



# Full wwPDB X-ray Structure Validation Report ⓘ

Feb 15, 2017 – 05:37 am GMT

PDB ID : 4KI8  
Title : Crystal structure of a GroEL-ADP complex in the relaxed allosteric state  
Authors : Fei, X.; Yang, D.; LaRonde-LeBlanc, N.; Lorimer, G.H.  
Deposited on : 2013-05-01  
Resolution : 2.72 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

<http://wwpdb.org/validation/2016/XrayValidationReportHelp>

with specific help available everywhere you see the ⓘ symbol.

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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 : 1.7.2 (RC1), CSD as538be (2017)  
Xtriage (Phenix) : 1.9-1692  
EDS : trunk28620  
Percentile statistics : 20161228.v01 (using entries in the PDB archive December 28th 2016)  
Refmac : 5.8.0135  
CCP4 : 6.5.0  
Ideal geometry (proteins) : Engh & Huber (2001)  
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)  
Validation Pipeline (wwPDB-VP) : recalc28949

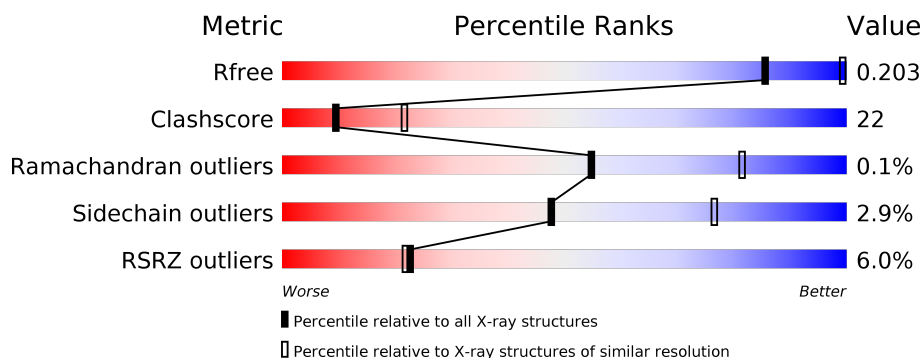
# 1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

*X-RAY DIFFRACTION*

The reported resolution of this entry is 2.72 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))
$R_{free}$	100719	2649 (2.74-2.70)
Clashscore	112137	2993 (2.74-2.70)
Ramachandran outliers	110173	2946 (2.74-2.70)
Sidechain outliers	110143	2947 (2.74-2.70)
RSRZ outliers	101464	2665 (2.74-2.70)

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

Mol	Chain	Length	Quality of chain
1	A	548	<div> <div>3%</div> <div>68% 26% . .</div> </div>
1	B	548	<div> <div>4%</div> <div>67% 27% . .</div> </div>
1	C	548	<div> <div>12%</div> <div>62% 32% . .</div> </div>
1	D	548	<div> <div>2%</div> <div>68% 26% . .</div> </div>
1	E	548	<div> <div>2%</div> <div>68% 25% . .</div> </div>
1	F	548	<div> <div>6%</div> <div>64% 30% . .</div> </div>

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Mol	Chain	Length	Quality of chain
1	G	548	

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
2	ADP	B	601	-	-	-	X
4	K	A	603	-	-	-	X
4	K	B	603	-	-	-	X
4	K	C	603	-	-	-	X
4	K	F	603	-	-	-	X
4	K	G	603	-	-	-	X
5	MPD	A	605	-	-	-	X
5	MPD	A	606	-	-	-	X
5	MPD	A	608	-	-	-	X
5	MPD	A	609	-	-	-	X
5	MPD	B	604	-	-	-	X
5	MPD	B	605	-	-	-	X
5	MPD	B	607	-	-	-	X
5	MPD	B	608	-	-	-	X
5	MPD	C	604	-	-	-	X
5	MPD	D	604	-	-	-	X
5	MPD	D	605	-	-	-	X
5	MPD	E	604	-	-	-	X
5	MPD	F	604	-	-	-	X
5	MPD	G	604	-	-	-	X
6	CA	D	607	-	-	-	X
6	CA	G	607	-	-	-	X

## 2 Entry composition

There are 7 unique types of molecules in this entry. The entry contains 27977 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.

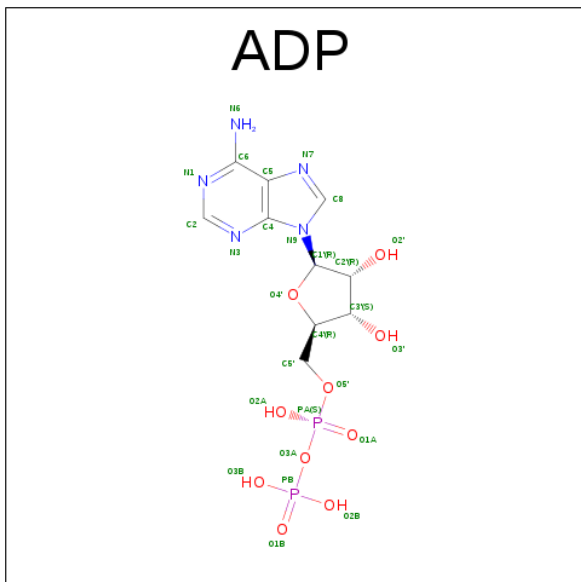
- Molecule 1 is a protein called GroEL protein.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	524	Total	C	N	O	S	0	1	0
			3854	2398	665	771	20			
1	B	524	Total	C	N	O	S	0	1	0
			3854	2398	665	771	20			
1	C	524	Total	C	N	O	S	0	3	0
			3864	2405	668	771	20			
1	D	524	Total	C	N	O	S	0	2	0
			3862	2403	668	771	20			
1	E	524	Total	C	N	O	S	0	1	0
			3851	2396	663	772	20			
1	F	524	Total	C	N	O	S	0	4	0
			3873	2410	668	775	20			
1	G	524	Total	C	N	O	S	0	1	0
			3854	2398	665	771	20			

There are 14 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	83	ALA	ASP	ENGINEERED MUTATION	UNP Q548M1
A	197	ALA	ARG	ENGINEERED MUTATION	UNP Q548M1
B	83	ALA	ASP	ENGINEERED MUTATION	UNP Q548M1
B	197	ALA	ARG	ENGINEERED MUTATION	UNP Q548M1
C	83	ALA	ASP	ENGINEERED MUTATION	UNP Q548M1
C	197	ALA	ARG	ENGINEERED MUTATION	UNP Q548M1
D	83	ALA	ASP	ENGINEERED MUTATION	UNP Q548M1
D	197	ALA	ARG	ENGINEERED MUTATION	UNP Q548M1
E	83	ALA	ASP	ENGINEERED MUTATION	UNP Q548M1
E	197	ALA	ARG	ENGINEERED MUTATION	UNP Q548M1
F	83	ALA	ASP	ENGINEERED MUTATION	UNP Q548M1
F	197	ALA	ARG	ENGINEERED MUTATION	UNP Q548M1
G	83	ALA	ASP	ENGINEERED MUTATION	UNP Q548M1
G	197	ALA	ARG	ENGINEERED MUTATION	UNP Q548M1

- Molecule 2 is ADENOSINE-5'-DIPHOSPHATE (three-letter code: ADP) (formula:  $C_{10}H_{15}N_5O_{10}P_2$ ).



Mol	Chain	Residues	Atoms					ZeroOcc	AltConf
2	A	1	Total	C	N	O	P	0	0
			27	10	5	10	2		
2	B	1	Total	C	N	O	P	0	0
			27	10	5	10	2		
2	C	1	Total	C	N	O	P	0	0
			27	10	5	10	2		
2	D	1	Total	C	N	O	P	0	0
			27	10	5	10	2		
2	E	1	Total	C	N	O	P	0	0
			27	10	5	10	2		
2	F	1	Total	C	N	O	P	0	0
			27	10	5	10	2		
2	G	1	Total	C	N	O	P	0	0
			27	10	5	10	2		

- Molecule 3 is MAGNESIUM ION (three-letter code: MG) (formula: Mg).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
3	G	1	Total	Mg	0	0
			1	1		
3	D	1	Total	Mg	0	0
			1	1		
3	E	1	Total	Mg	0	0
			1	1		

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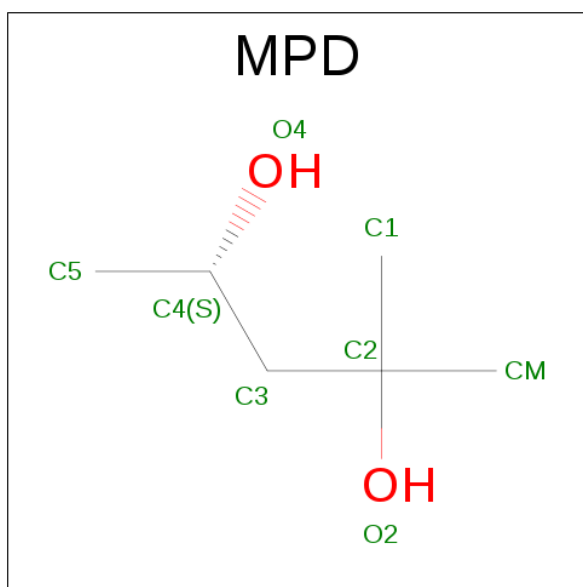
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Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
3	B	1	Total 1	Mg 1	0	0
3	C	1	Total 1	Mg 1	0	0
3	A	1	Total 1	Mg 1	0	0
3	F	1	Total 1	Mg 1	0	0

- Molecule 4 is POTASSIUM ION (three-letter code: K) (formula: K).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
4	G	2	Total 2	K 2	0	0
4	D	1	Total 1	K 1	0	0
4	E	1	Total 1	K 1	0	0
4	B	1	Total 1	K 1	0	0
4	C	1	Total 1	K 1	0	0
4	A	1	Total 1	K 1	0	0
4	F	2	Total 2	K 2	0	0

- Molecule 5 is (4S)-2-METHYL-2,4-PENTANEDIOL (three-letter code: MPD) (formula: C<sub>6</sub>H<sub>14</sub>O<sub>2</sub>).



Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
5	A	1	Total	C	O	0	0
			8	6	2		
5	A	1	Total	C	O	0	0
			8	6	2		
5	A	1	Total	C	O	0	0
			8	6	2		
5	A	1	Total	C	O	0	0
			8	6	2		
5	A	1	Total	C	O	0	0
			8	6	2		
5	A	1	Total	C	O	0	0
			8	6	2		
5	B	1	Total	C	O	0	0
			8	6	2		
5	B	1	Total	C	O	0	0
			8	6	2		
5	B	1	Total	C	O	0	0
			8	6	2		
5	B	1	Total	C	O	0	0
			8	6	2		
5	B	1	Total	C	O	0	0
			8	6	2		
5	C	1	Total	C	O	0	0
			8	6	2		
5	D	1	Total	C	O	0	0
			8	6	2		
5	D	1	Total	C	O	0	0
			8	6	2		

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Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
5	D	1	Total	C	O	0	0
			8	6	2		
5	E	1	Total	C	O	0	0
			8	6	2		
5	F	1	Total	C	O	0	0
			8	6	2		
5	G	1	Total	C	O	0	0
			8	6	2		
5	G	1	Total	C	O	0	0
			8	6	2		

- Molecule 6 is CALCIUM ION (three-letter code: CA) (formula: Ca).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
6	G	3	Total	Ca	0	0
			3	3		
6	D	1	Total	Ca	0	0
			1	1		
6	E	3	Total	Ca	0	0
			3	3		
6	B	1	Total	Ca	0	0
			1	1		
6	A	2	Total	Ca	0	0
			2	2		
6	F	1	Total	Ca	0	0
			1	1		

- Molecule 7 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
7	A	90	Total	O	0	0
			90	90		
7	B	112	Total	O	0	0
			112	112		
7	C	88	Total	O	0	0
			88	88		
7	D	90	Total	O	0	0
			90	90		
7	E	65	Total	O	0	0
			65	65		
7	F	67	Total	O	0	0
			67	67		

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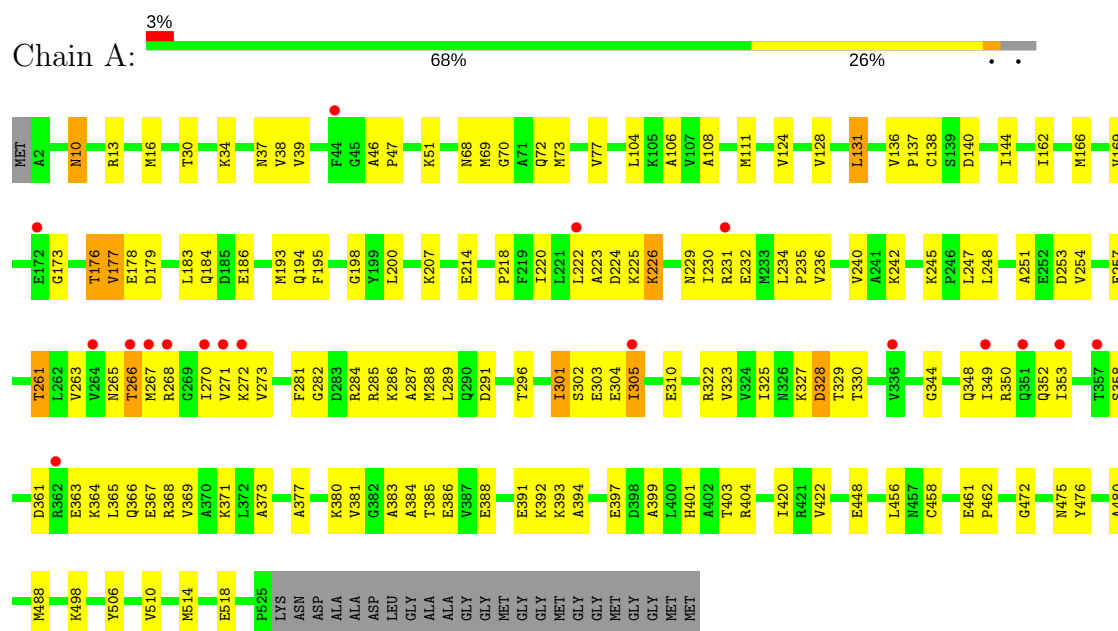
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Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
7	G	85	Total	O	0	0
			85	85		

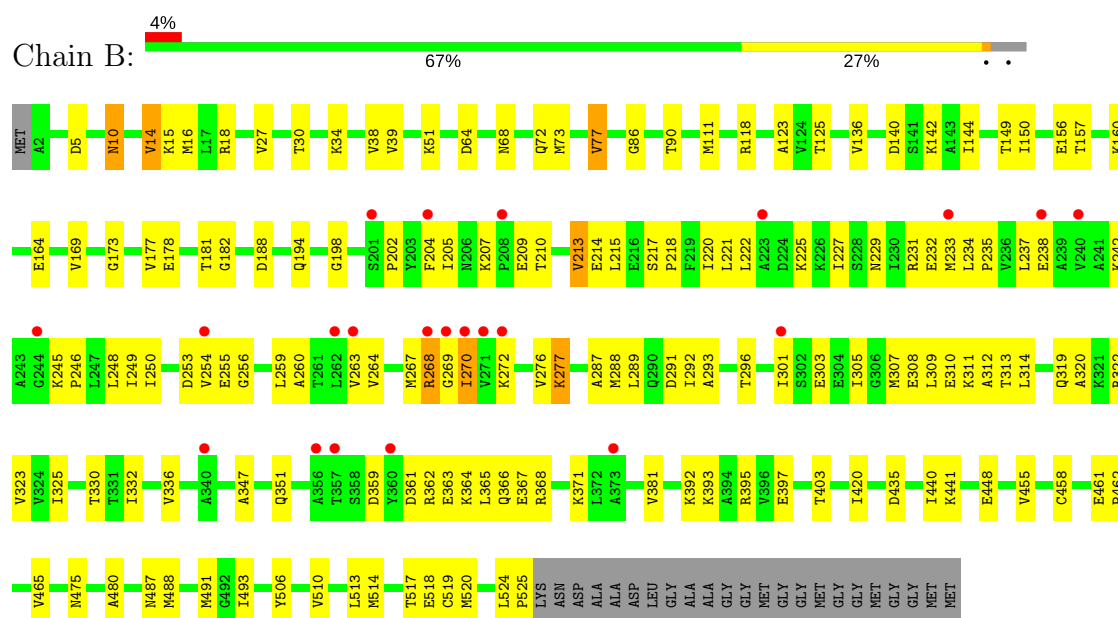
### 3 Residue-property plots

These plots are drawn for all protein, RNA and DNA 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.

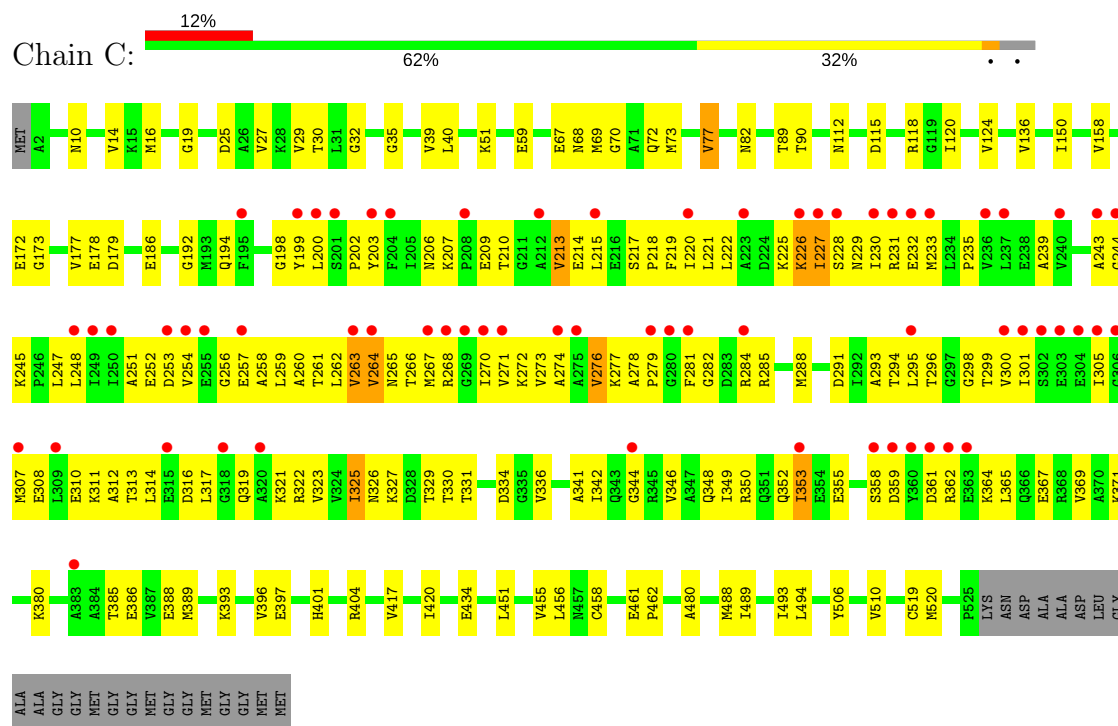
#### • Molecule 1: GroEL protein



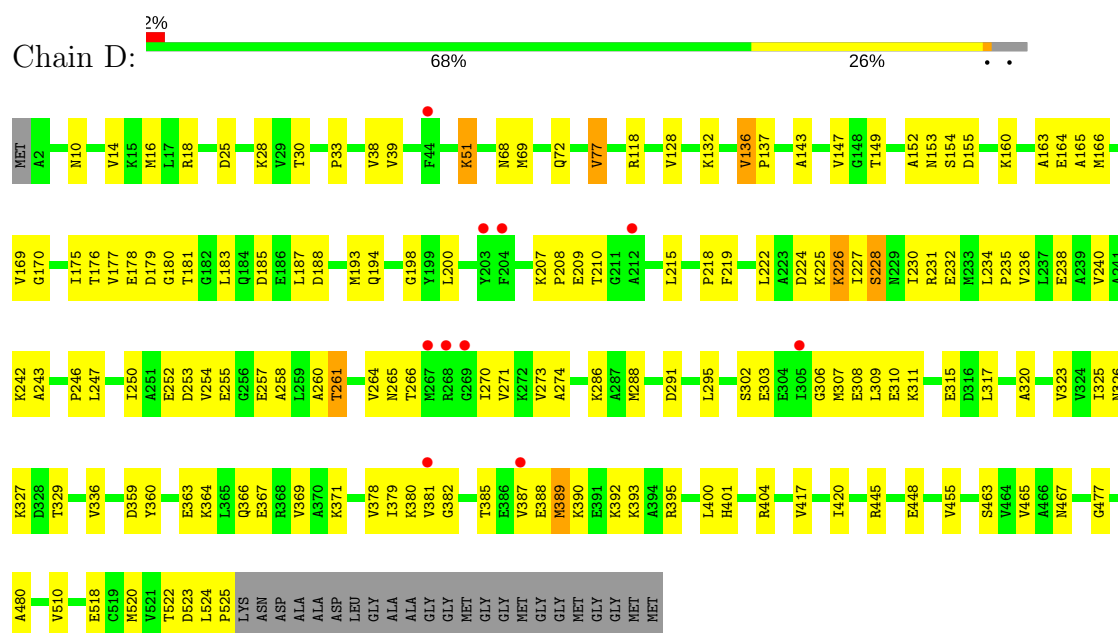
#### • Molecule 1: GroEL protein



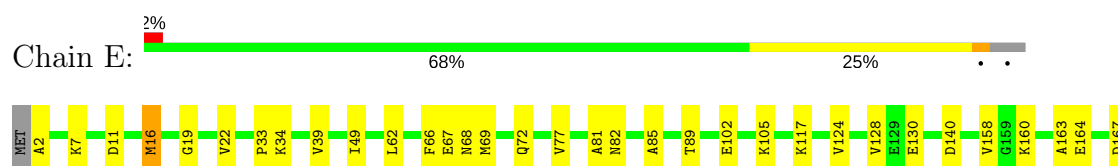
- Molecule 1: GroEL protein

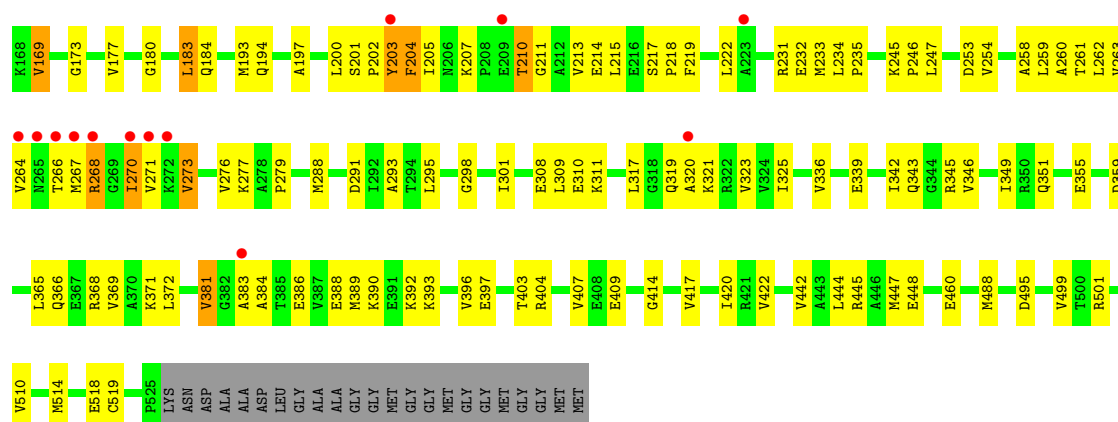


- Molecule 1: GroEL protein

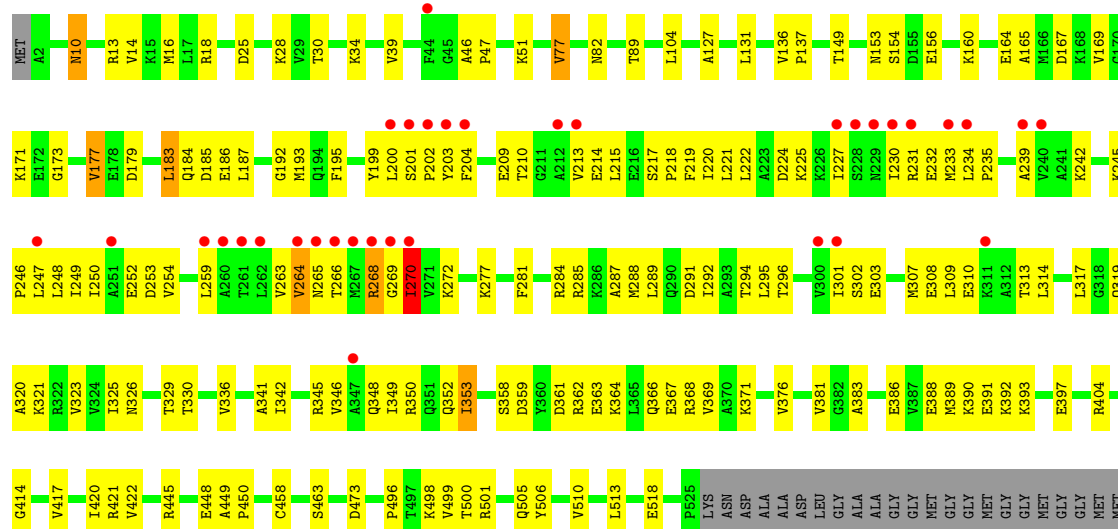


- Molecule 1: GroEL protein

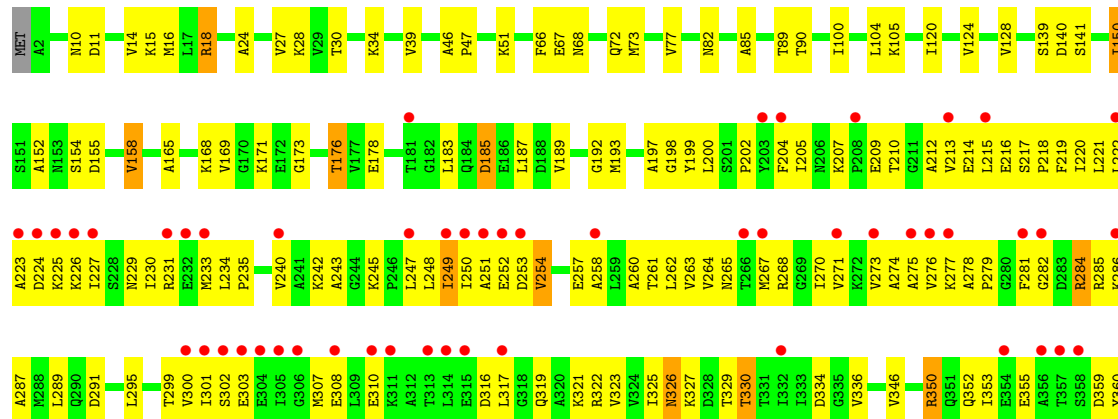


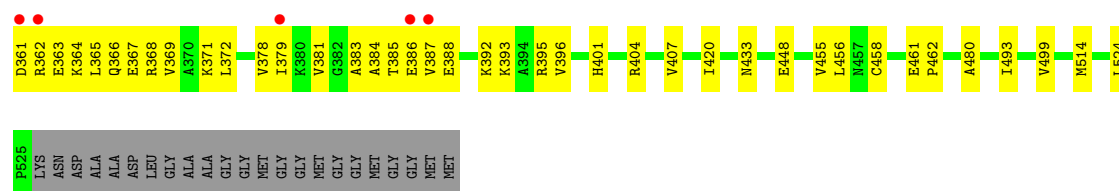


### • Molecule 1: GroEL protein



### • Molecule 1: GroEL protein





## 4 Data and refinement statistics

Property	Value	Source
Space group	C 1 2 1	Depositor
Cell constants a, b, c, $\alpha$ , $\beta$ , $\gamma$	235.22Å 141.66Å 156.69Å 90.00° 113.84° 90.00°	Depositor
Resolution (Å)	46.17 – 2.72 46.17 – 2.72	Depositor EDS
% Data completeness (in resolution range)	95.6 (46.17-2.72) 95.6 (46.17-2.72)	Depositor EDS
$R_{merge}$	(Not available)	Depositor
$R_{sym}$	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ <sup>1</sup>	3.10 (at 2.73Å)	Xtriage
Refinement program	PHENIX (phenix.refine: 1.8.2_1309)	Depositor
R, $R_{free}$	0.166 , 0.203 0.165 , 0.203	Depositor DCC
$R_{free}$ test set	1995 reflections (1.66%)	DCC
Wilson B-factor (Å <sup>2</sup> )	45.2	Xtriage
Anisotropy	0.465	Xtriage
Bulk solvent $k_{sol}$ (e/Å <sup>3</sup> ), $B_{sol}$ (Å <sup>2</sup> )	0.28 , 61.1	EDS
L-test for twinning <sup>2</sup>	$\langle  L  \rangle = 0.49$ , $\langle L^2 \rangle = 0.33$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
$F_o, F_c$ correlation	0.95	EDS
Total number of atoms	27977	wwPDB-VP
Average B, all atoms (Å <sup>2</sup> )	87.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 3.12% 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 [i](#)

### 5.1 Standard geometry [i](#)

Bond lengths and bond angles in the following residue types are not validated in this section: K, MG, MPD, CA, ADP

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	0.28	0/3885	0.48	0/5246
1	B	0.29	0/3885	0.47	0/5246
1	C	0.32	0/3907	0.50	0/5274
1	D	0.28	0/3896	0.47	0/5260
1	E	0.27	0/3882	0.47	0/5243
1	F	0.28	0/3913	0.47	0/5284
1	G	0.27	0/3885	0.49	0/5246
All	All	0.29	0/27253	0.48	0/36799

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no planarity outliers.

### 5.2 Too-close contacts [i](#)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	3854	0	3982	154	0
1	B	3854	0	3982	147	0
1	C	3864	0	3994	249	1
1	D	3862	0	3995	126	0
1	E	3851	0	3975	121	0
1	F	3873	0	4005	180	1

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	G	3854	0	3982	259	0
2	A	27	0	12	0	0
2	B	27	0	12	0	0
2	C	27	0	12	0	0
2	D	27	0	12	0	0
2	E	27	0	12	2	0
2	F	27	0	12	0	0
2	G	27	0	12	1	0
3	A	1	0	0	0	0
3	B	1	0	0	0	0
3	C	1	0	0	0	0
3	D	1	0	0	0	0
3	E	1	0	0	0	0
3	F	1	0	0	0	0
3	G	1	0	0	0	0
4	A	1	0	0	0	0
4	B	1	0	0	0	0
4	C	1	0	0	0	0
4	D	1	0	0	0	0
4	E	1	0	0	0	0
4	F	2	0	0	0	0
4	G	2	0	0	0	0
5	A	48	0	84	13	0
5	B	40	0	70	5	0
5	C	8	0	14	1	0
5	D	24	0	42	2	0
5	E	8	0	14	2	0
5	F	8	0	14	0	0
5	G	16	0	28	3	0
6	A	2	0	0	0	0
6	B	1	0	0	0	0
6	D	1	0	0	0	0
6	E	3	0	0	0	0
6	F	1	0	0	0	0
6	G	3	0	0	0	0
7	A	90	0	0	4	0
7	B	112	0	0	7	0
7	C	88	0	0	6	0
7	D	90	0	0	4	0
7	E	65	0	0	8	0
7	F	67	0	0	2	0
7	G	85	0	0	7	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
All	All	27977	0	28265	1210	1

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 22.

All (1210) 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:A:230:ILE:HD12	1:A:261:THR:HG21	1.23	1.15
1:G:281:PHE:HB3	1:G:285:ARG:HB3	1.18	1.14
1:A:183:LEU:HA	1:A:383:ALA:HB2	1.14	1.09
1:B:255:GLU:HA	1:B:259:LEU:HD23	1.28	1.07
1:C:225:LYS:HB2	1:C:251:ALA:HB1	1.31	1.07
1:E:183:LEU:HD13	1:E:384:ALA:HB2	1.38	1.05
1:C:232:GLU:HB3	1:C:233:MET:HE2	1.37	1.04
1:A:383:ALA:HB1	1:A:384:ALA:HA	1.05	1.02
1:E:389:MET:HE2	1:E:390:LYS:HD2	1.36	1.02
1:C:215:LEU:HD11	1:C:323:VAL:HB	1.39	1.00
1:D:226:LYS:HD3	1:D:253:ASP:HB3	1.42	1.00
1:G:284:ARG:HH11	1:G:284:ARG:HG3	1.28	0.98
1:A:166:MET:HE1	1:A:403:THR:HG21	1.45	0.98
1:E:200:LEU:HD21	1:E:277:LYS:HG3	1.46	0.97
1:G:198:GLY:H	1:G:277:LYS:HE3	1.29	0.97
1:A:383:ALA:HB1	1:A:384:ALA:CA	1.95	0.96
1:G:176:THR:HG22	1:G:378:VAL:HG22	1.46	0.96
1:B:215:LEU:HD22	1:B:246:PRO:HB2	1.46	0.95
1:A:383:ALA:CB	1:A:384:ALA:HA	1.92	0.95
1:F:215:LEU:HB2	1:F:323:VAL:HG22	1.49	0.94
1:G:278:ALA:HB1	1:G:279:PRO:HD2	1.50	0.94
1:A:270:ILE:HD13	1:A:273:VAL:HB	1.48	0.93
1:F:301:ILE:HD12	1:F:307:MET:HB3	1.49	0.93
1:F:225:LYS:HD2	1:F:309:LEU:HD11	1.49	0.92
1:E:218:PRO:HB3	1:E:246:PRO:HG2	1.48	0.91
1:D:219:PHE:HB3	1:D:317:LEU:HD23	1.54	0.90
1:A:218:PRO:HG3	1:A:323:VAL:HG12	1.53	0.89
1:A:183:LEU:HA	1:A:383:ALA:CB	2.00	0.89
1:C:222:LEU:HB3	1:C:300:VAL:HG23	1.55	0.89
1:G:240:VAL:HG11	1:G:247:LEU:HB2	1.54	0.89
1:A:266:THR:HA	1:A:270:ILE:CG2	2.03	0.88
1:C:225:LYS:C	1:C:227:ILE:HG13	1.93	0.88
1:G:352:GLN:HA	1:G:355:GLU:HB3	1.55	0.88

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:420:ILE:HD12	1:C:451:LEU:HD13	1.56	0.87
1:C:232:GLU:HB3	1:C:233:MET:CE	2.05	0.87
1:G:222:LEU:HD11	1:G:300:VAL:HA	1.55	0.86
1:F:225:LYS:HG2	1:F:303:GLU:HG3	1.54	0.86
5:A:608:MPD:H52	5:A:608:MPD:H11	1.59	0.85
1:G:281:PHE:HB3	1:G:285:ARG:CB	2.06	0.85
1:B:227:ILE:HG21	1:B:233:MET:HE3	1.57	0.84
1:E:444:LEU:HA	1:E:447:MET:HE3	1.58	0.84
1:C:225:LYS:HA	1:C:227:ILE:HD11	1.57	0.84
1:C:353:ILE:HG12	1:C:365:LEU:HD22	1.60	0.84
1:E:207:LYS:NZ	1:E:210:THR:HG21	1.92	0.83
1:F:77:VAL:HG13	1:F:506:TYR:HB3	1.58	0.83
1:G:383:ALA:HB2	1:G:392:LYS:HD3	1.60	0.83
1:B:259:LEU:HD12	1:B:260:ALA:N	1.92	0.83
1:G:183:LEU:HD12	1:G:384:ALA:HB3	1.59	0.83
1:G:279:PRO:HB2	1:G:285:ARG:HB2	1.60	0.82
1:C:225:LYS:HG2	1:C:253:ASP:O	1.79	0.82
1:F:247:LEU:HD21	1:F:249:ILE:HD11	1.60	0.82
1:C:225:LYS:HA	1:C:227:ILE:CD1	2.10	0.81
1:G:223:ALA:HA	1:G:224:ASP:HB2	1.60	0.81
1:A:39:VAL:HG21	1:B:16:MET:CE	2.11	0.81
1:C:314:LEU:H	1:C:314:LEU:HD12	1.46	0.81
1:C:235:PRO:HG2	1:C:310:GLU:HG2	1.63	0.80
1:E:130:GLU:HB3	1:E:422:VAL:HG22	1.63	0.80
1:A:16:MET:HG2	1:A:514:MET:HE3	1.63	0.80
1:G:268:ARG:HG3	1:G:268:ARG:HH11	1.46	0.80
1:F:221:LEU:HD23	1:F:249:ILE:HG23	1.62	0.79
1:B:39:VAL:HG21	1:C:16:MET:HE1	1.65	0.79
1:G:251:ALA:HB1	1:G:252:GLU:HB2	1.62	0.79
1:A:131:LEU:HD13	1:A:422:VAL:HG21	1.63	0.79
1:C:225:LYS:HD2	1:C:227:ILE:HD12	1.64	0.79
1:E:270:ILE:HG22	1:E:271:VAL:H	1.48	0.78
1:F:204:PHE:HB3	1:F:266:THR:CB	2.12	0.78
1:C:284:ARG:HE	1:C:364:LYS:HE2	1.47	0.78
1:G:226:LYS:HB2	1:G:227:ILE:HA	1.66	0.78
1:C:225:LYS:CB	1:C:251:ALA:HB1	2.12	0.77
1:G:221:LEU:HD11	1:G:247:LEU:HD21	1.65	0.77
1:C:314:LEU:O	1:C:317:LEU:HG	1.85	0.77
1:A:183:LEU:HD23	1:A:383:ALA:CB	2.13	0.77
1:A:302:SER:HB2	1:A:305:ILE:HG13	1.66	0.77
1:E:85:ALA:HB1	1:E:499:VAL:HG22	1.65	0.77

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:227:ILE:HG22	1:C:228:SER:H	1.47	0.77
1:G:250:ILE:HG13	1:G:251:ALA:H	1.50	0.77
1:G:219:PHE:HB3	1:G:317:LEU:HD23	1.67	0.77
1:D:308:GLU:HB2	1:D:311:LYS:HE3	1.67	0.77
1:F:301:ILE:CD1	1:F:307:MET:HB3	2.14	0.77
1:G:225:LYS:HB3	1:G:226:LYS:HG2	1.67	0.77
1:A:247:LEU:HB3	1:A:273:VAL:HG22	1.68	0.76
1:A:381:VAL:HG21	1:A:393:LYS:HA	1.67	0.76
1:C:230:ILE:HG22	1:C:258:ALA:HB1	1.67	0.76
1:G:385:THR:HB	1:G:388:GLU:HB3	1.67	0.76
1:C:215:LEU:HD11	1:C:323:VAL:CB	2.16	0.76
1:E:183:LEU:CD1	1:E:384:ALA:HB2	2.14	0.76
1:G:281:PHE:CB	1:G:285:ARG:HB3	2.07	0.76
1:A:266:THR:HA	1:A:270:ILE:HG21	1.66	0.76
1:A:270:ILE:HG23	1:A:272:LYS:N	2.01	0.76
1:E:207:LYS:HE3	1:E:214:GLU:CG	2.16	0.76
1:C:178:GLU:HG2	1:C:322:ARG:NH1	2.01	0.76
1:E:444:LEU:HD23	1:E:447:MET:HE3	1.68	0.76
1:B:222:LEU:HD23	1:B:250:ILE:HB	1.68	0.76
1:B:325:ILE:HG12	1:B:330:THR:HG23	1.66	0.76
1:A:223:ALA:HA	1:A:301:ILE:HG23	1.66	0.75
1:F:218:PRO:CA	1:F:246:PRO:HG2	2.17	0.75
1:D:215:LEU:HD22	1:D:246:PRO:HB2	1.66	0.75
1:C:230:ILE:HG13	1:C:262:LEU:HD11	1.69	0.75
1:G:198:GLY:N	1:G:277:LYS:HE3	2.02	0.75
1:G:319:GLN:HB3	1:G:336:VAL:HG21	1.69	0.74
5:A:606:MPD:H53	5:A:606:MPD:HM2	1.68	0.74
1:E:183:LEU:HD12	1:E:183:LEU:O	1.87	0.74
1:B:305:ILE:HG23	1:B:307:MET:HG3	1.68	0.74
1:G:185:ASP:OD1	1:G:185:ASP:N	2.20	0.74
1:C:199:TYR:OH	1:C:327:LYS:NZ	2.17	0.74
1:G:281:PHE:HB2	1:G:282:GLY:CA	2.19	0.73
1:E:444:LEU:HD23	1:E:447:MET:CE	2.18	0.73
1:G:249:ILE:O	1:G:275:ALA:HA	1.88	0.73
1:A:230:ILE:HD12	1:A:261:THR:CG2	2.13	0.73
1:C:225:LYS:HD2	1:C:227:ILE:CD1	2.17	0.73
1:C:352:GLN:HB2	1:C:365:LEU:HD11	1.68	0.73
1:E:183:LEU:HD13	1:E:384:ALA:CB	2.18	0.73
1:G:223:ALA:HB3	1:G:252:GLU:H	1.54	0.73
1:C:256:GLY:HA3	1:C:259:LEU:HD12	1.69	0.73
1:G:264:VAL:O	1:G:267:MET:HG2	1.88	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:281:PHE:HB2	1:G:282:GLY:HA2	1.70	0.73
1:A:13:ARG:NH1	7:A:773:HOH:O	2.21	0.73
1:B:213:VAL:HG13	1:B:325:ILE:HB	1.71	0.73
1:C:350:ARG:HE	1:C:369:VAL:HG21	1.53	0.72
1:E:235:PRO:HG3	1:E:310:GLU:HA	1.71	0.72
1:F:39:VAL:HG21	1:G:16:MET:CE	2.18	0.72
1:G:226:LYS:H	1:G:227:ILE:HG13	1.53	0.72
1:G:248:LEU:CD2	1:G:250:ILE:HG23	2.19	0.72
1:A:248:LEU:HD22	1:A:323:VAL:HG21	1.71	0.72
1:C:284:ARG:NE	1:C:364:LYS:HE2	2.04	0.72
1:C:227:ILE:HG22	1:C:233:MET:CE	2.20	0.72
1:E:82:ASN:ND2	7:E:743:HOH:O	2.23	0.72
1:G:222:LEU:HD13	1:G:300:VAL:HG13	1.72	0.72
1:C:77:VAL:HG21	1:C:510:VAL:HB	1.71	0.71
1:G:176:THR:CG2	1:G:378:VAL:HG22	2.19	0.71
1:C:239:ALA:HB1	1:C:314:LEU:HD21	1.71	0.71
1:G:199:TYR:CE2	1:G:327:LYS:HA	2.25	0.71
1:A:266:THR:HA	1:A:270:ILE:HG22	1.72	0.71
1:C:248:LEU:HD22	1:C:323:VAL:HG11	1.71	0.71
1:G:230:ILE:HD12	1:G:234:LEU:HD21	1.73	0.71
1:G:222:LEU:HD22	1:G:300:VAL:HG22	1.73	0.71
1:B:255:GLU:CA	1:B:259:LEU:HD23	2.15	0.71
1:C:230:ILE:CG2	1:C:258:ALA:HB1	2.20	0.71
1:E:169:VAL:HG13	1:E:173:GLY:HA3	1.73	0.71
1:G:383:ALA:HB1	1:G:388:GLU:HG2	1.72	0.71
1:A:207:LYS:HG3	1:A:214:GLU:HG3	1.72	0.70
1:G:271:VAL:HG12	1:G:273:VAL:HG23	1.73	0.70
1:C:349:ILE:O	1:C:365:LEU:HD21	1.90	0.70
1:E:222:LEU:HD13	1:E:293:ALA:HB2	1.73	0.70
1:F:218:PRO:HA	1:F:246:PRO:HG2	1.72	0.70
1:G:223:ALA:HB3	1:G:252:GLU:N	2.06	0.70
1:C:232:GLU:HG2	1:C:310:GLU:OE2	1.91	0.70
1:B:177:VAL:HG11	1:B:397:GLU:HG3	1.72	0.70
1:D:226:LYS:CD	1:D:253:ASP:HB3	2.18	0.70
1:A:304:GLU:OE1	1:A:304:GLU:N	2.25	0.70
1:B:181:THR:HG22	1:B:182:GLY:H	1.56	0.70
1:C:420:ILE:CD1	1:C:451:LEU:HD13	2.22	0.70
1:C:276:VAL:HG11	1:C:325:ILE:HD13	1.73	0.70
1:C:252:GLU:OE2	1:C:285:ARG:NH2	2.25	0.69
1:C:310:GLU:N	1:C:310:GLU:OE1	2.24	0.69
1:F:359:ASP:OD1	1:F:362:ARG:NH2	2.24	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:325:ILE:HD12	1:C:326:ASN:H	1.57	0.69
1:D:265:ASN:HB3	1:D:270:ILE:HG23	1.72	0.69
1:G:225:LYS:HB3	1:G:226:LYS:CG	2.22	0.69
1:B:248:LEU:HD22	1:B:323:VAL:HG11	1.75	0.69
1:F:383:ALA:HB1	1:F:388:GLU:HB3	1.75	0.69
1:G:183:LEU:CD1	1:G:384:ALA:HB3	2.22	0.69
1:G:217:SER:N	1:G:218:PRO:HD3	2.07	0.69
1:G:268:ARG:NH1	1:G:270:ILE:HB	2.06	0.69
1:B:18:ARG:HD2	7:B:781:HOH:O	1.92	0.69
1:F:287:ALA:HB1	1:F:368:ARG:NH1	2.08	0.69
1:G:282:GLY:O	1:G:285:ARG:NH1	2.24	0.69
1:G:222:LEU:CD1	1:G:300:VAL:HA	2.22	0.69
1:B:232:GLU:HA	1:B:310:GLU:HG2	1.75	0.69
1:F:204:PHE:HB3	1:F:266:THR:HG21	1.72	0.69
1:A:226:LYS:HD2	1:A:226:LYS:H	1.58	0.69
1:F:233:MET:HG2	1:F:309:LEU:HD23	1.75	0.68
1:D:194:GLN:O	1:D:371:LYS:HE3	1.93	0.68
1:F:220:ILE:HD12	1:F:296:THR:HG21	1.76	0.68
1:F:239:ALA:HB1	1:F:314:LEU:HD21	1.75	0.68
1:A:373:ALA:HA	5:A:604:MPD:H52	1.74	0.68
1:C:213:VAL:HG22	1:C:325:ILE:HG23	1.76	0.68
1:F:246:PRO:HB3	1:F:272:LYS:HE3	1.76	0.68
1:G:268:ARG:HH12	1:G:271:VAL:HG23	1.59	0.68
1:A:183:LEU:HD23	1:A:383:ALA:HB1	1.75	0.68
1:G:223:ALA:HB1	1:G:224:ASP:C	2.14	0.68
1:G:230:ILE:HG12	1:G:257:GLU:OE1	1.94	0.68
1:B:39:VAL:HG12	1:C:69:MET:CE	2.24	0.68
1:F:284:ARG:O	1:F:288:MET:HG2	1.94	0.67
1:C:220:ILE:HD12	1:C:296:THR:HG21	1.75	0.67
1:D:231:ARG:HA	1:D:234:LEU:HD12	1.76	0.67
5:A:606:MPD:HM1	1:G:456:LEU:HG	1.77	0.67
1:G:250:ILE:HA	1:G:276:VAL:HG22	1.77	0.67
1:A:39:VAL:HG21	1:B:16:MET:HE1	1.75	0.67
1:C:198:GLY:O	1:C:276:VAL:HG12	1.95	0.67
1:B:313:THR:HG22	1:B:314:LEU:H	1.58	0.67
1:G:173:GLY:O	1:G:404:ARG:NH2	2.28	0.67
1:G:221:LEU:HD23	1:G:317:LEU:HG	1.75	0.67
1:A:218:PRO:HG3	1:A:323:VAL:CG1	2.24	0.67
1:D:303:GLU:OE1	1:D:303:GLU:N	2.28	0.67
1:G:310:GLU:OE1	1:G:310:GLU:N	2.28	0.66
1:C:361:ASP:HA	1:C:364:LYS:HE3	1.76	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:A:606:MPD:CM	1:G:456:LEU:HG	2.25	0.66
1:A:270:ILE:N	1:A:271:VAL:HA	2.11	0.66
1:A:350:ARG:HA	1:A:353:ILE:HD12	1.78	0.66
1:G:251:ALA:HB3	1:G:289:LEU:HD21	1.75	0.66
1:A:518:GLU:HG2	7:G:730:HOH:O	1.96	0.66
1:C:353:ILE:HG12	1:C:365:LEU:CD2	2.26	0.66
1:F:268:ARG:HA	1:F:268:ARG:HE	1.60	0.66
1:A:144:ILE:HG21	1:A:166:MET:HE3	1.76	0.66
1:F:235:PRO:CG	1:F:310:GLU:HA	2.26	0.66
1:G:197:ALA:HB3	1:G:330:THR:CG2	2.25	0.66
1:C:259:LEU:HA	1:C:262:LEU:HD13	1.78	0.66
1:C:263:VAL:O	1:C:266:THR:HG22	1.94	0.66
1:D:209:GLU:HG2	1:D:210:THR:H	1.61	0.66
1:A:183:LEU:CA	1:A:383:ALA:HB2	2.09	0.65
1:C:235:PRO:HG2	1:C:310:GLU:CG	2.26	0.65
1:D:187:LEU:HD23	1:D:379:ILE:HG12	1.77	0.65
1:F:268:ARG:HA	1:F:268:ARG:NE	2.10	0.65
1:C:199:TYR:CE1	1:C:202:PRO:HA	2.31	0.65
1:F:199:TYR:CE1	1:F:202:PRO:HA	2.32	0.65
1:F:386:GLU:HG2	1:F:390:LYS:NZ	2.11	0.65
1:G:287:ALA:HB1	1:G:368:ARG:NH1	2.12	0.65
1:G:224:ASP:CG	1:G:302:SER:HB2	2.17	0.65
1:A:381:VAL:HG11	1:A:392:LYS:HB3	1.79	0.65
1:E:207:LYS:HZ3	1:E:210:THR:HG21	1.60	0.65
1:F:131:LEU:HD21	1:F:500:THR:HG22	1.79	0.65
1:G:261:THR:HA	1:G:264:VAL:CG1	2.27	0.65
1:G:268:ARG:NH1	1:G:268:ARG:HG3	2.09	0.65
1:D:30:THR:HB	1:D:51:LYS:O	1.97	0.65
1:G:250:ILE:CA	1:G:276:VAL:HG22	2.27	0.64
1:C:252:GLU:O	1:C:277:LYS:HG3	1.96	0.64
1:E:68:ASN:O	1:E:72:GLN:HG2	1.96	0.64
1:A:242:LYS:NZ	1:B:229:ASN:HB2	2.13	0.64
1:F:183:LEU:HD13	1:F:184:GLN:HG2	1.78	0.64
1:G:207:LYS:HB3	1:G:209:GLU:OE2	1.98	0.64
1:A:384:ALA:HB3	1:A:388:GLU:OE1	1.97	0.64
1:B:319:GLN:HB2	1:B:336:VAL:HG21	1.79	0.64
1:G:222:LEU:HD11	1:G:301:ILE:H	1.61	0.64
1:F:234:LEU:N	1:F:235:PRO:HD2	2.12	0.64
1:F:204:PHE:HB3	1:F:266:THR:CG2	2.26	0.64
1:A:220:ILE:HD12	1:A:296:THR:HG21	1.78	0.64
1:C:325:ILE:CD1	1:C:326:ASN:H	2.11	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:10:ASN:HB3	7:A:740:HOH:O	1.97	0.64
1:C:219:PHE:CD1	1:C:317:LEU:HD11	2.33	0.64
1:D:228:SER:O	1:D:258:ALA:N	2.29	0.64
1:C:215:LEU:HD22	1:C:218:PRO:HB3	1.78	0.63
1:E:301:ILE:HG21	1:E:309:LEU:HD23	1.79	0.63
1:G:367:GLU:O	1:G:371:LYS:HG2	1.98	0.63
1:E:266:THR:OG1	1:E:273:VAL:HG12	1.98	0.63
1:F:301:ILE:HD11	1:F:308:GLU:N	2.13	0.63
1:A:104:LEU:HB3	5:A:605:MPD:HM1	1.81	0.63
1:C:227:ILE:HG22	1:C:233:MET:HE1	1.80	0.63
1:B:209:GLU:HG2	1:B:210:THR:N	2.14	0.63
1:C:186:GLU:HB2	1:C:380:LYS:HB2	1.80	0.63
1:D:225:LYS:HD2	1:D:303:GLU:HG2	1.80	0.63
1:F:39:VAL:HG21	1:G:16:MET:HE1	1.79	0.63
1:G:284:ARG:CG	1:G:284:ARG:HH11	2.07	0.63
1:G:301:ILE:HG23	1:G:307:MET:HG3	1.80	0.63
1:F:358:SER:HB3	1:F:361:ASP:HB2	1.80	0.63
1:B:513:LEU:O	1:B:517:THR:HG23	1.98	0.63
1:E:247:LEU:HB3	1:E:273:VAL:HG23	1.80	0.63
1:E:445:ARG:NH1	5:E:604:MPD:HM1	2.14	0.63
1:F:221:LEU:HB3	1:F:249:ILE:HD12	1.79	0.63
1:G:278:ALA:CB	1:G:279:PRO:HD2	2.20	0.63
1:A:70:GLY:HA2	1:A:73:MET:HE3	1.80	0.63
1:C:215:LEU:HD13	1:C:218:PRO:CG	2.28	0.63
1:D:160:LYS:NZ	1:D:164:GLU:OE2	2.23	0.63
1:G:222:LEU:CD2	1:G:300:VAL:HG22	2.29	0.63
1:A:310:GLU:N	1:A:310:GLU:OE1	2.32	0.62
1:B:229:ASN:ND2	1:B:231:ARG:HB2	2.13	0.62
1:D:165:ALA:O	1:D:169:VAL:HG22	1.99	0.62
1:E:215:LEU:HB2	1:E:323:VAL:CG2	2.29	0.62
1:F:291:ASP:OD2	1:F:368:ARG:HD2	1.98	0.62
1:F:319:GLN:HB2	1:F:336:VAL:HG21	1.79	0.62
1:B:194:GLN:O	1:B:371:LYS:HE3	2.00	0.62
1:F:213:VAL:HG12	1:F:214:GLU:H	1.65	0.62
1:E:39:VAL:HG21	1:F:16:MET:CE	2.30	0.62
1:D:463:SER:HB2	7:D:740:HOH:O	1.99	0.62
1:F:248:LEU:HD13	1:F:325:ILE:HD11	1.81	0.62
1:E:207:LYS:HE3	1:E:214:GLU:HG3	1.82	0.62
1:F:179:ASP:HB3	1:F:389:MET:SD	2.40	0.62
1:C:229:ASN:OD1	1:C:230:ILE:N	2.30	0.61
1:C:359:ASP:OD1	1:C:362:ARG:NH1	2.33	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:150:ILE:HD11	1:G:493:ILE:HA	1.82	0.61
1:D:400:LEU:O	1:D:404:ARG:HG2	2.00	0.61
1:G:319:GLN:HB3	1:G:336:VAL:CG2	2.29	0.61
1:A:284:ARG:HD3	1:A:364:LYS:NZ	2.15	0.61
1:G:279:PRO:CB	1:G:285:ARG:HB2	2.30	0.61
1:A:302:SER:HB2	1:A:305:ILE:CG1	2.30	0.61
1:C:346:VAL:O	1:C:350:ARG:HG2	2.00	0.61
1:G:291:ASP:HB3	1:G:372:LEU:HD11	1.81	0.61
1:G:218:PRO:HG2	1:G:323:VAL:HG22	1.81	0.61
1:F:231:ARG:HG3	1:F:231:ARG:HH11	1.65	0.61
1:G:392:LYS:NZ	7:G:737:HOH:O	2.34	0.61
1:B:198:GLY:H	1:B:277:LYS:HE3	1.66	0.61
1:E:310:GLU:OE1	1:E:310:GLU:N	2.32	0.61
1:F:498:LYS:HG3	1:F:501:ARG:NH2	2.16	0.61
1:G:261:THR:O	1:G:264:VAL:HG13	2.01	0.61
1:C:225:LYS:CA	1:C:227:ILE:HG13	2.30	0.61
1:C:200:LEU:HD12	1:C:254:VAL:CG2	2.31	0.61
1:D:308:GLU:O	1:D:311:LYS:HG2	1.99	0.61
1:F:217:SER:HA	1:F:320:ALA:O	2.01	0.61
1:B:181:THR:HG22	1:B:182:GLY:N	2.15	0.60
1:F:221:LEU:HB3	1:F:249:ILE:CD1	2.32	0.60
1:C:225:LYS:HA	1:C:227:ILE:CG1	2.31	0.60
1:F:247:LEU:CD2	1:F:249:ILE:HD11	2.32	0.60
1:F:348:GLN:O	1:F:352:GLN:HG3	2.02	0.60
1:F:496:PRO:HB2	1:F:499:VAL:HG13	1.84	0.60
1:D:385:THR:CG2	1:D:388:GLU:HG2	2.30	0.60
1:B:268:ARG:HH11	1:B:268:ARG:HG2	1.67	0.60
1:D:315:GLU:N	1:D:315:GLU:OE1	2.34	0.60
1:G:197:ALA:HA	1:G:277:LYS:HG2	1.84	0.60
1:C:227:ILE:CG2	1:C:233:MET:CE	2.80	0.60
1:F:218:PRO:HB3	1:F:246:PRO:HG2	1.84	0.60
1:G:205:ILE:HA	1:G:213:VAL:HG22	1.83	0.60
1:A:34:LYS:HG3	1:A:458:CYS:SG	2.42	0.60
1:G:222:LEU:HD21	1:G:300:VAL:HA	1.83	0.60
1:B:268:ARG:NH1	1:B:268:ARG:HG2	2.18	0.59
1:E:253:ASP:OD1	1:E:254:VAL:N	2.35	0.59
1:G:284:ARG:NH1	1:G:284:ARG:HG3	2.08	0.59
1:A:270:ILE:HG23	1:A:271:VAL:C	2.22	0.59
1:C:215:LEU:CD1	1:C:323:VAL:HB	2.24	0.59
1:E:207:LYS:HZ2	1:E:210:THR:HG21	1.65	0.59
1:F:235:PRO:HG3	1:F:310:GLU:HA	1.83	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:179:ASP:HA	1:D:389:MET:HE1	1.83	0.59
1:F:227:ILE:HD12	1:F:309:LEU:HD21	1.83	0.59
1:G:200:LEU:HD13	1:G:254:VAL:HG22	1.85	0.59
1:G:221:LEU:HG	1:G:247:LEU:HD11	1.84	0.59
1:A:16:MET:CG	1:A:514:MET:HE3	2.32	0.59
1:C:213:VAL:HG22	1:C:325:ILE:CG2	2.33	0.59
1:F:149:THR:HG21	1:F:156:GLU:HG2	1.84	0.59
1:G:276:VAL:HG23	1:G:278:ALA:H	1.67	0.59
1:B:213:VAL:CG1	1:B:325:ILE:HB	2.32	0.59
1:C:253:ASP:OD1	1:C:254:VAL:N	2.35	0.59
1:G:221:LEU:CD2	1:G:317:LEU:HG	2.33	0.59
1:G:30:THR:HB	1:G:51:LYS:O	2.03	0.59
1:B:264:VAL:O	1:B:268:ARG:HG3	2.03	0.59
1:E:39:VAL:HG21	1:F:16:MET:HE1	1.84	0.59
1:A:198:GLY:HA3	1:A:327:LYS:O	2.03	0.59
1:B:39:VAL:HG21	1:C:16:MET:CE	2.31	0.59
1:B:420:ILE:HD13	1:B:448:GLU:HG2	1.85	0.59
1:D:200:LEU:HD12	1:D:254:VAL:HB	1.84	0.59
1:E:235:PRO:CG	1:E:310:GLU:HA	2.32	0.59
1:F:183:LEU:HD12	1:F:184:GLN:H	1.67	0.59
1:G:250:ILE:HG13	1:G:251:ALA:N	2.15	0.59
1:D:308:GLU:CB	1:D:311:LYS:HE3	2.33	0.58
1:G:301:ILE:HG12	1:G:307:MET:HG2	1.85	0.58
1:A:242:LYS:CE	1:B:229:ASN:HB2	2.33	0.58
1:E:194:GLN:O	1:E:371:LYS:HE3	2.03	0.58
1:G:154:SER:HB3	7:G:716:HOH:O	2.03	0.58
1:G:281:PHE:HD2	1:G:282:GLY:HA2	1.66	0.58
1:G:346:VAL:O	1:G:350:ARG:HG3	2.03	0.58
1:A:282:GLY:O	1:A:286:LYS:HG2	2.03	0.58
5:G:604:MPD:H51	7:G:748:HOH:O	2.04	0.58
1:C:192:GLY:HA2	1:C:295:LEU:HD21	1.86	0.58
1:A:284:ARG:CZ	1:A:364:LYS:HG2	2.34	0.58
1:C:16:MET:HG3	1:C:520:MET:HE1	1.85	0.58
1:D:149:THR:O	1:D:154:SER:N	2.35	0.58
1:F:213:VAL:HG12	1:F:214:GLU:N	2.18	0.58
1:G:197:ALA:HB3	1:G:330:THR:HG21	1.85	0.58
1:B:178:GLU:HA	1:B:393:LYS:HE3	1.86	0.58
1:C:353:ILE:CG1	1:C:365:LEU:HD22	2.33	0.58
1:E:389:MET:CE	1:E:390:LYS:HD2	2.22	0.58
1:C:10:ASN:O	1:C:14:VAL:HG23	2.04	0.58
1:C:200:LEU:CD1	1:C:254:VAL:HG23	2.34	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:358:SER:OG	1:C:361:ASP:OD2	2.21	0.58
1:D:235:PRO:HG2	1:D:310:GLU:HA	1.85	0.58
1:E:205:ILE:HD12	1:E:211:GLY:HA2	1.85	0.58
1:E:197:ALA:HB1	1:E:276:VAL:HB	1.85	0.58
1:F:265:ASN:O	1:F:269:GLY:N	2.35	0.58
1:F:319:GLN:HB2	1:F:336:VAL:CG2	2.34	0.58
1:C:179:ASP:HB3	1:C:389:MET:CE	2.33	0.58
1:B:39:VAL:HG12	1:C:69:MET:HE2	1.86	0.58
7:C:733:HOH:O	1:D:518:GLU:HG2	2.02	0.58
1:F:366:GLN:HA	1:F:369:VAL:HG22	1.85	0.58
1:G:361:ASP:O	1:G:365:LEU:HG	2.04	0.58
1:A:183:LEU:HD23	1:A:383:ALA:HB2	1.83	0.57
1:C:215:LEU:HD13	1:C:218:PRO:HD3	1.85	0.57
1:G:248:LEU:HD21	1:G:250:ILE:HG23	1.85	0.57
1:A:420:ILE:HD13	1:A:448:GLU:HG2	1.86	0.57
1:C:325:ILE:HD13	1:C:330:THR:OG1	2.03	0.57
1:D:225:LYS:HB2	1:D:303:GLU:CD	2.25	0.57
1:E:204:PHE:HB3	1:E:266:THR:HG21	1.86	0.57
1:B:347:ALA:O	1:B:351:GLN:HG2	2.04	0.57
1:F:250:ILE:HG22	1:F:289:LEU:HD21	1.85	0.57
1:G:299:THR:HB	1:G:316:ASP:OD1	2.04	0.57
1:A:285:ARG:O	1:A:289:LEU:HG	2.04	0.57
1:A:302:SER:HB2	1:A:305:ILE:CD1	2.34	0.57
1:D:178:GLU:O	1:D:381:VAL:HG23	2.04	0.57
1:A:287:ALA:HB1	1:A:368:ARG:NH1	2.19	0.57
1:C:265:ASN:O	1:C:270:ILE:HG12	2.05	0.57
1:D:388:GLU:O	1:D:392:LYS:N	2.31	0.57
1:G:234:LEU:N	1:G:235:PRO:HD2	2.19	0.57
1:G:271:VAL:CG1	1:G:273:VAL:HG23	2.35	0.57
1:D:136:VAL:HG13	1:D:137:PRO:HD2	1.85	0.57
1:G:230:ILE:CG2	1:G:258:ALA:HA	2.35	0.57
1:C:215:LEU:CD1	1:C:218:PRO:HG3	2.34	0.57
1:G:215:LEU:HB2	1:G:218:PRO:CG	2.35	0.57
1:G:226:LYS:N	1:G:227:ILE:HG13	2.18	0.57
1:E:77:VAL:HG21	1:E:510:VAL:HB	1.86	0.57
1:G:187:LEU:HD13	1:G:379:ILE:CG2	2.35	0.57
1:B:169:VAL:HG23	1:B:173:GLY:HA3	1.87	0.56
1:B:209:GLU:HG2	1:B:210:THR:H	1.70	0.56
1:C:261:THR:HA	1:C:264:VAL:HG12	1.87	0.56
1:F:136:VAL:HG13	1:F:137:PRO:HD2	1.86	0.56
1:B:215:LEU:CD2	1:B:272:LYS:HG3	2.36	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:86:GLY:HA2	5:B:608:MPD:H12	1.86	0.56
1:C:251:ALA:O	1:C:278:ALA:N	2.38	0.56
1:C:401:HIS:HB2	7:C:760:HOH:O	2.05	0.56
1:C:69:MET:O	1:C:73:MET:HG3	2.05	0.56
1:A:220:ILE:CD1	1:A:296:THR:HG21	2.35	0.56
1:C:215:LEU:HD12	1:C:215:LEU:O	2.05	0.56
1:D:209:GLU:N	1:D:209:GLU:OE1	2.27	0.56
1:D:225:LYS:HB2	1:D:303:GLU:CG	2.36	0.56
1:E:89:THR:HB	7:E:743:HOH:O	2.05	0.56
1:F:218:PRO:CB	1:F:246:PRO:HG2	2.35	0.56
1:F:242:LYS:HG2	1:G:257:GLU:HB2	1.86	0.56
1:B:73:MET:HE1	1:B:514:MET:HG2	1.88	0.56
1:D:225:LYS:HB2	1:D:303:GLU:HG2	1.87	0.56
1:G:395:ARG:HG3	1:G:396:VAL:N	2.21	0.56
1:G:199:TYR:HE1	1:G:202:PRO:HG3	1.71	0.56
1:D:243:ALA:O	1:E:231:ARG:NH1	2.38	0.56
1:E:270:ILE:HG22	1:E:271:VAL:N	2.18	0.56
1:E:7:LYS:HG2	1:E:66:PHE:CZ	2.41	0.56
1:G:257:GLU:HG2	1:G:261:THR:HB	1.86	0.56
1:B:277:LYS:HD2	1:B:277:LYS:O	2.06	0.56
1:C:317:LEU:O	1:C:317:LEU:HD12	2.06	0.56
1:D:238:GLU:O	1:D:242:LYS:HD3	2.05	0.56
1:D:152:ALA:HB3	1:D:153:ASN:C	2.27	0.56
1:F:381:VAL:HG21	1:F:392:LYS:HG2	1.87	0.56
1:G:257:GLU:HG2	1:G:261:THR:CB	2.36	0.56
1:B:214:GLU:OE1	1:B:322:ARG:NH2	2.38	0.55
1:C:325:ILE:HD12	1:C:329:THR:O	2.06	0.55
1:F:177:VAL:CG1	1:F:397:GLU:HG2	2.36	0.55
1:F:498:LYS:HG3	1:F:501:ARG:HH21	1.70	0.55
1:G:281:PHE:CB	1:G:285:ARG:HD3	2.36	0.55
1:B:234:LEU:HA	1:B:237:LEU:HD12	1.87	0.55
1:F:204:PHE:CB	1:F:266:THR:HG21	2.37	0.55
1:G:281:PHE:CD2	1:G:282:GLY:HA2	2.40	0.55
1:E:445:ARG:HH12	5:E:604:MPD:HM1	1.70	0.55
1:F:225:LYS:HD2	1:F:309:LEU:CD1	2.30	0.55
1:G:265:ASN:HA	1:G:268:ARG:HG2	1.87	0.55
1:A:37:ASN:HB2	1:B:517:THR:HG22	1.88	0.55
1:B:68:ASN:O	1:B:72:GLN:HG2	2.06	0.55
7:A:751:HOH:O	1:B:518:GLU:HG2	2.05	0.55
1:C:230:ILE:HG22	1:C:258:ALA:CB	2.35	0.55
1:C:77:VAL:HG13	1:C:506:TYR:HB3	1.89	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:193:MET:HG2	1:E:295:LEU:CD2	2.37	0.55
1:F:215:LEU:HB2	1:F:323:VAL:CG2	2.29	0.55
1:A:401:HIS:HB3	5:A:609:MPD:HM3	1.88	0.55
1:G:152:ALA:HB1	1:G:158:VAL:HG11	1.88	0.55
1:B:276:VAL:CG1	1:B:325:ILE:HD13	2.36	0.55
1:D:128:VAL:HG12	1:D:132:LYS:HE3	1.89	0.55
1:E:82:ASN:HB2	1:E:89:THR:OG1	2.07	0.55
1:C:260:ALA:O	1:C:263:VAL:HG13	2.07	0.55
1:F:160:LYS:HE2	1:F:164:GLU:OE2	2.06	0.55
1:F:131:LEU:HD13	1:F:422:VAL:HG21	1.89	0.55
1:B:178:GLU:HB2	1:B:322:ARG:NH1	2.22	0.55
1:B:392:LYS:HE3	7:B:806:HOH:O	2.06	0.55
1:E:7:LYS:HD2	1:E:11:ASP:OD1	2.07	0.55
1:G:221:LEU:HD12	1:G:249:ILE:HG12	1.88	0.55
1:A:193:MET:HG3	1:A:371:LYS:HB3	1.89	0.54
1:C:150:ILE:HB	7:C:787:HOH:O	2.07	0.54
1:C:213:VAL:HG13	1:C:325:ILE:HG23	1.88	0.54
1:F:342:ILE:O	1:F:346:VAL:HG23	2.07	0.54
1:G:205:ILE:HG23	1:G:212:ALA:O	2.06	0.54
1:G:85:ALA:HB1	1:G:499:VAL:HG22	1.89	0.54
1:C:294:THR:HG23	1:C:341:ALA:HB1	1.87	0.54
1:G:365:LEU:HD12	1:G:366:GLN:N	2.22	0.54
1:A:179:ASP:OD1	1:A:393:LYS:HD2	2.08	0.54
1:B:10:ASN:O	1:B:14:VAL:HG13	2.07	0.54
1:G:209:GLU:HG2	1:G:210:THR:N	2.22	0.54
1:G:229:ASN:ND2	1:G:231:ARG:HB2	2.21	0.54
1:G:281:PHE:HB2	1:G:282:GLY:O	2.08	0.54
1:A:263:VAL:O	1:A:266:THR:OG1	2.25	0.54
1:B:525:PRO:HD3	7:B:759:HOH:O	2.07	0.54
1:D:260:ALA:O	1:D:264:VAL:HG23	2.06	0.54
1:F:248:LEU:CD1	1:F:325:ILE:HD11	2.38	0.54
1:G:278:ALA:HB1	1:G:279:PRO:CD	2.33	0.54
1:G:218:PRO:HG2	1:G:323:VAL:CG2	2.37	0.54
1:C:215:LEU:HD13	1:C:218:PRO:CD	2.38	0.54
1:D:215:LEU:HB2	1:D:323:VAL:HG22	1.90	0.54
7:D:754:HOH:O	1:E:518:GLU:HG2	2.06	0.54
1:A:162:ILE:HG22	1:A:166:MET:CE	2.37	0.54
1:A:267:MET:HB2	1:A:268:ARG:HH21	1.73	0.54
1:B:34:LYS:HE2	1:C:118[A]:ARG:NH2	2.22	0.54
1:F:200:LEU:HD12	1:F:254:VAL:HB	1.89	0.54
1:F:232:GLU:CD	1:F:309:LEU:HD13	2.28	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:279:PRO:HB2	1:G:285:ARG:CB	2.33	0.54
1:B:441:LYS:HE2	7:B:812:HOH:O	2.08	0.54
1:G:200:LEU:HD12	1:G:275:ALA:HB1	1.89	0.54
1:A:177:VAL:HG11	1:A:397:GLU:HG3	1.89	0.54
1:C:215:LEU:HD13	1:C:218:PRO:HG3	1.90	0.54
1:F:445[B]:ARG:NH2	7:F:720:HOH:O	2.40	0.54
1:A:200:LEU:CD1	1:A:254:VAL:HB	2.38	0.54
1:C:225:LYS:HA	1:C:227:ILE:HG13	1.89	0.54
1:F:173:GLY:O	1:F:404:ARG:NH2	2.41	0.54
1:C:39:VAL:HG12	1:D:69:MET:CE	2.38	0.54
1:C:82:ASN:HB2	1:C:89:THR:OG1	2.08	0.54
1:D:310:GLU:OE1	1:D:310:GLU:N	2.30	0.54
1:D:463:SER:O	1:D:467:ASN:HB2	2.08	0.54
1:C:305:ILE:CG2	1:C:307:MET:HG3	2.38	0.53
1:C:325:ILE:HG13	1:C:326:ASN:N	2.23	0.53
1:E:203:TYR:O	1:E:267:MET:HE2	2.07	0.53
1:G:384:ALA:O	1:G:385:THR:OG1	2.24	0.53
1:A:184:GLN:OE1	1:A:184:GLN:N	2.32	0.53
1:C:199:TYR:HE1	1:C:202:PRO:HA	1.70	0.53
1:C:385:THR:HG22	1:C:386:GLU:N	2.23	0.53
1:F:288:MET:O	1:F:292:ILE:HG13	2.08	0.53
1:F:302:SER:O	1:F:307:MET:HB2	2.08	0.53
1:F:30:THR:HB	1:F:51:LYS:O	2.08	0.53
1:D:306:GLY:O	1:D:311:LYS:NZ	2.41	0.53
1:F:414:GLY:O	1:F:417:VAL:HG13	2.08	0.53
1:G:281:PHE:HB2	1:G:282:GLY:C	2.29	0.53
1:B:229:ASN:HD21	1:B:231:ARG:HB2	1.73	0.53
1:C:120:ILE:O	1:C:124:VAL:HG23	2.07	0.53
1:E:232:GLU:HG2	1:E:310:GLU:OE2	2.07	0.53
1:E:383:ALA:HB1	1:E:388:GLU:HB2	1.91	0.53
1:A:223:ALA:HB3	1:A:251:ALA:HB2	1.89	0.53
1:B:14:VAL:HG12	5:B:604:MPD:H51	1.90	0.53
1:C:213:VAL:CG2	1:C:325:ILE:HG23	2.38	0.53
1:D:152:ALA:HB3	1:D:155:ASP:H	1.72	0.53
1:A:136:VAL:HG13	1:A:137:PRO:HD2	1.89	0.53
1:D:265:ASN:HB3	1:D:270:ILE:CG2	2.37	0.53
1:F:281:PHE:CA	1:F:285:ARG:HB2	2.39	0.53
1:G:221:LEU:HB2	1:G:249:ILE:HG23	1.91	0.53
1:G:224:ASP:OD2	1:G:302:SER:HB2	2.08	0.53
1:B:291:ASP:OD2	1:B:368:ARG:HD2	2.09	0.53
1:B:359:ASP:OD1	1:B:362:ARG:HD2	2.08	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:14:VAL:HG12	5:B:604:MPD:C5	2.39	0.53
1:F:231:ARG:HD2	1:F:231:ARG:O	2.08	0.53
1:F:310:GLU:OE1	1:F:310:GLU:N	2.33	0.53
1:G:303:GLU:OE2	1:G:308:GLU:HA	2.08	0.53
1:D:193:MET:CE	1:D:371:LYS:HD3	2.39	0.53
1:F:221:LEU:HA	1:F:317:LEU:HD23	1.90	0.53
1:G:187:LEU:HD13	1:G:379:ILE:HG23	1.91	0.53
1:B:217:SER:HB3	1:B:245:LYS:NZ	2.24	0.52
1:B:86:GLY:CA	5:B:608:MPD:H12	2.40	0.52
1:C:276:VAL:HG11	1:C:325:ILE:CD1	2.37	0.52
1:F:13:ARG:HD2	1:F:104:LEU:HD22	1.91	0.52
1:G:326:ASN:HB2	1:G:329:THR:HG23	1.91	0.52
1:A:381:VAL:HG21	1:A:393:LYS:CA	2.37	0.52
1:A:77:VAL:HG13	1:A:506:TYR:HB3	1.91	0.52
1:B:111:MET:HG2	1:B:435:ASP:OD1	2.10	0.52
1:C:194:GLN:OE1	1:C:331:THR:OG1	2.27	0.52
1:C:243:ALA:HB3	1:C:244:GLY:CA	2.39	0.52
1:C:281:PHE:HA	1:C:285:ARG:HD3	1.91	0.52
1:E:2:ALA:HB3	7:E:751:HOH:O	2.08	0.52
1:B:177:VAL:CG1	1:B:397:GLU:HG3	2.39	0.52
1:B:263:VAL:HG22	1:B:267:MET:CE	2.40	0.52
1:B:301:ILE:HD13	1:B:312:ALA:HB2	1.91	0.52
1:C:40:LEU:HD13	1:C:59:GLU:HG3	1.91	0.52
1:D:230:ILE:HG21	1:D:261:THR:HG21	1.91	0.52
1:G:273:VAL:HG12	1:G:274:ALA:N	2.23	0.52
1:D:236:VAL:O	1:D:240:VAL:HG23	2.10	0.52
1:G:171:LYS:HD3	1:G:407:VAL:HG13	1.91	0.52
1:A:169:VAL:CG1	1:A:173:GLY:HA3	2.40	0.52
1:B:16:MET:HE2	1:B:73:MET:SD	2.50	0.52
1:C:177:VAL:HG21	1:C:397:GLU:HG3	1.90	0.52
1:C:227:ILE:HG22	1:C:233:MET:HE3	1.92	0.52
1:B:111:MET:HE2	7:B:802:HOH:O	2.08	0.52
1:B:160:LYS:HE2	1:B:164:GLU:OE2	2.09	0.52
1:C:248:LEU:CD2	1:C:323:VAL:HG11	2.37	0.52
1:C:259:LEU:CA	1:C:262:LEU:HD13	2.40	0.52
1:F:179:ASP:HB3	1:F:389:MET:CE	2.40	0.52
1:G:152:ALA:HB1	1:G:158:VAL:CG1	2.39	0.52
1:G:326:ASN:N	1:G:329:THR:O	2.38	0.52
1:F:10:ASN:O	1:F:14:VAL:HG13	2.09	0.52
1:G:171:LYS:HD3	1:G:407:VAL:CG1	2.39	0.52
1:G:227:ILE:N	1:G:227:ILE:HD12	2.24	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:256:GLY:O	1:B:259:LEU:HG	2.09	0.52
1:C:229:ASN:HA	1:C:259:LEU:HD11	1.91	0.52
1:C:270:ILE:HG13	1:C:271:VAL:N	2.25	0.52
1:C:489:ILE:CD1	1:C:494:LEU:HD22	2.39	0.52
1:E:319:GLN:HG3	1:E:336:VAL:HG21	1.90	0.52
1:A:236:VAL:O	1:A:240:VAL:HG23	2.10	0.52
1:A:77:VAL:HG21	1:A:510:VAL:HB	1.92	0.52
1:C:222:LEU:CB	1:C:300:VAL:HG23	2.35	0.52
1:C:417:VAL:HG21	1:C:488:MET:HG3	1.92	0.52
1:D:38:VAL:HG22	1:E:519:CYS:HB3	1.92	0.52
1:G:222:LEU:O	1:G:222:LEU:HD12	2.09	0.52
1:A:271:VAL:HG23	1:A:272:LYS:HD3	1.91	0.51
1:B:30:THR:HB	1:B:51:LYS:O	2.09	0.51
1:G:197:ALA:HA	1:G:277:LYS:CG	2.40	0.51
1:G:193:MET:HB2	1:G:371:LYS:HB3	1.92	0.51
1:A:397:GLU:O	1:A:401:HIS:ND1	2.32	0.51
1:C:221:LEU:HD13	1:C:222:LEU:N	2.25	0.51
1:C:346:VAL:HG13	1:C:369:VAL:HG23	1.91	0.51
1:C:342:ILE:O	1:C:346:VAL:HG23	2.09	0.51
1:C:194:GLN:O	1:C:371:LYS:HE3	2.09	0.51
1:C:256:GLY:CA	1:C:259:LEU:HB2	2.39	0.51
1:G:285:ARG:HG2	1:G:286:LYS:N	2.24	0.51
1:A:327:LYS:HG3	1:A:328:ASP:OD2	2.10	0.51
1:B:308:GLU:CG	1:B:311:LYS:HE2	2.39	0.51
1:B:77:VAL:HG21	1:B:510:VAL:HB	1.92	0.51
1:A:291:ASP:OD2	1:A:368:ARG:HD2	2.10	0.51
1:C:489:ILE:HD13	1:C:494:LEU:HD22	1.93	0.51
1:E:279:PRO:HG2	1:E:288:MET:HG2	1.91	0.51
1:E:193:MET:CE	1:E:372:LEU:HD12	2.40	0.51
1:F:265:ASN:HA	1:F:268:ARG:HB2	1.93	0.51
1:G:197:ALA:HB3	1:G:330:THR:HG22	1.91	0.51
1:F:200:LEU:HD21	1:F:277:LYS:HB2	1.93	0.51
1:G:260:ALA:O	1:G:263:VAL:HG12	2.10	0.51
1:G:268:ARG:NH1	1:G:271:VAL:HG23	2.26	0.51
1:A:39:VAL:HG21	1:B:16:MET:HE3	1.88	0.51
1:C:150:ILE:HD11	1:C:493:ILE:HA	1.92	0.51
1:C:82:ASN:ND2	7:C:737:HOH:O	2.43	0.51
1:D:152:ALA:N	1:D:153:ASN:HA	2.25	0.51
1:F:209:GLU:HG2	1:F:210:THR:HG23	1.93	0.51
1:F:449:ALA:HB3	1:F:450:PRO:HD3	1.92	0.51
1:G:230:ILE:HG22	1:G:258:ALA:HA	1.91	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:253:ASP:OD1	1:B:254:VAL:N	2.42	0.51
1:C:325:ILE:CG1	1:C:326:ASN:H	2.24	0.51
1:C:112:ASN:HB3	1:C:115:ASP:HB2	1.93	0.50
1:G:150:ILE:CD1	1:G:493:ILE:HA	2.41	0.50
1:C:344:GLY:O	1:C:348:GLN:HG3	2.11	0.50
1:G:120:ILE:O	1:G:124:VAL:HG23	2.11	0.50
1:G:268:ARG:CG	1:G:268:ARG:HH11	2.22	0.50
1:G:251:ALA:HB2	1:G:279:PRO:HD2	1.92	0.50
1:C:314:LEU:CD1	1:C:314:LEU:H	2.21	0.50
1:E:204:PHE:O	1:E:213:VAL:HG22	2.11	0.50
1:B:458:CYS:SG	1:B:480:ALA:HB1	2.52	0.50
1:C:364:LYS:HG3	1:C:365:LEU:N	2.27	0.50
1:E:404:ARG:HG2	1:E:404:ARG:HH11	1.77	0.50
1:F:270:ILE:O	1:F:270:ILE:HD12	2.11	0.50
1:G:222:LEU:HD11	1:G:301:ILE:N	2.27	0.50
1:G:385:THR:HG22	1:G:386:GLU:N	2.27	0.50
1:B:77:VAL:HG13	1:B:506:TYR:HB3	1.93	0.50
1:E:254:VAL:HG12	1:E:259:LEU:HB2	1.94	0.50
1:E:366:GLN:O	1:E:369:VAL:HG22	2.12	0.50
1:G:215:LEU:HB2	1:G:218:PRO:HG3	1.94	0.50
1:G:363:GLU:O	1:G:367:GLU:HG3	2.12	0.50
1:A:69:MET:CE	1:G:39:VAL:HG12	2.42	0.50
1:C:219:PHE:O	1:C:247:LEU:HD12	2.11	0.50
1:C:313:THR:HG23	1:C:316:ASP:H	1.76	0.50
1:C:32:GLY:HA3	7:C:740:HOH:O	2.11	0.50
1:D:209:GLU:HG2	1:D:210:THR:N	2.26	0.50
1:D:224:ASP:O	1:D:252:GLU:HB2	2.12	0.50
1:E:234:LEU:N	1:E:235:PRO:HD2	2.27	0.50
1:F:359:ASP:O	1:F:363:GLU:HG3	2.12	0.50
5:C:604:MPD:HM1	5:C:604:MPD:H52	1.94	0.50
1:D:180:GLY:HA3	1:D:380:LYS:HB3	1.93	0.50
1:D:385:THR:CG2	1:D:387:VAL:HG12	2.42	0.50
1:E:345:ARG:O	1:E:349:ILE:HG13	2.12	0.50
1:F:225:LYS:CG	1:F:303:GLU:HG3	2.34	0.50
1:F:363:GLU:O	1:F:367:GLU:HG3	2.11	0.50
1:C:173:GLY:O	1:C:404:ARG:NH2	2.35	0.49
1:C:229:ASN:OD1	1:C:259:LEU:HG	2.12	0.49
1:E:291:ASP:OD2	1:E:368:ARG:HD2	2.12	0.49
1:G:284:ARG:NH1	1:G:284:ARG:CG	2.71	0.49
1:G:366:GLN:HA	1:G:369:VAL:HG22	1.94	0.49
1:G:458:CYS:HB3	7:G:719:HOH:O	2.11	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:30:THR:HB	1:C:51:LYS:O	2.12	0.49
1:F:235:PRO:HG3	1:F:310:GLU:CB	2.42	0.49
1:G:257:GLU:OE2	1:G:261:THR:HB	2.12	0.49
1:B:231:ARG:HA	1:B:234:LEU:HG	1.93	0.49
1:F:153:ASN:OD1	7:F:706:HOH:O	2.20	0.49
1:F:164:GLU:HA	1:F:167[B]:ASP:OD2	2.12	0.49
1:G:281:PHE:CB	1:G:282:GLY:HA2	2.41	0.49
1:B:259:LEU:HD12	1:B:260:ALA:H	1.76	0.49
1:C:288:MET:HA	1:C:291:ASP:HB2	1.93	0.49
1:C:217:SER:N	1:C:321:LYS:O	2.39	0.49
1:D:198:GLY:HA3	1:D:327:LYS:O	2.13	0.49
1:E:158:VAL:HG13	1:E:396:VAL:HG22	1.94	0.49
1:F:183:LEU:CD1	1:F:184:GLN:H	2.25	0.49
1:G:178:GLU:O	1:G:381:VAL:HG23	2.11	0.49
1:G:385:THR:HG22	1:G:387:VAL:H	1.77	0.49
1:C:70:GLY:HA2	1:C:73:MET:HE3	1.94	0.49
1:D:224:ASP:OD1	1:D:286:LYS:HD3	2.12	0.49
1:D:25:ASP:OD1	1:D:28:LYS:HE2	2.13	0.49
1:E:261:THR:O	1:E:264:VAL:HB	2.12	0.49
1:F:203:TYR:HD2	1:F:263:VAL:HG13	1.76	0.49
1:B:392:LYS:HA	1:B:395:ARG:HE	1.77	0.49
1:D:128:VAL:CG1	1:D:132:LYS:HE3	2.43	0.49
1:E:383:ALA:O	1:E:384:ALA:HB3	2.13	0.49
1:F:203:TYR:HD2	1:F:263:VAL:CG1	2.24	0.49
1:A:383:ALA:CB	1:A:384:ALA:CA	2.69	0.49
1:C:225:LYS:O	1:C:227:ILE:HG13	2.13	0.49
1:C:200:LEU:HD12	1:C:254:VAL:HG23	1.94	0.49
1:C:305:ILE:HG23	1:C:307:MET:HG3	1.95	0.49
1:D:152:ALA:CB	1:D:155:ASP:H	2.25	0.49
1:B:157:THR:HB	7:B:806:HOH:O	2.13	0.49
1:D:179:ASP:HB3	1:D:389:MET:HE2	1.94	0.49
1:D:385:THR:HG23	1:D:387:VAL:HG12	1.93	0.49
1:E:217:SER:HA	1:E:320:ALA:O	2.12	0.49
1:F:186:GLU:HG3	1:F:187:LEU:N	2.27	0.49
1:G:248:LEU:HD21	1:G:250:ILE:CG2	2.42	0.49
1:G:301:ILE:CG2	1:G:307:MET:HG3	2.43	0.49
1:G:171:LYS:HB3	1:G:407:VAL:HG11	1.95	0.49
1:C:202:PRO:O	1:C:203:TYR:HB2	2.13	0.49
1:C:279:PRO:HG2	1:C:288:MET:HE2	1.95	0.49
1:D:118[A]:ARG:NH2	7:D:785:HOH:O	2.46	0.49
1:D:200:LEU:CD1	1:D:254:VAL:HB	2.42	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:265:ASN:C	1:D:271:VAL:HG12	2.32	0.49
1:E:258:ALA:O	1:E:262:LEU:HD13	2.13	0.49
1:F:221:LEU:CD2	1:F:249:ILE:HD12	2.42	0.49
1:G:10:ASN:HB3	7:G:736:HOH:O	2.12	0.49
1:G:279:PRO:HB2	1:G:285:ARG:HA	1.94	0.49
1:G:24:ALA:O	1:G:28:LYS:HG2	2.12	0.49
1:B:181:THR:CG2	1:B:182:GLY:H	2.24	0.49
1:C:158:VAL:HG13	1:C:396:VAL:HG22	1.95	0.49
1:C:349:ILE:HG22	1:C:365:LEU:CD2	2.43	0.49
1:B:39:VAL:HG12	1:C:69:MET:HE1	1.95	0.49
1:E:321:LYS:O	1:E:321:LYS:HD3	2.13	0.49
1:G:197:ALA:CA	1:G:277:LYS:HG2	2.43	0.49
1:B:225:LYS:HD2	1:B:303:GLU:OE2	2.13	0.48
1:C:225:LYS:HZ3	1:C:259:LEU:HD22	1.78	0.48
1:C:243:ALA:HB3	1:C:244:GLY:C	2.32	0.48
1:E:215:LEU:HB2	1:E:323:VAL:HG22	1.94	0.48
1:F:259:LEU:O	1:F:263:VAL:HG23	2.13	0.48
1:G:420:ILE:HD13	1:G:448:GLU:HG2	1.94	0.48
1:G:493:ILE:HD13	2:G:601:ADP:C6	2.48	0.48
1:A:358:SER:HB3	1:A:361:ASP:OD2	2.13	0.48
1:B:198:GLY:N	1:B:277:LYS:HE3	2.28	0.48
1:C:215:LEU:C	1:C:215:LEU:HD12	2.33	0.48
1:C:458:CYS:SG	1:C:480:ALA:HB1	2.53	0.48
1:F:219:PHE:CE2	1:F:245:LYS:HD2	2.48	0.48
1:D:33:PRO:HG2	1:D:480:ALA:HB3	1.94	0.48
1:D:385:THR:HG22	1:D:388:GLU:OE2	2.12	0.48
1:D:420:ILE:HD13	1:D:448:GLU:HG2	1.95	0.48
1:G:16:MET:HE2	1:G:73:MET:SD	2.54	0.48
1:A:385:THR:HG22	1:A:386:GLU:N	2.28	0.48
1:C:225:LYS:HE2	1:C:254:VAL:HA	1.95	0.48
1:G:248:LEU:C	1:G:248:LEU:HD23	2.34	0.48
1:A:69:MET:HE2	1:G:39:VAL:HG12	1.95	0.48
1:E:403:THR:O	1:E:407:VAL:HG23	2.13	0.48
1:B:217:SER:HB3	1:B:245:LYS:HZ1	1.78	0.48
1:C:293:ALA:HB1	1:C:298:GLY:O	2.13	0.48
1:C:326:ASN:OD1	1:C:327:LYS:HG2	2.13	0.48
1:E:140:ASP:N	1:E:140:ASP:OD1	2.46	0.48
1:F:201:SER:HB2	1:F:204:PHE:HE2	1.77	0.48
1:G:124:VAL:O	1:G:128:VAL:HG23	2.13	0.48
1:G:248:LEU:HD23	1:G:249:ILE:N	2.28	0.48
1:G:279:PRO:CG	1:G:285:ARG:HB2	2.44	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:472:GLY:HA3	1:A:476:TYR:CD2	2.49	0.48
1:B:381:VAL:CG1	1:B:392:LYS:HD3	2.43	0.48
1:C:265:ASN:HB2	1:C:270:ILE:HD11	1.95	0.48
1:C:325:ILE:CG1	1:C:326:ASN:N	2.76	0.48
1:F:186:GLU:CG	1:F:187:LEU:N	2.77	0.48
1:F:171:LYS:O	1:F:404:ARG:NH1	2.44	0.48
1:A:162:ILE:HG22	1:A:166:MET:HE2	1.95	0.48
1:C:199:TYR:HE1	1:C:202:PRO:CA	2.26	0.48
1:F:281:PHE:N	1:F:285:ARG:HB2	2.29	0.48
1:B:232:GLU:HA	1:B:310:GLU:CG	2.44	0.48
1:C:172:GLU:OE1	1:C:172:GLU:N	2.40	0.48
1:C:206:ASN:OD1	1:C:214:GLU:N	2.47	0.48
1:C:243:ALA:HB3	1:C:244:GLY:HA2	1.96	0.48
1:D:288:MET:O	1:D:291:ASP:HB2	2.13	0.48
1:E:386:GLU:O	1:E:390:LYS:HG2	2.14	0.48
1:G:216:GLU:OE2	1:G:321:LYS:NZ	2.47	0.48
1:C:35:GLY:O	1:C:51:LYS:HE2	2.14	0.48
1:G:222:LEU:CD2	1:G:300:VAL:HA	2.44	0.48
1:G:242:LYS:O	1:G:243:ALA:HB3	2.14	0.48
1:G:385:THR:CG2	1:G:387:VAL:HG12	2.43	0.48
1:B:263:VAL:O	1:B:267:MET:HG3	2.14	0.47
1:E:218:PRO:CB	1:E:246:PRO:HG2	2.32	0.47
1:E:383:ALA:HB2	1:E:389:MET:HA	1.95	0.47
1:F:313:THR:HG22	1:F:314:LEU:N	2.29	0.47
1:C:206:ASN:ND2	1:C:214:GLU:H	2.12	0.47
1:C:203:TYR:HB3	1:C:267:MET:SD	2.55	0.47
1:E:16:MET:HG2	1:E:514:MET:CE	2.44	0.47
1:F:217:SER:N	1:F:321:LYS:O	2.35	0.47
1:G:219:PHE:C	1:G:220:ILE:HD12	2.35	0.47
1:G:223:ALA:HB1	1:G:225:LYS:N	2.28	0.47
1:G:383:ALA:HB1	1:G:388:GLU:CG	2.43	0.47
1:B:150:ILE:HD11	1:B:493:ILE:HA	1.97	0.47
1:G:383:ALA:HB2	1:G:392:LYS:CD	2.40	0.47
1:G:455:VAL:O	1:G:458:CYS:HB2	2.15	0.47
1:A:144:ILE:CG2	1:A:166:MET:HE3	2.43	0.47
1:A:229:ASN:HB3	1:A:232:GLU:OE1	2.14	0.47
1:A:261:THR:HG23	1:A:265:ASN:ND2	2.29	0.47
1:A:381:VAL:HG13	1:A:392:LYS:HD3	1.95	0.47
1:B:34:LYS:HE2	1:C:118[A]:ARG:HH22	1.79	0.47
1:B:38:VAL:HG22	1:C:519:CYS:HB3	1.97	0.47
1:E:264:VAL:O	1:E:268:ARG:HG3	2.13	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:204:PHE:HB3	1:F:266:THR:OG1	2.13	0.47
1:F:225:LYS:NZ	1:F:308:GLU:HA	2.29	0.47
1:F:345:ARG:O	1:F:349:ILE:HG13	2.14	0.47
1:G:257:GLU:HG2	1:G:261:THR:OG1	2.15	0.47
1:G:281:PHE:HB3	1:G:285:ARG:HD3	1.96	0.47
1:A:242:LYS:HE2	1:B:229:ASN:HB2	1.96	0.47
1:C:227:ILE:HG22	1:C:228:SER:N	2.22	0.47
1:C:68:ASN:O	1:C:72:GLN:HG2	2.15	0.47
1:E:180:GLY:HA3	1:E:381:VAL:C	2.35	0.47
1:A:253:ASP:HB3	7:A:725:HOH:O	2.14	0.47
1:A:284:ARG:O	1:A:288:MET:HG3	2.15	0.47
1:B:149:THR:OG1	1:B:156:GLU:HA	2.14	0.47
1:E:417:VAL:HG21	1:E:488:MET:HG3	1.96	0.47
1:E:444:LEU:HD23	1:E:447:MET:HE1	1.96	0.47
1:F:227:ILE:CD1	1:F:309:LEU:HD21	2.44	0.47
1:B:288:MET:O	1:B:292:ILE:HG13	2.14	0.47
1:C:270:ILE:HG13	1:C:271:VAL:H	1.80	0.47
1:C:349:ILE:HG22	1:C:365:LEU:HD23	1.96	0.47
1:C:489:ILE:HD13	1:C:494:LEU:CD2	2.44	0.47
1:D:219:PHE:O	1:D:247:LEU:HD12	2.14	0.47
1:D:385:THR:HG23	1:D:388:GLU:HG2	1.97	0.47
1:G:325:ILE:N	1:G:325:ILE:HD12	2.30	0.47
1:G:15:LYS:HD3	1:G:66:PHE:HB2	1.97	0.47
1:A:108:ALA:HB2	5:A:605:MPD:HM2	1.95	0.47
1:A:266:THR:HG22	1:A:270:ILE:HG21	1.96	0.47
1:B:276:VAL:HG11	1:B:325:ILE:HD13	1.97	0.47
1:B:475:ASN:O	1:B:488:MET:HG2	2.14	0.47
1:E:420:ILE:HD13	1:E:448:GLU:HG2	1.96	0.47
1:F:204:PHE:HB3	1:F:266:THR:HB	1.93	0.47
1:G:219:PHE:CB	1:G:317:LEU:HD23	2.39	0.47
1:G:222:LEU:HD11	1:G:300:VAL:CA	2.37	0.47
1:A:68:ASN:O	1:A:72:GLN:HG2	2.15	0.47
1:C:206:ASN:HD21	1:C:214:GLU:H	1.62	0.47
1:C:243:ALA:N	1:C:244:GLY:HA2	2.29	0.47
1:F:383:ALA:CB	1:F:388:GLU:HB3	2.44	0.47
1:A:498:LYS:NZ	5:A:609:MPD:C5	2.78	0.47
1:C:336:VAL:O	1:C:336:VAL:HG12	2.15	0.47
1:A:176:THR:OG1	1:A:177:VAL:N	2.49	0.46
1:B:222:LEU:HD13	1:B:293:ALA:HB2	1.97	0.46
5:B:605:MPD:O4	5:B:605:MPD:HM2	2.15	0.46
1:D:257:GLU:O	1:D:261:THR:OG1	2.23	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:224:ASP:O	1:F:252:GLU:HG3	2.15	0.46
1:G:14:VAL:O	1:G:18[B]:ARG:HG3	2.14	0.46
1:G:359:ASP:HA	1:G:362:ARG:NH2	2.30	0.46
1:G:392:LYS:O	1:G:396:VAL:HG23	2.14	0.46
1:A:349:ILE:HB	1:A:369:VAL:HG12	1.96	0.46
1:A:381:VAL:CG1	1:A:392:LYS:HD3	2.45	0.46
1:D:445:ARG:NH2	7:D:730:HOH:O	2.48	0.46
1:A:178:GLU:OE2	1:A:322:ARG:HD3	2.15	0.46
1:C:266:THR:OG1	1:C:272:LYS:HA	2.14	0.46
1:C:16:MET:HE2	1:C:73:MET:HE2	1.96	0.46
1:F:179:ASP:OD1	1:F:393:LYS:HD2	2.15	0.46
1:G:221:LEU:HD12	1:G:249:ILE:CG1	2.45	0.46
1:G:251:ALA:HB2	1:G:279:PRO:CD	2.45	0.46
1:D:160:LYS:O	1:D:163:ALA:N	2.46	0.46
1:D:164:GLU:N	1:D:164:GLU:OE1	2.44	0.46
1:E:381:VAL:O	1:E:381:VAL:HG22	2.16	0.46
1:E:460:GLU:OE2	7:E:754:HOH:O	2.21	0.46
1:F:215:LEU:HB3	1:F:218:PRO:HB3	1.97	0.46
1:G:433:ASN:ND2	7:G:785:HOH:O	2.40	0.46
1:B:487:ASN:O	1:B:491:MET:HG3	2.16	0.46
1:D:360:TYR:O	1:D:364:LYS:HG2	2.16	0.46
1:B:204:PHE:HE1	1:B:263:VAL:HA	1.81	0.46
1:B:227:ILE:CD1	1:B:309:LEU:HD22	2.46	0.46
1:C:200:LEU:CD1	1:C:254:VAL:CG2	2.94	0.46
1:C:261:THR:HA	1:C:264:VAL:CG1	2.45	0.46
1:D:166:MET:O	1:D:170:GLY:N	2.49	0.46
1:E:49:ILE:HD12	1:F:513:LEU:HD13	1.98	0.46
1:F:165:ALA:O	1:F:169:VAL:HG22	2.16	0.46
1:F:222:LEU:O	1:F:301:ILE:HG22	2.15	0.46
1:G:205:ILE:HA	1:G:213:VAL:CG2	2.45	0.46
1:G:105:LYS:HG2	5:G:604:MPD:O4	2.14	0.46
1:A:498:LYS:NZ	5:A:609:MPD:H53	2.31	0.46
1:B:227:ILE:HD12	1:B:309:LEU:CD2	2.46	0.46
1:C:231:ARG:NH1	1:C:258:ALA:HB1	2.31	0.46
1:C:348:GLN:O	1:C:352:GLN:HG3	2.15	0.46
1:C:385:THR:HG22	1:C:386:GLU:H	1.81	0.46
1:E:219:PHE:CE2	1:E:245:LYS:HD3	2.51	0.46
1:F:34:LYS:HG3	1:F:458:CYS:SG	2.56	0.46
1:F:381:VAL:CG2	1:F:392:LYS:HD3	2.45	0.46
1:A:270:ILE:CG2	1:A:271:VAL:C	2.84	0.46
1:D:166:MET:HG2	1:D:175:ILE:HD11	1.98	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:308:GLU:HB2	1:E:311:LYS:HD3	1.98	0.46
1:E:351:GLN:O	1:E:355:GLU:HG3	2.15	0.46
1:E:444:LEU:CA	1:E:447:MET:HE3	2.39	0.46
1:F:264:VAL:O	1:F:268:ARG:HB2	2.16	0.46
1:G:264:VAL:HG22	1:G:265:ASN:N	2.30	0.46
1:A:169:VAL:HG23	1:A:377:ALA:HB2	1.97	0.46
1:A:381:VAL:CG1	1:A:392:LYS:HB3	2.45	0.46
1:B:305:ILE:CG2	1:B:307:MET:HG3	2.42	0.46
1:C:227:ILE:CG2	1:C:233:MET:HE3	2.46	0.46
1:G:221:LEU:O	1:G:250:ILE:HG12	2.16	0.46
1:G:268:ARG:HH22	1:G:271:VAL:CG2	2.29	0.46
1:G:34:LYS:HG3	1:G:458:CYS:SG	2.56	0.46
1:C:230:ILE:HD12	1:C:262:LEU:HD12	1.98	0.45
1:G:321:LYS:HG3	1:G:322:ARG:N	2.30	0.45
1:B:363:GLU:O	1:B:367:GLU:HG3	2.15	0.45
1:D:253:ASP:OD1	1:D:254:VAL:N	2.49	0.45
1:D:77:VAL:HG21	1:D:510:VAL:HB	1.98	0.45
1:G:247:LEU:HD12	1:G:248:LEU:H	1.81	0.45
1:A:224:ASP:OD1	1:A:286:LYS:HD2	2.17	0.45
1:C:243:ALA:HB3	1:C:245:LYS:N	2.31	0.45
1:C:265:ASN:ND2	1:C:270:ILE:HD11	2.31	0.45
1:F:14:VAL:O	1:F:18[B]:ARG:HG3	2.16	0.45
1:G:301:ILE:HG23	1:G:307:MET:CG	2.44	0.45
1:G:321:LYS:HZ2	1:G:322:ARG:HB2	1.81	0.45
1:B:27:VAL:HG12	1:B:90:THR:HG23	1.99	0.45
1:B:123:ALA:HB2	1:B:440:ILE:HG23	1.97	0.45
1:F:242:LYS:O	1:G:257:GLU:HB2	2.17	0.45
1:G:281:PHE:CB	1:G:282:GLY:CA	2.86	0.45
1:G:381:VAL:HG21	1:G:393:LYS:HA	1.98	0.45
1:A:186:GLU:HB2	1:A:380:LYS:HB2	1.99	0.45
1:A:38:VAL:HG22	1:B:519:CYS:HB3	1.99	0.45
1:D:226:LYS:HD2	1:D:255:GLU:CD	2.37	0.45
1:D:385:THR:HG22	1:D:388:GLU:HG2	1.96	0.45
1:G:385:THR:HB	1:G:388:GLU:CB	2.41	0.45
1:C:353:ILE:CD1	1:C:365:LEU:HD22	2.46	0.45
1:G:261:THR:C	1:G:264:VAL:HG13	2.36	0.45
1:B:215:LEU:HB3	1:B:218:PRO:HB3	1.99	0.45
1:C:308:GLU:O	1:C:311:LYS:HB3	2.17	0.45
1:E:193:MET:HE1	1:E:372:LEU:HD12	1.99	0.45
1:E:102:GLU:HB2	1:E:442:VAL:HG13	1.98	0.45
1:E:19:GLY:HA3	1:E:67:GLU:O	2.17	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:220:ILE:N	1:G:220:ILE:HD12	2.32	0.45
1:A:366:GLN:O	1:A:369:VAL:HG22	2.16	0.45
1:C:231:ARG:HH12	1:C:258:ALA:HB1	1.82	0.45
1:E:409:GLU:OE2	1:E:501:ARG:NH2	2.41	0.45
1:G:192:GLY:HA2	1:G:295:LEU:HD21	1.99	0.45
1:G:350:ARG:O	1:G:353:ILE:HG12	2.17	0.45
1:B:248:LEU:HD13	1:B:325:ILE:HD11	1.99	0.45
1:C:257:GLU:O	1:C:261:THR:HG23	2.17	0.45
1:F:381:VAL:HG22	1:F:392:LYS:HD3	1.97	0.45
1:G:100:ILE:HD13	1:G:514:MET:SD	2.56	0.45
1:G:155:ASP:HB3	1:G:158:VAL:CG1	2.46	0.45
1:G:215:LEU:HB2	1:G:218:PRO:HG2	1.97	0.45
1:G:262:LEU:O	1:G:262:LEU:HD12	2.17	0.45
1:B:188:ASP:N	1:B:188:ASP:OD1	2.49	0.45
1:B:227:ILE:HG21	1:B:233:MET:CE	2.38	0.45
1:C:200:LEU:CD1	1:C:254:VAL:HB	2.47	0.45
1:D:270:ILE:O	1:D:270:ILE:HG12	2.17	0.45
1:D:273:VAL:HG22	1:D:274:ALA:N	2.32	0.45
1:D:392:LYS:O	1:D:395:ARG:HB3	2.16	0.45
1:F:25:ASP:OD1	1:F:28:LYS:HE2	2.16	0.45
1:G:277:LYS:O	1:G:278:ALA:HB3	2.16	0.45
1:G:104:LEU:HB3	5:G:604:MPD:H12	1.99	0.45
1:G:68:ASN:O	1:G:72:GLN:HG2	2.17	0.45
1:A:230:ILE:O	1:A:230:ILE:HG12	2.16	0.44
1:B:140:ASP:OD2	1:B:142:LYS:HB3	2.16	0.44
1:C:259:LEU:HA	1:C:262:LEU:CD1	2.44	0.44
1:C:179:ASP:HB3	1:C:389:MET:HE3	1.98	0.44
1:F:225:LYS:HZ2	1:F:309:LEU:HD12	1.82	0.44
1:F:177:VAL:HG13	1:F:397:GLU:HG2	1.98	0.44
1:A:240:VAL:HG11	1:A:247:LEU:HB2	1.99	0.44
1:A:344:GLY:O	1:A:348:GLN:HG3	2.17	0.44
1:A:401:HIS:O	1:A:404:ARG:HB2	2.16	0.44
1:B:455:VAL:HG21	1:B:465:VAL:HG11	1.98	0.44
1:C:198:GLY:HA3	1:C:327:LYS:O	2.17	0.44
1:C:213:VAL:CG1	1:C:325:ILE:HG23	2.47	0.44
1:F:235:PRO:HG3	1:F:310:GLU:CA	2.48	0.44
1:A:124:VAL:O	1:A:128:VAL:HG23	2.17	0.44
1:A:16:MET:HB3	1:A:16:MET:HE2	1.84	0.44
1:A:456:LEU:HG	5:A:608:MPD:H12	2.00	0.44
1:A:475:ASN:O	1:A:488:MET:HG2	2.17	0.44
1:C:259:LEU:C	1:C:262:LEU:HD13	2.38	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:25:ASP:O	1:C:29:VAL:HG13	2.17	0.44
1:C:352:GLN:HA	1:C:355:GLU:CD	2.38	0.44
1:G:285:ARG:HG3	1:G:289:LEU:HD12	2.00	0.44
1:G:82:ASN:HB2	1:G:89:THR:OG1	2.17	0.44
1:A:193:MET:HG2	1:A:194:GLN:N	2.31	0.44
1:A:231:ARG:HA	1:A:234:LEU:HD23	1.99	0.44
1:B:181:THR:CG2	1:B:182:GLY:N	2.81	0.44
1:D:218:PRO:HD2	1:D:320:ALA:O	2.17	0.44
1:D:359:ASP:O	1:D:363:GLU:HG3	2.18	0.44
1:F:309:LEU:N	1:F:309:LEU:HD12	2.32	0.44
1:F:420:ILE:HD13	1:F:448:GLU:HG2	1.99	0.44
1:G:268:ARG:HH22	1:G:271:VAL:HG23	1.82	0.44
1:C:230:ILE:HG21	1:C:258:ALA:HB1	1.98	0.44
1:C:456:LEU:HD13	1:C:462:PRO:HG2	1.99	0.44
1:D:136:VAL:HG13	1:D:137:PRO:CD	2.47	0.44
1:A:498:LYS:HZ1	5:A:609:MPD:H53	1.82	0.44
1:B:260:ALA:HA	1:B:263:VAL:CG1	2.48	0.44
1:C:219:PHE:CG	1:C:245:LYS:HD2	2.53	0.44
1:D:152:ALA:HB3	1:D:154:SER:N	2.33	0.44
5:D:605:MPD:H11	5:D:605:MPD:O4	2.17	0.44
1:F:225:LYS:HZ2	1:F:308:GLU:HA	1.83	0.44
1:F:391:GLU:HG2	1:F:392:LYS:N	2.33	0.44
1:G:385:THR:HG21	1:G:387:VAL:HG12	2.00	0.44
1:B:225:LYS:NZ	1:B:232:GLU:OE2	2.27	0.44
1:B:319:GLN:O	1:B:336:VAL:HG23	2.18	0.44
1:C:177:VAL:HG21	1:C:397:GLU:CG	2.47	0.44
1:D:325:ILE:N	1:D:325:ILE:HD12	2.32	0.44
1:E:219:PHE:HE2	1:E:245:LYS:HD3	1.83	0.44
1:F:214:GLU:O	1:F:215:LEU:HD23	2.18	0.44
1:G:214:GLU:HA	1:G:323:VAL:O	2.17	0.44
1:G:225:LYS:HA	1:G:226:LYS:HA	1.50	0.44
1:A:348:GLN:O	1:A:352:GLN:HG3	2.18	0.44
1:D:336:VAL:O	1:D:336:VAL:HG12	2.18	0.44
1:E:117:LYS:NZ	7:E:750:HOH:O	2.51	0.44
1:F:186:GLU:CD	1:F:187:LEU:H	2.22	0.44
1:F:349:ILE:O	1:F:353:ILE:HG12	2.18	0.44
1:A:365:LEU:CD2	1:A:368:ARG:HH21	2.31	0.44
1:B:238:GLU:O	1:B:242:LYS:HG3	2.18	0.44
5:A:608:MPD:HM1	1:B:518:GLU:HG3	2.00	0.44
1:D:326:ASN:OD1	1:D:329:THR:N	2.46	0.44
1:D:389:MET:HG3	1:D:390:LYS:N	2.33	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:200:LEU:CD1	1:E:254:VAL:HB	2.47	0.44
1:E:201:SER:HA	1:E:202:PRO:HD3	1.89	0.44
1:A:140:ASP:OD1	1:A:140:ASP:N	2.50	0.43
1:B:332:ILE:N	1:B:332:ILE:HD12	2.33	0.43
1:E:177:VAL:CG1	1:E:397:GLU:HG2	2.48	0.43
1:G:226:LYS:CB	1:G:227:ILE:HA	2.31	0.43
1:G:233:MET:HA	1:G:233:MET:HE3	1.99	0.43
2:E:601:ADP:O2A	2:E:601:ADP:O1B	2.36	0.43
1:E:81:ALA:HB1	7:E:719:HOH:O	2.17	0.43
1:G:18[A]:ARG:HG2	1:G:67:GLU:CD	2.38	0.43
1:B:361:ASP:O	1:B:365:LEU:HD13	2.18	0.43
1:F:153:ASN:O	1:F:154:SER:HB2	2.18	0.43
1:F:195:PHE:CE2	1:F:330:THR:HG21	2.53	0.43
1:F:313:THR:HG22	1:F:314:LEU:H	1.84	0.43
1:B:205:ILE:HG22	1:B:207:LYS:H	1.83	0.43
1:B:260:ALA:HA	1:B:263:VAL:HG12	2.00	0.43
1:C:326:ASN:OD1	1:C:327:LYS:N	2.44	0.43
1:D:25:ASP:HA	1:D:28:LYS:HE2	2.00	0.43
1:D:522:THR:OG1	1:D:523:ASP:N	2.52	0.43
1:G:16:MET:HB3	1:G:514:MET:CE	2.49	0.43
1:C:301:ILE:HD11	1:C:312:ALA:CB	2.48	0.43
1:D:363:GLU:O	1:D:367:GLU:HG3	2.19	0.43
1:E:219:PHE:HB3	1:E:317:LEU:HD23	2.00	0.43
1:G:392:LYS:HE3	1:G:395:ARG:HH21	1.84	0.43
1:C:220:ILE:HD12	1:C:296:THR:CG2	2.46	0.43
1:F:192:GLY:HA3	1:F:376:VAL:HG23	2.00	0.43
1:F:215:LEU:HD12	1:F:323:VAL:HG21	2.00	0.43
1:G:251:ALA:CB	1:G:289:LEU:HD21	2.47	0.43
1:A:393:LYS:NZ	1:A:397:GLU:OE2	2.38	0.43
1:B:362:ARG:O	1:B:366:GLN:HB2	2.18	0.43
1:A:37:ASN:CB	1:B:517:THR:HG22	2.49	0.43
1:C:256:GLY:CA	1:C:259:LEU:HD12	2.45	0.43
1:C:230:ILE:CG1	1:C:262:LEU:HD11	2.41	0.43
1:D:302:SER:O	1:D:307:MET:HB2	2.19	0.43
1:F:246:PRO:CB	1:F:272:LYS:HE3	2.46	0.43
1:G:27:VAL:HG12	1:G:90:THR:HG23	2.00	0.43
1:B:359:ASP:O	1:B:363:GLU:HG3	2.18	0.43
1:B:15:LYS:NZ	1:B:64:ASP:OD2	2.49	0.43
1:C:172:GLU:H	1:C:172:GLU:CD	2.22	0.43
1:D:176:THR:CG2	1:D:378:VAL:HG22	2.49	0.43
1:D:385:THR:O	1:D:389:MET:HB3	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:160:LYS:O	1:E:164:GLU:HG3	2.19	0.43
1:A:162:ILE:HG22	1:A:166:MET:HE1	2.00	0.43
1:C:219:PHE:CD2	1:C:245:LYS:HD2	2.53	0.43
1:C:200:LEU:HD12	1:C:254:VAL:HB	2.01	0.43
1:C:385:THR:HB	1:C:388:GLU:HB3	2.01	0.43
1:C:19:GLY:HA3	1:C:67:GLU:O	2.19	0.43
1:F:230:ILE:O	1:F:234:LEU:HG	2.19	0.43
1:F:383:ALA:HB1	1:F:388:GLU:CB	2.46	0.43
1:G:291:ASP:OD2	1:G:368:ARG:NH1	2.52	0.43
1:A:350:ARG:O	1:A:353:ILE:HB	2.19	0.43
1:B:198:GLY:H	1:B:277:LYS:CE	2.32	0.43
1:C:385:THR:O	1:C:389:MET:HB2	2.19	0.43
1:F:252:GLU:O	1:F:253:ASP:HB2	2.18	0.43
1:F:46:ALA:HA	1:F:47:PRO:HD3	1.83	0.43
1:C:272:LYS:HD2	1:C:272:LYS:N	2.34	0.42
1:C:434:GLU:HG2	7:C:763:HOH:O	2.19	0.42
1:D:177:VAL:HG12	1:D:393:LYS:HG3	2.00	0.42
1:F:160:LYS:O	1:F:164:GLU:HG3	2.18	0.42
1:F:221:LEU:CB	1:F:249:ILE:HD12	2.47	0.42
1:G:219:PHE:HE1	1:G:245:LYS:HD3	1.83	0.42
1:C:233:MET:SD	1:C:233:MET:N	2.92	0.42
1:C:352:GLN:HA	1:C:355:GLU:CG	2.50	0.42
1:F:185:ASP:N	1:F:185:ASP:OD1	2.39	0.42
1:G:321:LYS:HB3	1:G:334:ASP:HB3	2.00	0.42
1:F:200:LEU:CD1	1:F:254:VAL:HB	2.48	0.42
1:F:192:GLY:C	1:F:376:VAL:HG23	2.39	0.42
1:F:192:GLY:CA	1:F:376:VAL:HG23	2.48	0.42
1:A:106:ALA:O	1:A:111:MET:HG3	2.19	0.42
1:A:363:GLU:O	1:A:367:GLU:HG3	2.19	0.42
1:A:169:VAL:CG2	1:A:377:ALA:HB2	2.48	0.42
1:B:222:LEU:HD22	1:B:289:LEU:HD22	2.00	0.42
1:C:225:LYS:HZ3	1:C:259:LEU:CD2	2.32	0.42
1:D:152:ALA:HB1	1:D:155:ASP:HB3	2.00	0.42
1:E:339:GLU:O	1:E:343:GLN:HG2	2.20	0.42
1:E:414:GLY:HA2	1:E:495:ASP:OD2	2.19	0.42
1:F:232:GLU:OE1	1:F:309:LEU:HD13	2.19	0.42
1:F:417:VAL:O	1:F:421:ARG:HG2	2.19	0.42
1:G:264:VAL:HG22	1:G:265:ASN:ND2	2.34	0.42
1:B:269:GLY:O	1:B:270:ILE:HB	2.19	0.42
1:B:364:LYS:HA	1:B:364:LYS:HD2	1.84	0.42
1:C:227:ILE:CG2	1:C:228:SER:H	2.16	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:180:GLY:CA	1:D:380:LYS:HB3	2.49	0.42
1:E:260:ALA:O	1:E:264:VAL:HG23	2.19	0.42
1:E:383:ALA:HB1	1:E:388:GLU:CB	2.50	0.42
1:G:251:ALA:CB	1:G:279:PRO:HD2	2.50	0.42
1:A:195:PHE:CE1	1:A:330:THR:HB	2.55	0.42
1:B:268:ARG:HH11	1:B:268:ARG:CG	2.29	0.42
1:B:461:GLU:HA	1:B:462:PRO:HD3	1.83	0.42
1:C:456:LEU:HD13	1:C:462:PRO:CG	2.50	0.42
1:D:14:VAL:O	1:D:18[B]:ARG:HG3	2.19	0.42
1:D:222:LEU:HD23	1:D:250:ILE:HB	2.01	0.42
1:D:232:GLU:OE2	1:D:309:LEU:HD12	2.19	0.42
1:F:349:ILE:HG21	1:F:369:VAL:HG13	2.01	0.42
1:A:272:LYS:HB2	1:A:272:LYS:HE2	1.92	0.42
1:C:207:LYS:O	1:C:207:LYS:HG3	2.20	0.42
1:C:226:LYS:HD3	1:C:252:GLU:OE2	2.19	0.42
1:D:143:ALA:O	1:D:147:VAL:HG23	2.20	0.42
1:D:266:THR:HA	1:D:271:VAL:HG13	2.02	0.42
1:G:183:LEU:HA	1:G:384:ALA:HB2	2.02	0.42
1:A:391:GLU:O	1:A:394:ALA:HB3	2.20	0.42
1:C:206:ASN:O	1:C:207:LYS:HG2	2.19	0.42
1:C:215:LEU:HD11	1:C:323:VAL:N	2.35	0.42
1:C:266:THR:OG1	1:C:271:VAL:O	2.25	0.42
1:G:279:PRO:HG2	1:G:285:ARG:HB2	2.01	0.42
1:G:458:CYS:SG	1:G:480:ALA:HB1	2.60	0.42
1:A:194:GLN:O	1:A:371:LYS:HE3	2.20	0.42
1:C:299:THR:HB	1:C:316:ASP:OD1	2.20	0.42
1:F:367:GLU:O	1:F:371:LYS:HG3	2.20	0.42
1:A:325:ILE:N	1:A:325:ILE:HD12	2.35	0.42
1:C:256:GLY:HA3	1:C:259:LEU:HB2	2.01	0.42
1:C:27:VAL:HG12	1:C:90:THR:HG23	2.01	0.42
1:D:187:LEU:HD13	1:D:187:LEU:C	2.40	0.42
1:D:366:GLN:O	1:D:369:VAL:HG22	2.19	0.42
1:D:417:VAL:HG21	1:D:477:GLY:HA3	2.01	0.42
1:E:263:VAL:O	1:E:263:VAL:HG12	2.20	0.42
1:F:232:GLU:HG3	1:F:309:LEU:HD22	2.02	0.42
1:G:187:LEU:HD13	1:G:379:ILE:HG22	2.02	0.42
1:G:230:ILE:HA	1:G:233:MET:HG2	2.02	0.42
1:G:46:ALA:HA	1:G:47:PRO:HD3	1.84	0.42
1:A:257:GLU:O	1:A:261:THR:HB	2.20	0.41
1:A:245:LYS:HE3	1:B:255:GLU:OE1	2.19	0.41
1:B:217:SER:HA	1:B:320:ALA:O	2.19	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:282:GLY:H	1:C:285:ARG:HH11	1.67	0.41
1:D:193:MET:HE3	1:D:371:LYS:HD3	2.02	0.41
1:F:350:ARG:HA	1:F:353:ILE:HG13	2.02	0.41
1:F:501:ARG:HG2	1:F:505:GLN:OE1	2.20	0.41
1:G:352:GLN:HA	1:G:355:GLU:CB	2.38	0.41
1:B:220:ILE:CD1	1:B:296:THR:HG21	2.50	0.41
1:C:209:GLU:HG2	1:C:210:THR:N	2.35	0.41
1:C:217:SER:O	1:C:245:LYS:HG3	2.20	0.41
1:E:184:GLN:HA	1:E:184:GLN:OE1	2.20	0.41
1:F:183:LEU:N	1:F:183:LEU:HD12	2.35	0.41
1:G:219:PHE:CE1	1:G:245:LYS:HD3	2.55	0.41
1:C:16:MET:SD	1:C:73:MET:HE1	2.60	0.41
1:D:16:MET:HG3	1:D:520:MET:SD	2.60	0.41
1:E:102:GLU:OE1	1:E:445:ARG:NH1	2.53	0.41
1:F:253:ASP:OD1	1:F:277:LYS:HE2	2.20	0.41
1:G:360:TYR:CE2	1:G:364:LYS:HE2	2.55	0.41
1:D:207:LYS:HA	1:D:208:PRO:HD2	1.93	0.41
1:E:325:ILE:HD12	1:E:325:ILE:N	2.36	0.41
1:E:49:ILE:CD1	1:F:513:LEU:HD13	2.50	0.41
1:F:225:LYS:HE2	1:F:303:GLU:CG	2.51	0.41
1:G:321:LYS:HG3	1:G:322:ARG:HB2	2.02	0.41
1:A:266:THR:CG2	1:A:270:ILE:HG21	2.50	0.41
1:A:461:GLU:HA	1:A:462:PRO:HD3	1.81	0.41
1:B:118[A]:ARG:HD2	7:B:786:HOH:O	2.20	0.41
1:C:215:LEU:CD1	1:C:323:VAL:H	2.33	0.41
1:C:393:LYS:NZ	1:C:397:GLU:OE2	2.53	0.41
1:D:39:VAL:HG12	1:E:69:MET:CE	2.51	0.41
1:F:364:LYS:HD3	1:F:367:GLU:OE1	2.21	0.41
7:E:745:HOH:O	1:F:518:GLU:HG2	2.18	0.41
1:A:270:ILE:CD1	1:A:273:VAL:HB	2.36	0.41
1:A:458:CYS:SG	1:A:480:ALA:HB1	2.61	0.41
1:B:221:LEU:HD23	1:B:249:ILE:HG23	2.02	0.41
1:C:215:LEU:HD11	1:C:218:PRO:HG3	2.02	0.41
1:C:226:LYS:CE	1:C:226:LYS:HA	2.50	0.41
1:C:282:GLY:H	1:C:285:ARG:NH1	2.18	0.41
1:D:183:LEU:HD12	1:D:183:LEU:N	2.36	0.41
1:E:342:ILE:O	1:E:346:VAL:HG23	2.19	0.41
1:F:295:LEU:HD23	1:F:295:LEU:O	2.21	0.41
1:F:294:THR:HG23	1:F:341:ALA:HB1	2.02	0.41
1:A:234:LEU:N	1:A:235:PRO:HD2	2.36	0.41
1:A:247:LEU:HB3	1:A:273:VAL:CG2	2.45	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:514:MET:HE2	1:A:514:MET:HB3	1.66	0.41
1:B:259:LEU:HD12	1:B:260:ALA:CA	2.51	0.41
1:D:227:ILE:HG22	1:D:258:ALA:CB	2.50	0.41
1:F:310:GLU:H	1:F:310:GLU:CD	2.21	0.41
1:G:168:LYS:HD2	1:G:189:VAL:HG21	2.02	0.41
1:G:524:LEU:HA	1:G:524:LEU:HD23	1.88	0.41
1:A:177:VAL:HG11	1:A:397:GLU:CG	2.49	0.41
1:A:281:PHE:N	1:A:285:ARG:HB2	2.36	0.41
1:A:46:ALA:HA	1:A:47:PRO:HD3	1.93	0.41
1:B:234:LEU:N	1:B:235:PRO:HD2	2.35	0.41
1:B:287:ALA:HB1	1:B:368:ARG:NH1	2.36	0.41
1:C:256:GLY:O	1:C:260:ALA:N	2.53	0.41
1:E:366:GLN:HG2	7:E:742:HOH:O	2.20	0.41
1:A:131:LEU:CD1	1:A:422:VAL:HG21	2.43	0.41
1:D:68:ASN:O	1:D:72:GLN:HG2	2.21	0.41
1:E:293:ALA:HB1	1:E:298:GLY:O	2.19	0.41
1:F:127:ALA:O	1:F:131:LEU:HB2	2.21	0.41
1:G:178:GLU:OE2	1:G:322:ARG:HD3	2.20	0.41
1:C:206:ASN:CG	1:C:214:GLU:H	2.24	0.41
1:C:350:ARG:O	1:C:353:ILE:HB	2.20	0.41
1:D:160:LYS:HG2	1:D:164:GLU:OE2	2.21	0.41
1:G:284:ARG:NH1	1:G:364:LYS:HE3	2.35	0.41
1:B:144:ILE:HG23	1:B:403:THR:CG2	2.51	0.41
1:F:193:MET:HB2	1:F:371:LYS:HB3	2.03	0.41
1:G:223:ALA:CA	1:G:224:ASP:HB2	2.43	0.41
1:G:279:PRO:HB2	1:G:285:ARG:CA	2.51	0.41
1:G:461:GLU:HA	1:G:462:PRO:HD3	1.84	0.41
1:A:222:LEU:O	1:A:301:ILE:HG22	2.21	0.40
1:A:162:ILE:HD11	1:A:399:ALA:HB3	2.03	0.40
1:C:259:LEU:O	1:C:262:LEU:HD13	2.21	0.40
1:D:381:VAL:HG12	1:D:382:GLY:N	2.36	0.40
1:D:455:VAL:HG21	1:D:465:VAL:HG11	2.03	0.40
1:D:524:LEU:HA	1:D:525:PRO:HD3	1.97	0.40
1:E:124:VAL:O	1:E:128:VAL:HG23	2.21	0.40
1:E:381:VAL:CG2	1:E:392:LYS:HD3	2.51	0.40
1:F:308:GLU:HB3	1:F:310:GLU:OE2	2.20	0.40
1:A:225:LYS:HD2	1:A:303:GLU:OE1	2.21	0.40
1:A:30:THR:HB	1:A:51:LYS:O	2.21	0.40
1:C:273:VAL:HG22	1:C:274:ALA:N	2.35	0.40
1:C:364:LYS:O	1:C:367:GLU:HB2	2.21	0.40
1:C:420:ILE:HD12	1:C:451:LEU:CD1	2.38	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:D:604:MPD:O4	5:D:604:MPD:H12	2.21	0.40
1:E:163:ALA:O	1:E:167:ASP:HB2	2.22	0.40
1:E:33:PRO:HG3	2:E:601:ADP:C6	2.55	0.40
1:F:231:ARG:HG3	1:F:231:ARG:NH1	2.33	0.40
1:F:234:LEU:N	1:F:235:PRO:CD	2.82	0.40
1:F:326:ASN:HB3	1:F:329:THR:HB	2.02	0.40
1:F:82:ASN:HB2	1:F:89:THR:OG1	2.21	0.40
1:C:39:VAL:HG12	1:D:69:MET:HE2	2.03	0.40
1:C:455:VAL:O	1:C:458:CYS:HB2	2.21	0.40
1:D:193:MET:HB2	1:D:193:MET:HE2	1.92	0.40
1:E:22:VAL:HG11	1:E:62:LEU:HD21	2.02	0.40
1:E:365:LEU:CD2	1:E:368:ARG:HH21	2.34	0.40
1:G:165:ALA:O	1:G:169:VAL:HG22	2.21	0.40
1:B:202:PRO:O	1:B:205:ILE:HG13	2.22	0.40
1:B:270:ILE:HG22	1:B:270:ILE:O	2.21	0.40
1:E:233:MET:HB3	1:E:233:MET:HE2	1.86	0.40
1:D:181:THR:CB	1:E:277:LYS:HZ2	2.33	0.40
1:G:139:SER:HA	1:G:171:LYS:NZ	2.36	0.40
1:G:226:LYS:HB2	1:G:227:ILE:CA	2.44	0.40
1:B:222:LEU:HD22	1:B:289:LEU:CD2	2.52	0.40
1:B:16:MET:HG3	1:B:520:MET:CE	2.52	0.40
1:B:5:ASP:HB2	1:B:524:LEU:HD23	2.04	0.40
1:C:229:ASN:HA	1:C:259:LEU:CD1	2.51	0.40
1:D:381:VAL:HG12	1:D:392:LYS:HD3	2.04	0.40
1:D:420:ILE:CD1	1:D:448:GLU:HG2	2.51	0.40
1:F:314:LEU:HA	1:F:317:LEU:HD12	2.03	0.40
1:F:77:VAL:HG21	1:F:510:VAL:HB	2.03	0.40
1:G:204:PHE:HB3	1:G:213:VAL:HG21	2.02	0.40

All (1) symmetry-related close contacts are listed below. The label for Atom-2 includes the symmetry operator and encoded unit-cell translations to be applied.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:461:GLU:OE2	1:F:463:SER:OG[2_959]	2.11	0.09

## 5.3 Torsion angles

### 5.3.1 Protein backbone

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	523/548 (95%)	512 (98%)	11 (2%)	0	100	100
1	B	523/548 (95%)	509 (97%)	13 (2%)	1 (0%)	51	78
1	C	525/548 (96%)	505 (96%)	19 (4%)	1 (0%)	51	78
1	D	524/548 (96%)	509 (97%)	15 (3%)	0	100	100
1	E	523/548 (95%)	512 (98%)	10 (2%)	1 (0%)	51	78
1	F	526/548 (96%)	512 (97%)	13 (2%)	1 (0%)	51	78
1	G	523/548 (95%)	502 (96%)	21 (4%)	0	100	100
All	All	3667/3836 (96%)	3561 (97%)	102 (3%)	4 (0%)	55	81

All (4) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	B	270	ILE
1	F	270	ILE
1	E	270	ILE
1	C	227	ILE

### 5.3.2 Protein sidechains

In the following table, the Percentiles column shows the percent sidechain outliers of the chain as a percentile score with respect to all X-ray entries followed by that with respect to entries of similar resolution.

The Analysed column shows the number of residues for which the sidechain conformation was analysed, and the total number of residues.

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	A	403/413 (98%)	391 (97%)	12 (3%)	46	75
1	B	403/413 (98%)	395 (98%)	8 (2%)	60	85

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	C	405/413 (98%)	393 (97%)	12 (3%)	46	75
1	D	404/413 (98%)	392 (97%)	12 (3%)	46	75
1	E	403/413 (98%)	390 (97%)	13 (3%)	44	73
1	F	406/413 (98%)	397 (98%)	9 (2%)	57	83
1	G	403/413 (98%)	385 (96%)	18 (4%)	32	60
All	All	2827/2891 (98%)	2743 (97%)	84 (3%)	48	75

All (84) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	10	ASN
1	A	131	LEU
1	A	138	CYS
1	A	176	THR
1	A	177	VAL
1	A	226	LYS
1	A	261	THR
1	A	266	THR
1	A	301	ILE
1	A	305	ILE
1	A	328	ASP
1	A	329	THR
1	B	10	ASN
1	B	14	VAL
1	B	77	VAL
1	B	125	THR
1	B	136	VAL
1	B	213	VAL
1	B	268	ARG
1	B	277	LYS
1	C	77	VAL
1	C	136	VAL
1	C	213	VAL
1	C	226	LYS
1	C	263	VAL
1	C	264	VAL
1	C	268	ARG
1	C	276	VAL
1	C	319	GLN
1	C	325	ILE

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Mol	Chain	Res	Type
1	C	334	ASP
1	C	353	ILE
1	D	10	ASN
1	D	51	LYS
1	D	77	VAL
1	D	136	VAL
1	D	185	ASP
1	D	188	ASP
1	D	226	LYS
1	D	228	SER
1	D	261	THR
1	D	295	LEU
1	D	389	MET
1	D	401	HIS
1	E	16	MET
1	E	34	LYS
1	E	105	LYS
1	E	169	VAL
1	E	183	LEU
1	E	203	TYR
1	E	204	PHE
1	E	210	THR
1	E	268	ARG
1	E	273	VAL
1	E	359	ASP
1	E	381	VAL
1	E	393	LYS
1	F	10	ASN
1	F	77	VAL
1	F	177	VAL
1	F	183	LEU
1	F	264	VAL
1	F	268	ARG
1	F	270	ILE
1	F	353	ILE
1	F	473	ASP
1	G	11	ASP
1	G	18[A]	ARG
1	G	18[B]	ARG
1	G	77	VAL
1	G	140	ASP
1	G	141	SER

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Mol	Chain	Res	Type
1	G	150	ILE
1	G	158	VAL
1	G	176	THR
1	G	185	ASP
1	G	249	ILE
1	G	253	ASP
1	G	254	VAL
1	G	284	ARG
1	G	326	ASN
1	G	330	THR
1	G	350	ARG
1	G	401	HIS

Some sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (3) such sidechains are listed below:

Mol	Chain	Res	Type
1	D	10	ASN
1	E	146	GLN
1	F	401	HIS

### 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 carbohydrates in this entry.

## 5.6 Ligand geometry [i](#)

Of 53 ligands modelled in this entry, 27 are monoatomic - leaving 26 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
2	ADP	A	601	3,4	25,29,29	0.98	1 (4%)	24,45,45	1.92	3 (12%)
5	MPD	A	604	-	7,7,7	0.38	0	9,10,10	0.34	0
5	MPD	A	605	-	7,7,7	0.34	0	9,10,10	0.59	0
5	MPD	A	606	-	7,7,7	0.34	0	9,10,10	0.69	0
5	MPD	A	607	-	7,7,7	0.31	0	9,10,10	0.35	0
5	MPD	A	608	-	7,7,7	0.30	0	9,10,10	0.70	0
5	MPD	A	609	-	7,7,7	0.22	0	9,10,10	0.46	0
2	ADP	B	601	3,4	25,29,29	1.06	1 (4%)	24,45,45	1.71	3 (12%)
5	MPD	B	604	-	7,7,7	0.36	0	9,10,10	0.41	0
5	MPD	B	605	-	7,7,7	0.30	0	9,10,10	0.58	0
5	MPD	B	606	-	7,7,7	0.35	0	9,10,10	0.50	0
5	MPD	B	607	-	7,7,7	0.29	0	9,10,10	0.41	0
5	MPD	B	608	-	7,7,7	0.34	0	9,10,10	0.38	0
2	ADP	C	601	3,4	25,29,29	1.02	1 (4%)	24,45,45	1.86	5 (20%)
5	MPD	C	604	-	7,7,7	0.38	0	9,10,10	0.75	0
2	ADP	D	601	3,4	25,29,29	1.01	2 (8%)	24,45,45	1.86	3 (12%)
5	MPD	D	604	-	7,7,7	0.30	0	9,10,10	0.29	0
5	MPD	D	605	-	7,7,7	0.29	0	9,10,10	0.50	0
5	MPD	D	606	-	7,7,7	0.40	0	9,10,10	0.64	0
2	ADP	E	601	3,4	25,29,29	0.99	1 (4%)	24,45,45	1.83	3 (12%)
5	MPD	E	604	-	7,7,7	0.35	0	9,10,10	0.45	0
2	ADP	F	601	3,4	25,29,29	1.03	1 (4%)	24,45,45	1.79	2 (8%)
5	MPD	F	604	-	7,7,7	0.30	0	9,10,10	0.45	0
2	ADP	G	601	3,4	25,29,29	1.05	2 (8%)	24,45,45	1.68	3 (12%)
5	MPD	G	604	-	7,7,7	0.33	0	9,10,10	0.51	0
5	MPD	G	605	-	7,7,7	0.76	0	9,10,10	0.84	0

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
2	ADP	A	601	3,4	-	0/12/32/32	0/3/3/3
5	MPD	A	604	-	-	0/5/5/5	0/0/0/0
5	MPD	A	605	-	-	0/5/5/5	0/0/0/0

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
5	MPD	A	606	-	-	0/5/5/5	0/0/0/0
5	MPD	A	607	-	-	0/5/5/5	0/0/0/0
5	MPD	A	608	-	-	0/5/5/5	0/0/0/0
5	MPD	A	609	-	-	0/5/5/5	0/0/0/0
2	ADP	B	601	3,4	-	0/12/32/32	0/3/3/3
5	MPD	B	604	-	-	0/5/5/5	0/0/0/0
5	MPD	B	605	-	-	0/5/5/5	0/0/0/0
5	MPD	B	606	-	-	0/5/5/5	0/0/0/0
5	MPD	B	607	-	-	0/5/5/5	0/0/0/0
5	MPD	B	608	-	-	0/5/5/5	0/0/0/0
2	ADP	C	601	3,4	-	0/12/32/32	0/3/3/3
5	MPD	C	604	-	-	0/5/5/5	0/0/0/0
2	ADP	D	601	3,4	-	0/12/32/32	0/3/3/3
5	MPD	D	604	-	-	0/5/5/5	0/0/0/0
5	MPD	D	605	-	-	0/5/5/5	0/0/0/0
5	MPD	D	606	-	-	0/5/5/5	0/0/0/0
2	ADP	E	601	3,4	-	0/12/32/32	0/3/3/3
5	MPD	E	604	-	-	0/5/5/5	0/0/0/0
2	ADP	F	601	3,4	-	0/12/32/32	0/3/3/3
5	MPD	F	604	-	-	0/5/5/5	0/0/0/0
2	ADP	G	601	3,4	-	0/12/32/32	0/3/3/3
5	MPD	G	604	-	-	0/5/5/5	0/0/0/0
5	MPD	G	605	-	-	0/5/5/5	0/0/0/0

All (9) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	D	601	ADP	O4'-C1'	2.04	1.44	1.41
2	G	601	ADP	C2-N3	2.17	1.35	1.32
2	C	601	ADP	C5-C4	2.70	1.46	1.40
2	D	601	ADP	C5-C4	2.77	1.46	1.40
2	A	601	ADP	C5-C4	2.79	1.46	1.40
2	E	601	ADP	C5-C4	2.87	1.47	1.40
2	G	601	ADP	C5-C4	2.90	1.47	1.40
2	F	601	ADP	C5-C4	2.95	1.47	1.40
2	B	601	ADP	C5-C4	2.98	1.47	1.40

All (22) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	A	601	ADP	N3-C2-N1	-6.89	122.85	128.86
2	E	601	ADP	N3-C2-N1	-6.75	122.98	128.86

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	F	601	ADP	N3-C2-N1	-6.57	123.13	128.86
2	C	601	ADP	N3-C2-N1	-6.37	123.31	128.86
2	D	601	ADP	N3-C2-N1	-6.34	123.34	128.86
2	B	601	ADP	N3-C2-N1	-5.74	123.86	128.86
2	G	601	ADP	N3-C2-N1	-4.94	124.55	128.86
2	D	601	ADP	C1'-N9-C4	-3.11	121.27	126.64
2	B	601	ADP	C4-C5-N7	-2.88	106.62	109.41
2	E	601	ADP	C4-C5-N7	-2.87	106.64	109.41
2	D	601	ADP	C4-C5-N7	-2.79	106.72	109.41
2	F	601	ADP	C4-C5-N7	-2.68	106.82	109.41
2	G	601	ADP	C4-C5-N7	-2.65	106.85	109.41
2	C	601	ADP	C4-C5-N7	-2.55	106.94	109.41
2	A	601	ADP	C4-C5-N7	-2.53	106.96	109.41
2	B	601	ADP	C1'-N9-C4	-2.32	122.63	126.64
2	A	601	ADP	C4'-O4'-C1'	-2.22	107.41	109.77
2	C	601	ADP	C4'-O4'-C1'	-2.19	107.44	109.77
2	C	601	ADP	C1'-N9-C4	-2.06	123.08	126.64
2	E	601	ADP	C4'-O4'-C1'	-2.01	107.63	109.77
2	C	601	ADP	N6-C6-N1	2.09	122.92	118.77
2	G	601	ADP	N6-C6-N1	2.99	124.69	118.77

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

15 monomers are involved in 29 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
5	A	604	MPD	1	0
5	A	605	MPD	2	0
5	A	606	MPD	3	0
5	A	608	MPD	3	0
5	A	609	MPD	4	0
5	B	604	MPD	2	0
5	B	605	MPD	1	0
5	B	608	MPD	2	0
5	C	604	MPD	1	0
5	D	604	MPD	1	0
5	D	605	MPD	1	0
2	E	601	ADP	2	0
5	E	604	MPD	2	0
2	G	601	ADP	1	0

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Mol	Chain	Res	Type	Clashes	Symm-Clashes
5	G	604	MPD	3	0

## 5.7 Other polymers [i](#)

There are no such residues in this entry.

## 5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

## 6 Fit of model and data

### 6.1 Protein, DNA and RNA chains

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

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2			OWAB(Å <sup>2</sup> )	Q<0.9
1	A	524/548 (95%)	0.03	18 (3%)	46	46	27, 69, 168, 196	0
1	B	524/548 (95%)	0.03	22 (4%)	37	36	24, 60, 160, 190	0
1	C	524/548 (95%)	0.37	65 (12%)	4	4	26, 68, 202, 243	0
1	D	524/548 (95%)	-0.13	10 (1%)	67	68	30, 71, 155, 181	0
1	E	524/548 (95%)	-0.05	13 (2%)	58	58	31, 79, 141, 187	0
1	F	524/548 (95%)	0.06	34 (6%)	20	18	33, 75, 178, 223	0
1	G	524/548 (95%)	0.40	57 (10%)	6	5	30, 71, 211, 243	0
All	All	3668/3836 (95%)	0.10	219 (5%)	23	22	24, 72, 181, 243	0

All (219) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	G	225	LYS	9.7
1	G	251	ALA	8.6
1	G	233	MET	8.2
1	E	271	VAL	8.1
1	G	223	ALA	7.2
1	G	301	ILE	7.1
1	C	309	LEU	6.9
1	B	270	ILE	6.7
1	G	203	TYR	6.3
1	C	307	MET	6.1
1	G	286	LYS	6.0
1	C	212	ALA	5.6
1	C	250	ILE	5.5
1	G	181	THR	5.5
1	G	247	LEU	5.4
1	A	271	VAL	5.1
1	C	271	VAL	5.1

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Mol	Chain	Res	Type	RSRZ
1	C	243	ALA	5.1
1	G	226	LYS	5.0
1	F	347	ALA	4.9
1	G	271	VAL	4.9
1	C	236	VAL	4.8
1	F	266	THR	4.8
1	C	249	ILE	4.7
1	C	305	ILE	4.7
1	G	266	THR	4.6
1	C	203	TYR	4.6
1	C	244	GLY	4.6
1	G	361	ASP	4.5
1	G	305	ILE	4.5
1	C	240	VAL	4.5
1	C	226	LYS	4.5
1	F	201	SER	4.3
1	C	306	GLY	4.3
1	E	267	MET	4.3
1	G	314	LEU	4.3
1	E	383	ALA	4.3
1	C	231	ARG	4.2
1	G	224	ASP	4.2
1	C	383	ALA	4.2
1	G	253	ASP	4.1
1	E	272	LYS	4.1
1	C	228	SER	4.0
1	F	227	ILE	4.0
1	F	240	VAL	4.0
1	B	356	ALA	4.0
1	G	252	GLU	3.8
1	G	302	SER	3.8
1	C	304	GLU	3.8
1	G	208	PRO	3.7
1	G	308	GLU	3.7
1	C	281	PHE	3.7
1	G	387	VAL	3.7
1	B	360	TYR	3.7
1	C	275	ALA	3.7
1	A	270	ILE	3.6
1	F	262	LEU	3.6
1	G	204	PHE	3.6
1	C	232	GLU	3.6

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Mol	Chain	Res	Type	RSRZ
1	G	250	ILE	3.6
1	A	222	LEU	3.6
1	C	248	LEU	3.6
1	F	229	ASN	3.6
1	A	357	THR	3.6
1	B	268	ARG	3.5
1	G	306	GLY	3.5
1	G	356	ALA	3.4
1	C	344	GLY	3.4
1	C	200	LEU	3.4
1	B	208	PRO	3.4
1	F	270	ILE	3.4
1	G	227	ILE	3.4
1	B	272	LYS	3.4
1	G	273	VAL	3.4
1	A	268	ARG	3.3
1	G	317	LEU	3.3
1	C	280	GLY	3.3
1	G	304	GLU	3.3
1	F	44	PHE	3.3
1	C	195	PHE	3.3
1	G	281	PHE	3.2
1	C	204	PHE	3.2
1	G	277	LYS	3.2
1	G	358	SER	3.2
1	G	222	LEU	3.2
1	G	315	GLU	3.2
1	B	340	ALA	3.2
1	B	357	THR	3.1
1	E	320	ALA	3.1
1	C	257	GLU	3.1
1	C	279	PRO	3.1
1	F	233	MET	3.1
1	B	271	VAL	3.1
1	C	302	SER	3.1
1	A	266	THR	3.1
1	G	258	ALA	3.1
1	A	349	ILE	3.0
1	G	300	VAL	3.0
1	C	300	VAL	3.0
1	F	200	LEU	3.0
1	G	231	ARG	3.0

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Mol	Chain	Res	Type	RSRZ
1	G	276	VAL	3.0
1	G	386	GLU	3.0
1	G	379	ILE	2.9
1	B	262	LEU	2.9
1	C	208	PRO	2.9
1	C	227	ILE	2.9
1	F	259	LEU	2.9
1	F	239	ALA	2.9
1	G	310	GLU	2.9
1	C	270	ILE	2.9
1	C	253	ASP	2.9
1	C	363	GLU	2.9
1	D	212	ALA	2.9
1	B	269	GLY	2.8
1	A	336	VAL	2.8
1	F	260	ALA	2.8
1	F	204	PHE	2.8
1	C	215	LEU	2.8
1	A	305	ILE	2.8
1	F	300	VAL	2.8
1	G	249	ILE	2.8
1	D	267	MET	2.8
1	B	244	GLY	2.8
1	D	381	VAL	2.8
1	G	267	MET	2.8
1	E	266	THR	2.8
1	D	203	TYR	2.7
1	C	233	MET	2.7
1	B	233	MET	2.7
1	F	268	ARG	2.7
1	A	264	VAL	2.7
1	C	359	ASP	2.7
1	C	353	ILE	2.7
1	D	204	PHE	2.6
1	C	255	GLU	2.6
1	E	203	TYR	2.6
1	C	360	TYR	2.6
1	A	267	MET	2.6
1	E	268	ARG	2.6
1	C	254	VAL	2.6
1	D	44	PHE	2.6
1	F	202	PRO	2.6

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Mol	Chain	Res	Type	RSRZ
1	F	230	ILE	2.6
1	C	315	GLU	2.6
1	C	201	SER	2.6
1	B	373	ALA	2.5
1	B	201	SER	2.5
1	F	261	THR	2.5
1	F	203	TYR	2.5
1	F	213	VAL	2.5
1	G	354	GLU	2.5
1	F	267	MET	2.5
1	C	301	ILE	2.5
1	G	313	THR	2.5
1	B	263	VAL	2.5
1	G	213	VAL	2.5
1	A	44	PHE	2.5
1	C	237	LEU	2.4
1	F	231	ARG	2.4
1	D	269	GLY	2.4
1	C	263	VAL	2.4
1	A	351	GLN	2.4
1	C	269	GLY	2.4
1	F	251	ALA	2.4
1	D	305	ILE	2.4
1	G	215	LEU	2.4
1	C	361	ASP	2.4
1	D	387	VAL	2.4
1	C	362	ARG	2.4
1	E	270	ILE	2.4
1	C	220	ILE	2.4
1	F	212	ALA	2.3
1	C	303	GLU	2.3
1	C	199	TYR	2.3
1	C	223	ALA	2.3
1	B	254	VAL	2.3
1	G	303	GLU	2.3
1	A	362	ARG	2.3
1	F	247	LEU	2.3
1	B	238	GLU	2.3
1	B	240	VAL	2.3
1	C	284	ARG	2.3
1	C	318	GLY	2.3
1	C	274	ALA	2.3

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Mol	Chain	Res	Type	RSRZ
1	F	301	ILE	2.3
1	C	358	SER	2.2
1	A	353	ILE	2.2
1	C	264	VAL	2.2
1	B	223	ALA	2.2
1	G	275	ALA	2.2
1	A	172	GLU	2.2
1	G	357	THR	2.2
1	C	268	ARG	2.2
1	E	209	GLU	2.1
1	E	223	ALA	2.1
1	F	228	SER	2.1
1	C	320	ALA	2.1
1	C	295	LEU	2.1
1	F	265	ASN	2.1
1	C	230	ILE	2.1
1	F	234	LEU	2.1
1	G	232	GLU	2.1
1	E	265	ASN	2.1
1	A	231	ARG	2.1
1	A	272	LYS	2.1
1	C	267	MET	2.1
1	G	311	LYS	2.1
1	B	204	PHE	2.1
1	G	282	GLY	2.1
1	G	240	VAL	2.1
1	G	362	ARG	2.1
1	F	264	VAL	2.0
1	F	269	GLY	2.0
1	G	332	ILE	2.0
1	F	311	LYS	2.0
1	D	268	ARG	2.0
1	B	301	ILE	2.0
1	E	264	VAL	2.0

## 6.2 Non-standard residues in protein, DNA, RNA chains ⓘ

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

## 6.3 Carbohydrates ⓘ

There are no carbohydrates in this entry.

## 6.4 Ligands ⓘ

In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. LLDF column lists the quality of electron density of the group with respect to its neighbouring residues in protein, DNA or RNA chains. The B-factors column lists the minimum, median, 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	LLDF	B-factors(Å <sup>2</sup> )	Q<0.9
4	K	C	603	1/1	0.96	0.22	17.77	79,79,79,79	0
5	MPD	A	606	8/8	0.87	0.37	17.03	98,111,115,115	0
5	MPD	B	605	8/8	0.91	0.33	14.20	89,107,112,123	0
5	MPD	E	604	8/8	0.76	0.39	13.57	120,123,127,127	0
5	MPD	A	609	8/8	0.87	0.41	9.98	110,122,129,134	0
5	MPD	B	607	8/8	0.89	0.31	9.64	92,108,124,126	0
5	MPD	A	608	8/8	0.90	0.38	9.60	103,110,120,123	0
5	MPD	C	604	8/8	0.90	0.31	9.58	102,107,112,117	0
5	MPD	G	604	8/8	0.80	0.37	9.47	78,99,109,117	0
5	MPD	B	604	8/8	0.89	0.24	7.16	52,80,90,92	0
4	K	B	603	1/1	0.98	0.22	6.03	62,62,62,62	0
5	MPD	D	605	8/8	0.80	0.36	5.83	108,112,116,116	0
4	K	A	603	1/1	0.99	0.21	5.47	58,58,58,58	0
4	K	F	603	1/1	1.00	0.27	4.81	60,60,60,60	0
5	MPD	F	604	8/8	0.86	0.31	4.27	119,124,125,130	0
5	MPD	D	604	8/8	0.88	0.26	3.82	95,110,115,123	0
5	MPD	B	608	8/8	0.80	0.28	3.77	93,98,109,118	0
5	MPD	A	605	8/8	0.91	0.26	3.76	90,96,105,107	0
4	K	G	603	1/1	0.99	0.19	2.42	65,65,65,65	0
6	CA	G	607	1/1	0.82	0.20	2.30	114,114,114,114	0
2	ADP	B	601	27/27	0.97	0.19	2.15	30,48,62,127	0
6	CA	D	607	1/1	0.97	0.18	2.13	118,118,118,118	0
2	ADP	G	601	27/27	0.98	0.17	1.57	41,50,65,94	0
2	ADP	F	601	27/27	0.98	0.19	1.50	38,62,74,86	0
2	ADP	A	601	27/27	0.98	0.16	1.25	39,56,64,75	0
2	ADP	C	601	27/27	0.98	0.17	0.89	43,55,64,66	0
2	ADP	D	601	27/27	0.98	0.17	0.42	36,57,70,80	0
2	ADP	E	601	27/27	0.97	0.15	0.29	57,70,80,250	0
4	K	D	603	1/1	0.98	0.16	0.18	64,64,64,64	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	LLDF	B-factors( $\text{\AA}^2$ )	Q<0.9
5	MPD	A	604	8/8	0.80	0.20	-0.15	106,109,115,123	0
6	CA	B	609	1/1	0.86	0.13	-0.21	141,141,141,141	0
3	MG	D	602	1/1	0.99	0.13	-	30,30,30,30	0
6	CA	E	607	1/1	0.78	0.20	-	126,126,126,126	0
6	CA	A	610	1/1	0.95	0.20	-	129,129,129,129	0
6	CA	E	606	1/1	0.93	0.07	-	111,111,111,111	0
6	CA	G	606	1/1	0.97	0.21	-	88,88,88,88	0
4	K	G	608	1/1	0.71	0.22	-	154,154,154,154	0
3	MG	F	602	1/1	0.97	0.11	-	28,28,28,28	0
5	MPD	D	606	8/8	0.86	0.28	-	79,99,108,113	0
4	K	E	603	1/1	0.96	0.14	-	89,89,89,89	0
5	MPD	G	605	8/8	0.84	0.32	-	114,117,141,153	0
6	CA	A	611	1/1	0.93	0.37	-	107,107,107,107	0
6	CA	E	605	1/1	0.91	0.13	-	108,108,108,108	0
3	MG	G	602	1/1	0.98	0.14	-	25,25,25,25	0
3	MG	B	602	1/1	0.90	0.18	-	29,29,29,29	0
3	MG	C	602	1/1	0.97	0.13	-	34,34,34,34	0
5	MPD	A	607	8/8	0.90	0.23	-	83,95,97,104	0
3	MG	A	602	1/1	0.94	0.15	-	33,33,33,33	0
5	MPD	B	606	8/8	0.88	0.23	-	74,90,103,111	0
6	CA	G	609	1/1	0.81	0.36	-	123,123,123,123	0
3	MG	E	602	1/1	0.98	0.11	-	38,38,38,38	0
4	K	F	605	1/1	0.40	0.48	-	166,166,166,166	0
6	CA	F	606	1/1	0.97	0.11	-	110,110,110,110	0

## 6.5 Other polymers [i](#)

There are no such residues in this entry.