



Full wwPDB X-ray Structure Validation Report ⓘ

Mar 5, 2026 – 04:01 PM UTC

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

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>.

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

MolProbity : 4-5-2 with Phenix2.0
Mogul : 2022.3.0, CSD as543be (2022)
Xtriage (Phenix) : 2.0
EDS : 3.0
Percentile statistics : 20250101.v01 (using entries in the PDB archive January 1st 2025)
CCP4 : 9.0.010 (Gargrove)
Density-Fitness : 1.0.12
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.49

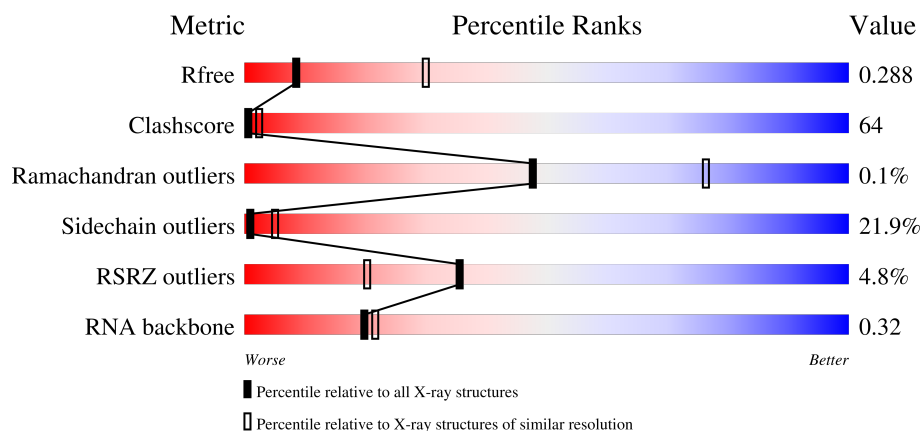
1 Overall quality at a glance

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}	180053	2361 (3.20-3.12)
Clashscore	190562	2486 (3.20-3.12)
Ramachandran outliers	187476	2405 (3.20-3.12)
Sidechain outliers	187428	2404 (3.20-3.12)
RSRZ outliers	180081	2361 (3.20-3.12)
RNA backbone	3983	1113 (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 ≥ 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	15% 56% 24% .
1	E	98	2% 22% 54% 20% .
2	B	1368	5% 29% 49% 18% ..
2	G	1368	5% 31% 49% 16% ..

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Mol	Chain	Length	Quality of chain
3	C	25	 24% 76%
3	H	25	 28% 72%
4	D	11	 9% 27% 73%
4	J	11	 9% 55% 45%

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

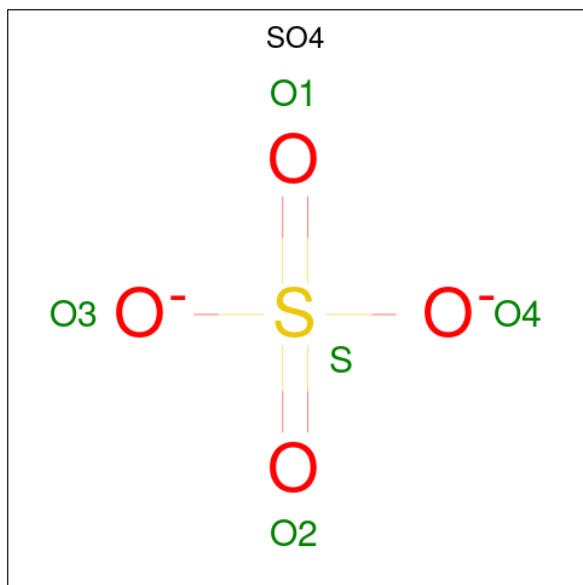
- Molecule 3 is a DNA chain called DNA (25-MER).

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: O₄S).



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		

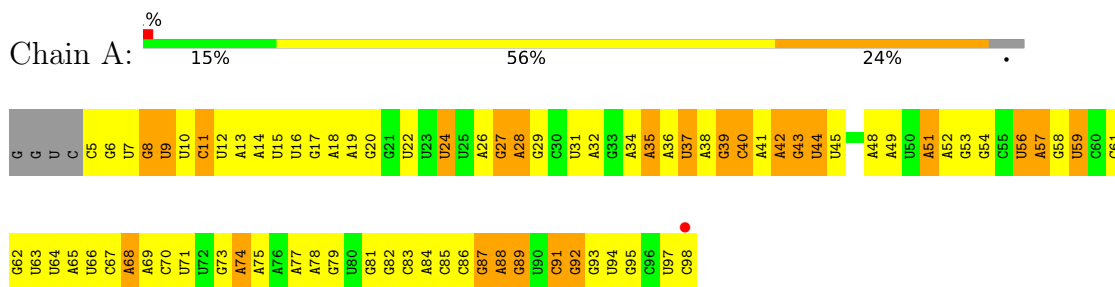
- Molecule 6 is water.

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		

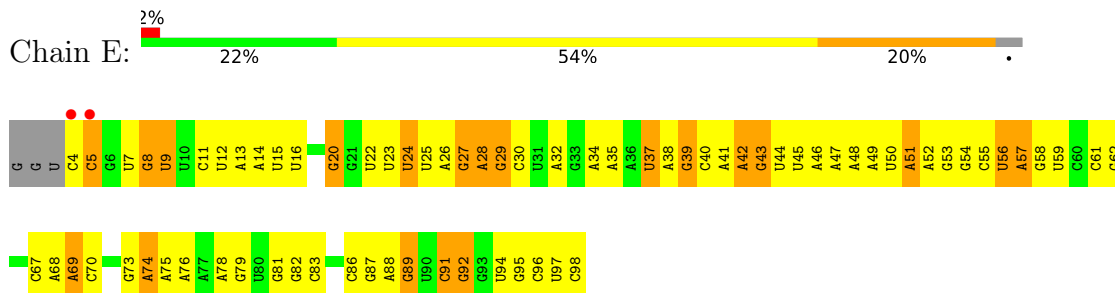
3 Residue-property plots [i](#)

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.

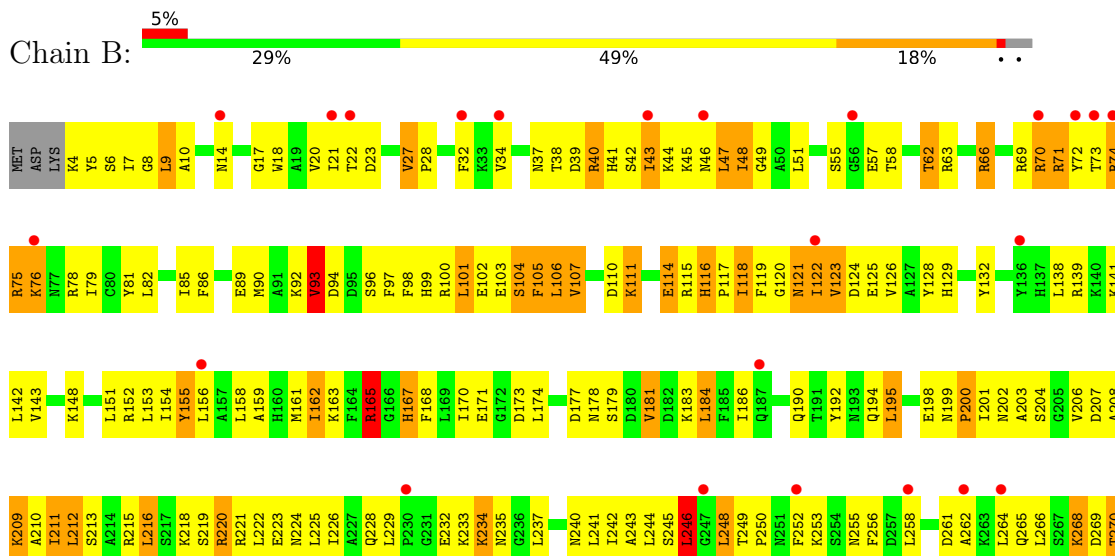
• Molecule 1: RNA (98-MER)



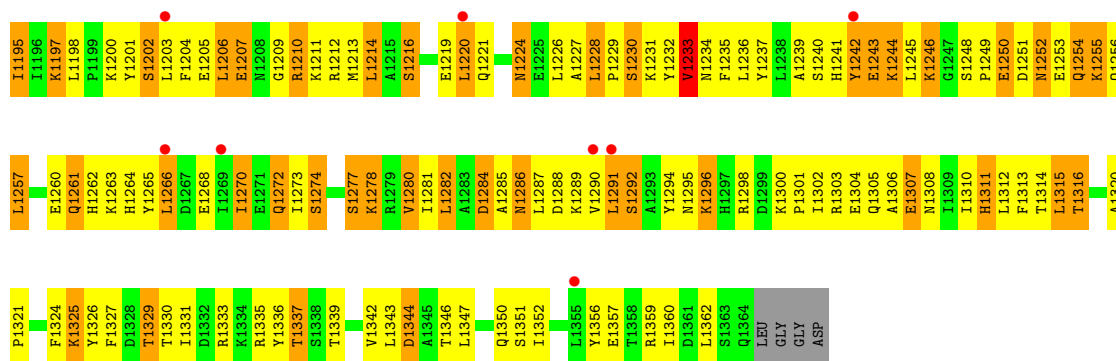
• Molecule 1: RNA (98-MER)



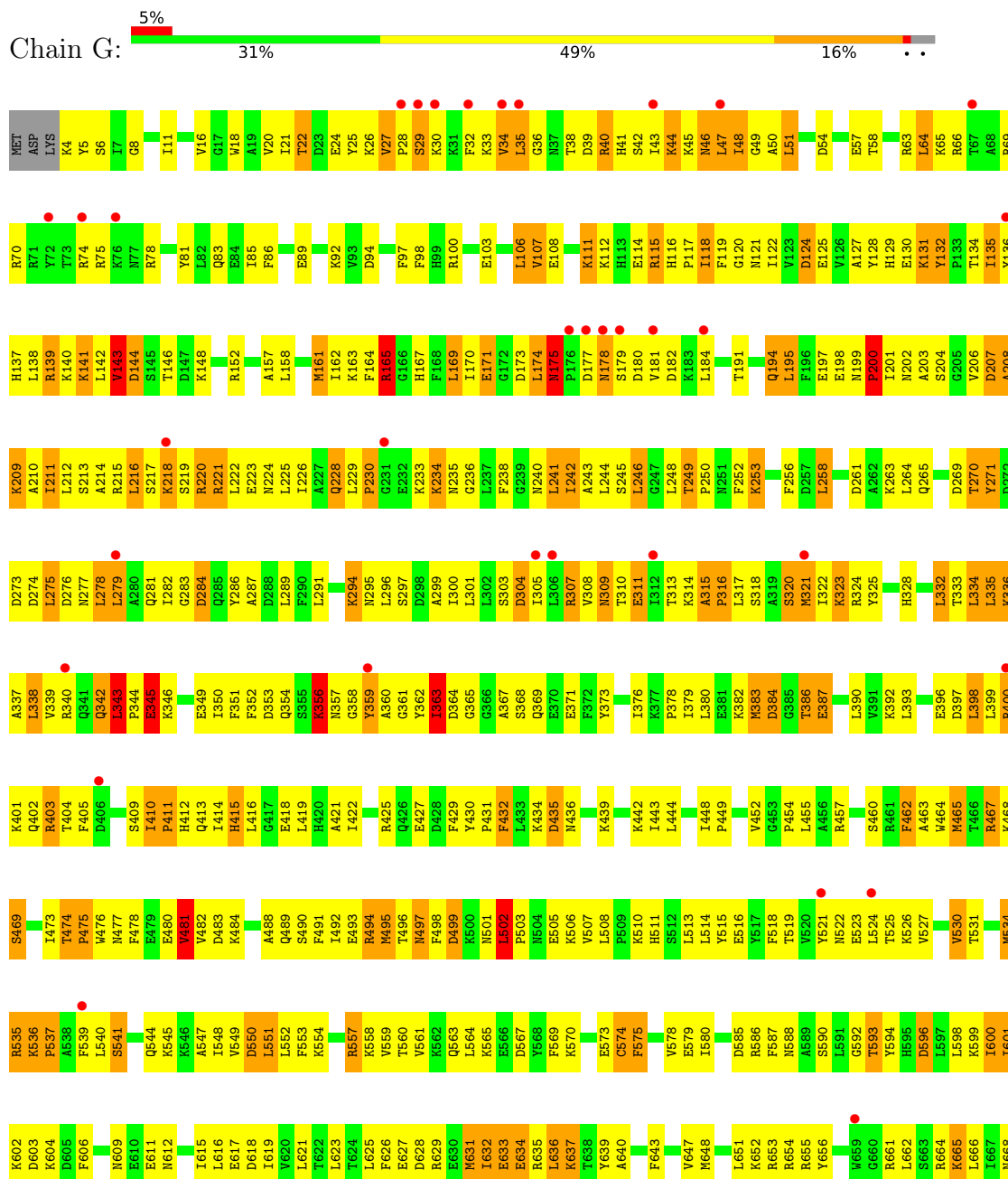
• Molecule 2: CRISPR-associated endonuclease Cas9/Csn1

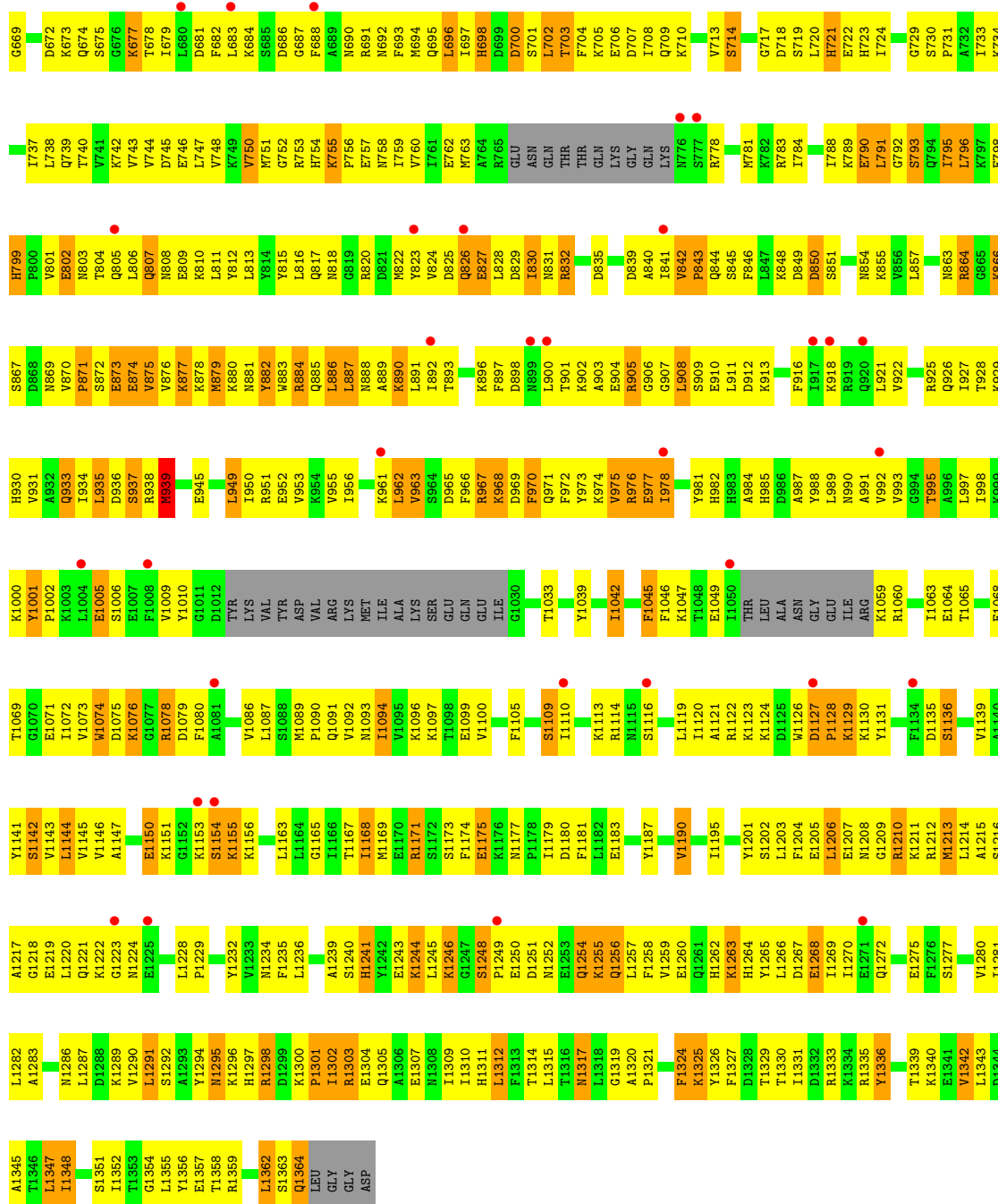






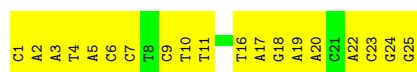
• Molecule 2: CRISPR-associated endonuclease Cas9/Csn1





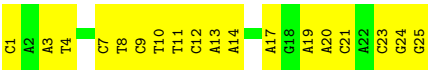
• Molecule 3: DNA (25-MER)

Chain C: 24% 76%

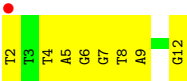


• Molecule 3: DNA (25-MER)

Chain H: 28% 72%



● 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, α , β , γ	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
$\langle I/\sigma(I) \rangle$ ¹	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	2797 reflections (3.24%)	wwPDB-VP
Wilson B-factor (Å ²)	58.3	Xtriage
Anisotropy	0.329	Xtriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.29 , 58.2	EDS
L-test for twinning ²	$\langle L \rangle = 0.39$, $\langle L^2 \rangle = 0.22$	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 ²)	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.*

¹Intensities estimated from amplitudes.

²Theoretical 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 [i](#)

5.1 Standard geometry [i](#)

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	0.47	0/2249	0.69	0/3503
1	E	0.47	0/2271	0.71	0/3537
2	B	0.81	32/11013 (0.3%)	1.08	95/14802 (0.6%)
2	G	0.79	22/11013 (0.2%)	1.03	71/14799 (0.5%)
3	C	0.63	0/566	0.77	0/870
3	H	0.67	0/566	0.76	0/870
4	D	0.63	0/251	0.74	0/387
4	J	0.60	0/251	0.65	0/387
All	All	0.75	54/28180 (0.2%)	0.98	166/39155 (0.4%)

All (54) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	B	27	VAL	CA-C	13.89	1.67	1.52
2	G	502	LEU	C-N	8.76	1.40	1.33
2	G	1001	TYR	C-N	7.79	1.40	1.33
2	G	430	TYR	C-N	6.59	1.40	1.34
2	B	755	LYS	C-N	6.26	1.40	1.33
2	B	508	LEU	C-N	6.08	1.40	1.33
2	B	1300	LYS	C-N	5.92	1.40	1.33
2	B	1198	LEU	C-N	5.89	1.40	1.33
2	G	755	LYS	C-N	5.85	1.40	1.33
2	B	410	ILE	C-N	5.84	1.40	1.33
2	G	315	ALA	C-N	5.82	1.41	1.34
2	G	175	ASN	C-N	5.73	1.40	1.33
2	B	1228	LEU	C-N	5.70	1.41	1.33
2	B	1001	TYR	C-N	5.69	1.40	1.33
2	B	1060	ARG	C-N	5.69	1.41	1.33
2	B	536	LYS	C-N	5.67	1.41	1.33
2	G	799	HIS	C-N	5.65	1.41	1.33
2	B	1089	MET	C-N	5.64	1.40	1.34

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	B	870	VAL	C-N	5.62	1.41	1.33
2	B	1177	ASN	C-N	5.60	1.40	1.34
2	B	343	LEU	C-N	5.57	1.40	1.33
2	G	1320	ALA	C-N	5.48	1.40	1.33
2	B	1136	SER	C-N	5.42	1.40	1.33
2	G	410	ILE	C-N	5.40	1.40	1.33
2	B	1002	PRO	N-CD	5.39	1.55	1.47
2	B	431	PRO	N-CD	5.38	1.55	1.47
2	G	1300	LYS	C-N	5.37	1.40	1.33
2	G	1301	PRO	N-CD	5.37	1.55	1.47
2	G	344	PRO	N-CD	5.36	1.55	1.47
2	G	474	THR	C-N	5.30	1.40	1.33
2	G	843	PRO	N-CD	5.30	1.55	1.47
2	B	344	PRO	N-CD	5.28	1.55	1.47
2	B	842	VAL	C-N	5.24	1.40	1.33
2	G	1136	SER	C-N	5.22	1.40	1.33
2	B	475	PRO	N-CD	5.21	1.55	1.47
2	B	1301	PRO	N-CD	5.21	1.55	1.47
2	B	316	PRO	N-CD	5.18	1.54	1.47
2	B	1061	PRO	N-CD	5.17	1.54	1.47
2	B	377	LYS	C-N	5.16	1.41	1.34
2	G	411	PRO	N-CD	5.15	1.54	1.47
2	B	1137	PRO	N-CD	5.15	1.54	1.47
2	G	1249	PRO	N-CD	5.15	1.54	1.47
2	G	475	PRO	N-CD	5.13	1.54	1.47
2	B	1178	PRO	N-CD	5.13	1.54	1.47
2	B	871	PRO	N-CD	5.11	1.54	1.47
2	G	871	PRO	N-CD	5.10	1.54	1.47
2	G	316	PRO	N-CD	5.10	1.54	1.47
2	G	1128	PRO	N-CD	5.07	1.54	1.47
2	B	1229	PRO	N-CD	5.06	1.54	1.47
2	B	1249	PRO	N-CD	5.06	1.54	1.47
2	G	537	PRO	N-CD	5.06	1.54	1.47
2	B	731	PRO	N-CD	5.04	1.54	1.47
2	B	843	PRO	N-CD	5.02	1.54	1.47
2	B	1090	PRO	N-CD	5.01	1.54	1.47

All (166) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	B	684	LYS	N-CA-C	-14.17	86.15	109.96
2	G	506	LYS	N-CA-C	-14.14	86.20	109.96

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	G	507	VAL	N-CA-CB	-10.37	91.67	110.95
2	B	906	GLY	N-CA-C	-10.07	100.30	112.48
2	B	462	PHE	N-CA-C	8.96	121.13	111.36
2	G	1218	GLY	N-CA-C	8.82	124.06	112.77
2	B	600	ILE	N-CA-C	8.52	119.33	110.72
2	B	398	LEU	N-CA-C	8.38	120.04	111.07
2	G	506	LYS	CB-CA-C	-8.35	95.75	109.53
2	B	66	ARG	N-CA-C	-7.61	102.93	111.07
2	B	907	GLY	N-CA-C	-7.55	100.70	112.85
2	G	600	ILE	N-CA-C	7.51	117.59	110.53
2	B	246	LEU	N-CA-C	-7.50	99.18	110.28
2	B	582	GLY	N-CA-C	7.41	121.63	112.73
2	B	685	SER	N-CA-C	7.35	121.81	111.52
2	G	144	ASP	N-CA-C	7.31	119.32	111.36
2	B	1198	LEU	CA-C-N	-7.23	113.23	120.31
2	B	1198	LEU	C-N-CA	-7.23	113.23	120.31
2	B	27	VAL	O-C-N	7.19	129.30	121.10
2	G	398	LEU	N-CA-C	7.19	118.76	111.07
2	G	729	GLY	N-CA-C	7.13	118.63	111.21
2	G	175	ASN	CA-C-N	-7.06	112.21	119.83
2	G	175	ASN	C-N-CA	-7.06	112.21	119.83
2	B	755	LYS	CA-C-N	-6.92	113.53	120.31
2	B	755	LYS	C-N-CA	-6.92	113.53	120.31
2	G	430	TYR	CA-C-N	-6.89	113.10	120.47
2	G	430	TYR	C-N-CA	-6.89	113.10	120.47
2	B	1007	GLU	N-CA-C	6.85	118.83	111.36
2	B	536	LYS	CA-C-N	-6.83	112.73	119.76
2	B	536	LYS	C-N-CA	-6.83	112.73	119.76
2	B	824	VAL	N-CA-C	6.79	120.18	113.53
2	B	504	ASN	N-CA-C	6.79	118.75	111.36
2	G	165	ARG	N-CA-C	6.78	118.75	111.36
2	G	799	HIS	CA-C-N	-6.67	113.11	119.85
2	G	799	HIS	C-N-CA	-6.67	113.11	119.85
2	B	410	ILE	CA-C-N	-6.67	113.43	120.03
2	B	410	ILE	C-N-CA	-6.67	113.43	120.03
2	B	1280	VAL	N-CA-C	6.66	116.88	111.62
2	B	118	ILE	N-CA-C	6.64	117.42	110.72
2	G	842	VAL	CA-C-N	-6.63	112.95	119.78
2	G	842	VAL	C-N-CA	-6.63	112.95	119.78
2	G	963	VAL	N-CA-C	6.58	117.36	110.72
2	B	445	THR	N-CA-C	6.55	118.50	111.36
2	G	502	LEU	CA-C-N	-6.53	113.50	120.94

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	G	502	LEU	C-N-CA	-6.53	113.50	120.94
2	G	1342	VAL	N-CA-C	6.53	117.28	110.62
2	G	1300	LYS	CA-C-N	-6.49	113.08	119.76
2	G	1300	LYS	C-N-CA	-6.49	113.08	119.76
2	B	123	VAL	N-CA-C	6.48	116.64	110.42
2	G	1320	ALA	CA-C-N	-6.46	113.11	119.76
2	G	1320	ALA	C-N-CA	-6.46	113.11	119.76
2	G	534	MET	N-CA-C	6.43	119.23	110.55
2	B	1228	LEU	CA-C-N	-6.43	113.14	119.76
2	B	1228	LEU	C-N-CA	-6.43	113.14	119.76
2	B	70	ARG	N-CA-C	-6.42	104.28	111.28
2	G	949	LEU	N-CA-C	6.42	119.21	110.55
2	B	684	LYS	CB-CA-C	-6.41	98.95	109.53
2	B	1300	LYS	CA-C-N	-6.41	113.69	120.03
2	B	1300	LYS	C-N-CA	-6.41	113.69	120.03
2	B	870	VAL	CA-C-N	-6.39	113.18	119.76
2	B	870	VAL	C-N-CA	-6.39	113.18	119.76
2	B	1216	SER	N-CA-C	-6.37	99.30	108.60
2	B	508	LEU	CA-C-N	-6.35	113.74	120.03
2	B	508	LEU	C-N-CA	-6.35	113.74	120.03
2	B	533	GLY	N-CA-C	6.35	120.35	112.73
2	B	1136	SER	CA-C-N	-6.33	113.43	119.76
2	B	1136	SER	C-N-CA	-6.33	113.43	119.76
2	G	939	MET	N-CA-C	6.31	117.96	111.14
2	B	583	VAL	N-CA-C	6.29	119.33	108.95
2	B	842	VAL	CA-C-N	-6.29	113.30	119.78
2	B	842	VAL	C-N-CA	-6.29	113.30	119.78
2	G	755	LYS	CA-C-N	-6.22	113.55	120.14
2	G	755	LYS	C-N-CA	-6.22	113.55	120.14
2	B	1060	ARG	CA-C-N	-6.21	113.58	119.85
2	B	1060	ARG	C-N-CA	-6.21	113.58	119.85
2	G	1136	SER	CA-C-N	-6.19	113.40	119.78
2	G	1136	SER	C-N-CA	-6.19	113.40	119.78
2	G	410	ILE	CA-C-N	-6.17	113.61	119.85
2	G	410	ILE	C-N-CA	-6.17	113.61	119.85
2	B	343	LEU	CA-C-N	-6.17	113.27	119.56
2	B	343	LEU	C-N-CA	-6.17	113.27	119.56
2	G	284	ASP	N-CA-C	6.12	117.95	111.28
2	B	71	ARG	N-CA-C	6.11	117.60	111.07
2	G	208	ALA	N-CA-C	-6.11	104.62	111.28
2	B	552	LEU	N-CA-C	6.02	117.64	111.14
2	G	1001	TYR	CA-C-N	-6.01	113.61	120.89

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	G	1001	TYR	C-N-CA	-6.01	113.61	120.89
2	B	1001	TYR	CA-C-N	-6.01	113.43	119.56
2	B	1001	TYR	C-N-CA	-6.01	113.43	119.56
2	G	336	LYS	N-CA-C	-6.00	104.65	111.07
2	B	116	HIS	CA-C-N	-5.99	112.35	119.84
2	B	116	HIS	C-N-CA	-5.99	112.35	119.84
2	G	1209	GLY	N-CA-C	-5.97	106.92	115.64
2	B	1077	GLY	N-CA-C	5.96	119.70	112.49
2	B	831	ASN	N-CA-C	5.84	117.44	111.14
2	G	535	ARG	N-CA-C	5.82	117.30	111.07
2	B	681	ASP	N-CA-C	-5.77	104.99	111.28
2	G	481	VAL	N-CA-C	5.76	116.53	110.72
2	B	1130	LYS	N-CA-C	5.75	117.35	111.14
2	G	236	GLY	N-CA-C	-5.72	105.22	112.54
2	B	1039	TYR	N-CA-C	5.70	117.57	111.36
2	B	155	TYR	N-CA-C	-5.69	105.07	111.28
2	G	200	PRO	CA-N-CD	-5.66	104.08	112.00
2	G	633	GLU	N-CA-C	-5.63	105.14	111.28
2	G	551	LEU	N-CA-C	5.61	117.48	111.36
2	B	409	SER	N-CA-C	-5.60	105.66	112.88
2	B	322	ILE	N-CA-C	-5.59	104.91	110.62
2	B	1210	ARG	N-CA-C	-5.56	102.17	110.23
2	B	200	PRO	CA-N-CD	-5.52	104.28	112.00
2	B	478	PHE	N-CA-C	5.52	116.97	111.07
2	G	242	ILE	N-CA-C	-5.51	105.00	110.62
2	B	708	ILE	N-CA-C	-5.47	105.05	110.62
2	G	474	THR	CA-C-N	-5.46	113.27	119.28
2	G	474	THR	C-N-CA	-5.46	113.27	119.28
2	B	377	LYS	CA-C-N	-5.44	113.01	119.05
2	B	377	LYS	C-N-CA	-5.44	113.01	119.05
2	B	1286	ASN	N-CA-C	5.44	117.29	111.36
2	B	1233	VAL	CB-CA-C	-5.43	105.02	111.97
2	B	1316	THR	N-CA-C	5.39	117.16	111.28
2	B	481	VAL	N-CA-C	5.38	116.16	110.72
2	B	534	MET	N-CA-C	5.38	118.25	110.28
2	B	567	ASP	N-CA-C	5.37	117.21	111.36
2	B	581	SER	N-CA-C	5.36	117.20	111.36
2	G	1127	ASP	CA-C-N	-5.34	113.12	119.05
2	G	1127	ASP	C-N-CA	-5.34	113.12	119.05
2	B	1177	ASN	CA-C-N	-5.33	113.04	118.85
2	B	1177	ASN	C-N-CA	-5.33	113.04	118.85
2	B	701	SER	N-CA-C	-5.31	105.49	111.28

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	G	363	ILE	N-CA-C	5.30	115.52	110.53
2	B	1337	THR	N-CA-C	5.30	119.73	113.16
2	G	1295	ASN	N-CA-C	-5.30	105.51	111.28
2	B	406	ASP	N-CA-C	5.29	117.04	111.28
2	B	869	ASN	N-CA-C	5.22	116.74	108.96
2	B	1129	LYS	N-CA-C	-5.22	105.48	111.07
2	B	93	VAL	N-CA-C	5.21	115.43	110.53
2	B	105	PHE	N-CA-C	5.21	116.96	111.28
2	B	588	ASN	N-CA-C	5.17	116.73	111.14
2	G	356	LYS	N-CA-C	5.17	119.22	113.01
2	G	315	ALA	CA-C-N	-5.14	113.24	118.85
2	G	315	ALA	C-N-CA	-5.14	113.24	118.85
2	G	1213	MET	CA-C-N	-5.14	116.15	122.84
2	G	1213	MET	C-N-CA	-5.14	116.15	122.84
2	G	882	TYR	N-CA-C	-5.14	105.68	111.28
2	G	143	VAL	CB-CA-C	-5.13	105.30	112.02
2	G	688	PHE	N-CA-C	-5.12	105.69	111.28
2	G	169	LEU	N-CA-C	-5.11	105.71	111.28
2	G	1217	ALA	N-CA-C	-5.10	105.72	111.28
2	B	350	ILE	N-CA-C	5.10	115.87	110.72
2	B	800	PRO	CA-N-CD	-5.10	104.86	112.00
2	G	230	PRO	CA-N-CD	-5.09	104.87	112.00
2	B	1089	MET	CA-C-N	-5.09	113.30	118.85
2	B	1089	MET	C-N-CA	-5.09	113.30	118.85
2	B	199	ASN	CA-C-N	-5.09	113.48	119.84
2	B	199	ASN	C-N-CA	-5.09	113.48	119.84
2	G	343	LEU	CA-C-N	-5.09	113.40	119.05
2	G	343	LEU	C-N-CA	-5.09	113.40	119.05
2	G	249	THR	CA-C-N	5.07	125.53	120.52
2	G	249	THR	C-N-CA	5.07	125.53	120.52
2	B	1261	GLN	N-CA-C	-5.06	105.77	111.28
2	G	503	PRO	CA-N-CD	-5.05	104.93	112.00
2	G	345	GLU	N-CA-C	5.04	117.51	111.71
2	B	165	ARG	N-CA-C	5.04	120.81	114.31
2	B	730	SER	CA-C-N	-5.02	113.48	119.05
2	B	730	SER	C-N-CA	-5.02	113.48	119.05
2	G	462	PHE	N-CA-C	5.01	116.83	111.36
2	B	1036	TYR	N-CA-C	-5.00	105.82	111.28

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	111	0
1	E	2029	0	1020	126	0
2	B	10821	0	10948	1541	0
2	G	10822	0	10967	1637	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
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	3310	0

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 64.

All (3310) 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:G:823:TYR:C	2:G:879:MET:HE1	1.23	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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:823:TYR:C	2:G:879:MET:CE	1.89	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
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:G:342:GLN:CD	2:G:383:MET:HB3	1.46	1.39
2:B:665:LYS:CA	2:B:669:GLY:HA3	1.52	1.39
2:G:618:ASP:CG	2:G:639:TYR:OH	1.66	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:B:179:SER:CB	2:B:310:THR:OG1	1.72	1.34
2:G:380:LEU:HD22	2:G:386:THR:CG2	1.56	1.33
2:G:332:LEU:CD2	2:G:359:TYR:CE1	2.11	1.32

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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: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:747:LEU:C	2:G:750:VAL:HG23	1.56	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
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: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:718:ASP:CG	2:G:722:GLU:OE1	1.81	1.21
2:G:781:MET:HG3	2:G:803:ASN:OD1	1.35	1.21
2:G:824:VAL:N	2:G:879:MET:HE1	1.54	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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:1251:ASP:HA	2:B:1254:GLN:CD	1.69	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
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:263:LYS:C	2:G:264:LEU:HD12	1.70	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: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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:672:ASP:CG	2:G:703:THR:HG22	1.72	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: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: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
2:B:342:GLN:HG3	2:B:383:MET:HE3	1.29	1.11
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:B:665:LYS:C	2:B:669:GLY:HA3	1.77	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: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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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: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
2:G:137:HIS:CG	2:G:322:ILE:HD11	1.93	1.04
2:G:258:LEU:HD11	2:G:281:GLN:CD	1.81	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: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:339:VAL:HA	2:B:383:MET:HE1	1.38	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:G:823:TYR:O	2:G:879:MET:HE1	1.58	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: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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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:1224:ASN:CG	2:B:1280:VAL:HG11	1.85	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
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: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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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:747:LEU:C	2:G:750:VAL:CG2	2.26	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
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:369:GLN:CD	2:B:404:THR:HG21	1.91	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
3:C:24:DG:H2''	3:C:25:DG:H5'	1.47	0.96

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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:G:173:ASP:C	2:G:174:LEU:HD13	1.91	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
2:B:432:PHE:O	2:B:436:ASN:ND2	1.99	0.94
2:G:706:GLU:HA	2:G:709:GLN:CD	1.92	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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: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
2:G:334:LEU:C	2:G:338:LEU:HD12	1.94	0.92
1:A:57:A:H5'	2:B:457:ARG:NH2	1.83	0.92
2:G:46:ASN:HD22	2:G:1089:MET:HE2	1.33	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: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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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:263:LYS:C	2:G:264:LEU:CD1	2.44	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
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:342:GLN:HG3	2:B:383:MET:HE2	1.52	0.90
2:B:849:ASP:OD1	2:B:851:SER:OG	1.88	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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:46:ASN:ND2	2:G:1089:MET:HE2	1.88	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: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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:617:GLU:CG	2:G:664:ARG:HH12	1.88	0.86
2:B:297:SER:HG	2:B:301:LEU:HD11	1.39	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:G:823:TYR:O	2:G:879:MET:CE	2.17	0.86
2:G:903:ALA:C	2:G:906:GLY:H	1.83	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: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:G:592:GLY:C	2:G:596:ASP:OD1	2.19	0.86
2:G:874:GLU:HA	2:G:877:LYS:HZ2	1.39	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:G:1251:ASP:HA	2:G:1254:GLN:CD	2.00	0.85
2:B:181:VAL:CG2	2:B:209:LYS:CB	2.53	0.85
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:G:672:ASP:CG	2:G:703:THR:CG2	2.45	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:297:SER:C	2:B:301:LEU:HD12	2.01	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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:G:886:LEU:C	2:G:892:ILE:HD12	2.02	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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:436:ASN:O	2:B:440:ILE:HD12	1.78	0.83
2:B:672:ASP:CG	2:B:703:THR:HG22	2.02	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:508:LEU:HD12	2:B:663:SER:C	2.04	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
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:790:GLU:CD	2:G:889:ALA:HA	2.04	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:B:342:GLN:CG	2:B:383:MET:HE3	2.09	0.82
2:G:115:ARG:HH21	2:G:122:ILE:HD11	0.68	0.82

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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:976:ARG:HE	2:G:976:ARG:H	1.23	0.82
2:G:1296:LYS:C	2:G:1297:HIS:HD1	1.88	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:665:LYS:C	2:B:669:GLY:CA	2.52	0.82
2:G:178:ASN:C	2:G:310:THR:HG21	2.05	0.82
2:B:395:ARG:O	2:B:396:GLU:HB2	1.79	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:B:733:ILE:O	2:B:737:ILE:HG13	1.80	0.81
2:B:1243:GLU:C	2:B:1244:LYS:HD3	2.04	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:G:561:VAL:HG23	2:G:585:ASP:C	2.02	0.81
2:G:1213:MET:HE3	2:G:1221:GLN:HE21	1.46	0.81
2:B:277:ASN:ND2	2:B:653:ARG:HD3	1.94	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:369:GLN:CD	2:B:404:THR:CG2	2.51	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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
2:B:1206:LEU:C	2:B:1207:GLU:HG3	2.06	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: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:1031:LYS:NZ	2:G:1068:GLU:CD	2.39	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
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: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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:178:ASN:CB	2:B:299:ALA:CB	2.41	0.80
2:B:1224:ASN:CG	2:B:1280:VAL:CG1	2.55	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: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: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: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:1086:VAL:O	2:B:1089:MET:HE2	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:297:SER:C	2:G:301:LEU:HG	2.08	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: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
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
1:E:67:C:OP1	2:G:742:LYS:NZ	2.13	0.78

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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: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:340:ARG:C	2:B:344:PRO:HG3	2.08	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
1:A:52:A:H1'	2:B:1169:MET:HE3	1.65	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: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:B:1272:GLN:C	2:B:1272:GLN:HE21	1.93	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
2:G:790:GLU:OE1	2:G:888:ASN:C	2.27	0.77
1:A:24:U:C2	2:B:105:PHE:HE1	2.01	0.77

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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: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: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:B:842:VAL:HG12	2:B:854:ASN:CG	2.10	0.76
2:G:870:VAL:HG22	2:G:908:LEU:HD23	1.04	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: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
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:1243:GLU:C	2:B:1244:LYS:HZ2	1.94	0.76
2:B:847:LEU:HD21	2:B:849:ASP:HB2	1.66	0.76
2:B:810:LYS:C	2:B:833:LEU:HD12	2.11	0.75
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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: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
2:G:321:MET:HE1	2:G:402:GLN:O	1.86	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
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: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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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: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
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:886:LEU:C	2:G:892:ILE:CG1	2.60	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: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:1031:LYS:HZ1	2:G:1068:GLU:CD	1.93	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
2:B:178:ASN:C	2:B:299:ALA:CB	2.61	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:B:618:ASP:OD2	2:B:639:TYR:OH	2.03	0.73
2:G:342:GLN:HE22	2:G:383:MET:C	1.96	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:755:LYS:HD3	2:B:939:MET:HE3	1.69	0.73
2:G:49:GLY:C	2:G:984:ALA:CB	2.61	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:393:LEU:HD23	2:B:393:LEU:C	2.14	0.73
2:B:874:GLU:HA	2:B:877:LYS:HD2	1.68	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
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:B:369:GLN:HE22	2:B:404:THR:CG2	1.73	0.72
2:B:939:MET:HE2	2:B:953:VAL:HG21	1.70	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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: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: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:258:LEU:CD1	2:G:281:GLN:CD	2.61	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:B:1246:LYS:HB2	2:B:1246:LYS:HZ2	1.54	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
2:B:178:ASN:HB3	2:B:299:ALA:N	2.04	0.72
2:B:296:LEU:HD23	2:B:296:LEU:C	2.15	0.72
1:E:97:U:OP2	1:E:98:C:N4	2.22	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:283:GLY:C	2:B:285:GLN:OE1	2.33	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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:B:963:VAL:HG21	2:B:990:ASN:CG	2.15	0.71
2:B:1060:ARG:NH1	2:B:1064:GLU:CD	2.48	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:755:LYS:HD3	2:B:939:MET:HE1	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:B:489:GLN:HG3	2:B:625:LEU:HD21	1.73	0.71
2:G:106:LEU:HD12	2:G:106:LEU:N	2.02	0.71
2:G:275:LEU:HD12	2:G:275:LEU:C	2.15	0.71
2:G:1296:LYS:C	2:G:1297:HIS:ND1	2.48	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:275:LEU:HD12	2:B:275:LEU:C	2.15	0.71
2:G:222:LEU:HD12	2:G:222:LEU:C	2.15	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:296:LEU:C	2:G:296:LEU:HD23	2.15	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
2:G:625:LEU:HG	2:G:626:PHE:HE1	1.56	0.71
2:B:248:LEU:HD13	2:B:249:THR:C	2.16	0.70
2:B:302:LEU:HD23	2:B:302:LEU:C	2.16	0.70
2:B:557:ARG:HH22	2:B:599:LYS:HZ2	1.24	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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:B:278:LEU:HD12	2:B:278:LEU:C	2.16	0.70
2:B:810:LYS:C	2:B:833:LEU:CD1	2.64	0.70
2:B:979:ASN:CG	2:B:981:TYR:HD1	1.99	0.70
2:G:601:ILE:HD12	2:G:603:ASP:H	1.57	0.70
2:G:823:TYR:CA	2:G:879:MET:HE3	2.20	0.70
2:G:886:LEU:C	2:G:892:ILE:HG13	2.16	0.70
2:G:1063:ILE:CG2	2:G:1072:ILE:HG23	2.21	0.70
2:B:1256:GLN:NE2	2:B:1260:GLU:CD	2.49	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:338:LEU:O	2:B:383:MET:HE2	1.90	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:573:GLU:C	2:G:574:CYS:SG	2.73	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:G:1363:SER:C	2:G:1364:GLN:HG2	2.16	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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: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:B:407:ASN:ND2	2:B:407:ASN:H	1.86	0.70
2:G:171:GLU:OE2	2:G:269:ASP:HB3	1.91	0.70
2:G:823:TYR:C	2:G:879:MET:HE2	2.10	0.70
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:B:1060:ARG:HH12	2:B:1064:GLU:CD	1.98	0.69
2:B:1230:SER:C	2:B:1233:VAL:HG23	2.17	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:G:1075:ASP:CG	2:G:1078:ARG:HG3	2.18	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:G:393:LEU:HD23	2:G:393:LEU:C	2.17	0.69
2:G:886:LEU:C	2:G:892:ILE:CD1	2.62	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: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:B:794:GLN:H	2:B:794:GLN:CD	2.00	0.69
2:G:282:ILE:HG22	2:G:286:TYR:CE1	2.27	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:672:ASP:HB2	2:G:704:PHE:CD2	2.26	0.69
2:G:746:GLU:C	2:G:750:VAL:HG22	2.17	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: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:317:LEU:HD12	2:B:317:LEU:C	2.16	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: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:629:ARG:HH21	2:G:655:ARG:NH2	1.92	0.68
2:G:755:LYS:HG2	2:G:939:MET:HE2	1.73	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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:40:ARG:C	2:B:41:HIS:HD1	2.01	0.68
2:G:35:LEU:CD1	2:G:1358:THR:HG22	2.24	0.68
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: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:G:343:LEU:HD22	2:G:345:GLU:CD	2.18	0.67
2:B:117:PRO:HD2	2:B:125:GLU:OE2	1.93	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:G:197:GLU:CD	6:G:1502:HOH:O	2.34	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:34:VAL:HG23	2:G:41:HIS:C	2.20	0.67
2:G:174:LEU:HD22	2:G:174:LEU:N	2.09	0.67
2:G:198:GLU:C	2:G:199:ASN:HD22	2.03	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: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
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: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: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:G:308:VAL:HG12	2:G:309:ASN:N	2.04	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:38:THR:HG22	2:G:39:ASP:N	2.09	0.66
2:G:1232:TYR:HB3	2:G:1269:ILE:HD11	1.77	0.66
1:A:78:A:H2'	1:A:79:G:H8	1.60	0.66
2:B:557:ARG:NH1	2:B:599:LYS:NZ	2.43	0.66
2:G:497:ASN:C	2:G:498:PHE:HD2	2.02	0.66
2:G:830:ILE:HD12	2:G:830:ILE:H	1.58	0.66
2:B:873:GLU:HG2	2:B:874:GLU:N	2.09	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:945:GLU:CD	2:B:946:ASN:H	2.04	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:B:1312:LEU:HD11	2:B:1326:TYR:CE1	2.30	0.66
2:G:666:LEU:HD23	2:G:666:LEU:C	2.20	0.66
2:G:1244:LYS:O	2:G:1246:LYS:HD2	1.95	0.66
2:B:275:LEU:O	2:B:279:LEU:HB2	1.96	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:93:VAL:HG21	2:B:151:LEU:HD23	1.76	0.66
2:G:585:ASP:OD1	2:G:586:ARG:N	2.29	0.66
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:307:ARG:NH1	2:B:323:LYS:HZ3	1.94	0.66
2:B:350:ILE:HG22	2:B:351:PHE:CE2	2.30	0.66
2:B:970:PHE:CD1	2:B:1080:PHE:CE1	2.84	0.66
2:G:718:ASP:HB3	2:G:722:GLU:CD	2.18	0.66
2:G:801:VAL:HG13	2:G:815:TYR:OH	1.95	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:178:ASN:C	2:B:299:ALA:HB2	2.20	0.66
2:B:229:LEU:CD1	2:B:232:GLU:H	2.09	0.66
2:B:291:LEU:HD23	2:B:291:LEU:C	2.21	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:615:ILE:O	2:B:619:ILE:N	2.28	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: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: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:979:ASN:CG	2:B:981:TYR:CD1	2.75	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:822:MET:C	2:G:879:MET:HE3	2.21	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: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: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:291:LEU:HD23	2:G:291:LEU:C	2.21	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:963:VAL:CG2	2:G:990:ASN:OD1	2.45	0.64
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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:598:LEU:HD23	2:G:598:LEU:C	2.23	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:G:178:ASN:C	2:G:310:THR:CG2	2.69	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: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: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:614:ASP:OD1	2:B:664:ARG:NH2	2.31	0.64
2:B:763:MET:HE2	2:B:928:THR:HG22	1.79	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: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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:345:GLU:CD	2:G:345:GLU:H	2.04	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:G:965:ASP:CG	2:G:968:LYS:HZ1	2.00	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:B:1256:GLN:HE22	2:B:1260:GLU:CD	2.05	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: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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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:596:ASP:CG	2:B:656:TYR:HH	1.95	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:534:MET:HE2	2:G:536:LYS:O	2.00	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:49:GLY:C	2:G:984:ALA:HB2	2.25	0.62
2:G:870:VAL:HG21	2:G:908:LEU:HD22	1.78	0.62
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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: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:1284:ASP:O	2:B:1285:ALA:C	2.43	0.61
2:B:1292:SER:O	2:B:1296:LYS:HD2	2.00	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:824:VAL:N	2:G:879:MET:CE	2.36	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:545:LYS:NZ	2:G:690:ASN:HD21	1.80	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:22:THR:HG1	2:G:26:LYS:C	2.09	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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:22:THR:OG1	2:G:26:LYS:O	2.15	0.61
2:G:121:ASN:CG	2:G:124:ASP:HB2	2.24	0.61
2:G:142:LEU:HB3	2:G:422:ILE:HG12	1.83	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: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:585:ASP:CG	2:G:586:ARG:H	2.09	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
1:E:89:G:H1	2:G:1272:GLN:CD	2.08	0.61
2:G:618:ASP:OD1	2:G:639:TYR:OH	2.13	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
2:G:675:SER:OG	2:G:677:LYS:HG3	2.00	0.60
2:G:874:GLU:HG2	2:G:877:LYS:HZ1	1.66	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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:974:LYS:HZ2	2:B:976:ARG:NH1	1.99	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
2:B:606:PHE:HE2	2:B:612:ASN:CG	2.10	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:508:LEU:CD1	2:B:663:SER:C	2.75	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
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:1147:ALA:O	2:B:1160:VAL:HG22	2.01	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:1270:ILE:HD13	2:B:1294:TYR:CG	2.35	0.59
2:G:343:LEU:HB2	2:G:383:MET:HE3	1.83	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: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:B:1086:VAL:HG13	2:B:1089:MET:HE1	1.84	0.59
2:G:29:SER:HB2	2:G:44:LYS:HE3	1.80	0.59
2:G:625:LEU:C	2:G:626:PHE:HD1	2.10	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
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:342:GLN:CD	2:G:383:MET:CB	2.42	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: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:B:821:ASP:OD1	2:B:858:THR:OG1	2.13	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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:OD1	2:B:309:ASN:N	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: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:G:889:ALA:C	2:G:890:LYS:HG2	2.28	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: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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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:339:VAL:CA	2:B:383:MET:HE1	2.22	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:B:1315:LEU:HD12	2:B:1315:LEU:C	2.29	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:40:ARG:C	2:G:41:HIS:HD1	2.12	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:823:TYR:O	2:G:879:MET:HE2	2.01	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:1031:LYS:HZ2	2:G:1068:GLU:CD	2.10	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:285:GLN:H	2:B:285:GLN:CD	1.97	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:G:963:VAL:HG21	2:G:990:ASN:CG	2.29	0.57
2:B:38:THR:HG22	2:B:39:ASP:N	2.19	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:G:1213:MET:CE	2:G:1221:GLN:HE21	2.14	0.57
2:B:244:LEU:HD23	2:B:266:LEU:HD11	1.86	0.57
2:G:103:GLU:C	2:G:106:LEU:CD1	2.76	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:1000:LYS:HZ2	2:G:1064:GLU:HB3	1.68	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:B:811:LEU:HD13	2:B:811:LEU:C	2.29	0.57
2:B:979:ASN:CG	2:B:981:TYR:HB2	2.24	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:824:VAL:CA	2:G:879:MET:HE1	2.33	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:332:LEU:HD12	2:G:332:LEU:C	2.30	0.57
2:G:491:PHE:O	2:G:494:ARG:HG3	2.05	0.57
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: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
1:A:19:A:H4'	2:B:407:ASN:C	2.27	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: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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:905:ARG:HH11	2:B:905:ARG:CG	2.14	0.56
2:B:1086:VAL:CG1	2:B:1089:MET:HE1	2.36	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
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
2:G:530:VAL:HG13	2:G:537:PRO:HB3	0.57	0.56
2:G:672:ASP:CG	2:G:703:THR:H	2.14	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:738:LEU:HD23	2:B:738:LEU:C	2.30	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:965:ASP:HA	2:G:968:LYS:HZ3	1.69	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:207:ASP:HB3	2:B:210:ALA:HB2	1.79	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
2:G:1001:TYR:HE2	2:G:1042:ILE:HD11	1.70	0.56
2:G:1315:LEU:HD12	2:G:1315:LEU:C	2.31	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:G:827:GLU:C	2:G:828:LEU:HD23	2.30	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:118:ILE:HG12	2:G:125:GLU:CD	2.30	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: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:278:LEU:HD12	2:G:278:LEU:C	2.30	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: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:234:LYS:HE3	2:G:234:LYS:C	2.31	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:1038:PHE:CD1	2:B:1038:PHE:C	2.85	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:369:GLN:CD	2:B:404:THR:HG22	2.32	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
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:317:LEU:HD12	2:G:317:LEU:C	2.27	0.55
2:G:359:TYR:C	2:G:359:TYR:CD2	2.85	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:830:ILE:HD13	2:B:831:ASN:CG	2.32	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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:G:618:ASP:CG	2:G:639:TYR:CZ	2.79	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:1235:PHE:C	2:B:1235:PHE:CD2	2.85	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:271:TYR:C	2:G:271:TYR:CD2	2.85	0.54
2:G:349:GLU:HG3	2:G:356:LYS:CD	2.34	0.54
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:B:606:PHE:CE2	2:B:612:ASN:CG	2.85	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:405:PHE:C	2:G:405:PHE:CD2	2.85	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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:969:ASP:C	2:B:970:PHE:CD2	2.85	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: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
2:B:1241:HIS:CE1	2:B:1244:LYS:C	2.85	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:B:814:TYR:C	2:B:814:TYR:CD1	2.85	0.54
2:G:234:LYS:HE2	2:G:235:ASN:CG	2.33	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
2:B:762:GLU:OE1	2:B:990:ASN:ND2	2.41	0.54
2:B:1287:LEU:HD12	2:B:1287:LEU:C	2.32	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:114:GLU:CD	2:B:120:GLY:O	2.50	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:755:LYS:CD	2:B:939:MET:HE3	2.38	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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: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:625:LEU:C	2:G:626:PHE:CD1	2.85	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
2:B:1237:TYR:C	2:B:1237:TYR:CD1	2.86	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: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:790:GLU:OE2	2:B:888:ASN:C	2.50	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
2:G:966:PHE:C	2:G:966:PHE:CD2	2.85	0.53
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
2:B:665:LYS:O	2:B:669:GLY:C	2.51	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:G:1213:MET:HE3	2:G:1221:GLN:NE2	2.21	0.53
2:B:275:LEU:HD11	2:B:279:LEU:CD1	2.38	0.53
2:B:665:LYS:C	2:B:669:GLY:H	2.17	0.53
2:G:351:PHE:C	2:G:360:ALA:HB2	2.34	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: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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:1304:GLU:C	2:B:1327:PHE:CE1	2.87	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:B:114:GLU:HG2	2:B:120:GLY:C	2.34	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: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: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: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:G:252:PHE:CE1	2:G:278:LEU:CD2	2.77	0.52
2:G:626:PHE:CD1	2:G:626:PHE:N	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
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:1200:LYS:O	2:B:1201:TYR:HB2	2.08	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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: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
1:A:64:U:OP1	2:B:1102:THR:OG1	2.26	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:307:ARG:HH11	2:B:323:LYS:HZ3	1.58	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
2:G:1224:ASN:CG	2:G:1280:VAL:HG11	2.34	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
2:B:759:ILE:HG21	2:B:935:LEU:HD23	1.92	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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:668:ASN:C	2:G:678:THR:HG21	2.35	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:832:ARG:HH11	2:B:835:ASP:CG	2.10	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: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
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: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:258:LEU:HD21	2:G:281:GLN:CD	2.34	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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:720:LEU:C	2:G:723:HIS:H	2.19	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
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
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:359:TYR:C	2:G:359:TYR:HD2	2.18	0.51
2:G:550:ASP:HA	2:G:554:LYS:HG3	1.93	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:665:LYS:C	2:B:669:GLY:N	2.66	0.51
2:B:788:ILE:HG13	2:B:796:LEU:HG	1.93	0.51
2:G:167:HIS:CD2	2:G:169:LEU:HB2	2.46	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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:823:TYR:C	2:G:879:MET:HE3	2.13	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: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:121:ASN:HD21	2:G:124:ASP:CG	2.18	0.50
2:G:324:ARG:CZ	2:G:400:ARG:HH12	2.12	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
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:398:LEU:C	2:G:399:LEU:HD12	2.36	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:121:ASN:HD21	2:B:124:ASP:CG	2.19	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:573:GLU:C	2:B:574:CYS:SG	2.94	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:491:PHE:O	2:G:495:MET:HE2	2.10	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: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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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:849:ASP:CG	2:B:854:ASN:HB3	2.37	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:497:ASN:C	2:G:498:PHE:CD2	2.87	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:903:ALA:C	2:G:906:GLY:N	2.63	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: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:139:ARG:HD3	2:B:161:MET:HE2	1.94	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
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:234:LYS:C	2:B:234:LYS:CD	2.85	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:1038:PHE:C	2:B:1038:PHE:HD1	2.20	0.50
2:B:1145:VAL:CG1	2:B:1182:LEU:HD13	2.42	0.50
2:G:46:ASN:HD22	2:G:1089:MET:HE1	1.69	0.50
2:G:393:LEU:C	2:G:393:LEU:CD2	2.85	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:G:874:GLU:HG2	2:G:877:LYS:HZ3	1.76	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:658:GLY:C	2:B:659:TRP:CD1	2.90	0.49
2:G:48:ILE:HG13	2:G:49:GLY:N	2.27	0.49
2:G:798:GLU:C	2:G:799:HIS:HD1	2.20	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:249:THR:HG22	2:G:265:GLN:HB2	1.93	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:507:VAL:HG11	2:B:660:GLY:C	2.37	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:343:LEU:CD2	2:G:345:GLU:CD	2.86	0.49
2:G:666:LEU:C	2:G:666:LEU: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:1031:LYS:O	2:B:1031:LYS:HD3	2.13	0.49
2:G:234:LYS:C	2:G:234:LYS:CE	2.85	0.49
2:G:359:TYR:CE2	2:G:363:ILE:CG1	2.96	0.49
2:G:598:LEU:C	2:G:598:LEU:CD2	2.85	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
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:823:TYR:N	2:G:879:MET:HE3	2.27	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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:1286:ASN:O	2:B:1289:LYS:HB3	2.12	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:G:128:TYR:O	2:G:132:TYR:HD2	1.95	0.49
2:G:822:MET:O	2:G:879:MET:HE3	2.13	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:181:VAL:HG12	2:B:300:ILE:CG1	2.43	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
2:B:1089:MET:HE2	2:B:1089:MET:HB2	1.65	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
2:G:1123:LYS:NZ	6:G:1504:HOH:O	2.33	0.49
1:A:39:G:H5'	1:A:40:C:OP2	2.12	0.49
2:B:234:LYS:HD3	2:B:234:LYS:C	2.38	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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:350:ILE:C	2:G:351:PHE:HD2	2.20	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:926:GLN:C	2:B:929:LYS:HG3	2.38	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: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: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
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: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:90:MET:HE3	2:B:98:PHE:CZ	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: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:1145:VAL:HG23	2:G:1145:VAL:O	2.12	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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:1263:LYS:CD	2:G:1263:LYS:C	2.87	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:311:GLU:H	2:B:311:GLU:CD	2.21	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:G:8:GLY:O	2:G:18:TRP:HA	2.14	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:969:ASP:C	2:B:970:PHE:HD2	2.21	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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:720:LEU:O	2:G:723:HIS:C	2.53	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:201:ILE:HG22	2:B:202:ASN:N	2.28	0.47
2:B:516:GLU:OE1	2:B:593:THR:N	2.33	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:525:THR:CG2	2:B:690:ASN:HB3	2.44	0.47
2:B:627:GLU:N	2:B:627:GLU:CD	2.73	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:175:ASN:N	2:G:175:ASN:ND2	2.60	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:802:GLU:O	2:G:805:GLN:HG3	2.14	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:1135:ASP:CG	2:B:1136:SER:N	2.72	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:483:ASP:O	2:G:484:LYS:C	2.56	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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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:564:LEU:HD12	2:G:564:LEU:C	2.40	0.47
2:G:936:ASP:OD2	2:G:951:ARG:NE	2.46	0.47
2:B:1108:GLU:HB2	3:C:9:DC:H5''	1.96	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:469:SER:O	2:G:481:VAL:CG1	2.62	0.47
2:G:874:GLU:CA	2:G:877:LYS:NZ	2.73	0.47
2:G:1256:GLN:NE2	2:G:1256:GLN:C	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
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:1177:ASN:ND2	2:B:1180:ASP:CG	2.73	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:30:LYS:HD2	2:G:751:MET:HE1	1.97	0.46
2:G:46:ASN:ND2	2:G:1089:MET:CE	2.58	0.46
2:G:100:ARG:NH2	2:G:117:PRO:O	2.46	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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:291:LEU:C	2:G:291:LEU:CD2	2.87	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:713:VAL:O	2:G:714:SER:C	2.58	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: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:431:PRO:O	2:G:434:LYS:HG2	2.15	0.46
2:B:190:GLN:O	2:B:194:GLN:HG2	2.16	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:334:LEU:O	2:G:338:LEU:HD12	2.11	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
2:B:207:ASP:O	2:B:211:ILE:HG13	2.15	0.46
2:B:234:LYS:HD3	2:B:235:ASN:CG	2.41	0.46
2:B:299:ALA:O	2:B:302:LEU:HD21	2.12	0.46
2:B:341:GLN:NE2	2:B:341:GLN:C	2.73	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:G:198:GLU:C	2:G:199:ASN:ND2	2.73	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:1145:VAL:HG23	2:B:1145:VAL:O	2.15	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:118:ILE:C	2:G:119:PHE:CD2	2.94	0.46
2:G:429:PHE:CD2	2:G:429:PHE:N	2.83	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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:311:GLU:N	2:B:311:GLU:CD	2.73	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:271:TYR:C	2:B:271:TYR:CD2	2.93	0.46
2:B:925:ARG:C	2:B:929:LYS:HE3	2.41	0.46
2:B:1206:LEU:CD1	2:B:1210:ARG:CZ	2.94	0.46
2:B:1304:GLU:C	2:B:1327:PHE:HE1	2.24	0.46
2:G:349:GLU:CD	2:G:356:LYS:HD2	2.40	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: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: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:618:ASP:OD2	2:G:639:TYR:HE2	1.98	0.46
2:G:976:ARG:NH2	2:G:977:GLU:CD	2.73	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:603:ASP:OD1	2:B:606:PHE:HB2	2.15	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
2:B:1335:ARG:C	2:B:1336:TYR:HD1	2.25	0.46
1:E:44:U:N3	2:G:328:HIS:HB3	2.31	0.46
2:G:40:ARG:C	2:G:41:HIS:ND1	2.73	0.46
2:G:43:ILE:HG22	2:G:44:LYS:N	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:1135:ASP:CG	2:G:1136:SER:N	2.73	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:165:ARG:C	2:B:415:HIS:ND1	2.74	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:258:LEU:CG	2:G:281:GLN:CD	2.90	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:631:MET:C	2:G:634:GLU:H	2.22	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:342:GLN:CB	2:B:383:MET:HE3	2.45	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: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
2:G:594:TYR:C	2:G:594:TYR:CD2	2.94	0.45
2:G:1206:LEU:C	2:G:1207:GLU:HG2	2.41	0.45
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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:432:PHE:CD1	2:B:432:PHE:C	2.91	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:618:ASP:CB	2:G:639:TYR:OH	2.52	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: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:1091:GLN:NE2	2:B:1091:GLN:C	2.73	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: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:184:LEU:CD1	2:B:295:ASN:C	2.90	0.45
2:B:457:ARG:HB2	2:B:467:ARG:NH1	2.32	0.45
2:B:531:THR:OG1	2:B:532:GLU:N	2.49	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:901:THR:O	2:G:902:LYS:C	2.58	0.45
2:G:1105:PHE:HD1	2:G:1168:ILE:HB	1.82	0.45
2:G:1222:LYS:NZ	2:G:1317:ASN:O	2.48	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:874:GLU:C	2:B:877:LYS:HG3	2.41	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: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:631:MET:O	2:G:632:ILE:C	2.59	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:C	2.93	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:207:ASP:O	2:B:208:ALA:C	2.61	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:974:LYS:NZ	2:B:976:ARG:HH11	2.16	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
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:738:LEU:HD23	2:G:738:LEU:C	2.42	0.44
2:G:784:ILE:O	2:G:788:ILE:HG12	2.16	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:154:ILE:O	2:B:155:TYR:C	2.58	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:393:LEU:C	2:B:393:LEU:CD2	2.85	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:273:ASP:C	2:G:277:ASN:ND2	2.73	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:541:SER:H	2:B:544:GLN:CD	2.26	0.44
2:B:708:ILE:O	2:B:709:GLN:C	2.60	0.44
2:B:782:LYS:O	2:B:786:GLU:HG3	2.17	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:321:MET:HE3	2:G:321:MET:HB3	1.78	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:G:1256:GLN:C	2:G:1256:GLN:CD	2.86	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:342:GLN:NE2	2:G:383:MET:C	2.72	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
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:341:GLN:HE21	2:B:341:GLN:C	2.25	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:B:1250:GLU:C	2:B:1254:GLN:OE1	2.60	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:332:LEU:C	2:G:332:LEU:CD1	2.91	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
2:G:823:TYR:HA	2:G:879:MET:HE2	1.97	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:296:LEU:C	2:B:296:LEU:CD2	2.85	0.44
2:B:341:GLN:HE21	2:B:342:GLN:N	2.16	0.44
2:B:369:GLN:CD	2:B:400:ARG:NH1	2.75	0.44
2:B:849:ASP:CG	2:B:851:SER:HG	2.10	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: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:317:LEU:C	2:B:317:LEU:CD1	2.86	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:103:GLU:C	2:G:106:LEU:HD12	2.39	0.44
2:G:222:LEU:CG	2:G:223:GLU:N	2.81	0.44
2:G:244:LEU:O	2:G:245:SER:C	2.61	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
2:G:1251:ASP:C	2:G:1254:GLN:NE2	2.73	0.44
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
2:B:594:TYR:OH	2:B:604:LYS:NZ	2.48	0.43
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:307:ARG:C	2:G:308:VAL:HG23	2.43	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:718:ASP:OD2	2:G:722:GLU:OE1	2.27	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: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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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:G:755:LYS:HG2	2:G:939:MET:HE3	1.96	0.43
2:G:889:ALA:C	2:G:890:LYS:CG	2.91	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
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: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:G:744:VAL:O	2:G:745:ASP:C	2.62	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:6:SER:HG	2:G:757:GLU:HB2	1.84	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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: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:739:GLN:OE1	2:B:1352:ILE:HD11	2.19	0.43
2:B:945:GLU:N	2:B:945:GLU:CD	2.73	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:499:ASP:O	2:G:502:LEU:C	2.62	0.43
2:G:747:LEU:C	2:G:750:VAL:HG22	2.26	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:OH	2:G:754:HIS:O	2.35	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:737:ILE:C	2:G:740:THR:HG22	2.43	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: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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:882:TYR:CD2	2:B:882:TYR:C	2.96	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: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
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: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:27:VAL:HG11	2:B:1089:MET:HE1	2.01	0.42
2:B:45:LYS:HE3	2:B:45:LYS:HB3	1.78	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:812:TYR:CD1	2:B:812:TYR:C	2.97	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: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:155:TYR:C	2:B:155:TYR:CD2	2.98	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:596:ASP:CG	2:B:656:TYR:OH	2.53	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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:743:VAL:O	2:G:744:VAL:C	2.63	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:945:GLU:CD	2:B:946:ASN:N	2.73	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: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:398:LEU:C	2:B:398:LEU:CD2	2.93	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:1297:HIS:C	2:G:1305:GLN:NE2	2.73	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:488:ALA:O	2:B:491:PHE:HB3	2.19	0.42
2:B:514:LEU:O	2:B:515:TYR:C	2.58	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:1042:ILE:HD12	2:G:1042:ILE:C	2.42	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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: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:474:THR:O	2:B:475:PRO:C	2.59	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
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:444:LEU:HD23	2:B:444:LEU:C	2.44	0.41
2:B:536:LYS:HB2	2:B:536:LYS:HE2	1.83	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: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:631:MET:HB2	2:G:631:MET:HE3	1.67	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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:118:ILE:CB	2:G:119:PHE:CD2	2.97	0.41
2:G:208:ALA:C	2:G:212:LEU:HD23	2.45	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:G:1363:SER:C	2:G:1364:GLN:CG	2.85	0.41
2:B:377:LYS:HE3	2:B:377:LYS:HB2	1.78	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
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: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: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
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: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:939:MET:C	2:B:940:ASN:HD22	2.27	0.41
2:B:1298:ARG:HA	2:B:1305:GLN:NE2	2.35	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:114:GLU:CD	2:G:115:ARG:N	2.73	0.41
2:G:201:ILE:CD1	2:G:238:PHE:CG	3.03	0.41
2:G:489:GLN:CD	2:G:635:ARG:HH22	2.12	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
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:338:LEU:O	2:B:383:MET:HE1	2.21	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: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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:107:VAL:O	2:B:111:LYS:N	2.54	0.41
2:B:167:HIS:ND1	2:B:167:HIS:C	2.77	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
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
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:296:LEU:C	2:G:296:LEU:CD2	2.85	0.41
2:G:540:LEU:HD23	2:G:545:LYS:HG2	2.02	0.41
2:G:623:LEU:HD21	2:G:654:ARG:O	2.20	0.41
2:G:648:MET:HB3	2:G:648:MET:HE3	1.83	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:798:GLU:C	2:G:799:HIS:ND1	2.79	0.41
2:G:1071:GLU:CG	2:G:1072:ILE:N	2.84	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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:G:636:LEU:O	2:G:648:MET:HE1	2.21	0.40
2:G:969:ASP:C	2:G:970:PHE:CD2	2.99	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
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: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:923:GLU:CD	2:B:925:ARG:HH21	2.28	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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:451:TYR:HB2	2:B:488:ALA:HA	2.03	0.40
2:B:505:GLU:CD	2:B:665:LYS:HG3	2.45	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:1207:GLU:C	2:B:1209:GLY:H	2.29	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
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 76
2	G	1318/1368 (96%)	1273 (97%)	43 (3%)	2 (0%)	43 71
All	All	2636/2736 (96%)	2552 (97%)	81 (3%)	3 (0%)	48 76

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%)	918 (78%)	267 (22%)	1	4
2	G	1186/1225 (97%)	933 (79%)	253 (21%)	1	5
All	All	2371/2450 (97%)	1851 (78%)	520 (22%)	1	5

All (520) 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	43	ILE
2	B	47	LEU
2	B	48	ILE
2	B	57	GLU
2	B	62	THR
2	B	71	ARG
2	B	72	TYR
2	B	74	ARG
2	B	75	ARG
2	B	76	LYS
2	B	93	VAL
2	B	96	SER
2	B	101	LEU
2	B	104	SER
2	B	106	LEU
2	B	107	VAL
2	B	111	LYS
2	B	114	GLU

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Mol	Chain	Res	Type
2	B	121	ASN
2	B	122	ILE
2	B	162	ILE
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	198	GLU
2	B	204	SER
2	B	209	LYS
2	B	211	ILE
2	B	212	LEU
2	B	216	LEU
2	B	218	LYS
2	B	220	ARG
2	B	233	LYS
2	B	234	LYS
2	B	245	SER
2	B	246	LEU
2	B	248	LEU
2	B	268	LYS
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	291	LEU
2	B	294	LYS
2	B	301	LEU
2	B	302	LEU
2	B	304	ASP
2	B	305	ILE
2	B	307	ARG
2	B	308	VAL
2	B	309	ASN
2	B	311	GLU
2	B	317	LEU
2	B	320	SER

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Mol	Chain	Res	Type
2	B	323	LYS
2	B	338	LEU
2	B	339	VAL
2	B	341	GLN
2	B	342	GLN
2	B	345	GLU
2	B	348	LYS
2	B	352	PHE
2	B	376	ILE
2	B	377	LYS
2	B	379	ILE
2	B	380	LEU
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	436	ASN
2	B	442	LYS
2	B	445	THR
2	B	455	LEU
2	B	460	SER
2	B	461	ARG
2	B	468	LYS
2	B	469	SER
2	B	479	GLU
2	B	502	LEU
2	B	506	LYS
2	B	508	LEU
2	B	510	LYS
2	B	513	LEU

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Mol	Chain	Res	Type
2	B	514	LEU
2	B	531	THR
2	B	532	GLU
2	B	536	LYS
2	B	540	LEU
2	B	543	GLU
2	B	544	GLN
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	573	GLU
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	629	ARG
2	B	631	MET
2	B	632	ILE
2	B	636	LEU
2	B	642	LEU
2	B	653	ARG
2	B	655	ARG
2	B	671	ARG
2	B	673	LYS
2	B	675	SER
2	B	677	LYS
2	B	688	PHE
2	B	691	ARG
2	B	701	SER
2	B	703	THR
2	B	708	ILE
2	B	709	GLN
2	B	719	SER

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Mol	Chain	Res	Type
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	781	MET
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	814	TYR
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	857	LEU
2	B	859	ARG
2	B	866	LYS
2	B	867	SER
2	B	877	LYS
2	B	885	GLN
2	B	887	LEU
2	B	893	THR
2	B	905	ARG
2	B	908	LEU
2	B	910	GLU
2	B	911	LEU
2	B	938	ARG
2	B	940	ASN
2	B	945	GLU
2	B	963	VAL

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Mol	Chain	Res	Type
2	B	964	SER
2	B	968	LYS
2	B	969	ASP
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	1041	ASN
2	B	1042	ILE
2	B	1045	PHE
2	B	1047	LYS
2	B	1060	ARG
2	B	1062	LEU
2	B	1082	THR
2	B	1086	VAL
2	B	1087	LEU
2	B	1089	MET
2	B	1091	GLN
2	B	1106	SER
2	B	1110	ILE
2	B	1135	ASP
2	B	1136	SER
2	B	1146	VAL
2	B	1148	LYS
2	B	1150	GLU
2	B	1151	LYS
2	B	1153	LYS
2	B	1154	SER
2	B	1156	LYS
2	B	1171	ARG
2	B	1175	GLU
2	B	1182	LEU
2	B	1191	LYS
2	B	1195	ILE
2	B	1197	LYS
2	B	1202	SER
2	B	1206	LEU
2	B	1207	GLU

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Mol	Chain	Res	Type
2	B	1214	LEU
2	B	1220	LEU
2	B	1224	ASN
2	B	1226	LEU
2	B	1230	SER
2	B	1231	LYS
2	B	1233	VAL
2	B	1242	TYR
2	B	1243	GLU
2	B	1244	LYS
2	B	1246	LYS
2	B	1250	GLU
2	B	1252	ASN
2	B	1253	GLU
2	B	1254	GLN
2	B	1255	LYS
2	B	1257	LEU
2	B	1266	LEU
2	B	1270	ILE
2	B	1272	GLN
2	B	1274	SER
2	B	1277	SER
2	B	1278	LYS
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	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	21	ILE
2	G	22	THR
2	G	27	VAL
2	G	29	SER
2	G	33	LYS
2	G	34	VAL

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Mol	Chain	Res	Type
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	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	143	VAL
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	216	LEU
2	G	217	SER
2	G	218	LYS
2	G	220	ARG
2	G	221	ARG

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Mol	Chain	Res	Type
2	G	228	GLN
2	G	233	LYS
2	G	234	LYS
2	G	241	LEU
2	G	246	LEU
2	G	248	LEU
2	G	253	LYS
2	G	258	LEU
2	G	270	THR
2	G	271	TYR
2	G	275	LEU
2	G	276	ASP
2	G	278	LEU
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	320	SER
2	G	321	MET
2	G	323	LYS
2	G	332	LEU
2	G	334	LEU
2	G	335	LEU
2	G	338	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	356	LYS
2	G	359	TYR
2	G	363	ILE
2	G	383	MET
2	G	384	ASP
2	G	386	THR
2	G	387	GLU

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Mol	Chain	Res	Type
2	G	392	LYS
2	G	396	GLU
2	G	397	ASP
2	G	400	ARG
2	G	403	ARG
2	G	409	SER
2	G	415	HIS
2	G	432	PHE
2	G	435	ASP
2	G	465	MET
2	G	467	ARG
2	G	468	LYS
2	G	469	SER
2	G	473	ILE
2	G	480	GLU
2	G	481	VAL
2	G	494	ARG
2	G	495	MET
2	G	497	ASN
2	G	499	ASP
2	G	502	LEU
2	G	530	VAL
2	G	535	ARG
2	G	536	LYS
2	G	539	PHE
2	G	541	SER
2	G	550	ASP
2	G	557	ARG
2	G	574	CYS
2	G	575	PHE
2	G	593	THR
2	G	596	ASP
2	G	601	ILE
2	G	602	LYS
2	G	611	GLU
2	G	627	GLU
2	G	631	MET
2	G	632	ILE
2	G	634	GLU
2	G	636	LEU
2	G	637	LYS
2	G	665	LYS

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Mol	Chain	Res	Type
2	G	674	GLN
2	G	677	LYS
2	G	694	MET
2	G	696	LEU
2	G	698	HIS
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	807	GLN
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	848	LYS
2	G	850	ASP
2	G	864	ARG
2	G	866	LYS
2	G	867	SER
2	G	873	GLU
2	G	874	GLU
2	G	875	VAL
2	G	877	LYS
2	G	878	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

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Mol	Chain	Res	Type
2	G	911	LEU
2	G	933	GLN
2	G	935	LEU
2	G	937	SER
2	G	939	MET
2	G	945	GLU
2	G	962	LEU
2	G	967	ARG
2	G	968	LYS
2	G	970	PHE
2	G	974	LYS
2	G	975	VAL
2	G	976	ARG
2	G	977	GLU
2	G	978	ILE
2	G	995	THR
2	G	997	LEU
2	G	1005	GLU
2	G	1006	SER
2	G	1042	ILE
2	G	1045	PHE
2	G	1069	THR
2	G	1073	VAL
2	G	1074	TRP
2	G	1076	LYS
2	G	1078	ARG
2	G	1091	GLN
2	G	1094	ILE
2	G	1109	SER
2	G	1110	ILE
2	G	1124	LYS
2	G	1129	LYS
2	G	1142	SER
2	G	1144	LEU
2	G	1146	VAL
2	G	1150	GLU
2	G	1151	LYS
2	G	1153	LYS
2	G	1154	SER
2	G	1155	LYS
2	G	1168	ILE
2	G	1169	MET

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Mol	Chain	Res	Type
2	G	1171	ARG
2	G	1173	SER
2	G	1175	GLU
2	G	1190	VAL
2	G	1205	GLU
2	G	1206	LEU
2	G	1210	ARG
2	G	1214	LEU
2	G	1216	SER
2	G	1241	HIS
2	G	1244	LYS
2	G	1246	LYS
2	G	1248	SER
2	G	1254	GLN
2	G	1255	LYS
2	G	1256	GLN
2	G	1257	LEU
2	G	1263	LYS
2	G	1268	GLU
2	G	1275	GLU
2	G	1286	ASN
2	G	1291	LEU
2	G	1292	SER
2	G	1298	ARG
2	G	1302	ILE
2	G	1303	ARG
2	G	1312	LEU
2	G	1317	ASN
2	G	1324	PHE
2	G	1325	LYS
2	G	1329	THR
2	G	1336	TYR
2	G	1340	LYS
2	G	1347	LEU
2	G	1348	ILE
2	G	1362	LEU
2	G	1364	GLN

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (55) such sidechains are listed below:

Mol	Chain	Res	Type
2	B	178	ASN

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Mol	Chain	Res	Type
2	B	228	GLN
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	394	ASN
2	B	407	ASN
2	B	412	HIS
2	B	413	GLN
2	B	522	ASN
2	B	641	HIS
2	B	650	GLN
2	B	776	ASN
2	B	844	GLN
2	B	854	ASN
2	B	980	ASN
2	B	1221	GLN
2	B	1241	HIS
2	B	1252	ASN
2	B	1264	HIS
2	B	1272	GLN
2	B	1317	ASN
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	394	ASN
2	G	497	ASN
2	G	501	ASN
2	G	641	HIS
2	G	690	ASN
2	G	709	GLN
2	G	794	GLN
2	G	854	ASN
2	G	971	GLN

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Mol	Chain	Res	Type
2	G	980	ASN
2	G	1101	GLN
2	G	1221	GLN
2	G	1234	ASN
2	G	1241	HIS
2	G	1254	GLN
2	G	1256	GLN
2	G	1286	ASN
2	G	1305	GLN
2	G	1311	HIS
2	G	1317	ASN
2	G	1350	GLN

5.3.3 RNA [i](#)

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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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	1.04	0	6,6,6	1.39	1 (16%)
5	SO4	G	1401	-	4,4,4	1.04	0	6,6,6	1.39	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	3.06	125.39	108.54
5	G	1401	SO4	O4-S-O3	3.06	125.39	108.54

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, 95th percentile and maximum values of the occupancy-weighted average B-factor per residue. The column labelled ‘Q < 0.9’ lists the number of (and percentage) of residues with an average occupancy less than 0.9.

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å ²)	Q<0.9
1	A	94/98 (95%)	-0.07	1 (1%) 78 60	27, 56, 107, 151	0
1	E	95/98 (96%)	-0.20	2 (2%) 63 42	31, 56, 109, 125	0
2	B	1326/1368 (96%)	0.26	69 (5%) 33 19	24, 57, 90, 137	0
2	G	1326/1368 (96%)	0.27	66 (4%) 34 20	25, 57, 89, 123	0
3	C	25/25 (100%)	0.18	0 100 100	32, 47, 96, 107	0
3	H	25/25 (100%)	0.05	0 100 100	34, 47, 99, 112	0
4	D	11/11 (100%)	0.38	1 (9%) 15 8	48, 65, 121, 133	0
4	J	11/11 (100%)	0.56	1 (9%) 15 8	35, 60, 114, 132	0
All	All	2913/3004 (96%)	0.24	140 (4%) 35 20	24, 57, 93, 151	0

All (140) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
2	G	1134	PHE	5.7
2	G	76	LYS	4.3
2	B	539	PHE	4.3
2	B	46	ASN	4.2
2	G	305	ILE	4.2
2	B	907	GLY	4.1
2	B	230	PRO	4.1
2	B	76	LYS	4.1
2	B	136	TYR	4.1
2	G	521	TYR	4.1
2	B	1355	LEU	4.0
2	G	920	GLN	4.0
2	B	688	PHE	3.9
2	B	156	LEU	3.9
2	B	850	ASP	3.9
2	G	1153	LYS	3.8

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Mol	Chain	Res	Type	RSRZ
2	G	279	LEU	3.7
2	G	34	VAL	3.7
2	G	178	ASN	3.6
2	B	70	ARG	3.6
2	G	688	PHE	3.5
2	G	841	ILE	3.5
2	G	1116	SER	3.5
2	B	122	ILE	3.5
2	B	510	LYS	3.4
2	G	826	GLN	3.4
2	B	424	ARG	3.3
2	B	1194	LEU	3.3
2	B	582	GLY	3.3
2	G	1154	SER	3.3
2	B	308	VAL	3.3
2	G	231	GLY	3.2
4	J	2	DT	3.2
2	B	567	ASP	3.2
2	B	32	PHE	3.2
2	G	961	LYS	3.1
2	G	184	LEU	3.1
2	G	992	VAL	3.1
2	B	1203	LEU	3.1
2	G	1008	PHE	3.1
2	B	1043	MET	3.1
2	B	732	ALA	3.1
2	B	819	GLY	3.1
2	B	43	ILE	3.1
2	G	1081	ALA	3.1
2	G	181	VAL	3.1
2	B	1269	ILE	3.1
2	G	29	SER	3.0
1	E	5	C	2.9
2	G	805	GLN	2.9
2	B	262	ALA	2.9
2	B	21	ILE	2.9
2	B	698	HIS	2.9
2	G	823	TYR	2.8
2	G	776	ASN	2.8
2	G	30	LYS	2.7
2	G	1249	PRO	2.7
2	G	917	ILE	2.7

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Mol	Chain	Res	Type	RSRZ
2	B	309	ASN	2.7
2	B	524	LEU	2.7
2	B	822	MET	2.7
2	G	1271	GLU	2.7
2	G	777	SER	2.7
2	G	177	ASP	2.7
2	G	47	LEU	2.7
2	B	312	ILE	2.7
2	B	512	SER	2.7
2	G	218	LYS	2.7
2	G	1225	GLU	2.7
2	B	726	ASN	2.7
2	B	1220	LEU	2.6
2	G	176	PRO	2.6
2	G	899	ASN	2.6
2	B	264	LEU	2.6
2	G	359	TYR	2.6
2	B	34	VAL	2.6
2	B	1242	TYR	2.6
2	B	187	GLN	2.6
2	G	978	ILE	2.6
2	B	580	ILE	2.5
2	G	136	TYR	2.5
4	D	2	DT	2.5
2	B	1108	GLU	2.5
2	G	1127	ASP	2.5
2	G	659	TRP	2.5
2	B	72	TYR	2.5
2	G	524	LEU	2.5
2	B	247	GLY	2.5
2	G	179	SER	2.5
2	G	1110	ILE	2.5
2	B	56	GLY	2.5
2	B	529	TYR	2.4
2	G	680	LEU	2.4
2	B	22	THR	2.4
2	G	72	TYR	2.4
2	B	282	ILE	2.4
2	G	400	ARG	2.3
1	A	98	C	2.3
2	B	428	ASP	2.3
2	G	306	LEU	2.3

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Mol	Chain	Res	Type	RSRZ
2	G	683	LEU	2.3
2	B	398	LEU	2.3
2	B	1291	LEU	2.3
2	B	252	PHE	2.3
2	G	539	PHE	2.3
2	G	28	PRO	2.3
2	G	32	PHE	2.3
2	B	821	ASP	2.3
2	G	918	LYS	2.3
2	B	1266	LEU	2.3
2	G	35	LEU	2.3
2	G	892	ILE	2.2
2	B	1008	PHE	2.2
2	B	73	THR	2.2
2	G	43	ILE	2.2
2	B	978	ILE	2.2
2	B	1087	LEU	2.2
2	B	721	HIS	2.2
2	B	1039	TYR	2.2
2	B	559	VAL	2.1
2	B	1290	VAL	2.1
2	B	258	LEU	2.1
2	B	14	ASN	2.1
2	B	667	ILE	2.1
2	G	1223	GLY	2.1
2	B	883	TRP	2.1
1	E	4	C	2.1
2	G	900	LEU	2.1
2	G	1004	LEU	2.1
2	B	687	GLY	2.1
2	B	1050	ILE	2.1
2	G	406	ASP	2.1
2	G	67	THR	2.1
2	B	1067	GLY	2.1
2	G	340	ARG	2.0
2	G	1050	ILE	2.0
2	B	74	ARG	2.0
2	G	74	ARG	2.0
2	G	312	ILE	2.0
2	G	321	MET	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 oligosaccharides 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, 95th percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9' lists the number of atoms with occupancy less than 0.9.

Mol	Type	Chain	Res	Atoms	RSCC	RSR	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.