G:206:VAL:HG21	2:G:228:GLN:HB3	1.78	0.64
2:G:258:LEU:HD11	2:G:281:GLN:OE1	1.96	0.64
2:B:873:GLU:O	2:B:877:LYS:HG2	1.98	0.64
2:B:970:PHE:HD1	2:B:1080:PHE:CE1	2.15	0.64
2:G:618:ASP:OD2	2:G:639:TYR:CZ	2.50	0.64
2:G:682:PHE:CZ	2:G:702:LEU:HD13	2.32	0.64
2:G:873:GLU:HG2	2:G:874:GLU:N	2.13	0.64
2:B:192:TYR:HE1	2:B:237:LEU:HD23	1.62	0.64
2:B:635:ARG:HG3	2:B:635:ARG:HH11	1.60	0.64
2:G:746:GLU:C	2:G:750:VAL:HG22	2.17	0.64
2:B:46:ASN:ND2	2:B:1089:MET:SD	2.71	0.64
2:B:275:LEU:HD11	2:B:279:LEU:HG	1.80	0.64
2:B:441:GLU:O	2:B:445:THR:OG1	2.16	0.64
2:B:1143:VAL:HG11	2:B:1195:ILE:HG21	1.79	0.64
2:G:313:THR:HG21	2:G:316:PRO:HA	1.78	0.64
2:B:264:LEU:HD11	2:B:278:LEU:HD23	1.79	0.64
2:B:525:THR:HG22	2:B:690:ASN:CB	2.28	0.64
2:B:244:LEU:CG	2:B:266:LEU:HD11	2.28	0.64
2:B:341:GLN:NE2	2:B:342:GLN:HG2	2.13	0.64
2:B:1108:GLU:N	3:C:9:DC:OP1	2.30	0.64
2:G:258:LEU:CD1	2:G:281:GLN:CD	2.61	0.64
2:G:321:MET:O	2:G:324:ARG:HB2	1.98	0.64
2:G:578:VAL:HG22	2:G:579:GLU:N	2.13	0.64
2:B:338:LEU:O	2:B:383:MET:HE2	1.97	0.64
2:B:398:LEU:HD22	2:B:399:LEU:CD1	2.27	0.64
2:B:672:ASP:OD2	2:B:675:SER:OG	2.13	0.64
2:G:117:PRO:HD2	2:G:125:GLU:OE2	1.97	0.64
2:G:225:LEU:HD13	2:G:242:ILE:HD12	1.79	0.64
2:G:265:GLN:O	2:G:271:TYR:HB2	1.98	0.64
2:G:841:ILE:HD13	2:G:900:LEU:HD23	1.79	0.64
2:G:1258:PHE:CD1	2:G:1262:HIS:ND1	2.56	0.64
2:B:212:LEU:CD1	2:B:246:LEU:HD21	2.27	0.64
2:B:317:LEU:HD12	2:B:317:LEU:C	2.16	0.64
2:B:614:ASP:OD1	2:B:664:ARG:NH2	2.31	0.64
2:B:972:PHE:CE1	2:B:1083:VAL:HG12	2.33	0.64
3:C:24:DG:H2''	3:C:25:DG:C5'	2.26	0.64
1:E:45:U:H5''	2:G:402:GLN:HB2	1.79	0.64
1:A:28:A:OP2	2:B:126:VAL:HG13	1.97	0.63
2:B:821:ASP:OD1	2:B:858:THR:OG1	2.13	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:118:ILE:HB	2:G:119:PHE:HD2	1.58	0.63
2:G:387:GLU:N	2:G:387:GLU:OE2	2.31	0.63
2:G:756:PRO:HD2	2:G:953:VAL:HG21	1.79	0.63
2:G:898:ASP:O	2:G:905:ARG:NH2	2.31	0.63
2:B:889:ALA:O	2:B:890:LYS:HB2	1.98	0.63
2:B:1007:GLU:N	2:B:1007:GLU:OE2	2.31	0.63
2:G:788:ILE:HG13	2:G:796:LEU:CD2	2.19	0.63
2:B:97:PHE:CE1	2:B:152:ARG:HB3	2.33	0.63
2:B:554:LYS:HD3	2:B:594:TYR:CZ	2.33	0.63
2:B:1260:GLU:HA	2:B:1263:LYS:CB	2.24	0.63
2:B:338:LEU:HD11	2:B:386:THR:HG22	1.72	0.63
2:G:628:ASP:O	2:G:632:ILE:HG13	1.99	0.63
2:G:759:ILE:HG21	2:G:935:LEU:CD2	2.29	0.63
2:G:977:GLU:HG3	2:G:1310:ILE:CG2	2.28	0.63
2:B:557:ARG:HH12	2:B:599:LYS:HZ1	1.45	0.63
2:B:559:VAL:HA	2:B:563:GLN:OE1	1.99	0.63
2:B:737:ILE:HG23	2:B:931:VAL:HG13	1.79	0.63
2:G:698:HIS:HA	2:G:705:LYS:HD3	1.81	0.63
2:G:1000:LYS:NZ	2:G:1064:GLU:HB3	2.13	0.63
2:G:1303:ARG:CG	2:G:1303:ARG:HH11	2.12	0.63
2:B:1062:LEU:HG	2:B:1063:ILE:HG13	1.80	0.63
1:E:45:U:H2'	1:E:46:A:C8	2.31	0.63
2:G:791:LEU:CD1	2:G:889:ALA:HB2	2.28	0.63
2:G:1207:GLU:HG3	2:G:1208:ASN:N	2.07	0.63
2:B:171:GLU:OE1	2:B:269:ASP:HB3	1.98	0.63
2:B:244:LEU:O	2:B:266:LEU:HD13	1.99	0.63
2:B:317:LEU:HD22	2:B:414:ILE:HD11	1.80	0.63
2:B:1325:LYS:CB	2:B:1330:THR:HA	2.29	0.63
2:G:380:LEU:CD2	2:G:386:THR:HG23	2.16	0.63
2:G:1204:PHE:CE2	2:G:1342:VAL:CG1	2.82	0.63
2:G:1298:ARG:CA	2:G:1305:GLN:HE22	2.11	0.63
2:B:179:SER:HB3	2:B:310:THR:CG2	2.00	0.63
2:B:958:LEU:HD22	2:B:962:LEU:HD12	1.78	0.63
2:B:1039:TYR:O	2:B:1042:ILE:HG22	1.99	0.63
2:B:1216:SER:HB2	4:D:6:DG:H3'	1.80	0.63
3:C:10:DT:H2'	3:C:11:DT:C6	2.34	0.63
2:G:514:LEU:O	2:G:518:PHE:N	2.32	0.63
2:G:1123:LYS:CD	6:G:1504:HOH:O	2.17	0.63
2:B:386:THR:O	2:B:389:LEU:HB2	1.98	0.63
2:B:828:LEU:HD13	2:B:836:TYR:CE2	2.34	0.63
2:G:197:GLU:CD	6:G:1502:HOH:O	2.34	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:490:SER:HA	2:G:493:GLU:HB2	1.80	0.63
2:G:719:SER:O	2:G:722:GLU:HB2	1.99	0.63
2:G:762:GLU:HG2	2:G:763:MET:N	2.12	0.63
1:A:26:A:OP1	2:B:115:ARG:NH1	2.31	0.62
2:G:29:SER:CB	2:G:44:LYS:HZ1	2.12	0.62
2:G:510:LYS:HB3	2:G:511:HIS:CD2	2.32	0.62
2:G:910:GLU:HG2	2:G:1033:THR:HG22	1.80	0.62
2:B:158:LEU:O	2:B:162:ILE:HG13	1.99	0.62
2:B:178:ASN:HB2	2:B:299:ALA:CA	2.29	0.62
2:B:334:LEU:O	2:B:338:LEU:HB2	1.98	0.62
2:G:530:VAL:CG1	2:G:537:PRO:CA	2.77	0.62
2:G:870:VAL:HG23	2:G:908:LEU:HB2	1.81	0.62
2:G:956:ILE:CD1	2:G:998:ILE:HD13	2.29	0.62
2:B:341:GLN:HE21	2:B:342:GLN:HG2	1.63	0.62
2:B:830:ILE:HD12	2:B:830:ILE:H	1.63	0.62
2:G:593:THR:HG23	2:G:656:TYR:CE2	2.34	0.62
2:B:252:PHE:CE1	2:B:264:LEU:HD13	2.34	0.62
2:B:423:LEU:N	2:B:423:LEU:HD23	2.13	0.62
2:B:1239:ALA:CB	2:B:1306:ALA:HB1	2.25	0.62
2:G:308:VAL:CG1	2:G:309:ASN:H	2.08	0.62
2:G:565:LYS:HE2	2:G:580:ILE:HG12	1.80	0.62
2:G:1244:LYS:HB3	2:G:1244:LYS:HZ3	1.64	0.62
2:B:557:ARG:CZ	2:B:599:LYS:HZ2	2.11	0.62
2:B:841:ILE:CD1	2:B:900:LEU:CD2	2.76	0.62
2:B:974:LYS:NZ	2:B:976:ARG:NH1	2.46	0.62
2:G:34:VAL:HG23	2:G:41:HIS:C	2.20	0.62
2:G:198:GLU:C	2:G:199:ASN:HD22	2.03	0.62
2:G:343:LEU:HD22	2:G:345:GLU:CD	2.18	0.62
2:G:903:ALA:O	2:G:906:GLY:N	2.31	0.62
2:B:930:HIS:O	2:B:934:ILE:HG13	1.97	0.62
2:B:1315:LEU:HB2	2:B:1324:PHE:CZ	2.34	0.62
1:E:46:A:H5'	2:G:135:ILE:CG2	2.29	0.62
2:G:216:LEU:HD23	2:G:216:LEU:H	1.64	0.62
2:G:1235:PHE:CE2	2:G:1266:LEU:HD12	2.35	0.62
2:B:429:PHE:HB2	2:B:430:TYR:CD1	2.34	0.62
2:G:864:ARG:NH1	2:G:864:ARG:HG3	2.13	0.62
2:G:1127:ASP:HB3	2:G:1130:LYS:HB2	1.81	0.62
2:B:269:ASP:N	2:B:269:ASP:OD1	2.33	0.62
2:B:972:PHE:CE1	2:B:1083:VAL:CG1	2.83	0.62
2:B:1079:ASP:HA	2:B:1082:THR:OG1	1.99	0.62
2:G:870:VAL:HG21	2:G:908:LEU:HD22	1.78	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:903:ALA:CA	2:G:906:GLY:HA3	2.26	0.62
2:G:933:GLN:HG2	2:G:1010:TYR:OH	2.00	0.62
2:G:1303:ARG:HG2	2:G:1303:ARG:NH1	2.15	0.62
2:G:557:ARG:O	2:G:590:SER:HB2	2.00	0.62
2:B:167:HIS:CE1	2:B:411:PRO:HA	2.35	0.62
2:B:1150:GLU:HG2	2:B:1157:LEU:HD21	1.81	0.62
2:G:45:LYS:NZ	2:G:1357:GLU:OE2	2.32	0.62
2:G:219:SER:O	2:G:223:GLU:HG3	1.99	0.62
2:G:497:ASN:C	2:G:498:PHE:HD2	2.02	0.62
2:G:545:LYS:O	2:G:549:VAL:HG23	2.00	0.62
2:B:244:LEU:CD2	2:B:266:LEU:HD11	2.30	0.61
2:B:281:GLN:CB	6:B:1519:HOH:O	2.44	0.61
2:B:665:LYS:O	2:B:670:ILE:N	2.33	0.61
2:G:294:LYS:HD3	2:G:295:ASN:N	2.15	0.61
2:G:499:ASP:HB2	2:G:502:LEU:O	1.98	0.61
2:G:692:ASN:HB2	2:G:695:GLN:HG3	1.82	0.61
2:G:1204:PHE:CD2	2:G:1342:VAL:CG1	2.83	0.61
1:A:17:G:O2'	2:B:168:PHE:CD1	2.53	0.61
2:B:665:LYS:C	2:B:669:GLY:CA	2.52	0.61
2:B:945:GLU:CD	2:B:946:ASN:H	2.04	0.61
2:B:1292:SER:O	2:B:1296:LYS:HD2	2.00	0.61
2:G:823:TYR:HA	2:G:879:MET:HE2	1.82	0.61
2:B:184:LEU:CD1	2:B:296:LEU:HA	2.26	0.61
2:B:244:LEU:CD1	2:B:250:PRO:HD2	2.29	0.61
2:G:181:VAL:HG13	2:G:300:ILE:HD13	1.79	0.61
2:G:270:THR:O	2:G:274:ASP:HB2	2.00	0.61
2:G:564:LEU:HD12	2:G:564:LEU:O	1.99	0.61
2:G:1219:GLU:HG3	2:G:1336:TYR:O	2.01	0.61
2:B:356:LYS:O	2:B:357:ASN:HB2	1.98	0.61
2:B:665:LYS:HA	2:B:669:GLY:HA2	1.76	0.61
2:B:1302:ILE:CG2	2:B:1306:ALA:HB2	2.30	0.61
2:G:282:ILE:H	2:G:282:ILE:HD12	1.64	0.61
2:G:291:LEU:HD23	2:G:291:LEU:C	2.21	0.61
2:G:545:LYS:NZ	2:G:690:ASN:HD21	1.80	0.61
2:G:666:LEU:HD23	2:G:666:LEU:C	2.20	0.61
2:G:823:TYR:CA	2:G:879:MET:HE3	2.21	0.61
2:G:1075:ASP:OD2	2:G:1078:ARG:HD2	2.00	0.61
2:B:70:ARG:NH1	2:B:454:PRO:CG	2.63	0.61
2:B:1145:VAL:HG11	2:B:1182:LEU:HD13	1.82	0.61
2:G:358:GLY:O	2:G:362:TYR:N	2.31	0.61
2:G:621:LEU:CD2	2:G:625:LEU:HD22	2.29	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:790:GLU:HG3	2:G:791:LEU:N	2.13	0.61
1:A:8:G:H2'	1:A:9:U:C6	2.36	0.61
2:B:721:HIS:ND1	2:B:738:LEU:HD11	2.15	0.61
2:B:1282:LEU:O	2:B:1282:LEU:HD22	2.00	0.61
2:G:115:ARG:CZ	2:G:116:HIS:HE1	2.13	0.61
2:G:596:ASP:OD1	2:G:596:ASP:N	2.29	0.61
2:G:795:ILE:HG23	2:G:796:LEU:HD22	1.82	0.61
2:G:901:THR:O	2:G:904:GLU:HB3	2.01	0.61
2:G:142:LEU:HB3	2:G:422:ILE:HG12	1.83	0.61
2:G:718:ASP:HB3	2:G:722:GLU:CD	2.18	0.61
2:B:178:ASN:C	2:B:299:ALA:HB2	2.20	0.61
2:B:291:LEU:HD23	2:B:291:LEU:C	2.21	0.61
2:B:655:ARG:HH11	2:B:655:ARG:CG	2.13	0.61
2:G:850:ASP:OD1	2:G:850:ASP:N	2.26	0.61
2:G:1213:MET:CE	2:G:1221:GLN:HE21	2.14	0.61
2:B:195:LEU:HD22	2:B:286:TYR:HD2	1.63	0.61
2:B:791:LEU:HD13	2:B:889:ALA:HB2	1.83	0.61
2:B:1245:LEU:HD12	2:B:1245:LEU:O	2.01	0.61
2:G:505:GLU:OE1	2:G:505:GLU:HA	2.00	0.61
2:G:1303:ARG:HH12	2:G:1304:GLU:HG2	1.65	0.61
2:B:842:VAL:HG13	2:B:854:ASN:HD21	1.64	0.61
2:B:1042:ILE:O	2:B:1042:ILE:HD12	2.01	0.61
2:B:1292:SER:O	2:B:1296:LYS:HE3	2.00	0.61
2:G:697:ILE:O	2:G:705:LYS:CB	2.25	0.61
2:G:981:TYR:CE2	2:G:1092:VAL:HG23	2.36	0.61
2:G:1348:ILE:HD13	2:G:1359:ARG:CZ	2.31	0.61
2:B:275:LEU:HD12	2:B:279:LEU:CB	2.26	0.60
2:B:841:ILE:O	2:B:864:ARG:NH2	2.34	0.60
2:B:923:GLU:OE2	2:B:925:ARG:NE	2.32	0.60
2:B:1079:ASP:O	2:B:1082:THR:OG1	2.16	0.60
2:B:1304:GLU:HB3	2:B:1327:PHE:CE1	2.34	0.60
2:G:369:GLN:OE1	2:G:400:ARG:NE	2.33	0.60
2:G:696:LEU:HD12	2:G:702:LEU:HD12	1.83	0.60
2:G:905:ARG:NH1	3:H:24:DG:OP1	2.32	0.60
2:B:115:ARG:HG3	2:B:116:HIS:ND1	2.16	0.60
2:B:252:PHE:HZ	2:B:264:LEU:HD22	1.66	0.60
2:B:557:ARG:O	2:B:590:SER:HB2	2.01	0.60
2:B:569:PHE:CD1	2:B:575:PHE:HD2	2.13	0.60
2:B:1045:PHE:CE1	2:B:1046:PHE:HE2	2.12	0.60
2:B:1164:LEU:HD22	2:B:1187:TYR:HE2	1.65	0.60
2:G:279:LEU:CD1	2:G:287:ALA:HB1	2.22	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:675:SER:OG	2:G:677:LYS:HG3	2.00	0.60
2:B:297:SER:CB	2:B:301:LEU:HD12	2.30	0.60
2:B:307:ARG:NH1	2:B:323:LYS:NZ	2.50	0.60
2:B:454:PRO:HB2	2:B:463:ALA:HB2	1.84	0.60
2:B:663:SER:OG	2:B:664:ARG:N	2.35	0.60
2:B:727:LEU:O	2:B:734:LYS:HE2	2.01	0.60
2:B:1312:LEU:HD11	2:B:1326:TYR:HD1	1.65	0.60
2:G:201:ILE:HD13	2:G:238:PHE:CD1	2.35	0.60
2:G:379:ILE:O	2:G:383:MET:SD	2.59	0.60
2:G:886:LEU:CA	2:G:892:ILE:HG13	2.30	0.60
2:B:1062:LEU:CA	2:B:1076:LYS:HD2	2.22	0.60
2:B:1266:LEU:O	2:B:1270:ILE:HG13	2.02	0.60
2:G:279:LEU:CA	2:G:282:ILE:CD1	2.79	0.60
2:G:477:ASN:O	2:G:481:VAL:HG23	2.01	0.60
1:A:70:C:H2'	1:A:71:U:C6	2.36	0.60
2:B:720:LEU:O	2:B:724:ILE:HG13	2.01	0.60
2:G:823:TYR:HA	2:G:879:MET:CE	2.30	0.60
2:B:830:ILE:HD13	2:B:831:ASN:OD1	2.01	0.60
2:G:343:LEU:HD22	2:G:345:GLU:OE1	2.02	0.60
2:G:1203:LEU:O	2:G:1347:LEU:HD23	2.02	0.60
2:B:229:LEU:HD22	2:B:232:GLU:HB2	1.82	0.60
2:B:491:PHE:CZ	3:C:16:DT:H1'	2.37	0.60
1:E:52:A:H5''	2:G:1123:LYS:HE2	1.83	0.60
2:G:889:ALA:CB	2:G:891:LEU:HG	2.32	0.60
2:G:1204:PHE:CZ	2:G:1342:VAL:CG1	2.85	0.60
2:B:1075:ASP:OD1	2:B:1078:ARG:N	2.27	0.60
2:B:1166:ILE:HG13	2:B:1174:PHE:CE2	2.37	0.60
2:G:115:ARG:HG2	2:G:116:HIS:ND1	2.16	0.60
2:G:1219:GLU:HG2	2:G:1220:LEU:N	2.15	0.60
2:B:935:LEU:O	2:B:939:MET:HG2	2.00	0.60
2:G:886:LEU:HB2	2:G:892:ILE:CG1	2.16	0.60
2:G:1277:SER:HB2	2:G:1287:LEU:CD2	2.32	0.60
2:G:1303:ARG:HH11	2:G:1303:ARG:HG2	1.67	0.60
3:H:19:DA:H2''	3:H:20:DA:O4'	2.01	0.60
2:B:369:GLN:HE22	2:B:404:THR:HG21	0.78	0.60
2:B:460:SER:OG	2:B:463:ALA:N	2.32	0.60
2:B:524:LEU:CD2	2:B:540:LEU:HD23	2.32	0.60
2:G:169:LEU:HD21	3:H:13:DA:H2''	1.82	0.60
2:G:739:GLN:OE1	2:G:1352:ILE:HD11	2.01	0.60
2:G:1096:LYS:HE2	2:G:1201:TYR:CE2	2.36	0.60
1:A:24:U:C1'	2:B:105:PHE:CE1	2.85	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:275:LEU:CD1	2:B:279:LEU:HG	2.32	0.59
2:B:870:VAL:CG2	2:B:908:LEU:CG	2.74	0.59
2:B:979:ASN:CG	2:B:981:TYR:HD1	1.99	0.59
2:B:1147:ALA:O	2:B:1160:VAL:HG22	2.01	0.59
2:B:1270:ILE:HD13	2:B:1294:TYR:CG	2.35	0.59
2:B:181:VAL:HG21	2:B:209:LYS:CB	2.26	0.59
2:B:936:ASP:OD2	2:B:951:ARG:NE	2.36	0.59
2:G:131:LYS:HB3	2:G:132:TYR:CE2	2.37	0.59
2:G:718:ASP:HB3	2:G:722:GLU:HB3	1.83	0.59
2:G:1228:LEU:HD12	2:G:1229:PRO:HD2	1.85	0.59
2:G:1251:ASP:HA	2:G:1254:GLN:NE2	2.16	0.59
2:G:1265:TYR:O	2:G:1269:ILE:HG13	2.02	0.59
2:B:106:LEU:O	2:B:111:LYS:CE	2.49	0.59
2:B:170:ILE:O	2:B:413:GLN:NE2	2.35	0.59
2:B:178:ASN:CB	2:B:299:ALA:N	2.64	0.59
2:B:1150:GLU:HG2	2:B:1157:LEU:CD2	2.32	0.59
2:G:411:PRO:O	2:G:414:ILE:HG12	2.02	0.59
2:G:449:PRO:HD2	2:G:452:VAL:HG21	1.83	0.59
2:G:598:LEU:HD23	2:G:598:LEU:C	2.23	0.59
2:G:1143:VAL:HG21	2:G:1174:PHE:CE2	2.37	0.59
2:B:1241:HIS:CD2	2:B:1303:ARG:NH1	2.71	0.59
1:E:43:G:O2'	2:G:363:ILE:HD12	2.02	0.59
2:G:118:ILE:CG2	2:G:119:PHE:CE2	2.86	0.59
2:G:570:LYS:O	2:G:574:CYS:HA	2.01	0.59
2:G:829:ASP:OD1	2:G:832:ARG:N	2.24	0.59
2:G:1241:HIS:CE1	2:G:1245:LEU:CD1	2.85	0.59
2:G:1258:PHE:HE1	2:G:1262:HIS:CE1	2.19	0.59
2:B:508:LEU:HD11	2:B:664:ARG:HB2	1.84	0.59
2:B:672:ASP:CA	2:B:703:THR:CG2	2.74	0.59
2:G:29:SER:HB2	2:G:44:LYS:HE3	1.80	0.59
2:G:178:ASN:C	2:G:310:THR:CG2	2.69	0.59
2:B:812:TYR:HE1	2:B:816:LEU:HD21	1.64	0.59
2:B:830:ILE:HD12	2:B:831:ASN:H	1.67	0.59
2:G:801:VAL:HG11	2:G:815:TYR:CE2	2.38	0.59
2:G:965:ASP:CG	2:G:968:LYS:HZ1	1.98	0.59
1:A:83:C:H2'	1:A:84:A:H8	1.68	0.59
2:B:696:LEU:CD1	2:B:702:LEU:HD13	2.20	0.59
2:G:343:LEU:HD13	2:G:346:LYS:HG3	1.85	0.59
2:G:840:ALA:HA	2:G:854:ASN:O	2.03	0.59
2:G:874:GLU:O	2:G:877:LYS:HG3	2.03	0.59
2:G:1000:LYS:HZ3	2:G:1064:GLU:HB3	1.67	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:1277:SER:CB	2:G:1287:LEU:CD2	2.81	0.59
1:A:14:A:H5''	2:B:66:ARG:HH12	1.68	0.59
2:B:516:GLU:HA	2:B:519:THR:HG22	1.85	0.59
2:G:22:THR:OG1	2:G:26:LYS:O	2.15	0.59
2:G:124:ASP:O	2:G:127:ALA:HB3	2.03	0.59
2:G:324:ARG:NH1	2:G:400:ARG:NH1	2.50	0.59
2:G:806:LEU:CD2	2:G:812:TYR:HA	2.32	0.59
2:G:864:ARG:HH11	2:G:864:ARG:CG	2.15	0.59
2:G:892:ILE:HG22	2:G:893:THR:N	2.17	0.59
1:A:89:G:C6	2:B:1272:GLN:OE1	2.55	0.59
2:B:309:ASN:N	2:B:309:ASN:OD1	2.36	0.59
2:B:524:LEU:HD23	2:B:540:LEU:HD23	1.85	0.59
2:B:810:LYS:O	2:B:833:LEU:HD11	1.97	0.59
2:B:1095:VAL:HG22	2:B:1350:GLN:OE1	2.03	0.59
2:G:872:SER:O	2:G:876:VAL:HG23	2.03	0.59
2:B:270:THR:OG1	2:B:274:ASP:OD1	2.21	0.59
2:B:1177:ASN:ND2	2:B:1180:ASP:OD2	2.33	0.59
2:G:48:ILE:HD11	2:G:984:ALA:O	2.03	0.59
2:G:345:GLU:CD	2:G:345:GLU:H	2.04	0.59
2:G:565:LYS:HG2	2:G:578:VAL:HG13	1.84	0.59
3:H:3:DA:H2''	3:H:4:DT:O5'	2.03	0.59
1:A:85:C:H2'	1:A:86:C:C6	2.38	0.58
2:B:93:VAL:HG21	2:B:151:LEU:CD2	2.33	0.58
2:B:256:PHE:HD2	2:B:282:ILE:HD13	1.66	0.58
2:B:672:ASP:HA	2:B:703:THR:HG23	1.82	0.58
2:G:208:ALA:HA	2:G:212:LEU:CD2	2.32	0.58
2:G:234:LYS:HE2	2:G:235:ASN:HA	1.85	0.58
2:G:238:PHE:CE2	2:G:242:ILE:CG1	2.86	0.58
2:B:118:ILE:CG2	2:B:119:PHE:CE2	2.86	0.58
2:B:220:ARG:HH11	2:B:220:ARG:CG	2.14	0.58
2:B:341:GLN:HE21	2:B:342:GLN:CG	2.16	0.58
2:B:601:ILE:CD1	2:B:603:ASP:HB3	2.33	0.58
2:B:665:LYS:CB	2:B:669:GLY:HA3	2.30	0.58
2:B:1064:GLU:HB2	2:B:1074:TRP:HB3	1.85	0.58
2:G:128:TYR:CD2	2:G:129:HIS:HD2	2.20	0.58
2:G:788:ILE:O	2:G:792:GLY:N	2.35	0.58
2:G:987:ALA:O	2:G:991:ALA:N	2.31	0.58
1:A:5:C:H42	3:C:24:DG:H1	1.49	0.58
2:B:297:SER:O	2:B:301:LEU:HB2	2.03	0.58
2:B:1254:GLN:HB2	2:B:1255:LYS:HE3	1.84	0.58
2:B:1256:GLN:HE22	2:B:1260:GLU:CD	2.05	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:181:VAL:CG1	2:G:300:ILE:HD13	2.25	0.58
2:G:387:GLU:HA	2:G:390:LEU:HD12	1.84	0.58
2:G:1206:LEU:O	2:G:1207:GLU:HG2	2.04	0.58
2:B:328:HIS:CD2	2:B:399:LEU:HG	2.39	0.58
2:B:526:LYS:NZ	2:B:695:GLN:OE1	2.28	0.58
2:B:675:SER:O	2:B:677:LYS:HG3	2.03	0.58
2:B:902:LYS:O	2:B:905:ARG:N	2.27	0.58
2:G:282:ILE:CG2	2:G:286:TYR:CD1	2.86	0.58
2:G:679:ILE:HD11	2:G:704:PHE:CD1	2.38	0.58
2:B:10:ALA:N	2:B:17:GLY:O	2.28	0.58
2:B:114:GLU:OE1	2:B:115:ARG:N	2.35	0.58
2:B:336:LYS:HD3	2:B:347:TYR:OH	2.03	0.58
2:B:846:PHE:HB3	2:B:916:PHE:CD2	2.39	0.58
2:B:1135:ASP:OD2	4:D:8:DT:C5'	2.52	0.58
2:G:832:ARG:NH1	2:G:835:ASP:OD2	2.37	0.58
2:B:379:ILE:CD1	2:B:379:ILE:H	2.15	0.58
2:G:478:PHE:CE1	2:G:482:VAL:HG21	2.39	0.58
2:G:1343:LEU:O	2:G:1362:LEU:HB3	2.03	0.58
2:B:78:ARG:CD	2:B:165:ARG:NH1	2.67	0.58
2:B:499:ASP:O	2:B:502:LEU:O	2.22	0.58
2:B:905:ARG:NH1	2:B:905:ARG:HG2	2.12	0.58
2:B:977:GLU:HG3	2:B:1310:ILE:HG21	1.86	0.58
2:B:1203:LEU:HD12	2:B:1213:MET:CG	2.33	0.58
1:E:27:G:H1'	2:G:129:HIS:ND1	2.18	0.58
2:G:58:THR:HG22	2:G:731:PRO:HG3	1.86	0.58
2:G:136:TYR:CE1	2:G:321:MET:HG3	2.37	0.58
2:G:174:LEU:CD2	2:G:413:GLN:HB3	2.34	0.58
2:G:1281:ILE:O	2:G:1282:LEU:HB2	2.03	0.58
3:H:9:DC:H2''	3:H:10:DT:H5'	1.86	0.58
2:B:48:ILE:HG12	2:B:49:GLY:N	2.17	0.58
2:B:286:TYR:O	2:B:289:LEU:N	2.37	0.58
2:B:457:ARG:HB2	2:B:467:ARG:HH12	1.68	0.58
2:B:503:PRO:HD3	2:B:711:ALA:HB1	1.86	0.58
2:B:1241:HIS:CD2	2:B:1303:ARG:HH11	2.22	0.58
2:G:373:TYR:CE1	2:G:398:LEU:HB3	2.38	0.58
2:B:674:GLN:OE1	2:B:674:GLN:HA	2.03	0.58
2:B:1216:SER:HB2	4:D:6:DG:C3'	2.34	0.58
2:B:1344:ASP:HA	2:B:1362:LEU:O	2.04	0.58
2:G:759:ILE:CD1	2:G:935:LEU:HD23	2.34	0.58
2:G:864:ARG:HG3	2:G:864:ARG:HH11	1.69	0.58
2:G:1351:SER:HB2	2:G:1356:TYR:O	2.04	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:5:C:N4	3:C:24:DG:H1	2.01	0.57
1:A:88:A:C2	2:B:1090:PRO:HD2	2.38	0.57
2:B:525:THR:HG22	2:B:690:ASN:HB3	1.85	0.57
2:G:921:LEU:HB3	2:G:962:LEU:HD21	1.86	0.57
2:B:673:LYS:H	2:B:703:THR:HG21	1.69	0.57
2:B:1255:LYS:HE2	2:B:1255:LYS:CA	2.33	0.57
2:G:926:GLN:O	2:G:929:LYS:N	2.28	0.57
1:A:22:U:O2	2:B:1110:ILE:HD12	2.04	0.57
1:A:85:C:H2'	1:A:86:C:H6	1.68	0.57
2:B:350:ILE:CG2	2:B:351:PHE:CE2	2.88	0.57
2:B:694:MET:O	2:B:697:ILE:HG22	2.04	0.57
2:B:790:GLU:OE2	2:B:888:ASN:O	2.23	0.57
2:G:148:LYS:CA	2:G:429:PHE:CE1	2.86	0.57
2:G:359:TYR:CE2	2:G:363:ILE:CD1	2.86	0.57
2:G:846:PHE:HB3	2:G:916:PHE:CD2	2.39	0.57
2:G:880:LYS:O	2:G:884:ARG:N	2.33	0.57
2:B:38:THR:HG22	2:B:39:ASP:N	2.19	0.57
2:B:596:ASP:CG	2:B:656:TYR:HH	1.96	0.57
2:B:1148:LYS:HE2	2:B:1159:SER:OG	2.04	0.57
2:B:1203:LEU:CD1	2:B:1213:MET:CG	2.80	0.57
2:G:464:TRP:HB3	2:G:494:ARG:NH1	2.19	0.57
2:G:569:PHE:O	2:G:574:CYS:N	2.36	0.57
2:B:244:LEU:HD23	2:B:266:LEU:HD11	1.86	0.57
2:G:49:GLY:C	2:G:984:ALA:HB2	2.25	0.57
2:G:332:LEU:O	2:G:336:LYS:N	2.35	0.57
2:G:412:HIS:CD2	2:G:413:GLN:NE2	2.73	0.57
2:G:545:LYS:HZ3	2:G:690:ASN:HD22	1.52	0.57
2:G:1163:LEU:HD12	2:G:1339:THR:OG1	2.04	0.57
2:B:1202:SER:O	2:B:1213:MET:HA	2.05	0.57
2:G:115:ARG:HH22	2:G:122:ILE:CD1	2.13	0.57
2:G:118:ILE:HG12	2:G:125:GLU:OE1	2.05	0.57
2:G:693:PHE:O	2:G:697:ILE:HG12	2.05	0.57
2:G:1232:TYR:HB3	2:G:1269:ILE:CD1	2.34	0.57
2:G:1336:TYR:N	2:G:1336:TYR:CD1	2.73	0.57
2:G:225:LEU:CD1	2:G:242:ILE:HD12	2.34	0.57
2:G:279:LEU:HD13	2:G:287:ALA:HB2	1.67	0.57
2:G:902:LYS:HA	2:G:905:ARG:NH2	2.20	0.57
2:G:1241:HIS:HE1	2:G:1245:LEU:HD12	1.69	0.57
1:E:81:G:N2	2:G:35:LEU:HD12	2.14	0.57
2:G:35:LEU:HD13	2:G:1358:THR:HG22	1.85	0.57
2:G:491:PHE:O	2:G:494:ARG:HG3	2.05	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:524:LEU:HD22	2:G:540:LEU:CD2	2.35	0.57
2:G:846:PHE:CE1	2:G:913:LYS:HD3	2.35	0.57
2:B:244:LEU:HD13	2:B:250:PRO:HG2	1.87	0.57
2:B:843:PRO:HD2	2:B:846:PHE:HD2	1.69	0.57
2:B:973:TYR:HD2	2:B:1234:ASN:OD1	1.88	0.57
2:B:1284:ASP:O	2:B:1285:ALA:C	2.43	0.57
2:G:547:ALA:O	2:G:551:LEU:HB2	2.04	0.57
2:G:668:ASN:O	2:G:678:THR:HG21	2.05	0.57
2:G:1202:SER:O	2:G:1213:MET:HA	2.05	0.57
2:G:1204:PHE:CE1	2:G:1342:VAL:CG1	2.88	0.57
2:B:229:LEU:HD13	2:B:232:GLU:N	2.18	0.57
2:B:339:VAL:O	2:B:342:GLN:O	2.22	0.57
2:B:359:TYR:CE1	2:B:399:LEU:CD2	2.85	0.57
2:B:1304:GLU:CB	2:B:1327:PHE:HE1	2.17	0.57
2:B:1325:LYS:HB2	2:B:1330:THR:HA	1.87	0.57
2:G:35:LEU:HD12	2:G:1358:THR:HG22	1.87	0.57
2:G:435:ASP:N	2:G:435:ASP:OD1	2.35	0.57
2:G:601:ILE:HD12	2:G:603:ASP:O	2.05	0.57
2:B:341:GLN:HE21	2:B:342:GLN:CB	2.18	0.56
2:B:1212:ARG:CZ	2:B:1336:TYR:HE2	2.18	0.56
2:B:1237:TYR:O	2:B:1242:TYR:HE1	1.88	0.56
2:G:78:ARG:NH1	2:G:165:ARG:HD3	2.19	0.56
2:G:131:LYS:HB3	2:G:132:TYR:CD2	2.40	0.56
2:G:135:ILE:O	2:G:138:LEU:N	2.37	0.56
2:G:718:ASP:HB3	2:G:722:GLU:CB	2.35	0.56
2:G:887:LEU:N	2:G:892:ILE:CG1	2.67	0.56
2:G:893:THR:HG22	2:G:896:LYS:CB	2.34	0.56
2:G:278:LEU:HD11	2:G:282:ILE:HG12	1.87	0.56
2:G:692:ASN:H	2:G:695:GLN:HG3	1.70	0.56
2:G:850:ASP:O	2:G:855:LYS:NZ	2.33	0.56
1:A:6:G:H2'	1:A:7:U:O4'	2.05	0.56
2:B:79:ILE:HD12	2:B:159:ALA:HB1	1.87	0.56
2:B:307:ARG:NH1	2:B:323:LYS:HZ3	2.04	0.56
2:B:342:GLN:OE1	2:B:384:ASP:O	2.22	0.56
2:B:655:ARG:HG3	2:B:655:ARG:NH1	2.21	0.56
2:B:905:ARG:HH11	2:B:905:ARG:CG	2.14	0.56
2:G:121:ASN:CG	2:G:124:ASP:HB2	2.24	0.56
2:G:585:ASP:CG	2:G:586:ARG:H	2.09	0.56
2:G:752:GLY:O	2:G:753:ARG:HB2	2.05	0.56
1:A:8:G:H2'	1:A:9:U:H6	1.70	0.56
2:B:128:TYR:HD1	2:B:132:TYR:HD2	1.53	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:601:ILE:HD11	2:B:603:ASP:HB3	1.87	0.56
1:E:53:G:C4	1:E:62:G:N2	2.73	0.56
2:G:730:SER:HB2	2:G:733:ILE:HB	1.87	0.56
2:G:1336:TYR:N	2:G:1336:TYR:HD1	2.03	0.56
2:B:350:ILE:O	2:B:359:TYR:N	2.39	0.56
2:B:758:ASN:HD22	2:B:995:THR:HG22	1.71	0.56
2:B:824:VAL:O	2:B:824:VAL:HG12	2.05	0.56
2:B:972:PHE:CZ	2:B:1083:VAL:HG11	2.41	0.56
2:B:1272:GLN:HE21	2:B:1272:GLN:CA	2.18	0.56
2:G:5:TYR:O	2:G:757:GLU:HB2	2.05	0.56
2:G:549:VAL:HA	2:G:553:PHE:HB2	1.88	0.56
2:G:623:LEU:HG	2:G:655:ARG:HA	1.86	0.56
2:G:870:VAL:HG22	2:G:908:LEU:HD22	1.51	0.56
2:G:1235:PHE:HE2	2:G:1266:LEU:HD12	1.69	0.56
1:A:27:G:H5'	1:A:28:A:H5''	1.87	0.56
1:A:89:G:N2	2:B:1227:ALA:O	2.39	0.56
2:B:143:VAL:CG1	2:B:315:ALA:HB2	2.31	0.56
2:B:376:ILE:HA	2:B:379:ILE:HD13	1.87	0.56
2:B:822:MET:HG3	2:B:883:TRP:HE1	1.69	0.56
1:E:89:G:H1	2:G:1272:GLN:CD	2.08	0.56
2:G:530:VAL:HG13	2:G:537:PRO:HB3	0.57	0.56
2:G:977:GLU:CG	2:G:1310:ILE:HG23	2.34	0.56
2:B:277:ASN:HB3	2:B:653:ARG:CZ	2.34	0.56
2:B:829:ASP:OD1	2:B:832:ARG:N	2.32	0.56
2:G:163:LYS:HB3	2:G:164:PHE:CD2	2.41	0.56
2:G:163:LYS:HD3	2:G:164:PHE:HE2	1.70	0.56
2:G:333:THR:O	2:G:336:LYS:HB3	2.05	0.56
2:G:492:ILE:O	2:G:496:THR:HG23	2.05	0.56
2:G:1204:PHE:CG	2:G:1342:VAL:CG1	2.88	0.56
2:G:1305:GLN:O	2:G:1309:ILE:HG13	2.06	0.56
2:B:9:LEU:HA	2:B:17:GLY:O	2.06	0.56
2:B:167:HIS:HD1	2:B:411:PRO:HA	1.69	0.56
2:B:273:ASP:HA	2:B:276:ASP:HB3	1.86	0.56
2:G:1314:THR:HG21	2:G:1324:PHE:CG	2.36	0.56
2:B:207:ASP:HB3	2:B:210:ALA:HB2	1.79	0.56
2:G:618:ASP:CB	2:G:639:TYR:OH	2.52	0.56
1:A:17:G:O2'	2:B:168:PHE:HD1	1.89	0.56
2:B:864:ARG:HA	2:B:875:VAL:HG21	1.88	0.56
2:B:1045:PHE:CD1	2:B:1045:PHE:N	2.73	0.56
1:E:51:A:C6	2:G:1105:PHE:CZ	2.94	0.56
1:E:86:C:N3	1:E:92:G:N1	2.48	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:1001:TYR:HE2	2:G:1042:ILE:HD11	1.70	0.56
2:B:248:LEU:HD13	2:B:250:PRO:CD	2.36	0.55
2:B:594:TYR:OH	2:B:608:ASP:OD1	2.20	0.55
2:B:843:PRO:HD2	2:B:846:PHE:CD2	2.42	0.55
2:B:1204:PHE:CZ	2:B:1214:LEU:HD12	2.40	0.55
1:E:43:G:N2	2:G:360:ALA:HA	2.21	0.55
2:G:309:ASN:HB3	2:G:311:GLU:OE1	2.05	0.55
2:B:220:ARG:HG3	2:B:220:ARG:NH1	2.14	0.55
2:B:940:ASN:OD1	2:B:952:GLU:N	2.40	0.55
1:E:4:C:OP1	2:G:661:ARG:HG3	2.06	0.55
2:G:25:TYR:HE2	2:G:1074:TRP:HE3	1.47	0.55
2:G:181:VAL:CG2	2:G:299:ALA:HB1	2.36	0.55
2:B:430:TYR:CD1	2:B:430:TYR:N	2.73	0.55
2:B:606:PHE:HE2	2:B:612:ASN:CG	2.10	0.55
2:B:694:MET:SD	2:B:698:HIS:CD2	3.00	0.55
2:G:18:TRP:CZ3	2:G:747:LEU:HD21	2.41	0.55
2:G:361:GLY:O	2:G:365:GLY:N	2.40	0.55
2:B:18:TRP:CZ3	2:B:747:LEU:HD21	2.41	0.55
2:B:51:LEU:CD1	2:B:1352:ILE:HG13	2.35	0.55
2:B:195:LEU:HD22	2:B:289:LEU:HD12	1.87	0.55
2:B:275:LEU:HD11	2:B:279:LEU:HD12	1.88	0.55
2:B:508:LEU:CD1	2:B:663:SER:C	2.75	0.55
2:G:121:ASN:OD1	2:G:124:ASP:HB2	2.05	0.55
2:B:186:ILE:HD11	2:B:203:ALA:HB1	1.88	0.55
2:B:566:GLU:O	2:B:571:LYS:HD2	2.06	0.55
2:B:849:ASP:CB	2:B:854:ASN:HD22	2.13	0.55
2:G:220:ARG:HH11	2:G:220:ARG:HG3	1.71	0.55
2:G:557:ARG:HH12	2:G:599:LYS:HZ1	1.41	0.55
2:G:842:VAL:HG12	2:G:854:ASN:HD21	1.71	0.55
2:G:887:LEU:N	2:G:892:ILE:HB	2.22	0.55
2:G:918:LYS:HG3	2:G:1039:TYR:CE2	2.42	0.55
2:B:635:ARG:HH11	2:B:635:ARG:CG	2.20	0.55
2:G:179:SER:HA	2:G:310:THR:HG23	1.87	0.55
2:G:225:LEU:HD13	2:G:242:ILE:HG21	1.88	0.55
2:G:242:ILE:O	2:G:246:LEU:HD13	2.07	0.55
2:G:559:VAL:O	2:G:587:PHE:CD1	2.58	0.55
2:G:1204:PHE:CD1	2:G:1342:VAL:CG1	2.89	0.55
2:B:27:VAL:HG11	2:B:1089:MET:HE1	1.89	0.55
2:B:457:ARG:HG2	2:B:457:ARG:O	2.07	0.55
2:B:679:ILE:O	2:B:683:LEU:N	2.34	0.55
2:B:823:TYR:CD1	2:B:875:VAL:HG11	2.42	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:837:ASP:OD2	2:B:859:ARG:O	2.23	0.55
2:B:1230:SER:O	2:B:1233:VAL:N	2.40	0.55
1:E:86:C:H2'	1:E:87:G:O4'	2.07	0.55
2:G:174:LEU:HD21	2:G:413:GLN:HB3	1.88	0.55
2:G:810:LYS:HD3	2:G:857:LEU:HD12	1.87	0.55
2:G:970:PHE:N	2:G:970:PHE:CD2	2.75	0.55
2:G:1145:VAL:CG2	2:G:1187:TYR:CE1	2.73	0.55
2:B:212:LEU:O	2:B:221:ARG:NH1	2.39	0.55
1:E:4:C:O2'	1:E:5:C:H5'	2.07	0.55
1:E:91:C:C5	2:G:44:LYS:CG	2.85	0.55
2:G:5:TYR:OH	2:G:756:PRO:HG3	2.07	0.55
2:G:167:HIS:CE1	2:G:411:PRO:HA	2.42	0.55
2:G:264:LEU:HD21	2:G:278:LEU:HD23	1.89	0.55
2:G:359:TYR:O	2:G:363:ILE:HG12	2.07	0.55
2:G:499:ASP:O	2:G:502:LEU:O	2.25	0.55
2:G:672:ASP:OD1	2:G:702:LEU:CA	2.54	0.55
2:G:970:PHE:CD1	2:G:1080:PHE:CE1	2.95	0.55
2:B:167:HIS:HE1	2:B:411:PRO:HG3	1.71	0.55
2:B:489:GLN:HG3	2:B:625:LEU:CD2	2.36	0.55
2:B:1048:THR:HA	2:B:1076:LYS:HZ2	1.72	0.55
2:B:1277:SER:HB2	2:B:1287:LEU:HD22	1.88	0.55
2:G:256:PHE:CD2	2:G:282:ILE:HG23	2.41	0.55
2:G:700:ASP:N	2:G:700:ASP:OD1	2.38	0.55
2:G:1179:ILE:HG22	2:G:1183:GLU:HG3	1.88	0.55
2:B:679:ILE:HG12	2:B:704:PHE:HE1	1.71	0.54
2:B:988:TYR:CZ	2:B:1086:VAL:HG21	2.41	0.54
2:B:1284:ASP:OD1	2:B:1284:ASP:N	2.35	0.54
2:G:970:PHE:HD1	2:G:1080:PHE:CE1	2.25	0.54
2:B:161:MET:SD	2:B:419:LEU:HD12	2.46	0.54
2:B:244:LEU:CD1	2:B:250:PRO:CG	2.85	0.54
2:B:249:THR:HG22	2:B:265:GLN:HE21	1.70	0.54
2:B:393:LEU:HB2	2:B:398:LEU:HD12	1.88	0.54
2:B:681:ASP:HA	2:B:684:LYS:HE2	1.89	0.54
2:B:1302:ILE:HG23	2:B:1306:ALA:HB2	1.88	0.54
2:G:334:LEU:HB3	2:G:338:LEU:CD1	2.36	0.54
2:B:178:ASN:CB	2:B:299:ALA:HA	2.30	0.54
2:B:212:LEU:HD12	2:B:246:LEU:HD21	1.88	0.54
2:B:1303:ARG:O	2:B:1307:GLU:HG2	2.06	0.54
1:E:5:C:H5''	2:G:510:LYS:HE2	1.88	0.54
2:G:252:PHE:HZ	2:G:264:LEU:CD2	2.19	0.54
2:G:349:GLU:HG3	2:G:356:LYS:CD	2.34	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:601:ILE:HD12	2:G:603:ASP:N	2.22	0.54
2:G:1009:VAL:HG12	2:G:1010:TYR:N	2.22	0.54
2:G:1063:ILE:HG23	2:G:1072:ILE:HG23	1.82	0.54
2:G:1075:ASP:OD2	2:G:1078:ARG:HG3	2.07	0.54
2:G:1207:GLU:OE2	2:G:1210:ARG:HD3	2.06	0.54
2:G:802:GLU:N	2:G:805:GLN:HG3	2.23	0.54
2:B:207:ASP:CB	2:B:210:ALA:CB	2.56	0.54
2:B:277:ASN:HB3	2:B:653:ARG:NE	2.23	0.54
2:B:495:MET:HB3	3:C:17:DA:H1'	1.89	0.54
2:B:1101:GLN:HB2	2:B:1140:ALA:HA	1.88	0.54
2:B:1305:GLN:CA	2:B:1327:PHE:CZ	2.73	0.54
2:G:70:ARG:HD2	2:G:74:ARG:HH21	1.72	0.54
2:G:163:LYS:HD3	2:G:164:PHE:CE2	2.42	0.54
2:G:334:LEU:HB3	2:G:338:LEU:HD12	1.89	0.54
2:G:368:SER:OG	2:G:371:GLU:N	2.31	0.54
2:G:889:ALA:C	2:G:890:LYS:HG2	2.28	0.54
2:B:37:ASN:OD1	2:B:37:ASN:N	2.39	0.54
2:B:207:ASP:O	2:B:210:ALA:N	2.40	0.54
1:E:67:C:H42	2:G:1100:VAL:N	2.05	0.54
2:G:182:ASP:HA	2:G:208:ALA:HB3	1.88	0.54
2:G:439:LYS:O	2:G:443:ILE:HG13	2.08	0.54
2:G:625:LEU:C	2:G:626:PHE:HD1	2.10	0.54
1:A:19:A:C4'	2:B:407:ASN:O	2.45	0.54
2:B:167:HIS:ND1	2:B:167:HIS:O	2.41	0.54
2:B:360:ALA:O	2:B:364:ASP:HB2	2.08	0.54
2:B:1325:LYS:HG3	2:B:1326:TYR:O	2.08	0.54
2:G:864:ARG:O	2:G:872:SER:HB3	2.08	0.54
2:G:874:GLU:HA	2:G:877:LYS:HZ3	1.72	0.54
2:G:889:ALA:HB3	2:G:891:LEU:HG	1.90	0.54
1:A:81:G:N1	2:B:1356:TYR:HB3	2.23	0.54
2:B:181:VAL:CG2	2:B:209:LYS:CA	2.84	0.54
3:C:17:DA:H2'	3:C:18:DG:C8	2.43	0.54
2:G:201:ILE:HD12	2:G:238:PHE:HD1	1.73	0.54
2:G:278:LEU:HD12	2:G:282:ILE:CG1	2.30	0.54
2:G:988:TYR:CE2	2:G:992:VAL:HG21	2.43	0.54
1:A:91:C:H2'	2:B:44:LYS:O	2.07	0.54
2:B:567:ASP:O	2:B:571:LYS:HB2	2.07	0.54
2:G:240:ASN:O	2:G:244:LEU:N	2.38	0.54
2:G:373:TYR:HE1	2:G:398:LEU:HD23	1.73	0.54
2:G:762:GLU:OE1	2:G:990:ASN:ND2	2.26	0.54
2:G:1290:VAL:CG1	2:G:1312:LEU:HD11	2.35	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:762:GLU:OE1	2:B:990:ASN:ND2	2.41	0.54
1:E:12:U:H2'	1:E:13:A:H8	1.72	0.54
2:G:220:ARG:O	2:G:224:ASN:ND2	2.40	0.54
2:G:253:LYS:CE	2:G:261:ASP:HA	2.37	0.54
2:G:282:ILE:CG2	2:G:286:TYR:HD1	2.21	0.54
2:G:879:MET:O	2:G:883:TRP:CD2	2.60	0.54
2:G:892:ILE:CG2	2:G:893:THR:N	2.71	0.54
2:G:1326:TYR:HE2	2:G:1327:PHE:CD2	2.25	0.54
2:B:58:THR:CG2	2:B:731:PRO:HG3	2.22	0.53
2:B:114:GLU:HG2	2:B:120:GLY:O	2.08	0.53
2:B:270:THR:OG1	2:B:629:ARG:NH1	2.41	0.53
2:B:317:LEU:HD22	2:B:414:ILE:CD1	2.38	0.53
2:B:1146:VAL:O	2:B:1146:VAL:HG13	2.07	0.53
2:G:545:LYS:CE	2:G:690:ASN:ND2	2.71	0.53
2:G:629:ARG:HB2	6:G:1513:HOH:O	2.07	0.53
1:A:42:A:O2'	1:A:43:G:OP1	2.23	0.53
2:B:275:LEU:CD1	2:B:279:LEU:CG	2.86	0.53
2:B:557:ARG:HH11	2:B:557:ARG:CG	2.12	0.53
2:B:569:PHE:CD1	2:B:575:PHE:CE2	2.97	0.53
2:B:927:ILE:O	2:B:931:VAL:HG23	2.08	0.53
2:B:963:VAL:HG21	2:B:990:ASN:OD1	2.08	0.53
2:B:1216:SER:HB2	4:D:6:DG:H5''	1.90	0.53
2:B:1315:LEU:HD12	2:B:1315:LEU:C	2.29	0.53
2:G:442:LYS:HE3	2:G:476:TRP:HD1	1.72	0.53
2:G:617:GLU:CG	2:G:664:ARG:NH1	2.58	0.53
2:G:870:VAL:CG1	2:G:871:PRO:CD	2.83	0.53
2:B:691:ARG:HB3	2:B:696:LEU:CD2	2.35	0.53
2:B:1038:PHE:HD1	2:B:1038:PHE:O	1.92	0.53
2:B:1135:ASP:OD2	4:D:8:DT:H5''	2.09	0.53
3:C:24:DG:C2'	3:C:25:DG:C5'	2.86	0.53
1:E:45:U:O2'	2:G:135:ILE:HG22	2.08	0.53
2:G:40:ARG:C	2:G:41:HIS:HD1	2.12	0.53
2:G:279:LEU:CD2	2:G:283:GLY:O	2.56	0.53
2:G:849:ASP:OD2	2:G:851:SER:OG	2.25	0.53
2:G:870:VAL:HG23	2:G:908:LEU:CG	2.34	0.53
2:B:736:GLY:O	2:B:740:THR:HG22	2.09	0.53
2:B:1220:LEU:HD21	2:B:1342:VAL:HG21	1.89	0.53
2:G:830:ILE:CD1	2:G:831:ASN:H	2.22	0.53
2:B:523:GLU:OE1	2:B:588:ASN:HB2	2.09	0.53
2:G:795:ILE:HG23	2:G:796:LEU:CD2	2.39	0.53
2:G:893:THR:CG2	2:G:896:LYS:HB2	2.37	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:1142:SER:HB3	2:G:1165:GLY:HA2	1.89	0.53
2:B:81:TYR:O	2:B:85:ILE:HG13	2.09	0.53
1:E:39:G:H5'	1:E:40:C:OP2	2.09	0.53
2:G:1150:GLU:HA	2:G:1156:LYS:O	2.09	0.53
2:B:275:LEU:HD11	2:B:279:LEU:CD1	2.38	0.53
2:G:530:VAL:HG23	2:G:579:GLU:CB	2.27	0.53
2:G:575:PHE:N	2:G:575:PHE:CD1	2.73	0.53
2:G:675:SER:OG	2:G:677:LYS:HD2	2.08	0.53
2:G:1240:SER:O	2:G:1307:GLU:HG3	2.08	0.53
2:G:1241:HIS:CE1	2:G:1245:LEU:HD12	2.43	0.53
2:B:249:THR:CG2	2:B:265:GLN:HE21	2.22	0.53
2:B:1200:LYS:O	2:B:1201:TYR:HB2	2.08	0.53
2:G:50:ALA:HB2	2:G:984:ALA:HB2	1.91	0.53
2:B:1216:SER:CB	4:D:6:DG:H3'	2.38	0.53
2:G:275:LEU:O	2:G:279:LEU:N	2.41	0.53
2:G:1141:TYR:HE2	2:G:1171:ARG:HD2	1.74	0.53
2:G:114:GLU:HG3	2:G:120:GLY:HA2	1.91	0.53
2:G:206:VAL:CG1	2:G:211:ILE:CD1	2.86	0.53
2:G:238:PHE:CE2	2:G:242:ILE:CD1	2.92	0.53
2:G:798:GLU:CG	2:G:799:HIS:CE1	2.85	0.53
2:G:963:VAL:HG21	2:G:990:ASN:CG	2.29	0.53
2:G:1097:LYS:HG3	2:G:1099:GLU:HG3	1.89	0.53
2:G:1244:LYS:HB3	2:G:1244:LYS:NZ	2.24	0.53
2:B:432:PHE:CD1	2:B:433:LEU:N	2.77	0.52
2:B:1203:LEU:HD21	2:B:1211:LYS:CD	2.40	0.52
2:B:1210:ARG:HA	2:B:1280:VAL:HG13	1.90	0.52
2:G:29:SER:CB	2:G:44:LYS:NZ	2.72	0.52
2:G:103:GLU:C	2:G:106:LEU:CD1	2.76	0.52
2:G:140:LYS:O	2:G:144:ASP:HB2	2.08	0.52
2:G:141:LYS:HD3	2:G:142:LEU:HD23	1.91	0.52
2:G:491:PHE:O	2:G:495:MET:HE2	2.07	0.52
2:G:525:THR:HG22	2:G:690:ASN:CB	2.23	0.52
2:G:760:VAL:HG21	2:G:991:ALA:HA	1.92	0.52
2:G:1002:PRO:O	2:G:1005:GLU:HB2	2.08	0.52
2:B:979:ASN:CG	2:B:981:TYR:CD1	2.75	0.52
2:G:252:PHE:CE1	2:G:278:LEU:CD2	2.77	0.52
2:G:626:PHE:N	2:G:626:PHE:CD1	2.73	0.52
2:G:1143:VAL:HG21	2:G:1174:PHE:HE2	1.73	0.52
2:B:69:ARG:O	2:B:73:THR:HG23	2.09	0.52
2:B:165:ARG:O	2:B:415:HIS:ND1	2.42	0.52
2:B:246:LEU:N	2:B:246:LEU:CD1	2.73	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:268:LYS:HD3	6:B:1520:HOH:O	2.08	0.52
2:B:373:TYR:HA	2:B:376:ILE:CD1	2.40	0.52
2:B:694:MET:SD	2:B:698:HIS:NE2	2.82	0.52
2:B:811:LEU:HD13	2:B:811:LEU:C	2.29	0.52
2:G:24:GLU:O	2:G:25:TYR:HB2	2.09	0.52
2:G:182:ASP:HB3	2:G:209:LYS:H	1.74	0.52
2:G:307:ARG:CZ	2:G:307:ARG:CB	2.87	0.52
2:G:356:LYS:O	2:G:357:ASN:HB2	2.09	0.52
2:G:880:LYS:O	2:G:883:TRP:HB2	2.09	0.52
2:G:1291:LEU:N	2:G:1291:LEU:HD23	2.24	0.52
2:B:277:ASN:O	2:B:281:GLN:NE2	2.42	0.52
2:B:525:THR:HG22	2:B:690:ASN:HB2	1.92	0.52
2:B:553:PHE:CD1	2:B:559:VAL:HG21	2.44	0.52
2:B:911:LEU:HA	2:B:1032:ALA:CB	2.39	0.52
3:C:23:DC:C2'	3:C:24:DG:C5'	2.82	0.52
2:G:313:THR:CG2	2:G:316:PRO:HA	2.39	0.52
2:G:637:LYS:O	2:G:640:ALA:HB3	2.10	0.52
2:G:703:THR:O	2:G:706:GLU:HG2	2.09	0.52
2:G:1126:TRP:N	2:G:1126:TRP:CD1	2.73	0.52
2:B:570:LYS:HA	2:B:574:CYS:HA	1.91	0.52
2:G:332:LEU:HD12	2:G:332:LEU:C	2.30	0.52
2:G:508:LEU:HD21	2:G:664:ARG:CA	2.38	0.52
2:G:806:LEU:HD22	2:G:812:TYR:HD1	1.74	0.52
2:G:1096:LYS:HG2	2:G:1201:TYR:HB3	1.92	0.52
2:G:1123:LYS:CE	6:G:1504:HOH:O	2.54	0.52
2:B:340:ARG:CA	2:B:344:PRO:HG3	2.40	0.52
2:B:379:ILE:CD1	2:B:379:ILE:N	2.73	0.52
2:B:437:ARG:O	2:B:441:GLU:HG3	2.08	0.52
2:B:561:VAL:CG2	2:B:584:GLU:O	2.57	0.52
2:G:565:LYS:HG2	2:G:578:VAL:HG11	1.88	0.52
2:G:578:VAL:CG2	2:G:579:GLU:N	2.73	0.52
2:G:876:VAL:HG13	2:G:901:THR:HG22	1.92	0.52
2:B:520:VAL:HG21	2:B:591:LEU:CD2	2.40	0.52
2:B:963:VAL:CG2	2:B:990:ASN:OD1	2.57	0.52
2:B:1284:ASP:O	2:B:1287:LEU:N	2.43	0.52
2:G:202:ASN:OD1	2:G:203:ALA:N	2.43	0.52
2:G:204:SER:OG	2:G:206:VAL:HG23	2.10	0.52
2:G:455:LEU:N	2:G:455:LEU:CD1	2.73	0.52
1:A:19:A:H4'	2:B:407:ASN:C	2.27	0.52
2:B:393:LEU:HD23	2:B:393:LEU:O	2.10	0.52
2:B:492:ILE:CD1	2:B:625:LEU:O	2.58	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:759:ILE:HG21	2:B:935:LEU:HD23	1.92	0.52
2:B:974:LYS:HZ3	2:B:976:ARG:HH11	1.57	0.52
2:B:1351:SER:OG	2:B:1356:TYR:HB2	2.10	0.52
2:G:307:ARG:CB	2:G:307:ARG:NH1	2.73	0.52
2:G:501:ASN:O	2:G:502:LEU:HD12	2.10	0.52
2:G:905:ARG:NH1	3:H:24:DG:H5''	2.25	0.52
2:B:7:ILE:O	2:B:759:ILE:HA	2.08	0.52
2:B:40:ARG:NE	2:B:43:ILE:CD1	2.73	0.52
2:B:244:LEU:HD13	2:B:250:PRO:CG	2.40	0.52
2:B:1314:THR:HG23	2:B:1324:PHE:CG	2.43	0.52
2:G:209:LYS:O	2:G:213:SER:HB3	2.09	0.52
2:G:246:LEU:N	2:G:246:LEU:CD1	2.73	0.52
2:G:380:LEU:CG	2:G:386:THR:CG2	2.87	0.52
2:G:730:SER:O	2:G:734:LYS:HG3	2.09	0.52
2:B:66:ARG:NH2	2:B:462:PHE:CE2	2.61	0.52
2:B:261:ASP:OD1	2:B:261:ASP:N	2.38	0.52
2:B:738:LEU:HD23	2:B:738:LEU:C	2.30	0.52
2:B:905:ARG:NH1	2:B:905:ARG:CG	2.73	0.52
1:E:41:A:C2'	1:E:42:A:H5''	2.39	0.52
2:G:66:ARG:NH1	2:G:462:PHE:CE1	2.78	0.52
2:G:132:TYR:CD2	2:G:132:TYR:N	2.77	0.52
2:G:632:ILE:O	2:G:636:LEU:HD23	2.10	0.52
2:G:763:MET:SD	2:G:928:THR:HB	2.49	0.52
2:G:846:PHE:O	2:G:916:PHE:HB3	2.10	0.52
2:B:1255:LYS:N	2:B:1255:LYS:CE	2.73	0.51
2:G:335:LEU:N	2:G:338:LEU:HD12	2.26	0.51
2:G:358:GLY:O	2:G:361:GLY:N	2.42	0.51
2:G:359:TYR:CE2	2:G:363:ILE:HG13	2.44	0.51
2:G:720:LEU:O	2:G:723:HIS:CA	2.58	0.51
2:G:841:ILE:HD13	2:G:900:LEU:HD21	1.93	0.51
2:G:1046:PHE:HD1	2:G:1074:TRP:NE1	2.08	0.51
2:B:226:ILE:HA	2:B:229:LEU:HG	1.92	0.51
2:B:275:LEU:CD1	2:B:279:LEU:CB	2.87	0.51
2:B:558:LYS:HD2	2:B:586:ARG:HD2	1.92	0.51
2:B:870:VAL:CG1	2:B:871:PRO:CD	2.85	0.51
2:B:975:VAL:HG23	2:B:1233:VAL:HG12	1.92	0.51
2:G:718:ASP:OD2	2:G:722:GLU:OE1	2.27	0.51
2:G:1213:MET:HE3	2:G:1221:GLN:NE2	2.23	0.51
2:B:181:VAL:CG2	2:B:209:LYS:HA	2.33	0.51
2:B:830:ILE:CD1	2:B:831:ASN:N	2.73	0.51
1:E:88:A:N3	2:G:1090:PRO:HG2	2.26	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:222:LEU:CD1	2:G:223:GLU:N	2.73	0.51
2:G:359:TYR:O	2:G:359:TYR:HD2	1.94	0.51
2:G:560:THR:OG1	2:G:563:GLN:CB	2.58	0.51
2:G:672:ASP:CA	2:G:704:PHE:CE2	2.92	0.51
2:B:429:PHE:N	2:B:429:PHE:HD2	2.09	0.51
2:B:974:LYS:HZ3	2:B:976:ARG:NH1	2.08	0.51
2:B:1048:THR:HA	2:B:1076:LYS:NZ	2.25	0.51
2:B:128:TYR:CD1	2:B:132:TYR:HD2	2.27	0.51
2:B:313:THR:O	2:B:313:THR:HG23	2.10	0.51
2:B:708:ILE:HD13	2:B:708:ILE:N	2.25	0.51
2:B:827:GLU:O	2:B:828:LEU:HD23	2.10	0.51
2:B:844:GLN:HA	2:B:847:LEU:O	2.11	0.51
2:B:870:VAL:HG23	2:B:908:LEU:HG	1.91	0.51
2:B:910:GLU:HG2	2:B:1033:THR:HG22	1.91	0.51
2:B:1203:LEU:HD21	2:B:1211:LYS:HD2	1.92	0.51
2:G:335:LEU:HD12	2:G:339:VAL:HG23	1.92	0.51
2:G:643:PHE:HB3	2:G:647:VAL:HB	1.91	0.51
2:G:672:ASP:CG	2:G:703:THR:H	2.14	0.51
2:G:686:ASP:OD1	2:G:687:GLY:N	2.34	0.51
2:G:720:LEU:HA	2:G:723:HIS:HB2	1.93	0.51
2:G:874:GLU:CA	2:G:877:LYS:HZ3	2.23	0.51
2:G:965:ASP:HA	2:G:968:LYS:NZ	2.26	0.51
2:G:1177:ASN:ND2	2:G:1180:ASP:OD2	2.43	0.51
2:G:1244:LYS:NZ	2:G:1244:LYS:CB	2.73	0.51
2:B:123:VAL:HG13	2:B:124:ASP:N	2.25	0.51
2:B:244:LEU:CG	2:B:266:LEU:CD1	2.78	0.51
1:E:50:U:O4	2:G:75:ARG:NH1	2.39	0.51
2:G:673:LYS:N	2:G:703:THR:CG2	2.63	0.51
2:G:759:ILE:HD13	2:G:935:LEU:HD23	1.93	0.51
2:G:796:LEU:CD2	2:G:796:LEU:N	2.73	0.51
2:G:976:ARG:HB2	2:G:977:GLU:OE2	2.10	0.51
1:A:91:C:H6	2:B:44:LYS:O	1.94	0.51
2:B:153:LEU:HD23	2:B:156:LEU:HD12	1.93	0.51
2:B:274:ASP:O	2:B:278:LEU:HB3	2.11	0.51
2:B:341:GLN:NE2	2:B:342:GLN:CG	2.73	0.51
2:B:530:VAL:HG22	2:B:537:PRO:HA	1.90	0.51
2:B:708:ILE:O	2:B:711:ALA:N	2.44	0.51
2:B:1145:VAL:CG1	2:B:1182:LEU:CD1	2.89	0.51
2:B:1314:THR:HG23	2:B:1324:PHE:CD1	2.46	0.51
1:E:44:U:O2'	2:G:402:GLN:HG2	2.11	0.51
2:G:350:ILE:O	2:G:350:ILE:HG22	2.09	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:702:LEU:HD23	2:G:702:LEU:H	1.73	0.51
2:G:892:ILE:HG21	2:G:897:PHE:HB2	1.93	0.51
2:G:1315:LEU:HD12	2:G:1315:LEU:C	2.31	0.51
3:H:24:DG:H2'	3:H:25:DG:H4'	1.93	0.51
1:A:14:A:H5''	2:B:66:ARG:NH1	2.26	0.51
2:B:842:VAL:HG12	2:B:854:ASN:HD21	1.66	0.51
2:B:1262:HIS:O	2:B:1265:TYR:HB2	2.10	0.51
1:E:11:C:N4	1:E:12:U:O4	2.44	0.51
2:G:47:LEU:N	2:G:47:LEU:CD2	2.73	0.51
2:G:297:SER:O	2:G:301:LEU:CB	2.58	0.51
2:G:550:ASP:HA	2:G:554:LYS:HG3	1.93	0.51
2:G:827:GLU:C	2:G:828:LEU:HD23	2.30	0.51
2:G:1277:SER:HB2	2:G:1287:LEU:HD22	1.85	0.51
2:B:40:ARG:NE	2:B:43:ILE:HD11	2.25	0.51
2:B:248:LEU:CD1	2:B:250:PRO:CD	2.89	0.51
2:B:414:ILE:O	2:B:418:GLU:N	2.40	0.51
2:B:788:ILE:HG13	2:B:796:LEU:HG	1.93	0.51
2:G:118:ILE:HG12	2:G:125:GLU:CD	2.30	0.51
2:G:167:HIS:CD2	2:G:169:LEU:HB2	2.46	0.51
2:G:269:ASP:OD1	2:G:270:THR:N	2.44	0.51
2:G:692:ASN:N	2:G:695:GLN:HB2	2.26	0.51
2:G:843:PRO:HD2	2:G:846:PHE:HD2	1.76	0.51
2:B:625:LEU:HD13	2:B:659:TRP:CZ2	2.46	0.51
2:B:801:VAL:HG11	2:B:815:TYR:CE2	2.46	0.51
3:C:1:DC:H42	4:D:12:DG:H1	1.57	0.51
1:E:29:G:H1	1:E:40:C:H42	1.59	0.51
2:G:278:LEU:HD12	2:G:278:LEU:C	2.30	0.51
2:G:864:ARG:NH1	2:G:864:ARG:CG	2.73	0.51
2:B:369:GLN:OE1	2:B:400:ARG:NH1	2.44	0.50
2:B:553:PHE:CD1	2:B:559:VAL:CG2	2.94	0.50
2:B:1031:LYS:HZ2	2:G:1068:GLU:CD	2.12	0.50
2:B:1204:PHE:CD1	2:B:1347:LEU:HG	2.45	0.50
2:B:1242:TYR:CD1	2:B:1242:TYR:N	2.72	0.50
2:B:1250:GLU:O	2:B:1254:GLN:OE1	2.28	0.50
2:G:324:ARG:CZ	2:G:400:ARG:HH12	2.12	0.50
2:G:334:LEU:O	2:G:338:LEU:HD12	2.11	0.50
2:G:696:LEU:HD12	2:G:702:LEU:CD1	2.40	0.50
1:A:83:C:H2'	1:A:84:A:C8	2.46	0.50
2:B:207:ASP:HB2	2:B:210:ALA:HB3	1.84	0.50
2:B:723:HIS:CD2	2:B:727:LEU:HD21	2.47	0.50
2:B:823:TYR:OH	2:B:839:ASP:OD2	2.19	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:162:ILE:HD13	2:G:443:ILE:CG2	2.42	0.50
2:G:240:ASN:O	2:G:243:ALA:HB3	2.11	0.50
2:G:637:LYS:O	2:G:640:ALA:CB	2.59	0.50
2:G:1212:ARG:CZ	2:G:1336:TYR:CE2	2.84	0.50
2:B:186:ILE:CD1	2:B:203:ALA:HB1	2.42	0.50
2:B:240:ASN:ND2	6:B:1503:HOH:O	2.43	0.50
2:B:429:PHE:HB2	2:B:430:TYR:CE1	2.46	0.50
2:B:429:PHE:N	2:B:429:PHE:CD2	2.78	0.50
2:B:1045:PHE:HD1	2:B:1045:PHE:N	2.06	0.50
2:G:136:TYR:HD1	2:G:321:MET:HG3	1.70	0.50
2:G:830:ILE:H	2:G:830:ILE:CD1	2.20	0.50
2:B:492:ILE:HD12	2:B:625:LEU:O	2.11	0.50
2:B:655:ARG:HH11	2:B:655:ARG:HG3	1.76	0.50
2:B:897:PHE:CZ	2:B:901:THR:HG21	2.46	0.50
2:B:1038:PHE:CD1	2:B:1038:PHE:C	2.85	0.50
2:G:234:LYS:HE3	2:G:234:LYS:C	2.31	0.50
2:G:317:LEU:HD12	2:G:317:LEU:C	2.27	0.50
2:G:349:GLU:OE2	2:G:356:LYS:HD2	2.10	0.50
2:G:521:TYR:CE1	2:G:549:VAL:HG21	2.47	0.50
2:G:557:ARG:O	2:G:590:SER:CB	2.60	0.50
2:G:592:GLY:O	2:G:596:ASP:N	2.37	0.50
2:G:781:MET:CB	2:G:803:ASN:OD1	2.60	0.50
2:G:1248:SER:O	2:G:1252:ASN:N	2.39	0.50
2:B:97:PHE:HD2	2:B:98:PHE:CD1	2.30	0.50
2:B:106:LEU:HD23	2:B:110:ASP:CB	2.41	0.50
2:B:114:GLU:CG	2:B:120:GLY:O	2.60	0.50
2:B:971:GLN:HA	2:B:973:TYR:CE2	2.47	0.50
2:G:142:LEU:CB	2:G:422:ILE:HG12	2.41	0.50
2:G:218:LYS:CD	2:G:218:LYS:N	2.73	0.50
2:G:16:VAL:HB	2:G:51:LEU:HD23	1.93	0.50
2:G:38:THR:CG2	2:G:39:ASP:N	2.73	0.50
2:G:359:TYR:C	2:G:359:TYR:CD2	2.85	0.50
2:G:1206:LEU:HD23	2:G:1345:ALA:HB2	1.93	0.50
2:B:302:LEU:O	2:B:305:ILE:HD12	2.11	0.50
2:B:531:THR:CG2	2:B:534:MET:SD	2.94	0.50
2:B:830:ILE:HD13	2:B:831:ASN:CG	2.32	0.50
2:G:148:LYS:N	2:G:429:PHE:CE1	2.79	0.50
3:H:19:DA:H5''	3:H:19:DA:H8	1.76	0.50
2:B:1272:GLN:NE2	2:B:1272:GLN:CA	2.73	0.50
2:G:118:ILE:HB	2:G:119:PHE:CE2	2.45	0.50
2:G:495:MET:CG	3:H:17:DA:H1'	2.36	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:524:LEU:HD23	2:G:527:VAL:HG21	1.94	0.50
2:G:629:ARG:CB	6:G:1513:HOH:O	2.60	0.50
2:G:679:ILE:HA	2:G:682:PHE:HB2	1.94	0.50
2:G:874:GLU:CG	2:G:877:LYS:NZ	2.73	0.50
2:B:78:ARG:CZ	2:B:165:ARG:HH11	2.24	0.50
2:B:296:LEU:HD23	2:B:296:LEU:O	2.11	0.50
2:B:1033:THR:O	2:B:1036:TYR:HB3	2.12	0.50
2:B:1145:VAL:CG1	2:B:1182:LEU:HD13	2.42	0.50
2:G:499:ASP:HB3	2:G:502:LEU:N	2.20	0.50
2:G:541:SER:O	2:G:544:GLN:N	2.45	0.50
2:B:398:LEU:O	2:B:398:LEU:HD23	2.11	0.49
2:B:404:THR:O	2:B:407:ASN:ND2	2.43	0.49
2:B:1235:PHE:C	2:B:1235:PHE:CD2	2.85	0.49
2:G:48:ILE:HG13	2:G:49:GLY:N	2.27	0.49
2:G:271:TYR:C	2:G:271:TYR:CD2	2.85	0.49
2:G:842:VAL:HG13	2:G:842:VAL:O	2.12	0.49
2:G:1241:HIS:HE1	2:G:1245:LEU:HD11	1.76	0.49
3:H:10:DT:H2''	3:H:11:DT:H6	1.76	0.49
2:B:647:VAL:O	2:B:651:LEU:N	2.43	0.49
2:B:870:VAL:CG2	2:B:908:LEU:HD23	2.20	0.49
2:B:910:GLU:CG	2:B:1033:THR:HG22	2.43	0.49
2:B:1062:LEU:HD21	2:B:1063:ILE:CG1	2.39	0.49
2:B:1224:ASN:N	2:B:1224:ASN:ND2	2.60	0.49
2:G:175:ASN:N	2:G:175:ASN:ND2	2.60	0.49
2:G:249:THR:HG22	2:G:265:GLN:HB2	1.93	0.49
2:G:625:LEU:C	2:G:626:PHE:CD1	2.85	0.49
2:G:759:ILE:HD13	2:G:935:LEU:CD2	2.42	0.49
1:A:44:U:N3	2:B:328:HIS:HB3	2.27	0.49
2:B:338:LEU:HD22	2:B:341:GLN:HG2	1.95	0.49
2:B:419:LEU:HD21	2:B:440:ILE:HG22	1.94	0.49
2:B:738:LEU:HD23	2:B:738:LEU:O	2.12	0.49
2:B:1121:ALA:HB2	2:B:1128:PRO:HD3	1.95	0.49
2:G:11:ILE:HB	2:G:763:MET:HG2	1.95	0.49
2:G:143:VAL:HG21	2:G:315:ALA:HB2	1.94	0.49
2:G:167:HIS:CD2	2:G:169:LEU:HD12	2.47	0.49
2:G:405:PHE:C	2:G:405:PHE:CD2	2.85	0.49
2:G:927:ILE:O	2:G:931:VAL:HG23	2.12	0.49
1:A:97:U:H2'	1:A:98:C:O4'	2.11	0.49
2:B:5:TYR:HD2	2:B:20:VAL:HG13	1.77	0.49
2:B:369:GLN:CD	2:B:404:THR:HG22	2.32	0.49
2:B:1031:LYS:O	2:B:1031:LYS:HD3	2.13	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:359:TYR:CE2	2:G:363:ILE:CG1	2.96	0.49
2:G:625:LEU:CG	2:G:626:PHE:CE1	2.95	0.49
2:G:1047:LYS:NZ	2:G:1049:GLU:O	2.45	0.49
2:G:1215:ALA:HB1	4:J:6:DG:O5'	2.12	0.49
1:A:59:U:O4	2:B:475:PRO:HG3	2.12	0.49
2:B:644:ASP:HB3	2:B:647:VAL:HG23	1.94	0.49
2:B:969:ASP:C	2:B:970:PHE:CD2	2.85	0.49
1:E:48:A:H2'	1:E:49:A:C8	2.47	0.49
2:G:554:LYS:HD3	2:G:594:TYR:CE1	2.47	0.49
2:G:560:THR:OG1	2:G:563:GLN:N	2.37	0.49
2:G:665:LYS:O	2:G:669:GLY:N	2.39	0.49
2:G:874:GLU:O	2:G:877:LYS:HD2	2.12	0.49
2:G:933:GLN:CG	2:G:1010:TYR:OH	2.60	0.49
2:G:1256:GLN:NE2	2:G:1260:GLU:CG	2.73	0.49
1:A:74:A:H3'	1:A:75:A:C8	2.47	0.49
2:B:583:VAL:HG22	2:B:584:GLU:H	1.77	0.49
2:B:844:GLN:NE2	2:B:848:LYS:CD	2.76	0.49
1:E:51:A:C5	2:G:1105:PHE:CE2	3.01	0.49
1:E:96:C:H2'	1:E:97:U:C6	2.48	0.49
2:G:45:LYS:NZ	2:G:1354:GLY:O	2.44	0.49
2:G:103:GLU:CA	2:G:106:LEU:CD1	2.91	0.49
2:G:530:VAL:HG12	2:G:537:PRO:CA	2.42	0.49
2:G:886:LEU:CA	2:G:892:ILE:HD12	2.42	0.49
2:G:1096:LYS:HE2	2:G:1201:TYR:CD2	2.47	0.49
2:G:1219:GLU:CG	2:G:1220:LEU:N	2.75	0.49
2:B:814:TYR:C	2:B:814:TYR:CD1	2.85	0.49
2:B:1241:HIS:CE1	2:B:1244:LYS:C	2.85	0.49
2:B:1286:ASN:O	2:B:1289:LYS:HB3	2.12	0.49
2:G:234:LYS:HE2	2:G:235:ASN:CG	2.33	0.49
2:G:1250:GLU:HG2	2:G:1251:ASP:H	1.77	0.49
2:B:212:LEU:HD21	2:B:225:LEU:CD1	2.41	0.49
2:B:341:GLN:CG	2:B:342:GLN:HG2	2.41	0.49
2:B:410:ILE:HD12	2:B:410:ILE:N	2.27	0.49
2:B:432:PHE:CE1	2:B:433:LEU:HG	2.48	0.49
2:B:1230:SER:HA	2:B:1233:VAL:HG21	1.86	0.49
2:B:1287:LEU:HD12	2:B:1287:LEU:C	2.32	0.49
2:G:6:SER:HG	2:G:757:GLU:HB2	1.77	0.49
2:G:128:TYR:O	2:G:132:TYR:HD2	1.95	0.49
2:G:970:PHE:N	2:G:970:PHE:HD2	2.11	0.49
2:B:94:ASP:HB2	2:B:152:ARG:HD3	1.94	0.49
2:B:114:GLU:CD	2:B:120:GLY:O	2.50	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:181:VAL:HG12	2:B:300:ILE:CG1	2.43	0.49
2:B:606:PHE:CE2	2:B:612:ASN:CG	2.85	0.49
2:B:821:ASP:HB3	2:B:824:VAL:HB	1.95	0.49
2:B:926:GLN:HA	2:B:929:LYS:HE3	1.93	0.49
1:E:16:U:H4'	2:G:448:ILE:O	2.13	0.49
2:G:139:ARG:HB3	2:G:139:ARG:HH11	1.78	0.49
2:G:207:ASP:HB2	2:G:210:ALA:H	1.78	0.49
2:G:419:LEU:HD22	2:G:444:LEU:HD13	1.95	0.49
2:G:702:LEU:N	2:G:702:LEU:CD2	2.73	0.49
1:A:39:G:H5'	1:A:40:C:OP2	2.12	0.49
2:B:508:LEU:CD1	2:B:663:SER:O	2.61	0.49
2:B:1302:ILE:O	2:B:1306:ALA:HB2	2.12	0.49
2:G:1241:HIS:CE1	2:G:1245:LEU:HD11	2.47	0.49
2:G:1324:PHE:N	2:G:1324:PHE:CD1	2.80	0.49
2:B:78:ARG:HD3	2:B:165:ARG:NH1	2.27	0.48
2:B:143:VAL:HG13	2:B:421:ALA:CB	2.43	0.48
2:B:568:TYR:O	2:B:572:ILE:HB	2.12	0.48
2:B:874:GLU:HA	2:B:877:LYS:CD	2.42	0.48
2:B:933:GLN:OE1	2:B:934:ILE:N	2.46	0.48
2:B:1237:TYR:C	2:B:1237:TYR:CD1	2.86	0.48
3:C:1:DC:N4	3:C:2:DA:N1	2.61	0.48
1:E:81:G:H22	2:G:35:LEU:CD1	2.17	0.48
2:G:139:ARG:HH11	2:G:139:ARG:CB	2.26	0.48
2:G:455:LEU:N	2:G:455:LEU:HD12	2.28	0.48
2:G:759:ILE:HG21	2:G:935:LEU:HD23	1.95	0.48
2:G:1212:ARG:NH1	2:G:1336:TYR:HE2	2.09	0.48
2:B:201:ILE:HG22	2:B:202:ASN:N	2.28	0.48
2:G:949:LEU:HG	2:G:950:ILE:N	2.28	0.48
2:B:432:PHE:HD1	2:B:433:LEU:N	2.12	0.48
2:B:790:GLU:OE2	2:B:888:ASN:C	2.50	0.48
2:G:179:SER:CB	2:G:310:THR:CB	2.67	0.48
2:G:195:LEU:HD22	2:G:286:TYR:CD2	2.37	0.48
2:G:286:TYR:O	2:G:289:LEU:HB3	2.13	0.48
2:G:307:ARG:NH1	2:G:307:ARG:HB3	2.29	0.48
2:G:339:VAL:HG13	2:G:343:LEU:O	2.14	0.48
2:G:492:ILE:CG2	2:G:496:THR:CG2	2.86	0.48
2:G:965:ASP:HA	2:G:968:LYS:HZ3	1.77	0.48
2:G:966:PHE:C	2:G:966:PHE:CD2	2.85	0.48
2:G:1325:LYS:HG3	2:G:1330:THR:OG1	2.14	0.48
1:A:16:U:O2	2:B:447:ARG:NH2	2.45	0.48
1:A:26:A:H2'	1:A:27:G:H8	1.78	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:212:LEU:HD12	2:B:246:LEU:HD11	1.96	0.48
2:B:229:LEU:CD2	2:B:232:GLU:HB2	2.43	0.48
2:B:338:LEU:O	2:B:383:MET:HE1	2.13	0.48
2:B:419:LEU:HD13	2:B:444:LEU:HD12	1.95	0.48
2:B:923:GLU:OE2	2:B:925:ARG:NH2	2.46	0.48
1:E:83:C:OP1	2:G:30:LYS:CE	2.62	0.48
2:G:46:ASN:OD1	2:G:46:ASN:N	2.44	0.48
2:G:963:VAL:HG21	2:G:990:ASN:OD1	2.14	0.48
2:G:1204:PHE:CD1	2:G:1342:VAL:HG13	2.48	0.48
2:B:440:ILE:HA	2:B:443:ILE:HD12	1.94	0.48
2:B:523:GLU:OE2	2:B:588:ASN:N	2.35	0.48
2:B:665:LYS:C	2:B:669:GLY:H	2.17	0.48
2:B:776:ASN:N	2:B:776:ASN:ND2	2.60	0.48
2:B:842:VAL:CG1	2:B:847:LEU:HD22	2.44	0.48
2:B:988:TYR:OH	2:B:1086:VAL:HG21	2.13	0.48
1:E:41:A:C3'	1:E:42:A:H5''	2.42	0.48
2:G:116:HIS:HE2	2:G:122:ILE:HG23	1.79	0.48
2:G:351:PHE:C	2:G:360:ALA:HB2	2.34	0.48
2:G:1145:VAL:HG23	2:G:1145:VAL:O	2.12	0.48
1:A:63:U:O2'	2:B:62:THR:CG2	2.42	0.48
2:B:79:ILE:HG13	2:B:163:LYS:HG3	1.96	0.48
2:B:340:ARG:HA	2:B:344:PRO:HG3	1.95	0.48
2:B:583:VAL:HG13	2:B:584:GLU:O	2.13	0.48
2:B:841:ILE:HD11	2:B:900:LEU:HD21	1.95	0.48
2:G:167:HIS:ND1	2:G:411:PRO:HA	2.29	0.48
2:G:870:VAL:HG23	2:G:908:LEU:CB	2.43	0.48
2:G:1251:ASP:OD1	2:G:1254:GLN:NE2	2.26	0.48
2:G:1314:THR:HG21	2:G:1324:PHE:HB2	1.83	0.48
2:G:1321:PRO:HB2	2:G:1333:ARG:CD	2.37	0.48
1:A:68:A:C4	2:B:1350:GLN:O	2.67	0.48
2:B:324:ARG:HD3	2:B:400:ARG:HB3	1.96	0.48
2:B:373:TYR:CA	2:B:376:ILE:HD11	2.40	0.48
2:B:779:GLU:O	2:B:783:ARG:HG3	2.13	0.48
2:G:115:ARG:HH22	2:G:122:ILE:HD13	1.77	0.48
2:G:557:ARG:NH1	2:G:599:LYS:HZ3	1.87	0.48
1:A:13:A:H2'	1:A:14:A:H8	1.78	0.48
2:B:114:GLU:HG2	2:B:120:GLY:C	2.34	0.48
2:B:307:ARG:HH11	2:B:323:LYS:HZ3	1.62	0.48
2:B:665:LYS:CA	2:B:669:GLY:CA	2.41	0.48
2:B:970:PHE:CD1	2:B:1080:PHE:CZ	3.02	0.48
2:B:1304:GLU:C	2:B:1327:PHE:CE1	2.87	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:8:GLY:O	2:G:18:TRP:HA	2.14	0.48
2:G:46:ASN:ND2	2:G:1089:MET:CE	2.58	0.48
2:G:137:HIS:NE2	2:G:322:ILE:HD12	2.15	0.48
2:G:170:ILE:O	2:G:413:GLN:NE2	2.46	0.48
2:G:692:ASN:H	2:G:695:GLN:CG	2.26	0.48
2:B:220:ARG:CG	2:B:220:ARG:NH1	2.73	0.48
2:B:225:LEU:HD13	2:B:242:ILE:HG21	1.95	0.48
2:B:821:ASP:CB	2:B:824:VAL:HB	2.43	0.48
2:B:975:VAL:HG12	2:B:977:GLU:HG2	1.95	0.48
2:B:1219:GLU:CG	2:B:1220:LEU:N	2.77	0.48
2:B:1252:ASN:HD22	2:B:1252:ASN:H	1.61	0.48
2:B:1298:ARG:CA	2:B:1305:GLN:NE2	2.77	0.48
2:G:177:ASP:O	2:G:299:ALA:HB2	2.14	0.48
2:G:214:ALA:HB1	2:G:216:LEU:CD2	2.44	0.48
2:G:464:TRP:HB3	2:G:494:ARG:CZ	2.44	0.48
2:G:697:ILE:HG22	2:G:698:HIS:ND1	2.29	0.48
2:G:1074:TRP:CE3	2:G:1074:TRP:HA	2.49	0.48
2:B:28:PRO:HB2	2:B:47:LEU:HG	1.96	0.48
2:B:78:ARG:CD	2:B:165:ARG:HH11	2.26	0.48
2:B:746:GLU:O	2:B:750:VAL:N	2.33	0.48
2:B:963:VAL:HG21	2:B:990:ASN:HD21	1.76	0.48
2:G:271:TYR:HA	2:G:274:ASP:HB3	1.95	0.48
2:G:309:ASN:H	2:G:309:ASN:ND2	2.12	0.48
2:G:925:ARG:HG3	3:H:21:DC:OP1	2.14	0.48
2:B:1347:LEU:HB3	2:B:1360:ILE:HB	1.96	0.47
2:G:204:SER:O	2:G:206:VAL:HG23	2.13	0.47
2:G:933:GLN:HG2	2:G:1010:TYR:CZ	2.48	0.47
1:A:77:A:OP1	2:B:721:HIS:NE2	2.47	0.47
2:B:6:SER:HB3	2:B:758:ASN:HB2	1.96	0.47
2:B:165:ARG:NH2	2:B:168:PHE:HZ	2.06	0.47
2:B:307:ARG:HH12	2:B:323:LYS:NZ	2.12	0.47
2:B:336:LYS:HG2	2:B:347:TYR:HE2	1.79	0.47
2:B:410:ILE:N	2:B:410:ILE:CD1	2.77	0.47
2:B:469:SER:HB3	2:B:471:GLU:HG2	1.96	0.47
2:G:119:PHE:CD2	2:G:119:PHE:N	2.82	0.47
2:G:225:LEU:HD13	2:G:242:ILE:CG2	2.43	0.47
2:G:629:ARG:HE	2:G:655:ARG:NH2	2.13	0.47
2:G:985:HIS:ND1	2:G:1087:LEU:HD13	2.29	0.47
2:B:66:ARG:CZ	2:B:462:PHE:CZ	2.78	0.47
2:B:118:ILE:HB	2:B:119:PHE:CD2	2.48	0.47
2:B:148:LYS:HD2	2:B:429:PHE:CD1	2.48	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:250:PRO:HD2	2:B:264:LEU:O	2.15	0.47
2:B:351:PHE:CD2	2:B:351:PHE:N	2.82	0.47
2:B:407:ASN:ND2	2:B:407:ASN:N	2.60	0.47
2:B:529:TYR:CD1	2:B:538:ALA:O	2.68	0.47
2:B:557:ARG:NH1	2:B:557:ARG:CG	2.73	0.47
2:B:1326:TYR:HD2	2:B:1327:PHE:CD2	2.08	0.47
2:G:238:PHE:CE2	2:G:242:ILE:HG13	2.49	0.47
2:G:541:SER:CB	2:G:544:GLN:CB	2.89	0.47
2:G:759:ILE:HD12	2:G:935:LEU:HD23	1.96	0.47
2:G:896:LYS:O	2:G:900:LEU:HG	2.15	0.47
1:A:63:U:H3'	2:B:62:THR:HG21	1.97	0.47
2:B:75:ARG:HA	2:B:78:ARG:NH2	2.29	0.47
2:B:297:SER:CA	2:B:301:LEU:HD12	2.44	0.47
1:E:46:A:H2'	1:E:47:A:C8	2.49	0.47
2:G:157:ALA:O	2:G:161:MET:HG3	2.14	0.47
2:G:594:TYR:OH	2:G:604:LYS:NZ	2.36	0.47
2:B:114:GLU:HG3	2:B:120:GLY:HA2	1.92	0.47
2:B:516:GLU:OE1	2:B:593:THR:N	2.33	0.47
2:B:525:THR:CG2	2:B:690:ASN:HB3	2.44	0.47
2:B:963:VAL:HG13	2:B:989:LEU:HB2	1.97	0.47
2:B:1076:LYS:O	2:B:1080:PHE:HD2	1.97	0.47
1:E:26:A:N6	1:E:27:G:O6	2.48	0.47
2:G:238:PHE:HE2	2:G:242:ILE:HD11	1.78	0.47
2:G:442:LYS:HE3	2:G:476:TRP:CD1	2.49	0.47
2:G:755:LYS:HG2	2:G:939:MET:HE3	1.92	0.47
2:G:802:GLU:O	2:G:805:GLN:HG3	2.14	0.47
2:G:1224:ASN:CG	2:G:1280:VAL:HG11	2.34	0.47
2:G:1324:PHE:N	2:G:1324:PHE:HD1	2.13	0.47
2:B:151:LEU:O	2:B:154:ILE:N	2.48	0.47
2:B:297:SER:O	2:B:301:LEU:CB	2.63	0.47
2:B:358:GLY:O	2:B:361:GLY:N	2.47	0.47
2:B:448:ILE:HG22	2:B:452:VAL:HB	1.96	0.47
2:B:765:ARG:HH22	2:B:848:LYS:HE3	1.79	0.47
2:B:972:PHE:CE1	2:B:1083:VAL:HG11	2.48	0.47
2:B:1204:PHE:CG	2:B:1342:VAL:HG13	2.50	0.47
2:G:179:SER:H	2:G:310:THR:CG2	1.95	0.47
2:G:360:ALA:O	2:G:364:ASP:HB2	2.15	0.47
2:G:427:GLU:HB2	2:G:434:LYS:HB3	1.97	0.47
2:G:492:ILE:HG22	2:G:496:THR:HG21	1.95	0.47
2:G:756:PRO:HD2	2:G:953:VAL:CG2	2.42	0.47
2:G:1235:PHE:CE2	2:G:1266:LEU:CD1	2.97	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:1270:ILE:CD1	2:G:1294:TYR:CE2	2.78	0.47
1:A:49:A:OP2	2:B:76:LYS:HE2	2.15	0.47
1:A:51:A:C6	2:B:1105:PHE:CZ	3.02	0.47
1:A:58:G:H5''	1:A:59:U:OP2	2.14	0.47
2:B:38:THR:HG22	2:B:39:ASP:H	1.79	0.47
2:B:62:THR:O	2:B:66:ARG:HG3	2.15	0.47
2:B:167:HIS:CE1	2:B:411:PRO:CA	2.98	0.47
2:B:248:LEU:HD13	2:B:249:THR:CA	2.45	0.47
2:B:270:THR:O	2:B:274:ASP:HB2	2.15	0.47
2:B:655:ARG:HH11	2:B:655:ARG:CB	2.27	0.47
2:B:699:ASP:HB3	2:B:702:LEU:CB	2.44	0.47
2:B:719:SER:O	2:B:722:GLU:HB2	2.15	0.47
2:B:758:ASN:ND2	2:B:995:THR:HG22	2.29	0.47
2:B:838:VAL:HG11	2:B:855:LYS:HE3	1.95	0.47
2:B:840:ALA:O	2:B:864:ARG:NH1	2.45	0.47
2:B:849:ASP:OD2	2:B:854:ASN:HB2	2.14	0.47
2:B:908:LEU:CD2	2:B:908:LEU:H	2.18	0.47
1:E:27:G:H5'	1:E:28:A:O5'	2.15	0.47
1:E:44:U:O2'	1:E:45:U:H5'	2.15	0.47
1:E:96:C:H2'	1:E:97:U:H6	1.80	0.47
2:G:118:ILE:HG22	2:G:119:PHE:CE2	2.49	0.47
2:G:401:LYS:O	2:G:404:THR:HG23	2.14	0.47
2:G:936:ASP:OD2	2:G:951:ARG:NE	2.46	0.47
2:B:665:LYS:O	2:B:669:GLY:C	2.51	0.47
2:B:755:LYS:CD	2:B:939:MET:HE3	2.45	0.47
2:B:1108:GLU:HB2	3:C:9:DC:H5''	1.96	0.47
2:B:1145:VAL:HG23	2:B:1145:VAL:O	2.15	0.47
2:B:1206:LEU:HD11	2:B:1210:ARG:CZ	2.44	0.47
2:B:1302:ILE:HG22	2:B:1306:ALA:HB2	1.96	0.47
2:G:22:THR:H	2:G:22:THR:HG1	1.42	0.47
2:G:469:SER:O	2:G:481:VAL:CG1	2.62	0.47
2:G:668:ASN:C	2:G:678:THR:HG21	2.35	0.47
2:G:874:GLU:CA	2:G:877:LYS:NZ	2.73	0.47
1:A:59:U:P	2:B:467:ARG:HH22	2.37	0.47
2:B:387:GLU:O	2:B:391:VAL:HG23	2.14	0.47
2:B:477:ASN:ND2	2:B:481:VAL:HG21	2.30	0.47
2:B:655:ARG:H	2:B:655:ARG:HG2	1.46	0.47
2:B:692:ASN:H	2:B:695:GLN:HB2	1.78	0.47
2:B:1042:ILE:HG23	2:B:1043:MET:SD	2.55	0.47
2:B:1179:ILE:HD11	2:B:1192:LYS:HD3	1.97	0.47
2:G:796:LEU:HD23	2:G:796:LEU:H	1.79	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:842:VAL:HG12	2:G:854:ASN:ND2	2.29	0.47
2:G:892:ILE:CG2	2:G:897:PHE:HB2	2.45	0.47
2:B:148:LYS:CD	2:B:429:PHE:CD1	2.72	0.47
2:B:244:LEU:HD12	2:B:250:PRO:CG	2.45	0.47
2:B:491:PHE:CE2	3:C:16:DT:H1'	2.50	0.47
2:B:746:GLU:HA	2:B:749:LYS:HB3	1.96	0.47
2:B:832:ARG:HH11	2:B:835:ASP:CG	2.10	0.47
3:C:6:DC:H2''	3:C:7:DC:O5'	2.15	0.47
1:E:91:C:O2'	1:E:92:G:P	2.72	0.47
2:G:70:ARG:HD2	2:G:74:ARG:NH2	2.30	0.47
2:G:963:VAL:HG23	2:G:990:ASN:OD1	2.15	0.47
2:G:1212:ARG:NH1	2:G:1336:TYR:CE2	2.83	0.47
1:A:27:G:H5'	1:A:28:A:C5'	2.45	0.46
2:B:412:HIS:CD2	2:B:413:GLN:HE21	2.33	0.46
2:B:1206:LEU:HD11	2:B:1210:ARG:NE	2.30	0.46
1:E:52:A:C5'	2:G:1123:LYS:CE	2.90	0.46
2:G:100:ARG:NH2	2:G:117:PRO:O	2.46	0.46
2:G:201:ILE:HD13	2:G:238:PHE:CG	2.50	0.46
2:G:258:LEU:HD11	2:G:281:GLN:CG	2.44	0.46
2:G:264:LEU:CD1	2:G:264:LEU:N	2.73	0.46
2:G:400:ARG:HH11	2:G:400:ARG:CG	2.13	0.46
2:G:488:ALA:O	2:G:491:PHE:HB3	2.14	0.46
2:G:558:LYS:HE3	2:G:586:ARG:HH12	1.79	0.46
2:G:1266:LEU:HD23	2:G:1305:GLN:OE1	2.15	0.46
2:G:1290:VAL:HG22	2:G:1331:ILE:HD12	1.97	0.46
2:B:416:LEU:HD13	2:B:444:LEU:HD13	1.97	0.46
2:G:43:ILE:HG22	2:G:44:LYS:N	2.31	0.46
2:G:81:TYR:CE2	2:G:475:PRO:HD3	2.50	0.46
2:G:208:ALA:O	2:G:212:LEU:HD23	2.15	0.46
2:G:258:LEU:HD21	2:G:281:GLN:CD	2.34	0.46
2:G:359:TYR:HD2	2:G:359:TYR:C	2.18	0.46
2:G:431:PRO:O	2:G:434:LYS:HG2	2.15	0.46
2:G:720:LEU:C	2:G:723:HIS:H	2.19	0.46
2:B:190:GLN:O	2:B:194:GLN:HG2	2.16	0.46
2:B:307:ARG:HH12	2:B:323:LYS:HZ1	1.61	0.46
2:B:637:LYS:O	2:B:640:ALA:HB3	2.15	0.46
2:B:840:ALA:HA	2:B:854:ASN:O	2.15	0.46
2:G:523:GLU:OE1	2:G:588:ASN:HB2	2.15	0.46
2:G:903:ALA:HA	2:G:906:GLY:CA	2.27	0.46
1:A:27:G:N2	1:A:44:U:OP2	2.49	0.46
2:B:143:VAL:HG13	2:B:421:ALA:HB1	1.97	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:207:ASP:O	2:B:211:ILE:HG13	2.15	0.46
2:B:299:ALA:O	2:B:302:LEU:HD21	2.12	0.46
2:B:844:GLN:NE2	2:B:848:LYS:CG	2.73	0.46
2:B:940:ASN:N	2:B:940:ASN:ND2	2.60	0.46
2:B:1122:ARG:HD3	2:B:1134:PHE:CZ	2.50	0.46
2:B:1312:LEU:HD21	2:B:1326:TYR:HD1	1.80	0.46
2:B:32:PHE:O	2:B:42:SER:HB2	2.15	0.46
2:B:387:GLU:HA	2:B:387:GLU:OE2	2.15	0.46
2:B:473:ILE:HG12	2:B:481:VAL:HG11	1.98	0.46
2:B:509:PRO:HG2	2:B:621:LEU:HA	1.97	0.46
2:B:992:VAL:HA	2:B:995:THR:OG1	2.16	0.46
2:B:1336:TYR:N	2:B:1336:TYR:CD1	2.83	0.46
2:G:29:SER:HB2	2:G:44:LYS:NZ	2.28	0.46
2:G:429:PHE:CD2	2:G:429:PHE:N	2.83	0.46
1:A:87:G:H1	1:A:91:C:H42	1.63	0.46
2:B:272:ASP:O	2:B:276:ASP:HB2	2.16	0.46
2:B:520:VAL:HG21	2:B:591:LEU:HD23	1.98	0.46
2:B:737:ILE:O	2:B:740:THR:HG23	2.15	0.46
2:B:897:PHE:CE2	2:B:901:THR:HG21	2.50	0.46
2:B:1251:ASP:O	2:B:1254:GLN:HB2	2.14	0.46
1:E:62:G:N7	2:G:69:ARG:NH1	2.63	0.46
2:G:85:ILE:HG22	2:G:86:PHE:HD1	1.81	0.46
2:G:118:ILE:CG1	2:G:125:GLU:OE1	2.63	0.46
2:G:918:LYS:HE3	2:G:922:VAL:HG21	1.97	0.46
2:G:1187:TYR:HD2	2:G:1187:TYR:N	2.14	0.46
2:B:45:LYS:HE2	2:B:1093:ASN:OD1	2.13	0.46
2:B:974:LYS:HZ2	2:B:976:ARG:NH1	2.12	0.46
2:B:1206:LEU:CD1	2:B:1210:ARG:CZ	2.94	0.46
2:G:720:LEU:HG	2:G:721:HIS:N	2.30	0.46
2:G:824:VAL:O	2:G:824:VAL:HG12	2.15	0.46
2:G:889:ALA:HB1	2:G:891:LEU:HG	1.96	0.46
1:A:62:G:N7	2:B:69:ARG:NH1	2.60	0.46
2:B:795:ILE:HG23	2:B:796:LEU:N	2.30	0.46
2:B:1221:GLN:HE21	2:B:1320:ALA:HB2	1.79	0.46
2:G:121:ASN:HD21	2:G:124:ASP:CG	2.18	0.46
2:G:162:ILE:HD13	2:G:443:ILE:HG22	1.98	0.46
2:G:246:LEU:CD1	2:G:246:LEU:H	2.29	0.46
2:G:296:LEU:HD23	2:G:296:LEU:O	2.15	0.46
2:G:309:ASN:N	2:G:309:ASN:ND2	2.60	0.46
2:G:516:GLU:HA	2:G:519:THR:HG22	1.98	0.46
2:G:903:ALA:C	2:G:906:GLY:N	2.63	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:925:ARG:HB3	2:G:928:THR:CG2	2.46	0.46
2:G:1357:GLU:O	2:G:1358:THR:HG22	2.16	0.46
2:B:393:LEU:HB2	2:B:398:LEU:CD1	2.46	0.46
2:B:838:VAL:CG2	2:B:857:LEU:HD12	2.45	0.46
2:B:1236:LEU:HD13	2:B:1310:ILE:HG12	1.97	0.46
1:E:52:A:C5'	2:G:1123:LYS:HE2	2.46	0.46
2:G:398:LEU:C	2:G:399:LEU:HD12	2.36	0.46
2:G:618:ASP:OD2	2:G:639:TYR:HE2	1.98	0.46
2:G:823:TYR:N	2:G:879:MET:HE3	2.31	0.46
2:G:1001:TYR:HE2	2:G:1042:ILE:CD1	2.27	0.46
2:G:1114:ARG:HD2	2:G:1116:SER:CB	2.43	0.46
2:B:253:LYS:HD2	2:B:261:ASP:HA	1.98	0.46
2:B:573:GLU:C	2:B:574:CYS:SG	2.94	0.46
2:B:603:ASP:OD1	2:B:606:PHE:HB2	2.15	0.46
2:B:830:ILE:HD13	2:B:831:ASN:H	1.79	0.46
2:B:838:VAL:HG23	2:B:857:LEU:CD1	2.46	0.46
1:E:44:U:N3	2:G:328:HIS:HB3	2.31	0.46
2:G:137:HIS:ND1	2:G:322:ILE:CD1	2.68	0.46
2:G:279:LEU:O	2:G:279:LEU:HD22	2.16	0.46
2:G:313:THR:HG23	2:G:313:THR:O	2.14	0.46
2:G:333:THR:HA	2:G:336:LYS:HB3	1.97	0.46
2:G:336:LYS:O	2:G:340:ARG:HG3	2.15	0.46
2:G:677:LYS:O	2:G:704:PHE:HZ	1.99	0.46
2:G:1251:ASP:CA	2:G:1254:GLN:NE2	2.79	0.46
1:A:65:A:C5	1:A:66:U:C4	3.04	0.45
2:B:492:ILE:O	2:B:496:THR:HG23	2.16	0.45
2:B:1143:VAL:HG22	2:B:1197:LYS:HA	1.98	0.45
1:E:26:A:H5''	2:G:115:ARG:HG3	1.98	0.45
2:G:279:LEU:HD22	2:G:283:GLY:O	2.16	0.45
2:G:565:LYS:CE	2:G:580:ILE:HG12	2.45	0.45
2:G:616:LEU:O	2:G:619:ILE:HG22	2.15	0.45
2:G:955:VAL:O	2:G:1009:VAL:HA	2.16	0.45
2:G:982:HIS:HA	2:G:985:HIS:HB2	1.98	0.45
2:G:1045:PHE:CD1	2:G:1045:PHE:N	2.73	0.45
2:B:89:GLU:OE1	2:B:92:LYS:HD2	2.16	0.45
2:B:568:TYR:HD2	2:B:569:PHE:CD2	2.35	0.45
2:B:641:HIS:HD2	2:B:642:LEU:CG	2.16	0.45
2:B:705:LYS:HB3	2:B:705:LYS:HE2	1.60	0.45
2:B:849:ASP:CG	2:B:854:ASN:HB3	2.37	0.45
2:B:914:ALA:CB	2:B:1035:LYS:CD	2.86	0.45
2:G:416:LEU:HD12	2:G:444:LEU:HD22	1.91	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:1256:GLN:NE2	2:G:1260:GLU:HG3	2.32	0.45
1:A:53:G:C4	1:A:62:G:N2	2.84	0.45
2:B:830:ILE:HD13	2:B:831:ASN:N	2.31	0.45
2:B:1100:VAL:HG13	2:B:1140:ALA:O	2.16	0.45
4:D:7:DG:C2	4:D:8:DT:C2	3.04	0.45
2:G:117:PRO:CD	2:G:125:GLU:OE2	2.64	0.45
2:G:207:ASP:CB	2:G:210:ALA:CB	2.86	0.45
2:G:320:SER:O	2:G:323:LYS:HB3	2.15	0.45
2:G:619:ILE:O	2:G:623:LEU:HB2	2.16	0.45
2:G:1119:LEU:HB3	2:G:1128:PRO:HB2	1.98	0.45
2:G:1250:GLU:HG2	2:G:1251:ASP:N	2.32	0.45
2:B:265:GLN:O	2:B:271:TYR:HD1	2.00	0.45
2:B:519:THR:OG1	2:B:589:ALA:HB2	2.16	0.45
2:B:981:TYR:CZ	2:B:1092:VAL:HB	2.50	0.45
2:B:1113:LYS:O	2:B:1113:LYS:HG3	2.16	0.45
2:B:1270:ILE:CD1	2:B:1294:TYR:CG	2.84	0.45
2:B:1298:ARG:HG3	2:B:1298:ARG:HH11	1.81	0.45
2:G:27:VAL:HG12	2:G:1086:VAL:HG22	1.98	0.45
2:G:410:ILE:CG2	2:G:414:ILE:HD11	2.35	0.45
2:G:526:LYS:HA	2:G:526:LYS:HD3	1.81	0.45
2:G:886:LEU:CA	2:G:892:ILE:CG1	2.93	0.45
2:G:1256:GLN:HE22	2:G:1260:GLU:HG3	1.80	0.45
2:B:94:ASP:CB	2:B:152:ARG:HD3	2.47	0.45
2:B:679:ILE:HA	2:B:682:PHE:HB2	1.99	0.45
2:B:1204:PHE:CZ	2:B:1214:LEU:CD1	2.99	0.45
2:G:207:ASP:CB	2:G:210:ALA:HB3	2.29	0.45
2:G:497:ASN:O	2:G:498:PHE:CD2	2.70	0.45
2:G:513:LEU:HD23	2:G:513:LEU:HA	1.62	0.45
2:G:873:GLU:HG2	2:G:874:GLU:H	1.80	0.45
2:G:975:VAL:HB	2:G:978:ILE:HG13	1.97	0.45
2:G:1291:LEU:O	2:G:1295:ASN:N	2.32	0.45
2:B:234:LYS:C	2:B:234:LYS:CD	2.85	0.45
2:B:553:PHE:CE1	2:B:559:VAL:CG2	3.00	0.45
2:B:949:LEU:HD23	2:B:951:ARG:NH2	2.32	0.45
2:B:979:ASN:CG	2:B:981:TYR:HB2	2.24	0.45
2:G:142:LEU:O	2:G:425:ARG:HG2	2.17	0.45
2:G:380:LEU:HB3	2:G:386:THR:HG22	1.99	0.45
2:G:393:LEU:C	2:G:393:LEU:CD2	2.85	0.45
2:G:1174:PHE:CD1	2:G:1181:PHE:CD1	3.04	0.45
1:A:24:U:N1	2:B:105:PHE:CE1	2.74	0.45
2:B:457:ARG:HB2	2:B:467:ARG:NH1	2.32	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:531:THR:OG1	2:B:532:GLU:N	2.49	0.45
2:B:658:GLY:C	2:B:659:TRP:CD1	2.90	0.45
2:B:740:THR:O	2:B:743:VAL:HB	2.17	0.45
2:B:1108:GLU:CG	3:C:9:DC:H5''	2.47	0.45
2:G:747:LEU:N	2:G:750:VAL:HG22	2.31	0.45
2:G:798:GLU:C	2:G:799:HIS:HD1	2.20	0.45
2:G:1105:PHE:HD1	2:G:1168:ILE:HB	1.82	0.45
2:B:1038:PHE:HD1	2:B:1038:PHE:C	2.20	0.45
2:B:1252:ASN:N	2:B:1252:ASN:ND2	2.60	0.45
2:G:223:GLU:O	2:G:226:ILE:HG12	2.16	0.45
2:G:537:PRO:O	2:G:537:PRO:HG2	2.17	0.45
2:G:883:TRP:CE2	2:G:900:LEU:HD13	2.51	0.45
2:B:10:ALA:O	2:B:17:GLY:N	2.45	0.45
2:B:223:GLU:HA	2:B:226:ILE:HG12	1.98	0.45
2:B:243:ALA:O	2:B:246:LEU:O	2.35	0.45
2:B:342:GLN:OE1	2:B:383:MET:HG2	2.17	0.45
2:B:393:LEU:HA	2:B:398:LEU:HB2	1.98	0.45
2:B:507:VAL:HG11	2:B:660:GLY:C	2.37	0.45
2:B:1127:ASP:HB3	2:B:1130:LYS:CB	2.41	0.45
2:G:39:ASP:O	2:G:41:HIS:CE1	2.70	0.45
2:G:220:ARG:HH11	2:G:220:ARG:CG	2.29	0.45
2:G:343:LEU:CD2	2:G:345:GLU:CD	2.86	0.45
2:G:373:TYR:OH	2:G:398:LEU:HB3	2.15	0.45
2:G:541:SER:O	2:G:544:GLN:HB3	2.17	0.45
2:G:598:LEU:C	2:G:598:LEU:CD2	2.85	0.45
2:G:666:LEU:C	2:G:666:LEU:CD2	2.85	0.45
2:G:798:GLU:OE1	2:G:799:HIS:CE1	2.70	0.45
2:B:610:GLU:O	2:B:613:GLU:HB3	2.17	0.45
2:B:784:ILE:O	2:B:788:ILE:CG1	2.64	0.45
1:E:73:G:H3'	1:E:74:A:H5''	1.98	0.45
2:G:134:THR:OG1	2:G:137:HIS:CE1	2.70	0.45
2:G:279:LEU:HD12	2:G:287:ALA:CB	2.33	0.45
2:G:545:LYS:HD2	2:G:684:LYS:O	2.17	0.45
2:G:1049:GLU:HA	2:G:1059:LYS:N	2.32	0.45
2:G:1258:PHE:CD1	2:G:1258:PHE:O	2.70	0.45
1:A:61:C:OP1	2:B:70:ARG:CZ	2.66	0.44
2:B:255:ASN:HD22	2:B:256:PHE:HE1	1.65	0.44
2:B:847:LEU:O	2:B:847:LEU:HD23	2.17	0.44
2:B:893:THR:O	2:B:897:PHE:N	2.43	0.44
2:B:1108:GLU:HG3	3:C:9:DC:H5''	1.99	0.44
2:B:1264:HIS:CE1	2:B:1268:GLU:OE2	2.70	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:51:A:C6	2:G:1105:PHE:CE2	3.05	0.44
1:E:52:A:OP1	2:G:1123:LYS:NZ	2.43	0.44
2:G:234:LYS:C	2:G:234:LYS:CE	2.85	0.44
2:G:784:ILE:O	2:G:788:ILE:HG12	2.16	0.44
2:B:156:LEU:HD23	2:B:156:LEU:HA	1.80	0.44
2:B:756:PRO:HD2	2:B:953:VAL:CG2	2.47	0.44
2:G:115:ARG:NE	2:G:116:HIS:HE1	2.15	0.44
2:G:226:ILE:O	2:G:229:LEU:N	2.51	0.44
2:G:256:PHE:CE2	2:G:282:ILE:HG21	2.50	0.44
2:B:830:ILE:CD1	2:B:830:ILE:H	2.25	0.44
2:B:1031:LYS:NZ	2:B:1031:LYS:HB2	2.33	0.44
1:E:46:A:C2	1:E:47:A:C5	3.05	0.44
2:G:181:VAL:HG11	2:G:300:ILE:HD12	1.90	0.44
2:G:206:VAL:HG21	2:G:228:GLN:CB	2.44	0.44
2:G:261:ASP:N	2:G:261:ASP:OD1	2.50	0.44
2:G:265:GLN:O	2:G:271:TYR:CD1	2.70	0.44
2:G:842:VAL:HG12	2:G:854:ASN:OD1	2.17	0.44
2:G:846:PHE:CE1	2:G:913:LYS:CD	2.99	0.44
2:B:70:ARG:HH11	2:B:454:PRO:HG3	1.78	0.44
2:B:452:VAL:HG13	2:B:482:VAL:HG11	1.99	0.44
2:B:782:LYS:O	2:B:786:GLU:HG3	2.17	0.44
2:B:969:ASP:C	2:B:970:PHE:HD2	2.21	0.44
1:E:20:G:P	2:G:403:ARG:NH1	2.90	0.44
2:G:50:ALA:HB3	2:G:1094:ILE:HD13	1.98	0.44
2:G:94:ASP:OD1	2:G:97:PHE:N	2.50	0.44
2:G:128:TYR:HD2	2:G:129:HIS:CD2	2.23	0.44
2:G:380:LEU:CG	2:G:386:THR:HG21	2.47	0.44
2:G:778:ARG:NH1	3:H:12:DC:OP2	2.47	0.44
2:G:1243:GLU:OE1	2:G:1246:LYS:NZ	2.47	0.44
2:B:49:GLY:HA2	2:B:1092:VAL:CG1	2.47	0.44
2:B:317:LEU:CD2	2:B:414:ILE:CD1	2.95	0.44
2:B:350:ILE:CG2	2:B:351:PHE:CD2	2.99	0.44
2:B:400:ARG:HD2	2:B:400:ARG:HA	1.65	0.44
2:B:450:TYR:OH	2:B:627:GLU:HG3	2.17	0.44
2:B:541:SER:O	2:B:545:LYS:HG3	2.18	0.44
2:B:974:LYS:HE2	2:B:982:HIS:CD2	2.53	0.44
2:B:1216:SER:CB	4:D:6:DG:C3'	2.96	0.44
2:G:167:HIS:HD2	2:G:169:LEU:HD12	1.83	0.44
2:G:169:LEU:CD2	3:H:14:DA:H5'	2.47	0.44
2:G:678:THR:O	2:G:681:ASP:HB2	2.18	0.44
2:G:884:ARG:NH1	2:G:884:ARG:CG	2.73	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:1187:TYR:N	2:G:1187:TYR:CD2	2.85	0.44
2:G:1267:ASP:OD1	2:G:1294:TYR:OH	2.34	0.44
1:A:15:U:H5''	2:B:70:ARG:NH1	2.33	0.44
2:B:20:VAL:O	2:B:27:VAL:HG23	2.18	0.44
2:B:234:LYS:HD3	2:B:234:LYS:C	2.38	0.44
2:B:847:LEU:HD21	2:B:849:ASP:CB	2.43	0.44
2:B:864:ARG:O	2:B:875:VAL:HG21	2.16	0.44
2:B:1076:LYS:O	2:B:1080:PHE:CD2	2.70	0.44
2:G:34:VAL:HG11	2:G:1359:ARG:CD	2.48	0.44
2:G:211:ILE:O	2:G:221:ARG:CG	2.65	0.44
2:G:382:LYS:HD3	2:G:382:LYS:HA	1.60	0.44
2:G:609:ASN:HB3	2:G:612:ASN:OD1	2.17	0.44
1:A:45:U:C5'	2:B:402:GLN:HG2	2.43	0.44
2:B:153:LEU:HD23	2:B:153:LEU:HA	1.80	0.44
2:B:206:VAL:HG23	2:B:206:VAL:O	2.17	0.44
2:B:341:GLN:HE21	2:B:342:GLN:N	2.16	0.44
2:B:1251:ASP:CA	2:B:1254:GLN:OE1	2.60	0.44
2:B:1292:SER:CA	2:B:1296:LYS:HE3	2.48	0.44
3:C:2:DA:H1'	3:C:3:DA:OP1	2.18	0.44
2:G:350:ILE:C	2:G:351:PHE:HD2	2.20	0.44
2:G:807:GLN:OE1	2:G:807:GLN:HA	2.16	0.44
2:G:970:PHE:O	2:G:971:GLN:HB2	2.16	0.44
1:A:78:A:C5	1:A:79:G:N7	2.85	0.44
2:B:27:VAL:HG11	2:B:1086:VAL:CG1	2.43	0.44
2:B:431:PRO:O	2:B:434:LYS:HG2	2.17	0.44
2:B:1235:PHE:CE2	2:B:1266:LEU:CD1	3.01	0.44
2:G:222:LEU:CG	2:G:223:GLU:N	2.81	0.44
1:A:53:G:OP1	2:B:1123:LYS:HG3	2.18	0.44
2:B:118:ILE:HG22	2:B:119:PHE:CE2	2.52	0.44
2:B:248:LEU:CD1	2:B:249:THR:N	2.73	0.44
2:B:291:LEU:HD23	2:B:292:ALA:N	2.33	0.44
2:B:838:VAL:HG23	2:B:857:LEU:HD12	2.00	0.44
2:B:923:GLU:HG2	2:B:928:THR:OG1	2.17	0.44
2:G:32:PHE:CE1	2:G:1355:LEU:HD13	2.53	0.44
2:G:48:ILE:HG13	2:G:49:GLY:H	1.83	0.44
2:G:631:MET:O	2:G:634:GLU:CB	2.66	0.44
2:G:934:ILE:O	2:G:938:ARG:HB2	2.18	0.44
1:A:64:U:OP1	2:B:1102:THR:OG1	2.26	0.43
2:B:483:ASP:OD1	2:B:486:ALA:HB2	2.18	0.43
2:B:550:ASP:HA	2:B:554:LYS:HG3	1.99	0.43
2:B:556:ASN:O	2:B:595:HIS:NE2	2.51	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:1246:LYS:NZ	2:B:1246:LYS:CB	2.73	0.43
2:B:1292:SER:CB	2:B:1296:LYS:NZ	2.80	0.43
2:B:1324:PHE:O	2:B:1331:ILE:N	2.41	0.43
1:E:42:A:C5'	1:E:42:A:H8	2.31	0.43
2:G:324:ARG:CZ	2:G:400:ARG:HH11	2.29	0.43
2:G:384:ASP:OD1	2:G:384:ASP:N	2.51	0.43
2:G:1126:TRP:HB3	2:G:1131:TYR:CD2	2.53	0.43
2:B:516:GLU:O	2:B:520:VAL:HG23	2.18	0.43
2:B:606:PHE:CE2	2:B:612:ASN:OD1	2.70	0.43
2:B:1062:LEU:CD2	2:B:1063:ILE:N	2.73	0.43
2:G:967:ARG:HG2	2:G:972:PHE:CB	2.48	0.43
2:B:328:HIS:O	2:B:332:LEU:N	2.51	0.43
2:B:513:LEU:O	2:B:516:GLU:HB2	2.18	0.43
2:B:568:TYR:CZ	2:B:573:GLU:OE2	2.70	0.43
2:B:692:ASN:CB	2:B:695:GLN:HG3	2.45	0.43
2:B:812:TYR:O	2:B:812:TYR:CD1	2.71	0.43
2:G:342:GLN:OE1	2:G:383:MET:CB	2.56	0.43
2:G:545:LYS:HZ3	2:G:690:ASN:ND2	2.06	0.43
2:G:717:GLY:O	2:G:718:ASP:OD1	2.36	0.43
2:G:1250:GLU:CG	2:G:1251:ASP:N	2.81	0.43
2:G:1263:LYS:CD	2:G:1263:LYS:C	2.87	0.43
2:G:1281:ILE:HG22	2:G:1283:ALA:H	1.81	0.43
1:A:27:G:H1'	2:B:129:HIS:ND1	2.34	0.43
1:A:49:A:P	2:B:76:LYS:HE2	2.58	0.43
2:B:138:LEU:HD21	2:B:153:LEU:HD22	2.00	0.43
2:B:423:LEU:HD12	2:B:437:ARG:HG3	2.00	0.43
2:B:530:VAL:O	2:B:578:VAL:HG23	2.18	0.43
2:B:568:TYR:CD2	2:B:569:PHE:CD2	3.06	0.43
2:B:683:LEU:HD23	2:B:683:LEU:HA	1.70	0.43
2:B:737:ILE:HD13	2:B:931:VAL:HG22	2.00	0.43
2:B:839:ASP:O	2:B:856:VAL:N	2.47	0.43
4:D:6:DG:H2''	4:D:7:DG:C5'	2.41	0.43
1:E:91:C:N4	2:G:44:LYS:HZ2	2.14	0.43
2:G:246:LEU:HD12	2:G:246:LEU:H	1.80	0.43
2:G:511:HIS:CD2	2:G:511:HIS:N	2.86	0.43
2:G:522:ASN:HA	2:G:683:LEU:HD13	2.01	0.43
2:B:451:TYR:HA	2:B:491:PHE:CD1	2.53	0.43
2:B:625:LEU:HD13	2:B:659:TRP:CH2	2.53	0.43
2:B:641:HIS:CD2	2:B:642:LEU:N	2.87	0.43
2:B:1141:TYR:OH	2:B:1175:GLU:OE2	2.21	0.43
1:E:13:A:H2'	1:E:14:A:H8	1.84	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:29:G:H2'	1:E:30:C:H6	1.83	0.43
2:G:128:TYR:CD2	2:G:129:HIS:CD2	3.05	0.43
2:G:291:LEU:C	2:G:291:LEU:CD2	2.87	0.43
2:G:933:GLN:OE1	2:G:937:SER:OG	2.25	0.43
2:B:139:ARG:HH22	2:B:415:HIS:CD2	2.37	0.43
2:B:374:LYS:HG2	2:B:374:LYS:O	2.18	0.43
2:B:499:ASP:HB3	2:B:502:LEU:O	2.19	0.43
2:B:1360:ILE:HG22	2:B:1362:LEU:HD23	2.00	0.43
1:E:54:G:C6	1:E:55:C:N4	2.87	0.43
2:G:106:LEU:H	2:G:106:LEU:CD1	2.02	0.43
2:G:148:LYS:CD	2:G:429:PHE:HD1	2.30	0.43
2:G:499:ASP:OD1	2:G:661:ARG:O	2.36	0.43
2:G:902:LYS:O	2:G:906:GLY:HA2	2.17	0.43
1:A:64:U:O5'	1:A:64:U:H6	2.01	0.43
2:B:1122:ARG:CG	2:B:1134:PHE:HE2	2.31	0.43
2:G:64:LEU:HD12	2:G:64:LEU:HA	1.84	0.43
2:G:253:LYS:CE	2:G:261:ASP:N	2.77	0.43
2:B:464:TRP:HD1	2:B:490:SER:HB3	1.84	0.43
2:B:944:ASP:OD1	2:B:948:LYS:O	2.36	0.43
2:B:1219:GLU:HG3	2:B:1220:LEU:H	1.83	0.43
1:E:14:A:OP1	2:G:66:ARG:NH2	2.51	0.43
2:G:35:LEU:HD12	2:G:1357:GLU:O	2.19	0.43
2:G:107:VAL:HG21	2:G:1130:LYS:HD2	2.01	0.43
2:G:240:ASN:HB2	2:G:250:PRO:HB2	2.01	0.43
2:G:294:LYS:HD3	2:G:295:ASN:OD1	2.19	0.43
2:G:321:MET:H	2:G:321:MET:HG2	1.60	0.43
2:G:810:LYS:HD3	2:G:857:LEU:CD1	2.49	0.43
2:G:825:ASP:N	2:G:879:MET:SD	2.92	0.43
2:G:1224:ASN:HB2	2:G:1280:VAL:HG11	2.00	0.43
1:A:24:U:C1'	2:B:105:PHE:HE1	2.27	0.43
1:A:94:U:H2'	1:A:95:G:C8	2.53	0.43
2:B:224:ASN:O	2:B:228:GLN:NE2	2.52	0.43
2:B:256:PHE:CD2	2:B:282:ILE:HG21	2.54	0.43
2:B:424:ARG:HD2	2:B:424:ARG:HA	1.55	0.43
2:B:432:PHE:CD1	2:B:432:PHE:C	2.91	0.43
2:B:841:ILE:CD1	2:B:900:LEU:HD21	2.47	0.43
2:B:1270:ILE:O	2:B:1274:SER:N	2.47	0.43
1:E:75:A:C2	1:E:76:A:C4	3.07	0.43
1:E:97:U:H3'	1:E:98:C:C6	2.54	0.43
2:G:35:LEU:O	2:G:1359:ARG:N	2.52	0.43
2:B:311:GLU:H	2:B:311:GLU:CD	2.21	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:739:GLN:OE1	2:B:1352:ILE:HD11	2.19	0.43
2:B:1235:PHE:CZ	2:B:1266:LEU:HD13	2.53	0.43
1:E:96:C:O5'	1:E:96:C:H6	2.02	0.43
2:G:720:LEU:O	2:G:723:HIS:C	2.53	0.43
2:G:1302:ILE:H	2:G:1302:ILE:HG12	1.59	0.43
2:G:1312:LEU:O	2:G:1315:LEU:N	2.46	0.43
2:B:849:ASP:OD2	2:B:854:ASN:CB	2.67	0.42
2:G:5:TYR:CZ	2:G:756:PRO:HG3	2.54	0.42
2:G:83:GLN:HG2	2:G:98:PHE:CZ	2.54	0.42
2:G:179:SER:CA	2:G:310:THR:HG23	2.35	0.42
2:G:516:GLU:OE2	2:G:593:THR:OG1	2.36	0.42
2:G:629:ARG:NH2	2:G:655:ARG:NH2	2.63	0.42
2:G:654:ARG:HD2	2:G:654:ARG:HA	1.70	0.42
2:G:720:LEU:HD23	2:G:720:LEU:H	1.84	0.42
2:G:841:ILE:CD1	2:G:900:LEU:HD21	2.49	0.42
2:G:890:LYS:HB3	2:G:890:LYS:HE3	1.58	0.42
3:H:24:DG:H2'	3:H:25:DG:C4'	2.49	0.42
1:A:57:A:H5'	2:B:457:ARG:HH22	1.77	0.42
2:B:48:ILE:HD11	2:B:984:ALA:O	2.19	0.42
2:B:63:ARG:HA	2:B:66:ARG:HD3	2.01	0.42
2:B:256:PHE:CE2	2:B:282:ILE:HD13	2.53	0.42
2:B:296:LEU:C	2:B:296:LEU:CD2	2.85	0.42
2:B:336:LYS:CG	2:B:347:TYR:HE2	2.32	0.42
2:B:359:TYR:CZ	2:B:363:ILE:HD11	2.54	0.42
2:B:1264:HIS:HE1	2:B:1268:GLU:OE2	2.01	0.42
1:E:8:G:N2	1:E:9:U:C2	2.88	0.42
2:G:201:ILE:HG23	2:G:229:LEU:HD23	2.01	0.42
2:G:515:TYR:O	2:G:519:THR:HG22	2.19	0.42
2:G:813:LEU:HD23	2:G:813:LEU:HA	1.83	0.42
2:G:976:ARG:H	2:G:976:ARG:NE	2.04	0.42
2:G:1154:SER:O	2:G:1155:LYS:HB2	2.19	0.42
2:G:1235:PHE:HE2	2:G:1266:LEU:CD1	2.33	0.42
3:H:7:DC:N4	4:J:5:DA:N6	2.67	0.42
1:A:48:A:H2'	1:A:49:A:C8	2.55	0.42
2:B:649:LYS:HA	2:B:652:LYS:HD3	2.00	0.42
2:B:655:ARG:CG	2:B:655:ARG:NH1	2.73	0.42
2:B:1002:PRO:O	2:B:1005:GLU:HB2	2.19	0.42
2:B:1135:ASP:CG	2:B:1136:SER:N	2.72	0.42
2:G:152:ARG:HE	2:G:152:ARG:HB2	1.73	0.42
2:G:218:LYS:HD2	2:G:218:LYS:N	2.22	0.42
2:G:270:THR:HB	2:G:629:ARG:HG3	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:271:TYR:O	2:G:274:ASP:N	2.52	0.42
2:G:373:TYR:CZ	2:G:398:LEU:HB3	2.54	0.42
2:G:497:ASN:C	2:G:498:PHE:CD2	2.87	0.42
2:G:816:LEU:HD23	2:G:816:LEU:HA	1.82	0.42
1:A:31:U:H2'	1:A:32:A:O4'	2.20	0.42
2:B:45:LYS:HE3	2:B:45:LYS:HB3	1.78	0.42
2:B:121:ASN:HD21	2:B:124:ASP:CG	2.19	0.42
2:B:244:LEU:CD2	2:B:266:LEU:CD1	2.97	0.42
2:B:345:GLU:HG2	2:B:346:LYS:H	1.83	0.42
2:B:380:LEU:HD11	2:B:398:LEU:HD11	2.00	0.42
2:B:765:ARG:HH22	2:B:848:LYS:CE	2.32	0.42
2:B:883:TRP:CZ3	2:B:900:LEU:HB3	2.54	0.42
2:B:896:LYS:O	2:B:900:LEU:HG	2.20	0.42
2:B:1212:ARG:NH2	2:B:1280:VAL:O	2.53	0.42
1:E:12:U:H2'	1:E:13:A:C8	2.52	0.42
1:E:27:G:N2	1:E:44:U:OP2	2.53	0.42
2:G:100:ARG:CZ	2:G:117:PRO:O	2.67	0.42
2:G:249:THR:CG2	2:G:265:GLN:HB2	2.50	0.42
2:G:483:ASP:O	2:G:484:LYS:C	2.56	0.42
2:G:1264:HIS:O	2:G:1268:GLU:HG2	2.20	0.42
1:A:36:A:C5	1:A:37:U:H1'	2.54	0.42
2:B:333:THR:O	2:B:337:ALA:CB	2.67	0.42
2:B:447:ARG:HG2	2:B:448:ILE:O	2.19	0.42
2:B:1153:LYS:O	2:B:1155:LYS:HG3	2.20	0.42
1:E:69:A:H2'	1:E:70:C:C6	2.54	0.42
2:G:335:LEU:HD12	2:G:335:LEU:O	2.19	0.42
2:G:564:LEU:HD12	2:G:564:LEU:C	2.40	0.42
2:G:830:ILE:HD12	2:G:831:ASN:H	1.83	0.42
2:G:1211:LYS:O	2:G:1223:GLY:HA3	2.20	0.42
2:B:248:LEU:HD22	2:B:249:THR:N	2.28	0.42
2:B:351:PHE:N	2:B:351:PHE:HD2	2.16	0.42
2:B:756:PRO:O	2:B:953:VAL:HG22	2.20	0.42
2:B:760:VAL:HG11	2:B:990:ASN:O	2.20	0.42
2:B:846:PHE:CZ	2:B:913:LYS:HD3	2.54	0.42
2:B:1154:SER:O	2:B:1155:LYS:HB2	2.20	0.42
1:E:94:U:H2'	1:E:95:G:C8	2.55	0.42
2:G:34:VAL:HG11	2:G:1359:ARG:HD2	2.02	0.42
2:G:704:PHE:O	2:G:708:ILE:HG13	2.20	0.42
2:G:839:ASP:O	2:G:855:LYS:HA	2.19	0.42
2:G:928:THR:O	2:G:928:THR:OG1	2.34	0.42
2:G:1256:GLN:NE2	2:G:1256:GLN:C	2.73	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:1290:VAL:HG13	2:G:1312:LEU:CD1	2.49	0.42
2:B:94:ASP:HB2	2:B:152:ARG:HH11	1.83	0.42
2:B:173:ASP:O	2:B:174:LEU:HD12	2.19	0.42
2:B:184:LEU:CD1	2:B:295:ASN:O	2.66	0.42
2:B:1204:PHE:CE2	2:B:1342:VAL:HG11	2.55	0.42
1:E:34:A:N6	1:E:35:A:C2	2.88	0.42
2:G:177:ASP:HB2	6:G:1510:HOH:O	2.17	0.42
2:G:449:PRO:HB2	2:G:452:VAL:HG23	2.02	0.42
2:G:511:HIS:O	2:G:593:THR:HG21	2.20	0.42
2:G:672:ASP:N	2:G:704:PHE:CZ	2.87	0.42
2:G:1324:PHE:HD1	2:G:1324:PHE:H	1.67	0.42
1:A:45:U:H5'	2:B:402:GLN:CG	2.44	0.42
2:B:119:PHE:CD2	2:B:119:PHE:N	2.87	0.42
2:B:342:GLN:CG	2:B:383:MET:HE2	2.29	0.42
2:B:488:ALA:O	2:B:491:PHE:HB3	2.19	0.42
2:B:1177:ASN:ND2	2:B:1180:ASP:CG	2.73	0.42
2:B:1295:ASN:O	2:B:1298:ARG:HG3	2.19	0.42
2:G:27:VAL:HA	2:G:28:PRO:HD3	1.83	0.42
2:G:211:ILE:O	2:G:221:ARG:CD	2.68	0.42
2:G:412:HIS:HD2	2:G:413:GLN:NE2	2.17	0.42
2:G:824:VAL:HG21	2:G:863:ASN:ND2	2.35	0.42
2:G:1123:LYS:NZ	6:G:1504:HOH:O	2.33	0.42
2:B:216:LEU:HD23	2:B:216:LEU:H	1.82	0.42
2:B:421:ALA:O	2:B:425:ARG:HB2	2.19	0.42
2:B:926:GLN:C	2:B:929:LYS:HG3	2.38	0.42
3:C:3:DA:H2''	3:C:4:DT:O5'	2.20	0.42
2:G:54:ASP:OD2	2:G:1201:TYR:OH	2.23	0.42
2:G:234:LYS:HE2	2:G:235:ASN:CA	2.49	0.42
2:G:274:ASP:HA	2:G:277:ASN:HD22	1.85	0.42
2:G:713:VAL:O	2:G:714:SER:C	2.58	0.42
2:G:973:TYR:HD2	2:G:1234:ASN:HA	1.85	0.42
2:G:1139:VAL:HA	2:G:1167:THR:HA	2.01	0.42
2:G:1264:HIS:HE1	2:G:1268:GLU:OE2	1.89	0.42
1:A:10:U:H2'	1:A:11:C:C6	2.55	0.42
2:B:600:ILE:O	2:B:647:VAL:CG1	2.58	0.42
2:B:829:ASP:OD1	2:B:831:ASN:N	2.53	0.42
2:B:1291:LEU:HD23	2:B:1291:LEU:HA	1.82	0.42
2:B:1325:LYS:HB3	2:B:1330:THR:HA	1.99	0.42
2:G:94:ASP:HB2	2:G:152:ARG:HD3	2.02	0.42
2:G:307:ARG:HB3	2:G:307:ARG:HH11	1.85	0.42
2:G:1210:ARG:HE	2:G:1212:ARG:NH1	2.18	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:43:G:O2'	2:B:363:ILE:HG13	2.19	0.41
2:B:249:THR:HG22	2:B:265:GLN:HB2	2.01	0.41
2:B:352:PHE:HD2	2:B:352:PHE:HA	1.75	0.41
2:B:536:LYS:HB2	2:B:536:LYS:HE2	1.83	0.41
2:G:198:GLU:C	2:G:199:ASN:ND2	2.73	0.41
2:G:200:PRO:HD2	2:G:200:PRO:O	2.20	0.41
2:G:277:ASN:HB3	2:G:653:ARG:CZ	2.50	0.41
2:G:756:PRO:O	2:G:953:VAL:CG2	2.42	0.41
2:G:849:ASP:OD1	2:G:854:ASN:CB	2.67	0.41
1:A:67:C:P	2:B:739:GLN:HE22	2.43	0.41
2:B:234:LYS:HD3	2:B:235:ASN:CG	2.41	0.41
2:B:341:GLN:NE2	2:B:341:GLN:C	2.73	0.41
2:B:1031:LYS:HZ2	2:B:1031:LYS:HB2	1.85	0.41
2:B:1245:LEU:HD13	2:B:1252:ASN:OD1	2.20	0.41
4:D:8:DT:H2''	4:D:9:DA:H5'	2.02	0.41
2:G:134:THR:HG23	2:G:325:TYR:CE1	2.55	0.41
2:G:201:ILE:CG2	2:G:229:LEU:HD23	2.49	0.41
2:G:333:THR:HA	2:G:336:LYS:CB	2.50	0.41
2:G:359:TYR:O	2:G:359:TYR:CD2	2.73	0.41
2:G:498:PHE:CD2	2:G:498:PHE:N	2.88	0.41
2:G:554:LYS:HD3	2:G:594:TYR:CZ	2.56	0.41
2:G:790:GLU:CG	2:G:889:ALA:HA	2.51	0.41
2:G:1136:SER:HA	4:J:7:DG:O3'	2.20	0.41
2:G:1210:ARG:HE	2:G:1212:ARG:CZ	2.33	0.41
2:G:1229:PRO:CD	2:G:1272:GLN:OE1	2.67	0.41
1:A:12:U:H2'	1:A:13:A:H8	1.84	0.41
1:A:92:G:C2	1:A:93:G:C4	3.08	0.41
2:B:40:ARG:CZ	2:B:43:ILE:HD13	2.50	0.41
2:B:256:PHE:CE2	2:B:282:ILE:HG21	2.54	0.41
2:G:40:ARG:C	2:G:41:HIS:ND1	2.73	0.41
2:G:118:ILE:C	2:G:119:PHE:CD2	2.94	0.41
2:G:118:ILE:CB	2:G:119:PHE:CD2	2.97	0.41
2:G:321:MET:HB3	2:G:402:GLN:OE1	2.20	0.41
2:G:843:PRO:HD2	2:G:846:PHE:CD2	2.54	0.41
2:G:849:ASP:OD1	2:G:854:ASN:HB2	2.20	0.41
2:G:1147:ALA:HB2	2:G:1190:VAL:HG13	2.03	0.41
2:B:377:LYS:HE3	2:B:377:LYS:HB2	1.78	0.41
2:B:627:GLU:N	2:B:627:GLU:CD	2.73	0.41
2:B:1105:PHE:O	2:B:1137:PRO:HA	2.20	0.41
2:B:1212:ARG:CZ	2:B:1336:TYR:CE2	3.01	0.41
2:B:1213:MET:O	2:B:1221:GLN:N	2.52	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:42:A:H8	1:E:42:A:H5'	1.84	0.41
1:E:89:G:N1	2:G:1272:GLN:NE2	2.68	0.41
2:G:173:ASP:OD1	2:G:173:ASP:N	2.53	0.41
2:G:359:TYR:HE2	2:G:363:ILE:CD1	2.32	0.41
2:G:801:VAL:HG11	2:G:815:TYR:CZ	2.55	0.41
2:G:1076:LYS:HG3	2:G:1080:PHE:CE2	2.55	0.41
2:B:253:LYS:HB2	2:B:262:ALA:H	1.84	0.41
2:B:271:TYR:CD2	2:B:271:TYR:C	2.93	0.41
2:B:350:ILE:CG2	2:B:351:PHE:HE2	2.34	0.41
2:B:623:LEU:HD12	2:B:623:LEU:HA	1.52	0.41
2:B:832:ARG:HD2	2:B:835:ASP:OD2	2.21	0.41
2:B:856:VAL:HG12	2:B:857:LEU:N	2.34	0.41
2:B:925:ARG:C	2:B:929:LYS:HE3	2.41	0.41
2:B:1185:LYS:HA	2:B:1185:LYS:HD2	1.77	0.41
2:B:1205:GLU:HB2	2:B:1211:LYS:HG3	2.02	0.41
2:B:1220:LEU:CD2	2:B:1342:VAL:HG21	2.50	0.41
2:B:1295:ASN:OD1	2:B:1298:ARG:NH2	2.53	0.41
2:B:1304:GLU:C	2:B:1327:PHE:HE1	2.24	0.41
3:C:5:DA:C2	4:D:9:DA:C2	3.08	0.41
2:G:249:THR:CG2	2:G:265:GLN:OE1	2.69	0.41
2:G:349:GLU:CD	2:G:356:LYS:HD2	2.40	0.41
2:G:452:VAL:HG11	2:G:478:PHE:HZ	1.85	0.41
2:G:460:SER:HB3	2:G:463:ALA:HB3	2.02	0.41
2:G:744:VAL:O	2:G:748:VAL:HG23	2.20	0.41
2:G:967:ARG:NE	2:G:972:PHE:O	2.53	0.41
2:B:78:ARG:HG2	2:B:443:ILE:HG23	2.01	0.41
2:B:535:ARG:HG2	2:B:536:LYS:H	1.86	0.41
2:B:601:ILE:HD12	2:B:603:ASP:HB3	2.02	0.41
2:B:1298:ARG:HA	2:B:1305:GLN:NE2	2.35	0.41
2:G:201:ILE:CD1	2:G:238:PHE:CG	3.03	0.41
2:G:1120:ILE:HG22	2:G:1121:ALA:N	2.35	0.41
1:A:8:G:C2	3:C:22:DA:C2	3.09	0.41
1:A:26:A:H2'	1:A:27:G:C8	2.56	0.41
2:B:82:LEU:HB3	2:B:155:TYR:HE1	1.85	0.41
2:B:122:ILE:O	2:B:126:VAL:HG23	2.21	0.41
2:B:186:ILE:CD1	2:B:203:ALA:CB	2.99	0.41
2:B:244:LEU:HD11	2:B:264:LEU:O	2.20	0.41
2:B:252:PHE:CE1	2:B:278:LEU:HD21	2.55	0.41
2:B:286:TYR:O	2:B:289:LEU:HB2	2.21	0.41
2:B:402:GLN:OE1	2:B:402:GLN:HA	2.20	0.41
2:B:454:PRO:HD2	2:B:463:ALA:HA	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:697:ILE:HA	2:B:697:ILE:HD12	1.84	0.41
2:B:842:VAL:HG13	2:B:847:LEU:HD22	2.02	0.41
2:B:1232:TYR:CE1	2:B:1268:GLU:HB2	2.56	0.41
1:E:25:U:HO2'	2:G:111:LYS:NZ	2.12	0.41
1:E:47:A:H2'	1:E:48:A:C8	2.56	0.41
2:G:20:VAL:O	2:G:27:VAL:HG23	2.20	0.41
2:G:333:THR:O	2:G:337:ALA:N	2.31	0.41
2:G:1220:LEU:HG	2:G:1339:THR:HG22	2.03	0.41
2:G:1236:LEU:HA	2:G:1236:LEU:HD23	1.87	0.41
2:B:38:THR:CG2	2:B:39:ASP:N	2.84	0.41
2:B:86:PHE:CE2	2:B:155:TYR:HB2	2.55	0.41
2:B:395:ARG:HG3	2:B:395:ARG:HH11	1.86	0.41
2:B:1232:TYR:OH	2:B:1268:GLU:HB3	2.21	0.41
2:B:1240:SER:OG	2:B:1310:ILE:HD12	2.20	0.41
4:D:4:DT:C4	4:D:5:DA:N1	2.88	0.41
1:E:53:G:C5	1:E:62:G:N2	2.89	0.41
2:G:38:THR:HG22	2:G:40:ARG:HG3	2.02	0.41
2:G:116:HIS:CE1	2:G:122:ILE:CD1	3.03	0.41
2:G:191:THR:HA	2:G:194:GLN:HG2	2.03	0.41
2:G:615:ILE:O	2:G:619:ILE:HB	2.21	0.41
2:G:870:VAL:HG11	2:G:902:LYS:HB3	2.03	0.41
2:G:976:ARG:NH2	2:G:977:GLU:CD	2.73	0.41
2:G:1135:ASP:CG	2:G:1136:SER:N	2.73	0.41
2:G:1263:LYS:HD3	2:G:1263:LYS:O	2.21	0.41
2:G:1301:PRO:HD2	2:G:1304:GLU:OE2	2.20	0.41
1:A:17:G:C2	1:A:18:A:C8	3.09	0.41
2:B:49:GLY:HA2	2:B:1092:VAL:HG13	2.03	0.41
2:B:70:ARG:NH1	2:B:454:PRO:HG2	2.35	0.41
2:B:107:VAL:O	2:B:111:LYS:N	2.54	0.41
2:B:165:ARG:C	2:B:415:HIS:ND1	2.74	0.41
2:B:192:TYR:CE1	2:B:237:LEU:HD23	2.50	0.41
2:B:424:ARG:HH11	2:B:424:ARG:CG	2.30	0.41
2:B:641:HIS:CD2	2:B:642:LEU:H	2.38	0.41
2:B:678:THR:O	2:B:682:PHE:N	2.42	0.41
2:B:746:GLU:OE1	2:B:1352:ILE:HG22	2.21	0.41
2:B:780:ARG:H	2:B:780:ARG:HG2	1.67	0.41
2:B:1257:LEU:O	2:B:1261:GLN:N	2.43	0.41
2:B:1335:ARG:C	2:B:1336:TYR:HD1	2.25	0.41
1:E:11:C:N3	1:E:12:U:C4	2.88	0.41
1:E:26:A:C5	1:E:27:G:N7	2.89	0.41
2:G:38:THR:CG2	2:G:40:ARG:HG3	2.51	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:118:ILE:HG12	2:G:118:ILE:H	1.59	0.41
2:G:207:ASP:CB	2:G:210:ALA:H	2.33	0.41
2:G:238:PHE:HE2	2:G:242:ILE:CD1	2.32	0.41
2:G:253:LYS:HE3	2:G:261:ASP:CB	2.51	0.41
2:G:540:LEU:HD23	2:G:545:LYS:HG2	2.02	0.41
2:G:594:TYR:CD2	2:G:594:TYR:C	2.94	0.41
2:G:623:LEU:HD21	2:G:654:ARG:O	2.20	0.41
2:G:631:MET:C	2:G:634:GLU:H	2.22	0.41
2:G:758:ASN:HD22	2:G:995:THR:HG22	1.85	0.41
2:G:783:ARG:NH1	5:G:1401:SO4:O1	2.54	0.41
2:G:1071:GLU:CG	2:G:1072:ILE:N	2.84	0.41
2:G:1206:LEU:C	2:G:1207:GLU:HG2	2.41	0.41
3:H:7:DC:H2''	3:H:8:DT:O4'	2.20	0.41
2:B:294:LYS:O	2:B:297:SER:HB3	2.21	0.41
2:B:449:PRO:HD2	2:B:452:VAL:CG2	2.47	0.41
2:B:616:LEU:O	2:B:619:ILE:HG22	2.21	0.41
2:B:678:THR:O	2:B:681:ASP:HB2	2.21	0.41
2:B:686:ASP:OD2	2:B:691:ARG:HB2	2.20	0.41
2:B:992:VAL:HA	2:B:995:THR:HG1	1.85	0.41
2:B:1244:LYS:NZ	2:B:1244:LYS:HB2	2.36	0.41
1:E:97:U:C4	1:E:98:C:C2	3.08	0.41
2:G:4:LYS:HE2	2:G:4:LYS:HB2	1.90	0.41
2:G:118:ILE:N	2:G:125:GLU:OE1	2.54	0.41
2:G:373:TYR:HA	2:G:376:ILE:HD11	2.02	0.41
2:G:474:THR:N	2:G:477:ASN:OD1	2.49	0.41
2:G:498:PHE:HD2	2:G:498:PHE:N	2.18	0.41
2:G:1047:LYS:HE2	2:G:1047:LYS:HB3	1.84	0.41
2:G:1289:LYS:HD3	2:G:1331:ILE:HG23	2.03	0.41
2:B:249:THR:HA	2:B:264:LEU:O	2.21	0.40
2:B:312:ILE:H	2:B:312:ILE:HG13	1.68	0.40
2:B:666:LEU:HD23	2:B:666:LEU:HA	1.63	0.40
2:B:801:VAL:HG11	2:B:815:TYR:HE2	1.86	0.40
2:B:987:ALA:O	2:B:991:ALA:N	2.50	0.40
2:B:1161:LYS:O	2:B:1343:LEU:HD13	2.22	0.40
1:E:27:G:H4'	1:E:28:A:OP2	2.20	0.40
2:G:169:LEU:HD21	3:H:14:DA:H5'	2.02	0.40
2:B:6:SER:O	2:B:21:ILE:HG12	2.22	0.40
2:B:240:ASN:HB3	2:B:250:PRO:HB2	2.04	0.40
2:B:688:PHE:HD2	2:B:688:PHE:HA	1.76	0.40
2:B:924:THR:O	2:B:929:LYS:CE	2.69	0.40
2:B:1041:ASN:HD22	2:B:1041:ASN:N	2.20	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:1139:VAL:HA	2:B:1167:THR:HA	2.03	0.40
2:B:1286:ASN:O	2:B:1289:LYS:CB	2.69	0.40
2:G:66:ARG:NH1	2:G:462:PHE:HZ	2.14	0.40
2:G:114:GLU:CG	2:G:120:GLY:HA2	2.49	0.40
2:G:788:ILE:HG22	2:G:793:SER:O	2.22	0.40
2:G:808:ASN:HB3	2:G:811:LEU:HB3	2.03	0.40
2:G:820:ARG:HG2	2:G:826:GLN:O	2.20	0.40
2:G:901:THR:O	2:G:902:LYS:C	2.58	0.40
2:G:981:TYR:CD2	2:G:1092:VAL:CG2	3.04	0.40
2:G:1244:LYS:O	2:G:1246:LYS:HE3	2.22	0.40
2:B:115:ARG:HH11	2:B:115:ARG:HD2	1.78	0.40
2:B:184:LEU:CD1	2:B:295:ASN:C	2.90	0.40
2:B:1091:GLN:NE2	2:B:1091:GLN:C	2.73	0.40
2:B:1255:LYS:HE2	2:B:1255:LYS:N	2.36	0.40
2:G:70:ARG:CZ	2:G:454:PRO:HG3	2.51	0.40
2:G:136:TYR:HA	2:G:139:ARG:HG3	2.02	0.40
2:G:637:LYS:HE3	2:G:637:LYS:HB2	1.76	0.40
1:A:91:C:O2'	1:A:92:G:P	2.80	0.40
2:B:1092:VAL:HG12	2:B:1093:ASN:N	2.37	0.40
2:B:1122:ARG:HG3	2:B:1134:PHE:HE2	1.86	0.40
2:G:103:GLU:CA	2:G:106:LEU:HD11	2.46	0.40
2:G:249:THR:HA	2:G:250:PRO:HD3	1.86	0.40
2:G:269:ASP:OD1	2:G:269:ASP:N	2.53	0.40
2:G:304:ASP:OD1	2:G:304:ASP:N	2.44	0.40
2:G:308:VAL:CG1	2:G:309:ASN:N	2.73	0.40
2:G:530:VAL:HG13	2:G:537:PRO:HB2	1.73	0.40
2:G:906:GLY:HA2	2:G:907:GLY:HA3	1.53	0.40
1:A:19:A:O2'	2:B:407:ASN:O	2.40	0.40
1:A:62:G:H8	2:B:69:ARG:NH1	2.14	0.40
2:B:118:ILE:HB	2:B:119:PHE:CE2	2.57	0.40
2:B:212:LEU:HD13	2:B:212:LEU:HA	1.79	0.40
2:B:282:ILE:HG22	2:B:286:TYR:HE1	1.87	0.40
2:B:290:PHE:O	2:B:293:ALA:HB3	2.20	0.40
2:B:300:ILE:O	2:B:303:SER:CB	2.70	0.40
2:B:342:GLN:CB	2:B:383:MET:HE3	2.50	0.40
2:B:451:TYR:HB2	2:B:488:ALA:HA	2.03	0.40
2:B:561:VAL:HG23	2:B:585:ASP:O	2.21	0.40
2:B:568:TYR:HD2	2:B:569:PHE:CE2	2.40	0.40
2:B:1265:TYR:HA	2:B:1268:GLU:HG3	2.03	0.40
2:B:1321:PRO:HB2	2:B:1333:ARG:HD2	2.02	0.40
1:E:8:G:HO2'	1:E:9:U:P	2.44	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:89:GLU:OE1	2:G:92:LYS:HD2	2.20	0.40
2:G:234:LYS:CD	2:G:235:ASN:ND2	2.74	0.40
2:G:249:THR:HG22	2:G:265:GLN:CB	2.52	0.40
2:G:465:MET:CE	2:G:467:ARG:HD2	2.52	0.40
2:G:706:GLU:HA	2:G:709:GLN:CG	2.50	0.40
2:G:789:LYS:HB2	2:G:789:LYS:HE3	1.61	0.40
2:G:1357:GLU:O	2:G:1358:THR:CG2	2.69	0.40

There are no symmetry-related clashes.

## 5.3 Torsion angles [i](#)

### 5.3.1 Protein backbone [i](#)

In the following table, the Percentiles column shows the percent Ramachandran outliers of the chain as a percentile score with respect to all 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	B	1318/1368 (96%)	1279 (97%)	38 (3%)	1 (0%)	48 77
2	G	1318/1368 (96%)	1273 (97%)	43 (3%)	2 (0%)	44 72
All	All	2636/2736 (96%)	2552 (97%)	81 (3%)	3 (0%)	48 77

All (3) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
2	B	200	PRO
2	G	200	PRO
2	G	230	PRO

### 5.3.2 Protein sidechains [i](#)

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	B	1185/1225 (97%)	943 (80%)	242 (20%)	1	4
2	G	1186/1225 (97%)	957 (81%)	229 (19%)	1	5
All	All	2371/2450 (97%)	1900 (80%)	471 (20%)	1	5

All (471) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
2	B	4	LYS
2	B	9	LEU
2	B	40	ARG
2	B	47	LEU
2	B	57	GLU
2	B	62	THR
2	B	72	TYR
2	B	76	LYS
2	B	96	SER
2	B	104	SER
2	B	106	LEU
2	B	107	VAL
2	B	111	LYS
2	B	114	GLU
2	B	121	ASN
2	B	165	ARG
2	B	167	HIS
2	B	177	ASP
2	B	181	VAL
2	B	183	LYS
2	B	184	LEU
2	B	195	LEU
2	B	204	SER
2	B	209	LYS
2	B	216	LEU
2	B	218	LYS
2	B	233	LYS
2	B	234	LYS
2	B	245	SER
2	B	246	LEU
2	B	252	PHE
2	B	254	SER
2	B	265	GLN
2	B	268	LYS

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Mol	Chain	Res	Type
2	B	270	THR
2	B	274	ASP
2	B	275	LEU
2	B	278	LEU
2	B	279	LEU
2	B	289	LEU
2	B	294	LYS
2	B	301	LEU
2	B	302	LEU
2	B	304	ASP
2	B	305	ILE
2	B	309	ASN
2	B	311	GLU
2	B	317	LEU
2	B	320	SER
2	B	323	LYS
2	B	338	LEU
2	B	341	GLN
2	B	342	GLN
2	B	348	LYS
2	B	352	PHE
2	B	368	SER
2	B	376	ILE
2	B	377	LYS
2	B	382	LYS
2	B	383	MET
2	B	384	ASP
2	B	390	LEU
2	B	397	ASP
2	B	398	LEU
2	B	400	ARG
2	B	404	THR
2	B	405	PHE
2	B	407	ASN
2	B	419	LEU
2	B	423	LEU
2	B	424	ARG
2	B	425	ARG
2	B	429	PHE
2	B	432	PHE
2	B	434	LYS
2	B	436	ASN

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Mol	Chain	Res	Type
2	B	442	LYS
2	B	445	THR
2	B	455	LEU
2	B	460	SER
2	B	468	LYS
2	B	469	SER
2	B	479	GLU
2	B	490	SER
2	B	502	LEU
2	B	506	LYS
2	B	508	LEU
2	B	510	LYS
2	B	513	LEU
2	B	514	LEU
2	B	531	THR
2	B	532	GLU
2	B	535	ARG
2	B	536	LYS
2	B	540	LEU
2	B	543	GLU
2	B	546	LYS
2	B	550	ASP
2	B	555	THR
2	B	556	ASN
2	B	557	ARG
2	B	571	LYS
2	B	574	CYS
2	B	577	SER
2	B	580	ILE
2	B	583	VAL
2	B	585	ASP
2	B	598	LEU
2	B	601	ILE
2	B	602	LYS
2	B	610	GLU
2	B	627	GLU
2	B	631	MET
2	B	636	LEU
2	B	653	ARG
2	B	655	ARG
2	B	673	LYS
2	B	675	SER

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Mol	Chain	Res	Type
2	B	677	LYS
2	B	688	PHE
2	B	690	ASN
2	B	691	ARG
2	B	694	MET
2	B	701	SER
2	B	703	THR
2	B	709	GLN
2	B	718	ASP
2	B	719	SER
2	B	730	SER
2	B	740	THR
2	B	751	MET
2	B	753	ARG
2	B	776	ASN
2	B	777	SER
2	B	778	ARG
2	B	779	GLU
2	B	782	LYS
2	B	785	GLU
2	B	788	ILE
2	B	791	LEU
2	B	795	ILE
2	B	796	LEU
2	B	803	ASN
2	B	814	TYR
2	B	820	ARG
2	B	822	MET
2	B	828	LEU
2	B	830	ILE
2	B	833	LEU
2	B	834	SER
2	B	837	ASP
2	B	844	GLN
2	B	845	SER
2	B	847	LEU
2	B	850	ASP
2	B	851	SER
2	B	853	ASP
2	B	859	ARG
2	B	861	ASP
2	B	866	LYS

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Mol	Chain	Res	Type
2	B	867	SER
2	B	877	LYS
2	B	885	GLN
2	B	887	LEU
2	B	893	THR
2	B	895	ARG
2	B	905	ARG
2	B	908	LEU
2	B	910	GLU
2	B	911	LEU
2	B	933	GLN
2	B	938	ARG
2	B	940	ASN
2	B	964	SER
2	B	968	LYS
2	B	974	LYS
2	B	976	ARG
2	B	977	GLU
2	B	979	ASN
2	B	1006	SER
2	B	1007	GLU
2	B	1031	LYS
2	B	1035	LYS
2	B	1038	PHE
2	B	1045	PHE
2	B	1047	LYS
2	B	1060	ARG
2	B	1062	LEU
2	B	1082	THR
2	B	1087	LEU
2	B	1089	MET
2	B	1091	GLN
2	B	1106	SER
2	B	1113	LYS
2	B	1135	ASP
2	B	1136	SER
2	B	1148	LYS
2	B	1150	GLU
2	B	1151	LYS
2	B	1154	SER
2	B	1156	LYS
2	B	1158	LYS

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Mol	Chain	Res	Type
2	B	1171	ARG
2	B	1174	PHE
2	B	1175	GLU
2	B	1191	LYS
2	B	1197	LYS
2	B	1202	SER
2	B	1206	LEU
2	B	1207	GLU
2	B	1214	LEU
2	B	1224	ASN
2	B	1230	SER
2	B	1231	LYS
2	B	1233	VAL
2	B	1241	HIS
2	B	1242	TYR
2	B	1243	GLU
2	B	1244	LYS
2	B	1246	LYS
2	B	1252	ASN
2	B	1254	GLN
2	B	1255	LYS
2	B	1257	LEU
2	B	1266	LEU
2	B	1272	GLN
2	B	1274	SER
2	B	1277	SER
2	B	1282	LEU
2	B	1284	ASP
2	B	1288	ASP
2	B	1291	LEU
2	B	1292	SER
2	B	1296	LYS
2	B	1299	ASP
2	B	1307	GLU
2	B	1311	HIS
2	B	1315	LEU
2	B	1325	LYS
2	B	1329	THR
2	B	1337	THR
2	B	1344	ASP
2	G	22	THR
2	G	29	SER

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Mol	Chain	Res	Type
2	G	33	LYS
2	G	35	LEU
2	G	40	ARG
2	G	42	SER
2	G	44	LYS
2	G	46	ASN
2	G	47	LEU
2	G	48	ILE
2	G	51	LEU
2	G	54	ASP
2	G	57	GLU
2	G	64	LEU
2	G	65	LYS
2	G	106	LEU
2	G	107	VAL
2	G	111	LYS
2	G	112	LYS
2	G	115	ARG
2	G	118	ILE
2	G	124	ASP
2	G	130	GLU
2	G	131	LYS
2	G	132	TYR
2	G	135	ILE
2	G	139	ARG
2	G	141	LYS
2	G	146	THR
2	G	161	MET
2	G	165	ARG
2	G	171	GLU
2	G	174	LEU
2	G	175	ASN
2	G	178	ASN
2	G	194	GLN
2	G	195	LEU
2	G	207	ASP
2	G	209	LYS
2	G	211	ILE
2	G	215	ARG
2	G	216	LEU
2	G	217	SER
2	G	218	LYS

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Mol	Chain	Res	Type
2	G	220	ARG
2	G	229	LEU
2	G	233	LYS
2	G	234	LYS
2	G	248	LEU
2	G	252	PHE
2	G	258	LEU
2	G	269	ASP
2	G	270	THR
2	G	271	TYR
2	G	275	LEU
2	G	276	ASP
2	G	279	LEU
2	G	284	ASP
2	G	294	LYS
2	G	304	ASP
2	G	305	ILE
2	G	307	ARG
2	G	309	ASN
2	G	311	GLU
2	G	314	LYS
2	G	321	MET
2	G	332	LEU
2	G	334	LEU
2	G	335	LEU
2	G	342	GLN
2	G	343	LEU
2	G	345	GLU
2	G	352	PHE
2	G	353	ASP
2	G	354	GLN
2	G	359	TYR
2	G	383	MET
2	G	384	ASP
2	G	386	THR
2	G	387	GLU
2	G	392	LYS
2	G	396	GLU
2	G	397	ASP
2	G	400	ARG
2	G	403	ARG
2	G	409	SER

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Mol	Chain	Res	Type
2	G	432	PHE
2	G	435	ASP
2	G	465	MET
2	G	468	LYS
2	G	469	SER
2	G	473	ILE
2	G	480	GLU
2	G	494	ARG
2	G	495	MET
2	G	497	ASN
2	G	499	ASP
2	G	530	VAL
2	G	532	GLU
2	G	535	ARG
2	G	536	LYS
2	G	539	PHE
2	G	541	SER
2	G	544	GLN
2	G	546	LYS
2	G	550	ASP
2	G	557	ARG
2	G	574	CYS
2	G	593	THR
2	G	596	ASP
2	G	601	ILE
2	G	602	LYS
2	G	605	ASP
2	G	611	GLU
2	G	627	GLU
2	G	631	MET
2	G	634	GLU
2	G	636	LEU
2	G	637	LYS
2	G	645	ASP
2	G	653	ARG
2	G	655	ARG
2	G	661	ARG
2	G	671	ARG
2	G	674	GLN
2	G	677	LYS
2	G	694	MET
2	G	696	LEU

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Mol	Chain	Res	Type
2	G	700	ASP
2	G	702	LEU
2	G	703	THR
2	G	714	SER
2	G	721	HIS
2	G	750	VAL
2	G	790	GLU
2	G	791	LEU
2	G	793	SER
2	G	795	ILE
2	G	796	LEU
2	G	802	GLU
2	G	804	THR
2	G	820	ARG
2	G	826	GLN
2	G	827	GLU
2	G	830	ILE
2	G	832	ARG
2	G	844	GLN
2	G	845	SER
2	G	850	ASP
2	G	853	ASP
2	G	864	ARG
2	G	866	LYS
2	G	867	SER
2	G	873	GLU
2	G	877	LYS
2	G	879	MET
2	G	884	ARG
2	G	886	LEU
2	G	887	LEU
2	G	890	LYS
2	G	905	ARG
2	G	908	LEU
2	G	911	LEU
2	G	919	ARG
2	G	933	GLN
2	G	935	LEU
2	G	937	SER
2	G	939	MET
2	G	945	GLU
2	G	962	LEU

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Mol	Chain	Res	Type
2	G	970	PHE
2	G	974	LYS
2	G	976	ARG
2	G	977	GLU
2	G	995	THR
2	G	997	LEU
2	G	1001	TYR
2	G	1006	SER
2	G	1037	PHE
2	G	1042	ILE
2	G	1045	PHE
2	G	1069	THR
2	G	1074	TRP
2	G	1076	LYS
2	G	1078	ARG
2	G	1080	PHE
2	G	1091	GLN
2	G	1097	LYS
2	G	1109	SER
2	G	1124	LYS
2	G	1129	LYS
2	G	1142	SER
2	G	1144	LEU
2	G	1150	GLU
2	G	1153	LYS
2	G	1154	SER
2	G	1155	LYS
2	G	1169	MET
2	G	1171	ARG
2	G	1173	SER
2	G	1197	LYS
2	G	1205	GLU
2	G	1206	LEU
2	G	1210	ARG
2	G	1214	LEU
2	G	1216	SER
2	G	1224	ASN
2	G	1241	HIS
2	G	1244	LYS
2	G	1246	LYS
2	G	1248	SER
2	G	1254	GLN

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Mol	Chain	Res	Type
2	G	1255	LYS
2	G	1257	LEU
2	G	1261	GLN
2	G	1263	LYS
2	G	1268	GLU
2	G	1286	ASN
2	G	1292	SER
2	G	1298	ARG
2	G	1299	ASP
2	G	1303	ARG
2	G	1312	LEU
2	G	1317	ASN
2	G	1324	PHE
2	G	1325	LYS
2	G	1326	TYR
2	G	1329	THR
2	G	1347	LEU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (48) such sidechains are listed below:

Mol	Chain	Res	Type
2	B	178	ASN
2	B	235	ASN
2	B	265	GLN
2	B	277	ASN
2	B	281	GLN
2	B	295	ASN
2	B	341	GLN
2	B	342	GLN
2	B	407	ASN
2	B	412	HIS
2	B	413	GLN
2	B	641	HIS
2	B	650	GLN
2	B	776	ASN
2	B	844	GLN
2	B	854	ASN
2	B	1041	ASN
2	B	1221	GLN
2	B	1241	HIS
2	B	1252	ASN
2	B	1264	HIS

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Mol	Chain	Res	Type
2	B	1272	GLN
2	B	1317	ASN
2	G	46	ASN
2	G	77	ASN
2	G	129	HIS
2	G	175	ASN
2	G	199	ASN
2	G	235	ASN
2	G	281	GLN
2	G	309	ASN
2	G	328	HIS
2	G	342	GLN
2	G	354	GLN
2	G	412	HIS
2	G	497	ASN
2	G	501	ASN
2	G	690	ASN
2	G	709	GLN
2	G	854	ASN
2	G	894	GLN
2	G	1101	GLN
2	G	1221	GLN
2	G	1241	HIS
2	G	1256	GLN
2	G	1286	ASN
2	G	1305	GLN
2	G	1311	HIS

### 5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	A	93/98 (94%)	31 (33%)	4 (4%)
1	E	94/98 (95%)	24 (25%)	3 (3%)
All	All	187/196 (95%)	55 (29%)	7 (3%)

All (55) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	A	9	U
1	A	11	C
1	A	20	G

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Mol	Chain	Res	Type
1	A	24	U
1	A	27	G
1	A	28	A
1	A	29	G
1	A	34	A
1	A	35	A
1	A	37	U
1	A	38	A
1	A	39	G
1	A	40	C
1	A	42	A
1	A	43	G
1	A	44	U
1	A	51	A
1	A	54	G
1	A	56	U
1	A	57	A
1	A	59	U
1	A	68	A
1	A	69	A
1	A	73	G
1	A	74	A
1	A	82	G
1	A	87	G
1	A	88	A
1	A	89	G
1	A	91	C
1	A	92	G
1	E	5	C
1	E	9	U
1	E	20	G
1	E	22	U
1	E	23	U
1	E	24	U
1	E	28	A
1	E	29	G
1	E	37	U
1	E	38	A
1	E	39	G
1	E	42	A
1	E	43	G
1	E	51	A

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Mol	Chain	Res	Type
1	E	56	U
1	E	57	A
1	E	59	U
1	E	68	A
1	E	69	A
1	E	74	A
1	E	82	G
1	E	89	G
1	E	91	C
1	E	92	G

All (7) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	A	8	G
1	A	27	G
1	A	42	A
1	A	68	A
1	E	8	G
1	E	27	G
1	E	42	A

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

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

## 5.5 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

## 5.6 Ligand geometry [i](#)

2 ligands are modelled in this entry.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z  > 2	Counts	RMSZ	# Z  > 2
5	SO4	B	1401	-	4,4,4	0.98	0	6,6,6	1.66	1 (16%)
5	SO4	G	1401	-	4,4,4	0.98	0	6,6,6	1.66	1 (16%)

There are no bond length outliers.

All (2) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
5	B	1401	SO4	O4-S-O3	3.83	125.39	109.06
5	G	1401	SO4	O4-S-O3	3.83	125.39	109.06

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

1 monomer is involved in 1 short contact:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
5	G	1401	SO4	1	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, 95<sup>th</sup> percentile and maximum values of the occupancy-weighted average B-factor per residue. The column labelled ‘Q < 0.9’ lists the number of (and percentage) of residues with an average occupancy less than 0.9.

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å <sup>2</sup> )	Q<0.9
1	A	94/98 (95%)	-0.12	1 (1%) 77 62	27, 56, 107, 151	0
1	E	95/98 (96%)	-0.26	1 (1%) 77 62	31, 56, 109, 125	0
2	B	1326/1368 (96%)	0.12	60 (4%) 39 25	24, 57, 90, 137	0
2	G	1326/1368 (96%)	0.12	56 (4%) 41 27	25, 57, 89, 123	0
3	C	25/25 (100%)	-0.01	0 100 100	32, 47, 96, 107	0
3	H	25/25 (100%)	-0.16	0 100 100	34, 47, 99, 112	0
4	D	11/11 (100%)	0.19	1 (9%) 16 11	48, 65, 121, 133	0
4	J	11/11 (100%)	0.40	1 (9%) 16 11	35, 60, 114, 132	0
All	All	2913/3004 (96%)	0.10	120 (4%) 42 28	24, 57, 93, 151	0

All (120) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
2	G	1134	PHE	5.5
2	G	76	LYS	4.2
2	B	539	PHE	4.1
2	B	46	ASN	4.1
2	G	305	ILE	4.1
2	B	76	LYS	4.0
2	B	907	GLY	3.9
2	B	230	PRO	3.9
2	B	1355	LEU	3.9
2	B	136	TYR	3.9
2	G	521	TYR	3.9
2	G	920	GLN	3.9
2	B	688	PHE	3.7
2	B	156	LEU	3.7
2	G	1153	LYS	3.7
2	B	850	ASP	3.7

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Mol	Chain	Res	Type	RSRZ
2	G	279	LEU	3.6
2	G	34	VAL	3.5
2	B	70	ARG	3.5
2	G	178	ASN	3.5
2	G	688	PHE	3.4
2	G	841	ILE	3.3
2	B	122	ILE	3.3
2	G	1116	SER	3.3
2	B	510	LYS	3.3
4	J	2	DT	3.3
2	G	826	GLN	3.2
2	B	424	ARG	3.2
2	B	1194	LEU	3.2
2	B	308	VAL	3.1
2	B	582	GLY	3.1
2	G	1154	SER	3.1
2	G	231	GLY	3.0
2	G	961	LYS	3.0
2	B	567	ASP	3.0
2	G	992	VAL	3.0
2	G	184	LEU	3.0
2	B	32	PHE	3.0
2	B	1203	LEU	3.0
2	B	732	ALA	3.0
2	B	43	ILE	2.9
2	G	1081	ALA	2.9
2	B	819	GLY	2.9
2	B	1043	MET	2.9
2	G	181	VAL	2.9
2	G	1008	PHE	2.9
2	B	1269	ILE	2.9
2	G	29	SER	2.8
1	E	5	C	2.8
2	G	805	GLN	2.8
2	B	262	ALA	2.7
2	B	21	ILE	2.7
2	B	698	HIS	2.7
2	G	823	TYR	2.6
2	G	30	LYS	2.6
2	G	776	ASN	2.6
2	G	917	ILE	2.6
2	G	1271	GLU	2.6

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Mol	Chain	Res	Type	RSRZ
2	B	309	ASN	2.6
2	B	524	LEU	2.6
2	G	1249	PRO	2.6
2	G	218	LYS	2.6
2	B	312	ILE	2.5
4	D	2	DT	2.5
2	G	47	LEU	2.5
2	G	1225	GLU	2.5
2	B	822	MET	2.5
2	G	177	ASP	2.5
2	G	777	SER	2.5
2	B	512	SER	2.5
2	B	726	ASN	2.5
2	B	1220	LEU	2.5
2	G	899	ASN	2.5
2	B	264	LEU	2.5
2	B	34	VAL	2.5
2	G	176	PRO	2.5
2	B	187	GLN	2.4
2	G	359	TYR	2.4
2	G	978	ILE	2.4
2	B	1242	TYR	2.4
2	B	580	ILE	2.4
2	B	1108	GLU	2.4
2	G	136	TYR	2.4
2	G	1127	ASP	2.3
2	G	524	LEU	2.3
2	G	1110	ILE	2.3
2	B	247	GLY	2.3
2	B	72	TYR	2.3
2	G	179	SER	2.3
2	B	56	GLY	2.3
2	G	680	LEU	2.3
2	G	659	TRP	2.3
2	B	22	THR	2.3
2	B	529	TYR	2.3
2	G	72	TYR	2.2
2	B	282	ILE	2.2
2	G	400	ARG	2.2
1	A	98	C	2.2
2	G	306	LEU	2.2
2	G	683	LEU	2.2

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Mol	Chain	Res	Type	RSRZ
2	G	918	LYS	2.2
2	B	398	LEU	2.2
2	B	428	ASP	2.2
2	B	1291	LEU	2.2
2	B	252	PHE	2.1
2	G	539	PHE	2.1
2	G	28	PRO	2.1
2	B	1266	LEU	2.1
2	G	35	LEU	2.1
2	B	821	ASP	2.1
2	G	32	PHE	2.1
2	G	892	ILE	2.1
2	G	43	ILE	2.1
2	B	73	THR	2.1
2	B	978	ILE	2.0
2	B	1008	PHE	2.0
2	B	1087	LEU	2.0
2	B	559	VAL	2.0
2	B	1290	VAL	2.0
2	B	721	HIS	2.0

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

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

## 6.3 Carbohydrates [i](#)

There are no monosaccharides in this entry.

## 6.4 Ligands [i](#)

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

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors( $\text{\AA}^2$ )	Q<0.9
5	SO4	G	1401	5/5	0.80	0.10	78,81,95,107	0
5	SO4	B	1401	5/5	0.84	0.24	30,30,30,30	0

## 6.5 Other polymers [i](#)

There are no such residues in this entry.