



# Full wwPDB X-ray Structure Validation Report ⓘ

Oct 17, 2023 – 02:03 AM EDT

PDB ID : 2DW7  
Title : Crystal structure of D-tartrate dehydratase from Bradyrhizobium japonicum complexed with Mg<sup>++</sup> and meso-tartrate  
Authors : Fedorov, A.A.; Fedorov, E.V.; Yew, W.S.; Wood, B.M.; Gerlt, J.A.; Almo, S.C.  
Deposited on : 2006-08-07  
Resolution : 2.50 Å(reported)

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

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

A user guide is available at

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

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

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

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

MolProbity : 4.02b-467  
Mogul : 1.8.5 (274361), CSD as541be (2020)  
Xtriage (Phenix) : 1.13  
EDS : 2.36  
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) : 2.36

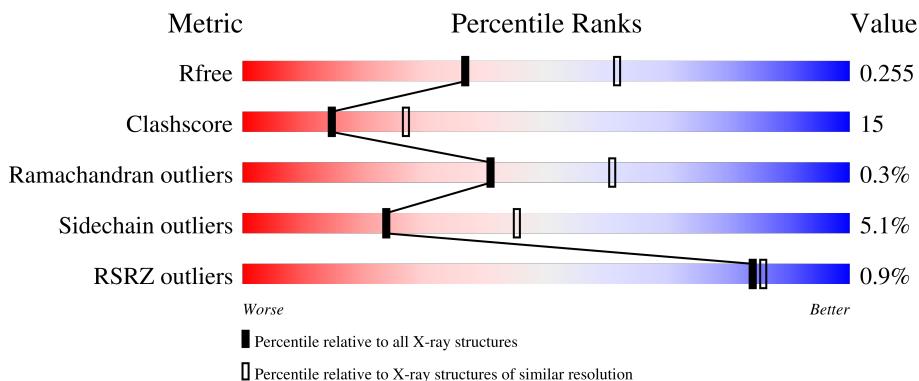
# 1 Overall quality at a glance i

The following experimental techniques were used to determine the structure:

*X-RAY DIFFRACTION*

The reported resolution of this entry is 2.50 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	4661 (2.50-2.50)
Clashscore	141614	5346 (2.50-2.50)
Ramachandran outliers	138981	5231 (2.50-2.50)
Sidechain outliers	138945	5233 (2.50-2.50)
RSRZ outliers	127900	4559 (2.50-2.50)

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

Mol	Chain	Length	Quality of chain
1	A	389	74% 23% .
1	B	389	69% 29% .
1	C	389	74% 24% .
1	D	389	74% 23% .
1	E	389	% 72% 25% .

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Mol	Chain	Length	Quality of chain	
1	F	389	71%	26%
1	G	389	68%	30%
1	H	389	70%	28%
1	I	389	73%	24%
1	J	389	69%	29%
1	K	389	72%	25%
1	L	389	69%	28%
1	M	389	69%	28%
1	N	389	70%	27%
1	O	389	69%	28%
1	P	389	67%	29%

The following table lists non-polymeric compounds, carbohydrate monomers and non-standard residues in protein, DNA, RNA chains that are outliers for geometric or electron-density-fit criteria:

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
3	SRT	A	1001	-	X	-	-
3	SRT	G	1007	-	-	X	-
3	SRT	I	1009	-	-	X	-

## 2 Entry composition

There are 4 unique types of molecules in this entry. The entry contains 48977 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.

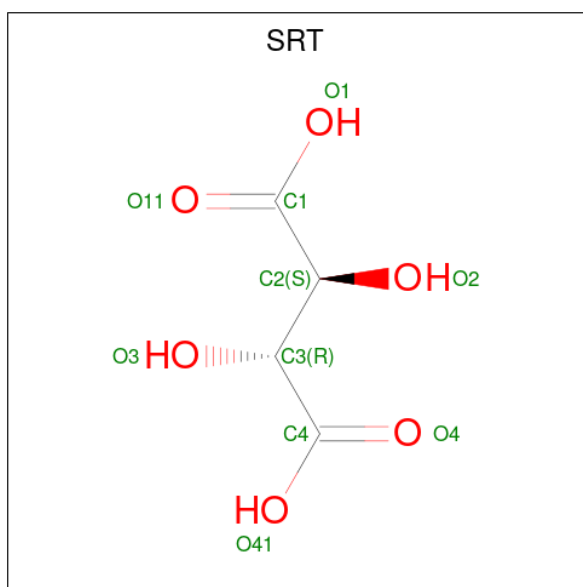
- Molecule 1 is a protein called Bll6730 protein.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
1	A	388	3022	1917	530	558	17	0	0	0
1	B	388	3022	1917	530	558	17	0	0	0
1	C	388	3022	1917	530	558	17	0	0	0
1	D	388	3022	1917	530	558	17	0	0	0
1	E	388	3022	1917	530	558	17	0	0	0
1	F	388	3022	1917	530	558	17	0	0	0
1	G	388	3022	1917	530	558	17	0	0	0
1	H	388	3022	1917	530	558	17	0	0	0
1	I	388	3022	1917	530	558	17	0	0	0
1	J	388	3022	1917	530	558	17	0	0	0
1	K	388	3022	1917	530	558	17	0	0	0
1	L	388	3022	1917	530	558	17	0	0	0
1	M	388	3022	1917	530	558	17	0	0	0
1	N	388	3022	1917	530	558	17	0	0	0
1	O	388	3022	1917	530	558	17	0	0	0
1	P	388	3022	1917	530	558	17	0	0	0

- Molecule 2 is MAGNESIUM ION (three-letter code: MG) (formula: Mg).

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
2	A	1	Total Mg 1 1	0	0
2	B	1	Total Mg 1 1	0	0
2	C	1	Total Mg 1 1	0	0
2	D	1	Total Mg 1 1	0	0
2	E	1	Total Mg 1 1	0	0
2	F	1	Total Mg 1 1	0	0
2	G	1	Total Mg 1 1	0	0
2	H	1	Total Mg 1 1	0	0
2	I	1	Total Mg 1 1	0	0
2	J	1	Total Mg 1 1	0	0
2	K	1	Total Mg 1 1	0	0
2	L	1	Total Mg 1 1	0	0
2	M	1	Total Mg 1 1	0	0
2	N	1	Total Mg 1 1	0	0
2	O	1	Total Mg 1 1	0	0
2	P	1	Total Mg 1 1	0	0

- Molecule 3 is S,R MESO-TARTARIC ACID (three-letter code: SRT) (formula: C<sub>4</sub>H<sub>6</sub>O<sub>6</sub>).



Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
3	A	1	Total C O 10 4 6	0	0
3	B	1	Total C O 10 4 6	0	0
3	C	1	Total C O 10 4 6	0	0
3	D	1	Total C O 10 4 6	0	0
3	E	1	Total C O 10 4 6	0	0
3	F	1	Total C O 10 4 6	0	0
3	G	1	Total C O 10 4 6	0	0
3	H	1	Total C O 10 4 6	0	0
3	I	1	Total C O 10 4 6	0	0
3	J	1	Total C O 10 4 6	0	0
3	K	1	Total C O 10 4 6	0	0
3	L	1	Total C O 10 4 6	0	0
3	M	1	Total C O 10 4 6	0	0
3	N	1	Total C O 10 4 6	0	0

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Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
3	O	1	Total	C	O	0	0
			10	4	6		
3	P	1	Total	C	O	0	0
			10	4	6		

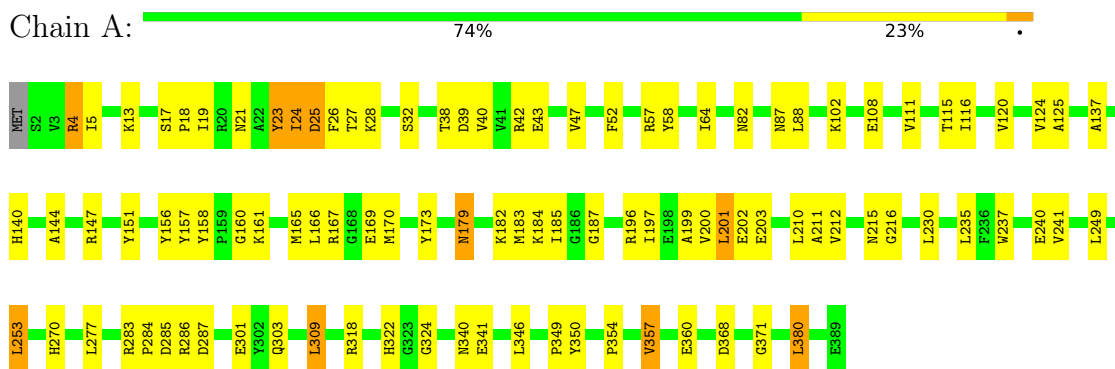
- Molecule 4 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
4	A	43	Total	O	0	0
			43	43		
4	B	21	Total	O	0	0
			21	21		
4	C	61	Total	O	0	0
			61	61		
4	D	49	Total	O	0	0
			49	49		
4	E	29	Total	O	0	0
			29	29		
4	F	53	Total	O	0	0
			53	53		
4	G	41	Total	O	0	0
			41	41		
4	H	22	Total	O	0	0
			22	22		
4	I	20	Total	O	0	0
			20	20		
4	J	12	Total	O	0	0
			12	12		
4	K	29	Total	O	0	0
			29	29		
4	L	20	Total	O	0	0
			20	20		
4	M	12	Total	O	0	0
			12	12		
4	N	20	Total	O	0	0
			20	20		
4	O	5	Total	O	0	0
			5	5		
4	P	12	Total	O	0	0
			12	12		

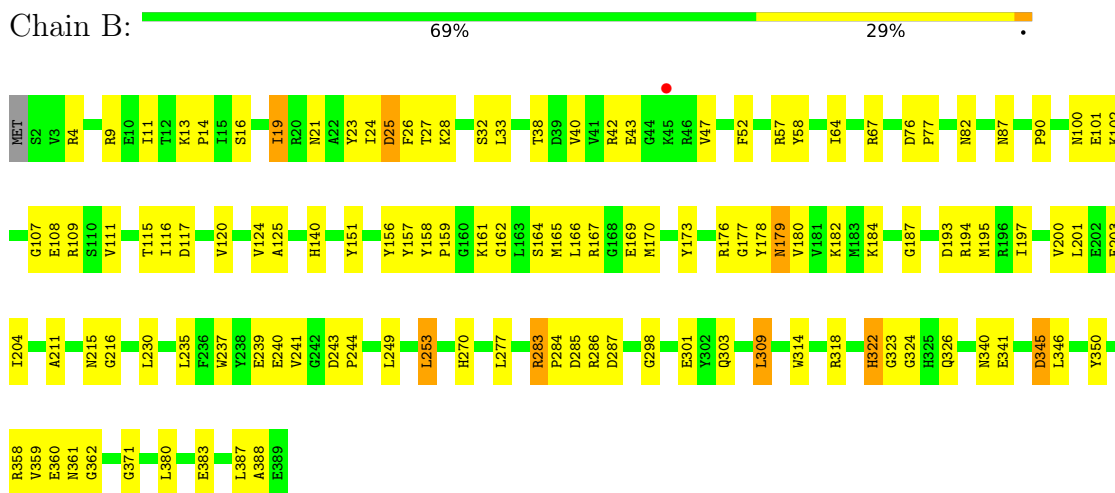
### 3 Residue-property plots [i](#)

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

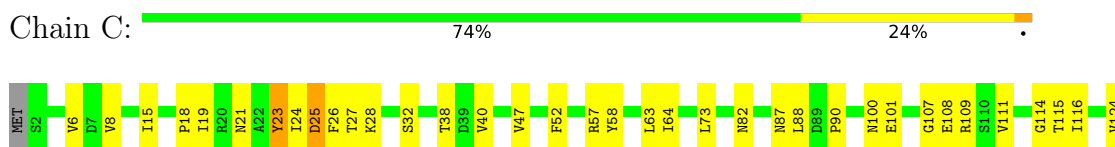
- Molecule 1: Bll6730 protein



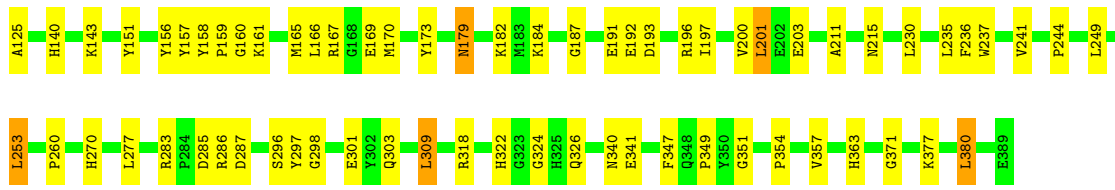
- Molecule 1: Bll6730 protein



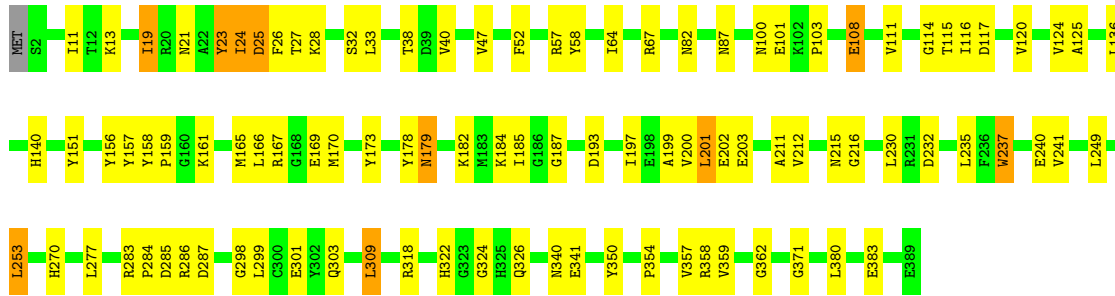
- Molecule 1: Bll6730 protein







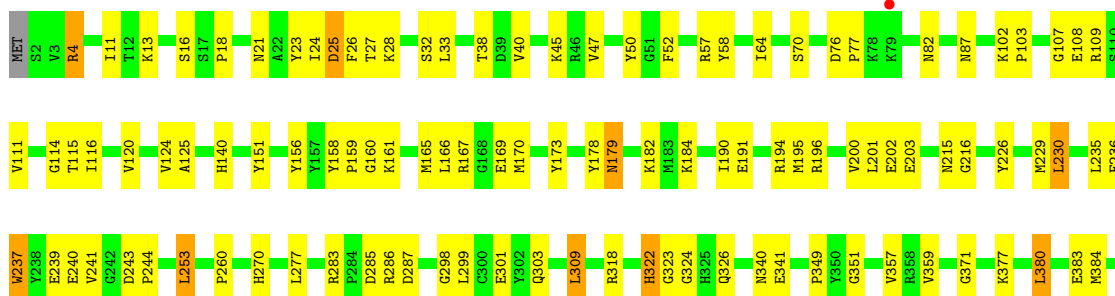
• Molecule 1: Bll6730 protein



• Molecule 1: Bll6730 protein



• Molecule 1: Bll6730 protein



L387  
A388  
E389

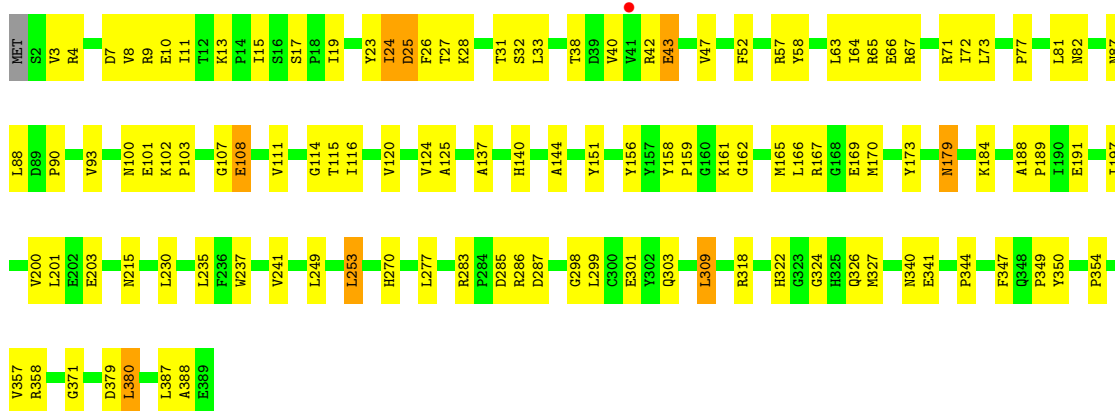
• Molecule 1: Bll6730 protein

Chain G:  68% 30%



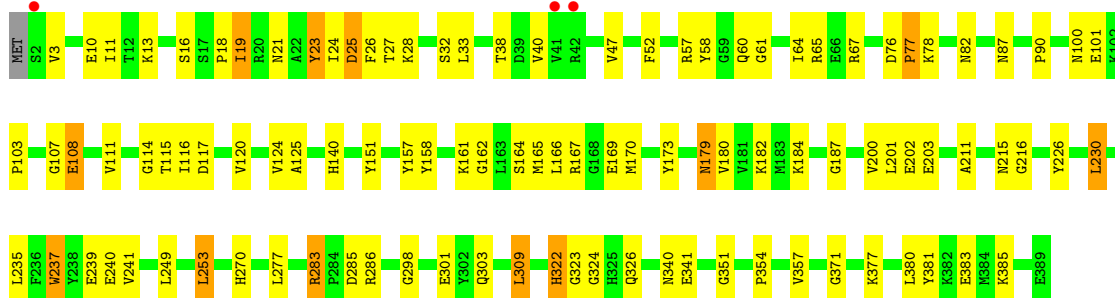
• Molecule 1: Bll6730 protein

Chain H:  70% 28%

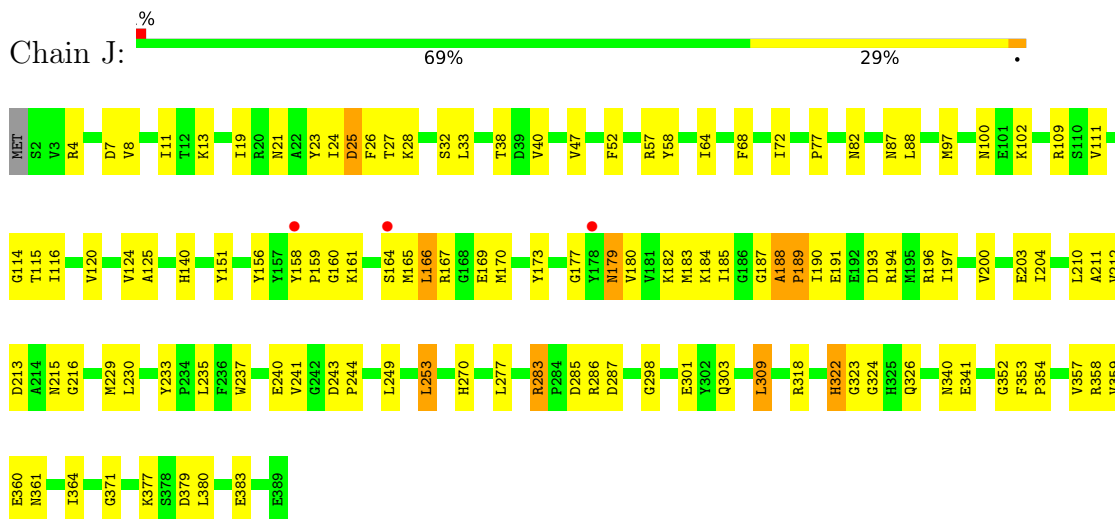


• Molecule 1: Bll6730 protein

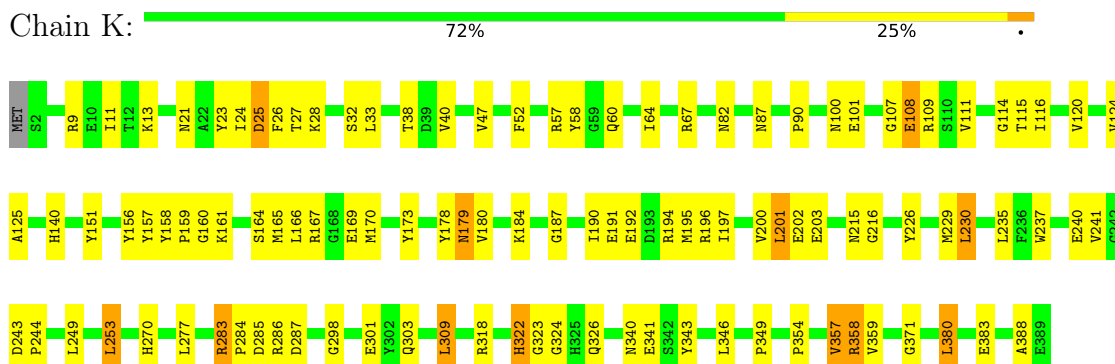
Chain I:  73% 24%



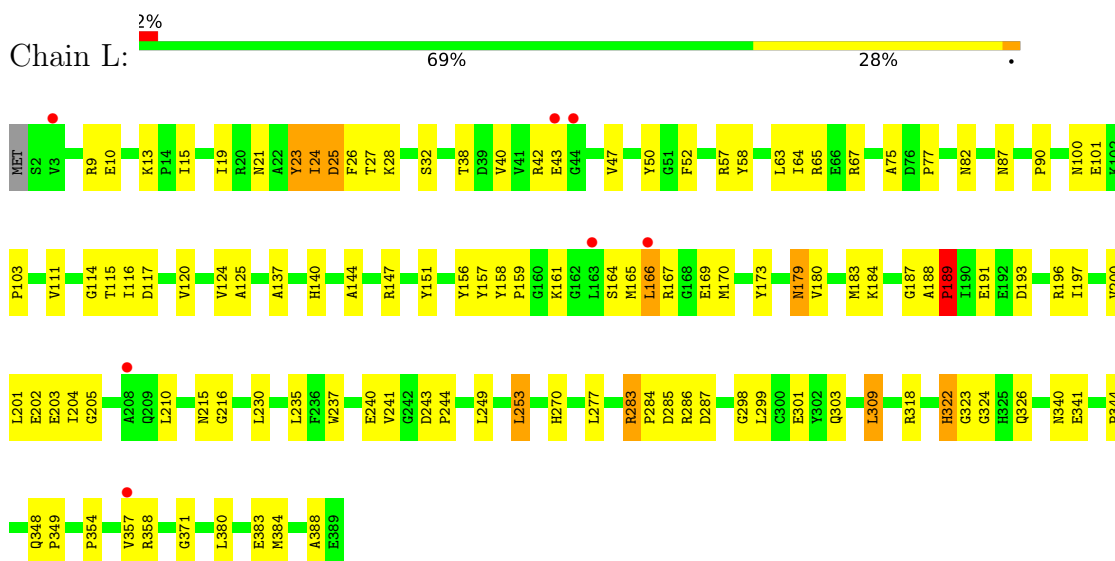
- Molecule 1: Bll6730 protein



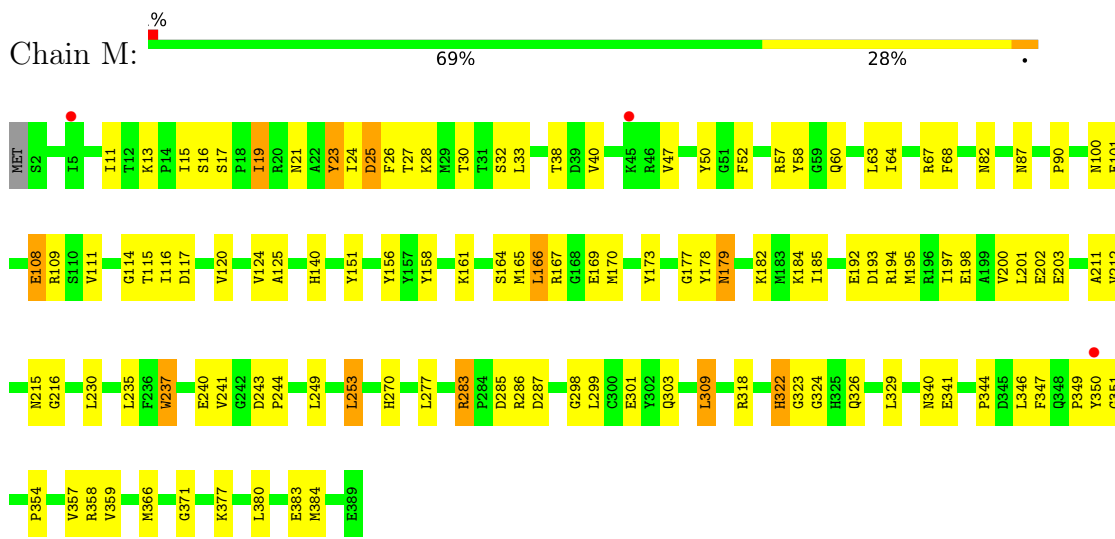
- Molecule 1: Bll6730 protein



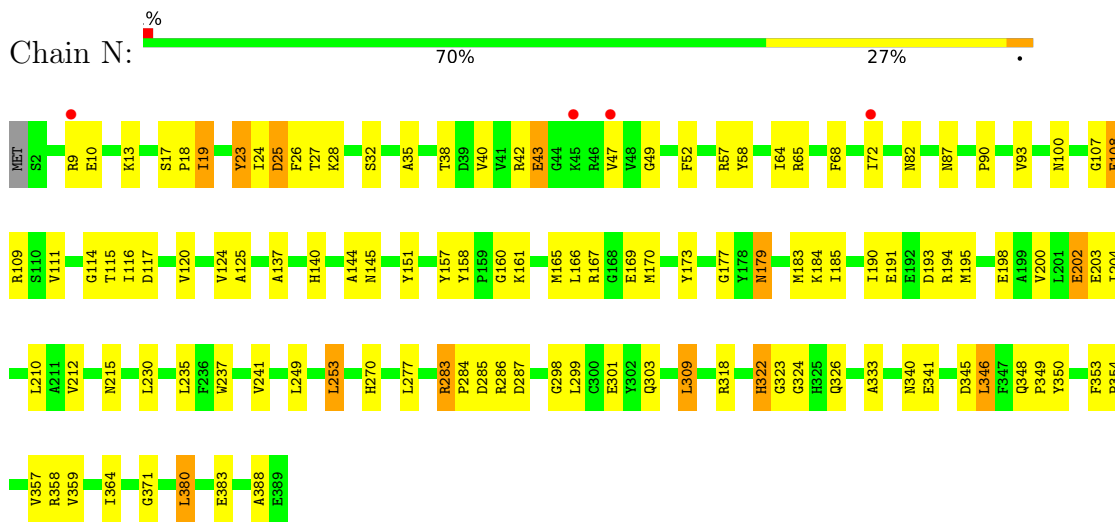
- Molecule 1: Bll6730 protein



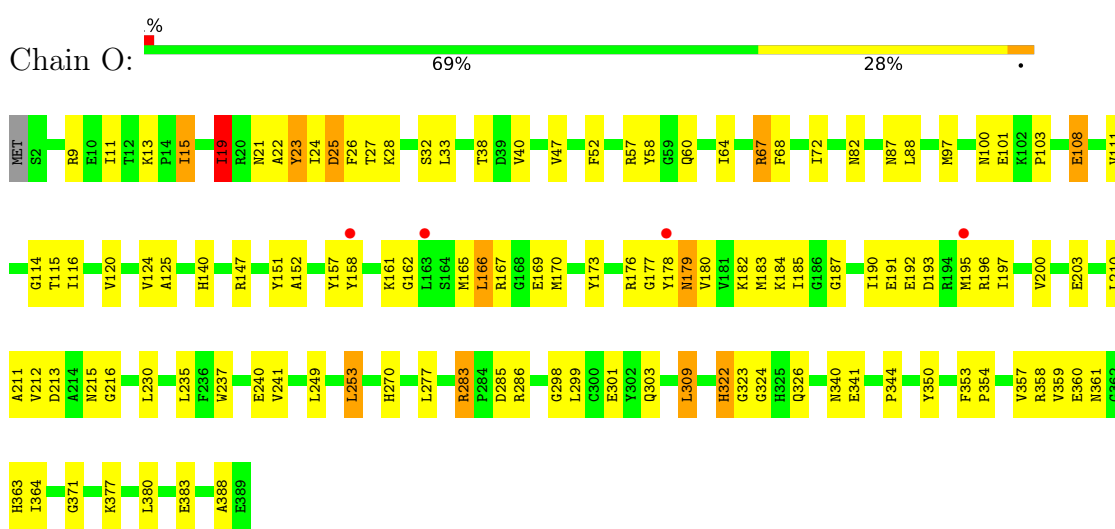
- Molecule 1: Bll6730 protein



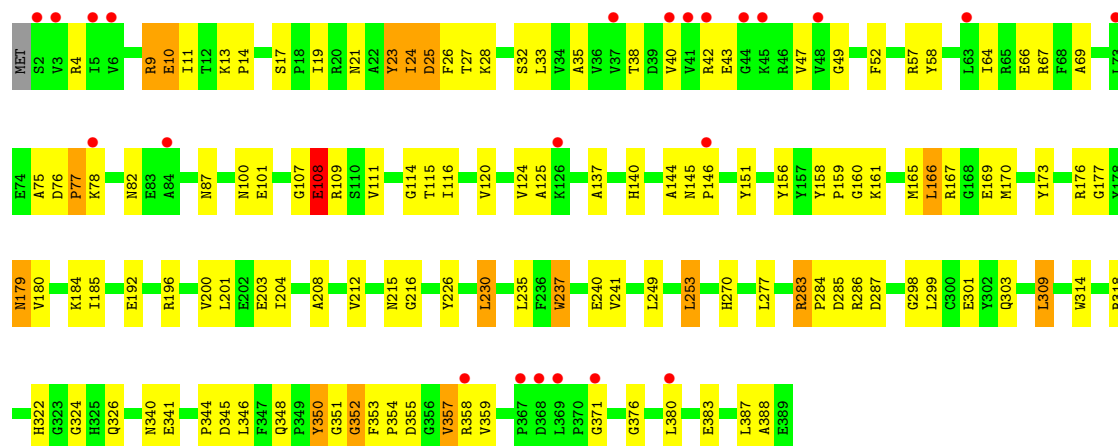
• Molecule 1: Bll6730 protein



• Molecule 1: Bll6730 protein



• Molecule 1: Bll6730 protein



## 4 Data and refinement statistics

Property	Value	Source
Space group	P 1	Depositor
Cell constants a, b, c, $\alpha$ , $\beta$ , $\gamma$	74.84Å 162.54Å 168.18Å 117.76° 90.03° 90.67°	Depositor
Resolution (Å)	25.00 – 2.50 39.39 – 2.49	Depositor EDS
% Data completeness (in resolution range)	(Not available) (25.00-2.50) 91.1 (39.39-2.49)	Depositor EDS
$R_{merge}$	(Not available)	Depositor
$R_{sym}$	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ <sup>1</sup>	1.35 (at 2.48Å)	Xtrriage
Refinement program	CNS 1.1	Depositor
R, $R_{free}$	0.241 , 0.265 0.232 , 0.255	Depositor DCC
$R_{free}$ test set	11937 reflections (4.99%)	wwPDB-VP
Wilson B-factor (Å <sup>2</sup> )	35.4	Xtrriage
Anisotropy	0.180	Xtrriage
Bulk solvent $k_{sol}$ (e/Å <sup>3</sup> ), $B_{sol}$ (Å <sup>2</sup> )	0.33 , 17.9	EDS
L-test for twinning <sup>2</sup>	$\langle  L  \rangle = 0.47$ , $\langle L^2 \rangle = 0.30$	Xtrriage
Estimated twinning fraction	0.064 for h,-k,-l 0.016 for -h,k,-k-l 0.014 for -h,-k,k+l	Xtrriage
$F_o, F_c$ correlation	0.91	EDS
Total number of atoms	48977	wwPDB-VP
Average B, all atoms (Å <sup>2</sup> )	45.0	wwPDB-VP

Xtrriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 2.93% of the height of the origin peak. No significant pseudotranslation is detected.*

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

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

## 5 Model quality

### 5.1 Standard geometry

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

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	0.40	0/3092	0.63	0/4177
1	B	0.37	0/3092	0.61	0/4177
1	C	0.43	0/3092	0.64	0/4177
1	D	0.41	0/3092	0.64	0/4177
1	E	0.39	0/3092	0.62	0/4177
1	F	0.41	0/3092	0.64	0/4177
1	G	0.41	0/3092	0.63	0/4177
1	H	0.35	0/3092	0.61	0/4177
1	I	0.37	0/3092	0.62	0/4177
1	J	0.36	0/3092	0.61	0/4177
1	K	0.39	0/3092	0.62	0/4177
1	L	0.36	0/3092	0.61	0/4177
1	M	0.37	0/3092	0.60	0/4177
1	N	0.34	0/3092	0.61	0/4177
1	O	0.36	0/3092	0.61	0/4177
1	P	0.35	0/3092	0.60	0/4177
All	All	0.38	0/49472	0.62	0/66832

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

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	3022	0	2975	85	0
1	B	3022	0	2975	100	0
1	C	3022	0	2975	86	0
1	D	3022	0	2975	87	0
1	E	3022	0	2975	94	0
1	F	3022	0	2975	87	0
1	G	3022	0	2975	114	0
1	H	3022	0	2975	102	0
1	I	3022	0	2975	88	0
1	J	3022	0	2975	104	0
1	K	3022	0	2975	92	0
1	L	3022	0	2975	95	0
1	M	3022	0	2975	106	0
1	N	3022	0	2975	108	0
1	O	3022	0	2975	102	0
1	P	3022	0	2975	113	0
2	A	1	0	0	0	0
2	B	1	0	0	0	0
2	C	1	0	0	0	0
2	D	1	0	0	0	0
2	E	1	0	0	0	0
2	F	1	0	0	0	0
2	G	1	0	0	0	0
2	H	1	0	0	0	0
2	I	1	0	0	0	0
2	J	1	0	0	0	0
2	K	1	0	0	0	0
2	L	1	0	0	0	0
2	M	1	0	0	0	0
2	N	1	0	0	0	0
2	O	1	0	0	0	0
2	P	1	0	0	0	0
3	A	10	0	3	2	0
3	B	10	0	3	2	0
3	C	10	0	3	3	0
3	D	10	0	3	3	0
3	E	10	0	3	2	0
3	F	10	0	3	1	0
3	G	10	0	4	4	0
3	H	10	0	3	2	0
3	I	10	0	3	4	0
3	J	10	0	3	1	0
3	K	10	0	3	1	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
3	L	10	0	3	3	0
3	M	10	0	3	0	0
3	N	10	0	3	3	0
3	O	10	0	3	0	0
3	P	10	0	4	3	0
4	A	43	0	0	1	0
4	B	21	0	0	0	0
4	C	61	0	0	3	0
4	D	49	0	0	0	0
4	E	29	0	0	1	0
4	F	53	0	0	0	0
4	G	41	0	0	2	0
4	H	22	0	0	0	0
4	I	20	0	0	0	0
4	J	12	0	0	0	0
4	K	29	0	0	0	0
4	L	20	0	0	0	0
4	M	12	0	0	0	0
4	N	20	0	0	0	0
4	O	5	0	0	1	0
4	P	12	0	0	1	0
All	All	48977	0	47650	1472	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 15.

All (1472) 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:P:353:PHE:HB2	1:P:357:VAL:HG11	1.37	1.07
1:L:184:LYS:HE3	1:L:215:ASN:HD21	1.19	1.04
1:J:167:ARG:HD3	1:J:203:GLU:HB2	1.35	1.03
1:C:100:ASN:HA	1:D:24:ILE:HG13	1.37	1.03
1:C:24:ILE:HG13	1:D:100:ASN:HA	1.39	1.02
1:G:167:ARG:HD3	1:G:203:GLU:HB2	1.40	1.02
1:L:167:ARG:HD3	1:L:203:GLU:HB2	1.42	1.02
1:H:170:MET:HG3	1:H:200:VAL:HG13	1.46	0.97
1:G:100:ASN:HA	1:H:24:ILE:HG13	1.46	0.97
1:K:100:ASN:HA	1:L:24:ILE:HG13	1.48	0.96
1:G:24:ILE:HG13	1:H:100:ASN:HA	1.47	0.96
1:L:170:MET:HG3	1:L:200:VAL:HG13	1.49	0.94

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:O:167:ARG:HD3	1:O:203:GLU:HB2	1.50	0.94
1:N:167:ARG:HD3	1:N:203:GLU:HB2	1.48	0.94
1:F:167:ARG:HD3	1:F:203:GLU:HB2	1.49	0.94
1:H:184:LYS:HE3	1:H:215:ASN:HD21	1.34	0.92
1:P:9:ARG:HH12	1:P:388:ALA:HB2	1.34	0.92
1:M:24:ILE:HD12	1:N:100:ASN:HA	1.50	0.92
1:A:167:ARG:HD3	1:A:203:GLU:HB2	1.52	0.91
1:E:167:ARG:HD3	1:E:203:GLU:HB2	1.52	0.91
1:P:167:ARG:HD3	1:P:203:GLU:HB2	1.52	0.90
1:O:100:ASN:HA	1:P:24:ILE:HG13	1.54	0.89
1:E:100:ASN:HA	1:F:24:ILE:HG13	1.53	0.89
1:I:100:ASN:HA	1:J:24:ILE:HG13	1.55	0.89
1:M:100:ASN:HA	1:N:24:ILE:HG13	1.54	0.88
1:I:167:ARG:HD3	1:I:203:GLU:HB2	1.56	0.88
1:K:167:ARG:HD3	1:K:203:GLU:HB2	1.53	0.87
1:M:161:LYS:HA	1:M:165:MET:HE3	1.55	0.87
1:O:184:LYS:HD2	1:O:215:ASN:HD21	1.37	0.87
1:E:170:MET:HG3	1:E:200:VAL:HG13	1.56	0.87
1:K:24:ILE:HG13	1:L:100:ASN:HA	1.57	0.87
1:J:241:VAL:HG11	1:J:253:LEU:HD21	1.56	0.86
1:C:241:VAL:HG11	1:C:253:LEU:HD21	1.57	0.86
1:M:24:ILE:HG23	1:N:100:ASN:HA	1.58	0.86
1:E:241:VAL:HG11	1:E:253:LEU:HD21	1.58	0.85
1:H:241:VAL:HG11	1:H:253:LEU:HD21	1.57	0.85
1:J:170:MET:HG3	1:J:200:VAL:HG13	1.57	0.85
1:P:353:PHE:CB	1:P:357:VAL:HG11	2.07	0.85
1:O:13:LYS:NZ	1:O:383:GLU:HG3	1.92	0.84
1:K:241:VAL:HG11	1:K:253:LEU:HD21	1.58	0.84
1:A:184:LYS:HZ3	3:A:1001:SRT:H2	1.43	0.84
1:L:241:VAL:HG11	1:L:253:LEU:HD21	1.59	0.84
1:P:241:VAL:HG11	1:P:253:LEU:HD21	1.58	0.84
1:N:241:VAL:HG11	1:N:253:LEU:HD21	1.58	0.83
1:M:241:VAL:HG11	1:M:253:LEU:HD21	1.57	0.83
1:D:167:ARG:HD3	1:D:203:GLU:HB2	1.58	0.82
1:O:241:VAL:HG11	1:O:253:LEU:HD21	1.61	0.82
1:O:184:LYS:HD2	1:O:215:ASN:ND2	1.94	0.82
1:B:13:LYS:NZ	1:B:383:GLU:HG3	1.95	0.81
1:B:241:VAL:HG11	1:B:253:LEU:HD21	1.62	0.81
1:E:184:LYS:HZ3	3:E:1005:SRT:H2	1.45	0.81
1:I:241:VAL:HG11	1:I:253:LEU:HD21	1.61	0.81
1:F:241:VAL:HG11	1:F:253:LEU:HD21	1.61	0.81

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:241:VAL:HG11	1:D:253:LEU:HD21	1.62	0.81
1:N:18:PRO:HG2	1:N:158:TYR:CE1	2.16	0.81
1:G:4:ARG:NE	1:G:77:PRO:HG3	1.94	0.81
1:A:241:VAL:HG11	1:A:253:LEU:HD21	1.63	0.80
1:G:241:VAL:HG11	1:G:253:LEU:HD21	1.62	0.80
1:H:167:ARG:HD3	1:H:203:GLU:HB2	1.64	0.80
1:P:161:LYS:HA	1:P:165:MET:HE3	1.64	0.80
1:A:147:ARG:HH21	1:A:147:ARG:HG3	1.45	0.79
1:F:184:LYS:HE2	1:F:215:ASN:HD21	1.47	0.79
1:K:161:LYS:HA	1:K:165:MET:HE3	1.64	0.79
1:G:38:THR:OG1	1:G:47:VAL:HG13	1.83	0.79
1:D:167:ARG:NH2	1:D:202:GLU:HG2	1.97	0.79
1:O:161:LYS:HA	1:O:165:MET:HE3	1.66	0.78
1:M:184:LYS:HD2	1:M:215:ASN:HD21	1.48	0.78
1:N:38:THR:OG1	1:N:47:VAL:HG13	1.83	0.78
1:G:9:ARG:HD2	1:G:388:ALA:HB2	1.65	0.78
1:F:4:ARG:HG2	1:F:77:PRO:HB3	1.66	0.78
1:D:161:LYS:HA	1:D:165:MET:HE3	1.66	0.78
1:E:354:PRO:HD2	1:E:357:VAL:HG11	1.65	0.77
1:M:24:ILE:HD12	1:N:100:ASN:CA	2.13	0.77
1:B:4:ARG:HG3	1:B:77:PRO:HB3	1.65	0.77
1:N:354:PRO:O	1:N:357:VAL:HG12	1.84	0.77
1:A:24:ILE:HG13	1:B:100:ASN:HA	1.66	0.77
1:J:353:PHE:HB2	1:J:357:VAL:HG11	1.66	0.77
1:B:179:ASN:ND2	1:B:180:VAL:HG23	2.00	0.76
1:J:184:LYS:HZ1	3:J:1010:SRT:H2	1.50	0.76
1:C:167:ARG:HD3	1:C:203:GLU:HB2	1.67	0.76
1:G:161:LYS:HA	1:G:165:MET:HE3	1.68	0.76
1:P:184:LYS:NZ	3:P:1016:SRT:H2	2.00	0.76
1:F:161:LYS:HA	1:F:165:MET:HE3	1.67	0.76
1:L:161:LYS:HA	1:L:165:MET:HE3	1.67	0.76
1:O:11:ILE:HG23	1:O:33:LEU:HB3	1.68	0.76
1:P:9:ARG:NH1	1:P:388:ALA:HB2	2.01	0.75
1:B:161:LYS:HA	1:B:165:MET:HE3	1.66	0.75
1:C:184:LYS:NZ	3:C:1003:SRT:H2	2.02	0.75
1:I:161:LYS:HA	1:I:165:MET:HE3	1.67	0.75
1:M:11:ILE:HG23	1:M:33:LEU:HB3	1.68	0.75
1:H:11:ILE:HG23	1:H:33:LEU:HB3	1.67	0.75
1:I:65:ARG:HG3	1:I:65:ARG:HH11	1.51	0.75
1:J:161:LYS:HA	1:J:165:MET:HE3	1.67	0.75
1:O:170:MET:HG3	1:O:200:VAL:HG13	1.67	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:N:161:LYS:HA	1:N:165:MET:HE3	1.67	0.75
1:C:100:ASN:HA	1:D:24:ILE:CG1	2.13	0.75
1:O:24:ILE:HG13	1:P:100:ASN:HA	1.69	0.75
1:E:140:HIS:HE1	1:E:303:GLN:NE2	1.85	0.75
1:A:184:LYS:NZ	3:A:1001:SRT:H2	2.01	0.75
1:M:184:LYS:HD2	1:M:215:ASN:ND2	2.02	0.75
1:P:38:THR:OG1	1:P:47:VAL:HG13	1.87	0.74
1:D:179:ASN:H	1:D:179:ASN:HD22	1.35	0.74
1:E:184:LYS:NZ	3:E:1005:SRT:H2	2.03	0.74
1:F:140:HIS:HE1	1:F:303:GLN:NE2	1.85	0.74
1:N:10:GLU:HB3	1:N:65:ARG:HH12	1.52	0.74
1:J:140:HIS:HE1	1:J:303:GLN:NE2	1.86	0.74
1:A:161:LYS:HA	1:A:165:MET:HE3	1.70	0.74
1:G:19:ILE:HG13	1:G:156:TYR:CG	2.23	0.74
1:I:140:HIS:HE1	1:I:303:GLN:NE2	1.85	0.74
1:M:170:MET:HG3	1:M:200:VAL:HG13	1.70	0.74
1:D:140:HIS:HE1	1:D:303:GLN:NE2	1.86	0.74
1:K:38:THR:OG1	1:K:47:VAL:HG13	1.87	0.74
1:P:170:MET:HG3	1:P:200:VAL:HG13	1.70	0.73
1:G:354:PRO:O	1:G:357:VAL:HG12	1.87	0.73
1:C:38:THR:OG1	1:C:47:VAL:HG13	1.89	0.73
1:J:353:PHE:CB	1:J:357:VAL:HG11	2.19	0.73
1:H:161:LYS:HA	1:H:165:MET:HE3	1.69	0.73
1:L:184:LYS:NZ	3:L:1012:SRT:H2	2.03	0.73
1:B:167:ARG:HD3	1:B:203:GLU:HB2	1.70	0.72
1:H:170:MET:HG3	1:H:200:VAL:CG1	2.19	0.72
1:N:170:MET:HG3	1:N:200:VAL:HG13	1.70	0.72
1:A:284:PRO:HG3	1:K:284:PRO:HG3	1.72	0.71
1:C:140:HIS:HE1	1:C:303:GLN:NE2	1.89	0.71
1:N:184:LYS:NZ	3:N:1014:SRT:H2	2.05	0.71
1:D:184:LYS:NZ	3:D:1004:SRT:H2	2.05	0.71
1:H:38:THR:OG1	1:H:47:VAL:HG13	1.90	0.71
1:C:161:LYS:HA	1:C:165:MET:HE3	1.70	0.71
1:B:38:THR:OG1	1:B:47:VAL:HG13	1.91	0.71
1:E:161:LYS:HA	1:E:165:MET:HE3	1.72	0.71
1:E:145:ASN:C	1:E:145:ASN:HD22	1.94	0.71
1:F:23:TYR:O	1:F:24:ILE:HD12	1.91	0.71
1:M:140:HIS:HE1	1:M:303:GLN:NE2	1.89	0.71
1:F:38:THR:OG1	1:F:47:VAL:HG13	1.91	0.70
1:K:140:HIS:HE1	1:K:303:GLN:NE2	1.90	0.70
1:A:140:HIS:HE1	1:A:303:GLN:NE2	1.89	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:195:MET:HG2	1:G:163:LEU:HG	1.74	0.70
1:G:152:ALA:HB3	1:G:181:VAL:HG12	1.73	0.70
1:G:19:ILE:HG22	1:G:26:PHE:HB2	1.72	0.70
1:N:65:ARG:HG3	1:N:65:ARG:HH11	1.56	0.70
1:B:140:HIS:HE1	1:B:303:GLN:NE2	1.89	0.70
1:D:38:THR:OG1	1:D:47:VAL:HG13	1.91	0.70
1:J:183:MET:HG2	1:J:210:LEU:HD11	1.73	0.70
1:O:13:LYS:HZ2	1:O:383:GLU:HG3	1.57	0.70
1:C:354:PRO:HG2	1:C:357:VAL:HG11	1.73	0.69
1:O:38:THR:OG1	1:O:47:VAL:HG13	1.91	0.69
1:C:24:ILE:HG13	1:D:100:ASN:CA	2.21	0.69
1:I:11:ILE:HG23	1:I:33:LEU:HB3	1.74	0.69
1:D:140:HIS:HE1	1:D:303:GLN:HE21	1.40	0.69
1:K:9:ARG:HD2	1:K:388:ALA:HB2	1.73	0.69
1:O:140:HIS:HE1	1:O:303:GLN:NE2	1.90	0.69
1:H:140:HIS:HE1	1:H:303:GLN:NE2	1.90	0.69
1:L:348:GLN:HE21	1:L:349:PRO:HA	1.58	0.69
1:O:151:TYR:HE1	1:O:182:LYS:HE2	1.56	0.69
1:D:185:ILE:HD13	1:D:212:VAL:HB	1.74	0.68
1:J:359:VAL:HG22	1:J:364:ILE:HG22	1.74	0.68
1:F:167:ARG:HH22	1:G:167:ARG:HH22	1.41	0.68
1:M:167:ARG:HD3	1:M:203:GLU:HB2	1.76	0.68
1:O:185:ILE:HD13	1:O:212:VAL:HB	1.75	0.68
1:A:368:ASP:OD2	1:J:379:ASP:HB3	1.93	0.68
1:J:193:ASP:O	1:J:197:ILE:HG13	1.93	0.68
1:F:167:ARG:NH2	1:G:167:ARG:HH22	1.91	0.68
1:I:354:PRO:O	1:I:357:VAL:HG12	1.94	0.68
1:L:184:LYS:HZ1	3:L:1012:SRT:H2	1.58	0.68
1:D:193:ASP:O	1:D:197:ILE:HG13	1.94	0.68
1:G:140:HIS:HE1	1:G:303:GLN:NE2	1.92	0.68
1:J:38:THR:OG1	1:J:47:VAL:HG13	1.94	0.68
1:G:4:ARG:HG3	1:G:77:PRO:HB3	1.75	0.68
1:C:179:ASN:HD22	1:C:179:ASN:H	1.43	0.67
1:K:67:ARG:HD3	1:K:101:GLU:OE2	1.94	0.67
1:M:38:THR:OG1	1:M:47:VAL:HG13	1.94	0.67
1:E:354:PRO:O	1:E:357:VAL:HG12	1.94	0.67
1:O:184:LYS:CD	1:O:215:ASN:HD21	2.07	0.67
1:I:277:LEU:HD11	1:I:309:LEU:HD22	1.77	0.67
1:K:179:ASN:HD22	1:K:180:VAL:HG23	1.59	0.67
1:N:140:HIS:HE1	1:N:303:GLN:NE2	1.92	0.67
1:P:177:GLY:O	1:P:359:VAL:HG12	1.94	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:277:LEU:HD11	1:C:309:LEU:HD22	1.77	0.67
1:B:170:MET:HG3	1:B:200:VAL:HG13	1.75	0.67
1:N:137:ALA:HB2	1:N:144:ALA:HB2	1.77	0.67
1:B:19:ILE:CD1	1:B:346:LEU:HD21	2.25	0.67
1:H:270:HIS:HD2	1:H:301:GLU:OE2	1.78	0.67
1:H:354:PRO:O	1:H:357:VAL:HG12	1.95	0.67
1:I:184:LYS:NZ	3:I:1009:SRT:H2	2.09	0.67
1:F:170:MET:HG3	1:F:200:VAL:HG13	1.76	0.66
1:H:9:ARG:HG3	1:H:388:ALA:HB2	1.77	0.66
1:J:277:LEU:HD11	1:J:309:LEU:HD22	1.77	0.66
1:O:178:TYR:CD1	1:O:359:VAL:HG11	2.30	0.66
1:G:277:LEU:HD11	1:G:309:LEU:HD22	1.78	0.66
1:H:324:GLY:HA2	1:H:341:GLU:O	1.95	0.66
1:J:353:PHE:HB2	1:J:357:VAL:CG1	2.24	0.66
1:E:270:HIS:HD2	1:E:301:GLU:OE2	1.77	0.66
1:I:270:HIS:HD2	1:I:301:GLU:OE2	1.79	0.66
1:K:277:LEU:HD11	1:K:309:LEU:HD22	1.78	0.66
1:B:277:LEU:HD11	1:B:309:LEU:HD22	1.78	0.66
1:O:9:ARG:HD2	1:O:388:ALA:HB2	1.77	0.66
1:E:21:ASN:HB2	1:E:215:ASN:ND2	2.10	0.66
1:G:4:ARG:CZ	1:G:77:PRO:HG3	2.25	0.66
1:M:184:LYS:CD	1:M:215:ASN:HD21	2.07	0.66
1:M:324:GLY:HA2	1:M:341:GLU:O	1.96	0.66
1:J:72:ILE:HD11	1:J:97:MET:HB3	1.76	0.66
1:J:359:VAL:HG22	1:J:364:ILE:CG2	2.26	0.66
1:P:107:GLY:O	1:P:108:GLU:HB2	1.95	0.66
1:P:177:GLY:HA3	1:P:359:VAL:O	1.97	0.65
1:F:277:LEU:HD11	1:F:309:LEU:HD22	1.78	0.65
1:M:179:ASN:HD22	1:M:179:ASN:H	1.44	0.65
1:P:324:GLY:HA2	1:P:341:GLU:O	1.96	0.65
1:E:277:LEU:HD11	1:E:309:LEU:HD22	1.77	0.65
1:L:277:LEU:HD11	1:L:309:LEU:HD22	1.77	0.65
1:O:277:LEU:HD11	1:O:309:LEU:HD22	1.77	0.65
1:M:277:LEU:HD11	1:M:309:LEU:HD22	1.77	0.65
1:G:324:GLY:HA2	1:G:341:GLU:O	1.96	0.64
1:N:324:GLY:HA2	1:N:341:GLU:O	1.97	0.64
1:E:324:GLY:HA2	1:E:341:GLU:O	1.97	0.64
1:H:140:HIS:HE1	1:H:303:GLN:HE21	1.46	0.64
1:J:11:ILE:CG2	1:J:33:LEU:HB3	2.27	0.64
1:C:170:MET:HG3	1:C:200:VAL:HG13	1.79	0.64
1:F:107:GLY:O	1:F:109:ARG:N	2.30	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:L:173:TYR:CE1	1:L:344:PRO:HG2	2.32	0.64
1:O:108:GLU:OE2	1:P:109:ARG:HB3	1.98	0.64
1:B:140:HIS:HE1	1:B:303:GLN:HE21	1.45	0.64
1:D:270:HIS:HD2	1:D:301:GLU:OE2	1.81	0.64
1:G:167:ARG:NH2	1:G:202:GLU:HG2	2.13	0.64
1:A:354:PRO:HD2	1:A:357:VAL:HG11	1.79	0.64
1:E:13:LYS:HE3	1:E:383:GLU:HG3	1.80	0.64
1:N:190:ILE:HG23	1:N:191:GLU:N	2.12	0.64
1:P:140:HIS:HE1	1:P:303:GLN:NE2	1.95	0.64
1:E:170:MET:HG3	1:E:200:VAL:CG1	2.27	0.64
1:P:192:GLU:O	1:P:196:ARG:HG3	1.98	0.64
1:D:184:LYS:HZ2	3:D:1004:SRT:H2	1.61	0.64
1:A:324:GLY:HA2	1:A:341:GLU:O	1.98	0.64
1:B:157:TYR:CE2	1:B:187:GLY:HA3	2.32	0.64
1:D:358:ARG:NH1	1:D:358:ARG:HB3	2.12	0.64
1:M:23:TYR:O	1:M:24:ILE:HD13	1.97	0.64
1:B:9:ARG:HD2	1:B:388:ALA:HB2	1.80	0.63
1:L:270:HIS:HD2	1:L:301:GLU:OE2	1.80	0.63
1:N:349:PRO:O	1:N:380:LEU:HG	1.97	0.63
1:O:324:GLY:HA2	1:O:341:GLU:O	1.98	0.63
1:A:277:LEU:HD11	1:A:309:LEU:HD22	1.80	0.63
1:D:277:LEU:HD11	1:D:309:LEU:HD22	1.81	0.63
1:K:111:VAL:O	1:K:115:THR:HG22	1.98	0.63
1:P:270:HIS:HD2	1:P:301:GLU:OE2	1.80	0.63
1:P:277:LEU:HD11	1:P:309:LEU:HD22	1.78	0.63
1:C:101:GLU:N	1:D:24:ILE:HD11	2.12	0.63
1:D:324:GLY:HA2	1:D:341:GLU:O	1.97	0.63
1:M:24:ILE:HG23	1:N:100:ASN:CA	2.28	0.63
1:A:38:THR:OG1	1:A:47:VAL:HG13	1.99	0.63
1:E:64:ILE:HG23	1:E:116:ILE:HD11	1.81	0.63
1:J:177:GLY:O	1:J:359:VAL:HG12	1.98	0.63
1:D:11:ILE:CG2	1:D:33:LEU:HB3	2.28	0.63
1:L:140:HIS:HE1	1:L:303:GLN:NE2	1.96	0.63
1:N:277:LEU:HD11	1:N:309:LEU:HD22	1.79	0.63
1:P:4:ARG:HG3	1:P:77:PRO:HG3	1.81	0.63
1:P:179:ASN:H	1:P:179:ASN:HD22	1.45	0.63
1:F:196:ARG:O	1:F:200:VAL:HG23	1.98	0.63
1:F:270:HIS:HD2	1:F:301:GLU:OE2	1.81	0.63
1:J:111:VAL:O	1:J:115:THR:HG22	1.98	0.63
1:N:183:MET:HG2	1:N:210:LEU:HD11	1.80	0.63
1:E:358:ARG:HB3	1:E:358:ARG:NH1	2.14	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:270:HIS:HD2	1:B:301:GLU:OE2	1.82	0.63
1:F:167:ARG:NH2	1:G:167:ARG:NH2	2.46	0.63
1:H:111:VAL:O	1:H:115:THR:HG22	1.97	0.63
1:K:179:ASN:ND2	1:K:180:VAL:HG23	2.13	0.62
1:M:19:ILE:HD12	1:M:346:LEU:HD21	1.81	0.62
1:O:270:HIS:HD2	1:O:301:GLU:OE2	1.80	0.62
1:P:23:TYR:O	1:P:24:ILE:HD12	1.99	0.62
1:B:197:ILE:O	1:B:201:LEU:HD23	1.99	0.62
1:B:324:GLY:HA2	1:B:341:GLU:O	1.99	0.62
1:I:140:HIS:HE1	1:I:303:GLN:HE21	1.47	0.62
1:O:11:ILE:CG2	1:O:33:LEU:HB3	2.30	0.62
1:L:38:THR:OG1	1:L:47:VAL:HG13	1.99	0.62
1:M:270:HIS:HD2	1:M:301:GLU:OE2	1.82	0.62
1:B:40:VAL:O	1:B:47:VAL:HG12	2.00	0.62
1:O:183:MET:HG2	1:O:210:LEU:HD11	1.80	0.62
1:F:111:VAL:O	1:F:115:THR:HG22	1.99	0.62
1:K:156:TYR:HA	1:K:184:LYS:HG3	1.82	0.62
1:A:270:HIS:HD2	1:A:301:GLU:OE2	1.83	0.62
1:D:11:ILE:HG23	1:D:33:LEU:HB3	1.80	0.62
1:A:19:ILE:HD13	1:A:346:LEU:HD23	1.81	0.61
1:C:270:HIS:HD2	1:C:301:GLU:OE2	1.83	0.61
1:E:140:HIS:HE1	1:E:303:GLN:HE21	1.47	0.61
1:H:277:LEU:HD11	1:H:309:LEU:HD22	1.81	0.61
1:I:324:GLY:HA2	1:I:341:GLU:O	1.99	0.61
1:K:184:LYS:NZ	3:K:1011:SRT:H2	2.15	0.61
1:D:40:VAL:O	1:D:47:VAL:HG12	2.00	0.61
1:A:147:ARG:HG3	1:A:147:ARG:NH2	2.15	0.61
1:F:64:ILE:HG23	1:F:116:ILE:HD11	1.82	0.61
1:B:177:GLY:HA3	1:B:359:VAL:O	2.00	0.61
1:N:270:HIS:HD2	1:N:301:GLU:OE2	1.82	0.61
1:A:170:MET:HG3	1:A:200:VAL:HG13	1.82	0.61
1:D:199:ALA:O	1:D:202:GLU:HB3	2.00	0.61
1:K:196:ARG:O	1:K:200:VAL:HG23	2.00	0.61
1:L:166:LEU:HD22	1:L:200:VAL:CG2	2.30	0.61
1:M:151:TYR:CZ	1:M:341:GLU:HG3	2.35	0.61
1:B:156:TYR:HA	1:B:184:LYS:HG3	1.81	0.61
1:P:137:ALA:HB2	1:P:144:ALA:HB2	1.81	0.61
1:G:4:ARG:HE	1:G:77:PRO:HG3	1.63	0.61
1:J:270:HIS:HD2	1:J:301:GLU:OE2	1.83	0.61
1:K:170:MET:HG3	1:K:200:VAL:HG13	1.82	0.61
1:M:11:ILE:CG2	1:M:33:LEU:HB3	2.31	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:O:21:ASN:HB2	1:O:215:ASN:ND2	2.16	0.61
1:B:13:LYS:HZ3	1:B:383:GLU:HG3	1.66	0.60
1:C:111:VAL:O	1:C:115:THR:HG22	2.00	0.60
1:A:64:ILE:HG23	1:A:116:ILE:HD11	1.81	0.60
1:L:324:GLY:HA2	1:L:341:GLU:O	2.00	0.60
1:J:324:GLY:HA2	1:J:341:GLU:O	2.01	0.60
1:M:140:HIS:HE1	1:M:303:GLN:HE21	1.49	0.60
1:J:354:PRO:O	1:J:357:VAL:HG12	2.01	0.60
1:L:21:ASN:HB2	1:L:215:ASN:ND2	2.17	0.60
1:L:125:ALA:HB3	1:L:371:GLY:HA2	1.82	0.60
1:C:157:TYR:CE2	1:C:187:GLY:HA3	2.35	0.60
1:C:196:ARG:O	1:C:200:VAL:HG23	2.02	0.60
1:C:354:PRO:HG2	1:C:357:VAL:CG1	2.31	0.60
1:I:21:ASN:HB2	1:I:215:ASN:ND2	2.16	0.60
1:I:157:TYR:CE2	1:I:187:GLY:HA3	2.37	0.60
1:N:9:ARG:HD2	1:N:388:ALA:HB2	1.83	0.60
1:C:40:VAL:O	1:C:47:VAL:HG12	2.02	0.60
1:N:23:TYR:O	1:N:24:ILE:HD12	2.01	0.60
1:O:111:VAL:O	1:O:115:THR:HG22	2.00	0.60
1:C:140:HIS:HE1	1:C:303:GLN:HE21	1.48	0.60
1:M:354:PRO:O	1:M:357:VAL:HG13	2.00	0.60
1:B:19:ILE:HD12	1:B:346:LEU:HD21	1.83	0.60
1:C:324:GLY:HA2	1:C:341:GLU:O	2.01	0.60
1:O:13:LYS:HG3	1:O:350:TYR:OH	2.02	0.60
1:J:140:HIS:HE1	1:J:303:GLN:HE21	1.48	0.60
1:F:11:ILE:HG23	1:F:33:LEU:HB3	1.82	0.59
1:F:140:HIS:HE1	1:F:303:GLN:HE21	1.50	0.59
1:E:179:ASN:H	1:E:179:ASN:ND2	2.00	0.59
1:N:359:VAL:HG22	1:N:364:ILE:CG2	2.32	0.59
1:O:13:LYS:HZ3	1:O:383:GLU:HG3	1.67	0.59
1:J:125:ALA:HB3	1:J:371:GLY:HA2	1.83	0.59
1:M:358:ARG:NH1	1:M:358:ARG:HB3	2.16	0.59
1:O:192:GLU:O	1:O:196:ARG:HG3	2.03	0.59
1:G:270:HIS:HD2	1:G:301:GLU:OE2	1.85	0.59
1:I:111:VAL:O	1:I:115:THR:HG22	2.02	0.59
1:M:63:LEU:HD22	1:M:67:ARG:HH21	1.66	0.59
1:A:197:ILE:HG22	1:A:201:LEU:HD22	1.85	0.59
1:I:23:TYR:C	1:I:24:ILE:HD12	2.22	0.59
1:P:32:SER:O	1:P:52:PHE:HA	2.03	0.59
1:C:19:ILE:HG23	1:C:156:TYR:CD1	2.38	0.59
1:C:184:LYS:HZ2	3:C:1003:SRT:H2	1.66	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:11:ILE:HG23	1:B:33:LEU:HB3	1.83	0.59
1:L:193:ASP:O	1:L:197:ILE:HG13	2.01	0.59
1:N:32:SER:O	1:N:52:PHE:HA	2.03	0.59
1:F:18:PRO:HG2	1:F:158:TYR:CE1	2.37	0.59
1:O:152:ALA:HB2	1:O:178:TYR:CD2	2.37	0.59
1:P:125:ALA:HB3	1:P:371:GLY:HA2	1.85	0.59
1:G:101:GLU:N	1:H:24:ILE:HD11	2.18	0.58
1:J:64:ILE:HG23	1:J:116:ILE:HD11	1.85	0.58
1:J:185:ILE:HD13	1:J:212:VAL:HB	1.85	0.58
1:L:183:MET:HG2	1:L:210:LEU:HD11	1.85	0.58
1:M:194:ARG:O	1:M:198:GLU:HG3	2.03	0.58
1:P:156:TYR:CE1	1:P:184:LYS:HE2	2.38	0.58
1:P:179:ASN:H	1:P:179:ASN:ND2	2.01	0.58
1:K:354:PRO:HD2	1:K:357:VAL:HG11	1.84	0.58
1:E:103:PRO:HD3	1:F:23:TYR:CD2	2.38	0.58
1:H:10:GLU:CG	1:H:65:ARG:HH12	2.17	0.58
1:O:100:ASN:HA	1:P:24:ILE:CG1	2.31	0.58
1:H:125:ALA:HB3	1:H:371:GLY:HA2	1.84	0.58
1:I:67:ARG:HD3	1:I:101:GLU:OE2	2.03	0.58
1:N:72:ILE:HD12	1:N:93:VAL:HG13	1.85	0.58
1:A:27:THR:HG22	1:A:28:LYS:HG2	1.86	0.58
1:N:107:GLY:O	1:N:108:GLU:HB2	2.02	0.58
1:O:178:TYR:CE2	1:O:344:PRO:HG2	2.39	0.58
1:A:157:TYR:CE2	1:A:187:GLY:HA3	2.39	0.58
1:F:11:ILE:CG2	1:F:387:LEU:HD13	2.34	0.58
1:G:340:ASN:ND2	1:G:341:GLU:H	2.01	0.58
1:J:11:ILE:HG23	1:J:33:LEU:HB3	1.83	0.58
1:M:64:ILE:HG23	1:M:116:ILE:HD11	1.86	0.58
1:N:151:TYR:CZ	1:N:341:GLU:HG3	2.38	0.58
1:A:102:LYS:HG3	1:B:24:ILE:HD13	1.84	0.58
1:E:19:ILE:HG23	1:E:156:TYR:CD1	2.39	0.58
1:I:11:ILE:CG2	1:I:33:LEU:HB3	2.33	0.58
1:I:100:ASN:CA	1:J:24:ILE:HG13	2.32	0.58
1:K:140:HIS:HE1	1:K:303:GLN:HE21	1.51	0.58
1:B:151:TYR:CZ	1:B:341:GLU:HG3	2.39	0.58
1:I:184:LYS:HZ2	3:I:1009:SRT:H2	1.68	0.58
1:M:108:GLU:OE1	1:N:109:ARG:HB3	2.04	0.58
1:D:151:TYR:CZ	1:D:341:GLU:HG3	2.39	0.58
1:E:145:ASN:ND2	1:E:147:ARG:H	2.01	0.58
1:F:324:GLY:HA2	1:F:341:GLU:O	2.03	0.58
1:G:151:TYR:CZ	1:G:341:GLU:HG3	2.39	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:L:157:TYR:CE2	1:L:187:GLY:HA3	2.39	0.58
1:C:23:TYR:O	1:C:24:ILE:HD12	2.04	0.57
1:I:64:ILE:HG23	1:I:116:ILE:HD11	1.86	0.57
1:E:38:THR:OG1	1:E:47:VAL:HG13	2.04	0.57
1:G:24:ILE:HG13	1:H:100:ASN:CA	2.30	0.57
1:K:270:HIS:HD2	1:K:301:GLU:OE2	1.85	0.57
1:O:32:SER:O	1:O:52:PHE:HA	2.04	0.57
1:L:9:ARG:HH21	1:L:388:ALA:HA	1.68	0.57
1:P:111:VAL:O	1:P:115:THR:HG22	2.04	0.57
1:H:197:ILE:O	1:H:201:LEU:HB2	2.05	0.57
1:L:64:ILE:HG23	1:L:116:ILE:HD11	1.87	0.57
1:N:184:LYS:HZ2	3:N:1014:SRT:H2	1.68	0.57
1:D:140:HIS:CE1	1:D:303:GLN:HE21	2.22	0.57
1:L:166:LEU:HD22	1:L:200:VAL:HG22	1.85	0.57
1:O:58:TYR:HB2	1:P:67:ARG:NH2	2.19	0.57
1:H:72:ILE:HD12	1:H:93:VAL:HG13	1.86	0.57
1:J:360:GLU:O	1:J:361:ASN:HB2	2.05	0.57
1:K:324:GLY:HA2	1:K:341:GLU:O	2.03	0.57
1:O:196:ARG:O	1:O:200:VAL:HG23	2.05	0.57
1:B:111:VAL:O	1:B:115:THR:HG22	2.03	0.57
1:M:67:ARG:NH1	1:N:58:TYR:CD2	2.73	0.57
1:A:111:VAL:O	1:A:115:THR:HG22	2.04	0.57
1:D:111:VAL:O	1:D:115:THR:HG22	2.04	0.57
1:N:111:VAL:O	1:N:115:THR:HG22	2.05	0.57
1:P:27:THR:HG21	4:P:2028:HOH:O	2.03	0.57
1:P:151:TYR:CZ	1:P:341:GLU:HG3	2.39	0.57
1:P:184:LYS:HZ1	3:P:1016:SRT:H2	1.68	0.57
1:F:24:ILE:HG23	1:F:25:ASP:N	2.20	0.57
1:P:184:LYS:HZ3	3:P:1016:SRT:H2	1.69	0.57
1:L:354:PRO:HD2	1:L:357:VAL:HG11	1.86	0.56
1:O:178:TYR:CE1	1:O:359:VAL:HG11	2.39	0.56
1:C:57:ARG:O	1:C:58:TYR:HB2	2.04	0.56
1:E:71:ARG:HH12	1:E:101:GLU:HG2	1.70	0.56
1:E:179:ASN:H	1:E:179:ASN:HD22	1.53	0.56
1:G:111:VAL:O	1:G:115:THR:HG22	2.05	0.56
1:G:157:TYR:CE2	1:G:187:GLY:HA3	2.40	0.56
1:J:7:ASP:OD2	1:J:8:VAL:N	2.39	0.56
1:K:358:ARG:HG3	1:K:358:ARG:HH11	1.69	0.56
1:L:111:VAL:O	1:L:115:THR:HG22	2.05	0.56
1:M:111:VAL:O	1:M:115:THR:HG22	2.05	0.56
1:M:185:ILE:HD13	1:M:212:VAL:HB	1.87	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:340:ASN:ND2	1:B:341:GLU:H	2.04	0.56
1:C:100:ASN:CA	1:D:24:ILE:HG13	2.25	0.56
1:E:111:VAL:O	1:E:115:THR:HG22	2.05	0.56
1:F:13:LYS:HE3	1:F:383:GLU:HG3	1.88	0.56
1:J:194:ARG:NH1	1:J:233:TYR:OH	2.38	0.56
1:G:10:GLU:HG3	1:G:61:GLY:HA2	1.87	0.56
1:I:151:TYR:CZ	1:I:341:GLU:HG3	2.41	0.56
1:C:354:PRO:O	1:C:357:VAL:HG13	2.06	0.56
1:D:179:ASN:H	1:D:179:ASN:ND2	2.00	0.56
1:F:140:HIS:CE1	1:F:303:GLN:NE2	2.72	0.56
1:I:23:TYR:HB3	1:I:24:ILE:HD12	1.88	0.56
1:N:27:THR:HG22	1:N:28:LYS:HG2	1.88	0.56
1:O:177:GLY:HA3	1:O:359:VAL:O	2.06	0.56
1:B:178:TYR:CZ	1:B:359:VAL:HG21	2.41	0.56
1:L:23:TYR:O	1:L:24:ILE:HD12	2.06	0.56
1:M:125:ALA:HB3	1:M:371:GLY:HA2	1.88	0.56
1:P:140:HIS:HE1	1:P:303:GLN:HE21	1.54	0.56
1:A:125:ALA:HB3	1:A:371:GLY:HA2	1.88	0.56
1:E:145:ASN:HD22	1:E:147:ARG:H	1.51	0.56
1:F:32:SER:O	1:F:52:PHE:HA	2.07	0.56
1:G:70:SER:O	1:G:74:GLU:HG3	2.06	0.56
1:N:40:VAL:O	1:N:47:VAL:HG12	2.06	0.56
1:O:23:TYR:O	1:O:24:ILE:HD12	2.06	0.56
1:D:57:ARG:O	1:D:58:TYR:HB2	2.06	0.55
1:D:170:MET:HG3	1:D:200:VAL:HG13	1.88	0.55
1:F:27:THR:HG22	1:F:28:LYS:HG2	1.89	0.55
1:I:107:GLY:O	1:I:108:GLU:HB2	2.05	0.55
1:C:64:ILE:HG23	1:C:116:ILE:HD11	1.88	0.55
1:D:354:PRO:HD2	1:D:357:VAL:HG21	1.88	0.55
1:K:32:SER:O	1:K:52:PHE:HA	2.07	0.55
1:P:185:ILE:HD13	1:P:212:VAL:HB	1.89	0.55
1:A:32:SER:O	1:A:52:PHE:HA	2.07	0.55
1:N:125:ALA:HB3	1:N:371:GLY:HA2	1.88	0.55
1:N:184:LYS:HD2	1:N:215:ASN:HD21	1.71	0.55
1:P:11:ILE:HG23	1:P:33:LEU:HB3	1.88	0.55
1:C:179:ASN:H	1:C:179:ASN:ND2	2.02	0.55
1:E:285:ASP:OD1	1:E:286:ARG:HG2	2.06	0.55
1:G:27:THR:HG22	1:G:28:LYS:HG2	1.89	0.55
1:J:27:THR:HG22	1:J:28:LYS:HG2	1.88	0.55
1:J:177:GLY:HA3	1:J:359:VAL:O	2.07	0.55
1:P:27:THR:HG22	1:P:28:LYS:HG2	1.88	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:H:24:ILE:HG23	1:H:25:ASP:N	2.22	0.55
1:K:125:ALA:HB3	1:K:371:GLY:HA2	1.89	0.55
1:K:167:ARG:NH2	1:K:202:GLU:HG2	2.22	0.55
1:L:19:ILE:HG23	1:L:156:TYR:CD1	2.42	0.55
1:B:285:ASP:OD1	1:B:286:ARG:HG2	2.07	0.55
1:H:90:PRO:HG3	1:H:124:VAL:HG21	1.89	0.55
1:H:173:TYR:CE1	1:H:344:PRO:HG2	2.42	0.55
1:H:191:GLU:OE2	1:H:191:GLU:HA	2.06	0.55
1:J:13:LYS:HE3	1:J:383:GLU:HG3	1.87	0.55
1:J:32:SER:O	1:J:52:PHE:HA	2.07	0.55
1:N:190:ILE:HG23	1:N:191:GLU:H	1.72	0.55
1:D:27:THR:HG22	1:D:28:LYS:HG2	1.88	0.55
1:N:345:ASP:C	1:N:346:LEU:HD12	2.27	0.55
1:O:40:VAL:O	1:O:47:VAL:HG12	2.06	0.55
1:H:27:THR:HG22	1:H:28:LYS:HG2	1.89	0.54
1:M:340:ASN:ND2	1:M:341:GLU:H	2.04	0.54
1:N:140:HIS:HE1	1:N:303:GLN:HE21	1.55	0.54
1:C:24:ILE:HD11	1:D:101:GLU:N	2.21	0.54
1:E:151:TYR:CZ	1:E:341:GLU:HG3	2.41	0.54
1:I:13:LYS:HE3	1:I:383:GLU:HG3	1.88	0.54
1:K:27:THR:HG22	1:K:28:LYS:HG2	1.89	0.54
1:N:18:PRO:HG2	1:N:158:TYR:CZ	2.41	0.54
1:D:13:LYS:NZ	1:D:383:GLU:HG3	2.22	0.54
1:H:57:ARG:O	1:H:58:TYR:HB2	2.07	0.54
1:H:137:ALA:HB2	1:H:144:ALA:HB2	1.89	0.54
1:L:184:LYS:HE3	1:L:215:ASN:ND2	2.04	0.54
1:M:63:LEU:HD11	1:N:108:GLU:HG2	1.89	0.54
1:O:125:ALA:HB3	1:O:371:GLY:HA2	1.89	0.54
1:E:24:ILE:HD13	1:F:102:LYS:HG3	1.89	0.54
1:F:184:LYS:CE	1:F:215:ASN:HD21	2.17	0.54
1:G:32:SER:O	1:G:52:PHE:HA	2.08	0.54
1:G:184:LYS:NZ	3:G:1007:SRT:H2	2.22	0.54
1:J:57:ARG:O	1:J:58:TYR:HB2	2.08	0.54
1:K:24:ILE:HG13	1:L:100:ASN:CA	2.34	0.54
1:O:140:HIS:HE1	1:O:303:GLN:HE21	1.55	0.54
1:P:340:ASN:ND2	1:P:341:GLU:H	2.06	0.54
1:F:167:ARG:NH2	1:F:202:GLU:HG2	2.22	0.54
1:G:13:LYS:HE3	1:G:383:GLU:HG3	1.90	0.54
1:P:179:ASN:O	1:P:208:ALA:HA	2.07	0.54
1:A:360:GLU:HG3	1:J:358:ARG:NH1	2.22	0.54
1:G:40:VAL:O	1:G:47:VAL:HG12	2.07	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:I:24:ILE:HD13	1:J:102:LYS:HG2	1.90	0.54
1:K:23:TYR:HD2	1:K:24:ILE:CD1	2.20	0.54
1:M:178:TYR:OH	1:M:344:PRO:HG3	2.07	0.54
1:P:184:LYS:HE3	1:P:215:ASN:HD21	1.71	0.54
1:G:24:ILE:HD11	1:H:101:GLU:N	2.22	0.54
1:O:360:GLU:O	1:O:361:ASN:HB2	2.07	0.54
1:D:284:PRO:HG3	1:N:284:PRO:HG3	1.89	0.54
1:F:349:PRO:O	1:F:380:LEU:HG	2.08	0.54
1:H:151:TYR:CZ	1:H:341:GLU:HG3	2.43	0.54
1:M:19:ILE:CD1	1:M:346:LEU:HD21	2.38	0.54
1:O:151:TYR:CE1	1:O:182:LYS:HE2	2.41	0.54
1:G:151:TYR:HB2	1:G:180:VAL:HG12	1.89	0.54
1:H:8:VAL:HG23	1:H:73:LEU:HD21	1.89	0.54
1:H:65:ARG:HG3	1:H:65:ARG:HH11	1.73	0.54
1:J:167:ARG:HD3	1:J:203:GLU:CB	2.25	0.54
1:M:57:ARG:O	1:M:58:TYR:HB2	2.07	0.54
1:P:358:ARG:HA	1:P:358:ARG:HH11	1.72	0.54
1:A:24:ILE:HD11	1:B:101:GLU:O	2.08	0.54
1:B:11:ILE:CG2	1:B:387:LEU:HD13	2.38	0.54
1:H:17:SER:C	1:H:19:ILE:H	2.08	0.54
1:H:184:LYS:NZ	3:H:1008:SRT:H2	2.23	0.54
1:A:354:PRO:O	1:A:357:VAL:HG12	2.08	0.53
1:E:140:HIS:CE1	1:E:303:GLN:NE2	2.72	0.53
1:E:349:PRO:O	1:E:380:LEU:HG	2.08	0.53
1:L:140:HIS:HE1	1:L:303:GLN:HE21	1.55	0.53
1:P:11:ILE:CG2	1:P:33:LEU:HB3	2.38	0.53
1:B:194:ARG:HD2	1:B:195:MET:CE	2.39	0.53
1:C:184:LYS:HZ1	3:C:1003:SRT:H2	1.73	0.53
1:G:357:VAL:HG23	4:G:2012:HOH:O	2.09	0.53
1:H:65:ARG:HG3	1:H:65:ARG:NH1	2.22	0.53
1:J:156:TYR:CZ	1:J:184:LYS:HE3	2.44	0.53
1:M:156:TYR:CE1	1:M:184:LYS:HE2	2.43	0.53
1:M:184:LYS:HE3	1:M:215:ASN:HD21	1.74	0.53
1:N:198:GLU:O	1:N:202:GLU:HB2	2.08	0.53
1:P:179:ASN:HD22	1:P:179:ASN:N	2.04	0.53
1:F:57:ARG:O	1:F:58:TYR:HB2	2.08	0.53
1:I:27:THR:HG22	1:I:28:LYS:HG2	1.90	0.53
1:B:27:THR:HG22	1:B:28:LYS:HG2	1.90	0.53
1:G:64:ILE:HG23	1:G:116:ILE:HD11	1.90	0.53
1:H:158:TYR:HB3	1:H:161:LYS:HB2	1.91	0.53
1:I:167:ARG:NH2	1:I:202:GLU:CD	2.61	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:32:SER:O	1:D:52:PHE:HA	2.09	0.53
1:E:27:THR:HG22	1:E:28:LYS:HG2	1.90	0.53
1:N:57:ARG:O	1:N:58:TYR:HB2	2.09	0.53
1:O:57:ARG:O	1:O:58:TYR:HB2	2.08	0.53
1:B:57:ARG:O	1:B:58:TYR:HB2	2.08	0.53
1:J:158:TYR:HB3	1:J:161:LYS:HB2	1.90	0.53
1:K:64:ILE:HG23	1:K:116:ILE:HD11	1.91	0.53
1:L:179:ASN:ND2	1:L:179:ASN:H	2.06	0.53
1:M:158:TYR:HB3	1:M:161:LYS:HB2	1.91	0.53
1:O:27:THR:HG22	1:O:28:LYS:HG2	1.91	0.53
1:L:24:ILE:HG23	1:L:25:ASP:N	2.23	0.53
1:K:57:ARG:O	1:K:58:TYR:HB2	2.09	0.53
1:L:200:VAL:O	1:L:204:ILE:HG12	2.08	0.53
1:A:23:TYR:O	1:A:24:ILE:HD12	2.08	0.53
1:J:24:ILE:HG23	1:J:25:ASP:N	2.24	0.53
1:L:32:SER:O	1:L:52:PHE:HA	2.08	0.53
1:P:57:ARG:O	1:P:58:TYR:HB2	2.09	0.53
1:B:158:TYR:HB3	1:B:161:LYS:HB2	1.91	0.52
1:H:184:LYS:CE	1:H:215:ASN:HD21	2.14	0.52
1:L:27:THR:HG22	1:L:28:LYS:HG2	1.90	0.52
1:P:348:GLN:HE22	1:P:352:GLY:N	2.06	0.52
1:A:19:ILE:HD13	1:A:346:LEU:CD2	2.39	0.52
1:A:196:ARG:O	1:A:200:VAL:HG23	2.09	0.52
1:J:19:ILE:HG23	1:J:156:TYR:CD1	2.44	0.52
1:K:107:GLY:O	1:K:109:ARG:N	2.40	0.52
1:L:170:MET:HG3	1:L:200:VAL:CG1	2.32	0.52
1:M:24:ILE:HG22	1:M:25:ASP:N	2.24	0.52
1:N:340:ASN:ND2	1:N:341:GLU:H	2.06	0.52
1:H:107:GLY:O	1:H:108:GLU:HB2	2.08	0.52
1:J:140:HIS:CE1	1:J:303:GLN:NE2	2.72	0.52
1:J:179:ASN:ND2	1:J:180:VAL:HG23	2.24	0.52
1:J:340:ASN:ND2	1:J:341:GLU:H	2.07	0.52
1:B:19:ILE:HD11	1:B:346:LEU:HD21	1.91	0.52
1:B:179:ASN:H	1:B:179:ASN:HD22	1.57	0.52
1:H:340:ASN:ND2	1:H:341:GLU:H	2.07	0.52
1:B:64:ILE:HG23	1:B:116:ILE:HD11	1.91	0.52
1:K:23:TYR:C	1:K:24:ILE:HD12	2.30	0.52
1:M:197:ILE:O	1:M:201:LEU:HB2	2.09	0.52
1:D:157:TYR:CE2	1:D:187:GLY:HA3	2.45	0.52
1:E:340:ASN:ND2	1:E:341:GLU:H	2.07	0.52
1:F:179:ASN:HD22	1:F:179:ASN:H	1.58	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:H:40:VAL:O	1:H:47:VAL:HG12	2.10	0.52
1:I:38:THR:OG1	1:I:47:VAL:HG13	2.10	0.52
1:N:72:ILE:HD12	1:N:93:VAL:CG1	2.40	0.52
1:O:140:HIS:CE1	1:O:303:GLN:NE2	2.76	0.52
1:P:64:ILE:HG23	1:P:116:ILE:HD11	1.91	0.52
1:H:71:ARG:HH12	1:H:101:GLU:HG2	1.75	0.52
1:J:4:ARG:HG3	1:J:77:PRO:HB3	1.92	0.52
1:M:179:ASN:H	1:M:179:ASN:ND2	2.08	0.52
1:B:170:MET:HG3	1:B:200:VAL:CG1	2.39	0.52
1:D:11:ILE:HG12	1:D:13:LYS:HE3	1.91	0.52
1:D:23:TYR:O	1:D:24:ILE:HD12	2.10	0.52
1:E:156:TYR:CE1	1:E:184:LYS:HE3	2.45	0.52
1:K:23:TYR:CD2	1:L:103:PRO:HD3	2.45	0.52
1:L:179:ASN:ND2	1:L:180:VAL:HG23	2.25	0.52
1:N:200:VAL:O	1:N:204:ILE:HG12	2.10	0.52
1:E:23:TYR:CD2	1:F:103:PRO:HD3	2.44	0.52
1:H:285:ASP:OD1	1:H:286:ARG:HG2	2.10	0.52
1:I:140:HIS:CE1	1:I:303:GLN:NE2	2.73	0.52
1:J:140:HIS:CE1	1:J:303:GLN:HE21	2.27	0.52
1:D:140:HIS:CE1	1:D:303:GLN:NE2	2.73	0.51
1:N:346:LEU:HD12	1:N:346:LEU:N	2.25	0.51
1:O:151:TYR:CZ	1:O:341:GLU:HG3	2.45	0.51
1:P:285:ASP:OD1	1:P:286:ARG:HG2	2.10	0.51
1:C:32:SER:O	1:C:52:PHE:HA	2.11	0.51
1:F:340:ASN:ND2	1:F:341:GLU:H	2.08	0.51
1:K:100:ASN:HA	1:L:24:ILE:CG1	2.29	0.51
1:O:358:ARG:HD3	1:O:360:GLU:OE2	2.10	0.51
1:A:57:ARG:O	1:A:58:TYR:HB2	2.10	0.51
1:I:354:PRO:HD2	1:I:357:VAL:HG11	1.91	0.51
1:K:40:VAL:O	1:K:47:VAL:HG12	2.10	0.51
1:K:349:PRO:O	1:K:380:LEU:HG	2.11	0.51
1:L:340:ASN:ND2	1:L:341:GLU:H	2.07	0.51
1:G:244:PRO:CD	1:H:103:PRO:HB2	2.40	0.51
1:K:24:ILE:HD11	1:L:101:GLU:O	2.10	0.51
1:C:108:GLU:OE2	1:D:67:ARG:NH2	2.42	0.51
1:C:140:HIS:CE1	1:C:303:GLN:NE2	2.76	0.51
1:D:326:GLN:OE1	1:D:326:GLN:N	2.42	0.51
1:E:140:HIS:CE1	1:E:303:GLN:HE21	2.27	0.51
1:G:9:ARG:NH1	1:G:388:ALA:HA	2.25	0.51
1:L:179:ASN:H	1:L:179:ASN:HD22	1.57	0.51
1:N:285:ASP:OD1	1:N:286:ARG:HG2	2.11	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:P:170:MET:HG3	1:P:200:VAL:CG1	2.39	0.51
1:A:147:ARG:HH21	1:A:147:ARG:CG	2.20	0.51
1:B:179:ASN:HD22	1:B:179:ASN:N	2.08	0.51
1:E:160:GLY:O	1:E:165:MET:HE3	2.10	0.51
1:F:158:TYR:HB3	1:F:161:LYS:HB2	1.92	0.51
1:N:158:TYR:HB3	1:N:161:LYS:HB2	1.91	0.51
1:G:182:LYS:HD2	1:G:213:ASP:HB2	1.92	0.51
1:K:190:ILE:HG23	1:K:191:GLU:N	2.26	0.51
1:K:197:ILE:HG22	1:K:201:LEU:HD22	1.93	0.51
1:O:158:TYR:HB3	1:O:161:LYS:HB2	1.91	0.51
1:C:285:ASP:OD1	1:C:286:ARG:HG2	2.11	0.51
1:L:151:TYR:CZ	1:L:341:GLU:HG3	2.45	0.51
1:L:285:ASP:OD1	1:L:286:ARG:HG2	2.11	0.51
1:C:8:VAL:HG23	1:C:73:LEU:HD21	1.93	0.51
1:C:184:LYS:HD2	1:C:215:ASN:HD21	1.76	0.51
1:E:179:ASN:HD22	1:E:179:ASN:N	2.07	0.51
1:K:179:ASN:HD22	1:K:179:ASN:C	2.14	0.51
1:N:64:ILE:HG23	1:N:116:ILE:HD11	1.92	0.51
1:N:137:ALA:CB	1:N:144:ALA:HB2	2.41	0.51
1:L:40:VAL:O	1:L:47:VAL:HG12	2.11	0.51
1:G:24:ILE:CG1	1:H:100:ASN:HA	2.31	0.50
1:I:340:ASN:ND2	1:I:341:GLU:H	2.09	0.50
1:P:114:GLY:HA2	1:P:298:GLY:N	2.26	0.50
1:P:158:TYR:HB3	1:P:161:LYS:HB2	1.94	0.50
1:A:183:MET:HG2	1:A:210:LEU:HD11	1.93	0.50
1:D:340:ASN:ND2	1:D:341:GLU:H	2.09	0.50
1:I:24:ILE:HG13	1:J:100:ASN:HA	1.92	0.50
1:J:170:MET:HG3	1:J:200:VAL:CG1	2.37	0.50
1:K:151:TYR:CZ	1:K:341:GLU:HG3	2.46	0.50
1:P:40:VAL:O	1:P:47:VAL:HG12	2.11	0.50
1:D:158:TYR:HB3	1:D:161:LYS:HB2	1.93	0.50
1:F:125:ALA:HB3	1:F:371:GLY:HA2	1.94	0.50
1:G:9:ARG:HH11	1:G:388:ALA:CB	2.25	0.50
1:G:158:TYR:HB3	1:G:161:LYS:HB2	1.92	0.50
1:H:23:TYR:O	1:H:24:ILE:HD12	2.11	0.50
1:N:24:ILE:HG23	1:N:25:ASP:N	2.25	0.50
1:C:197:ILE:O	1:C:201:LEU:HD22	2.11	0.50
1:D:178:TYR:CZ	1:D:359:VAL:HG21	2.47	0.50
1:E:10:GLU:OE1	1:E:65:ARG:NH1	2.44	0.50
1:J:179:ASN:HD22	1:J:179:ASN:N	2.08	0.50
1:K:178:TYR:CZ	1:K:359:VAL:HG21	2.46	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:L:158:TYR:HB3	1:L:161:LYS:HB2	1.93	0.50
1:M:27:THR:HG22	1:M:28:LYS:HG2	1.93	0.50
1:O:340:ASN:ND2	1:O:341:GLU:H	2.08	0.50
1:A:158:TYR:HB3	1:A:161:LYS:HB2	1.92	0.50
1:D:125:ALA:HB3	1:D:371:GLY:HA2	1.93	0.50
1:E:158:TYR:HB3	1:E:161:LYS:HB2	1.93	0.50
1:G:9:ARG:HH11	1:G:388:ALA:HA	1.76	0.50
1:J:179:ASN:HD22	1:J:179:ASN:H	1.59	0.50
1:J:182:LYS:HA	1:J:211:ALA:O	2.11	0.50
1:B:184:LYS:NZ	3:B:1002:SRT:H2	2.26	0.50
1:C:158:TYR:HB3	1:C:161:LYS:HB2	1.92	0.50
1:D:179:ASN:HD22	1:D:179:ASN:N	1.98	0.50
1:E:100:ASN:CA	1:F:24:ILE:HG13	2.34	0.50
1:H:173:TYR:HE1	1:H:344:PRO:HG2	1.75	0.50
1:I:57:ARG:O	1:I:58:TYR:HB2	2.12	0.50
1:L:57:ARG:O	1:L:58:TYR:HB2	2.11	0.50
1:M:179:ASN:HD22	1:M:179:ASN:N	2.04	0.50
1:O:82:ASN:ND2	1:O:87:ASN:HB3	2.27	0.50
1:A:23:TYR:HD2	1:A:24:ILE:HD12	1.77	0.50
1:C:140:HIS:CE1	1:C:303:GLN:HE21	2.29	0.50
1:D:19:ILE:HG13	1:D:156:TYR:CB	2.41	0.50
1:D:184:LYS:HD2	1:D:215:ASN:HD21	1.75	0.50
1:H:270:HIS:CD2	1:H:301:GLU:OE2	2.63	0.50
1:M:82:ASN:ND2	1:M:87:ASN:HB3	2.27	0.50
1:M:346:LEU:O	1:M:347:PHE:HB2	2.12	0.50
1:E:11:ILE:HG23	1:E:33:LEU:HB3	1.93	0.50
1:E:82:ASN:ND2	1:E:87:ASN:HB3	2.27	0.50
1:K:38:THR:HG1	1:K:47:VAL:HG13	1.77	0.50
1:K:140:HIS:CE1	1:K:303:GLN:NE2	2.76	0.50
1:L:75:ALA:O	1:L:77:PRO:HD3	2.12	0.50
1:M:184:LYS:CE	1:M:215:ASN:HD21	2.25	0.50
1:O:64:ILE:HG23	1:O:116:ILE:HD11	1.92	0.50
1:A:184:LYS:NZ	1:A:215:ASN:HD21	2.10	0.50
1:C:27:THR:HG22	1:C:28:LYS:HG2	1.93	0.50
1:F:270:HIS:CD2	1:F:301:GLU:OE2	2.64	0.50
1:G:17:SER:OG	1:G:19:ILE:HB	2.11	0.50
1:I:40:VAL:O	1:I:47:VAL:HG12	2.11	0.50
1:A:340:ASN:ND2	1:A:341:GLU:H	2.10	0.49
1:D:19:ILE:HG22	1:D:26:PHE:HB2	1.94	0.49
1:I:158:TYR:HB3	1:I:161:LYS:HB2	1.94	0.49
1:I:285:ASP:OD1	1:I:286:ARG:HG2	2.11	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:J:285:ASP:OD1	1:J:286:ARG:HG2	2.12	0.49
1:K:158:TYR:HB3	1:K:161:LYS:HB2	1.94	0.49
1:M:40:VAL:O	1:M:47:VAL:HG12	2.11	0.49
1:M:166:LEU:HD22	1:M:200:VAL:CG2	2.41	0.49
1:O:67:ARG:HH21	1:P:58:TYR:HB2	1.76	0.49
1:C:326:GLN:OE1	1:C:326:GLN:N	2.43	0.49
1:F:351:GLY:O	1:F:377:LYS:HE3	2.12	0.49
1:B:162:GLY:H	1:B:165:MET:HE3	1.78	0.49
1:D:64:ILE:HG23	1:D:116:ILE:HD11	1.94	0.49
1:G:340:ASN:HD22	1:G:341:GLU:H	1.59	0.49
1:K:343:TYR:HB3	1:K:346:LEU:HB2	1.95	0.49
1:M:178:TYR:CE2	1:M:344:PRO:HG2	2.48	0.49
1:N:145:ASN:O	1:N:333:ALA:HB1	2.12	0.49
1:O:100:ASN:CA	1:P:24:ILE:HG13	2.35	0.49
1:M:285:ASP:OD1	1:M:286:ARG:HG2	2.13	0.49
1:O:193:ASP:O	1:O:197:ILE:HG13	2.12	0.49
1:P:75:ALA:O	1:P:77:PRO:HD3	2.12	0.49
1:E:57:ARG:O	1:E:58:TYR:HB2	2.12	0.49
1:F:194:ARG:CZ	1:F:229:MET:HG2	2.42	0.49
1:G:19:ILE:HG13	1:G:156:TYR:CB	2.43	0.49
1:G:285:ASP:OD1	1:G:286:ARG:HG2	2.13	0.49
1:J:151:TYR:CZ	1:J:341:GLU:HG3	2.48	0.49
1:L:283:ARG:HD3	1:L:283:ARG:N	2.28	0.49
1:N:353:PHE:HB3	1:N:354:PRO:HD2	1.95	0.49
1:A:21:ASN:HB2	1:A:215:ASN:ND2	2.28	0.49
1:A:140:HIS:HE1	1:A:303:GLN:HE21	1.57	0.49
1:H:32:SER:O	1:H:52:PHE:HA	2.12	0.49
1:M:21:ASN:HB2	1:M:215:ASN:ND2	2.28	0.49
1:N:42:ARG:O	1:N:43:GLU:HB2	2.13	0.49
1:O:285:ASP:OD1	1:O:286:ARG:HG2	2.13	0.49
1:P:357:VAL:HG22	1:P:358:ARG:N	2.27	0.49
1:F:40:VAL:O	1:F:47:VAL:HG12	2.13	0.49
1:H:11:ILE:CG2	1:H:387:LEU:HD13	2.42	0.49
1:K:23:TYR:O	1:K:24:ILE:HD12	2.13	0.49
1:M:101:GLU:N	1:N:24:ILE:HD11	2.28	0.49
1:M:179:ASN:ND2	1:M:179:ASN:N	2.61	0.49
1:A:285:ASP:OD1	1:A:286:ARG:HG2	2.13	0.49
1:J:179:ASN:ND2	1:J:179:ASN:H	2.11	0.49
1:K:340:ASN:ND2	1:K:341:GLU:H	2.10	0.49
1:L:196:ARG:HB2	1:L:196:ARG:HH11	1.78	0.49
1:N:82:ASN:ND2	1:N:87:ASN:HB3	2.28	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:O:72:ILE:HD11	1:O:97:MET:SD	2.53	0.49
1:O:162:GLY:H	1:O:165:MET:HE3	1.78	0.49
1:E:125:ALA:HB3	1:E:371:GLY:HA2	1.94	0.49
1:H:287:ASP:O	1:H:318:ARG:HD3	2.12	0.49
1:M:170:MET:HG3	1:M:200:VAL:CG1	2.42	0.49
1:B:184:LYS:HZ1	3:B:1002:SRT:H2	1.76	0.49
1:I:140:HIS:CE1	1:I:303:GLN:HE21	2.28	0.49
1:J:187:GLY:O	1:J:188:ALA:HB2	2.13	0.49
1:N:68:PHE:O	1:N:72:ILE:HG12	2.12	0.49
1:P:67:ARG:HD3	1:P:101:GLU:OE2	2.12	0.48
1:P:82:ASN:ND2	1:P:87:ASN:HB3	2.28	0.48
1:A:151:TYR:CZ	1:A:341:GLU:HG3	2.48	0.48
1:B:42:ARG:O	1:B:43:GLU:HB2	2.13	0.48
1:F:82:ASN:ND2	1:F:87:ASN:HB3	2.28	0.48
1:F:194:ARG:NH1	1:F:229:MET:HG2	2.27	0.48
1:G:100:ASN:CA	1:H:24:ILE:HG13	2.32	0.48
1:C:125:ALA:HB3	1:C:371:GLY:HA2	1.95	0.48
1:I:3:VAL:HG13	1:I:40:VAL:HG21	1.95	0.48
1:J:82:ASN:ND2	1:J:87:ASN:HB3	2.28	0.48
1:K:24:ILE:HD11	1:L:101:GLU:C	2.33	0.48
1:M:358:ARG:NH1	1:M:358:ARG:CB	2.76	0.48
1:O:114:GLY:HA2	1:O:298:GLY:N	2.28	0.48
1:A:184:LYS:HZ2	1:A:215:ASN:HD21	1.61	0.48
1:B:249:LEU:C	1:B:249:LEU:HD23	2.34	0.48
1:G:140:HIS:HE1	1:G:303:GLN:HE21	1.57	0.48
1:J:21:ASN:HB2	1:J:215:ASN:ND2	2.29	0.48
1:M:100:ASN:HA	1:N:24:ILE:CG1	2.36	0.48
1:N:157:TYR:OH	1:N:193:ASP:OD1	2.31	0.48
1:C:340:ASN:ND2	1:C:341:GLU:H	2.11	0.48
1:F:140:HIS:CE1	1:F:303:GLN:HE21	2.28	0.48
1:G:358:ARG:CZ	1:G:358:ARG:HB3	2.43	0.48
1:J:166:LEU:HD22	1:J:200:VAL:HG22	1.96	0.48
1:N:184:LYS:HZ1	3:N:1014:SRT:H2	1.74	0.48
1:P:19:ILE:HG13	1:P:156:TYR:CB	2.43	0.48
1:B:140:HIS:CE1	1:B:303:GLN:NE2	2.77	0.48
1:F:18:PRO:HG2	1:F:158:TYR:CZ	2.49	0.48
1:H:241:VAL:CG1	1:H:253:LEU:HD21	2.38	0.48
1:A:82:ASN:ND2	1:A:87:ASN:HB3	2.29	0.48
1:B:4:ARG:HG3	1:B:77:PRO:CB	2.41	0.48
1:C:82:ASN:ND2	1:C:87:ASN:HB3	2.29	0.48
1:G:5:ILE:HD13	1:G:36:VAL:HG13	1.96	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:103:PRO:HD3	1:F:23:TYR:CE2	2.49	0.48
1:I:18:PRO:HB2	1:I:158:TYR:CE1	2.48	0.48
1:M:19:ILE:HG12	1:M:156:TYR:CB	2.43	0.48
1:M:140:HIS:CE1	1:M:303:GLN:HE21	2.31	0.48
1:O:11:ILE:HG12	1:O:13:LYS:HE3	1.94	0.48
1:O:157:TYR:CE2	1:O:187:GLY:HA3	2.49	0.48
1:P:21:ASN:HB2	1:P:215:ASN:ND2	2.29	0.48
1:J:23:TYR:O	1:J:24:ILE:HD12	2.13	0.48
1:O:270:HIS:CD2	1:O:301:GLU:OE2	2.65	0.48
1:C:249:LEU:C	1:C:249:LEU:HD23	2.34	0.48
1:C:326:GLN:HG2	4:C:2041:HOH:O	2.13	0.48
1:I:270:HIS:CD2	1:I:301:GLU:OE2	2.64	0.48
1:B:14:PRO:HG3	1:D:159:PRO:HG3	1.96	0.47
1:E:179:ASN:ND2	1:E:179:ASN:N	2.61	0.47
1:I:82:ASN:ND2	1:I:87:ASN:HB3	2.28	0.47
1:J:357:VAL:O	1:J:357:VAL:HG13	2.13	0.47
1:A:13:LYS:HG3	1:A:350:TYR:OH	2.14	0.47
1:G:57:ARG:O	1:G:58:TYR:HB2	2.14	0.47
1:H:66:GLU:OE2	1:H:66:GLU:HA	2.14	0.47
1:H:82:ASN:ND2	1:H:87:ASN:HB3	2.28	0.47
1:N:65:ARG:HH11	1:N:65:ARG:CG	2.27	0.47
1:C:151:TYR:CZ	1:C:341:GLU:HG3	2.49	0.47
1:C:349:PRO:O	1:C:380:LEU:HG	2.13	0.47
1:F:21:ASN:HB2	1:F:215:ASN:ND2	2.29	0.47
1:I:19:ILE:HD12	1:I:158:TYR:HD1	1.79	0.47
1:K:190:ILE:CG2	1:K:191:GLU:N	2.77	0.47
1:M:15:ILE:HD11	1:M:30:THR:O	2.14	0.47
1:B:156:TYR:CE1	1:B:184:LYS:HD2	2.49	0.47
1:E:358:ARG:HB3	1:E:358:ARG:HH11	1.78	0.47
1:G:4:ARG:HG2	1:G:5:ILE:N	2.30	0.47
1:O:179:ASN:O	1:O:180:VAL:HG23	2.14	0.47
1:A:249:LEU:C	1:A:249:LEU:HD23	2.34	0.47
1:B:270:HIS:CD2	1:B:301:GLU:OE2	2.66	0.47
1:B:345:ASP:O	1:B:346:LEU:HG	2.14	0.47
1:J:72:ILE:CD1	1:J:97:MET:HB3	2.44	0.47
1:M:100:ASN:CA	1:N:24:ILE:HG13	2.37	0.47
1:B:193:ASP:O	1:B:197:ILE:HG13	2.14	0.47
1:C:156:TYR:CE1	1:C:184:LYS:HE3	2.50	0.47
1:D:249:LEU:HD23	1:D:249:LEU:C	2.34	0.47
1:D:350:TYR:OH	1:D:383:GLU:HG2	2.14	0.47
1:G:21:ASN:HB2	1:G:215:ASN:ND2	2.29	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:182:LYS:HA	1:A:211:ALA:O	2.14	0.47
1:B:140:HIS:CE1	1:B:303:GLN:HE21	2.28	0.47
1:B:182:LYS:HA	1:B:211:ALA:O	2.14	0.47
1:C:270:HIS:CD2	1:C:301:GLU:OE2	2.65	0.47
1:F:24:ILE:CG2	1:F:25:ASP:N	2.78	0.47
1:G:184:LYS:HZ3	3:G:1007:SRT:H2	1.80	0.47
1:H:64:ILE:HG23	1:H:116:ILE:HD11	1.95	0.47
1:H:107:GLY:O	1:H:108:GLU:CB	2.63	0.47
1:H:349:PRO:O	1:H:380:LEU:HG	2.14	0.47
1:I:101:GLU:N	1:J:24:ILE:HD11	2.30	0.47
1:I:179:ASN:C	1:I:179:ASN:HD22	2.17	0.47
1:I:351:GLY:O	1:I:377:LYS:HE3	2.14	0.47
1:J:190:ILE:HD11	1:J:229:MET:CB	2.44	0.47
1:N:10:GLU:HB3	1:N:65:ARG:NH1	2.25	0.47
1:N:179:ASN:H	1:N:179:ASN:HD22	1.62	0.47
1:O:60:GLN:HE22	1:O:108:GLU:HG3	1.80	0.47
1:A:17:SER:OG	1:A:19:ILE:HG23	2.14	0.47
1:A:160:GLY:O	1:A:165:MET:HE3	2.14	0.47
1:A:179:ASN:C	1:A:179:ASN:HD22	2.18	0.47
1:B:179:ASN:ND2	1:B:179:ASN:H	2.13	0.47
1:D:25:ASP:C	1:D:25:ASP:OD1	2.53	0.47
1:H:114:GLY:HA2	1:H:298:GLY:N	2.29	0.47
1:H:140:HIS:CE1	1:H:303:GLN:HE21	2.29	0.47
1:H:188:ALA:HB1	1:H:189:PRO:HD2	1.97	0.47
1:L:179:ASN:HD22	1:L:179:ASN:N	2.10	0.47
1:N:107:GLY:O	1:N:108:GLU:CB	2.63	0.47
1:B:82:ASN:ND2	1:B:87:ASN:HB3	2.29	0.47
1:F:151:TYR:CZ	1:F:341:GLU:HG3	2.49	0.47
1:J:160:GLY:O	1:J:165:MET:HE3	2.15	0.47
1:J:182:LYS:HD2	1:J:213:ASP:HB2	1.95	0.47
1:A:23:TYR:C	1:A:24:ILE:HD12	2.35	0.47
1:A:137:ALA:HB2	1:A:144:ALA:HB2	1.96	0.47
1:B:120:VAL:O	1:B:124:VAL:HG23	2.16	0.47
1:O:354:PRO:HD2	1:O:357:VAL:HG21	1.97	0.47
1:P:249:LEU:HD23	1:P:249:LEU:C	2.35	0.47
1:D:270:HIS:CD2	1:D:301:GLU:OE2	2.65	0.46
1:G:355:ASP:OD1	1:G:377:LYS:HA	2.15	0.46
1:J:241:VAL:CG1	1:J:253:LEU:HD21	2.37	0.46
1:N:10:GLU:HG3	1:N:64:ILE:HD12	1.97	0.46
1:P:169:GLU:HG2	1:P:173:TYR:CE2	2.50	0.46
1:G:170:MET:HG3	1:G:200:VAL:HG13	1.98	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:I:114:GLY:HA2	1:I:298:GLY:N	2.30	0.46
1:J:40:VAL:O	1:J:47:VAL:HG12	2.15	0.46
1:J:184:LYS:NZ	1:J:215:ASN:HD21	2.13	0.46
1:K:160:GLY:O	1:K:165:MET:HE3	2.16	0.46
1:L:82:ASN:ND2	1:L:87:ASN:HB3	2.30	0.46
1:N:65:ARG:HG3	1:N:65:ARG:NH1	2.29	0.46
1:N:179:ASN:H	1:N:179:ASN:ND2	2.13	0.46
1:C:108:GLU:CD	1:D:67:ARG:HH22	2.19	0.46
1:H:249:LEU:C	1:H:249:LEU:HD23	2.36	0.46
1:I:326:GLN:OE1	1:I:326:GLN:N	2.45	0.46
1:P:137:ALA:CB	1:P:144:ALA:HB2	2.45	0.46
1:B:19:ILE:HD12	1:B:346:LEU:CD2	2.46	0.46
1:D:287:ASP:O	1:D:318:ARG:HD3	2.16	0.46
1:D:358:ARG:HB3	1:D:358:ARG:CZ	2.45	0.46
1:G:358:ARG:HB3	1:G:358:ARG:NH1	2.31	0.46
1:K:82:ASN:ND2	1:K:87:ASN:HB3	2.30	0.46
1:K:192:GLU:O	1:K:196:ARG:HG3	2.16	0.46
1:O:182:LYS:HA	1:O:211:ALA:O	2.16	0.46
1:O:184:LYS:HD3	1:O:213:ASP:HB3	1.98	0.46
1:A:147:ARG:NH2	1:A:147:ARG:CG	2.78	0.46
1:E:145:ASN:C	1:E:145:ASN:ND2	2.67	0.46
1:G:82:ASN:ND2	1:G:87:ASN:HB3	2.30	0.46
1:G:353:PHE:HB3	1:G:354:PRO:HD2	1.98	0.46
1:I:25:ASP:C	1:I:25:ASP:OD1	2.54	0.46
1:I:90:PRO:HG3	1:I:124:VAL:HG21	1.97	0.46
1:L:216:GLY:N	1:L:240:GLU:HG2	2.31	0.46
1:N:190:ILE:CG2	1:N:191:GLU:N	2.78	0.46
1:B:19:ILE:HG23	1:B:156:TYR:CD1	2.50	0.46
1:B:32:SER:O	1:B:52:PHE:HA	2.15	0.46
1:M:13:LYS:HE3	1:M:383:GLU:HG3	1.97	0.46
1:N:270:HIS:CD2	1:N:301:GLU:OE2	2.66	0.46
1:O:178:TYR:CE1	1:O:359:VAL:HG21	2.51	0.46
1:B:125:ALA:HB3	1:B:371:GLY:HA2	1.97	0.46
1:E:21:ASN:HB3	1:E:184:LYS:HG2	1.97	0.46
1:E:201:LEU:HD12	1:E:201:LEU:HA	1.77	0.46
1:G:249:LEU:C	1:G:249:LEU:HD23	2.35	0.46
1:H:11:ILE:HG12	1:H:13:LYS:HE2	1.97	0.46
1:H:162:GLY:H	1:H:165:MET:HE3	1.81	0.46
1:J:25:ASP:OD1	1:J:25:ASP:C	2.53	0.46
1:M:167:ARG:NH2	1:M:202:GLU:OE1	2.48	0.46
1:O:22:ALA:HB2	1:O:185:ILE:O	2.16	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:P:241:VAL:CG1	1:P:253:LEU:HD21	2.39	0.46
1:B:21:ASN:HB2	1:B:215:ASN:ND2	2.30	0.46
1:D:82:ASN:ND2	1:D:87:ASN:HB3	2.30	0.46
1:D:241:VAL:CG1	1:D:253:LEU:HD21	2.42	0.46
1:E:191:GLU:CD	1:E:194:ARG:HE	2.18	0.46
1:I:76:ASP:O	1:I:78:LYS:N	2.49	0.46
1:I:249:LEU:HD23	1:I:249:LEU:C	2.36	0.46
1:K:13:LYS:HE3	1:K:383:GLU:HG3	1.97	0.46
1:M:358:ARG:HB3	1:M:358:ARG:CZ	2.45	0.46
1:P:76:ASP:OD2	1:P:78:LYS:HB2	2.16	0.46
1:C:21:ASN:HB2	1:C:215:ASN:ND2	2.31	0.46
1:K:191:GLU:O	1:K:195:MET:HG3	2.16	0.46
1:L:114:GLY:HA2	1:L:298:GLY:N	2.30	0.46
1:M:24:ILE:HG22	1:M:25:ASP:O	2.15	0.46
1:M:114:GLY:HA2	1:M:298:GLY:N	2.31	0.46
1:M:216:GLY:N	1:M:240:GLU:HG2	2.31	0.46
1:O:184:LYS:CE	1:O:215:ASN:HD21	2.28	0.46
1:O:241:VAL:CG1	1:O:253:LEU:HD21	2.40	0.46
1:C:6:VAL:HG12	1:C:6:VAL:O	2.15	0.46
1:G:25:ASP:OD1	1:G:25:ASP:C	2.55	0.46
1:G:197:ILE:HG22	1:G:201:LEU:HD22	1.98	0.46
1:K:358:ARG:HG3	1:K:358:ARG:NH1	2.31	0.46
1:N:17:SER:OG	1:N:19:ILE:HB	2.15	0.46
1:C:160:GLY:O	1:C:165:MET:HE3	2.17	0.45
1:E:178:TYR:CZ	1:E:359:VAL:HG21	2.51	0.45
1:H:137:ALA:CB	1:H:144:ALA:HB2	2.46	0.45
1:L:184:LYS:CE	1:L:215:ASN:HD21	2.08	0.45
1:O:147:ARG:NH2	1:O:363:HIS:CD2	2.84	0.45
1:P:13:LYS:HE3	1:P:383:GLU:HG3	1.98	0.45
1:B:26:PHE:CD1	1:B:26:PHE:N	2.84	0.45
1:H:42:ARG:O	1:H:43:GLU:HB2	2.16	0.45
1:K:201:LEU:HA	1:K:201:LEU:HD12	1.78	0.45
1:L:202:GLU:O	1:L:205:GLY:N	2.46	0.45
1:P:24:ILE:HG23	1:P:25:ASP:N	2.30	0.45
1:P:354:PRO:O	1:P:357:VAL:HG12	2.17	0.45
1:B:216:GLY:N	1:B:240:GLU:HG2	2.31	0.45
1:E:201:LEU:HD13	1:E:210:LEU:CD2	2.46	0.45
1:K:140:HIS:CE1	1:K:303:GLN:HE21	2.31	0.45
1:K:270:HIS:CD2	1:K:301:GLU:OE2	2.69	0.45
1:O:184:LYS:HB3	4:O:2018:HOH:O	2.16	0.45
1:P:185:ILE:CD1	1:P:212:VAL:HB	2.46	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:P:283:ARG:HD3	1:P:283:ARG:N	2.32	0.45
1:B:76:ASP:C	1:B:76:ASP:OD2	2.55	0.45
1:J:353:PHE:HB3	1:J:357:VAL:HG11	1.94	0.45
1:M:241:VAL:CG1	1:M:253:LEU:HD21	2.38	0.45
1:B:169:GLU:HG2	1:B:173:TYR:CE2	2.51	0.45
1:B:184:LYS:NZ	1:B:215:ASN:HD21	2.15	0.45
1:C:24:ILE:CG1	1:D:100:ASN:HA	2.28	0.45
1:C:179:ASN:ND2	1:C:179:ASN:N	2.64	0.45
1:D:24:ILE:HG23	1:D:25:ASP:N	2.31	0.45
1:E:270:HIS:CD2	1:E:301:GLU:OE2	2.63	0.45
1:G:114:GLY:HA2	1:G:298:GLY:N	2.32	0.45
1:G:241:VAL:CG1	1:G:253:LEU:HD21	2.42	0.45
1:G:340:ASN:ND2	1:G:341:GLU:N	2.64	0.45
3:G:1007:SRT:H3	1:H:102:LYS:NZ	2.30	0.45
1:K:100:ASN:CA	1:L:24:ILE:HG13	2.31	0.45
1:K:101:GLU:N	1:L:24:ILE:HD11	2.31	0.45
1:K:243:ASP:OD1	1:K:244:PRO:HD2	2.16	0.45
1:M:358:ARG:CB	1:M:358:ARG:HH11	2.29	0.45
1:F:179:ASN:HD22	1:F:179:ASN:N	2.13	0.45
1:G:24:ILE:HG23	1:G:25:ASP:N	2.32	0.45
1:G:100:ASN:HA	1:H:24:ILE:CG1	2.33	0.45
1:I:241:VAL:CG1	1:I:253:LEU:HD21	2.41	0.45
1:J:287:ASP:O	1:J:318:ARG:HD3	2.17	0.45
1:O:166:LEU:HD22	1:O:200:VAL:HG22	1.99	0.45
1:P:270:HIS:CD2	1:P:301:GLU:OE2	2.65	0.45
1:A:140:HIS:CE1	1:A:303:GLN:NE2	2.77	0.45
1:B:360:GLU:O	1:B:361:ASN:HB2	2.16	0.45
1:C:192:GLU:O	1:C:196:ARG:HG3	2.16	0.45
1:G:199:ALA:O	1:G:202:GLU:HB3	2.17	0.45
1:J:151:TYR:HE1	1:J:182:LYS:HE2	1.82	0.45
1:J:270:HIS:CD2	1:J:301:GLU:OE2	2.67	0.45
1:K:285:ASP:OD1	1:K:286:ARG:HG2	2.16	0.45
1:L:10:GLU:OE1	1:L:65:ARG:NH1	2.49	0.45
1:L:358:ARG:HB3	1:L:358:ARG:NH1	2.31	0.45
1:O:140:HIS:CE1	1:O:303:GLN:HE21	2.32	0.45
1:P:10:GLU:C	1:P:10:GLU:CD	2.75	0.45
1:B:16:SER:HB2	1:B:26:PHE:O	2.16	0.45
1:B:19:ILE:HG22	1:B:26:PHE:CD1	2.52	0.45
1:G:17:SER:C	1:G:19:ILE:H	2.20	0.45
1:I:32:SER:O	1:I:52:PHE:HA	2.17	0.45
1:J:326:GLN:OE1	1:J:326:GLN:N	2.49	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:241:VAL:CG1	1:A:253:LEU:HD21	2.42	0.45
1:C:90:PRO:HG3	1:C:124:VAL:HG21	1.99	0.45
1:F:195:MET:HG2	1:G:163:LEU:CG	2.44	0.45
1:H:4:ARG:HB2	1:H:77:PRO:HB3	1.99	0.45
1:M:169:GLU:HG2	1:M:173:TYR:CE2	2.51	0.45
1:M:326:GLN:OE1	1:M:326:GLN:N	2.48	0.45
1:N:177:GLY:HA3	1:N:359:VAL:O	2.17	0.45
1:P:351:GLY:O	1:P:352:GLY:O	2.35	0.45
1:F:179:ASN:H	1:F:179:ASN:ND2	2.14	0.45
1:I:179:ASN:ND2	1:I:180:VAL:HG23	2.31	0.45
1:K:241:VAL:CG1	1:K:253:LEU:HD21	2.38	0.45
1:K:249:LEU:HD23	1:K:249:LEU:C	2.37	0.45
1:M:140:HIS:CE1	1:M:303:GLN:NE2	2.78	0.45
1:M:193:ASP:O	1:M:197:ILE:HG13	2.17	0.45
1:O:190:ILE:HG23	1:O:191:GLU:H	1.82	0.45
1:A:18:PRO:HG2	1:A:158:TYR:CE1	2.51	0.44
1:A:25:ASP:C	1:A:25:ASP:OD1	2.56	0.44
1:B:200:VAL:O	1:B:204:ILE:HG12	2.16	0.44
1:D:285:ASP:OD1	1:D:286:ARG:HG2	2.17	0.44
1:E:184:LYS:NZ	1:E:215:ASN:HD21	2.15	0.44
1:H:25:ASP:C	1:H:25:ASP:OD1	2.54	0.44
1:L:196:ARG:HH11	1:L:196:ARG:CB	2.30	0.44
1:L:241:VAL:CG1	1:L:253:LEU:HD21	2.40	0.44
1:O:25:ASP:OD1	1:O:25:ASP:C	2.56	0.44
1:O:103:PRO:HD3	1:P:23:TYR:CD2	2.52	0.44
1:P:326:GLN:OE1	1:P:326:GLN:N	2.48	0.44
1:B:11:ILE:HG22	1:B:387:LEU:HD13	1.98	0.44
1:G:176:ARG:O	1:G:359:VAL:HB	2.18	0.44
1:K:169:GLU:HG2	1:K:173:TYR:CE2	2.52	0.44
1:F:285:ASP:OD1	1:F:286:ARG:HG2	2.16	0.44
1:G:200:VAL:O	1:G:204:ILE:HG12	2.18	0.44
1:H:63:LEU:CD2	1:H:67:ARG:HH21	2.30	0.44
1:I:65:ARG:HG3	1:I:65:ARG:NH1	2.24	0.44
1:J:169:GLU:HG2	1:J:173:TYR:CE2	2.52	0.44
1:J:216:GLY:N	1:J:240:GLU:HG2	2.32	0.44
1:K:21:ASN:HB2	1:K:215:ASN:ND2	2.33	0.44
1:K:283:ARG:HD3	1:K:283:ARG:N	2.32	0.44
1:E:19:ILE:HG22	1:E:26:PHE:CD1	2.53	0.44
1:F:76:ASP:HA	1:F:77:PRO:HD2	1.85	0.44
1:F:239:GLU:OE2	3:F:1006:SRT:O1	2.36	0.44
1:L:19:ILE:HG22	1:L:26:PHE:CD1	2.52	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:N:140:HIS:CE1	1:N:303:GLN:HE21	2.34	0.44
1:O:179:ASN:HD22	1:O:179:ASN:C	2.21	0.44
1:O:216:GLY:N	1:O:240:GLU:HG2	2.33	0.44
1:P:25:ASP:C	1:P:25:ASP:OD1	2.56	0.44
1:E:32:SER:O	1:E:52:PHE:HA	2.17	0.44
1:E:326:GLN:OE1	1:E:326:GLN:N	2.46	0.44
1:F:169:GLU:HG2	1:F:173:TYR:CE2	2.52	0.44
1:J:196:ARG:O	1:J:200:VAL:HG23	2.17	0.44
1:L:26:PHE:CD1	1:L:26:PHE:N	2.86	0.44
1:M:26:PHE:N	1:M:26:PHE:CD1	2.85	0.44
1:A:199:ALA:O	1:A:202:GLU:HB3	2.17	0.44
1:F:45:LYS:HZ1	1:F:389:GLU:HG3	1.82	0.44
1:H:19:ILE:HG22	1:H:26:PHE:HB2	1.99	0.44
1:N:184:LYS:HD2	1:N:215:ASN:ND2	2.32	0.44
1:O:26:PHE:N	1:O:26:PHE:CD1	2.85	0.44
1:A:24:ILE:HD13	1:B:102:LYS:HA	2.00	0.44
1:A:346:LEU:N	1:A:346:LEU:HD12	2.33	0.44
1:C:351:GLY:O	1:C:377:LYS:HE3	2.18	0.44
1:E:114:GLY:HA2	1:E:298:GLY:N	2.33	0.44
1:G:4:ARG:NH2	1:G:77:PRO:HG3	2.32	0.44
1:G:283:ARG:HD3	1:G:283:ARG:N	2.33	0.44
1:K:157:TYR:CE2	1:K:187:GLY:HA3	2.53	0.44
1:M:32:SER:O	1:M:52:PHE:HA	2.17	0.44
1:M:351:GLY:O	1:M:377:LYS:HE3	2.17	0.44
1:O:101:GLU:N	1:P:24:ILE:HD11	2.32	0.44
1:C:143:LYS:HD3	1:C:143:LYS:HA	1.75	0.44
1:C:197:ILE:HG22	1:C:201:LEU:CD2	2.48	0.44
1:D:114:GLY:HA2	1:D:298:GLY:N	2.33	0.44
1:D:184:LYS:HZ1	3:D:1004:SRT:H2	1.81	0.44
1:E:136:LEU:HD21	1:E:299:LEU:HD21	2.00	0.44
1:F:241:VAL:CG1	1:F:253:LEU:HD21	2.40	0.44
1:J:156:TYR:CE1	1:J:184:LYS:HE3	2.53	0.44
1:J:283:ARG:HD3	1:J:283:ARG:N	2.32	0.44
1:L:270:HIS:CD2	1:L:301:GLU:OE2	2.65	0.44
1:N:169:GLU:HG2	1:N:173:TYR:CE2	2.52	0.44
1:O:353:PHE:CE1	1:O:364:ILE:HG21	2.52	0.44
1:P:11:ILE:HB	1:P:387:LEU:HD13	2.00	0.44
1:P:140:HIS:CE1	1:P:303:GLN:HE21	2.35	0.44
1:B:241:VAL:CG1	1:B:253:LEU:HD21	2.41	0.44
1:C:107:GLY:O	1:C:109:ARG:N	2.49	0.44
1:E:26:PHE:CD1	1:E:26:PHE:N	2.86	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:40:VAL:O	1:E:47:VAL:HG12	2.18	0.44
1:E:101:GLU:N	1:F:24:ILE:HD11	2.33	0.44
1:E:158:TYR:CG	1:E:159:PRO:HD2	2.53	0.44
1:E:249:LEU:C	1:E:249:LEU:HD23	2.37	0.44
1:H:179:ASN:H	1:H:179:ASN:ND2	2.16	0.44
1:L:25:ASP:OD1	1:L:25:ASP:C	2.55	0.44
1:L:50:TYR:CD1	1:L:384:MET:HB3	2.53	0.44
1:M:25:ASP:C	1:M:25:ASP:OD1	2.56	0.44
1:N:326:GLN:OE1	1:N:326:GLN:N	2.49	0.44
1:P:355:ASP:HB2	1:P:376:GLY:O	2.17	0.44
1:A:140:HIS:CE1	1:A:303:GLN:HE21	2.35	0.43
1:E:120:VAL:O	1:E:124:VAL:HG23	2.18	0.43
1:G:179:ASN:C	1:G:179:ASN:HD22	2.21	0.43
1:H:26:PHE:CD1	1:H:26:PHE:N	2.86	0.43
1:I:26:PHE:CD1	1:I:26:PHE:N	2.86	0.43
1:K:108:GLU:CD	1:L:67:ARG:HH22	2.21	0.43
1:N:283:ARG:HD3	1:N:283:ARG:N	2.33	0.43
1:O:178:TYR:CZ	1:O:359:VAL:HG21	2.53	0.43
1:E:200:VAL:O	1:E:204:ILE:HG12	2.19	0.43
1:E:326:GLN:NE2	1:E:351:GLY:O	2.51	0.43
1:J:26:PHE:CD1	1:J:26:PHE:N	2.86	0.43
1:K:120:VAL:O	1:K:124:VAL:HG23	2.18	0.43
1:M:68:PHE:CZ	1:M:109:ARG:HB2	2.53	0.43
1:O:249:LEU:C	1:O:249:LEU:HD23	2.39	0.43
1:P:200:VAL:O	1:P:204:ILE:HG12	2.18	0.43
1:A:270:HIS:CD2	1:A:301:GLU:OE2	2.67	0.43
1:D:21:ASN:HB2	1:D:215:ASN:ND2	2.34	0.43
1:D:216:GLY:N	1:D:240:GLU:HG2	2.34	0.43
1:I:184:LYS:HZ1	3:I:1009:SRT:H2	1.82	0.43
1:J:249:LEU:C	1:J:249:LEU:HD23	2.38	0.43
1:M:340:ASN:HD22	1:M:341:GLU:H	1.66	0.43
1:P:26:PHE:CD1	1:P:26:PHE:N	2.87	0.43
1:P:140:HIS:CE1	1:P:303:GLN:NE2	2.82	0.43
1:A:40:VAL:O	1:A:47:VAL:HG12	2.17	0.43
1:A:169:GLU:HG2	1:A:173:TYR:CE2	2.54	0.43
1:A:287:ASP:O	1:A:318:ARG:HD3	2.18	0.43
1:D:26:PHE:N	1:D:26:PHE:CD1	2.87	0.43
1:D:358:ARG:NH1	1:D:358:ARG:CB	2.79	0.43
1:E:167:ARG:NH2	1:E:202:GLU:OE2	2.52	0.43
1:H:11:ILE:CG1	1:H:13:LYS:HE2	2.49	0.43
1:H:173:TYR:CE1	1:H:344:PRO:CG	3.01	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:M:120:VAL:O	1:M:124:VAL:HG23	2.19	0.43
1:O:283:ARG:HD3	1:O:283:ARG:N	2.34	0.43
1:B:284:PRO:HG3	1:L:284:PRO:HG3	1.99	0.43
1:N:185:ILE:HD13	1:N:212:VAL:HB	2.00	0.43
1:O:178:TYR:HE2	1:O:344:PRO:HG2	1.80	0.43
1:P:13:LYS:HG3	1:P:350:TYR:OH	2.19	0.43
1:C:241:VAL:CG1	1:C:253:LEU:HD21	2.38	0.43
1:F:11:ILE:HG22	1:F:387:LEU:HD13	2.00	0.43
1:F:120:VAL:O	1:F:124:VAL:HG23	2.18	0.43
1:J:114:GLY:HA2	1:J:298:GLY:N	2.34	0.43
1:P:21:ASN:HB3	1:P:184:LYS:HE3	2.01	0.43
1:B:4:ARG:NE	1:B:77:PRO:HG3	2.34	0.43
1:C:114:GLY:HA2	1:C:298:GLY:N	2.33	0.43
1:C:161:LYS:HB3	4:C:2034:HOH:O	2.17	0.43
1:D:184:LYS:HD2	1:D:215:ASN:ND2	2.34	0.43
1:E:216:GLY:N	1:E:240:GLU:HG2	2.34	0.43
1:H:169:GLU:HG2	1:H:173:TYR:CE2	2.54	0.43
1:J:13:LYS:CE	1:J:383:GLU:HG3	2.49	0.43
1:M:24:ILE:CG2	1:M:25:ASP:N	2.81	0.43
1:N:26:PHE:N	1:N:26:PHE:CD1	2.87	0.43
1:N:179:ASN:HD22	1:N:179:ASN:N	2.15	0.43
1:A:185:ILE:HG21	1:A:212:VAL:HB	2.00	0.43
1:C:169:GLU:HG2	1:C:173:TYR:CE2	2.54	0.43
1:E:169:GLU:HG2	1:E:173:TYR:CE2	2.53	0.43
1:E:241:VAL:CG1	1:E:253:LEU:HD21	2.38	0.43
1:E:283:ARG:HD3	1:E:283:ARG:N	2.34	0.43
1:I:10:GLU:HG3	1:I:64:ILE:HD12	2.01	0.43
1:I:19:ILE:HD12	1:I:158:TYR:CD1	2.54	0.43
1:I:182:LYS:HA	1:I:211:ALA:O	2.18	0.43
1:M:249:LEU:C	1:M:249:LEU:HD23	2.39	0.43
1:P:19:ILE:HG13	1:P:156:TYR:CG	2.54	0.43
1:C:158:TYR:CG	1:C:159:PRO:HD2	2.54	0.43
1:F:50:TYR:CD1	1:F:384:MET:HB3	2.54	0.43
1:G:140:HIS:CE1	1:G:303:GLN:HE21	2.36	0.43
1:H:3:VAL:O	1:H:81:LEU:HD21	2.18	0.43
1:L:184:LYS:HZ2	3:L:1012:SRT:H2	1.82	0.43
1:L:191:GLU:OE2	1:L:191:GLU:HA	2.19	0.43
1:N:114:GLY:HA2	1:N:298:GLY:N	2.34	0.43
1:P:64:ILE:O	1:P:69:ALA:HB3	2.19	0.43
1:B:350:TYR:OH	1:B:383:GLU:HG2	2.19	0.43
1:D:179:ASN:ND2	1:D:362:GLY:HA3	2.33	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:6:VAL:HG12	1:E:6:VAL:O	2.18	0.43
1:G:67:ARG:HG2	4:G:2043:HOH:O	2.19	0.43
1:H:184:LYS:HZ2	3:H:1008:SRT:H2	1.83	0.43
1:I:216:GLY:N	1:I:240:GLU:HG2	2.34	0.43
1:L:137:ALA:HB2	1:L:144:ALA:HB2	2.01	0.43
1:L:169:GLU:HG2	1:L:173:TYR:CE2	2.53	0.43
1:M:182:LYS:HA	1:M:211:ALA:O	2.19	0.43
1:M:322:HIS:CG	1:M:323:GLY:N	2.86	0.43
1:N:13:LYS:NZ	1:N:383:GLU:HG3	2.34	0.43
1:N:90:PRO:HG3	1:N:124:VAL:HG21	2.00	0.43
1:O:68:PHE:O	1:O:72:ILE:HG13	2.18	0.43
1:A:24:ILE:HD11	1:B:101:GLU:C	2.39	0.42
1:B:164:SER:O	1:B:167:ARG:HB2	2.19	0.42
1:D:201:LEU:HD12	1:D:201:LEU:HA	1.87	0.42
1:E:201:LEU:HD13	1:E:210:LEU:HD22	2.01	0.42
1:G:26:PHE:CD1	1:G:26:PHE:N	2.87	0.42
1:I:61:GLY:O	1:I:65:ARG:HB2	2.18	0.42
1:L:287:ASP:O	1:L:318:ARG:HD3	2.19	0.42
1:L:322:HIS:CG	1:L:323:GLY:N	2.87	0.42
1:O:169:GLU:HG2	1:O:173:TYR:CE2	2.53	0.42
1:G:120:VAL:O	1:G:124:VAL:HG23	2.19	0.42
1:G:125:ALA:HB3	1:G:371:GLY:HA2	2.01	0.42
1:G:140:HIS:CE1	1:G:303:GLN:NE2	2.79	0.42
1:G:244:PRO:HD3	1:H:103:PRO:HB2	2.01	0.42
1:H:179:ASN:H	1:H:179:ASN:HD22	1.66	0.42
1:I:24:ILE:CD1	1:J:102:LYS:HA	2.49	0.42
1:I:170:MET:HG3	1:I:200:VAL:HG13	2.00	0.42
1:L:120:VAL:O	1:L:124:VAL:HG23	2.19	0.42
1:M:243:ASP:OD1	1:M:244:PRO:HD2	2.20	0.42
1:N:140:HIS:CE1	1:N:303:GLN:NE2	2.79	0.42
1:P:216:GLY:N	1:P:240:GLU:HG2	2.34	0.42
1:A:26:PHE:CD1	1:A:26:PHE:N	2.87	0.42
1:D:169:GLU:HG2	1:D:173:TYR:CE2	2.54	0.42
1:F:236:PHE:O	1:F:260:PRO:HG2	2.19	0.42
1:G:23:TYR:O	1:G:24:ILE:HD12	2.18	0.42
1:G:188:ALA:HB1	1:G:189:PRO:HD2	2.02	0.42
1:H:7:ASP:OD1	1:H:9:ARG:NE	2.51	0.42
1:H:19:ILE:HG13	1:H:156:TYR:CB	2.49	0.42
1:H:299:LEU:HD22	1:H:327:MET:CE	2.49	0.42
1:I:239:GLU:OE2	3:I:1009:SRT:O1	2.36	0.42
1:K:21:ASN:HB3	1:K:184:LYS:HD3	2.00	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:N:340:ASN:HD22	1:N:341:GLU:H	1.67	0.42
1:O:120:VAL:O	1:O:124:VAL:HG23	2.19	0.42
1:P:35:ALA:HA	1:P:49:GLY:O	2.20	0.42
1:P:179:ASN:ND2	1:P:179:ASN:N	2.63	0.42
1:A:4:ARG:HB2	1:A:39:ASP:OD1	2.18	0.42
1:B:340:ASN:ND2	1:B:341:GLU:N	2.66	0.42
1:C:236:PHE:O	1:C:260:PRO:HG2	2.20	0.42
1:E:358:ARG:HH11	1:E:358:ARG:CB	2.32	0.42
1:F:287:ASP:O	1:F:318:ARG:HD3	2.19	0.42
1:G:160:GLY:O	1:G:165:MET:HE3	2.19	0.42
1:G:299:LEU:O	1:G:303:GLN:HG3	2.20	0.42
1:K:11:ILE:CG2	1:K:33:LEU:HB3	2.49	0.42
1:K:25:ASP:C	1:K:25:ASP:OD1	2.58	0.42
1:L:197:ILE:O	1:L:201:LEU:HB2	2.18	0.42
1:L:249:LEU:C	1:L:249:LEU:HD23	2.38	0.42
1:M:216:GLY:CA	1:M:240:GLU:HG2	2.50	0.42
1:P:9:ARG:NH1	1:P:387:LEU:O	2.52	0.42
1:P:120:VAL:O	1:P:124:VAL:HG23	2.20	0.42
1:A:108:GLU:OE2	1:B:67:ARG:NH2	2.40	0.42
1:C:63:LEU:HD11	1:D:108:GLU:HG2	2.00	0.42
1:D:136:LEU:HD21	1:D:299:LEU:HD21	2.02	0.42
1:E:25:ASP:OD1	1:E:25:ASP:C	2.57	0.42
1:G:196:ARG:O	1:G:199:ALA:HB3	2.18	0.42
1:I:100:ASN:HA	1:J:24:ILE:CG1	2.38	0.42
1:J:200:VAL:O	1:J:204:ILE:HG12	2.19	0.42
1:K:26:PHE:N	1:K:26:PHE:CD1	2.88	0.42
1:K:216:GLY:N	1:K:240:GLU:HG2	2.35	0.42
1:L:348:GLN:NE2	1:L:348:GLN:HA	2.34	0.42
1:M:177:GLY:HA3	1:M:359:VAL:O	2.19	0.42
1:M:270:HIS:CD2	1:M:301:GLU:OE2	2.67	0.42
1:N:249:LEU:C	1:N:249:LEU:HD23	2.40	0.42
1:B:216:GLY:CA	1:B:240:GLU:HG2	2.49	0.42
1:C:18:PRO:HB2	1:C:158:TYR:CE1	2.55	0.42
1:F:326:GLN:OE1	1:F:326:GLN:N	2.47	0.42
1:G:167:ARG:HH22	1:G:202:GLU:HG2	1.83	0.42
1:G:169:GLU:HG2	1:G:173:TYR:CE2	2.55	0.42
1:G:241:VAL:HG21	1:G:253:LEU:HD23	2.01	0.42
1:G:350:TYR:CD1	1:G:350:TYR:N	2.86	0.42
1:H:15:ILE:HD13	1:H:31:THR:HB	2.01	0.42
1:J:216:GLY:CA	1:J:240:GLU:HG2	2.50	0.42
1:N:194:ARG:HD2	1:N:195:MET:CE	2.50	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:O:60:GLN:NE2	1:O:108:GLU:HG3	2.34	0.42
1:P:9:ARG:HH11	1:P:9:ARG:HB2	1.85	0.42
1:A:24:ILE:HG23	1:A:25:ASP:N	2.35	0.42
1:B:182:LYS:HG3	1:B:211:ALA:HB3	2.02	0.42
1:B:197:ILE:O	1:B:201:LEU:CD2	2.67	0.42
1:B:287:ASP:O	1:B:318:ARG:HD3	2.19	0.42
1:C:182:LYS:HA	1:C:211:ALA:O	2.19	0.42
1:G:287:ASP:O	1:G:318:ARG:HD3	2.19	0.42
1:H:40:VAL:HB	1:H:47:VAL:CG1	2.49	0.42
1:K:108:GLU:HG2	1:L:63:LEU:HD11	2.02	0.42
1:L:299:LEU:O	1:L:303:GLN:HG3	2.20	0.42
1:M:340:ASN:ND2	1:M:341:GLU:N	2.67	0.42
1:O:326:GLN:OE1	1:O:326:GLN:N	2.47	0.42
1:D:158:TYR:CG	1:D:159:PRO:HD2	2.55	0.42
1:D:232:ASP:OD2	1:P:160:GLY:HA2	2.19	0.42
1:F:25:ASP:C	1:F:25:ASP:OD1	2.58	0.42
1:H:349:PRO:HD2	1:H:350:TYR:CE1	2.55	0.42
1:J:191:GLU:OE1	1:J:191:GLU:N	2.33	0.42
1:J:352:GLY:HA3	1:J:377:LYS:HE3	2.01	0.42
1:K:287:ASP:O	1:K:318:ARG:HD3	2.19	0.42
1:M:287:ASP:O	1:M:318:ARG:HD3	2.20	0.42
1:N:340:ASN:ND2	1:N:341:GLU:N	2.68	0.42
1:O:190:ILE:HG23	1:O:191:GLU:N	2.35	0.42
1:P:287:ASP:O	1:P:318:ARG:HD3	2.20	0.42
1:B:179:ASN:ND2	1:B:362:GLY:HA3	2.35	0.42
1:D:216:GLY:CA	1:D:240:GLU:HG2	2.50	0.42
1:E:21:ASN:CB	1:E:215:ASN:ND2	2.82	0.42
1:E:300:CYS:HB3	4:E:2025:HOH:O	2.19	0.42
1:G:182:LYS:HA	1:G:211:ALA:O	2.19	0.42
1:H:326:GLN:OE1	1:H:326:GLN:N	2.49	0.42
1:I:10:GLU:OE1	1:I:65:ARG:NH2	2.52	0.42
1:I:125:ALA:HB3	1:I:371:GLY:HA2	2.02	0.42
1:L:326:GLN:OE1	1:L:326:GLN:N	2.48	0.42
1:O:191:GLU:O	1:O:195:MET:HG2	2.20	0.42
1:P:216:GLY:CA	1:P:240:GLU:HG2	2.50	0.42
1:P:348:GLN:HE22	1:P:352:GLY:CA	2.33	0.42
1:D:358:ARG:CB	1:D:358:ARG:HH11	2.32	0.42
1:F:216:GLY:N	1:F:240:GLU:HG2	2.35	0.42
1:F:243:ASP:OD1	1:F:244:PRO:HD2	2.20	0.42
1:G:326:GLN:OE1	1:G:326:GLN:N	2.50	0.42
1:H:87:ASN:OD1	1:H:88:LEU:N	2.53	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:I:120:VAL:O	1:I:124:VAL:HG23	2.19	0.42
1:K:114:GLY:HA2	1:K:298:GLY:N	2.34	0.42
1:N:349:PRO:HD2	1:N:350:TYR:CE1	2.55	0.42
1:B:158:TYR:CG	1:B:159:PRO:HD2	2.55	0.41
1:F:160:GLY:O	1:F:165:MET:HE3	2.20	0.41
1:J:322:HIS:CG	1:J:323:GLY:N	2.87	0.41
1:K:226:TYR:O	1:K:230:LEU:HB2	2.19	0.41
1:N:241:VAL:CG1	1:N:253:LEU:HD21	2.39	0.41
1:A:87:ASN:OD1	1:A:88:LEU:N	2.53	0.41
1:B:107:GLY:O	1:B:109:ARG:N	2.53	0.41
1:B:197:ILE:HG22	1:B:201:LEU:CD2	2.50	0.41
1:F:151:TYR:HE1	1:F:182:LYS:HE2	1.85	0.41
1:G:9:ARG:HB3	1:G:387:LEU:HD11	2.03	0.41
1:G:108:GLU:OE2	1:H:67:ARG:NH2	2.52	0.41
1:G:236:PHE:O	1:G:260:PRO:HG2	2.20	0.41
1:H:140:HIS:CE1	1:H:303:GLN:NE2	2.79	0.41
1:I:162:GLY:H	1:I:165:MET:HE3	1.84	0.41
1:L:42:ARG:O	1:L:43:GLU:HB2	2.20	0.41
1:P:145:ASN:HA	1:P:146:PRO:HD3	1.85	0.41
1:P:158:TYR:CG	1:P:159:PRO:HD2	2.55	0.41
1:P:340:ASN:ND2	1:P:341:GLU:N	2.68	0.41
1:C:100:ASN:CA	1:D:24:ILE:CG1	2.93	0.41
1:F:178:TYR:CZ	1:F:359:VAL:HG21	2.56	0.41
1:I:169:GLU:HG2	1:I:173:TYR:CE2	2.55	0.41
1:N:160:GLY:O	1:N:165:MET:HE3	2.20	0.41
1:N:287:ASP:O	1:N:318:ARG:HD3	2.20	0.41
1:C:179:ASN:HD22	1:C:179:ASN:N	2.06	0.41
1:I:24:ILE:CG2	1:I:25:ASP:N	2.83	0.41
1:I:226:TYR:O	1:I:230:LEU:HB2	2.21	0.41
1:L:164:SER:O	1:L:167:ARG:HB2	2.20	0.41
1:P:176:ARG:NH2	1:P:345:ASP:OD1	2.50	0.41
1:A:42:ARG:O	1:A:43:GLU:HB2	2.20	0.41
1:A:349:PRO:O	1:A:380:LEU:HG	2.21	0.41
1:C:25:ASP:OD1	1:C:25:ASP:C	2.58	0.41
1:C:26:PHE:CD1	1:C:26:PHE:N	2.88	0.41
1:C:87:ASN:OD1	1:C:88:LEU:N	2.53	0.41
1:C:363:HIS:HB2	4:C:2058:HOH:O	2.20	0.41
1:E:176:ARG:O	1:E:359:VAL:HB	2.21	0.41
1:E:322:HIS:CG	1:E:323:GLY:N	2.88	0.41
1:I:322:HIS:CG	1:I:323:GLY:N	2.88	0.41
1:K:90:PRO:HG3	1:K:124:VAL:HG21	2.01	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:K:194:ARG:CZ	1:K:229:MET:HG2	2.50	0.41
1:N:299:LEU:O	1:N:303:GLN:HG3	2.21	0.41
1:N:348:GLN:HB3	1:N:349:PRO:HA	2.03	0.41
1:P:42:ARG:O	1:P:43:GLU:HB2	2.21	0.41
1:P:166:LEU:HD22	1:P:200:VAL:CG2	2.50	0.41
1:P:226:TYR:O	1:P:230:LEU:HB2	2.21	0.41
1:P:237:TRP:CD1	1:P:237:TRP:C	2.94	0.41
1:A:283:ARG:HD3	1:A:283:ARG:N	2.36	0.41
1:B:284:PRO:HB3	1:B:314:TRP:CE2	2.56	0.41
1:E:194:ARG:O	1:E:198:GLU:HG3	2.20	0.41
1:H:10:GLU:HB3	1:H:65:ARG:NH2	2.36	0.41
1:I:19:ILE:HG22	1:I:26:PHE:CD1	2.56	0.41
1:J:340:ASN:HD22	1:J:341:GLU:H	1.68	0.41
1:K:216:GLY:CA	1:K:240:GLU:HG2	2.51	0.41
1:K:322:HIS:CG	1:K:323:GLY:N	2.87	0.41
1:L:241:VAL:HG21	1:L:253:LEU:HD23	2.03	0.41
1:N:25:ASP:OD1	1:N:25:ASP:C	2.59	0.41
1:O:299:LEU:O	1:O:303:GLN:HG3	2.21	0.41
1:O:340:ASN:HD22	1:O:341:GLU:H	1.69	0.41
1:A:120:VAL:O	1:A:124:VAL:HG23	2.21	0.41
1:B:283:ARG:HD3	1:B:283:ARG:N	2.35	0.41
1:C:287:ASP:O	1:C:318:ARG:HD3	2.21	0.41
1:D:237:TRP:CD1	1:D:237:TRP:C	2.94	0.41
1:E:11:ILE:HG22	1:E:387:LEU:HD13	2.03	0.41
1:E:164:SER:O	1:E:167:ARG:HB2	2.20	0.41
1:F:114:GLY:HA2	1:F:298:GLY:N	2.35	0.41
1:G:63:LEU:HD13	1:G:109:ARG:HA	2.02	0.41
1:I:103:PRO:HB2	1:J:244:PRO:CD	2.49	0.41
1:M:60:GLN:OE1	1:M:108:GLU:HG3	2.21	0.41
1:M:283:ARG:HD3	1:M:283:ARG:N	2.36	0.41
1:M:329:LEU:HB3	1:M:366:MET:SD	2.61	0.41
1:P:177:GLY:C	1:P:359:VAL:HG12	2.41	0.41
1:A:216:GLY:N	1:A:240:GLU:HG2	2.35	0.41
1:A:241:VAL:HG21	1:A:253:LEU:HD23	2.03	0.41
1:C:191:GLU:OE2	1:C:191:GLU:HA	2.21	0.41
1:E:243:ASP:OD1	1:E:244:PRO:HD2	2.20	0.41
1:G:54:SER:HB3	1:G:323:GLY:HA2	2.03	0.41
1:G:167:ARG:HD3	1:G:203:GLU:CB	2.30	0.41
1:G:270:HIS:CD2	1:G:301:GLU:OE2	2.69	0.41
1:J:188:ALA:O	1:J:189:PRO:C	2.58	0.41
1:M:16:SER:HA	1:M:26:PHE:O	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:M:192:GLU:O	1:M:195:MET:HB2	2.21	0.41
1:O:19:ILE:HG22	1:O:26:PHE:CD1	2.56	0.41
1:P:284:PRO:HB3	1:P:314:TRP:CE2	2.55	0.41
1:A:216:GLY:CA	1:A:240:GLU:HG2	2.50	0.41
1:B:182:LYS:HZ2	1:B:239:GLU:CD	2.22	0.41
1:B:326:GLN:OE1	1:B:326:GLN:N	2.50	0.41
1:B:340:ASN:HD22	1:B:341:GLU:H	1.67	0.41
1:C:296:SER:O	1:C:297:TYR:HB2	2.21	0.41
1:F:26:PHE:CD1	1:F:26:PHE:N	2.88	0.41
1:F:156:TYR:CZ	1:F:184:LYS:NZ	2.88	0.41
1:F:299:LEU:O	1:F:303:GLN:HG3	2.21	0.41
1:G:9:ARG:HH11	1:G:388:ALA:CA	2.33	0.41
1:G:101:GLU:C	1:H:24:ILE:HD11	2.41	0.41
1:G:243:ASP:HA	1:G:244:PRO:HD3	1.97	0.41
1:G:355:ASP:OD1	1:G:378:SER:N	2.45	0.41
1:H:9:ARG:HB3	1:H:387:LEU:HD11	2.02	0.41
1:H:10:GLU:HB3	1:H:65:ARG:NH1	2.36	0.41
1:I:76:ASP:HA	1:I:77:PRO:HD2	1.90	0.41
1:I:216:GLY:CA	1:I:240:GLU:HG2	2.51	0.41
1:I:237:TRP:C	1:I:237:TRP:CD1	2.94	0.41
1:I:241:VAL:HG21	1:I:253:LEU:HD23	2.02	0.41
1:J:68:PHE:CZ	1:J:109:ARG:HB2	2.55	0.41
1:J:87:ASN:OD1	1:J:88:LEU:N	2.54	0.41
1:J:243:ASP:OD1	1:J:244:PRO:HD2	2.21	0.41
1:K:158:TYR:CG	1:K:159:PRO:HD2	2.55	0.41
1:K:326:GLN:OE1	1:K:326:GLN:N	2.49	0.41
1:L:243:ASP:HA	1:L:244:PRO:HD3	1.93	0.41
1:M:90:PRO:HG3	1:M:124:VAL:HG21	2.03	0.41
1:M:299:LEU:O	1:M:303:GLN:HG3	2.20	0.41
1:N:190:ILE:CG2	1:N:191:GLU:H	2.33	0.41
1:O:216:GLY:CA	1:O:240:GLU:HG2	2.51	0.41
1:O:322:HIS:CG	1:O:323:GLY:N	2.88	0.41
1:P:179:ASN:HD22	1:P:180:VAL:N	2.19	0.41
1:P:344:PRO:O	1:P:345:ASP:C	2.57	0.41
1:A:5:ILE:HD11	1:A:88:LEU:HD13	2.02	0.41
1:A:156:TYR:CE1	1:A:184:LYS:HE3	2.57	0.41
1:D:120:VAL:O	1:D:124:VAL:HG23	2.20	0.41
1:F:216:GLY:CA	1:F:240:GLU:HG2	2.51	0.41
1:G:349:PRO:HD2	1:G:350:TYR:CE1	2.55	0.41
1:I:60:GLN:HG3	1:I:111:VAL:HB	2.03	0.41
1:I:164:SER:O	1:I:167:ARG:HB2	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:M:24:ILE:HD12	1:N:100:ASN:C	2.41	0.41
1:N:24:ILE:CG2	1:N:25:ASP:N	2.83	0.41
1:N:120:VAL:O	1:N:124:VAL:HG23	2.21	0.41
1:O:87:ASN:OD1	1:O:88:LEU:N	2.54	0.41
1:E:8:VAL:HG23	1:E:73:LEU:HD21	2.03	0.40
1:E:190:ILE:HG23	1:E:191:GLU:N	2.36	0.40
1:E:216:GLY:CA	1:E:240:GLU:HG2	2.50	0.40
1:F:190:ILE:HG23	1:F:191:GLU:N	2.36	0.40
1:F:226:TYR:O	1:F:230:LEU:HB2	2.21	0.40
1:F:340:ASN:ND2	1:F:341:GLU:N	2.69	0.40
1:J:164:SER:O	1:J:167:ARG:HB2	2.21	0.40
1:L:90:PRO:HG3	1:L:124:VAL:HG21	2.02	0.40
1:A:184:LYS:HD2	1:A:215:ASN:HD21	1.84	0.40
1:B:117:ASP:CG	1:B:298:GLY:HA3	2.42	0.40
1:C:184:LYS:HD2	1:C:215:ASN:ND2	2.34	0.40
1:F:237:TRP:CD1	1:F:237:TRP:C	2.94	0.40
1:H:11:ILE:HG23	1:H:11:ILE:O	2.21	0.40
1:I:381:TYR:CE2	1:I:385:LYS:HD3	2.57	0.40
1:J:158:TYR:CG	1:J:159:PRO:HD2	2.56	0.40
1:K:60:GLN:O	1:K:64:ILE:HG13	2.21	0.40
1:K:164:SER:O	1:K:167:ARG:HB2	2.22	0.40
1:L:188:ALA:O	1:L:189:PRO:C	2.59	0.40
1:L:216:GLY:CA	1:L:240:GLU:HG2	2.50	0.40
1:M:17:SER:C	1:M:19:ILE:H	2.24	0.40
1:M:349:PRO:O	1:M:351:GLY:N	2.53	0.40
1:N:35:ALA:HA	1:N:49:GLY:O	2.21	0.40
1:N:65:ARG:CG	1:N:65:ARG:NH1	2.84	0.40
1:B:243:ASP:OD1	1:B:244:PRO:HD2	2.21	0.40
1:B:322:HIS:CG	1:B:323:GLY:N	2.89	0.40
1:F:322:HIS:CG	1:F:323:GLY:N	2.89	0.40
1:G:184:LYS:NZ	3:G:1007:SRT:O41	2.54	0.40
1:H:120:VAL:O	1:H:124:VAL:HG23	2.22	0.40
1:H:158:TYR:CG	1:H:159:PRO:HD2	2.57	0.40
1:H:349:PRO:HB3	1:H:379:ASP:OD2	2.21	0.40
1:H:358:ARG:HB3	1:H:358:ARG:CZ	2.52	0.40
1:J:120:VAL:O	1:J:124:VAL:HG23	2.21	0.40
1:K:24:ILE:CG2	1:K:25:ASP:N	2.84	0.40
1:L:158:TYR:CG	1:L:159:PRO:HD2	2.57	0.40
1:N:322:HIS:CG	1:N:323:GLY:N	2.89	0.40
1:O:353:PHE:O	1:O:377:LYS:HD2	2.21	0.40
1:P:299:LEU:O	1:P:303:GLN:HG3	2.21	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:240:GLU:HG3	4:A:2034:HOH:O	2.22	0.40
1:C:244:PRO:CD	1:D:103:PRO:HB2	2.51	0.40
1:D:182:LYS:HA	1:D:211:ALA:O	2.21	0.40
1:E:299:LEU:O	1:E:303:GLN:HG3	2.21	0.40
1:F:158:TYR:CG	1:F:159:PRO:HD2	2.56	0.40
1:I:24:ILE:HD11	1:J:102:LYS:HA	2.04	0.40
1:I:179:ASN:C	1:I:179:ASN:ND2	2.74	0.40
1:I:283:ARG:N	1:I:283:ARG:HD3	2.36	0.40
1:K:241:VAL:HG21	1:K:253:LEU:HD23	2.04	0.40
1:K:354:PRO:O	1:K:357:VAL:HG13	2.21	0.40
1:M:164:SER:O	1:M:167:ARG:HB2	2.21	0.40
1:M:237:TRP:CD1	1:M:237:TRP:C	2.95	0.40
1:N:184:LYS:HA	1:N:184:LYS:HD3	1.90	0.40
1:N:350:TYR:OH	1:N:383:GLU:HG2	2.21	0.40
1:A:19:ILE:CD1	1:A:346:LEU:HD23	2.50	0.40
1:B:25:ASP:OD1	1:B:25:ASP:C	2.58	0.40
1:B:90:PRO:HG3	1:B:124:VAL:HG21	2.03	0.40
1:C:193:ASP:O	1:C:197:ILE:HG13	2.21	0.40
1:E:11:ILE:CG2	1:E:387:LEU:HD13	2.51	0.40
1:G:332:ALA:HA	1:G:337:LEU:HG	2.02	0.40
1:L:13:LYS:HE2	1:L:383:GLU:HG3	2.03	0.40
1:L:24:ILE:CG2	1:L:25:ASP:N	2.83	0.40
1:M:50:TYR:CD1	1:M:384:MET:HB3	2.57	0.40
1:O:15:ILE:O	1:O:15:ILE:HG13	2.21	0.40
1:P:4:ARG:HG2	1:P:77:PRO:HB3	2.04	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	386/389 (99%)	370 (96%)	16 (4%)	0	100 100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	B	386/389 (99%)	366 (95%)	20 (5%)	0	100	100
1	C	386/389 (99%)	373 (97%)	11 (3%)	2 (0%)	29	48
1	D	386/389 (99%)	374 (97%)	12 (3%)	0	100	100
1	E	386/389 (99%)	367 (95%)	18 (5%)	1 (0%)	41	61
1	F	386/389 (99%)	367 (95%)	18 (5%)	1 (0%)	41	61
1	G	386/389 (99%)	371 (96%)	14 (4%)	1 (0%)	41	61
1	H	386/389 (99%)	369 (96%)	17 (4%)	0	100	100
1	I	386/389 (99%)	367 (95%)	18 (5%)	1 (0%)	41	61
1	J	386/389 (99%)	367 (95%)	18 (5%)	1 (0%)	41	61
1	K	386/389 (99%)	371 (96%)	15 (4%)	0	100	100
1	L	386/389 (99%)	358 (93%)	26 (7%)	2 (0%)	29	48
1	M	386/389 (99%)	365 (95%)	20 (5%)	1 (0%)	41	61
1	N	386/389 (99%)	365 (95%)	21 (5%)	0	100	100
1	O	386/389 (99%)	367 (95%)	17 (4%)	2 (0%)	29	48
1	P	386/389 (99%)	363 (94%)	15 (4%)	8 (2%)	7	11
All	All	6176/6224 (99%)	5880 (95%)	276 (4%)	20 (0%)	41	61

All (20) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	F	108	GLU
1	J	188	ALA
1	M	350	TYR
1	P	66	GLU
1	P	352	GLY
1	P	357	VAL
1	C	347	PHE
1	L	189	PRO
1	P	346	LEU
1	P	14	PRO
1	P	350	TYR
1	C	15	ILE
1	P	108	GLU
1	I	77	PRO
1	L	15	ILE
1	E	15	ILE
1	O	15	ILE

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Mol	Chain	Res	Type
1	P	77	PRO
1	G	15	ILE
1	O	19	ILE

### 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	308/309 (100%)	293 (95%)	15 (5%)	25	47
1	B	308/309 (100%)	291 (94%)	17 (6%)	21	41
1	C	308/309 (100%)	295 (96%)	13 (4%)	30	54
1	D	308/309 (100%)	291 (94%)	17 (6%)	21	41
1	E	308/309 (100%)	291 (94%)	17 (6%)	21	41
1	F	308/309 (100%)	292 (95%)	16 (5%)	23	44
1	G	308/309 (100%)	294 (96%)	14 (4%)	27	51
1	H	308/309 (100%)	293 (95%)	15 (5%)	25	47
1	I	308/309 (100%)	291 (94%)	17 (6%)	21	41
1	J	308/309 (100%)	296 (96%)	12 (4%)	32	57
1	K	308/309 (100%)	293 (95%)	15 (5%)	25	47
1	L	308/309 (100%)	292 (95%)	16 (5%)	23	44
1	M	308/309 (100%)	293 (95%)	15 (5%)	25	47
1	N	308/309 (100%)	289 (94%)	19 (6%)	18	35
1	O	308/309 (100%)	292 (95%)	16 (5%)	23	44
1	P	308/309 (100%)	290 (94%)	18 (6%)	20	38
All	All	4928/4944 (100%)	4676 (95%)	252 (5%)	24	45

All (252) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	4	ARG

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	A	23	TYR
1	A	24	ILE
1	A	25	ASP
1	A	166	LEU
1	A	179	ASN
1	A	201	LEU
1	A	230	LEU
1	A	235	LEU
1	A	237	TRP
1	A	253	LEU
1	A	309	LEU
1	A	322	HIS
1	A	357	VAL
1	A	380	LEU
1	B	19	ILE
1	B	23	TYR
1	B	25	ASP
1	B	108	GLU
1	B	166	LEU
1	B	176	ARG
1	B	179	ASN
1	B	230	LEU
1	B	235	LEU
1	B	237	TRP
1	B	253	LEU
1	B	283	ARG
1	B	309	LEU
1	B	322	HIS
1	B	345	ASP
1	B	358	ARG
1	B	380	LEU
1	C	23	TYR
1	C	25	ASP
1	C	166	LEU
1	C	179	ASN
1	C	201	LEU
1	C	230	LEU
1	C	235	LEU
1	C	237	TRP
1	C	253	LEU
1	C	283	ARG
1	C	309	LEU

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	C	322	HIS
1	C	380	LEU
1	D	19	ILE
1	D	23	TYR
1	D	24	ILE
1	D	25	ASP
1	D	108	GLU
1	D	117	ASP
1	D	166	LEU
1	D	179	ASN
1	D	201	LEU
1	D	230	LEU
1	D	235	LEU
1	D	237	TRP
1	D	253	LEU
1	D	283	ARG
1	D	309	LEU
1	D	322	HIS
1	D	380	LEU
1	E	19	ILE
1	E	23	TYR
1	E	25	ASP
1	E	108	GLU
1	E	117	ASP
1	E	145	ASN
1	E	166	LEU
1	E	179	ASN
1	E	201	LEU
1	E	230	LEU
1	E	235	LEU
1	E	237	TRP
1	E	253	LEU
1	E	283	ARG
1	E	309	LEU
1	E	322	HIS
1	E	380	LEU
1	F	4	ARG
1	F	16	SER
1	F	25	ASP
1	F	70	SER
1	F	166	LEU
1	F	179	ASN

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	F	201	LEU
1	F	230	LEU
1	F	235	LEU
1	F	237	TRP
1	F	253	LEU
1	F	283	ARG
1	F	309	LEU
1	F	322	HIS
1	F	357	VAL
1	F	380	LEU
1	G	25	ASP
1	G	108	GLU
1	G	166	LEU
1	G	179	ASN
1	G	201	LEU
1	G	230	LEU
1	G	235	LEU
1	G	237	TRP
1	G	253	LEU
1	G	283	ARG
1	G	309	LEU
1	G	322	HIS
1	G	340	ASN
1	G	380	LEU
1	H	24	ILE
1	H	25	ASP
1	H	43	GLU
1	H	108	GLU
1	H	166	LEU
1	H	179	ASN
1	H	230	LEU
1	H	235	LEU
1	H	237	TRP
1	H	253	LEU
1	H	283	ARG
1	H	309	LEU
1	H	322	HIS
1	H	347	PHE
1	H	380	LEU
1	I	16	SER
1	I	19	ILE
1	I	23	TYR

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	I	25	ASP
1	I	108	GLU
1	I	117	ASP
1	I	166	LEU
1	I	179	ASN
1	I	201	LEU
1	I	230	LEU
1	I	235	LEU
1	I	237	TRP
1	I	253	LEU
1	I	283	ARG
1	I	309	LEU
1	I	322	HIS
1	I	380	LEU
1	J	25	ASP
1	J	166	LEU
1	J	179	ASN
1	J	189	PRO
1	J	230	LEU
1	J	235	LEU
1	J	237	TRP
1	J	253	LEU
1	J	283	ARG
1	J	309	LEU
1	J	322	HIS
1	J	380	LEU
1	K	25	ASP
1	K	108	GLU
1	K	166	LEU
1	K	179	ASN
1	K	201	LEU
1	K	230	LEU
1	K	235	LEU
1	K	237	TRP
1	K	253	LEU
1	K	283	ARG
1	K	309	LEU
1	K	322	HIS
1	K	357	VAL
1	K	358	ARG
1	K	380	LEU
1	L	23	TYR

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	L	24	ILE
1	L	25	ASP
1	L	117	ASP
1	L	147	ARG
1	L	166	LEU
1	L	179	ASN
1	L	189	PRO
1	L	230	LEU
1	L	235	LEU
1	L	237	TRP
1	L	253	LEU
1	L	283	ARG
1	L	309	LEU
1	L	322	HIS
1	L	380	LEU
1	M	19	ILE
1	M	23	TYR
1	M	25	ASP
1	M	108	GLU
1	M	117	ASP
1	M	166	LEU
1	M	179	ASN
1	M	230	LEU
1	M	235	LEU
1	M	237	TRP
1	M	253	LEU
1	M	283	ARG
1	M	309	LEU
1	M	322	HIS
1	M	380	LEU
1	N	19	ILE
1	N	23	TYR
1	N	25	ASP
1	N	43	GLU
1	N	108	GLU
1	N	117	ASP
1	N	166	LEU
1	N	179	ASN
1	N	202	GLU
1	N	230	LEU
1	N	235	LEU
1	N	237	TRP

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Mol	Chain	Res	Type
1	N	253	LEU
1	N	283	ARG
1	N	309	LEU
1	N	322	HIS
1	N	346	LEU
1	N	358	ARG
1	N	380	LEU
1	O	19	ILE
1	O	23	TYR
1	O	25	ASP
1	O	67	ARG
1	O	108	GLU
1	O	166	LEU
1	O	176	ARG
1	O	179	ASN
1	O	230	LEU
1	O	235	LEU
1	O	237	TRP
1	O	253	LEU
1	O	283	ARG
1	O	309	LEU
1	O	322	HIS
1	O	380	LEU
1	P	9	ARG
1	P	10	GLU
1	P	17	SER
1	P	23	TYR
1	P	24	ILE
1	P	25	ASP
1	P	108	GLU
1	P	166	LEU
1	P	179	ASN
1	P	201	LEU
1	P	230	LEU
1	P	235	LEU
1	P	237	TRP
1	P	253	LEU
1	P	283	ARG
1	P	309	LEU
1	P	322	HIS
1	P	380	LEU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (109)

such sidechains are listed below:

Mol	Chain	Res	Type
1	A	140	HIS
1	A	179	ASN
1	A	215	ASN
1	A	250	GLN
1	A	270	HIS
1	A	303	GLN
1	A	340	ASN
1	B	140	HIS
1	B	179	ASN
1	B	215	ASN
1	B	270	HIS
1	B	303	GLN
1	B	340	ASN
1	C	140	HIS
1	C	179	ASN
1	C	215	ASN
1	C	250	GLN
1	C	270	HIS
1	C	303	GLN
1	C	340	ASN
1	D	140	HIS
1	D	179	ASN
1	D	215	ASN
1	D	250	GLN
1	D	270	HIS
1	D	303	GLN
1	D	340	ASN
1	E	140	HIS
1	E	145	ASN
1	E	179	ASN
1	E	215	ASN
1	E	250	GLN
1	E	270	HIS
1	E	303	GLN
1	E	340	ASN
1	F	140	HIS
1	F	179	ASN
1	F	215	ASN
1	F	270	HIS
1	F	303	GLN
1	F	340	ASN
1	G	140	HIS

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	G	179	ASN
1	G	215	ASN
1	G	250	GLN
1	G	270	HIS
1	G	303	GLN
1	G	340	ASN
1	H	140	HIS
1	H	179	ASN
1	H	215	ASN
1	H	250	GLN
1	H	270	HIS
1	H	303	GLN
1	H	340	ASN
1	I	140	HIS
1	I	179	ASN
1	I	215	ASN
1	I	270	HIS
1	I	303	GLN
1	I	340	ASN
1	J	140	HIS
1	J	179	ASN
1	J	215	ASN
1	J	270	HIS
1	J	303	GLN
1	J	340	ASN
1	K	140	HIS
1	K	179	ASN
1	K	215	ASN
1	K	250	GLN
1	K	270	HIS
1	K	303	GLN
1	K	340	ASN
1	L	140	HIS
1	L	179	ASN
1	L	215	ASN
1	L	250	GLN
1	L	270	HIS
1	L	303	GLN
1	L	340	ASN
1	L	348	GLN
1	M	140	HIS
1	M	179	ASN

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Mol	Chain	Res	Type
1	M	215	ASN
1	M	250	GLN
1	M	270	HIS
1	M	303	GLN
1	M	340	ASN
1	N	140	HIS
1	N	179	ASN
1	N	215	ASN
1	N	270	HIS
1	N	303	GLN
1	N	340	ASN
1	O	140	HIS
1	O	179	ASN
1	O	215	ASN
1	O	250	GLN
1	O	270	HIS
1	O	303	GLN
1	O	340	ASN
1	P	140	HIS
1	P	179	ASN
1	P	215	ASN
1	P	250	GLN
1	P	270	HIS
1	P	303	GLN
1	P	340	ASN

### 5.3.3 RNA [i](#)

There are no RNA molecules in this entry.

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

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

### 5.5 Carbohydrates [i](#)

There are no monosaccharides in this entry.



## 5.6 Ligand geometry

Of 32 ligands modelled in this entry, 16 are monoatomic - leaving 16 for Mogul analysis.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z  > 2	Counts	RMSZ	# Z  > 2
3	SRT	E	1005	2	9,9,9	1.29	1 (11%)	12,12,12	1.73	3 (25%)
3	SRT	F	1006	2	9,9,9	1.02	1 (11%)	12,12,12	1.70	4 (33%)
3	SRT	G	1007	2	9,9,9	1.32	1 (11%)	12,12,12	1.73	4 (33%)
3	SRT	B	1002	2	9,9,9	0.91	1 (11%)	12,12,12	1.76	3 (25%)
3	SRT	L	1012	2	9,9,9	1.07	1 (11%)	12,12,12	1.75	3 (25%)
3	SRT	D	1004	2	9,9,9	1.11	1 (11%)	12,12,12	1.79	4 (33%)
3	SRT	K	1011	2	9,9,9	1.03	1 (11%)	12,12,12	1.69	4 (33%)
3	SRT	H	1008	2	9,9,9	1.01	1 (11%)	12,12,12	1.77	3 (25%)
3	SRT	I	1009	2	9,9,9	1.06	1 (11%)	12,12,12	1.66	3 (25%)
3	SRT	P	1016	2	9,9,9	1.07	1 (11%)	12,12,12	1.74	3 (25%)
3	SRT	N	1014	2	9,9,9	1.04	1 (11%)	12,12,12	1.77	3 (25%)
3	SRT	O	1015	2	9,9,9	0.94	1 (11%)	12,12,12	1.79	3 (25%)
3	SRT	J	1010	2	9,9,9	1.12	1 (11%)	12,12,12	1.80	3 (25%)
3	SRT	M	1013	2	9,9,9	0.93	1 (11%)	12,12,12	1.74	3 (25%)
3	SRT	A	1001	2	9,9,9	1.08	1 (11%)	12,12,12	1.71	4 (33%)
3	SRT	C	1003	2	9,9,9	1.46	1 (11%)	12,12,12	1.69	3 (25%)

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
3	SRT	E	1005	2	-	8/12/12/12	-
3	SRT	F	1006	2	-	8/12/12/12	-
3	SRT	G	1007	2	-	8/12/12/12	-
3	SRT	B	1002	2	-	8/12/12/12	-

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
3	SRT	L	1012	2	-	8/12/12/12	-
3	SRT	D	1004	2	-	8/12/12/12	-
3	SRT	K	1011	2	-	8/12/12/12	-
3	SRT	H	1008	2	-	8/12/12/12	-
3	SRT	I	1009	2	-	8/12/12/12	-
3	SRT	P	1016	2	-	8/12/12/12	-
3	SRT	N	1014	2	-	8/12/12/12	-
3	SRT	O	1015	2	-	8/12/12/12	-
3	SRT	J	1010	2	-	8/12/12/12	-
3	SRT	M	1013	2	-	8/12/12/12	-
3	SRT	A	1001	2	-	10/12/12/12	-
3	SRT	C	1003	2	-	8/12/12/12	-

All (16) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	C	1003	SRT	C3-C4	-3.73	1.47	1.52
3	E	1005	SRT	C3-C4	-3.43	1.48	1.52
3	G	1007	SRT	C3-C4	-3.37	1.48	1.52
3	D	1004	SRT	C3-C4	-2.81	1.48	1.52
3	J	1010	SRT	C3-C4	-2.77	1.48	1.52
3	N	1014	SRT	C3-C4	-2.72	1.48	1.52
3	I	1009	SRT	C3-C4	-2.69	1.49	1.52
3	P	1016	SRT	C3-C4	-2.69	1.49	1.52
3	L	1012	SRT	C3-C4	-2.61	1.49	1.52
3	A	1001	SRT	C3-C4	-2.44	1.49	1.52
3	H	1008	SRT	C3-C4	-2.28	1.49	1.52
3	B	1002	SRT	C3-C4	-2.13	1.49	1.52
3	O	1015	SRT	C3-C4	-2.10	1.49	1.52
3	M	1013	SRT	C3-C4	-2.08	1.49	1.52
3	F	1006	SRT	C3-C4	-2.08	1.49	1.52
3	K	1011	SRT	C3-C4	-2.02	1.49	1.52

All (53) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	D	1004	SRT	O41-C4-C3	3.43	122.53	113.27
3	J	1010	SRT	O41-C4-C3	3.41	122.49	113.27
3	P	1016	SRT	O41-C4-C3	3.41	122.48	113.27

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	N	1014	SRT	O41-C4-C3	3.40	122.46	113.27
3	O	1015	SRT	O41-C4-C3	3.39	122.43	113.27
3	H	1008	SRT	O41-C4-C3	3.37	122.37	113.27
3	M	1013	SRT	O41-C4-C3	3.35	122.34	113.27
3	C	1003	SRT	O41-C4-C3	3.33	122.27	113.27
3	I	1009	SRT	O41-C4-C3	3.33	122.27	113.27
3	L	1012	SRT	O41-C4-C3	3.26	122.08	113.27
3	B	1002	SRT	O41-C4-C3	3.25	122.04	113.27
3	K	1011	SRT	O41-C4-C3	3.24	122.02	113.27
3	G	1007	SRT	O41-C4-C3	3.20	121.93	113.27
3	F	1006	SRT	O41-C4-C3	3.20	121.91	113.27
3	E	1005	SRT	O41-C4-C3	3.16	121.82	113.27
3	A	1001	SRT	O41-C4-C3	3.16	121.80	113.27
3	B	1002	SRT	O1-C1-O11	-3.02	117.24	124.09
3	L	1012	SRT	O1-C1-O11	-2.94	117.41	124.09
3	J	1010	SRT	O1-C1-O11	-2.93	117.42	124.09
3	E	1005	SRT	O1-C1-O11	-2.91	117.49	124.09
3	O	1015	SRT	O1-C1-O11	-2.85	117.62	124.09
3	N	1014	SRT	O1-C1-O11	-2.83	117.66	124.09
3	H	1008	SRT	O1-C1-O11	-2.80	117.73	124.09
3	D	1004	SRT	O1-C1-O11	-2.80	117.74	124.09
3	P	1016	SRT	O1-C1-O11	-2.72	117.90	124.09
3	M	1013	SRT	O1-C1-O11	-2.70	117.96	124.09
3	A	1001	SRT	O1-C1-O11	-2.58	118.23	124.09
3	G	1007	SRT	O1-C1-O11	-2.57	118.26	124.09
3	F	1006	SRT	O1-C1-O11	-2.51	118.39	124.09
3	I	1009	SRT	O1-C1-O11	-2.51	118.40	124.09
3	K	1011	SRT	O1-C1-O11	-2.50	118.41	124.09
3	M	1013	SRT	O41-C4-O4	-2.47	118.48	124.09
3	O	1015	SRT	O41-C4-O4	-2.40	118.65	124.09
3	K	1011	SRT	O41-C4-O4	-2.36	118.72	124.09
3	D	1004	SRT	O41-C4-O4	-2.36	118.73	124.09
3	P	1016	SRT	O41-C4-O4	-2.33	118.80	124.09
3	J	1010	SRT	O41-C4-O4	-2.33	118.81	124.09
3	I	1009	SRT	O41-C4-O4	-2.32	118.81	124.09
3	H	1008	SRT	O41-C4-O4	-2.31	118.85	124.09
3	L	1012	SRT	O41-C4-O4	-2.30	118.87	124.09
3	N	1014	SRT	O41-C4-O4	-2.29	118.89	124.09
3	C	1003	SRT	O1-C1-O11	-2.28	118.92	124.09
3	G	1007	SRT	C3-C2-C1	2.21	114.81	109.87
3	B	1002	SRT	O41-C4-O4	-2.19	119.11	124.09
3	F	1006	SRT	C3-C2-C1	2.14	114.65	109.87

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	F	1006	SRT	O41-C4-O4	-2.13	119.25	124.09
3	A	1001	SRT	C3-C2-C1	2.12	114.61	109.87
3	G	1007	SRT	O41-C4-O4	-2.12	119.27	124.09
3	E	1005	SRT	O41-C4-O4	-2.10	119.33	124.09
3	C	1003	SRT	C3-C2-C1	2.06	114.48	109.87
3	D	1004	SRT	C3-C2-C1	2.05	114.44	109.87
3	K	1011	SRT	C3-C2-C1	2.04	114.43	109.87
3	A	1001	SRT	O41-C4-O4	-2.01	119.51	124.09

There are no chirality outliers.

All (130) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
3	A	1001	SRT	O3-C3-C4-O4
3	A	1001	SRT	O3-C3-C4-O41
3	B	1002	SRT	O3-C3-C4-O4
3	B	1002	SRT	O3-C3-C4-O41
3	C	1003	SRT	O3-C3-C4-O4
3	C	1003	SRT	O3-C3-C4-O41
3	D	1004	SRT	O3-C3-C4-O4
3	D	1004	SRT	O3-C3-C4-O41
3	E	1005	SRT	O3-C3-C4-O4
3	E	1005	SRT	O3-C3-C4-O41
3	F	1006	SRT	O3-C3-C4-O4
3	F	1006	SRT	O3-C3-C4-O41
3	G	1007	SRT	O3-C3-C4-O4
3	G	1007	SRT	O3-C3-C4-O41
3	H	1008	SRT	O3-C3-C4-O4
3	H	1008	SRT	O3-C3-C4-O41
3	I	1009	SRT	O3-C3-C4-O4
3	I	1009	SRT	O3-C3-C4-O41
3	J	1010	SRT	O3-C3-C4-O4
3	J	1010	SRT	O3-C3-C4-O41
3	K	1011	SRT	O3-C3-C4-O4
3	K	1011	SRT	O3-C3-C4-O41
3	L	1012	SRT	O3-C3-C4-O4
3	L	1012	SRT	O3-C3-C4-O41
3	M	1013	SRT	O3-C3-C4-O4
3	M	1013	SRT	O3-C3-C4-O41
3	N	1014	SRT	O3-C3-C4-O4
3	N	1014	SRT	O3-C3-C4-O41
3	O	1015	SRT	O3-C3-C4-O4

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Mol	Chain	Res	Type	Atoms
3	O	1015	SRT	O3-C3-C4-O41
3	P	1016	SRT	O3-C3-C4-O4
3	P	1016	SRT	O3-C3-C4-O41
3	A	1001	SRT	O2-C2-C3-O3
3	B	1002	SRT	O2-C2-C3-O3
3	C	1003	SRT	O2-C2-C3-O3
3	D	1004	SRT	O2-C2-C3-O3
3	E	1005	SRT	O2-C2-C3-O3
3	F	1006	SRT	O2-C2-C3-O3
3	G	1007	SRT	O2-C2-C3-O3
3	H	1008	SRT	O2-C2-C3-O3
3	I	1009	SRT	O2-C2-C3-O3
3	J	1010	SRT	O2-C2-C3-O3
3	K	1011	SRT	O2-C2-C3-O3
3	L	1012	SRT	O2-C2-C3-O3
3	M	1013	SRT	O2-C2-C3-O3
3	N	1014	SRT	O2-C2-C3-O3
3	O	1015	SRT	O2-C2-C3-O3
3	P	1016	SRT	O2-C2-C3-O3
3	A	1001	SRT	O2-C2-C3-C4
3	C	1003	SRT	O2-C2-C3-C4
3	D	1004	SRT	O2-C2-C3-C4
3	F	1006	SRT	O2-C2-C3-C4
3	G	1007	SRT	O2-C2-C3-C4
3	H	1008	SRT	O2-C2-C3-C4
3	K	1011	SRT	O2-C2-C3-C4
3	M	1013	SRT	O2-C2-C3-C4
3	N	1014	SRT	O2-C2-C3-C4
3	P	1016	SRT	O2-C2-C3-C4
3	B	1002	SRT	O2-C2-C3-C4
3	E	1005	SRT	O2-C2-C3-C4
3	I	1009	SRT	O2-C2-C3-C4
3	L	1012	SRT	O2-C2-C3-C4
3	A	1001	SRT	C1-C2-C3-O3
3	B	1002	SRT	C1-C2-C3-O3
3	D	1004	SRT	C1-C2-C3-O3
3	F	1006	SRT	C1-C2-C3-O3
3	G	1007	SRT	C1-C2-C3-O3
3	N	1014	SRT	C1-C2-C3-O3
3	I	1009	SRT	C1-C2-C3-O3
3	M	1013	SRT	C1-C2-C3-O3
3	P	1016	SRT	C1-C2-C3-O3

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Mol	Chain	Res	Type	Atoms
3	E	1005	SRT	C1-C2-C3-O3
3	H	1008	SRT	C1-C2-C3-O3
3	J	1010	SRT	O2-C2-C3-C4
3	K	1011	SRT	C1-C2-C3-O3
3	L	1012	SRT	C1-C2-C3-O3
3	C	1003	SRT	C1-C2-C3-O3
3	O	1015	SRT	O2-C2-C3-C4
3	J	1010	SRT	C1-C2-C3-O3
3	O	1015	SRT	C1-C2-C3-O3
3	A	1001	SRT	O1-C1-C2-C3
3	A	1001	SRT	O11-C1-C2-C3
3	A	1001	SRT	C1-C2-C3-C4
3	G	1007	SRT	C1-C2-C3-C4
3	C	1003	SRT	O11-C1-C2-C3
3	G	1007	SRT	O11-C1-C2-C3
3	I	1009	SRT	O11-C1-C2-C3
3	K	1011	SRT	O11-C1-C2-C3
3	L	1012	SRT	O11-C1-C2-C3
3	M	1013	SRT	O11-C1-C2-C3
3	N	1014	SRT	O11-C1-C2-C3
3	O	1015	SRT	O11-C1-C2-C3
3	P	1016	SRT	O11-C1-C2-C3
3	B	1002	SRT	C1-C2-C3-C4
3	C	1003	SRT	C1-C2-C3-C4
3	D	1004	SRT	C1-C2-C3-C4
3	E	1005	SRT	C1-C2-C3-C4
3	F	1006	SRT	C1-C2-C3-C4
3	H	1008	SRT	C1-C2-C3-C4
3	I	1009	SRT	C1-C2-C3-C4
3	K	1011	SRT	C1-C2-C3-C4
3	M	1013	SRT	C1-C2-C3-C4
3	N	1014	SRT	C1-C2-C3-C4
3	P	1016	SRT	C1-C2-C3-C4
3	D	1004	SRT	O11-C1-C2-C3
3	F	1006	SRT	O11-C1-C2-C3
3	G	1007	SRT	O1-C1-C2-C3
3	H	1008	SRT	O11-C1-C2-C3
3	J	1010	SRT	O11-C1-C2-C3
3	K	1011	SRT	O1-C1-C2-C3
3	J	1010	SRT	C1-C2-C3-C4
3	L	1012	SRT	C1-C2-C3-C4
3	O	1015	SRT	C1-C2-C3-C4

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Mol	Chain	Res	Type	Atoms
3	B	1002	SRT	O11-C1-C2-C3
3	E	1005	SRT	O11-C1-C2-C3
3	L	1012	SRT	O1-C1-C2-C3
3	M	1013	SRT	O1-C1-C2-C3
3	P	1016	SRT	O1-C1-C2-C3
3	C	1003	SRT	O1-C1-C2-C3
3	D	1004	SRT	O1-C1-C2-C3
3	F	1006	SRT	O1-C1-C2-C3
3	H	1008	SRT	O1-C1-C2-C3
3	I	1009	SRT	O1-C1-C2-C3
3	J	1010	SRT	O1-C1-C2-C3
3	N	1014	SRT	O1-C1-C2-C3
3	O	1015	SRT	O1-C1-C2-C3
3	B	1002	SRT	O1-C1-C2-C3
3	E	1005	SRT	O1-C1-C2-C3
3	A	1001	SRT	O11-C1-C2-O2
3	A	1001	SRT	O1-C1-C2-O2

There are no ring outliers.

14 monomers are involved in 34 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
3	E	1005	SRT	2	0
3	F	1006	SRT	1	0
3	G	1007	SRT	4	0
3	B	1002	SRT	2	0
3	L	1012	SRT	3	0
3	D	1004	SRT	3	0
3	K	1011	SRT	1	0
3	H	1008	SRT	2	0
3	I	1009	SRT	4	0
3	P	1016	SRT	3	0
3	N	1014	SRT	3	0
3	J	1010	SRT	1	0
3	A	1001	SRT	2	0
3	C	1003	SRT	3	0

## 5.7 Other polymers [i](#)

There are no such residues in this entry.

## 5.8 Polymer linkage issues

There are no chain breaks in this entry.



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

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

In the following table, the column labelled ‘#RSRZ > 2’ contains the number (and percentage) of RSRZ outliers, followed by percent RSRZ outliers for the chain as percentile scores relative to all X-ray entries and entries of similar resolution. The OWAB column contains the minimum, median, 95<sup>th</sup> percentile and maximum values of the occupancy-weighted average B-factor per residue. The column labelled ‘Q < 0.9’ lists the number of (and percentage) of residues with an average occupancy less than 0.9.

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å <sup>2</sup> )	Q<0.9
1	A	388/389 (99%)	-0.52	0 <a href="#">100</a> <a href="#">100</a>	14, 34, 57, 76	0
1	B	388/389 (99%)	-0.22	1 (0%) <a href="#">94</a> <a href="#">94</a>	21, 49, 68, 84	0
1	C	388/389 (99%)	-0.55	0 <a href="#">100</a> <a href="#">100</a>	13, 30, 48, 77	0
1	D	388/389 (99%)	-0.55	0 <a href="#">100</a> <a href="#">100</a>	13, 32, 50, 73	0
1	E	388/389 (99%)	-0.36	2 (0%) <a href="#">91</a> <a href="#">91</a>	16, 43, 66, 89	0
1	F	388/389 (99%)	-0.46	1 (0%) <a href="#">94</a> <a href="#">94</a>	11, 34, 64, 77	0
1	G	388/389 (99%)	-0.33	1 (0%) <a href="#">94</a> <a href="#">94</a>	14, 41, 69, 81	0
1	H	388/389 (99%)	-0.25	1 (0%) <a href="#">94</a> <a href="#">94</a>	18, 49, 67, 82	0
1	I	388/389 (99%)	-0.35	3 (0%) <a href="#">86</a> <a href="#">87</a>	22, 43, 71, 90	0
1	J	388/389 (99%)	-0.18	3 (0%) <a href="#">86</a> <a href="#">87</a>	19, 49, 70, 78	0
1	K	388/389 (99%)	-0.47	0 <a href="#">100</a> <a href="#">100</a>	14, 38, 63, 84	0
1	L	388/389 (99%)	-0.15	7 (1%) <a href="#">68</a> <a href="#">71</a>	20, 53, 72, 83	0
1	M	388/389 (99%)	-0.19	3 (0%) <a href="#">86</a> <a href="#">87</a>	24, 53, 69, 89	0
1	N	388/389 (99%)	-0.06	4 (1%) <a href="#">82</a> <a href="#">84</a>	26, 58, 77, 87	0
1	O	388/389 (99%)	0.03	4 (1%) <a href="#">82</a> <a href="#">84</a>	34, 56, 72, 83	0
1	P	388/389 (99%)	0.28	23 (5%) <a href="#">22</a> <a href="#">23</a>	30, 62, 80, 94	0
All	All	6208/6224 (99%)	-0.27	53 (0%) <a href="#">84</a> <a href="#">86</a>	11, 45, 71, 94	0

All (53) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	P	44	GLY	9.7
1	P	3	VAL	4.5
1	P	5	ILE	4.2
1	N	45	LYS	4.1
1	I	2	SER	4.0

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
1	P	146	PRO	3.8
1	P	42	ARG	3.7
1	O	158	TYR	3.7
1	P	78	LYS	3.6
1	P	40	VAL	3.5
1	E	43	GLU	3.4
1	P	45	LYS	3.3
1	O	163	LEU	3.2
1	O	178	TYR	3.1
1	G	40	VAL	3.1
1	P	73	LEU	3.0
1	I	42	ARG	3.0
1	P	358	ARG	3.0
1	B	45	LYS	3.0
1	P	48	VAL	2.9
1	H	41	VAL	2.9
1	N	47	VAL	2.9
1	P	368	ASP	2.9
1	M	5	ILE	2.9
1	F	79	LYS	2.9
1	M	45	LYS	2.8
1	I	41	VAL	2.7
1	L	208	ALA	2.7
1	P	41	VAL	2.7
1	P	63	LEU	2.6
1	M	350	TYR	2.6
1	P	37	VAL	2.6
1	P	367	PRO	2.5
1	E	41	VAL	2.5
1	L	166	LEU	2.5
1	L	163	LEU	2.4
1	J	158	TYR	2.3
1	P	2	SER	2.3
1	L	3	VAL	2.3
1	N	9	ARG	2.3
1	P	369	LEU	2.3
1	L	357	VAL	2.3
1	L	44	GLY	2.2
1	P	371	GLY	2.2
1	P	6	VAL	2.1
1	P	84	ALA	2.1
1	J	178	TYR	2.1

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Mol	Chain	Res	Type	RSRZ
1	N	72	ILE	2.1
1	P	380	LEU	2.1
1	O	195	MET	2.0
1	L	43	GLU	2.0
1	J	164	SER	2.0
1	P	126	LYS	2.0

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

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

## 6.3 Carbohydrates [i](#)

There are no monosaccharides in this entry.

## 6.4 Ligands [i](#)

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

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å <sup>2</sup> )	Q<0.9
2	MG	C	2003	1/1	0.84	0.13	26,26,26,26	0
2	MG	L	2012	1/1	0.87	0.07	42,42,42,42	0
2	MG	P	2016	1/1	0.87	0.12	45,45,45,45	0
3	SRT	B	1002	10/10	0.90	0.12	44,49,53,54	0
3	SRT	G	1007	10/10	0.90	0.15	32,36,40,41	0
3	SRT	M	1013	10/10	0.90	0.10	47,51,52,54	0
3	SRT	O	1015	10/10	0.90	0.12	50,52,56,58	0
2	MG	J	2010	1/1	0.91	0.06	41,41,41,41	0
3	SRT	P	1016	10/10	0.91	0.11	51,54,55,57	0
3	SRT	F	1006	10/10	0.92	0.12	25,33,37,38	0
3	SRT	J	1010	10/10	0.93	0.12	45,47,52,53	0
3	SRT	L	1012	10/10	0.93	0.10	43,46,48,49	0
3	SRT	A	1001	10/10	0.93	0.11	26,30,32,36	0
3	SRT	N	1014	10/10	0.93	0.13	49,51,52,53	0
2	MG	O	2015	1/1	0.93	0.05	43,43,43,43	0
3	SRT	H	1008	10/10	0.93	0.12	50,54,56,57	0
3	SRT	C	1003	10/10	0.94	0.13	18,28,38,45	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors( $\text{\AA}^2$ )	Q<0.9
3	SRT	E	1005	10/10	0.94	0.13	45,47,50,51	0
3	SRT	I	1009	10/10	0.94	0.14	20,33,36,36	0
2	MG	E	2005	1/1	0.94	0.10	39,39,39,39	0
3	SRT	K	1011	10/10	0.94	0.12	24,28,35,36	0
2	MG	I	2009	1/1	0.95	0.10	25,25,25,25	0
2	MG	D	2004	1/1	0.95	0.09	27,27,27,27	0
3	SRT	D	1004	10/10	0.95	0.12	21,34,38,43	0
2	MG	K	2011	1/1	0.96	0.10	15,15,15,15	0
2	MG	B	2002	1/1	0.97	0.08	62,62,62,62	0
2	MG	N	2014	1/1	0.97	0.08	27,27,27,27	0
2	MG	G	2007	1/1	0.97	0.08	31,31,31,31	0
2	MG	H	2008	1/1	0.97	0.10	42,42,42,42	0
2	MG	F	2006	1/1	0.98	0.09	19,19,19,19	0
2	MG	M	2013	1/1	0.98	0.09	36,36,36,36	0
2	MG	A	2001	1/1	0.98	0.10	20,20,20,20	0

## 6.5 Other polymers [i](#)

There are no such residues in this entry.