



Full wwPDB X-ray Structure Validation Report ⓘ

Sep 3, 2023 – 12:38 AM EDT

PDB ID : 3RMB
Title : Crystal Structure of a replicative DNA polymerase bound to DNA containing Thymine Glycol
Authors : Aller, P.; Duclos, S.; Wallace, S.S.; Doublet, S.
Deposited on : 2011-04-20
Resolution : 2.65 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 : 4.02b-467
Mogul : 1.8.5 (274361), CSD as541be (2020)
Xtriage (Phenix) : 1.13
EDS : 2.35
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac : 5.8.0158
CCP4 : 7.0.044 (Gargrove)
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.35

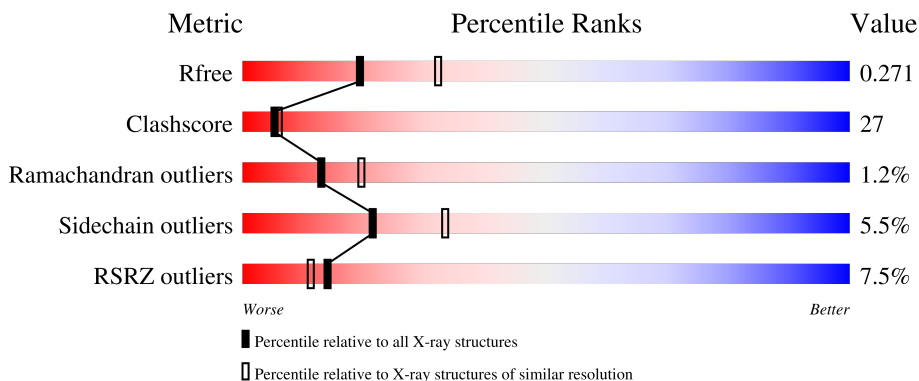
1 Overall quality at a glance i

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 2.65 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.






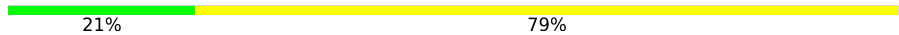
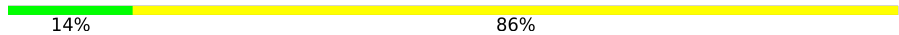
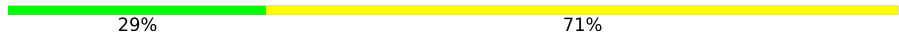
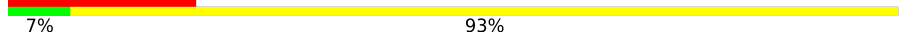
Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R_{free}	130704	1332 (2.68-2.64)
Clashscore	141614	1374 (2.68-2.64)
Ramachandran outliers	138981	1349 (2.68-2.64)
Sidechain outliers	138945	1349 (2.68-2.64)
RSRZ outliers	127900	1318 (2.68-2.64)

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	906	 7% 53% 42% 5%
1	B	906	 8% 59% 38% .
1	C	906	 % 61% 36% ..
1	D	906	 15% 49% 47% ..
2	E	18	 11% 83% 6%

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Mol	Chain	Length	Quality of chain
2	G	18	
2	I	18	
2	K	18	
3	F	14	
3	H	14	
3	J	14	
3	L	14	

2 Entry composition

There are 5 unique types of molecules in this entry. The entry contains 32166 atoms, of which 0 are hydrogens and 0 are deuteriums.

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

- Molecule 1 is a protein called DNA polymerase.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
1	A	903	Total 7342	C 4715	N 1220	O 1374	S 33	4	0	0
1	B	903	Total 7294	C 4686	N 1209	O 1366	S 33	0	0	0
1	C	900	Total 7332	C 4706	N 1220	O 1373	S 33	0	0	0
1	D	897	Total 7097	C 4558	N 1163	O 1344	S 32	0	0	0

There are 20 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	222	ALA	ASP	engineered mutation	UNP Q38087
A	327	ALA	ASP	engineered mutation	UNP Q38087
A	904	HIS	-	expression tag	UNP Q38087
A	905	HIS	-	expression tag	UNP Q38087
A	906	HIS	-	expression tag	UNP Q38087
B	222	ALA	ASP	engineered mutation	UNP Q38087
B	327	ALA	ASP	engineered mutation	UNP Q38087
B	904	HIS	-	expression tag	UNP Q38087
B	905	HIS	-	expression tag	UNP Q38087
B	906	HIS	-	expression tag	UNP Q38087
C	222	ALA	ASP	engineered mutation	UNP Q38087
C	327	ALA	ASP	engineered mutation	UNP Q38087
C	904	HIS	-	expression tag	UNP Q38087
C	905	HIS	-	expression tag	UNP Q38087
C	906	HIS	-	expression tag	UNP Q38087
D	222	ALA	ASP	engineered mutation	UNP Q38087
D	327	ALA	ASP	engineered mutation	UNP Q38087
D	904	HIS	-	expression tag	UNP Q38087
D	905	HIS	-	expression tag	UNP Q38087
D	906	HIS	-	expression tag	UNP Q38087

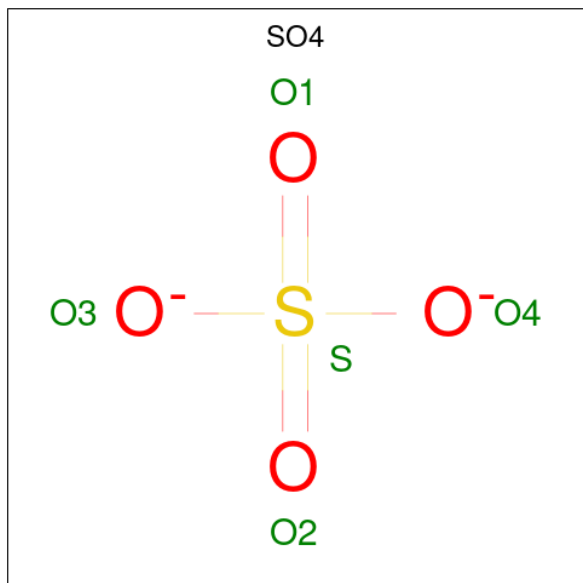
- Molecule 2 is a DNA chain called DNA (5'-D(*CP*GP*CP*(CTG)P*GP*AP*AP*TP*GP*AP*CP*AP*GP*CP*CP*GP*CP*G)-3').

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
2	E	18	Total	C	N	O	P	0	0	0
			369	174	72	106	17			
2	G	18	Total	C	N	O	P	0	0	0
			369	174	72	106	17			
2	I	18	Total	C	N	O	P	0	0	0
			369	174	72	106	17			
2	K	18	Total	C	N	O	P	0	0	0
			369	174	72	106	17			

- Molecule 3 is a DNA chain called DNA (5'-D(*GP*CP*GP*GP*CP*TP*GP*TP*CP*AP*TP*TP*CP*A)-3').

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
3	F	14	Total	C	N	O	P	0	0	0
			280	134	50	83	13			
3	H	14	Total	C	N	O	P	0	0	0
			280	134	50	83	13			
3	J	14	Total	C	N	O	P	0	0	0
			280	134	50	83	13			
3	L	14	Total	C	N	O	P	0	0	0
			280	134	50	83	13			

- Molecule 4 is SULFATE ION (three-letter code: SO4) (formula: O₄S).



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

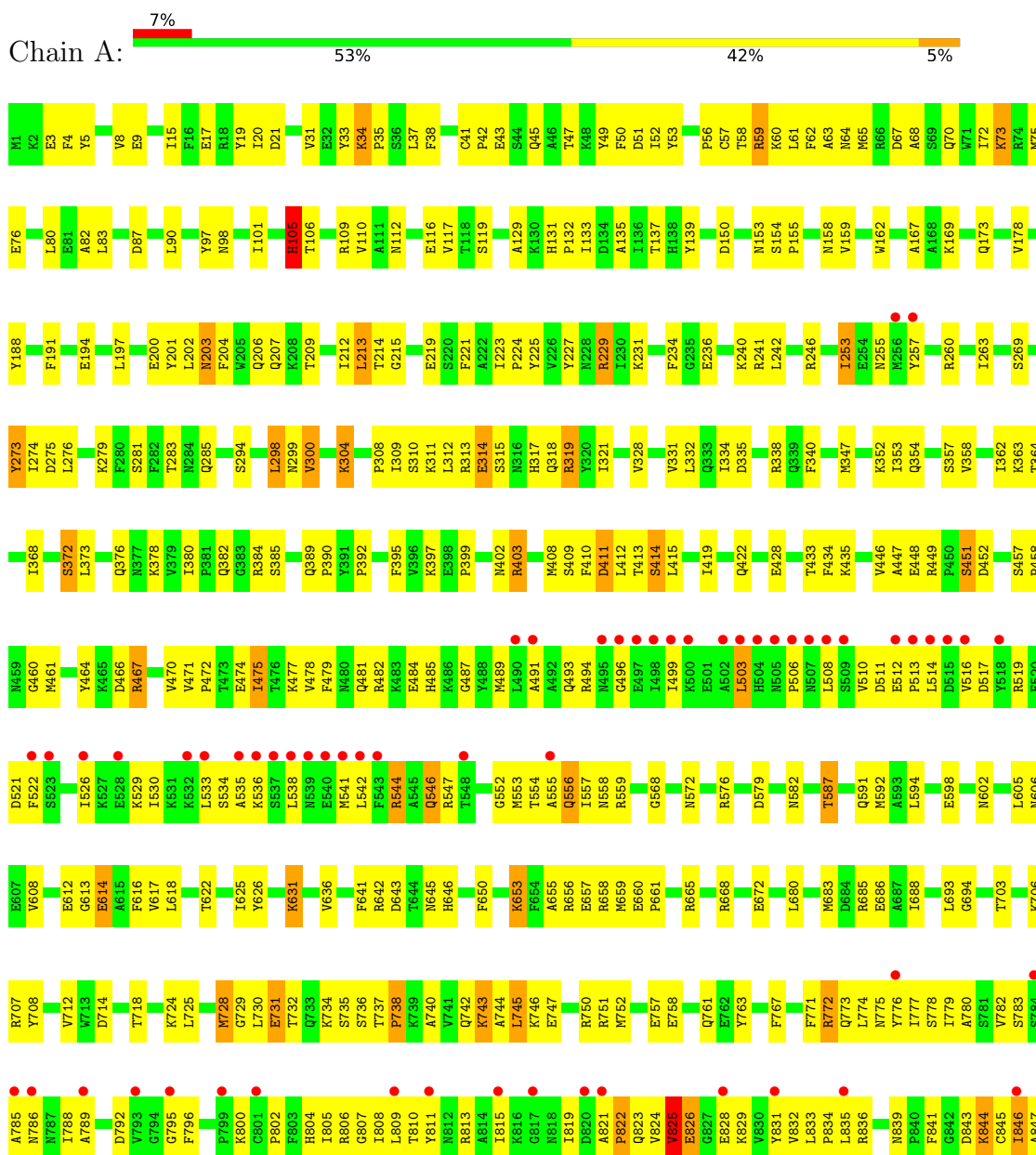
- Molecule 5 is water.

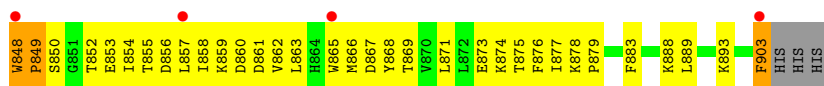
Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
5	A	111	Total	O	0	0
			111	111		
5	B	129	Total	O	0	0
			129	129		
5	C	178	Total	O	0	0
			178	178		
5	D	33	Total	O	0	0
			33	33		
5	E	5	Total	O	0	0
			5	5		
5	F	4	Total	O	0	0
			4	4		
5	G	11	Total	O	0	0
			11	11		
5	H	4	Total	O	0	0
			4	4		
5	I	13	Total	O	0	0
			13	13		
5	J	7	Total	O	0	0
			7	7		
5	K	3	Total	O	0	0
			3	3		
5	L	2	Total	O	0	0
			2	2		

3 Residue-property plots

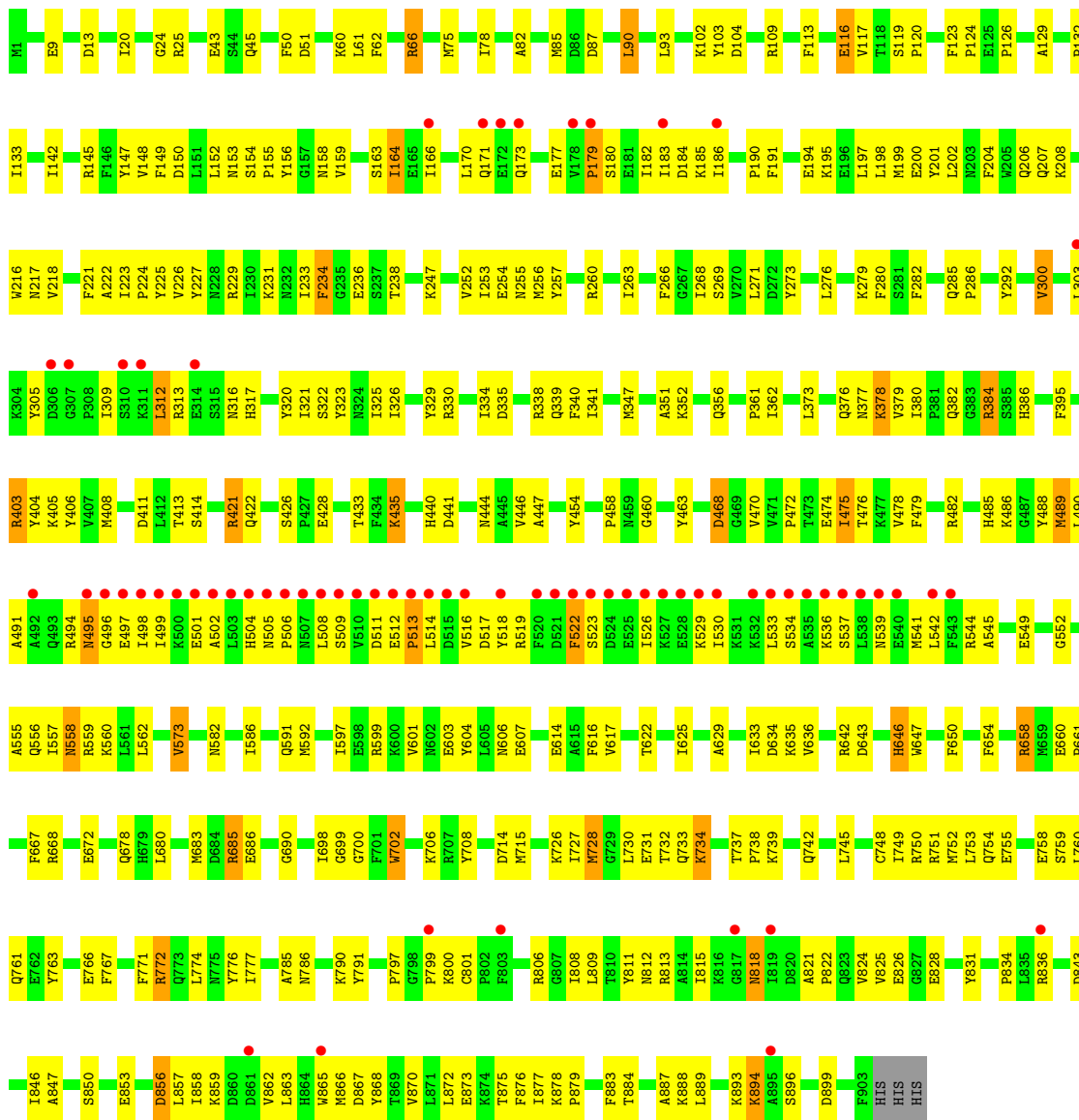
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and electron density. 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: DNA polymerase

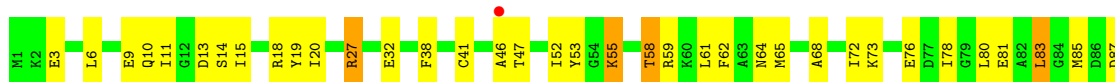


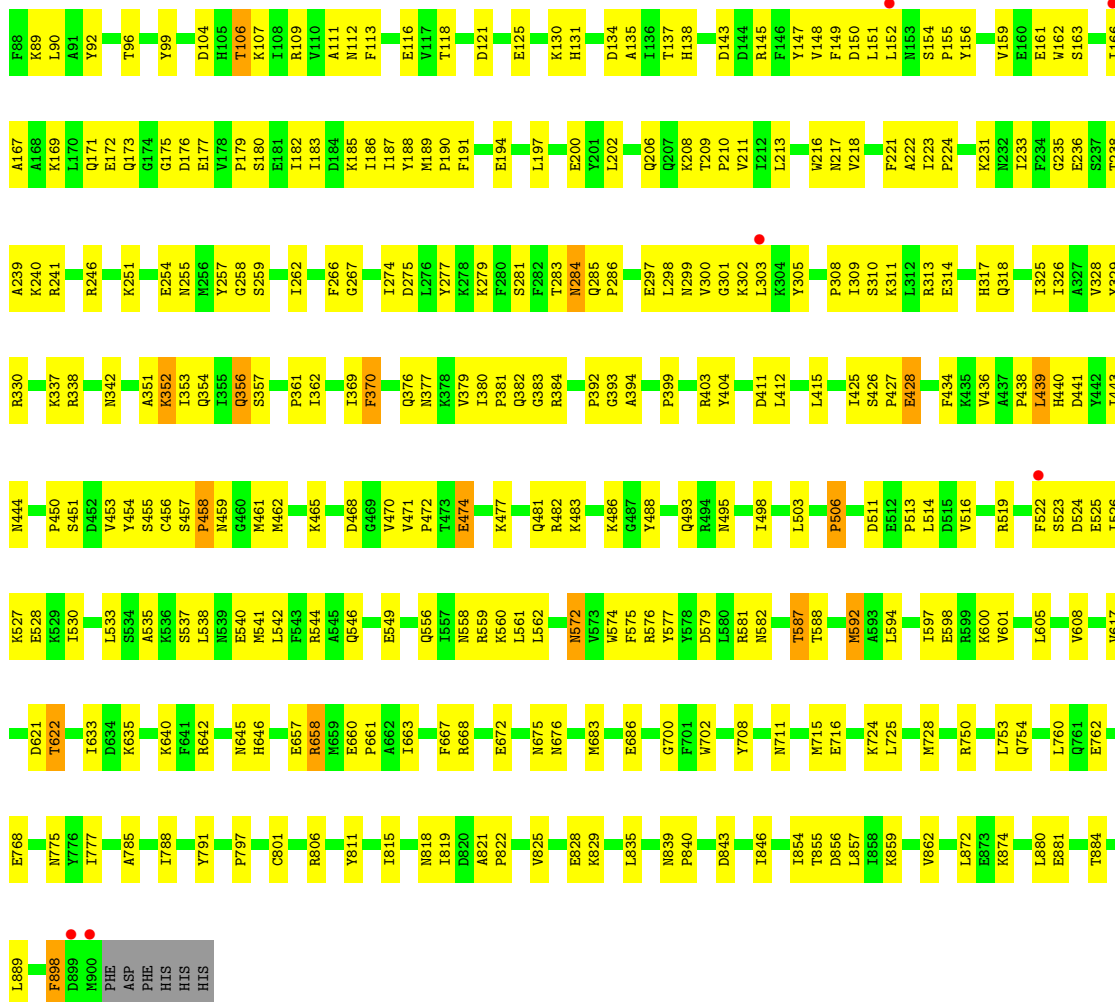


• Molecule 1: DNA polymerase

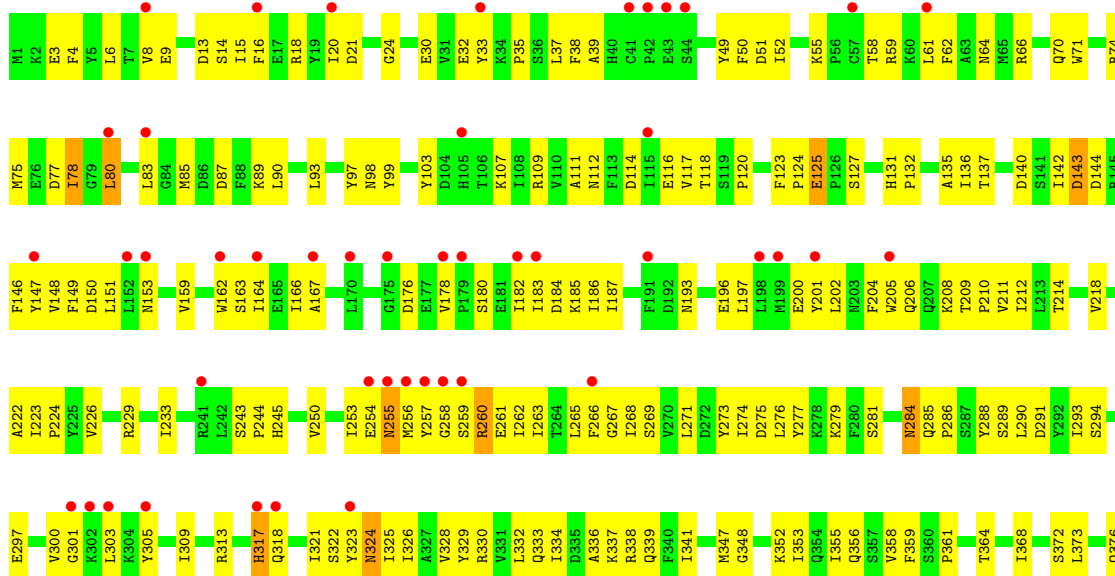


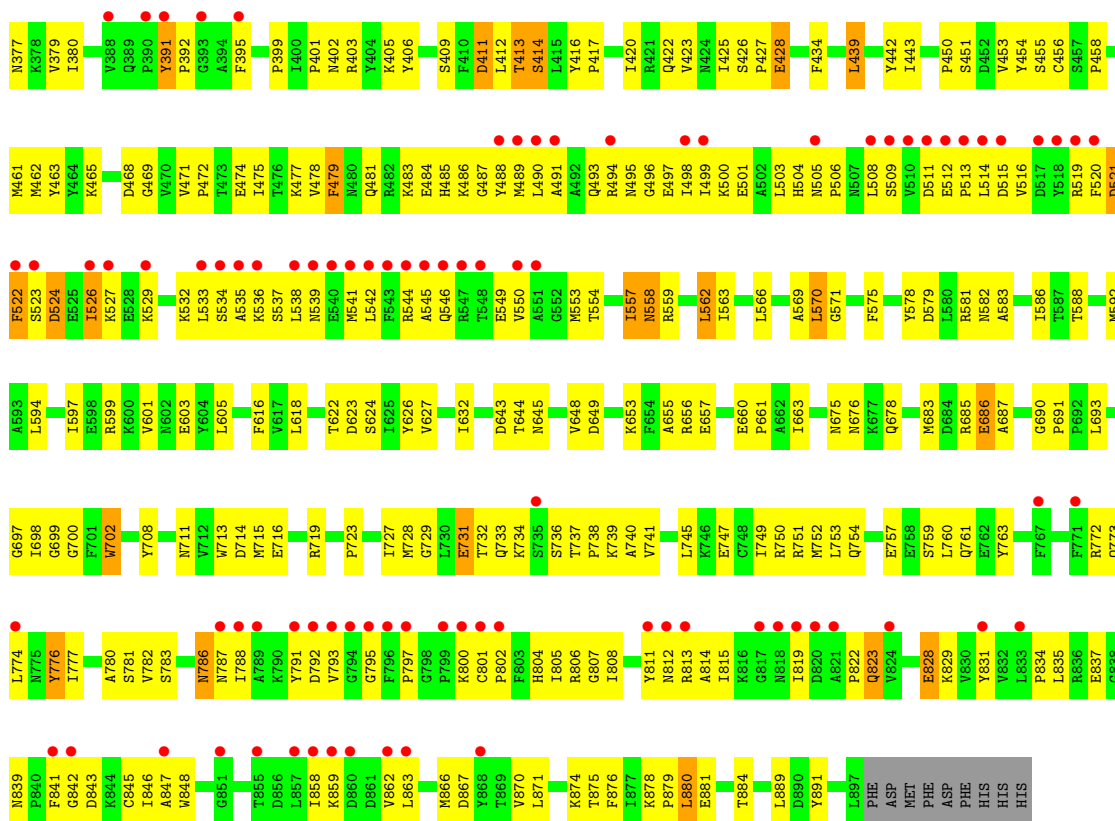
• Molecule 1: DNA polymerase



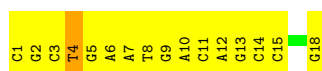
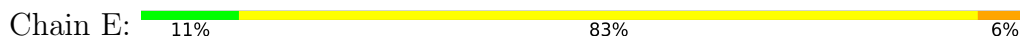


• Molecule 1: DNA polymerase

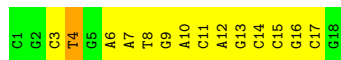
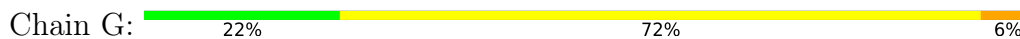




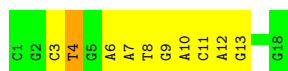
- Molecule 2: DNA (5'-D(*CP*GP*CP*(CTG)P*GP*AP*AP*TP*GP*AP*CP*AP*GP*CP*C P*GP*CP*G)-3')



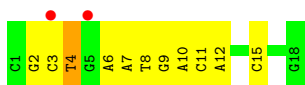
- Molecule 2: DNA (5'-D(*CP*GP*CP*(CTG)P*GP*AP*AP*TP*GP*AP*CP*AP*GP*CP*C P*GP*CP*G)-3')



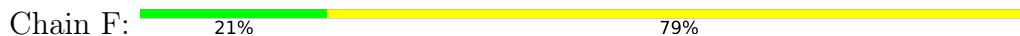
- Molecule 2: DNA (5'-D(*CP*GP*CP*(CTG)P*GP*AP*AP*TP*GP*AP*CP*AP*GP*CP*C P*GP*CP*G)-3')



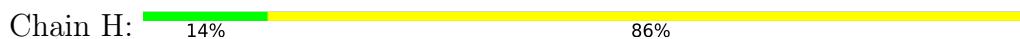
- Molecule 2: DNA (5'-D(*CP*GP*CP*(CTG)P*GP*AP*AP*TP*GP*AP*CP*AP*GP*CP*C P*GP*CP*G)-3')



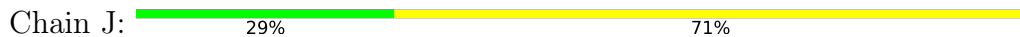
- Molecule 3: DNA (5'-D(*GP*CP*GP*GP*CP*TP*GP*TP*CP*AP*TP*TP*CP*A)-3')



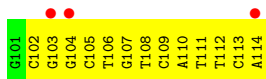
- Molecule 3: DNA (5'-D(*GP*CP*GP*GP*CP*TP*GP*TP*CP*AP*TP*TP*CP*A)-3')



- Molecule 3: DNA (5'-D(*GP*CP*GP*GP*CP*TP*GP*TP*CP*AP*TP*TP*CP*A)-3')



- Molecule 3: DNA (5'-D(*GP*CP*GP*GP*CP*TP*GP*TP*CP*AP*TP*TP*CP*A)-3')



4 Data and refinement statistics

Property	Value	Source
Space group	P 1 21 1	Depositor
Cell constants a, b, c, α , β , γ	133.53Å 123.44Å 164.29Å 90.00° 96.84° 90.00°	Depositor
Resolution (Å)	50.00 – 2.65 45.00 – 2.65	Depositor EDS
% Data completeness (in resolution range)	91.5 (50.00-2.65) 96.4 (45.00-2.65)	Depositor EDS
R_{merge}	0.08	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	1.87 (at 2.65Å)	Xtrriage
Refinement program	CNS	Depositor
R, R_{free}	0.224 , 0.276 0.219 , 0.271	Depositor DCC
R_{free} test set	26586 reflections (9.14%)	wwPDB-VP
Wilson B-factor (Å ²)	48.7	Xtrriage
Anisotropy	0.140	Xtrriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.32 , 62.1	EDS
L-test for twinning ²	$\langle L \rangle = 0.49$, $\langle L^2 \rangle = 0.33$	Xtrriage
Estimated twinning fraction	No twinning to report.	Xtrriage
F_o, F_c correlation	0.93	EDS
Total number of atoms	32166	wwPDB-VP
Average B, all atoms (Å ²)	70.0	wwPDB-VP

Xtrriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 2.66% of the height of the origin peak. No significant pseudotranslation is detected.*

¹Intensities estimated from amplitudes.

²Theoretical values of $\langle |L| \rangle$, $\langle L^2 \rangle$ for acentric reflections are 0.5, 0.333 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, CTG

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	0.41	0/7523	0.62	0/10175
1	B	0.40	0/7475	0.59	0/10121
1	C	0.42	0/7511	0.62	0/10154
1	D	0.33	0/7275	0.56	0/9887
2	E	0.35	0/389	0.72	0/596
2	G	0.47	0/389	0.74	0/596
2	I	0.57	0/389	0.83	0/596
2	K	0.27	0/389	0.65	0/596
3	F	0.27	0/312	0.72	0/478
3	H	0.36	0/312	0.73	0/478
3	J	0.50	0/312	0.80	0/478
3	L	0.26	0/312	0.65	0/478
All	All	0.39	0/32588	0.61	0/44633

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts [i](#)

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	7342	0	7193	401	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	B	7294	0	7096	374	0
1	C	7332	0	7212	295	0
1	D	7097	0	6752	404	0
2	E	369	0	204	29	0
2	G	369	0	204	31	0
2	I	369	0	204	20	0
2	K	369	0	204	19	0
3	F	280	0	154	25	0
3	H	280	0	154	22	0
3	J	280	0	154	19	0
3	L	280	0	154	14	0
4	C	5	0	0	0	0
5	A	111	0	0	14	0
5	B	129	0	0	11	0
5	C	178	0	0	15	0
5	D	33	0	0	3	0
5	E	5	0	0	0	0
5	F	4	0	0	3	0
5	G	11	0	0	0	0
5	H	4	0	0	1	0
5	I	13	0	0	0	0
5	J	7	0	0	0	0
5	K	3	0	0	1	0
5	L	2	0	0	0	0
All	All	32166	0	29685	1633	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 27.

All (1633) 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)
1:B:85:MET:HE2	1:B:87:ASP:H	1.09	1.15
3:L:104:DG:H2''	3:L:105:DC:H5''	1.19	1.14
1:B:309:ILE:HA	1:B:312:LEU:HB2	1.31	1.11
3:J:104:DG:H2''	3:J:105:DC:H5''	1.22	1.11
2:K:10:DA:H2''	2:K:11:DC:H5''	1.20	1.08
1:D:514:LEU:HD21	1:D:532:LYS:HG3	1.33	1.06
1:A:833:LEU:HD21	1:A:866:MET:HB2	1.40	1.03
3:J:104:DG:C2'	3:J:105:DC:H5''	1.88	1.02
1:D:495:ASN:HD21	1:D:521:ASP:HA	1.21	1.00

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:806:ARG:HH11	1:A:844:LYS:HE3	1.26	1.00
1:B:347:MET:HE1	1:B:562:LEU:HD11	1.43	0.98
1:D:541:MET:HA	1:D:544:ARG:HD3	1.44	0.98
1:C:482:ARG:NH1	1:C:556:GLN:HE21	1.60	0.97
1:C:41:CYS:HB3	1:C:58:THR:HG22	1.43	0.97
1:A:384:ARG:HD3	1:A:385:SER:H	1.27	0.96
1:C:392:PRO:O	1:C:587:THR:HG21	1.65	0.96
1:A:153:ASN:ND2	1:A:158:ASN:HD22	1.62	0.96
1:B:171:GLN:HE21	1:B:177:GLU:HG2	1.31	0.95
1:C:855:THR:HG22	1:C:857:LEU:H	1.31	0.95
1:D:509:SER:HB3	1:D:532:LYS:O	1.66	0.95
1:A:72:ILE:O	1:A:76:GLU:HG3	1.66	0.95
1:A:785:ALA:HB1	1:A:788:ILE:HD11	1.48	0.95
2:E:14:DC:H2''	2:E:15:DC:H5'	1.50	0.94
1:B:164:ILE:HD13	1:B:164:ILE:H	1.30	0.94
3:L:104:DG:C2'	3:L:105:DC:H5''	1.98	0.94
2:K:10:DA:C2'	2:K:11:DC:H5''	1.97	0.93
1:D:80:LEU:HD22	1:D:80:LEU:H	1.36	0.91
1:B:642:ARG:H	1:B:646:HIS:HD2	1.07	0.91
1:C:163:SER:HB3	1:C:318:GLN:HE22	1.31	0.91
3:F:103:DG:H2''	3:F:104:DG:H5'	1.51	0.90
1:D:511:ASP:HA	1:D:533:LEU:HD11	1.53	0.90
2:K:8:DT:H2''	2:K:9:DG:H5'	1.52	0.90
2:I:10:DA:H2''	2:I:11:DC:H5'	1.54	0.89
1:A:153:ASN:HD22	1:A:158:ASN:HD22	0.91	0.89
1:D:811:TYR:OH	1:D:822:PRO:HG2	1.73	0.88
1:B:82:ALA:H	1:B:382:GLN:HE21	1.22	0.87
3:J:110:DA:H2''	3:J:111:DT:H5'	1.57	0.87
1:A:347:MET:HB2	1:A:558:ASN:HD21	1.38	0.87
1:B:642:ARG:H	1:B:646:HIS:CD2	1.93	0.87
1:B:303:LEU:HD12	1:B:323:TYR:HA	1.56	0.86
1:A:835:LEU:HD23	1:A:866:MET:HA	1.58	0.86
1:A:153:ASN:HD22	1:A:158:ASN:ND2	1.74	0.86
1:C:572:ASN:ND2	1:C:574:TRP:H	1.71	0.86
1:C:152:LEU:HD11	1:C:190:PRO:HB2	1.57	0.85
1:C:482:ARG:NH1	1:C:560:LYS:HB2	1.91	0.85
1:D:516:VAL:HG11	1:D:522:PHE:HE1	1.41	0.85
1:C:572:ASN:HD22	1:C:574:TRP:H	1.22	0.85
1:B:166:ILE:HD12	1:B:166:ILE:H	1.38	0.85
2:K:10:DA:H2''	2:K:11:DC:C5'	2.06	0.85
1:C:303:LEU:HG	1:C:326:ILE:HD12	1.57	0.85

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:660:GLU:HB2	1:C:661:PRO:HD3	1.59	0.84
1:A:451:SER:HB2	5:A:921:HOH:O	1.77	0.84
1:D:532:LYS:HA	1:D:532:LYS:HE2	1.57	0.84
1:D:686:GLU:HG3	1:D:715:MET:CE	2.08	0.84
1:D:542:LEU:HD11	1:D:546:GLN:NE2	1.92	0.83
1:A:384:ARG:HD3	1:A:385:SER:N	1.94	0.83
3:F:110:DA:H2''	3:F:111:DT:H5'	1.58	0.83
1:D:514:LEU:H	1:D:544:ARG:HH22	1.22	0.83
1:D:163:SER:HB3	1:D:318:GLN:HE22	1.43	0.83
1:A:788:ILE:HD12	1:A:826:GLU:HB2	1.61	0.83
1:B:825:VAL:HB	1:B:828:GLU:HG3	1.60	0.83
3:J:112:DT:H2''	3:J:113:DC:H5''	1.59	0.82
2:E:8:DT:H2'	2:E:9:DG:C8	2.15	0.82
1:A:805:ILE:HA	1:A:808:ILE:HD12	1.61	0.82
1:B:482:ARG:NH2	1:B:560:LYS:HD2	1.95	0.82
1:D:535:ALA:HB1	1:D:539:ASN:ND2	1.94	0.82
1:A:506:PRO:HB2	1:A:535:ALA:HB2	1.61	0.81
2:G:4:CTG:H6	2:G:4:CTG:H5'	1.62	0.81
1:D:738:PRO:HB3	1:D:780:ALA:O	1.80	0.81
1:A:73:LYS:HA	1:A:73:LYS:HE3	1.61	0.81
1:D:493:GLN:HA	1:D:549:GLU:OE1	1.81	0.80
1:A:822:PRO:HD2	1:A:855:THR:HB	1.63	0.80
1:A:776:TYR:OH	1:A:853:GLU:HG3	1.82	0.80
1:C:308:PRO:HG2	1:C:311:LYS:HG2	1.64	0.80
1:A:738:PRO:HB3	1:A:779:ILE:O	1.81	0.80
3:J:105:DC:H2''	3:J:106:DT:H71	1.63	0.79
3:H:113:DC:H2''	3:H:114:DA:H5''	1.64	0.79
1:D:686:GLU:HG3	1:D:715:MET:HE1	1.65	0.79
1:A:112:ASN:HB2	5:A:928:HOH:O	1.82	0.79
1:A:660:GLU:HB2	1:A:661:PRO:HD3	1.65	0.79
1:A:34:LYS:HG3	1:A:62:PHE:O	1.82	0.79
1:A:825:VAL:HG23	1:A:828:GLU:HG3	1.63	0.78
1:B:119:SER:HB2	1:B:124:PRO:HG3	1.64	0.78
1:A:783:SER:HA	3:F:111:DT:OP1	1.83	0.78
1:D:336:ALA:HA	1:D:339:GLN:HE21	1.48	0.78
1:D:255:ASN:ND2	1:D:256:MET:H	1.82	0.77
1:A:224:PRO:HA	1:A:263:ILE:HD12	1.63	0.77
1:C:542:LEU:O	1:C:546:GLN:HG3	1.83	0.77
1:A:482:ARG:HE	1:A:556:GLN:NE2	1.82	0.77
1:D:495:ASN:ND2	1:D:521:ASP:HA	1.98	0.77
1:A:734:LYS:HG2	1:A:736:SER:OG	1.85	0.77

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:818:ASN:HD21	1:B:857:LEU:CD1	1.98	0.77
1:B:82:ALA:H	1:B:382:GLN:NE2	1.83	0.77
1:D:286:PRO:O	1:D:829:LYS:HD2	1.84	0.76
2:E:10:DA:H2''	2:E:11:DC:C5'	2.15	0.76
1:C:167:ALA:HA	1:C:176:ASP:HB2	1.67	0.76
1:C:711:ASN:HD21	1:C:754:GLN:HE21	1.30	0.76
1:A:642:ARG:H	1:A:646:HIS:HD2	1.33	0.76
1:B:159:VAL:HG21	1:B:317:HIS:CD2	2.20	0.76
1:D:303:LEU:HG	1:D:326:ILE:HD12	1.67	0.76
1:D:493:GLN:HA	1:D:549:GLU:CD	2.05	0.76
1:A:736:SER:HA	1:A:782:VAL:HB	1.67	0.76
1:C:482:ARG:HH12	1:C:556:GLN:HE21	1.30	0.76
1:D:109:ARG:HB3	1:D:211:VAL:HG23	1.67	0.76
2:G:8:DT:H2'	2:G:9:DG:C8	2.21	0.76
1:B:109:ARG:HH21	1:B:208:LYS:HG2	1.51	0.75
1:A:712:VAL:HG22	1:A:724:LYS:O	1.86	0.75
1:C:797:PRO:HG3	1:C:806:ARG:NH1	2.02	0.75
1:D:180:SER:O	1:D:183:ILE:HG22	1.85	0.75
1:D:260:ARG:HG2	1:D:261:GLU:N	2.01	0.75
1:B:117:VAL:HG22	1:B:133:ILE:HA	1.68	0.75
1:C:73:LYS:NZ	1:C:73:LYS:HB3	2.02	0.75
1:D:8:VAL:HG11	1:D:93:LEU:HD11	1.66	0.75
1:D:66:ARG:O	1:D:70:GLN:HG2	1.87	0.75
2:G:4:CTG:O6	2:G:4:CTG:H2'	1.86	0.75
1:D:426:SER:HB2	1:D:472:PRO:HD3	1.68	0.75
1:A:241:ARG:HG3	1:A:241:ARG:HH11	1.52	0.74
1:B:896:SER:HB2	1:B:899:ASP:OD1	1.87	0.74
3:J:112:DT:H2''	3:J:113:DC:C5'	2.16	0.74
1:B:229:ARG:O	1:B:233:ILE:HD13	1.86	0.74
1:A:194:GLU:OE1	1:A:229:ARG:HD2	1.88	0.74
1:D:391:TYR:HB2	1:D:392:PRO:HD2	1.69	0.74
1:C:231:LYS:HG3	1:C:236:GLU:HA	1.69	0.74
1:C:241:ARG:HG2	1:C:246:ARG:NE	2.03	0.74
1:D:514:LEU:CD2	1:D:532:LYS:HG3	2.13	0.74
1:B:164:ILE:HD13	1:B:164:ILE:N	2.02	0.74
3:J:104:DG:H2''	3:J:105:DC:C5'	2.10	0.73
1:C:236:GLU:HG2	1:C:240:LYS:HD2	1.71	0.73
2:E:6:DA:H2''	2:E:7:DA:H5'	1.70	0.73
3:L:113:DC:H2''	3:L:114:DA:O4'	1.87	0.73
1:D:223:ILE:HB	1:D:224:PRO:HD3	1.69	0.73
2:E:10:DA:H2''	2:E:11:DC:H5''	1.69	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:555:ALA:HB1	1:A:559:ARG:HH12	1.53	0.73
1:A:642:ARG:H	1:A:646:HIS:CD2	2.07	0.73
1:B:403:ARG:HB3	1:B:403:ARG:HH11	1.53	0.73
1:C:159:VAL:HG21	1:C:317:HIS:CD2	2.24	0.73
1:D:736:SER:HA	1:D:782:VAL:HB	1.69	0.72
1:A:110:VAL:HG22	1:A:212:ILE:HB	1.71	0.72
1:B:771:PHE:CE2	1:B:872:LEU:HB2	2.24	0.72
2:I:6:DA:H2''	2:I:7:DA:H5'	1.71	0.72
1:D:118:THR:OG1	1:D:313:ARG:HG3	1.89	0.72
1:B:728:MET:HG3	3:H:113:DC:H5'	1.72	0.72
3:J:104:DG:C3'	3:J:105:DC:H5''	2.19	0.72
1:A:33:TYR:HB3	1:A:65:MET:HE2	1.71	0.72
1:B:164:ILE:H	1:B:164:ILE:CD1	2.02	0.72
3:F:110:DA:H2''	3:F:111:DT:C5'	2.19	0.72
1:C:116:GLU:HB2	1:C:135:ALA:HB3	1.70	0.71
1:B:491:ALA:HA	1:B:494:ARG:HG2	1.71	0.71
1:D:738:PRO:HG2	1:D:741:VAL:HB	1.72	0.71
1:A:231:LYS:HG3	1:A:236:GLU:HA	1.70	0.71
2:G:11:DC:H2''	2:G:12:DA:H5'	1.71	0.71
3:H:110:DA:H2''	3:H:111:DT:H5'	1.72	0.71
1:A:778:SER:O	1:A:779:ILE:HD13	1.89	0.71
1:D:364:THR:O	1:D:368:ILE:HG13	1.90	0.71
1:A:642:ARG:HB2	1:A:642:ARG:NH1	2.06	0.71
1:C:38:PHE:CE2	1:C:59:ARG:HG3	2.25	0.71
1:D:137:THR:HB	1:D:328:VAL:HG21	1.72	0.71
1:D:490:LEU:HD23	5:D:939:HOH:O	1.90	0.71
1:B:606:ASN:HD21	1:B:614:GLU:H	1.37	0.70
1:D:660:GLU:HB2	1:D:661:PRO:HD3	1.72	0.70
1:B:505:ASN:N	1:B:506:PRO:HD3	2.05	0.70
1:B:303:LEU:HG	1:B:326:ILE:HG13	1.73	0.70
1:D:109:ARG:HD2	1:D:209:THR:O	1.92	0.70
1:A:308:PRO:HG2	1:A:311:LYS:HG2	1.74	0.70
1:B:815:ILE:O	1:B:818:ASN:HB2	1.91	0.70
1:A:806:ARG:HH11	1:A:844:LYS:CE	2.03	0.70
1:C:104:ASP:OD2	1:C:106:THR:HB	1.92	0.70
1:A:449:ARG:HH12	1:A:452:ASP:HB3	1.57	0.70
2:G:6:DA:H2''	2:G:7:DA:C5'	2.22	0.70
1:D:291:ASP:OD1	1:D:301:GLY:HA3	1.92	0.70
1:D:111:ALA:HB3	1:D:210:PRO:HB3	1.72	0.69
2:E:13:DG:H2''	2:E:14:DC:C5'	2.22	0.69
3:F:104:DG:H5''	5:F:256:HOH:O	1.91	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:I:10:DA:H2''	2:I:11:DC:C5'	2.23	0.69
1:D:109:ARG:CZ	1:D:142:ILE:HD12	2.22	0.69
1:D:841:PHE:CZ	1:D:862:VAL:HG22	2.28	0.69
3:F:113:DC:H5	5:F:475:HOH:O	1.76	0.69
1:A:412:LEU:HG	1:A:683:MET:HG2	1.73	0.69
1:B:403:ARG:HH11	1:B:403:ARG:CB	2.06	0.69
2:K:11:DC:H2''	2:K:12:DA:H5'	1.75	0.69
1:D:80:LEU:H	1:D:80:LEU:CD2	2.06	0.69
2:G:10:DA:H2''	2:G:11:DC:O5'	1.90	0.69
1:B:133:ILE:HD12	1:B:198:LEU:HD21	1.75	0.69
1:A:236:GLU:HG2	1:A:240:LYS:HE2	1.74	0.68
1:A:422:GLN:NE2	1:A:680:LEU:H	1.90	0.68
1:A:780:ALA:HB3	1:A:831:TYR:HD1	1.58	0.68
1:C:427:PRO:HD3	5:C:959:HOH:O	1.93	0.68
1:A:376:GLN:HE21	1:A:378:LYS:HD2	1.58	0.68
1:B:732:THR:HG23	1:B:733:GLN:NE2	2.08	0.68
1:B:750:ARG:HH11	1:B:754:GLN:NE2	1.90	0.68
1:C:302:LYS:HB3	5:C:1077:HOH:O	1.92	0.68
1:C:62:PHE:CE2	1:C:68:ALA:HA	2.28	0.68
1:C:202:LEU:O	1:C:206:GLN:HG2	1.93	0.68
1:D:542:LEU:HD11	1:D:546:GLN:HE21	1.57	0.68
1:A:708:TYR:CZ	1:A:728:MET:HG3	2.28	0.68
1:D:579:ASP:HB3	1:D:582:ASN:HB2	1.74	0.68
1:A:41:CYS:HB2	1:A:42:PRO:HD2	1.74	0.68
1:C:403:ARG:NH2	1:C:889:LEU:HD23	2.08	0.68
1:C:41:CYS:HB3	1:C:58:THR:CG2	2.22	0.68
2:K:15:DC:H2'	5:K:269:HOH:O	1.93	0.68
1:D:336:ALA:HA	1:D:339:GLN:NE2	2.08	0.68
1:A:514:LEU:H	1:A:541:MET:CE	2.07	0.68
1:B:85:MET:CE	1:B:87:ASP:H	1.99	0.68
1:D:51:ASP:HB2	5:D:910:HOH:O	1.94	0.68
1:D:731:GLU:HA	1:D:734:LYS:CG	2.24	0.68
1:B:745:LEU:O	1:B:749:ILE:HG13	1.94	0.67
1:C:711:ASN:ND2	1:C:754:GLN:HE21	1.91	0.67
2:I:4:CTG:H2'	2:I:4:CTG:O6	1.93	0.67
1:A:511:ASP:OD2	1:A:533:LEU:HA	1.95	0.67
1:D:288:TYR:HA	1:D:293:ILE:HD11	1.75	0.67
1:C:218:VAL:HG22	1:C:223:ILE:HG13	1.75	0.67
1:A:392:PRO:O	1:A:587:THR:HG21	1.95	0.67
1:A:514:LEU:HG	1:A:526:ILE:HG23	1.76	0.67
1:C:686:GLU:HG3	1:C:715:MET:CE	2.25	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:534:SER:O	1:D:538:LEU:HD13	1.93	0.67
1:B:145:ARG:HD3	1:B:185:LYS:O	1.94	0.67
1:D:284:ASN:HD22	1:D:285:GLN:N	1.93	0.66
3:J:110:DA:H1'	3:J:111:DT:H5''	1.78	0.66
1:D:373:LEU:HD12	1:D:380:ILE:HG22	1.76	0.66
1:A:824:VAL:O	1:A:825:VAL:HG13	1.95	0.66
1:B:506:PRO:HB3	1:B:536:LYS:HG2	1.78	0.66
1:A:362:ILE:HD11	1:A:572:ASN:HD22	1.60	0.66
1:C:482:ARG:HH12	1:C:556:GLN:NE2	1.93	0.66
1:D:546:GLN:O	1:D:550:VAL:HG23	1.95	0.66
2:E:6:DA:H2''	2:E:7:DA:C5'	2.24	0.66
1:D:116:GLU:HB2	1:D:135:ALA:HB3	1.77	0.66
1:B:223:ILE:HB	1:B:224:PRO:HD3	1.76	0.66
1:D:148:VAL:HG21	1:D:325:ILE:HD11	1.77	0.66
1:D:858:ILE:O	1:D:862:VAL:HG23	1.94	0.66
1:B:512:GLU:O	1:B:514:LEU:HD22	1.96	0.66
3:F:110:DA:H1'	3:F:111:DT:H5''	1.78	0.66
1:A:568:GLY:HA3	2:E:3:DC:O2	1.95	0.66
1:B:894:LYS:HB2	1:B:894:LYS:NZ	2.10	0.66
1:C:482:ARG:CZ	1:C:556:GLN:HE21	2.08	0.66
1:D:686:GLU:HG3	1:D:715:MET:HE3	1.78	0.66
1:C:818:ASN:HD22	1:C:821:ALA:HB2	1.61	0.66
1:A:693:LEU:HD12	1:A:694:GLY:N	2.11	0.65
1:D:514:LEU:HD21	1:D:532:LYS:CG	2.18	0.65
1:B:732:THR:HG23	1:B:733:GLN:HE21	1.59	0.65
1:D:546:GLN:HG2	1:D:549:GLU:OE1	1.96	0.65
3:F:104:DG:H2''	3:F:105:DC:O5'	1.96	0.65
3:H:110:DA:H2''	3:H:111:DT:C5'	2.25	0.65
1:B:482:ARG:CZ	1:B:560:LYS:HD2	2.25	0.65
1:C:9:GLU:OE2	1:C:266:PHE:HA	1.96	0.65
1:C:524:ASP:HA	1:C:527:LYS:HE2	1.77	0.65
1:A:514:LEU:HD11	1:A:529:LYS:NZ	2.11	0.65
1:B:386:HIS:HB2	1:B:573:VAL:CG2	2.27	0.65
1:C:194:GLU:HB3	5:C:969:HOH:O	1.94	0.65
1:C:439:LEU:HD12	1:C:443:ILE:HD11	1.77	0.65
1:B:875:THR:O	1:B:879:PRO:HG3	1.97	0.65
1:C:19:TYR:CE1	1:C:27:ARG:HB2	2.32	0.65
1:C:301:GLY:O	1:C:330:ARG:NH1	2.30	0.65
1:D:505:ASN:N	1:D:506:PRO:HD3	2.11	0.65
1:A:785:ALA:CB	1:A:788:ILE:HD11	2.26	0.65
1:A:255:ASN:ND2	1:A:257:TYR:HD1	1.94	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:85:MET:HE2	1:B:87:ASP:N	1.95	0.65
1:A:482:ARG:HE	1:A:556:GLN:HE22	1.45	0.65
1:C:216:TRP:O	1:C:217:ASN:HB2	1.97	0.65
1:D:515:ASP:O	1:D:516:VAL:HG23	1.97	0.64
2:G:16:DG:H2''	2:G:17:DC:C5'	2.27	0.64
2:K:2:DG:H3'	2:K:3:DC:C5'	2.26	0.64
1:C:298:LEU:O	1:C:299:ASN:HB2	1.98	0.64
1:D:38:PHE:HB2	1:D:83:LEU:HB2	1.77	0.64
1:D:535:ALA:HB1	1:D:539:ASN:HD21	1.61	0.64
2:G:6:DA:H2''	2:G:7:DA:H5'	1.79	0.64
1:B:534:SER:OG	1:B:537:SER:HB2	1.98	0.64
1:B:790:LYS:HE3	1:B:791:TYR:CE1	2.32	0.64
1:C:881:GLU:HA	1:C:884:THR:OG1	1.98	0.64
1:D:326:ILE:O	1:D:330:ARG:HG2	1.96	0.64
1:B:702:TRP:CD1	1:B:708:TYR:HB3	2.33	0.64
2:E:13:DG:H2''	2:E:14:DC:H5'	1.78	0.64
1:A:347:MET:HG2	1:A:358:VAL:HG23	1.79	0.64
1:A:395:PHE:HB2	1:A:591:GLN:HG2	1.78	0.64
1:A:643:ASP:HA	1:A:693:LEU:HD23	1.79	0.64
1:A:708:TYR:CE2	1:A:728:MET:HG3	2.33	0.64
1:C:822:PRO:HD2	1:C:855:THR:OG1	1.98	0.64
1:D:87:ASP:CG	1:D:90:LEU:HD13	2.18	0.64
1:C:27:ARG:HE	1:C:27:ARG:HA	1.62	0.64
2:E:11:DC:H2''	2:E:12:DA:H5'	1.79	0.64
3:H:112:DT:H6	3:H:112:DT:H5'	1.63	0.64
1:A:734:LYS:HB3	1:A:737:THR:OG1	1.98	0.63
1:D:182:ILE:O	1:D:186:ILE:HG13	1.98	0.63
1:B:386:HIS:HB2	1:B:573:VAL:HG22	1.79	0.63
1:D:491:ALA:O	1:D:495:ASN:ND2	2.31	0.63
1:D:837:GLU:HA	1:D:837:GLU:OE1	1.98	0.63
1:A:119:SER:HB2	1:A:131:HIS:CD2	2.32	0.63
1:A:489:MET:HE3	1:A:553:MET:SD	2.38	0.63
1:B:512:GLU:N	1:B:513:PRO:HD3	2.14	0.63
1:A:60:LYS:HE3	5:A:966:HOH:O	1.98	0.63
1:A:602:ASN:HD21	1:A:617:VAL:H	1.46	0.63
1:B:486:LYS:HA	1:B:556:GLN:NE2	2.14	0.63
1:C:303:LEU:CG	1:C:326:ILE:HD12	2.28	0.63
3:J:110:DA:H2''	3:J:111:DT:C5'	2.27	0.63
1:A:203:ASN:O	1:A:207:GLN:HG2	1.98	0.63
1:A:362:ILE:CD1	1:A:572:ASN:HD22	2.10	0.63
1:A:554:THR:O	1:A:558:ASN:HB2	1.99	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:114:ASP:HB3	1:D:328:VAL:HG22	1.79	0.63
1:D:503:LEU:O	1:D:503:LEU:HD23	1.99	0.63
1:A:556:GLN:OE1	1:A:557:ILE:HG13	1.99	0.63
1:A:693:LEU:HD12	1:A:694:GLY:H	1.63	0.63
1:B:440:HIS:HB3	5:B:1007:HOH:O	1.98	0.63
1:A:221:PHE:O	1:A:224:PRO:HD2	1.99	0.62
1:A:641:PHE:HA	1:A:646:HIS:CD2	2.33	0.62
1:C:686:GLU:OE1	1:C:716:GLU:HG2	1.99	0.62
1:D:478:VAL:HG13	1:D:559:ARG:HG3	1.80	0.62
1:A:68:ALA:O	1:A:72:ILE:HG13	1.98	0.62
1:B:494:ARG:HG3	1:B:495:ASN:N	2.14	0.62
1:A:744:ALA:HB2	1:A:767:PHE:CE2	2.34	0.62
1:D:255:ASN:HD22	1:D:256:MET:H	1.45	0.62
1:B:522:PHE:H	1:B:522:PHE:HD1	1.46	0.62
1:B:893:LYS:C	1:B:894:LYS:HG3	2.18	0.62
1:B:403:ARG:NH1	1:B:887:ALA:O	2.33	0.62
1:D:144:ASP:O	1:D:185:LYS:HD3	2.00	0.62
1:D:422:GLN:HG3	1:D:678:GLN:O	2.00	0.62
1:A:362:ILE:HG12	1:A:572:ASN:ND2	2.15	0.62
1:D:61:LEU:HD23	1:D:62:PHE:N	2.15	0.62
1:D:805:ILE:HA	1:D:808:ILE:HD12	1.81	0.62
1:B:727:ILE:HB	1:B:733:GLN:NE2	2.14	0.62
1:A:785:ALA:HB1	1:A:788:ILE:CD1	2.28	0.62
1:B:166:ILE:H	1:B:166:ILE:CD1	2.12	0.62
1:B:728:MET:HE3	3:H:113:DC:OP1	2.00	0.62
1:B:752:MET:HG2	1:B:760:LEU:HD22	1.80	0.62
1:A:854:ILE:CD1	1:A:862:VAL:HG21	2.30	0.61
1:C:597:ILE:HD11	1:C:663:ILE:HG23	1.80	0.61
1:D:361:PRO:HD2	2:K:3:DC:O5'	2.00	0.61
1:A:514:LEU:H	1:A:541:MET:HE2	1.66	0.61
1:A:707:ARG:NH2	1:A:731:GLU:OE1	2.34	0.61
1:C:148:VAL:HG21	1:C:325:ILE:HD11	1.82	0.61
3:F:108:DT:H2''	3:F:109:DC:O5'	2.01	0.61
1:A:642:ARG:HB2	1:A:642:ARG:HH11	1.65	0.61
1:B:166:ILE:HD12	1:B:166:ILE:N	2.13	0.61
1:C:46:ALA:O	1:C:47:THR:HG23	2.00	0.61
2:E:7:DA:H2'	2:E:8:DT:H72	1.82	0.61
1:D:412:LEU:HB2	1:D:623:ASP:HB2	1.83	0.61
1:D:511:ASP:HA	1:D:533:LEU:CD1	2.30	0.61
1:A:631:LYS:NZ	1:A:631:LYS:H	1.97	0.61
1:A:855:THR:HG23	1:A:858:ILE:HG12	1.83	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:818:ASN:HD21	1:B:857:LEU:HD12	1.66	0.61
2:E:18:DG:OP1	2:E:18:DG:H3'	2.01	0.61
1:C:231:LYS:HG3	1:C:236:GLU:CA	2.31	0.61
1:D:554:THR:O	1:D:558:ASN:HB2	2.01	0.61
1:B:749:ILE:O	1:B:753:LEU:HG	2.01	0.60
1:B:498:ILE:N	1:B:498:ILE:HD12	2.16	0.60
1:C:471:VAL:HB	1:C:472:PRO:HD3	1.83	0.60
1:B:109:ARG:NH2	1:B:208:LYS:HG2	2.16	0.60
1:B:668:ARG:O	1:B:672:GLU:HG3	2.01	0.60
1:C:130:LYS:HG3	1:C:131:HIS:CE1	2.37	0.60
1:D:731:GLU:HA	1:D:734:LYS:HG2	1.82	0.60
1:D:804:HIS:O	1:D:808:ILE:HG13	2.02	0.60
1:A:685:ARG:NH2	1:A:714:ASP:OD2	2.34	0.60
1:B:821:ALA:HB1	1:B:822:PRO:HD2	1.82	0.60
3:F:113:DC:H2''	3:F:114:DA:H5''	1.83	0.60
1:B:182:ILE:O	1:B:186:ILE:HG13	2.02	0.60
1:B:777:ILE:CD1	1:B:853:GLU:HG2	2.32	0.60
1:C:149:PHE:O	1:C:197:LEU:HD11	2.00	0.60
1:D:328:VAL:O	1:D:332:LEU:HD13	2.01	0.60
1:D:757:GLU:O	1:D:761:GLN:HG3	2.01	0.60
1:A:478:VAL:HG13	1:A:559:ARG:HD2	1.84	0.60
1:C:180:SER:O	1:C:183:ILE:HG22	2.02	0.60
1:A:153:ASN:HB3	1:A:158:ASN:ND2	2.16	0.60
1:D:645:ASN:ND2	1:D:719:ARG:HH11	1.98	0.60
1:D:788:ILE:O	1:D:792:ASP:HB2	2.02	0.60
2:E:10:DA:C2'	2:E:11:DC:H5''	2.32	0.60
1:A:844:LYS:H	1:A:844:LYS:HD2	1.66	0.60
1:B:163:SER:HB3	1:B:166:ILE:HD13	1.83	0.60
1:B:179:PRO:HG2	1:B:329:TYR:CD2	2.36	0.60
1:B:233:ILE:HD12	1:B:233:ILE:N	2.17	0.60
1:C:182:ILE:O	1:C:186:ILE:HG13	2.02	0.60
1:C:223:ILE:HB	1:C:224:PRO:HD3	1.84	0.60
1:C:455:SER:OG	1:C:676:ASN:HA	2.02	0.60
1:D:150:ASP:OD1	1:D:321:ILE:HD11	2.02	0.60
1:B:706:LYS:HD3	3:H:113:DC:H1'	1.83	0.59
1:B:808:ILE:HD13	1:B:824:VAL:HG11	1.82	0.59
1:B:858:ILE:O	1:B:862:VAL:HG23	2.01	0.59
1:D:442:TYR:HB3	1:D:592:MET:CE	2.31	0.59
1:C:109:ARG:HD2	1:C:209:THR:O	2.01	0.59
1:C:284:ASN:HD22	1:C:285:GLN:N	2.01	0.59
1:D:218:VAL:HA	1:D:222:ALA:HB3	1.84	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:255:ASN:HD22	1:A:257:TYR:HD1	1.49	0.59
1:B:403:ARG:HH22	1:B:889:LEU:HD21	1.66	0.59
1:C:130:LYS:HG3	1:C:131:HIS:ND1	2.17	0.59
2:I:10:DA:H1'	2:I:11:DC:H5''	1.84	0.59
1:B:508:LEU:HG	1:B:509:SER:H	1.67	0.59
1:A:771:PHE:HA	1:A:774:LEU:HD12	1.83	0.59
1:B:777:ILE:HD11	1:B:853:GLU:HG2	1.84	0.59
1:D:504:HIS:C	1:D:506:PRO:HD3	2.22	0.59
1:A:97:TYR:O	1:A:352:LYS:HE2	2.02	0.59
1:D:218:VAL:HG22	1:D:223:ILE:HG13	1.83	0.59
3:F:105:DC:H2''	3:F:106:DT:O5'	2.02	0.59
2:I:8:DT:H2'	2:I:9:DG:C8	2.36	0.59
1:A:641:PHE:HA	1:A:646:HIS:HD2	1.67	0.59
1:B:599:ARG:HH11	1:B:599:ARG:HG2	1.67	0.59
2:E:10:DA:H2''	2:E:11:DC:H5'	1.84	0.59
1:C:482:ARG:NH1	1:C:556:GLN:NE2	2.41	0.59
1:D:305:TYR:OH	1:D:309:ILE:HG12	2.02	0.59
2:E:2:DG:H3'	2:E:3:DC:C5'	2.32	0.59
3:J:102:DC:H2''	3:J:103:DG:OP2	2.01	0.59
1:C:461:MET:SD	1:C:581:ARG:HD2	2.43	0.59
1:A:17:GLU:OE1	1:A:97:TYR:OH	2.20	0.59
1:D:71:TRP:O	1:D:75:MET:HG2	2.03	0.59
1:D:197:LEU:HD23	1:D:197:LEU:O	2.03	0.59
1:D:797:PRO:HG3	1:D:806:ARG:HH11	1.68	0.59
1:C:38:PHE:CZ	1:C:59:ARG:HG3	2.38	0.58
1:C:285:GLN:HE21	1:C:286:PRO:CD	2.15	0.58
1:C:658:ARG:NH1	5:C:978:HOH:O	2.35	0.58
1:D:807:GLY:HA2	1:D:845:CYS:O	2.03	0.58
1:D:862:VAL:O	1:D:866:MET:HB3	2.03	0.58
1:B:786:ASN:O	1:B:826:GLU:OE1	2.22	0.58
1:C:818:ASN:ND2	1:C:857:LEU:HD11	2.19	0.58
1:A:876:PHE:O	1:A:879:PRO:HG2	2.03	0.58
1:D:80:LEU:HD22	1:D:80:LEU:N	2.14	0.58
1:D:495:ASN:HD21	1:D:521:ASP:CA	2.08	0.58
3:H:105:DC:H2'	3:H:106:DT:H71	1.83	0.58
3:J:113:DC:H5'	3:J:113:DC:H6	1.68	0.58
1:C:572:ASN:HD22	1:C:574:TRP:N	1.98	0.58
1:D:509:SER:CB	1:D:532:LYS:O	2.48	0.58
2:I:7:DA:C2'	2:I:8:DT:H72	2.33	0.58
1:A:169:LYS:HE2	1:A:173:GLN:HB3	1.85	0.58
1:C:587:THR:HG22	1:C:588:THR:N	2.18	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:297:GLU:OE2	1:D:337:LYS:HE3	2.03	0.58
1:B:894:LYS:HB2	1:B:894:LYS:HZ3	1.67	0.58
2:I:6:DA:H2''	2:I:7:DA:C5'	2.33	0.58
1:C:154:SER:C	1:C:156:TYR:H	2.05	0.58
1:D:442:TYR:HB3	1:D:592:MET:HE3	1.85	0.58
1:D:605:LEU:HD22	1:D:632:ILE:HD11	1.86	0.58
2:E:4:CTG:H2''	2:E:5:DG:OP2	2.04	0.58
1:A:470:VAL:O	1:A:474:GLU:HG2	2.04	0.58
1:C:818:ASN:ND2	1:C:821:ALA:HB2	2.18	0.57
1:D:159:VAL:HB	1:D:317:HIS:CD2	2.39	0.57
1:D:529:LYS:HB3	1:D:532:LYS:HD2	1.86	0.57
1:D:700:GLY:N	1:D:753:LEU:HD22	2.19	0.57
1:D:884:THR:HG21	1:D:891:TYR:HD1	1.69	0.57
1:A:285:GLN:HE21	1:A:285:GLN:HA	1.68	0.57
1:B:231:LYS:CG	1:B:236:GLU:HA	2.34	0.57
1:C:85:MET:HA	1:C:380:ILE:HD11	1.85	0.57
1:C:297:GLU:OE1	1:C:338:ARG:NH1	2.37	0.57
1:A:485:HIS:C	1:A:487:GLY:H	2.06	0.57
1:B:772:ARG:HG2	1:B:772:ARG:HH11	1.68	0.57
1:D:416:TYR:HB2	1:D:417:PRO:HD3	1.86	0.57
1:D:458:PRO:HB2	1:D:588:THR:HG22	1.85	0.57
1:A:129:ALA:HA	1:A:225:TYR:CE1	2.40	0.57
1:A:819:ILE:HG13	1:A:823:GLN:OE1	2.05	0.57
1:A:873:GLU:OE2	1:A:877:ILE:HD12	2.04	0.57
1:C:477:LYS:HG2	1:C:481:GLN:NE2	2.20	0.57
1:C:503:LEU:HD21	1:C:538:LEU:HB2	1.86	0.57
1:C:658:ARG:HG3	1:C:658:ARG:HH11	1.70	0.57
1:D:653:LYS:HE3	1:D:657:GLU:OE1	2.05	0.57
1:B:60:LYS:HE3	1:B:62:PHE:CE2	2.40	0.57
1:B:751:ARG:HH11	1:B:759:SER:HB3	1.69	0.57
1:B:752:MET:HE3	1:B:889:LEU:HD12	1.86	0.57
1:C:83:LEU:N	1:C:83:LEU:HD22	2.19	0.57
1:A:51:ASP:HB2	5:A:915:HOH:O	2.05	0.57
1:A:112:ASN:HD21	1:A:331:VAL:CG1	2.18	0.57
1:A:338:ARG:HB3	1:A:340:PHE:CE1	2.39	0.57
1:D:253:ILE:HD11	1:D:262:ILE:HD13	1.87	0.57
1:D:751:ARG:NH1	1:D:763:TYR:HB2	2.20	0.57
1:A:732:THR:CG2	1:A:745:LEU:HB3	2.35	0.57
1:B:120:PRO:HG2	1:B:156:TYR:CE2	2.40	0.57
1:C:835:LEU:HD11	1:C:846:ILE:HB	1.85	0.57
1:A:223:ILE:HB	1:A:224:PRO:HD3	1.86	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:506:PRO:HB2	1:A:535:ALA:CB	2.33	0.57
1:D:747:GLU:O	1:D:751:ARG:HG3	2.05	0.57
1:A:542:LEU:O	1:A:546:GLN:HG2	2.05	0.57
1:A:777:ILE:HD11	1:A:848:TRP:HZ2	1.70	0.57
1:A:806:ARG:HD3	1:A:844:LYS:HE3	1.87	0.57
1:B:309:ILE:CA	1:B:312:LEU:HB2	2.20	0.57
1:B:811:TYR:OH	1:B:822:PRO:HG2	2.04	0.57
1:A:213:LEU:HD13	1:A:223:ILE:HD11	1.85	0.57
1:A:227:TYR:CD2	1:A:263:ILE:HD13	2.40	0.57
1:A:598:GLU:HG3	1:A:617:VAL:HG11	1.85	0.57
1:A:362:ILE:CG1	1:A:572:ASN:HD22	2.19	0.56
1:D:83:LEU:HB3	1:D:379:VAL:HG12	1.86	0.56
2:E:7:DA:C2'	2:E:8:DT:H72	2.35	0.56
1:A:139:TYR:CD2	1:A:332:LEU:HD21	2.40	0.56
1:A:231:LYS:HG3	1:A:236:GLU:CA	2.35	0.56
1:A:808:ILE:O	1:A:811:TYR:HB3	2.04	0.56
1:A:839:ASN:HD22	1:A:841:PHE:HB2	1.70	0.56
1:D:186:ILE:HG22	1:D:187:ILE:N	2.20	0.56
3:H:113:DC:C2'	3:H:114:DA:H5''	2.35	0.56
1:A:499:ILE:HB	1:A:542:LEU:HD13	1.87	0.56
1:A:631:LYS:H	1:A:631:LYS:HZ2	1.52	0.56
1:B:421:ARG:HH11	1:B:421:ARG:HG2	1.70	0.56
1:C:81:GLU:HG2	1:C:83:LEU:HD22	1.87	0.56
1:C:162:TRP:HB3	1:C:188:TYR:CE1	2.41	0.56
1:C:855:THR:HG22	1:C:857:LEU:N	2.13	0.56
1:D:162:TRP:CD1	1:D:321:ILE:HB	2.40	0.56
1:D:786:ASN:O	1:D:787:ASN:HB2	2.05	0.56
2:G:16:DG:H2''	2:G:17:DC:H5''	1.87	0.56
2:I:8:DT:H5''	2:I:8:DT:H6	1.70	0.56
1:A:732:THR:HG22	1:A:745:LEU:HB3	1.86	0.56
1:C:130:LYS:HE3	1:C:131:HIS:HE1	1.71	0.56
1:C:285:GLN:HE21	1:C:286:PRO:HD2	1.70	0.56
1:C:768:GLU:HG2	1:C:872:LEU:HD21	1.88	0.56
1:D:713:TRP:CZ3	1:D:723:PRO:HD3	2.40	0.56
1:C:55:LYS:HD2	1:C:55:LYS:N	2.18	0.56
1:D:39:ALA:O	1:D:58:THR:HG22	2.05	0.56
1:D:202:LEU:O	1:D:205:TRP:HB3	2.06	0.56
1:D:795:GLY:O	1:D:813:ARG:NH1	2.38	0.56
1:B:271:LEU:HB3	1:B:276:LEU:HD11	1.87	0.56
1:B:486:LYS:HA	1:B:556:GLN:HE22	1.70	0.56
1:D:303:LEU:CG	1:D:326:ILE:HD12	2.34	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:555:ALA:HB1	1:A:559:ARG:NH1	2.20	0.56
1:B:498:ILE:HD12	1:B:498:ILE:H	1.69	0.56
1:B:818:ASN:HD21	1:B:857:LEU:HD13	1.70	0.56
1:D:3:GLU:HB2	1:D:20:ILE:O	2.06	0.56
1:D:348:GLY:O	1:D:352:LYS:N	2.38	0.56
1:D:597:ILE:O	1:D:601:VAL:HG23	2.03	0.56
1:A:408:MET:CE	1:A:655:ALA:HB2	2.36	0.56
1:A:643:ASP:HB2	5:A:923:HOH:O	2.05	0.56
1:A:811:TYR:HE1	1:A:858:ILE:HD11	1.69	0.56
1:B:446:VAL:HG22	1:B:446:VAL:O	2.06	0.56
1:B:458:PRO:HG3	1:B:592:MET:SD	2.46	0.56
1:B:523:SER:O	1:B:526:ILE:HG12	2.06	0.56
1:C:238:THR:O	1:C:241:ARG:HB2	2.06	0.56
1:C:524:ASP:HA	1:C:527:LYS:CE	2.35	0.56
1:D:402:ASN:OD1	1:D:403:ARG:N	2.32	0.56
1:D:412:LEU:HD12	1:D:623:ASP:HA	1.87	0.56
1:D:686:GLU:HA	1:D:686:GLU:OE1	2.05	0.56
1:B:494:ARG:NH1	1:B:495:ASN:HB2	2.21	0.56
1:B:808:ILE:HG22	1:B:812:ASN:ND2	2.20	0.56
1:A:154:SER:HB2	1:A:155:PRO:HD2	1.88	0.55
1:A:643:ASP:CA	1:A:693:LEU:HD23	2.36	0.55
1:C:143:ASP:OD2	1:C:208:LYS:NZ	2.39	0.55
1:A:34:LYS:HD2	1:A:63:ALA:O	2.07	0.55
1:A:49:TYR:CE1	1:A:59:ARG:HD3	2.40	0.55
1:B:767:PHE:HE1	1:B:774:LEU:HD11	1.72	0.55
1:C:254:GLU:HA	1:C:259:SER:HA	1.87	0.55
1:D:359:PHE:O	1:D:361:PRO:HD3	2.07	0.55
1:D:471:VAL:HB	1:D:472:PRO:HD3	1.88	0.55
1:D:644:THR:O	1:D:648:VAL:HG23	2.07	0.55
1:A:241:ARG:NH1	5:A:985:HOH:O	2.38	0.55
1:A:397:LYS:O	1:A:399:PRO:HD3	2.06	0.55
1:A:503:LEU:N	1:A:503:LEU:HD23	2.20	0.55
1:A:555:ALA:O	1:A:559:ARG:HG2	2.06	0.55
1:A:656:ARG:HA	1:A:660:GLU:HG3	1.87	0.55
1:B:406:TYR:HB3	1:B:629:ALA:HB3	1.89	0.55
1:C:6:LEU:HB2	1:C:18:ARG:O	2.06	0.55
2:G:15:DC:H6	2:G:15:DC:H5'	1.70	0.55
1:B:745:LEU:HD22	1:B:883:PHE:HE2	1.71	0.55
1:C:118:THR:HG23	1:C:310:SER:O	2.07	0.55
1:C:351:ALA:O	1:C:352:LYS:HB2	2.04	0.55
1:A:338:ARG:HB3	1:A:340:PHE:CD1	2.42	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:212:ILE:HD13	1:D:269:SER:HB2	1.87	0.55
1:D:486:LYS:O	1:D:490:LEU:HD13	2.06	0.55
1:D:512:GLU:CB	1:D:513:PRO:HA	2.37	0.55
3:H:104:DG:H1'	3:H:105:DC:H5''	1.89	0.55
3:J:113:DC:H5'	3:J:113:DC:C6	2.41	0.55
1:A:212:ILE:HD13	1:A:269:SER:HB2	1.88	0.55
1:A:433:THR:HG22	1:A:461:MET:HE1	1.89	0.55
1:B:494:ARG:HG3	1:B:494:ARG:HH11	1.71	0.55
1:C:600:LYS:HD2	5:C:921:HOH:O	2.06	0.55
1:D:411:ASP:HB2	1:D:686:GLU:OE2	2.05	0.55
1:D:489:MET:SD	1:D:553:MET:HA	2.46	0.55
3:F:109:DC:H2''	3:F:110:DA:C5'	2.37	0.55
1:A:810:THR:HG21	1:A:845:CYS:O	2.06	0.55
1:B:541:MET:O	1:B:544:ARG:HB2	2.06	0.55
1:B:748:CYS:O	1:B:752:MET:HG3	2.06	0.55
1:C:686:GLU:HG3	1:C:715:MET:HE1	1.89	0.55
1:C:686:GLU:OE1	1:C:716:GLU:CG	2.55	0.55
1:A:433:THR:HG22	1:A:461:MET:CE	2.37	0.55
1:A:517:ASP:OD1	1:A:519:ARG:HD3	2.07	0.55
1:B:485:HIS:HA	1:B:488:TYR:CD2	2.42	0.55
1:B:825:VAL:CB	1:B:828:GLU:HG3	2.34	0.55
1:B:846:ILE:HD11	1:B:858:ILE:HD12	1.88	0.55
2:K:6:DA:H2''	2:K:7:DA:O5'	2.07	0.55
1:A:162:TRP:HB3	1:A:188:TYR:CE1	2.41	0.55
1:A:809:LEU:C	1:A:811:TYR:H	2.10	0.55
1:B:878:LYS:HD3	1:B:878:LYS:C	2.27	0.55
1:A:668:ARG:O	1:A:672:GLU:HG3	2.06	0.55
1:A:775:ASN:HB3	1:A:778:SER:OG	2.07	0.55
1:B:361:PRO:HD2	2:G:3:DC:H5''	1.89	0.55
1:B:405:LYS:HA	1:B:698:ILE:O	2.07	0.55
1:B:732:THR:CG2	1:B:733:GLN:HE21	2.20	0.55
1:C:495:ASN:HB3	1:C:522:PHE:CE2	2.42	0.55
1:D:752:MET:HG2	1:D:760:LEU:HD12	1.89	0.55
1:C:73:LYS:HB3	1:C:73:LYS:HZ3	1.72	0.54
2:I:7:DA:H2''	2:I:8:DT:OP2	2.07	0.54
1:A:116:GLU:HB2	1:A:135:ALA:HB3	1.89	0.54
1:A:730:LEU:HD22	1:A:883:PHE:CE1	2.42	0.54
1:B:117:VAL:HG21	1:B:225:TYR:CE2	2.43	0.54
1:B:222:ALA:O	1:B:226:VAL:HG23	2.07	0.54
1:B:604:TYR:O	1:B:607:GLU:HB3	2.07	0.54
3:L:105:DC:H2'	3:L:106:DT:H72	1.90	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:411:ASP:OD1	1:A:686:GLU:HG3	2.07	0.54
1:B:255:ASN:HD21	1:B:257:TYR:HD1	1.54	0.54
1:D:284:ASN:HD22	1:D:284:ASN:C	2.11	0.54
2:G:14:DC:H2''	2:G:15:DC:H5''	1.89	0.54
2:I:12:DA:H8	2:I:12:DA:H5''	1.73	0.54
3:J:105:DC:H2'	3:J:106:DT:C7	2.35	0.54
1:A:703:THR:HG21	1:A:707:ARG:HH11	1.72	0.54
1:B:351:ALA:O	1:B:352:LYS:HB2	2.07	0.54
1:D:6:LEU:HB2	1:D:18:ARG:O	2.07	0.54
1:D:541:MET:CA	1:D:544:ARG:HD3	2.30	0.54
1:B:148:VAL:HG21	1:B:325:ILE:HD11	1.90	0.54
1:C:111:ALA:CB	1:C:210:PRO:HB3	2.38	0.54
3:H:104:DG:C2'	3:H:105:DC:H5''	2.38	0.54
1:A:449:ARG:NH1	1:A:452:ASP:HB3	2.20	0.54
1:A:499:ILE:HD11	1:A:522:PHE:CZ	2.43	0.54
1:B:268:ILE:HG22	1:B:269:SER:N	2.23	0.54
1:C:393:GLY:O	1:C:587:THR:HG23	2.06	0.54
1:D:109:ARG:HD3	1:D:208:LYS:O	2.07	0.54
1:A:109:ARG:HD2	1:A:209:THR:O	2.08	0.54
1:A:850:SER:O	1:A:852:THR:HG23	2.08	0.54
1:C:112:ASN:HB2	5:C:1035:HOH:O	2.07	0.54
1:D:541:MET:O	1:D:544:ARG:N	2.38	0.54
2:G:16:DG:H2''	2:G:17:DC:H5'	1.90	0.54
3:H:104:DG:H2''	3:H:105:DC:C5'	2.38	0.54
3:L:113:DC:H2'	3:L:114:DA:C8	2.42	0.54
1:B:421:ARG:HD2	1:B:476:THR:OG1	2.08	0.54
1:B:685:ARG:HG2	1:B:685:ARG:HH11	1.72	0.54
1:C:162:TRP:HB3	1:C:188:TYR:CZ	2.43	0.54
1:D:347:MET:SD	1:D:562:LEU:HD21	2.47	0.54
1:B:218:VAL:HA	1:B:222:ALA:HB3	1.90	0.54
1:B:322:SER:O	1:B:326:ILE:HG12	2.08	0.54
1:B:330:ARG:O	1:B:334:ILE:HG13	2.08	0.54
1:B:422:GLN:HG3	1:B:678:GLN:O	2.08	0.54
1:C:657:GLU:C	1:C:658:ARG:HD2	2.29	0.54
1:C:660:GLU:CB	1:C:661:PRO:HD3	2.35	0.54
1:D:9:GLU:CG	1:D:267:GLY:H	2.21	0.54
1:A:778:SER:C	1:A:779:ILE:HD13	2.28	0.53
1:B:9:GLU:HG2	1:B:266:PHE:HD2	1.73	0.53
1:B:152:LEU:HD11	1:B:190:PRO:HB2	1.90	0.53
1:C:150:ASP:OD1	1:C:151:LEU:N	2.41	0.53
1:A:362:ILE:HG12	1:A:572:ASN:HD22	1.74	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:642:ARG:HH11	1:A:642:ARG:CB	2.21	0.53
1:C:506:PRO:HB3	1:C:535:ALA:HB2	1.90	0.53
1:D:731:GLU:HA	1:D:734:LYS:HG3	1.90	0.53
1:A:353:ILE:HB	5:A:973:HOH:O	2.08	0.53
1:A:800:LYS:O	1:A:802:PRO:HD3	2.09	0.53
1:B:317:HIS:O	1:B:320:TYR:HB3	2.08	0.53
1:B:597:ILE:O	1:B:601:VAL:HG23	2.08	0.53
1:C:169:LYS:O	1:C:175:GLY:HA3	2.08	0.53
1:C:440:HIS:CE1	1:C:444:ASN:HD22	2.26	0.53
1:D:760:LEU:C	1:D:760:LEU:HD23	2.29	0.53
2:E:13:DG:H1	3:F:105:DC:H42	1.55	0.53
1:B:472:PRO:O	1:B:475:ILE:HG22	2.08	0.53
1:C:411:ASP:HB2	1:C:686:GLU:OE2	2.07	0.53
1:A:774:LEU:HB3	5:A:1004:HOH:O	2.08	0.53
1:D:546:GLN:O	1:D:549:GLU:HG2	2.09	0.53
2:E:13:DG:H2''	2:E:14:DC:H5''	1.89	0.53
1:A:449:ARG:HH12	1:A:452:ASP:CB	2.21	0.53
1:A:867:ASP:O	1:A:871:LEU:HB2	2.08	0.53
1:D:423:VAL:HB	1:D:425:ILE:HG13	1.91	0.53
1:A:496:GLY:HA2	1:A:542:LEU:HD11	1.91	0.53
1:A:530:ILE:HA	1:A:533:LEU:HD12	1.90	0.53
1:B:170:LEU:HD12	1:B:170:LEU:N	2.23	0.53
1:C:516:VAL:HG11	1:C:526:ILE:HD13	1.90	0.53
1:D:209:THR:HG21	1:D:244:PRO:HB3	1.91	0.53
1:D:485:HIS:HA	1:D:488:TYR:HB2	1.91	0.53
1:B:60:LYS:HE3	1:B:62:PHE:CZ	2.43	0.53
1:B:285:GLN:HG3	1:B:292:TYR:HE2	1.74	0.53
1:B:504:HIS:C	1:B:506:PRO:HD3	2.28	0.53
1:C:254:GLU:HG3	1:C:258:GLY:O	2.09	0.53
1:C:392:PRO:C	1:C:587:THR:HG21	2.28	0.53
1:C:579:ASP:HB3	1:C:582:ASN:HB2	1.90	0.53
1:D:812:ASN:O	1:D:815:ILE:HG12	2.08	0.53
3:L:108:DT:H2''	3:L:109:DC:O5'	2.09	0.53
1:A:481:GLN:O	1:A:484:GLU:HB3	2.09	0.53
1:B:599:ARG:O	1:B:603:GLU:HG3	2.09	0.53
1:C:283:THR:HG23	5:C:961:HOH:O	2.08	0.53
1:D:74:ARG:HA	1:D:77:ASP:OD2	2.09	0.53
1:D:114:ASP:HB3	1:D:328:VAL:CG2	2.39	0.53
1:D:656:ARG:HA	1:D:660:GLU:HG2	1.91	0.53
1:A:833:LEU:CD2	1:A:866:MET:HB2	2.27	0.53
1:B:191:PHE:CZ	1:B:200:GLU:HG2	2.44	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:529:LYS:O	1:B:533:LEU:HD22	2.08	0.52
1:C:605:LEU:HA	1:C:608:VAL:HG22	1.92	0.52
1:D:426:SER:OG	1:D:427:PRO:HD2	2.09	0.52
1:D:738:PRO:HG2	1:D:741:VAL:CB	2.38	0.52
1:A:304:LYS:HE3	1:A:304:LYS:HA	1.91	0.52
1:A:779:ILE:HG21	1:A:871:LEU:HG	1.90	0.52
1:A:806:ARG:CD	1:A:844:LYS:HE3	2.39	0.52
1:C:83:LEU:HB3	1:C:379:VAL:HG12	1.90	0.52
1:C:297:GLU:O	1:C:337:LYS:HE2	2.09	0.52
1:D:38:PHE:CZ	1:D:59:ARG:HG3	2.44	0.52
1:A:129:ALA:HA	1:A:225:TYR:CZ	2.45	0.52
1:B:475:ILE:HD13	1:B:475:ILE:O	2.09	0.52
1:B:654:PHE:O	1:B:658:ARG:HB2	2.10	0.52
2:G:6:DA:H2''	2:G:7:DA:H5''	1.91	0.52
3:H:104:DG:H2''	3:H:105:DC:H5''	1.91	0.52
1:A:49:TYR:O	1:A:57:CYS:N	2.40	0.52
1:A:159:VAL:HG21	1:A:317:HIS:CD2	2.44	0.52
1:B:685:ARG:NH2	1:B:714:ASP:OD1	2.41	0.52
1:B:727:ILE:HG21	1:B:732:THR:HG21	1.92	0.52
1:C:514:LEU:HB3	1:C:541:MET:CE	2.39	0.52
1:D:286:PRO:HG2	1:D:739:LYS:NZ	2.24	0.52
1:D:516:VAL:HG11	1:D:522:PHE:CE1	2.33	0.52
1:D:745:LEU:O	1:D:749:ILE:HG13	2.10	0.52
3:F:108:DT:H4'	5:F:137:HOH:O	2.08	0.52
2:I:7:DA:H2'	2:I:8:DT:H72	1.91	0.52
1:B:253:ILE:HD12	1:B:254:GLU:H	1.75	0.52
1:C:785:ALA:HB1	1:C:788:ILE:HD11	1.91	0.52
1:D:123:PHE:CD1	1:D:124:PRO:HD2	2.44	0.52
1:D:734:LYS:HB2	1:D:737:THR:OG1	2.09	0.52
3:H:101:DG:H2''	3:H:102:DC:OP2	2.08	0.52
1:B:197:LEU:HD23	1:B:198:LEU:N	2.25	0.52
1:D:52:ILE:HB	1:D:428:GLU:HG2	1.92	0.52
1:D:757:GLU:HB2	1:D:889:LEU:HD22	1.91	0.52
1:D:277:TYR:O	1:D:281:SER:HB2	2.09	0.52
1:D:536:LYS:O	1:D:536:LYS:HD3	2.09	0.52
1:A:294:SER:O	1:A:298:LEU:HD12	2.09	0.52
1:B:320:TYR:O	1:B:323:TYR:HB3	2.09	0.52
1:B:599:ARG:HG2	1:B:599:ARG:NH1	2.24	0.52
1:D:469:GLY:C	1:D:472:PRO:HD2	2.30	0.52
1:D:750:ARG:HG3	1:D:754:GLN:NE2	2.24	0.52
1:A:52:ILE:HG13	1:A:53:TYR:CD1	2.45	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:112:ASN:HD21	1:A:331:VAL:HG11	1.74	0.52
1:D:204:PHE:CE1	1:D:208:LYS:HG3	2.45	0.52
1:D:254:GLU:HG3	1:D:259:SER:HB2	1.92	0.52
1:B:799:PRO:O	1:B:800:LYS:HB2	2.10	0.52
1:C:477:LYS:HG2	1:C:481:GLN:HE21	1.74	0.52
1:D:519:ARG:HG3	1:D:519:ARG:HH11	1.75	0.52
1:B:486:LYS:O	1:B:490:LEU:HB2	2.10	0.51
1:B:884:THR:HB	1:B:889:LEU:O	2.10	0.51
1:D:496:GLY:HA2	1:D:545:ALA:CB	2.41	0.51
1:B:300:VAL:HG13	1:B:300:VAL:O	2.11	0.51
1:C:233:ILE:HG22	1:C:233:ILE:O	2.10	0.51
1:D:218:VAL:HG23	1:D:222:ALA:HB3	1.92	0.51
1:A:214:THR:OG1	1:A:215:GLY:N	2.42	0.51
1:B:9:GLU:HG3	5:B:928:HOH:O	2.10	0.51
1:C:241:ARG:HA	1:C:246:ARG:HD3	1.92	0.51
1:D:112:ASN:ND2	1:D:214:THR:HG23	2.26	0.51
1:D:125:GLU:HG3	1:D:127:SER:H	1.75	0.51
1:D:255:ASN:ND2	1:D:256:MET:N	2.55	0.51
1:D:451:SER:HB3	1:D:456:CYS:SG	2.50	0.51
1:A:362:ILE:HB	2:E:3:DC:OP1	2.10	0.51
1:B:247:LYS:HE3	1:B:266:PHE:CZ	2.45	0.51
1:B:303:LEU:HD12	1:B:323:TYR:CA	2.35	0.51
1:C:283:THR:HG21	5:C:1042:HOH:O	2.10	0.51
1:B:706:LYS:HE2	3:H:113:DC:O2	2.11	0.51
1:C:176:ASP:O	1:C:303:LEU:HD21	2.10	0.51
1:C:362:ILE:HG23	1:C:575:PHE:HD1	1.75	0.51
1:D:399:PRO:O	1:D:401:PRO:HD3	2.10	0.51
1:D:411:ASP:O	1:D:683:MET:HA	2.10	0.51
1:D:461:MET:CE	1:D:581:ARG:HD2	2.40	0.51
1:D:461:MET:HE3	1:D:581:ARG:HD2	1.92	0.51
1:D:557:ILE:HG22	1:D:558:ASN:N	2.25	0.51
1:A:645:ASN:HB2	5:A:972:HOH:O	2.11	0.51
1:C:176:ASP:O	1:C:177:GLU:HB2	2.10	0.51
1:D:884:THR:HG21	1:D:891:TYR:CD1	2.45	0.51
1:A:743:LYS:O	1:A:746:LYS:HB3	2.11	0.51
1:B:180:SER:O	1:B:183:ILE:HG22	2.11	0.51
1:B:347:MET:HE1	1:B:562:LEU:CD1	2.30	0.51
1:D:18:ARG:NH2	1:D:211:VAL:HA	2.26	0.51
1:D:260:ARG:HG2	1:D:261:GLU:H	1.74	0.51
3:L:108:DT:H2''	3:L:109:DC:C5'	2.41	0.51
1:A:771:PHE:O	1:A:774:LEU:HB2	2.11	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:52:ILE:HD12	1:D:428:GLU:HG3	1.93	0.51
1:D:616:PHE:HB3	1:D:627:VAL:HG13	1.93	0.51
1:D:835:LEU:HB3	1:D:839:ASN:ND2	2.25	0.51
1:A:35:PRO:HG3	1:A:65:MET:HA	1.93	0.51
1:A:241:ARG:HG3	1:A:241:ARG:NH1	2.23	0.51
1:A:544:ARG:HG3	1:A:544:ARG:NH1	2.26	0.51
1:D:111:ALA:CB	1:D:210:PRO:HB3	2.38	0.51
1:D:406:TYR:CE2	1:D:691:PRO:HD2	2.46	0.51
1:D:500:LYS:O	1:D:503:LEU:HB3	2.11	0.51
1:A:819:ILE:HG12	1:A:819:ILE:O	2.11	0.51
1:B:312:LEU:HD13	1:B:312:LEU:O	2.11	0.51
1:B:557:ILE:HG22	5:B:945:HOH:O	2.09	0.51
1:C:382:GLN:HG2	1:C:383:GLY:N	2.26	0.51
2:I:6:DA:H1 ⁷	2:I:7:DA:H5 ⁷	1.93	0.51
1:C:121:ASP:HA	1:C:819:ILE:HG12	1.91	0.50
1:D:738:PRO:HG2	1:D:741:VAL:CG2	2.41	0.50
1:A:514:LEU:HG	1:A:526:ILE:HD12	1.93	0.50
1:A:536:LYS:HD3	1:A:536:LYS:C	2.31	0.50
1:B:102:LYS:HD3	1:B:103:TYR:N	2.26	0.50
1:B:202:LEU:O	1:B:206:GLN:HG2	2.11	0.50
1:B:421:ARG:HB3	1:B:680:LEU:HD12	1.92	0.50
1:B:485:HIS:CD2	1:B:555:ALA:HB1	2.46	0.50
1:B:785:ALA:HB2	1:B:808:ILE:HD11	1.93	0.50
1:B:884:THR:O	1:B:888:LYS:N	2.44	0.50
1:D:834:PRO:HG3	1:D:871:LEU:HB2	1.93	0.50
2:G:16:DG:C2 ⁷	2:G:17:DC:H5 ⁷	2.41	0.50
1:A:833:LEU:HD23	1:A:834:PRO:O	2.12	0.50
1:B:179:PRO:HB2	1:B:182:ILE:HG12	1.93	0.50
1:C:381:PRO:HG3	5:C:1070:HOH:O	2.10	0.50
1:A:725:LEU:HD11	1:A:750:ARG:HB2	1.93	0.50
1:B:25:ARG:HH11	1:B:25:ARG:HG2	1.75	0.50
1:B:231:LYS:HG2	1:B:236:GLU:HA	1.93	0.50
1:B:377:ASN:N	1:B:377:ASN:HD22	2.09	0.50
1:D:222:ALA:O	1:D:226:VAL:HG23	2.12	0.50
1:D:416:TYR:O	1:D:420:ILE:HG13	2.12	0.50
1:D:275:ASP:O	1:D:279:LYS:HB2	2.12	0.50
1:B:435:LYS:H	1:B:435:LYS:HD3	1.76	0.50
1:C:254:GLU:HG3	1:C:259:SER:HB2	1.92	0.50
1:C:825:VAL:HB	1:C:828:GLU:CD	2.32	0.50
1:D:146:PHE:CE1	1:D:182:ILE:HB	2.47	0.50
1:B:170:LEU:HD12	1:B:170:LEU:H	1.77	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:97:TYR:O	1:D:99:TYR:N	2.45	0.50
1:D:483:LYS:NZ	1:D:483:LYS:HB3	2.27	0.50
1:A:863:LEU:HA	1:A:866:MET:HE2	1.94	0.50
1:B:494:ARG:HG3	1:B:495:ASN:H	1.76	0.50
1:B:614:GLU:HB3	1:B:616:PHE:CE1	2.46	0.50
2:G:3:DC:H2''	2:G:4:CTG:OP2	2.12	0.50
1:A:63:ALA:HB3	1:A:67:ASP:OD1	2.11	0.50
1:A:213:LEU:CD1	1:A:223:ILE:HD11	2.42	0.50
1:B:194:GLU:O	1:B:197:LEU:N	2.45	0.50
1:C:530:ILE:O	1:C:533:LEU:HB2	2.12	0.50
1:D:454:TYR:HB2	1:D:462:MET:HG2	1.93	0.50
1:A:780:ALA:HB3	1:A:831:TYR:CD1	2.41	0.49
1:B:197:LEU:HD23	1:B:197:LEU:C	2.32	0.49
1:B:403:ARG:HH22	1:B:889:LEU:CD2	2.25	0.49
1:C:394:ALA:HB1	1:C:622:THR:HA	1.94	0.49
1:B:129:ALA:HA	1:B:225:TYR:CE1	2.48	0.49
1:C:403:ARG:NH2	1:C:889:LEU:CD2	2.74	0.49
1:C:514:LEU:HB3	1:C:541:MET:HE3	1.94	0.49
1:A:380:ILE:HD12	1:A:576:ARG:CZ	2.43	0.49
1:D:9:GLU:HG3	1:D:267:GLY:H	1.77	0.49
1:D:20:ILE:HD13	1:D:107:LYS:CB	2.42	0.49
1:D:355:ILE:O	1:D:358:VAL:HG13	2.12	0.49
2:G:6:DA:H1'	2:G:7:DA:H5''	1.94	0.49
1:A:34:LYS:HG2	1:A:61:LEU:HD21	1.94	0.49
1:A:73:LYS:HE3	1:A:73:LYS:CA	2.38	0.49
1:C:38:PHE:HB2	1:C:83:LEU:HB2	1.93	0.49
1:C:412:LEU:HD13	1:C:415:LEU:HD13	1.94	0.49
1:D:330:ARG:O	1:D:334:ILE:HG13	2.13	0.49
1:B:444:ASN:HA	1:B:599:ARG:HE	1.77	0.49
1:C:78:ILE:CD1	1:C:80:LEU:HD23	2.42	0.49
1:C:145:ARG:HD3	1:C:185:LYS:O	2.12	0.49
1:C:221:PHE:O	1:C:224:PRO:HD2	2.12	0.49
1:A:253:ILE:C	1:A:253:ILE:HD12	2.33	0.49
1:B:421:ARG:HB3	1:B:680:LEU:CD1	2.41	0.49
1:B:808:ILE:HG22	1:B:812:ASN:HD21	1.77	0.49
1:C:668:ARG:NH1	1:C:668:ARG:HG2	2.28	0.49
1:D:313:ARG:O	1:D:317:HIS:ND1	2.36	0.49
1:D:700:GLY:HA2	1:D:753:LEU:HD22	1.95	0.49
1:A:376:GLN:HE21	1:A:378:LYS:CD	2.24	0.49
1:B:428:GLU:OE1	1:B:470:VAL:HG23	2.12	0.49
1:D:487:GLY:HA2	1:D:490:LEU:HB2	1.94	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:776:TYR:HE1	1:D:848:TRP:CZ2	2.31	0.49
3:L:102:DC:H2''	3:L:103:DG:OP2	2.13	0.49
1:B:498:ILE:HG22	1:B:498:ILE:O	2.11	0.49
2:E:14:DC:H2''	2:E:15:DC:C5'	2.33	0.49
2:K:10:DA:C3'	2:K:11:DC:H5''	2.41	0.49
1:A:804:HIS:O	1:A:808:ILE:HG13	2.13	0.49
1:B:221:PHE:C	1:B:224:PRO:HD2	2.33	0.49
1:B:395:PHE:HB2	1:B:591:GLN:HG2	1.94	0.49
1:B:699:GLY:O	1:B:753:LEU:HD22	2.12	0.49
1:C:621:ASP:OD1	3:J:114:DA:H5'	2.13	0.49
1:D:149:PHE:HB3	1:D:197:LEU:HD21	1.95	0.49
3:F:108:DT:H1'	3:F:109:DC:H5'	1.94	0.49
1:A:49:TYR:CE1	1:A:59:ARG:HB2	2.47	0.49
1:A:75:MET:HE3	1:A:80:LEU:O	2.13	0.49
1:A:410:PHE:HZ	1:A:659:MET:HE1	1.77	0.49
1:A:446:VAL:HG23	1:A:446:VAL:O	2.13	0.49
1:B:13:ASP:CG	1:B:66:ARG:HE	2.15	0.49
1:B:405:LYS:N	5:B:918:HOH:O	2.44	0.49
1:B:582:ASN:O	1:B:586:ILE:HG13	2.13	0.49
1:C:239:ALA:C	1:C:241:ARG:H	2.17	0.49
1:C:285:GLN:HE21	1:C:285:GLN:HA	1.78	0.49
1:C:285:GLN:HA	1:C:285:GLN:NE2	2.28	0.49
1:D:89:LYS:O	1:D:93:LEU:HD13	2.12	0.49
1:D:117:VAL:HG13	1:D:132:PRO:O	2.13	0.49
3:H:109:DC:H2''	3:H:110:DA:H5'	1.95	0.49
3:H:110:DA:H1'	3:H:111:DT:H5''	1.93	0.49
1:A:298:LEU:HD12	1:A:298:LEU:N	2.28	0.48
1:A:408:MET:HE1	1:A:655:ALA:HB2	1.95	0.48
1:A:544:ARG:HG3	1:A:544:ARG:HH11	1.77	0.48
1:B:475:ILE:HD13	1:B:475:ILE:C	2.33	0.48
1:B:496:GLY:O	1:B:542:LEU:HD11	2.13	0.48
1:B:499:ILE:O	1:B:542:LEU:HD22	2.12	0.48
1:C:361:PRO:HD2	2:I:3:DC:H5''	1.95	0.48
1:D:645:ASN:HD21	1:D:719:ARG:HH11	1.61	0.48
1:B:85:MET:HA	1:B:380:ILE:HD11	1.95	0.48
2:G:6:DA:C2'	2:G:7:DA:H5''	2.43	0.48
1:A:5:TYR:HE1	1:A:101:ILE:HD13	1.77	0.48
1:A:87:ASP:OD1	1:A:90:LEU:HG	2.13	0.48
1:B:150:ASP:OD1	1:B:321:ILE:HD11	2.13	0.48
1:B:530:ILE:HA	1:B:533:LEU:HB2	1.95	0.48
1:C:516:VAL:HG21	1:C:522:PHE:HE1	1.78	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:439:LEU:HD12	1:D:443:ILE:HD11	1.95	0.48
1:A:276:LEU:HG	1:A:340:PHE:HB3	1.95	0.48
1:C:154:SER:O	1:C:156:TYR:N	2.46	0.48
1:D:805:ILE:HD13	1:D:808:ILE:HD12	1.96	0.48
2:G:12:DA:H2''	2:G:13:DG:O5'	2.13	0.48
1:A:738:PRO:O	1:A:742:GLN:HB2	2.14	0.48
1:B:435:LYS:N	1:B:435:LYS:CD	2.76	0.48
1:B:863:LEU:HA	1:B:866:MET:CE	2.43	0.48
1:C:342:ASN:HB2	5:C:919:HOH:O	2.12	0.48
1:C:646:HIS:HB3	5:C:1043:HOH:O	2.13	0.48
1:D:146:PHE:CD1	1:D:146:PHE:N	2.82	0.48
1:D:594:LEU:O	1:D:597:ILE:HG22	2.12	0.48
1:A:313:ARG:NH1	5:A:979:HOH:O	2.34	0.48
1:B:231:LYS:HG3	1:B:236:GLU:HA	1.95	0.48
1:B:234:PHE:CD1	1:B:234:PHE:N	2.81	0.48
1:B:482:ARG:HH22	1:B:560:LYS:HD2	1.76	0.48
1:B:698:ILE:HD13	1:B:889:LEU:HD11	1.94	0.48
1:C:189:MET:O	1:C:191:PHE:CE1	2.67	0.48
1:D:4:PHE:CE2	1:D:103:TYR:HB2	2.48	0.48
1:D:841:PHE:CE2	1:D:862:VAL:HG22	2.48	0.48
2:I:10:DA:C2'	2:I:11:DC:C5'	2.90	0.48
1:A:642:ARG:N	1:A:646:HIS:HD2	2.06	0.48
1:B:472:PRO:HA	1:B:475:ILE:HG22	1.94	0.48
1:C:10:GLN:HG3	1:C:65:MET:CE	2.43	0.48
1:C:516:VAL:HG21	1:C:522:PHE:CE1	2.48	0.48
1:C:791:TYR:CD2	1:C:801:CYS:HA	2.49	0.48
1:D:605:LEU:CD2	1:D:632:ILE:HD11	2.43	0.48
2:E:13:DG:H1	3:F:105:DC:N4	2.12	0.48
2:I:12:DA:H2''	2:I:13:DG:C5'	2.44	0.48
1:C:81:GLU:HB2	1:C:384:ARG:NH2	2.29	0.48
1:D:409:SER:HB3	1:D:626:TYR:CD2	2.48	0.48
1:A:49:TYR:HB2	1:A:57:CYS:O	2.13	0.48
1:A:605:LEU:HA	1:A:608:VAL:HG22	1.96	0.48
1:B:285:GLN:HG3	1:B:292:TYR:CE2	2.49	0.48
1:B:497:GLU:CG	1:B:498:ILE:HD12	2.44	0.48
1:C:668:ARG:HG2	1:C:668:ARG:HH11	1.79	0.48
1:D:526:ILE:O	1:D:526:ILE:HG13	2.13	0.48
1:D:597:ILE:HD11	1:D:663:ILE:HG23	1.95	0.48
1:D:806:ARG:HD2	1:D:843:ASP:OD1	2.14	0.48
3:F:110:DA:C2'	3:F:111:DT:C5'	2.91	0.48
1:A:373:LEU:HD12	1:A:380:ILE:HG22	1.95	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:9:GLU:CG	1:B:266:PHE:HD2	2.27	0.48
1:B:772:ARG:NH2	1:B:868:TYR:HB2	2.29	0.48
1:C:104:ASP:OD1	1:C:107:LYS:HE2	2.14	0.48
1:C:231:LYS:O	1:C:231:LYS:HG2	2.14	0.48
1:C:285:GLN:HE21	1:C:285:GLN:CA	2.25	0.48
1:A:43:GLU:HA	1:A:56:PRO:HG3	1.95	0.47
1:A:771:PHE:CD1	1:A:774:LEU:HD12	2.48	0.47
1:B:647:TRP:O	1:B:650:PHE:HB3	2.14	0.47
1:B:831:TYR:O	1:B:847:ALA:HA	2.13	0.47
1:C:209:THR:HA	1:C:210:PRO:HD3	1.59	0.47
1:D:254:GLU:HG3	1:D:258:GLY:O	2.14	0.47
1:D:491:ALA:HB1	1:D:521:ASP:N	2.29	0.47
2:G:11:DC:H2''	2:G:12:DA:C5'	2.42	0.47
1:B:831:TYR:CD2	1:B:850:SER:HA	2.49	0.47
1:B:867:ASP:OD1	1:B:870:VAL:HB	2.14	0.47
1:C:188:TYR:CD2	1:C:190:PRO:HD3	2.49	0.47
1:D:9:GLU:OE2	1:D:266:PHE:HA	2.15	0.47
1:D:880:LEU:HD22	1:D:884:THR:HG23	1.96	0.47
1:B:177:GLU:O	1:B:177:GLU:HG3	2.13	0.47
1:C:73:LYS:HB3	1:C:73:LYS:HZ2	1.79	0.47
1:C:137:THR:HB	1:C:328:VAL:HG21	1.95	0.47
1:D:859:LYS:O	1:D:863:LEU:HD13	2.14	0.47
3:F:103:DG:C2'	3:F:104:DG:H5'	2.34	0.47
1:A:274:ILE:HG23	1:A:275:ASP:N	2.29	0.47
1:B:218:VAL:O	1:B:223:ILE:HG13	2.14	0.47
1:B:384:ARG:HG3	1:B:384:ARG:HH11	1.79	0.47
1:B:512:GLU:N	1:B:513:PRO:CD	2.76	0.47
1:B:791:TYR:CD2	1:B:801:CYS:HA	2.50	0.47
1:B:863:LEU:HA	1:B:866:MET:HE2	1.96	0.47
1:D:85:MET:HA	1:D:380:ILE:HD11	1.96	0.47
1:D:514:LEU:HD12	1:D:514:LEU:N	2.29	0.47
1:A:15:ILE:HG12	1:A:65:MET:CE	2.44	0.47
1:A:364:THR:O	1:A:368:ILE:HG13	2.15	0.47
1:A:428:GLU:OE1	1:A:470:VAL:HG23	2.15	0.47
1:A:779:ILE:HG21	1:A:871:LEU:CD2	2.45	0.47
1:B:132:PRO:HA	1:B:194:GLU:OE1	2.14	0.47
1:B:494:ARG:HG3	1:B:494:ARG:NH1	2.29	0.47
1:B:811:TYR:O	1:B:815:ILE:HG12	2.15	0.47
1:D:361:PRO:HD2	2:K:3:DC:P	2.54	0.47
1:D:811:TYR:HH	1:D:822:PRO:HG2	1.79	0.47
1:A:8:VAL:C	1:A:9:GLU:HG2	2.35	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:471:VAL:HB	1:A:472:PRO:CD	2.44	0.47
1:A:489:MET:HE3	1:A:553:MET:HG2	1.97	0.47
1:A:489:MET:SD	1:A:553:MET:HG2	2.55	0.47
1:A:594:LEU:HD11	1:A:625:ILE:HG23	1.97	0.47
1:A:714:ASP:OD1	1:A:718:THR:N	2.48	0.47
1:A:877:ILE:O	1:A:878:LYS:C	2.51	0.47
1:B:109:ARG:NH1	1:B:142:ILE:HD12	2.29	0.47
1:B:183:ILE:HG23	1:B:184:ASP:OD1	2.15	0.47
1:B:508:LEU:HG	1:B:509:SER:N	2.28	0.47
1:B:846:ILE:CD1	1:B:858:ILE:HD12	2.45	0.47
1:C:240:LYS:O	1:C:246:ARG:HA	2.15	0.47
1:C:724:LYS:HE2	5:C:975:HOH:O	2.13	0.47
1:D:273:TYR:HA	1:D:276:LEU:HB2	1.97	0.47
1:D:700:GLY:CA	1:D:753:LEU:HD22	2.44	0.47
2:G:7:DA:H2'	2:G:8:DT:H72	1.97	0.47
1:A:52:ILE:HD12	1:A:428:GLU:HB3	1.96	0.47
1:A:274:ILE:CG2	1:A:275:ASP:N	2.78	0.47
1:A:731:GLU:HA	1:A:734:LYS:HB2	1.96	0.47
1:A:772:ARG:O	1:A:774:LEU:N	2.48	0.47
1:C:403:ARG:HH22	1:C:889:LEU:HD23	1.80	0.47
1:D:699:GLY:C	1:D:753:LEU:HD22	2.35	0.47
2:G:14:DC:C2'	2:G:15:DC:H5''	2.45	0.47
1:A:415:LEU:O	1:A:419:ILE:HG13	2.15	0.47
1:A:485:HIS:C	1:A:487:GLY:N	2.67	0.47
1:A:494:ARG:NH2	1:A:521:ASP:HB3	2.29	0.47
1:B:338:ARG:O	1:B:339:GLN:HB2	2.15	0.47
1:B:491:ALA:HB3	1:B:518:TYR:O	2.15	0.47
1:B:534:SER:CB	1:B:537:SER:HB2	2.45	0.47
1:B:876:PHE:O	1:B:879:PRO:HG2	2.15	0.47
1:D:97:TYR:O	1:D:352:LYS:NZ	2.36	0.47
1:D:183:ILE:HG23	1:D:184:ASP:N	2.30	0.47
1:D:265:LEU:CB	1:D:268:ILE:HD12	2.45	0.47
1:D:791:TYR:CD2	1:D:801:CYS:HA	2.50	0.47
1:D:807:GLY:C	1:D:847:ALA:H	2.17	0.47
1:A:61:LEU:C	1:A:61:LEU:HD23	2.36	0.47
1:A:433:THR:HA	1:A:460:GLY:O	2.14	0.47
1:A:606:ASN:ND2	1:A:613:GLY:N	2.63	0.47
1:A:736:SER:HB2	1:A:782:VAL:O	2.14	0.47
1:A:836:ARG:HG3	1:A:865:TRP:O	2.14	0.47
1:B:421:ARG:HD3	1:B:475:ILE:HD12	1.97	0.47
1:B:468:ASP:OD2	1:B:468:ASP:N	2.42	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:489:MET:HB3	1:B:552:GLY:HA3	1.97	0.47
1:C:15:ILE:CD1	1:C:92:TYR:HB2	2.45	0.47
1:C:138:HIS:C	1:C:138:HIS:CD2	2.88	0.47
1:C:440:HIS:CE1	1:C:444:ASN:ND2	2.83	0.47
1:D:516:VAL:HG21	1:D:522:PHE:HZ	1.80	0.47
1:A:499:ILE:O	1:A:542:LEU:HD22	2.14	0.46
1:B:227:TYR:CD2	1:B:263:ILE:HD13	2.50	0.46
1:B:376:GLN:NE2	1:B:378:LYS:NZ	2.62	0.46
1:B:408:MET:CE	1:B:685:ARG:HD3	2.45	0.46
1:B:421:ARG:HG2	1:B:421:ARG:NH1	2.30	0.46
1:B:739:LYS:HA	1:B:739:LYS:HE2	1.97	0.46
1:B:797:PRO:HG3	1:B:806:ARG:NH1	2.29	0.46
1:C:118:THR:OG1	1:C:313:ARG:HG3	2.15	0.46
1:C:376:GLN:O	1:C:377:ASN:HB2	2.15	0.46
1:C:839:ASN:HB2	1:C:840:PRO:HD2	1.97	0.46
3:F:109:DC:H2'	3:F:110:DA:H5'	1.97	0.46
1:A:514:LEU:HG	1:A:526:ILE:CG2	2.43	0.46
1:A:559:ARG:HG2	1:A:559:ARG:HH11	1.80	0.46
1:B:856:ASP:HA	1:B:859:LYS:HB2	1.97	0.46
1:C:83:LEU:HB3	1:C:379:VAL:CG1	2.44	0.46
1:D:143:ASP:O	1:D:144:ASP:HB3	2.16	0.46
1:D:503:LEU:HA	1:D:506:PRO:HG3	1.98	0.46
2:E:4:CTG:O6	2:E:4:CTG:H2'	2.13	0.46
1:A:132:PRO:HD2	5:A:1001:HOH:O	2.15	0.46
1:A:661:PRO:O	1:A:665:ARG:HG3	2.16	0.46
1:B:502:ALA:HB3	1:B:539:ASN:OD1	2.15	0.46
1:B:597:ILE:HD13	1:B:667:PHE:CZ	2.50	0.46
1:B:809:LEU:O	1:B:813:ARG:HB2	2.15	0.46
1:C:284:ASN:HD21	1:C:829:LYS:NZ	2.14	0.46
1:C:455:SER:HA	1:C:675:ASN:O	2.16	0.46
1:C:558:ASN:HD22	1:C:558:ASN:HA	1.58	0.46
1:D:336:ALA:CA	1:D:339:GLN:HE21	2.23	0.46
1:D:353:ILE:HB	5:D:937:HOH:O	2.15	0.46
1:A:4:PHE:O	1:A:19:TYR:HB2	2.14	0.46
1:A:362:ILE:HG22	1:A:363:LYS:N	2.30	0.46
1:A:472:PRO:HA	1:A:475:ILE:HG13	1.96	0.46
1:B:878:LYS:HB3	1:B:879:PRO:CD	2.45	0.46
1:C:152:LEU:CD1	1:C:190:PRO:HB2	2.36	0.46
1:D:206:GLN:HA	1:D:206:GLN:NE2	2.31	0.46
1:D:253:ILE:HD11	1:D:262:ILE:CD1	2.45	0.46
1:D:255:ASN:O	1:D:256:MET:C	2.52	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:685:ARG:C	1:D:685:ARG:HD2	2.36	0.46
1:A:106:THR:O	1:A:106:THR:HG22	2.15	0.46
1:A:354:GLN:O	1:A:357:SER:HB2	2.15	0.46
1:A:546:GLN:HG3	1:A:547:ARG:N	2.31	0.46
1:A:612:GLU:HA	1:A:612:GLU:OE1	2.15	0.46
1:B:468:ASP:HB3	5:B:1000:HOH:O	2.14	0.46
1:C:61:LEU:HD23	1:C:62:PHE:N	2.30	0.46
1:C:284:ASN:HD22	1:C:284:ASN:C	2.19	0.46
1:D:453:VAL:HG23	1:D:454:TYR:CD2	2.50	0.46
1:D:498:ILE:HA	1:D:501:GLU:HB3	1.96	0.46
3:J:112:DT:H2 ^{''}	3:J:113:DC:H5 [']	1.97	0.46
1:A:467:ARG:HH11	1:A:467:ARG:HG3	1.81	0.46
1:B:164:ILE:HB	1:B:183:ILE:HD11	1.97	0.46
1:B:395:PHE:HB2	1:B:591:GLN:HE21	1.81	0.46
1:B:478:VAL:HG13	1:B:559:ARG:HG3	1.98	0.46
1:B:485:HIS:O	1:B:489:MET:HG3	2.16	0.46
1:B:750:ARG:HH11	1:B:754:GLN:HE22	1.60	0.46
1:C:52:ILE:HB	1:C:428:GLU:HG2	1.97	0.46
1:C:154:SER:C	1:C:156:TYR:N	2.68	0.46
1:C:598:GLU:HG3	1:C:617:VAL:HG11	1.97	0.46
1:D:13:ASP:HB3	1:D:64:ASN:HB2	1.97	0.46
1:A:21:ASP:OD2	1:A:21:ASP:C	2.54	0.46
1:A:636:VAL:HG21	1:A:650:PHE:CZ	2.50	0.46
1:A:747:GLU:HA	1:A:747:GLU:OE2	2.16	0.46
1:B:273:TYR:HA	1:B:276:LEU:HB2	1.97	0.46
1:B:395:PHE:CB	1:B:591:GLN:HG2	2.45	0.46
1:B:406:TYR:CD2	1:B:633:ILE:HG13	2.51	0.46
3:J:110:DA:C2 [']	3:J:111:DT:C5 [']	2.94	0.46
1:C:163:SER:HB3	1:C:318:GLN:NE2	2.15	0.46
1:C:354:GLN:HB3	1:C:356:GLN:OE1	2.16	0.46
1:C:436:VAL:O	1:C:436:VAL:HG13	2.16	0.46
1:D:83:LEU:HB3	1:D:379:VAL:CG1	2.46	0.46
1:D:83:LEU:H	1:D:83:LEU:HD22	1.81	0.46
1:D:167:ALA:HA	1:D:176:ASP:HB2	1.97	0.46
1:D:209:THR:HA	1:D:210:PRO:HD3	1.81	0.46
1:A:219:GLU:O	1:A:219:GLU:HG2	2.16	0.46
1:A:294:SER:HA	1:A:334:ILE:HD11	1.98	0.46
1:A:811:TYR:O	1:A:815:ILE:HG12	2.16	0.46
1:B:149:PHE:N	1:B:149:PHE:CD1	2.84	0.46
1:B:678:GLN:HG2	1:B:680:LEU:HG	1.98	0.46
1:C:370:PHE:C	1:C:370:PHE:CD2	2.88	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:303:LEU:HD12	1:D:323:TYR:HA	1.97	0.46
1:D:496:GLY:HA2	1:D:545:ALA:HB3	1.97	0.46
1:D:697:GLY:HA3	1:D:753:LEU:O	2.16	0.46
1:A:499:ILE:HD11	1:A:522:PHE:HZ	1.80	0.46
1:A:685:ARG:NH1	1:A:688:ILE:HG13	2.30	0.46
1:B:179:PRO:HG2	1:B:329:TYR:CE2	2.51	0.46
1:B:776:TYR:CE1	1:B:777:ILE:HG13	2.50	0.46
1:C:173:GLN:HE21	1:C:173:GLN:HB2	1.58	0.46
1:C:305:TYR:OH	1:C:309:ILE:CG1	2.63	0.46
1:D:132:PRO:HB3	1:D:229:ARG:NH2	2.31	0.46
1:D:481:GLN:CB	1:D:559:ARG:HD3	2.45	0.46
1:D:881:GLU:HA	1:D:884:THR:OG1	2.15	0.46
2:K:8:DT:C2'	2:K:9:DG:H5'	2.36	0.46
1:A:162:TRP:CD1	1:A:321:ILE:HB	2.51	0.45
1:A:855:THR:C	1:A:857:LEU:H	2.19	0.45
1:B:555:ALA:O	1:B:559:ARG:HD3	2.16	0.45
1:B:617:VAL:HB	5:B:973:HOH:O	2.16	0.45
1:A:310:SER:C	1:A:311:LYS:HD3	2.36	0.45
1:A:534:SER:O	1:A:538:LEU:HG	2.15	0.45
1:A:761:GLN:OE1	1:A:893:LYS:CG	2.64	0.45
1:B:233:ILE:N	1:B:233:ILE:CD1	2.78	0.45
1:B:435:LYS:H	1:B:435:LYS:CD	2.29	0.45
1:B:545:ALA:O	1:B:549:GLU:HB2	2.17	0.45
1:B:739:LYS:HE2	1:B:742:GLN:HE22	1.82	0.45
1:D:413:THR:O	1:D:414:SER:C	2.53	0.45
2:K:9:DG:H2''	2:K:10:DA:C8	2.51	0.45
1:B:634:ASP:O	1:B:636:VAL:N	2.49	0.45
1:D:163:SER:HB3	1:D:318:GLN:NE2	2.21	0.45
1:D:516:VAL:HG21	1:D:522:PHE:CZ	2.52	0.45
2:G:12:DA:H1'	2:G:13:DG:H5'	1.99	0.45
1:A:491:ALA:HA	1:A:494:ARG:HE	1.81	0.45
1:A:514:LEU:HD11	1:A:529:LYS:CE	2.46	0.45
1:A:744:ALA:O	1:A:747:GLU:N	2.50	0.45
1:A:776:TYR:CE1	1:A:863:LEU:HD11	2.51	0.45
1:C:38:PHE:HB2	1:C:379:VAL:HG11	1.98	0.45
1:D:420:ILE:HG12	1:D:586:ILE:HD11	1.98	0.45
2:K:7:DA:H2''	2:K:8:DT:C6	2.52	0.45
1:A:447:ALA:O	1:A:448:GLU:C	2.55	0.45
1:A:489:MET:HE3	1:A:553:MET:CG	2.47	0.45
1:A:514:LEU:HD11	1:A:529:LYS:HZ1	1.79	0.45
1:A:602:ASN:ND2	1:A:616:PHE:H	2.15	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:779:ILE:HG21	1:A:871:LEU:CG	2.47	0.45
1:A:795:GLY:C	1:A:809:LEU:HD13	2.36	0.45
1:B:506:PRO:HB3	1:B:536:LYS:CG	2.44	0.45
1:C:453:VAL:HG23	1:C:454:TYR:CG	2.52	0.45
1:D:793:VAL:C	1:D:795:GLY:H	2.20	0.45
2:E:12:DA:H2''	2:E:13:DG:O5'	2.17	0.45
1:A:795:GLY:O	1:A:809:LEU:HD13	2.16	0.45
1:B:386:HIS:O	1:B:573:VAL:HG21	2.17	0.45
1:B:685:ARG:HH11	1:B:685:ARG:CG	2.29	0.45
1:C:9:GLU:HG3	1:C:267:GLY:N	2.32	0.45
1:C:9:GLU:HG3	1:C:267:GLY:H	1.81	0.45
1:C:92:TYR:CD1	1:C:92:TYR:C	2.90	0.45
1:D:329:TYR:O	1:D:333:GLN:HG3	2.17	0.45
1:D:405:LYS:O	1:D:690:GLY:HA2	2.17	0.45
1:A:314:GLU:HG2	1:A:315:SER:N	2.31	0.45
1:B:516:VAL:HG12	1:B:517:ASP:N	2.32	0.45
1:B:541:MET:HG3	1:B:544:ARG:HD3	1.99	0.45
1:D:750:ARG:HG2	1:D:750:ARG:HH11	1.81	0.45
2:K:4:CTG:O6	2:K:4:CTG:H2'	2.17	0.45
1:A:730:LEU:HD22	1:A:883:PHE:HE1	1.82	0.45
1:A:731:GLU:OE1	1:A:731:GLU:N	2.48	0.45
1:B:51:ASP:C	1:B:51:ASP:OD1	2.54	0.45
1:B:508:LEU:CG	1:B:509:SER:H	2.30	0.45
1:C:451:SER:HB3	1:C:456:CYS:SG	2.57	0.45
1:C:898:PHE:CD2	1:C:898:PHE:N	2.83	0.45
1:D:750:ARG:HG2	1:D:750:ARG:NH1	2.32	0.45
1:D:842:GLY:O	1:D:843:ASP:HB2	2.16	0.45
2:E:5:DG:H2''	2:E:6:DA:O5'	2.16	0.45
1:A:197:LEU:HD23	1:A:197:LEU:C	2.37	0.45
1:B:145:ARG:HB2	1:B:147:TYR:CE1	2.51	0.45
1:B:408:MET:HE1	1:B:685:ARG:HD3	1.98	0.45
1:B:529:LYS:O	1:B:533:LEU:HB2	2.17	0.45
1:B:700:GLY:HA2	1:B:753:LEU:HD22	1.99	0.45
1:C:20:ILE:HD13	1:C:107:LYS:CB	2.47	0.45
1:C:134:ASP:O	1:C:135:ALA:HB2	2.17	0.45
1:C:305:TYR:OH	1:C:309:ILE:HG12	2.16	0.45
1:C:362:ILE:HD12	1:C:575:PHE:HB2	1.99	0.45
1:C:700:GLY:HA2	1:C:753:LEU:HD22	1.99	0.45
3:L:111:DT:H4'	3:L:111:DT:OP1	2.16	0.45
1:A:761:GLN:OE1	1:A:893:LYS:HG2	2.17	0.45
1:C:89:LYS:HE3	1:C:354:GLN:NE2	2.32	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:197:LEU:HD23	1:C:197:LEU:O	2.17	0.45
1:D:698:ILE:HG13	1:D:753:LEU:HD23	1.99	0.45
1:D:813:ARG:HG3	1:D:813:ARG:HH11	1.81	0.45
2:I:7:DA:H2 ^o	2:I:8:DT:C7	2.47	0.45
1:A:167:ALA:HB1	1:A:178:VAL:HG21	1.99	0.44
1:A:279:LYS:O	1:A:279:LYS:HG2	2.16	0.44
1:B:116:GLU:OE1	1:B:116:GLU:HA	2.16	0.44
1:B:413:THR:O	1:B:414:SER:C	2.54	0.44
1:C:254:GLU:OE2	1:C:259:SER:HB2	2.18	0.44
1:C:277:TYR:O	1:C:281:SER:CB	2.65	0.44
1:C:686:GLU:HG3	1:C:715:MET:HE3	1.97	0.44
1:D:140:ASP:OD1	1:D:142:ILE:HB	2.16	0.44
1:D:490:LEU:O	1:D:494:ARG:NE	2.50	0.44
1:D:655:ALA:O	1:D:660:GLU:HG2	2.16	0.44
1:D:713:TRP:HZ3	1:D:723:PRO:HD3	1.82	0.44
1:D:751:ARG:HD3	1:D:759:SER:OG	2.16	0.44
1:A:83:LEU:HD12	1:A:83:LEU:N	2.31	0.44
1:A:347:MET:HG2	1:A:358:VAL:CG2	2.45	0.44
1:A:778:SER:HB2	5:A:1004:HOH:O	2.16	0.44
1:A:846:ILE:HG23	1:A:846:ILE:O	2.18	0.44
1:A:854:ILE:HD11	1:A:858:ILE:HG13	1.99	0.44
1:A:854:ILE:HG23	1:A:859:LYS:HB2	1.99	0.44
1:C:83:LEU:HD22	1:C:83:LEU:H	1.82	0.44
1:D:475:ILE:HD13	1:D:566:LEU:HD22	1.98	0.44
1:D:814:ALA:HB1	1:D:841:PHE:HE1	1.83	0.44
1:A:299:ASN:O	1:A:300:VAL:HB	2.16	0.44
1:A:740:ALA:HB3	1:A:778:SER:O	2.17	0.44
1:A:832:VAL:O	1:A:833:LEU:HB2	2.16	0.44
1:A:878:LYS:N	1:A:879:PRO:HD2	2.33	0.44
1:B:126:PRO:HG2	5:B:986:HOH:O	2.17	0.44
1:B:606:ASN:OD1	1:B:616:PHE:HE1	2.00	0.44
1:C:111:ALA:HB3	1:C:210:PRO:HB3	1.98	0.44
1:C:854:ILE:CD1	1:C:862:VAL:HG21	2.47	0.44
1:D:118:THR:HG1	1:D:313:ARG:HG3	1.82	0.44
1:C:285:GLN:NE2	1:C:286:PRO:HD2	2.33	0.44
1:C:537:SER:O	1:C:541:MET:HG3	2.15	0.44
1:D:135:ALA:O	1:D:136:ILE:HG13	2.17	0.44
1:D:149:PHE:CE2	1:D:201:TYR:HA	2.52	0.44
1:D:265:LEU:HB3	1:D:268:ILE:HD12	2.00	0.44
1:A:240:LYS:O	1:A:246:ARG:HA	2.17	0.44
1:A:530:ILE:HA	1:A:533:LEU:CD1	2.47	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:594:LEU:HD11	1:A:625:ILE:CG2	2.47	0.44
1:A:775:ASN:N	5:A:1004:HOH:O	2.50	0.44
1:B:252:VAL:HG23	1:B:252:VAL:O	2.17	0.44
1:C:708:TYR:CZ	1:C:728:MET:HG3	2.53	0.44
1:D:439:LEU:HD13	1:D:443:ILE:HG13	1.99	0.44
1:D:465:LYS:NZ	1:D:675:ASN:ND2	2.65	0.44
1:A:285:GLN:HA	1:A:285:GLN:NE2	2.32	0.44
1:B:25:ARG:HG2	1:B:25:ARG:NH1	2.33	0.44
1:B:499:ILE:HD13	1:B:530:ILE:HD12	1.99	0.44
1:C:305:TYR:CZ	1:C:309:ILE:HG12	2.53	0.44
1:C:439:LEU:HD12	1:C:443:ILE:CD1	2.45	0.44
1:C:594:LEU:O	1:C:597:ILE:HG22	2.17	0.44
1:A:231:LYS:NZ	1:A:231:LYS:HB3	2.32	0.44
1:A:772:ARG:HG3	1:A:868:TYR:CD2	2.52	0.44
1:B:50:PHE:O	1:B:378:LYS:HA	2.18	0.44
1:B:154:SER:HB2	1:B:155:PRO:HD2	1.98	0.44
1:B:894:LYS:NZ	1:B:894:LYS:CB	2.77	0.44
1:C:171:GLN:C	1:C:173:GLN:H	2.20	0.44
1:D:434:PHE:CE2	1:D:450:PRO:HB3	2.53	0.44
1:B:282:PHE:HB2	5:B:940:HOH:O	2.16	0.44
1:B:305:TYR:OH	1:B:309:ILE:HG22	2.18	0.44
1:C:495:ASN:O	1:C:498:ILE:HB	2.17	0.44
1:D:578:TYR:CD1	1:D:579:ASP:N	2.86	0.44
1:A:411:ASP:O	1:A:683:MET:HA	2.18	0.44
1:B:154:SER:C	1:B:156:TYR:H	2.21	0.44
1:B:625:ILE:HG12	1:B:683:MET:HE1	1.99	0.44
1:B:867:ASP:CG	1:B:870:VAL:HB	2.39	0.44
1:C:13:ASP:HB3	1:C:64:ASN:HB2	1.99	0.44
1:C:642:ARG:HH21	1:C:642:ARG:HG3	1.82	0.44
2:E:6:DA:H1'	2:E:7:DA:H5''	1.99	0.44
1:A:37:LEU:HD11	1:A:72:ILE:HD11	2.00	0.43
1:A:464:TYR:HB3	1:A:467:ARG:HG2	2.00	0.43
1:A:499:ILE:O	1:A:499:ILE:HG22	2.18	0.43
1:A:751:ARG:NE	1:A:763:TYR:HB2	2.32	0.43
1:A:835:LEU:N	1:A:844:LYS:O	2.34	0.43
1:B:404:TYR:HA	5:B:918:HOH:O	2.18	0.43
1:B:444:ASN:HA	1:B:599:ARG:NE	2.33	0.43
1:B:730:LEU:HD13	1:B:883:PHE:CE1	2.53	0.43
1:B:761:GLN:OE1	1:B:893:LYS:HE3	2.18	0.43
1:C:404:TYR:HA	5:C:992:HOH:O	2.18	0.43
1:D:50:PHE:HA	1:D:55:LYS:O	2.17	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:166:ILE:HD12	1:D:318:GLN:NE2	2.33	0.43
1:D:479:PHE:CD1	1:D:563:ILE:HD13	2.53	0.43
1:D:686:GLU:OE1	1:D:716:GLU:HG2	2.18	0.43
1:D:698:ILE:HG12	1:D:752:MET:O	2.18	0.43
3:F:105:DC:H2''	3:F:106:DT:C5'	2.47	0.43
1:A:831:TYR:O	1:A:847:ALA:HA	2.18	0.43
1:B:634:ASP:C	1:B:636:VAL:N	2.71	0.43
1:C:167:ALA:CA	1:C:176:ASP:HB2	2.43	0.43
1:C:274:ILE:HG23	1:C:275:ASP:N	2.33	0.43
1:C:514:LEU:HD21	1:C:526:ILE:HG23	2.00	0.43
1:C:633:ILE:HD13	1:C:633:ILE:HA	1.91	0.43
1:D:322:SER:O	1:D:326:ILE:HG13	2.17	0.43
1:D:570:LEU:HD23	1:D:575:PHE:CE2	2.53	0.43
1:D:686:GLU:HB3	1:D:687:ALA:H	1.66	0.43
1:D:781:SER:O	1:D:831:TYR:HA	2.19	0.43
3:L:104:DG:C3'	3:L:105:DC:H5''	2.49	0.43
1:A:105:HIS:ND1	1:A:106:THR:N	2.65	0.43
1:B:255:ASN:ND2	1:B:257:TYR:HD1	2.16	0.43
1:B:271:LEU:HD11	1:B:356:GLN:HA	2.00	0.43
1:B:362:ILE:HG12	2:G:3:DC:OP1	2.18	0.43
1:B:742:GLN:HE21	1:B:742:GLN:HB2	1.62	0.43
1:C:83:LEU:H	1:C:83:LEU:CD2	2.31	0.43
1:C:523:SER:OG	1:C:526:ILE:HG13	2.18	0.43
1:A:776:TYR:HB2	1:A:866:MET:HE1	1.99	0.43
1:A:862:VAL:HG12	1:A:863:LEU:HD12	2.00	0.43
1:B:216:TRP:O	1:B:217:ASN:HB2	2.18	0.43
1:B:286:PRO:HG2	1:B:292:TYR:CZ	2.54	0.43
1:B:558:ASN:HD22	1:B:558:ASN:HA	1.51	0.43
1:B:686:GLU:HG3	1:B:715:MET:SD	2.58	0.43
1:C:53:TYR:CE1	1:C:428:GLU:HA	2.53	0.43
1:C:425:ILE:O	1:C:426:SER:HB2	2.18	0.43
1:D:376:GLN:O	1:D:377:ASN:HB2	2.18	0.43
1:D:599:ARG:O	1:D:603:GLU:HG3	2.18	0.43
1:D:751:ARG:CZ	1:D:763:TYR:HB2	2.48	0.43
1:D:878:LYS:N	1:D:879:PRO:HD2	2.33	0.43
3:H:107:DG:H4'	5:H:358:HOH:O	2.19	0.43
1:A:410:PHE:CD1	1:A:410:PHE:N	2.86	0.43
1:A:744:ALA:O	1:A:745:LEU:C	2.56	0.43
1:A:792:ASP:OD2	1:A:792:ASP:N	2.47	0.43
1:A:809:LEU:C	1:A:811:TYR:N	2.70	0.43
1:B:170:LEU:H	1:B:170:LEU:CD1	2.32	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:433:THR:HA	1:B:460:GLY:O	2.18	0.43
1:B:454:TYR:HB3	1:B:463:TYR:O	2.18	0.43
1:B:470:VAL:O	1:B:474:GLU:HG2	2.18	0.43
1:B:750:ARG:HG2	1:B:754:GLN:NE2	2.34	0.43
1:C:20:ILE:HD13	1:C:107:LYS:HB2	2.00	0.43
1:C:206:GLN:HA	1:C:206:GLN:NE2	2.33	0.43
1:C:277:TYR:O	1:C:281:SER:HB3	2.19	0.43
1:D:20:ILE:CG2	1:D:24:GLY:HA2	2.48	0.43
1:D:255:ASN:HD22	1:D:256:MET:N	2.14	0.43
2:E:1:DC:H2'	2:E:2:DG:C5	2.54	0.43
1:A:836:ARG:HG3	1:A:836:ARG:HH11	1.82	0.43
1:B:87:ASP:OD1	1:B:90:LEU:HD22	2.19	0.43
1:B:706:LYS:HD3	3:H:113:DC:C1'	2.49	0.43
5:B:1014:HOH:O	2:G:6:DA:H5'	2.19	0.43
1:C:481:GLN:HB3	1:C:559:ARG:HH11	1.83	0.43
1:C:559:ARG:HA	1:C:559:ARG:HD3	1.90	0.43
1:D:180:SER:HA	1:D:183:ILE:HB	2.01	0.43
1:A:304:LYS:O	1:A:319:ARG:HD3	2.18	0.43
1:A:544:ARG:HB3	1:A:547:ARG:NH2	2.32	0.43
1:A:613:GLY:O	1:A:614:GLU:C	2.56	0.43
1:A:821:ALA:O	1:A:822:PRO:C	2.57	0.43
1:A:854:ILE:HD13	1:A:859:LYS:HA	2.01	0.43
1:B:441:ASP:HB3	1:B:447:ALA:HB2	2.00	0.43
1:B:811:TYR:HB2	1:B:847:ALA:O	2.18	0.43
1:C:145:ARG:HB2	1:C:147:TYR:CE1	2.54	0.43
1:C:362:ILE:HG23	1:C:575:PHE:CD1	2.54	0.43
1:D:391:TYR:HD1	1:D:391:TYR:H	1.66	0.43
1:D:519:ARG:HG3	1:D:519:ARG:NH1	2.33	0.43
2:E:4:CTG:O5'	2:E:4:CTG:H6	2.19	0.43
1:A:129:ALA:HB1	1:A:229:ARG:HG2	2.01	0.43
1:A:203:ASN:HD22	1:A:203:ASN:HA	1.57	0.43
1:A:579:ASP:HB3	1:A:582:ASN:HB2	2.01	0.43
1:A:734:LYS:C	1:A:736:SER:N	2.71	0.43
1:B:491:ALA:HA	1:B:494:ARG:CG	2.45	0.43
1:B:497:GLU:HG2	1:B:498:ILE:HD12	1.99	0.43
1:C:235:GLY:O	1:C:236:GLU:C	2.57	0.43
1:C:540:GLU:O	1:C:544:ARG:HG3	2.19	0.43
1:D:37:LEU:HD12	1:D:71:TRP:CE3	2.54	0.43
1:D:395:PHE:HD2	1:D:594:LEU:HD23	1.84	0.43
2:I:12:DA:H2''	2:I:13:DG:H5'	2.00	0.43
1:A:31:VAL:HG12	1:A:33:TYR:N	2.34	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:312:LEU:HD12	1:B:320:TYR:HB2	1.99	0.43
1:B:625:ILE:HG12	1:B:683:MET:CE	2.49	0.43
1:B:727:ILE:HG21	1:B:732:THR:CG2	2.48	0.43
1:C:3:GLU:O	1:C:99:TYR:OH	2.36	0.43
1:D:187:ILE:O	1:D:187:ILE:HG22	2.19	0.43
1:D:206:GLN:HA	1:D:206:GLN:HE21	1.84	0.43
1:D:324:ASN:C	1:D:324:ASN:HD22	2.19	0.43
1:D:569:ALA:O	1:D:571:GLY:N	2.52	0.43
3:F:109:DC:H1'	3:F:110:DA:H5''	2.01	0.43
1:A:298:LEU:HD11	1:A:334:ILE:HG12	1.99	0.43
1:A:510:VAL:HG23	1:A:510:VAL:O	2.18	0.43
1:A:854:ILE:HG23	1:A:859:LYS:CB	2.49	0.43
1:A:854:ILE:CG1	1:A:858:ILE:HG13	2.49	0.43
1:C:62:PHE:CD2	1:C:68:ALA:HA	2.54	0.43
1:C:83:LEU:N	1:C:83:LEU:CD2	2.82	0.43
1:C:111:ALA:HB2	1:C:210:PRO:HB3	2.00	0.43
1:C:163:SER:CB	1:C:166:ILE:HD12	2.49	0.43
1:C:465:LYS:NZ	1:C:675:ASN:ND2	2.66	0.43
1:C:775:ASN:OD1	1:C:777:ILE:N	2.50	0.43
1:D:411:ASP:CG	1:D:624:SER:HB3	2.39	0.43
1:D:731:GLU:CA	1:D:734:LYS:HG2	2.48	0.43
1:A:137:THR:HB	1:A:328:VAL:HG21	2.00	0.42
1:A:653:LYS:HD3	1:A:657:GLU:OE1	2.18	0.42
1:A:706:LYS:HE3	3:F:113:DC:H1'	2.01	0.42
1:B:195:LYS:O	1:B:199:MET:HB2	2.18	0.42
1:B:499:ILE:HB	1:B:542:LEU:HD13	2.01	0.42
1:B:658:ARG:HG3	1:B:658:ARG:HH11	1.84	0.42
1:B:728:MET:HE3	1:B:728:MET:HA	2.01	0.42
1:C:182:ILE:HG21	1:C:329:TYR:CD1	2.54	0.42
1:C:506:PRO:CG	1:C:535:ALA:HB2	2.49	0.42
1:D:15:ILE:HD12	1:D:33:TYR:HB2	2.01	0.42
2:G:11:DC:H2''	2:G:12:DA:C8	2.54	0.42
1:A:874:LYS:HG3	1:A:875:THR:HG23	2.01	0.42
1:B:494:ARG:HH12	1:B:495:ASN:HB2	1.83	0.42
1:B:751:ARG:NE	1:B:763:TYR:HB2	2.34	0.42
1:D:426:SER:HB2	1:D:472:PRO:CD	2.45	0.42
1:A:139:TYR:CE2	1:A:332:LEU:HD21	2.54	0.42
1:A:260:ARG:HH11	1:A:260:ARG:HG2	1.85	0.42
1:A:491:ALA:C	1:A:493:GLN:H	2.21	0.42
1:A:546:GLN:HE21	1:A:546:GLN:HB2	1.61	0.42
1:A:776:TYR:CD1	1:A:863:LEU:HD11	2.54	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:123:PHE:HA	1:B:124:PRO:HD3	1.77	0.42
1:B:517:ASP:OD1	1:B:519:ARG:HB2	2.20	0.42
1:C:267:GLY:HA2	5:C:1018:HOH:O	2.18	0.42
1:D:78:ILE:O	1:D:78:ILE:HG13	2.19	0.42
1:D:330:ARG:HD3	1:D:330:ARG:HA	1.85	0.42
2:K:3:DC:H2''	2:K:4:CTG:H72	2.00	0.42
1:A:392:PRO:C	1:A:587:THR:HG21	2.40	0.42
1:A:428:GLU:OE2	1:A:428:GLU:N	2.43	0.42
1:A:508:LEU:N	1:A:508:LEU:HD22	2.33	0.42
1:A:745:LEU:HD12	1:A:745:LEU:HA	1.83	0.42
1:A:752:MET:HG2	1:A:889:LEU:HD13	2.02	0.42
1:C:725:LEU:HD11	1:C:750:ARG:HB2	1.99	0.42
1:D:167:ALA:O	1:D:178:VAL:HB	2.20	0.42
1:D:297:GLU:OE1	1:D:338:ARG:NH1	2.52	0.42
1:D:685:ARG:NH1	1:D:714:ASP:OD2	2.49	0.42
1:D:685:ARG:NH2	1:D:714:ASP:OD2	2.50	0.42
1:D:708:TYR:CZ	1:D:728:MET:HG3	2.54	0.42
1:D:819:ILE:HG13	1:D:819:ILE:O	2.19	0.42
1:A:796:PHE:CE1	1:A:813:ARG:HD3	2.55	0.42
1:B:326:ILE:O	1:B:330:ARG:HG2	2.19	0.42
1:C:298:LEU:O	1:C:299:ASN:CB	2.66	0.42
1:C:369:ILE:HG12	1:C:474:GLU:HG2	2.02	0.42
1:C:438:PRO:HD2	1:C:441:ASP:OD2	2.19	0.42
1:D:512:GLU:CB	1:D:537:SER:HB2	2.50	0.42
1:D:823:GLN:HE21	1:D:823:GLN:HB3	1.60	0.42
1:A:408:MET:HE3	1:A:655:ALA:HB2	2.02	0.42
1:A:844:LYS:HD2	1:A:844:LYS:N	2.31	0.42
1:B:119:SER:CB	1:B:124:PRO:HG3	2.42	0.42
1:C:163:SER:OG	1:C:166:ILE:HG13	2.19	0.42
1:C:186:ILE:HG22	1:C:187:ILE:N	2.35	0.42
1:D:284:ASN:C	1:D:284:ASN:ND2	2.73	0.42
1:D:361:PRO:HD2	2:K:3:DC:OP1	2.19	0.42
1:D:740:ALA:HB1	1:D:774:LEU:HD13	2.02	0.42
2:I:12:DA:H2'	2:I:13:DG:C8	2.54	0.42
1:C:465:LYS:NZ	1:C:675:ASN:HD21	2.17	0.42
1:D:700:GLY:HA2	1:D:753:LEU:CD2	2.49	0.42
1:A:3:GLU:HB2	1:A:20:ILE:O	2.20	0.42
1:A:41:CYS:HB3	1:A:58:THR:HG22	2.01	0.42
1:A:234:PHE:CD1	1:A:234:PHE:N	2.87	0.42
1:A:514:LEU:CG	1:A:529:LYS:HE3	2.49	0.42
1:A:776:TYR:CZ	1:A:777:ILE:HG13	2.54	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:285:GLN:NE2	1:B:286:PRO:HD2	2.35	0.42
1:B:834:PRO:O	1:B:866:MET:HA	2.19	0.42
1:C:457:SER:O	1:C:459:ASN:N	2.52	0.42
1:C:528:GLU:HA	1:C:528:GLU:OE2	2.19	0.42
1:C:597:ILE:O	1:C:601:VAL:HG23	2.19	0.42
1:D:880:LEU:HD22	1:D:884:THR:CG2	2.50	0.42
1:A:309:ILE:HD12	1:A:312:LEU:HD23	2.01	0.42
1:A:606:ASN:HD21	1:A:613:GLY:N	2.17	0.42
1:B:9:GLU:HG2	1:B:266:PHE:CD2	2.53	0.42
1:B:273:TYR:OH	1:B:340:PHE:HB2	2.20	0.42
1:C:411:ASP:O	1:C:683:MET:HA	2.20	0.42
1:C:458:PRO:CG	1:C:592:MET:SD	3.08	0.42
1:C:811:TYR:CE2	1:C:815:ILE:HD13	2.55	0.42
1:D:434:PHE:HE1	1:D:461:MET:O	2.03	0.42
1:D:461:MET:HB3	1:D:463:TYR:CE1	2.54	0.42
1:D:475:ILE:HD13	1:D:566:LEU:CD2	2.50	0.42
1:D:566:LEU:HD12	1:D:566:LEU:O	2.20	0.42
1:A:191:PHE:CZ	1:A:200:GLU:HG2	2.55	0.42
1:A:221:PHE:C	1:A:224:PRO:HD2	2.39	0.42
1:A:422:GLN:HE21	1:A:422:GLN:HB2	1.70	0.42
1:A:434:PHE:HD1	1:A:435:LYS:O	2.03	0.42
1:A:489:MET:SD	1:A:553:MET:N	2.92	0.42
1:A:779:ILE:HG21	1:A:871:LEU:HD21	2.02	0.42
1:B:126:PRO:HB2	1:B:224:PRO:HB2	2.02	0.42
1:B:224:PRO:HA	1:B:263:ILE:HD12	2.01	0.42
1:B:489:MET:SD	1:B:490:LEU:N	2.93	0.42
1:C:218:VAL:HA	1:C:222:ALA:HB3	2.01	0.42
1:C:283:THR:HG23	1:C:283:THR:O	2.20	0.42
1:D:250:VAL:HG22	1:D:263:ILE:HD12	2.02	0.42
1:D:303:LEU:CD1	1:D:326:ILE:HD12	2.49	0.42
1:D:800:LYS:O	1:D:802:PRO:HD3	2.20	0.42
3:J:110:DA:H1'	3:J:111:DT:C5'	2.49	0.42
2:K:11:DC:H2''	2:K:12:DA:C5'	2.48	0.42
1:A:202:LEU:O	1:A:206:GLN:HG2	2.20	0.41
1:A:347:MET:HA	1:A:347:MET:HE3	2.02	0.41
1:A:556:GLN:HG3	1:A:557:ILE:H	1.85	0.41
1:A:659:MET:O	1:A:660:GLU:C	2.59	0.41
1:A:789:ALA:HA	1:A:792:ASP:OD1	2.20	0.41
1:B:82:ALA:N	1:B:382:GLN:HE21	2.02	0.41
1:B:147:TYR:CD1	1:B:147:TYR:N	2.89	0.41
1:B:501:GLU:O	1:B:501:GLU:HG3	2.19	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:96:THR:O	1:C:96:THR:HG22	2.20	0.41
1:C:197:LEU:HD23	1:C:197:LEU:C	2.40	0.41
1:C:251:LYS:HB3	1:C:262:ILE:HG13	2.01	0.41
1:C:482:ARG:O	1:C:486:LYS:HB2	2.19	0.41
1:D:132:PRO:HA	1:D:229:ARG:CZ	2.50	0.41
1:D:271:LEU:HD21	1:D:356:GLN:HA	2.01	0.41
1:D:782:VAL:HG12	1:D:783:SER:N	2.33	0.41
1:D:804:HIS:NE2	3:L:110:DA:OP1	2.49	0.41
3:H:112:DT:H5'	3:H:112:DT:C6	2.50	0.41
1:B:132:PRO:HB3	1:B:194:GLU:OE2	2.20	0.41
1:B:201:TYR:O	1:B:204:PHE:HB3	2.20	0.41
1:C:14:SER:HB2	1:C:32:GLU:OE1	2.20	0.41
1:C:258:GLY:N	5:C:987:HOH:O	2.53	0.41
1:D:49:TYR:CD1	1:D:49:TYR:N	2.88	0.41
1:D:208:LYS:O	1:D:209:THR:C	2.58	0.41
1:D:523:SER:HB2	1:D:527:LYS:HA	2.02	0.41
1:D:583:ALA:O	1:D:586:ILE:HB	2.21	0.41
1:D:687:ALA:HB2	1:D:715:MET:SD	2.60	0.41
1:B:202:LEU:HD21	1:B:238:THR:O	2.19	0.41
1:B:326:ILE:HG23	1:B:330:ARG:CZ	2.51	0.41
1:B:335:ASP:OD2	1:B:341:ILE:HG12	2.20	0.41
1:B:726:LYS:NZ	5:B:970:HOH:O	2.54	0.41
1:C:493:GLN:HB2	1:C:549:GLU:OE2	2.20	0.41
1:D:273:TYR:CE2	1:D:341:ILE:HG13	2.56	0.41
1:D:741:VAL:HG11	1:D:875:THR:O	2.20	0.41
2:G:13:DG:H1'	2:G:14:DC:H5'	2.02	0.41
3:H:105:DC:H2''	3:H:106:DT:O5'	2.21	0.41
1:A:37:LEU:C	1:A:38:PHE:CD1	2.94	0.41
1:A:626:TYR:N	1:A:626:TYR:CD1	2.89	0.41
1:A:776:TYR:OH	1:A:854:ILE:HG22	2.20	0.41
1:B:170:LEU:O	1:B:173:GLN:HB2	2.21	0.41
1:B:771:PHE:HE2	1:B:872:LEU:HB2	1.80	0.41
1:D:193:ASN:ND2	1:D:196:GLU:H	2.18	0.41
1:D:243:SER:C	1:D:245:HIS:H	2.24	0.41
1:D:760:LEU:C	1:D:760:LEU:CD2	2.88	0.41
3:F:109:DC:H2''	3:F:110:DA:H5''	2.01	0.41
1:A:294:SER:O	1:A:298:LEU:CD1	2.69	0.41
1:A:402:ASN:OD1	1:A:403:ARG:N	2.54	0.41
1:A:489:MET:HG3	1:A:552:GLY:HA3	2.03	0.41
1:B:75:MET:HA	1:B:78:ILE:HG22	2.03	0.41
1:B:153:ASN:OD1	1:B:158:ASN:HB3	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:373:LEU:HD12	1:B:380:ILE:HG22	2.03	0.41
1:B:405:LYS:O	1:B:690:GLY:HA2	2.20	0.41
1:B:544:ARG:HH21	1:B:544:ARG:HG2	1.85	0.41
1:B:836:ARG:HG3	1:B:865:TRP:O	2.20	0.41
1:C:660:GLU:HB2	1:C:661:PRO:CD	2.41	0.41
1:D:201:TYR:O	1:D:204:PHE:HB3	2.20	0.41
1:D:373:LEU:CD1	1:D:380:ILE:HG22	2.48	0.41
1:D:442:TYR:HB3	1:D:592:MET:HE2	2.03	0.41
1:D:727:ILE:HB	1:D:733:GLN:OE1	2.19	0.41
1:D:757:GLU:CB	1:D:889:LEU:HD22	2.51	0.41
1:D:876:PHE:O	1:D:880:LEU:HB2	2.21	0.41
1:A:50:PHE:CD2	1:A:56:PRO:HA	2.55	0.41
1:B:207:GLN:O	1:B:208:LYS:HG3	2.21	0.41
1:B:216:TRP:H	1:B:218:VAL:HG23	1.86	0.41
1:B:279:LYS:HE3	1:B:280:PHE:CE2	2.55	0.41
1:B:557:ILE:HD13	1:B:557:ILE:HA	1.87	0.41
1:C:811:TYR:OH	1:C:822:PRO:HG2	2.21	0.41
1:D:151:LEU:HD11	1:D:153:ASN:O	2.21	0.41
1:D:289:SER:O	1:D:290:LEU:C	2.58	0.41
1:D:391:TYR:N	1:D:391:TYR:CD1	2.89	0.41
1:D:499:ILE:HG13	1:D:545:ALA:HB3	2.01	0.41
1:B:260:ARG:HG2	1:B:260:ARG:HH11	1.86	0.41
1:B:268:ILE:CG2	1:B:269:SER:N	2.82	0.41
1:B:426:SER:HB2	1:B:472:PRO:HD2	2.03	0.41
1:B:873:GLU:HA	1:B:877:ILE:HB	2.03	0.41
1:C:61:LEU:HD23	1:C:62:PHE:O	2.20	0.41
1:C:72:ILE:O	1:C:76:GLU:HG3	2.21	0.41
1:C:150:ASP:OD2	1:C:317:HIS:CE1	2.73	0.41
1:C:369:ILE:HG21	1:C:577:TYR:CZ	2.55	0.41
1:C:428:GLU:H	1:C:428:GLU:HG3	1.66	0.41
1:C:434:PHE:CE2	1:C:450:PRO:HB3	2.56	0.41
1:C:658:ARG:NH1	1:C:658:ARG:HG3	2.34	0.41
1:D:83:LEU:HD22	1:D:83:LEU:N	2.35	0.41
1:D:274:ILE:CG2	1:D:275:ASP:N	2.84	0.41
1:D:453:VAL:HG23	1:D:454:TYR:CG	2.56	0.41
1:D:471:VAL:N	1:D:472:PRO:CD	2.84	0.41
2:G:8:DT:C2'	2:G:9:DG:C8	2.98	0.41
3:L:107:DG:H2''	3:L:108:DT:O5'	2.20	0.41
3:L:111:DT:H2'	3:L:112:DT:C7	2.51	0.41
1:A:458:PRO:HG3	1:A:592:MET:SD	2.60	0.41
1:A:777:ILE:O	1:A:777:ILE:CG2	2.67	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:284:ASN:HD21	1:C:829:LYS:HZ3	1.69	0.41
1:C:353:ILE:HD12	1:C:357:SER:CB	2.51	0.41
1:C:483:LYS:NZ	1:C:483:LYS:HB2	2.36	0.41
1:D:9:GLU:HG3	1:D:267:GLY:N	2.35	0.41
1:D:75:MET:O	1:D:80:LEU:HB2	2.21	0.41
1:D:147:TYR:CE2	1:D:187:ILE:HD12	2.56	0.41
1:D:163:SER:OG	1:D:166:ILE:HG13	2.21	0.41
1:D:454:TYR:CB	1:D:462:MET:HG2	2.50	0.41
1:D:618:LEU:HD11	1:D:702:TRP:CZ3	2.56	0.41
1:D:727:ILE:HG21	1:D:732:THR:OG1	2.20	0.41
2:G:3:DC:H6	2:G:3:DC:H2'	1.59	0.41
3:H:104:DG:C1'	3:H:105:DC:H5''	2.51	0.41
3:J:105:DC:H2''	3:J:106:DT:C6	2.56	0.41
1:A:82:ALA:O	1:A:382:GLN:HB2	2.21	0.41
1:A:150:ASP:OD1	1:A:317:HIS:CE1	2.74	0.41
1:A:273:TYR:CE1	1:A:335:ASP:HB2	2.56	0.41
1:A:389:GLN:HA	1:A:390:PRO:HD3	1.84	0.41
1:A:457:SER:HA	1:A:458:PRO:HD3	1.93	0.41
1:A:735:SER:HG	3:F:112:DT:P	2.40	0.41
1:A:806:ARG:HG3	1:A:843:ASP:OD1	2.21	0.41
1:A:903:PHE:CD1	1:A:903:PHE:C	2.94	0.41
1:B:104:ASP:C	1:B:104:ASP:OD2	2.59	0.41
1:B:253:ILE:HD12	1:B:254:GLU:N	2.35	0.41
1:B:313:ARG:HD2	1:B:320:TYR:CE2	2.56	0.41
1:B:377:ASN:N	1:B:377:ASN:ND2	2.69	0.41
1:C:113:PHE:CE1	1:C:213:LEU:HD11	2.55	0.41
1:C:125:GLU:OE1	1:C:125:GLU:HA	2.21	0.41
1:C:189:MET:O	1:C:191:PHE:CD1	2.74	0.41
1:C:454:TYR:HB2	1:C:462:MET:HG2	2.03	0.41
1:C:488:TYR:CD2	1:C:519:ARG:HD2	2.56	0.41
1:C:854:ILE:HG23	1:C:859:LYS:HB2	2.02	0.41
1:D:16:PHE:CE2	1:D:30:GLU:HG3	2.55	0.41
1:D:120:PRO:HD2	1:D:131:HIS:CD2	2.56	0.41
1:D:164:ILE:HD11	1:D:183:ILE:O	2.21	0.41
1:D:578:TYR:CD1	1:D:578:TYR:C	2.93	0.41
1:D:846:ILE:O	1:D:846:ILE:HG23	2.21	0.41
3:L:113:DC:H2'	3:L:114:DA:H8	1.84	0.41
1:A:512:GLU:HA	1:A:513:PRO:HD3	1.98	0.41
1:A:839:ASN:ND2	1:A:841:PHE:HB2	2.35	0.41
1:B:20:ILE:CG2	1:B:24:GLY:HA2	2.50	0.41
1:B:403:ARG:NH2	1:B:889:LEU:HD21	2.35	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:660:GLU:HB2	1:B:661:PRO:HD3	2.02	0.41
1:D:233:ILE:O	1:D:233:ILE:HG22	2.21	0.41
1:D:294:SER:HB3	1:D:300:VAL:O	2.21	0.41
1:D:494:ARG:O	1:D:497:GLU:HB3	2.21	0.41
1:D:499:ILE:HG13	1:D:545:ALA:CB	2.50	0.41
1:D:772:ARG:O	1:D:773:GLN:NE2	2.54	0.41
3:F:113:DC:C2'	3:F:114:DA:H5''	2.51	0.41
2:I:12:DA:H5''	2:I:12:DA:C8	2.52	0.41
2:K:2:DG:H3'	2:K:3:DC:H5'	2.01	0.41
1:A:281:SER:HA	5:A:943:HOH:O	2.21	0.40
1:A:413:THR:O	1:A:414:SER:C	2.59	0.40
1:A:757:GLU:HB2	1:A:889:LEU:HD22	2.03	0.40
1:A:863:LEU:HG	1:A:866:MET:HE3	2.03	0.40
1:B:155:PRO:HG2	1:B:156:TYR:CE1	2.56	0.40
1:B:685:ARG:CG	1:B:685:ARG:NH1	2.83	0.40
1:B:894:LYS:HZ2	1:B:894:LYS:C	2.23	0.40
1:C:206:GLN:HA	1:C:206:GLN:HE21	1.86	0.40
1:C:635:LYS:HA	1:C:635:LYS:HD2	1.82	0.40
1:D:186:ILE:CG2	1:D:187:ILE:N	2.83	0.40
1:D:273:TYR:HE2	1:D:341:ILE:HG13	1.86	0.40
1:D:286:PRO:C	1:D:829:LYS:HD2	2.42	0.40
1:D:455:SER:OG	1:D:676:ASN:HA	2.21	0.40
1:D:867:ASP:HB3	1:D:870:VAL:HB	2.03	0.40
1:A:45:GLN:O	1:A:47:THR:HG23	2.21	0.40
1:A:807:GLY:HA2	1:A:810:THR:HG22	2.03	0.40
1:B:731:GLU:HA	1:B:734:LYS:HG2	2.02	0.40
1:C:87:ASP:OD2	1:C:90:LEU:HD13	2.20	0.40
1:D:541:MET:HA	1:D:544:ARG:CD	2.33	0.40
1:D:643:ASP:HA	1:D:693:LEU:HD23	2.04	0.40
2:E:7:DA:C2'	2:E:8:DT:C7	2.99	0.40
2:G:15:DC:H2''	2:G:16:DG:O5'	2.22	0.40
1:A:257:TYR:CD2	1:A:786:ASN:HB3	2.57	0.40
1:A:372:SER:OG	1:A:477:LYS:NZ	2.38	0.40
1:A:516:VAL:HB	1:A:526:ILE:HG13	2.03	0.40
1:A:829:LYS:O	1:A:850:SER:HB3	2.21	0.40
1:B:326:ILE:HG23	1:B:330:ARG:NH1	2.36	0.40
1:B:634:ASP:C	1:B:636:VAL:H	2.25	0.40
1:B:737:THR:HA	1:B:738:PRO:HD3	1.96	0.40
1:B:777:ILE:HG22	1:B:777:ILE:O	2.21	0.40
1:C:18:ARG:NH2	1:C:211:VAL:HA	2.37	0.40
1:C:658:ARG:HD2	1:C:658:ARG:N	2.35	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:658:ARG:N	1:C:658:ARG:CD	2.83	0.40
1:D:62:PHE:HE2	1:D:71:TRP:HB2	1.86	0.40
1:D:74:ARG:O	1:D:75:MET:C	2.60	0.40
1:D:143:ASP:O	1:D:144:ASP:CB	2.69	0.40
1:D:218:VAL:CG2	1:D:223:ILE:HG13	2.51	0.40
1:D:757:GLU:CG	1:D:889:LEU:HD22	2.52	0.40
1:A:201:TYR:O	1:A:204:PHE:HB3	2.21	0.40
1:A:653:LYS:HD2	1:A:653:LYS:C	2.42	0.40
1:B:273:TYR:HA	1:B:276:LEU:HD12	2.03	0.40
1:C:750:ARG:HG2	1:C:750:ARG:NH1	2.37	0.40
1:D:289:SER:O	1:D:293:ILE:HG12	2.22	0.40
1:D:512:GLU:CB	1:D:513:PRO:CA	2.99	0.40
1:D:828:GLU:HB3	1:D:829:LYS:H	1.79	0.40
1:A:117:VAL:HG22	1:A:133:ILE:HA	2.03	0.40
1:A:409:SER:O	1:A:686:GLU:HB2	2.21	0.40
1:A:703:THR:HG21	1:A:707:ARG:NH1	2.36	0.40
1:A:807:GLY:O	1:A:810:THR:HG22	2.21	0.40
1:B:221:PHE:O	1:B:224:PRO:HD2	2.21	0.40
1:B:755:GLU:HB3	1:B:759:SER:OG	2.22	0.40
1:B:811:TYR:CE2	1:B:815:ILE:HD13	2.56	0.40
1:B:863:LEU:HD12	1:B:866:MET:HE3	2.04	0.40
1:D:481:GLN:HB3	1:D:559:ARG:HH11	1.85	0.40
1:D:597:ILE:HA	1:D:597:ILE:HD12	1.70	0.40
1:D:711:ASN:HD21	1:D:723:PRO:HB2	1.87	0.40
2:G:11:DC:H2 [?]	2:G:12:DA:H8	1.87	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
1	A	901/906 (99%)	781 (87%)	105 (12%)	15 (2%)	9 13

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	B	901/906 (99%)	816 (91%)	79 (9%)	6 (1%)	22	33
1	C	898/906 (99%)	818 (91%)	68 (8%)	12 (1%)	12	18
1	D	895/906 (99%)	769 (86%)	115 (13%)	11 (1%)	13	19
All	All	3595/3624 (99%)	3184 (89%)	367 (10%)	44 (1%)	13	19

All (44) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	D	524	ASP
1	A	300	VAL
1	A	773	GLN
1	A	825	VAL
1	A	856	ASP
1	C	161	GLU
1	C	300	VAL
1	D	21	ASP
1	D	35	PRO
1	D	729	GLY
1	A	105	HIS
1	B	256	MET
1	B	635	LYS
1	C	172	GLU
1	C	352	LYS
1	C	458	PRO
1	C	622	THR
1	D	80	LEU
1	D	98	ASN
1	A	283	THR
1	A	614	GLU
1	A	738	PRO
1	A	849	PRO
1	B	622	THR
1	C	179	PRO
1	C	506	PRO
1	D	570	LEU
1	D	622	THR
1	A	414	SER
1	A	622	THR
1	A	869	THR
1	C	576	ARG
1	D	414	SER

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Mol	Chain	Res	Type
1	B	179	PRO
1	C	155	PRO
1	A	846	ILE
1	A	729	GLY
1	B	300	VAL
1	B	513	PRO
1	C	470	VAL
1	C	513	PRO
1	D	78	ILE
1	D	526	ILE
1	A	822	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	
1	A	792/803 (99%)	742 (94%)	50 (6%)	18	28
1	B	780/803 (97%)	738 (95%)	42 (5%)	22	34
1	C	794/803 (99%)	755 (95%)	39 (5%)	25	38
1	D	743/803 (92%)	702 (94%)	41 (6%)	21	33
All	All	3109/3212 (97%)	2937 (94%)	172 (6%)	21	33

All (172) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	34	LYS
1	A	59	ARG
1	A	64	ASN
1	A	70	GLN
1	A	73	LYS
1	A	98	ASN
1	A	105	HIS
1	A	203	ASN
1	A	213	LEU
1	A	229	ARG

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Mol	Chain	Res	Type
1	A	242	LEU
1	A	253	ILE
1	A	273	TYR
1	A	298	LEU
1	A	304	LYS
1	A	314	GLU
1	A	318	GLN
1	A	319	ARG
1	A	372	SER
1	A	403	ARG
1	A	411	ASP
1	A	451	SER
1	A	466	ASP
1	A	467	ARG
1	A	475	ILE
1	A	479	PHE
1	A	503	LEU
1	A	544	ARG
1	A	546	GLN
1	A	556	GLN
1	A	587	THR
1	A	618	LEU
1	A	631	LYS
1	A	653	LYS
1	A	658	ARG
1	A	728	MET
1	A	731	GLU
1	A	743	LYS
1	A	745	LEU
1	A	758	GLU
1	A	772	ARG
1	A	825	VAL
1	A	826	GLU
1	A	844	LYS
1	A	848	TRP
1	A	849	PRO
1	A	860	ASP
1	A	861	ASP
1	A	888	LYS
1	A	903	PHE
1	B	43	GLU
1	B	45	GLN

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Mol	Chain	Res	Type
1	B	61	LEU
1	B	66	ARG
1	B	90	LEU
1	B	93	LEU
1	B	113	PHE
1	B	116	GLU
1	B	164	ILE
1	B	234	PHE
1	B	312	LEU
1	B	316	ASN
1	B	378	LYS
1	B	379	VAL
1	B	384	ARG
1	B	403	ARG
1	B	411	ASP
1	B	421	ARG
1	B	435	LYS
1	B	468	ASP
1	B	475	ILE
1	B	479	PHE
1	B	489	MET
1	B	495	ASN
1	B	511	ASP
1	B	522	PHE
1	B	558	ASN
1	B	573	VAL
1	B	643	ASP
1	B	646	HIS
1	B	658	ARG
1	B	685	ARG
1	B	702	TRP
1	B	728	MET
1	B	734	LYS
1	B	758	GLU
1	B	766	GLU
1	B	772	ARG
1	B	818	ASN
1	B	843	ASP
1	B	856	ASP
1	B	894	LYS
1	C	11	ILE
1	C	27	ARG

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Mol	Chain	Res	Type
1	C	55	LYS
1	C	58	THR
1	C	83	LEU
1	C	106	THR
1	C	200	GLU
1	C	255	ASN
1	C	257	TYR
1	C	279	LYS
1	C	284	ASN
1	C	314	GLU
1	C	356	GLN
1	C	370	PHE
1	C	399	PRO
1	C	428	GLU
1	C	439	LEU
1	C	468	ASP
1	C	474	GLU
1	C	511	ASP
1	C	525	GLU
1	C	561	LEU
1	C	562	LEU
1	C	572	ASN
1	C	587	THR
1	C	592	MET
1	C	640	LYS
1	C	645	ASN
1	C	658	ARG
1	C	667	PHE
1	C	672	GLU
1	C	702	TRP
1	C	760	LEU
1	C	762	GLU
1	C	843	ASP
1	C	856	ASP
1	C	874	LYS
1	C	880	LEU
1	C	898	PHE
1	D	14	SER
1	D	32	GLU
1	D	125	GLU
1	D	143	ASP
1	D	200	GLU

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Mol	Chain	Res	Type
1	D	255	ASN
1	D	257	TYR
1	D	260	ARG
1	D	284	ASN
1	D	317	HIS
1	D	324	ASN
1	D	372	SER
1	D	391	TYR
1	D	411	ASP
1	D	413	THR
1	D	428	GLU
1	D	439	LEU
1	D	468	ASP
1	D	474	GLU
1	D	477	LYS
1	D	479	PHE
1	D	484	GLU
1	D	508	LEU
1	D	520	PHE
1	D	521	ASP
1	D	522	PHE
1	D	524	ASP
1	D	557	ILE
1	D	558	ASN
1	D	562	LEU
1	D	649	ASP
1	D	686	GLU
1	D	702	TRP
1	D	731	GLU
1	D	776	TYR
1	D	777	ILE
1	D	786	ASN
1	D	823	GLN
1	D	828	GLU
1	D	874	LYS
1	D	880	LEU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (94) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	10	GLN
1	A	64	ASN

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Mol	Chain	Res	Type
1	A	98	ASN
1	A	112	ASN
1	A	158	ASN
1	A	203	ASN
1	A	206	GLN
1	A	284	ASN
1	A	285	GLN
1	A	376	GLN
1	A	389	GLN
1	A	422	GLN
1	A	505	ASN
1	A	546	GLN
1	A	556	GLN
1	A	558	ASN
1	A	572	ASN
1	A	602	ASN
1	A	606	ASN
1	A	646	HIS
1	A	678	GLN
1	A	775	ASN
1	A	864	HIS
1	B	70	GLN
1	B	171	GLN
1	B	207	GLN
1	B	255	ASN
1	B	284	ASN
1	B	285	GLN
1	B	316	ASN
1	B	318	GLN
1	B	376	GLN
1	B	377	ASN
1	B	382	GLN
1	B	495	ASN
1	B	539	ASN
1	B	558	ASN
1	B	591	GLN
1	B	606	ASN
1	B	646	HIS
1	B	733	GLN
1	B	742	GLN
1	B	754	GLN
1	B	775	ASN

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Mol	Chain	Res	Type
1	B	812	ASN
1	B	818	ASN
1	C	45	GLN
1	C	112	ASN
1	C	128	GLN
1	C	173	GLN
1	C	206	GLN
1	C	207	GLN
1	C	255	ASN
1	C	284	ASN
1	C	285	GLN
1	C	318	GLN
1	C	444	ASN
1	C	493	GLN
1	C	539	ASN
1	C	556	GLN
1	C	558	ASN
1	C	572	ASN
1	C	675	ASN
1	C	678	GLN
1	C	711	ASN
1	C	864	HIS
1	D	10	GLN
1	D	206	GLN
1	D	207	GLN
1	D	245	HIS
1	D	255	ASN
1	D	284	ASN
1	D	285	GLN
1	D	318	GLN
1	D	339	GLN
1	D	444	ASN
1	D	480	ASN
1	D	495	ASN
1	D	505	ASN
1	D	507	ASN
1	D	539	ASN
1	D	546	GLN
1	D	558	ASN
1	D	572	ASN
1	D	645	ASN
1	D	675	ASN

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Mol	Chain	Res	Type
1	D	678	GLN
1	D	711	ASN
1	D	754	GLN
1	D	773	GLN
1	D	786	ASN
1	D	787	ASN
1	D	818	ASN
1	D	823	GLN

5.3.3 RNA [i](#)

There are no RNA molecules in this entry.

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

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

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
2	CTG	K	4	3,2	19,23,24	0.77	1 (5%)	21,35,38	0.71	1 (4%)
2	CTG	G	4	3,2	19,23,24	0.71	0	21,35,38	0.94	1 (4%)
2	CTG	E	4	3,2	19,23,24	0.71	0	21,35,38	0.99	2 (9%)
2	CTG	I	4	3,2	19,23,24	0.71	0	21,35,38	0.93	2 (9%)

In the following table, the Chirals column lists the number of chiral outliers, the number of chiral centers analysed, the number of these observed in the model and the number defined in the Chemical Component Dictionary. Similar counts are reported in the Torsion and Rings columns. '-' means no outliers of that kind were identified.

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
2	CTG	K	4	3,2	-	4/7/45/46	0/2/2/2
2	CTG	G	4	3,2	-	1/7/45/46	0/2/2/2
2	CTG	E	4	3,2	-	2/7/45/46	0/2/2/2

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
2	CTG	I	4	3,2	-	0/7/45/46	0/2/2/2

All (1) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	K	4	CTG	C1'-N1	2.14	1.48	1.45

All (6) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	E	4	CTG	C2'-C1'-N1	-3.09	111.41	115.59
2	G	4	CTG	C2'-C1'-N1	-2.83	111.76	115.59
2	I	4	CTG	C2'-C1'-N1	-2.74	111.88	115.59
2	I	4	CTG	N3-C2-N1	-2.37	114.23	116.69
2	E	4	CTG	N3-C2-N1	-2.22	114.39	116.69
2	K	4	CTG	N3-C2-N1	-2.10	114.52	116.69

There are no chirality outliers.

All (7) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
2	K	4	CTG	C2'-C1'-N1-C6
2	G	4	CTG	O4'-C4'-C5'-O5'
2	K	4	CTG	O4'-C1'-N1-C6
2	E	4	CTG	C2'-C1'-N1-C6
2	E	4	CTG	O4'-C1'-N1-C6
2	K	4	CTG	O4'-C4'-C5'-O5'
2	K	4	CTG	O4'-C1'-N1-C2

There are no ring outliers.

4 monomers are involved in 9 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
2	K	4	CTG	2	0
2	G	4	CTG	3	0
2	E	4	CTG	3	0
2	I	4	CTG	1	0

5.5 Carbohydrates [i](#)

There are no monosaccharides in this entry.

5.6 Ligand geometry [i](#)

1 ligand is 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	$\# Z > 2$
4	SO4	C	907	-	4,4,4	0.27	0	6,6,6	0.10	0

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

No monomer is involved in short contacts.

5.7 Other polymers [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 [i](#)

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

In the following table, the column labelled '#RSRZ > 2' contains the number (and percentage) of RSRZ outliers, followed by percent RSRZ outliers for the chain as percentile scores relative to all X-ray entries and entries of similar resolution. The OWAB column contains the minimum, median, 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	903/906 (99%)	0.28	64 (7%) 16 12	24, 53, 144, 162	1 (0%)
1	B	903/906 (99%)	0.33	68 (7%) 14 11	20, 59, 157, 172	0
1	C	900/906 (99%)	-0.04	7 (0%) 86 85	17, 47, 89, 109	0
1	D	897/906 (99%)	0.82	134 (14%) 2 1	48, 98, 134, 169	0
2	E	17/18 (94%)	0.40	0 100 100	70, 88, 124, 132	0
2	G	17/18 (94%)	-0.24	0 100 100	45, 57, 79, 92	0
2	I	17/18 (94%)	-0.41	0 100 100	32, 38, 85, 94	0
2	K	17/18 (94%)	0.74	2 (11%) 4 3	59, 126, 147, 151	0
3	F	14/14 (100%)	0.49	0 100 100	85, 117, 130, 134	0
3	H	14/14 (100%)	0.11	0 100 100	53, 70, 83, 85	0
3	J	14/14 (100%)	-0.40	0 100 100	30, 45, 93, 99	0
3	L	14/14 (100%)	0.99	3 (21%) 0 1	120, 131, 135, 136	0
All	All	3727/3752 (99%)	0.34	278 (7%) 14 11	17, 62, 132, 172	1 (0%)

All (278) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	B	510	VAL	15.3
1	B	513	PRO	13.3
1	B	507	ASN	13.0
1	B	511	ASP	10.6
1	B	506	PRO	10.3
1	D	510	VAL	9.8
1	A	503	LEU	9.0
1	B	504	HIS	8.9
1	B	508	LEU	8.7
1	D	535	ALA	8.4
1	A	256	MET	8.3

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Mol	Chain	Res	Type	RSRZ
1	D	257	TYR	8.3
1	D	538	LEU	8.1
1	B	498	ILE	8.0
1	D	817	GLY	8.0
1	D	534	SER	8.0
1	A	508	LEU	7.8
1	B	512	GLU	7.7
1	D	491	ALA	7.6
1	B	303	LEU	7.2
1	B	509	SER	7.1
1	D	511	ASP	7.0
1	D	509	SER	7.0
1	D	514	LEU	6.9
1	D	546	GLN	6.8
1	D	545	ALA	6.8
1	A	817	GLY	6.8
1	B	516	VAL	6.6
1	B	528	GLU	6.6
1	C	303	LEU	6.3
1	D	303	LEU	6.3
1	D	841	PHE	6.3
1	A	504	HIS	6.2
1	D	256	MET	6.1
1	D	44	SER	6.0
1	D	520	PHE	6.0
1	B	532	LYS	6.0
1	D	526	ILE	5.9
1	D	539	ASN	5.9
1	B	530	ILE	5.9
1	B	503	LEU	5.8
1	A	502	ALA	5.8
1	D	550	VAL	5.7
1	A	498	ILE	5.6
1	B	523	SER	5.5
1	D	543	PHE	5.4
1	B	514	LEU	5.4
1	D	508	LEU	5.2
1	D	858	ILE	5.2
1	D	513	PRO	5.1
1	B	521	ASP	5.0
1	A	848	TRP	5.0
1	D	547	ARG	5.0

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Mol	Chain	Res	Type	RSRZ
1	B	533	LEU	4.9
1	A	811	TYR	4.9
1	D	529	LYS	4.9
1	D	819	ILE	4.8
1	D	548	THR	4.8
1	B	819	ILE	4.7
1	D	862	VAL	4.7
1	A	513	PRO	4.7
1	B	499	ILE	4.7
1	B	502	ALA	4.6
1	B	538	LEU	4.6
1	D	523	SER	4.5
1	D	793	VAL	4.5
1	A	514	LEU	4.4
1	B	524	ASP	4.4
1	D	533	LEU	4.4
1	D	512	GLU	4.2
1	D	80	LEU	4.2
1	D	794	GLY	4.2
1	A	257	TYR	4.1
1	D	820	ASP	4.1
1	A	522	PHE	4.1
1	D	792	ASP	4.1
1	D	868	TYR	4.1
1	D	254	GLU	4.1
1	D	847	ALA	4.0
1	A	526	ILE	4.0
1	B	314	GLU	3.9
1	A	532	LYS	3.9
1	B	310	SER	3.9
1	D	198	LEU	3.9
1	B	505	ASN	3.9
1	D	388	VAL	3.9
1	A	535	ALA	3.9
1	D	395	PHE	3.9
1	D	771	PHE	3.9
1	A	523	SER	3.8
1	A	786	ASN	3.8
1	B	173	GLN	3.8
1	B	536	LYS	3.8
1	B	539	ASN	3.8
1	A	490	LEU	3.7

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Mol	Chain	Res	Type	RSRZ
1	B	520	PHE	3.7
1	B	166	ILE	3.7
1	B	172	GLU	3.7
1	A	541	MET	3.7
1	D	536	LYS	3.7
1	D	811	TYR	3.6
1	A	857	LEU	3.6
1	A	821	ALA	3.6
1	D	393	GLY	3.5
1	D	541	MET	3.5
1	B	527	LYS	3.5
1	B	535	ALA	3.5
1	D	175	GLY	3.5
1	B	306	ASP	3.5
1	A	542	LEU	3.5
1	A	831	TYR	3.5
1	B	518	TYR	3.5
1	D	540	GLU	3.5
1	D	791	TYR	3.4
2	K	3	DC	3.4
1	A	799	PRO	3.4
1	D	799	PRO	3.4
1	A	512	GLU	3.3
1	D	774	LEU	3.3
1	D	518	TYR	3.3
1	A	785	ALA	3.2
1	B	542	LEU	3.2
1	A	543	PHE	3.2
1	B	500	LYS	3.2
1	D	833	LEU	3.2
1	A	507	ASN	3.2
1	A	776	TYR	3.2
1	A	789	ALA	3.2
1	B	496	GLY	3.2
1	B	534	SER	3.2
1	D	517	ASP	3.1
1	A	505	ASN	3.1
1	A	506	PRO	3.1
1	D	802	PRO	3.1
1	D	170	LEU	3.1
1	D	818	ASN	3.1
1	B	537	SER	3.1

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Mol	Chain	Res	Type	RSRZ
1	D	83	LEU	3.1
1	D	488	TYR	3.1
1	D	515	ASP	3.1
1	B	522	PHE	3.0
1	D	115	ILE	3.0
1	D	490	LEU	3.0
1	D	522	PHE	3.0
1	A	801	CYS	3.0
1	D	152	LEU	3.0
1	D	795	GLY	3.0
1	D	20	ILE	3.0
1	D	863	LEU	3.0
1	D	855	THR	2.9
1	A	509	SER	2.9
1	B	492	ALA	2.9
1	D	191	PHE	2.9
1	D	544	ARG	2.9
1	B	526	ILE	2.9
1	D	8	VAL	2.9
1	D	801	CYS	2.9
1	D	42	PRO	2.9
1	A	515	ASP	2.8
1	B	865	TRP	2.8
1	A	491	ALA	2.8
1	A	499	ILE	2.8
1	D	489	MET	2.8
1	D	391	TYR	2.8
1	D	266	PHE	2.8
1	A	495	ASN	2.8
1	D	147	TYR	2.7
1	A	903	PHE	2.7
1	D	162	TRP	2.7
1	D	183	ILE	2.7
1	D	259	SER	2.7
1	B	307	GLY	2.7
1	A	536	LYS	2.7
1	D	498	ILE	2.7
1	D	178	VAL	2.7
1	D	857	LEU	2.7
1	D	519	ARG	2.7
1	B	171	GLN	2.7
1	D	61	LEU	2.7

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Mol	Chain	Res	Type	RSRZ
1	A	538	LEU	2.6
1	A	518	TYR	2.6
1	D	41	CYS	2.6
1	B	501	GLU	2.6
1	B	311	LYS	2.6
1	B	497	GLU	2.6
1	D	241	ARG	2.6
1	D	767	PHE	2.6
1	D	735	SER	2.6
1	D	813	ARG	2.6
1	D	182	ILE	2.6
1	D	153	ASN	2.6
1	A	820	ASP	2.6
2	K	5	DG	2.6
1	B	495	ASN	2.5
1	D	859	LYS	2.5
1	D	33	TYR	2.5
3	L	114	DA	2.5
1	B	529	LYS	2.5
1	D	800	LYS	2.5
1	A	815	ILE	2.5
1	B	179	PRO	2.5
1	D	318	GLN	2.5
1	D	542	LEU	2.5
1	D	305	TYR	2.5
1	D	301	GLY	2.5
1	C	152	LEU	2.5
1	A	516	VAL	2.5
1	B	836	ARG	2.4
1	C	522	PHE	2.4
1	D	796	PHE	2.4
1	D	302	LYS	2.4
1	D	205	TRP	2.4
1	A	835	LEU	2.4
1	B	540	GLU	2.4
1	A	548	THR	2.4
1	D	824	VAL	2.4
1	B	799	PRO	2.4
1	D	255	ASN	2.4
1	A	497	GLU	2.4
1	B	515	ASP	2.4
1	D	527	LYS	2.4

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Mol	Chain	Res	Type	RSRZ
1	A	793	VAL	2.4
1	B	803	PHE	2.4
1	D	494	ARG	2.4
1	D	105	HIS	2.3
1	D	787	ASN	2.3
1	D	317	HIS	2.3
1	D	851	GLY	2.3
1	A	528	GLU	2.3
1	B	861	ASP	2.3
1	D	57	CYS	2.3
1	B	178	VAL	2.3
1	D	831	TYR	2.3
1	D	499	ILE	2.3
1	A	533	LEU	2.3
1	D	789	ALA	2.3
1	D	821	ALA	2.3
3	L	103	DG	2.2
1	A	540	GLU	2.2
1	D	323	TYR	2.2
1	B	543	PHE	2.2
1	B	817	GLY	2.2
1	A	539	ASN	2.2
1	D	551	ALA	2.2
1	D	164	ILE	2.2
1	A	846	ILE	2.2
1	D	179	PRO	2.2
1	C	899	ASP	2.2
1	D	797	PRO	2.2
1	D	505	ASN	2.2
1	D	812	ASN	2.2
1	D	258	GLY	2.2
1	D	860	ASP	2.1
1	A	500	LYS	2.1
1	D	16	PHE	2.1
1	C	46	ALA	2.1
1	A	496	GLY	2.1
1	A	809	LEU	2.1
1	D	201	TYR	2.1
1	B	186	ILE	2.1
1	D	43	GLU	2.1
1	D	199	MET	2.1
1	A	537	SER	2.1

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Mol	Chain	Res	Type	RSRZ
1	A	865	TRP	2.1
1	A	555	ALA	2.1
1	A	795	GLY	2.1
1	B	183	ILE	2.0
1	B	895	ALA	2.0
1	D	167	ALA	2.0
1	D	390	PRO	2.0
1	A	784	SER	2.0
1	A	828	GLU	2.0
1	C	166	ILE	2.0
1	D	788	ILE	2.0
3	L	104	DG	2.0
1	D	842	GLY	2.0
1	C	900	MET	2.0
1	B	525	GLU	2.0

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

In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 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(Å ²)	Q<0.9
2	CTG	K	4	22/23	0.64	0.37	144,145,151,152	0
2	CTG	E	4	22/23	0.86	0.22	102,103,106,107	0
2	CTG	G	4	22/23	0.93	0.17	65,69,71,71	0
2	CTG	I	4	22/23	0.96	0.17	44,50,54,54	0

6.3 Carbohydrates [i](#)

There are no monosaccharides in this entry.

6.4 Ligands [i](#)

In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 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(\AA^2)	Q<0.9
4	SO4	C	907	5/5	0.96	0.12	89,90,90,90	0

6.5 Other polymers [i](#)

There are no such residues in this entry.