



# Full wwPDB X-ray Structure Validation Report ⓘ

Feb 1, 2016 – 04:50 PM GMT

PDB ID : 4GAW  
Title : Crystal structure of active human granzyme H  
Authors : Wang, L.; Li, Q.; Wu, L.; Zhang, K.; Tong, L.; Sun, F.; Fan, Z.  
Deposited on : 2012-07-25  
Resolution : 3.00 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 (RC4), CSD as536be (2015)  
Xtriage (Phenix) : 1.9-1692  
EDS : rb-20026688  
Percentile statistics : 20151230.v01 (using entries in the PDB archive December 30th 2015)  
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) : trunk26865

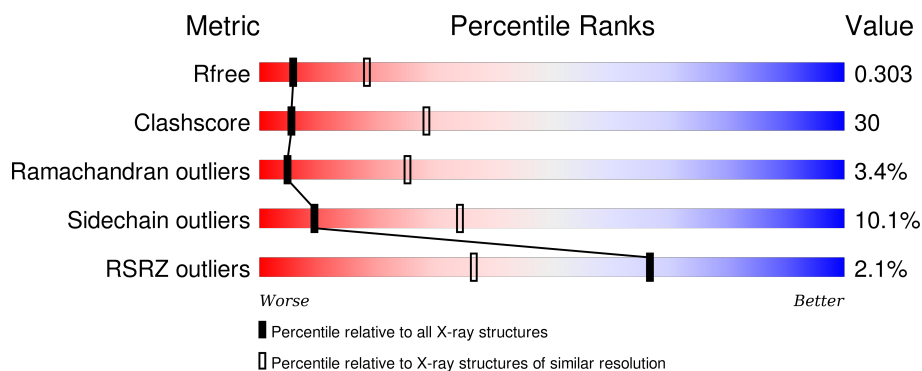
# 1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

## *X-RAY DIFFRACTION*

The reported resolution of this entry is 3.00 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.




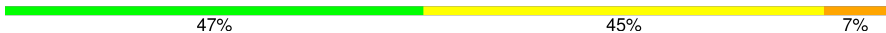



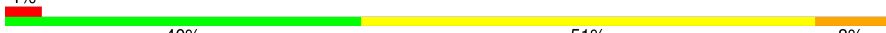

Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
$R_{free}$	91344	1578 (3.00-3.00)
Clashscore	102246	1912 (3.00-3.00)
Ramachandran outliers	100387	1853 (3.00-3.00)
Sidechain outliers	100360	1856 (3.00-3.00)
RSRZ outliers	91569	1592 (3.00-3.00)

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	226	<div> <div>5%</div> <div>34%</div> <div>54%</div> <div>9%</div> <div>..</div> </div>
1	B	226	<div> <div>49%</div> <div>41%</div> <div>10%</div> </div>
1	C	226	<div> <div>%</div> <div>45%</div> <div>48%</div> <div>8%</div> </div>
1	D	226	<div> <div>46%</div> <div>47%</div> <div>6%</div> <div>.</div> </div>
1	E	226	<div> <div>52%</div> <div>42%</div> <div>..</div> </div>

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Mol	Chain	Length	Quality of chain
1	F	226	
1	G	226	
1	H	226	
1	I	226	
1	J	226	
1	K	226	
1	L	226	

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	SO4	B	304	-	-	-	X
2	SO4	L	301	-	-	X	-
2	SO4	L	302	-	-	-	X
3	CL	C	301	-	-	-	X

## 2 Entry composition

There are 4 unique types of molecules in this entry. The entry contains 21292 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 Granzyme H.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	224	Total	C	N	O	S	0	0	0
			1754	1115	321	307	11			
1	B	226	Total	C	N	O	S	0	0	0
			1769	1124	324	310	11			
1	C	226	Total	C	N	O	S	0	0	0
			1769	1124	324	310	11			
1	D	226	Total	C	N	O	S	0	0	0
			1769	1124	324	310	11			
1	E	226	Total	C	N	O	S	0	0	0
			1769	1124	324	310	11			
1	F	226	Total	C	N	O	S	0	0	0
			1769	1124	324	310	11			
1	G	226	Total	C	N	O	S	0	0	0
			1769	1124	324	310	11			
1	H	221	Total	C	N	O	S	0	0	0
			1732	1101	317	303	11			
1	I	226	Total	C	N	O	S	0	0	0
			1769	1124	324	310	11			
1	J	226	Total	C	N	O	S	0	0	0
			1769	1124	324	310	11			
1	K	226	Total	C	N	O	S	0	0	0
			1769	1124	324	310	11			
1	L	226	Total	C	N	O	S	0	0	0
			1769	1124	324	310	11			

- Molecule 2 is SULFATE ION (three-letter code: SO4) (formula: O<sub>4</sub>S).



Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
2	B	1	Total	O	S	0	0
			5	4	1		
2	B	1	Total	O	S	0	0
			5	4	1		
2	B	1	Total	O	S	0	0
			5	4	1		
2	B	1	Total	O	S	0	0
			5	4	1		
2	D	1	Total	O	S	0	0
			5	4	1		
2	D	1	Total	O	S	0	0
			5	4	1		
2	D	1	Total	O	S	0	0
			5	4	1		
2	E	1	Total	O	S	0	0
			5	4	1		
2	F	1	Total	O	S	0	0
			5	4	1		
2	F	1	Total	O	S	0	0
			5	4	1		
2	F	1	Total	O	S	0	0
			5	4	1		
2	I	1	Total	O	S	0	0
			5	4	1		
2	I	1	Total	O	S	0	0
			5	4	1		
2	L	1	Total	O	S	0	0
			5	4	1		

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

- Molecule 3 is CHLORIDE ION (three-letter code: CL) (formula: Cl).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
3	I	1	Total	Cl	0	0
			1	1		
3	D	1	Total	Cl	0	0
			1	1		
3	C	1	Total	Cl	0	0
			1	1		

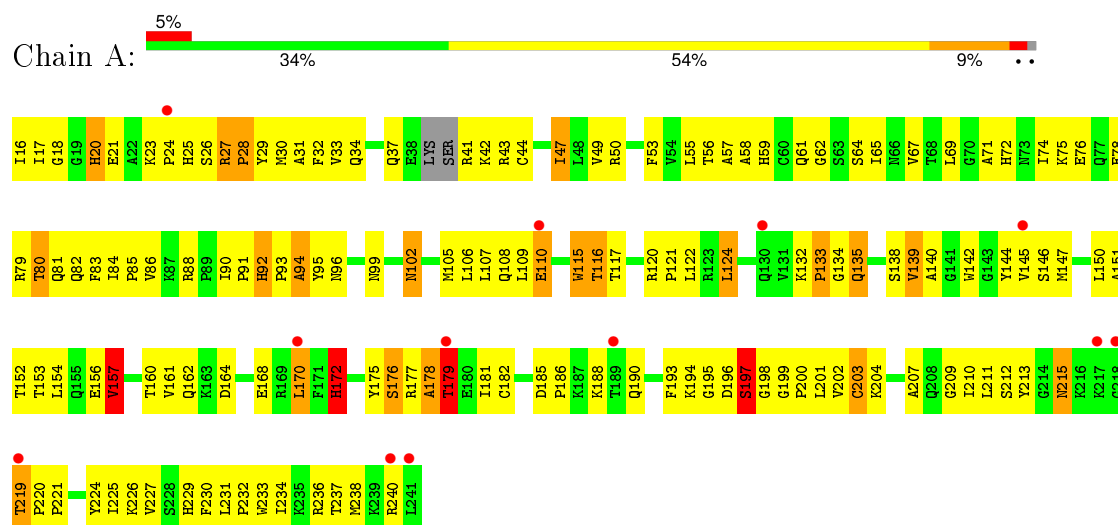
- Molecule 4 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
4	A	4	Total	O	0	0
			4	4		
4	B	3	Total	O	0	0
			3	3		
4	D	6	Total	O	0	0
			6	6		
4	E	4	Total	O	0	0
			4	4		
4	F	4	Total	O	0	0
			4	4		
4	G	1	Total	O	0	0
			1	1		
4	H	1	Total	O	0	0
			1	1		
4	I	8	Total	O	0	0
			8	8		
4	J	1	Total	O	0	0
			1	1		
4	K	2	Total	O	0	0
			2	2		
4	L	4	Total	O	0	0
			4	4		

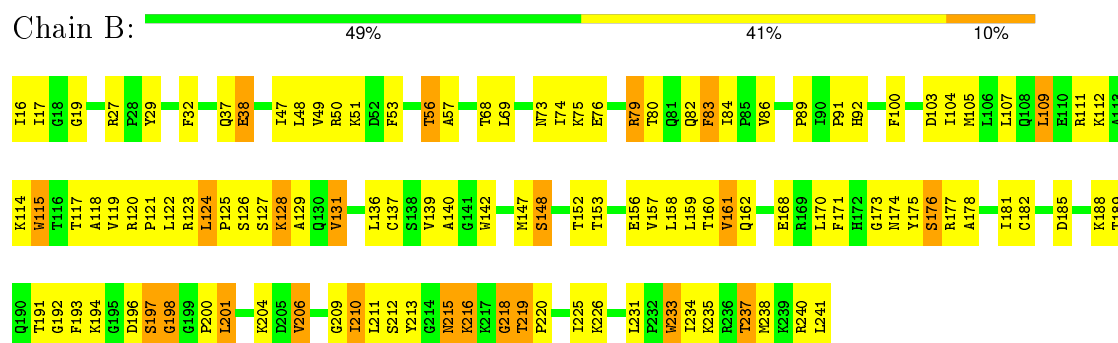
### 3 Residue-property plots

These plots are drawn for all protein, RNA and DNA chains in the entry. The first graphic for a chain summarises the proportions of errors 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.

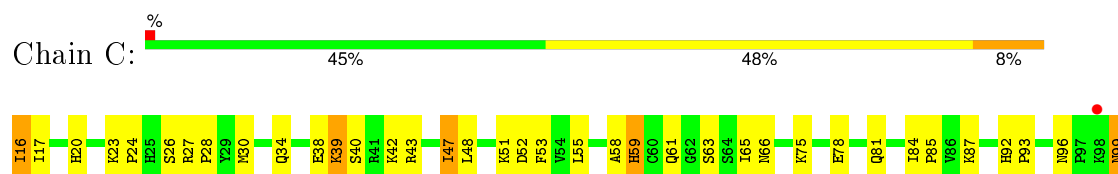
#### • Molecule 1: Granzyme H

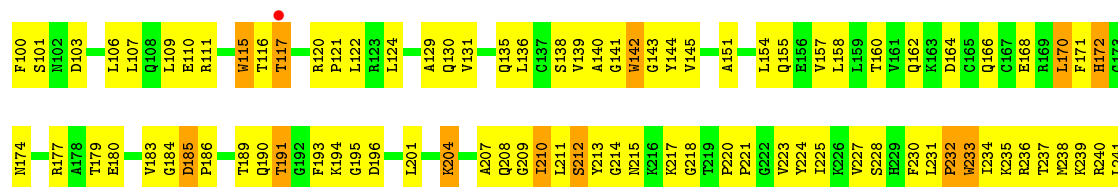


#### • Molecule 1: Granzyme H



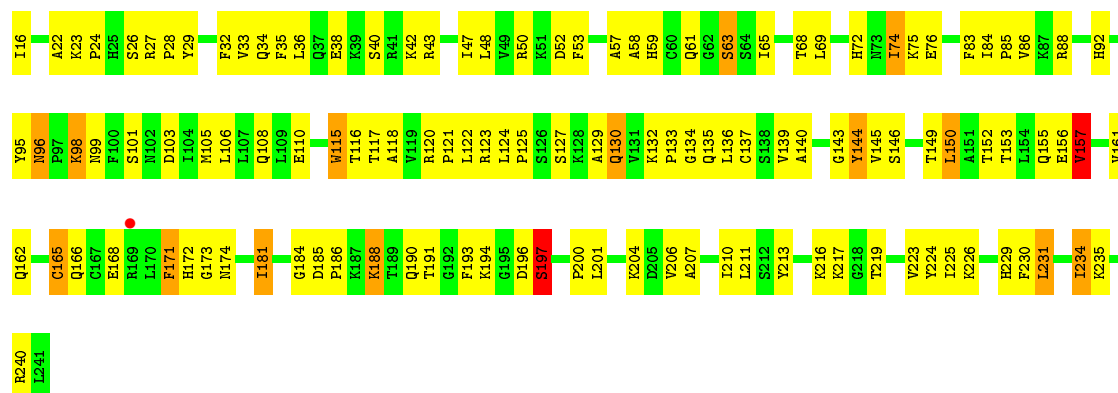
#### • Molecule 1: Granzyme H





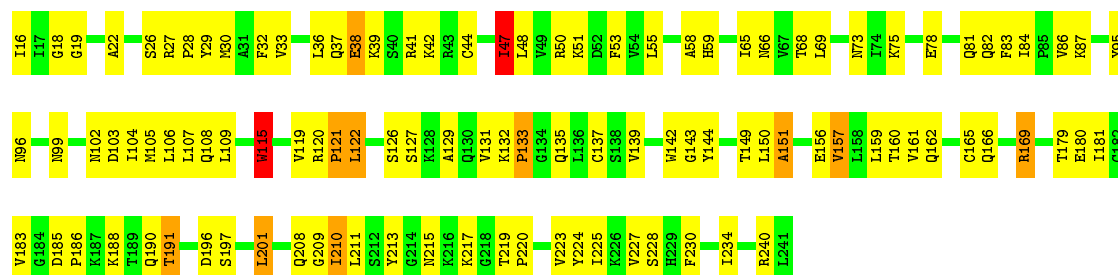
• Molecule 1: Granzyme H

Chain D: 46% 47% 6% .



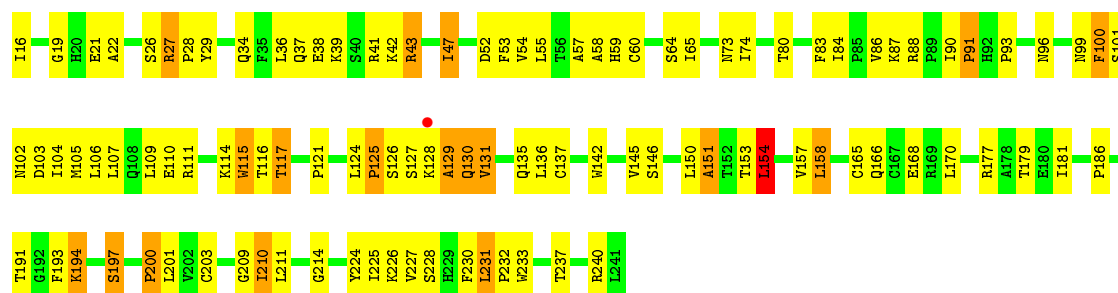
• Molecule 1: Granzyme H

Chain E: 52% 42% . .



• Molecule 1: Granzyme H

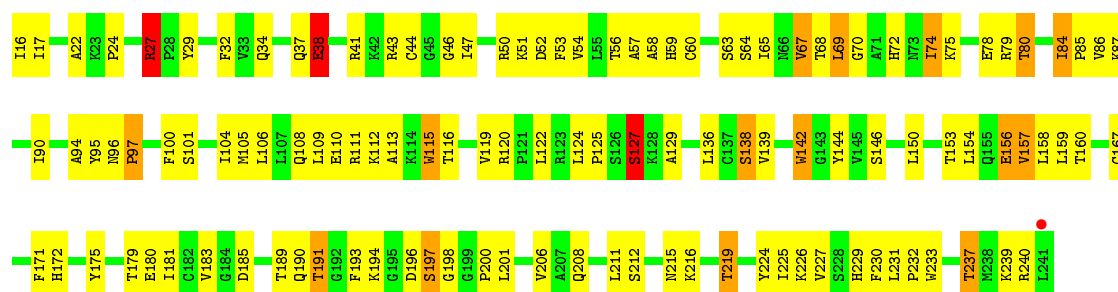
Chain F: 53% 38% 8%




• Molecule 1: Granzyme H

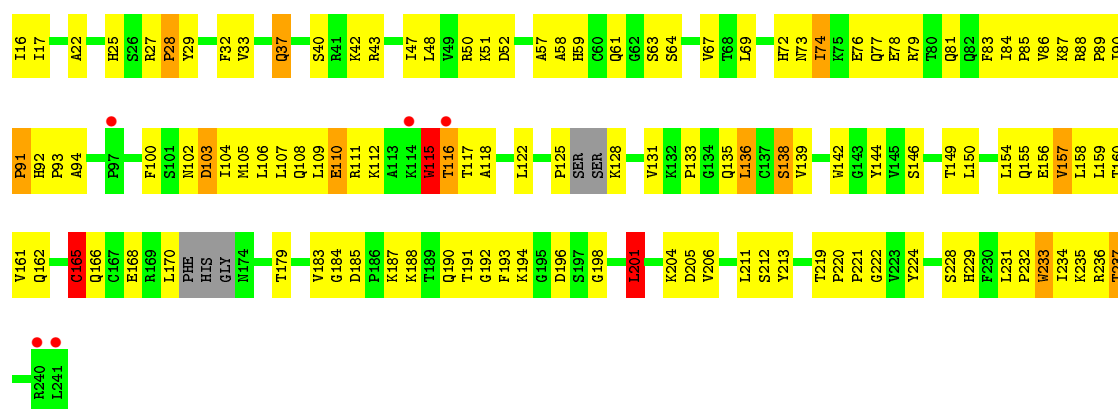


Chain G:  47% 45% 7%



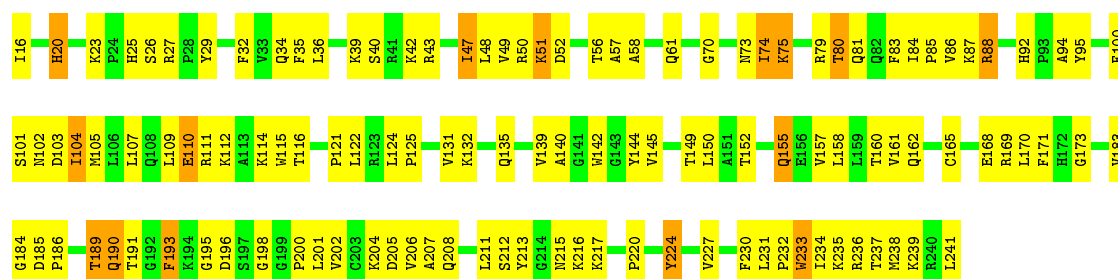
• Molecule 1: Granzyme H

Chain H:  43% 48% 5%



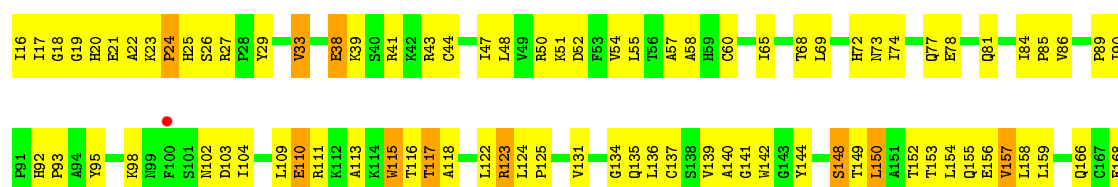
• Molecule 1: Granzyme H

Chain I:  46% 47% 7%



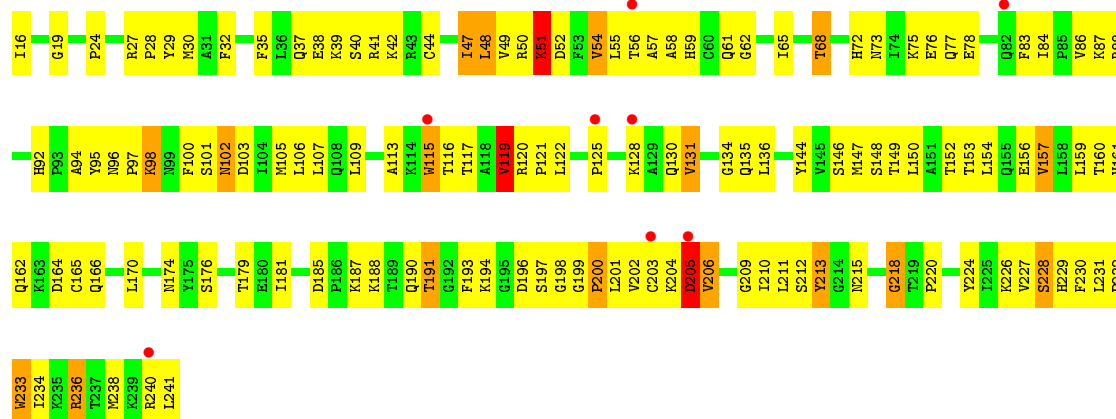
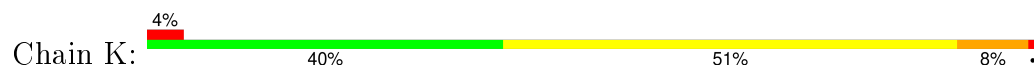
• Molecule 1: Granzyme H

Chain J:  46% 47% 7%

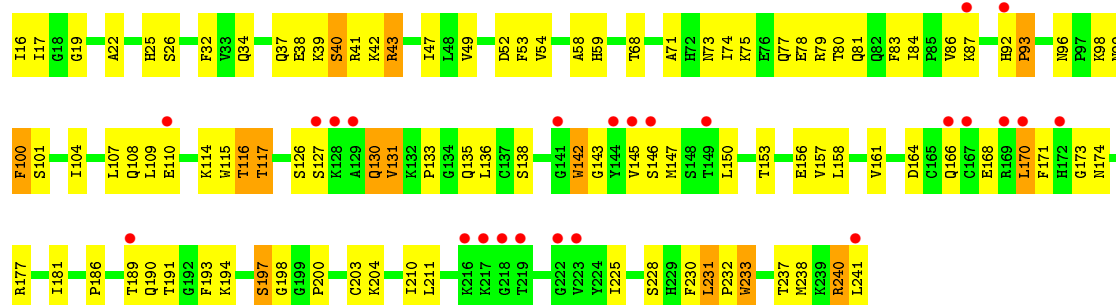




• Molecule 1: Granzyme H



• Molecule 1: Granzyme H



## 4 Data and refinement statistics

Property	Value	Source
Space group	P 21 21 2	Depositor
Cell constants a, b, c, $\alpha$ , $\beta$ , $\gamma$	170.37Å 367.07Å 61.14Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	39.80 – 3.00 39.80 – 3.00	Depositor EDS
% Data completeness (in resolution range)	99.8 (39.80-3.00) 99.9 (39.80-3.00)	Depositor EDS
$R_{merge}$	0.08	Depositor
$R_{sym}$	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ <sup>1</sup>	4.48 (at 3.01Å)	Xtriage
Refinement program	REFMAC 5.6.0117	Depositor
R, $R_{free}$	0.271 , 0.306 0.270 , 0.303	Depositor DCC
$R_{free}$ test set	3935 reflections (5.30%)	DCC
Wilson B-factor (Å <sup>2</sup> )	55.3	Xtriage
Anisotropy	0.065	Xtriage
Bulk solvent $k_{sol}$ (e/Å <sup>3</sup> ), $B_{sol}$ (Å <sup>2</sup> )	0.28 , 44.1	EDS
Estimated twinning fraction	No twinning to report.	Xtriage
L-test for twinning <sup>2</sup>	$\langle  L  \rangle = 0.48$ , $\langle L^2 \rangle = 0.31$	Xtriage
Outliers	4 of 78190 reflections (0.005%)	Xtriage
$F_o, F_c$ correlation	0.89	EDS
Total number of atoms	21292	wwPDB-VP
Average B, all atoms (Å <sup>2</sup> )	70.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The analyses of the Patterson function reveals a significant off-origin peak that is 45.77 % of the origin peak, indicating pseudo translational symmetry. The chance of finding a peak of this or larger height randomly in a structure without pseudo translational symmetry is equal to 1.2609e-04. The detected translational NCS is most likely also responsible for the elevated intensity ratio.*

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

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

## 5 Model quality ⓘ

### 5.1 Standard geometry ⓘ

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

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	0.70	2/1794 (0.1%)	0.85	1/2420 (0.0%)
1	B	0.82	2/1810 (0.1%)	0.98	3/2442 (0.1%)
1	C	0.71	2/1810 (0.1%)	0.92	2/2442 (0.1%)
1	D	0.75	1/1810 (0.1%)	0.90	0/2442
1	E	0.70	2/1810 (0.1%)	0.90	2/2442 (0.1%)
1	F	0.84	1/1810 (0.1%)	1.01	4/2442 (0.2%)
1	G	0.77	2/1810 (0.1%)	0.89	2/2442 (0.1%)
1	H	0.63	2/1769 (0.1%)	0.83	2/2384 (0.1%)
1	I	0.75	3/1810 (0.2%)	0.90	0/2442
1	J	0.63	1/1810 (0.1%)	0.80	1/2442 (0.0%)
1	K	0.54	1/1810 (0.1%)	0.75	1/2442 (0.0%)
1	L	0.66	3/1810 (0.2%)	0.79	2/2442 (0.1%)
All	All	0.71	22/21663 (0.1%)	0.88	20/29224 (0.1%)

Chiral center outliers are detected by calculating the chiral volume of a chiral center and verifying if the center is modelled as a planar moiety or with the opposite hand. A planarity outlier is detected by checking planarity of atoms in a peptide group, atoms in a mainchain group or atoms of a sidechain that are expected to be planar.

Mol	Chain	#Chirality outliers	#Planarity outliers
1	A	0	1
1	B	0	2
1	G	0	1
All	All	0	4

All (22) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	I	142	TRP	CD2-CE2	6.56	1.49	1.41
1	F	115	TRP	CD2-CE2	6.51	1.49	1.41
1	G	115	TRP	CD2-CE2	6.47	1.49	1.41

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	C	233	TRP	CD2-CE2	6.01	1.48	1.41
1	L	115	TRP	CD2-CE2	5.94	1.48	1.41
1	B	115	TRP	CD2-CE2	5.83	1.48	1.41
1	C	142	TRP	CD2-CE2	5.82	1.48	1.41
1	D	115	TRP	CD2-CE2	5.56	1.48	1.41
1	L	233	TRP	CD2-CE2	5.47	1.48	1.41
1	E	142	TRP	CD2-CE2	5.42	1.47	1.41
1	I	115	TRP	CD2-CE2	5.35	1.47	1.41
1	A	115	TRP	CD2-CE2	5.28	1.47	1.41
1	L	142	TRP	CD2-CE2	5.22	1.47	1.41
1	J	115	TRP	CD2-CE2	5.15	1.47	1.41
1	H	233	TRP	CD2-CE2	5.15	1.47	1.41
1	A	142	TRP	CD2-CE2	5.14	1.47	1.41
1	B	233	TRP	CD2-CE2	5.12	1.47	1.41
1	H	115	TRP	CD2-CE2	5.10	1.47	1.41
1	K	115	TRP	CD2-CE2	5.10	1.47	1.41
1	I	233	TRP	CD2-CE2	5.08	1.47	1.41
1	G	142	TRP	CD2-CE2	5.03	1.47	1.41
1	E	115	TRP	CD2-CE2	5.02	1.47	1.41

All (20) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	B	198	GLY	N-CA-C	-6.93	95.77	113.10
1	K	48	LEU	CA-CB-CG	6.30	129.80	115.30
1	C	214	GLY	N-CA-C	-6.24	97.51	113.10
1	E	122	LEU	CA-CB-CG	6.16	129.46	115.30
1	L	158	LEU	CA-CB-CG	6.13	129.41	115.30
1	H	201	LEU	CA-CB-CG	5.90	128.87	115.30
1	C	170	LEU	CA-CB-CG	5.89	128.86	115.30
1	F	154	LEU	CA-CB-CG	5.87	128.80	115.30
1	G	27	ARG	N-CA-C	-5.76	95.44	111.00
1	B	210	ILE	CG1-CB-CG2	-5.64	98.99	111.40
1	J	150	LEU	CA-CB-CG	5.47	127.89	115.30
1	G	157	VAL	CB-CA-C	-5.44	101.07	111.40
1	E	36	LEU	CA-CB-CG	5.43	127.80	115.30
1	F	150	LEU	CA-CB-CG	5.38	127.67	115.30
1	H	157	VAL	CB-CA-C	-5.37	101.20	111.40
1	L	136	LEU	CA-CB-CG	5.26	127.40	115.30
1	A	157	VAL	CB-CA-C	-5.16	101.61	111.40
1	F	214	GLY	N-CA-C	-5.11	100.33	113.10
1	B	192	GLY	N-CA-C	-5.10	100.34	113.10

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	F	158	LEU	CA-CB-CG	5.03	126.87	115.30

There are no chirality outliers.

All (4) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	A	215	ASN	Peptide
1	B	126	SER	Peptide
1	B	197	SER	Peptide
1	G	127	SER	Peptide

## 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	1754	0	1798	155	2
1	B	1769	0	1817	122	0
1	C	1769	0	1817	111	0
1	D	1769	0	1817	101	0
1	E	1769	0	1817	96	0
1	F	1769	0	1817	94	0
1	G	1769	0	1817	94	0
1	H	1732	0	1786	108	0
1	I	1769	0	1817	102	0
1	J	1769	0	1817	108	0
1	K	1769	0	1817	147	0
1	L	1769	0	1817	85	2
2	B	20	0	0	1	0
2	D	15	0	0	1	0
2	E	5	0	0	0	0
2	F	15	0	0	0	0
2	I	10	0	0	1	0
2	L	10	0	0	2	0
3	C	1	0	0	0	0
3	D	1	0	0	0	0
3	I	1	0	0	0	0
4	A	4	0	0	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
4	B	3	0	0	0	0
4	D	6	0	0	1	0
4	E	4	0	0	0	0
4	F	4	0	0	0	0
4	G	1	0	0	0	0
4	H	1	0	0	0	0
4	I	8	0	0	0	0
4	J	1	0	0	0	0
4	K	2	0	0	1	0
4	L	4	0	0	4	0
All	All	21292	0	21754	1282	2

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 30.

All (1282) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:233:TRP:O	1:B:237:THR:HG23	1.36	1.20
1:H:61:GLN:HE22	1:H:91:PRO:HG3	1.07	1.17
1:B:19:GLY:HA3	1:B:157:VAL:HG12	1.21	1.15
1:L:37:GLN:HG3	1:L:42:LYS:HE2	1.20	1.13
1:H:16:ILE:HG21	1:H:155:GLN:HB2	1.20	1.12
1:F:16:ILE:HG21	1:F:157:VAL:HG13	1.31	1.12
1:C:16:ILE:HG21	1:C:145:VAL:HA	1.29	1.09
1:B:19:GLY:HA3	1:B:157:VAL:CG1	1.83	1.09
1:B:50:ARG:HD3	1:B:238:MET:CE	1.84	1.06
1:B:50:ARG:HD3	1:B:238:MET:HE2	1.36	1.06
1:G:84:ILE:HD13	1:G:111:ARG:HH21	0.93	1.05
1:G:38:GLU:O	1:G:38:GLU:HG2	1.53	1.04
1:E:183:VAL:HG21	1:E:224:TYR:CE2	1.92	1.03
1:B:19:GLY:CA	1:B:157:VAL:HG12	1.90	1.01
1:B:47:ILE:CG2	1:B:200:PRO:HG3	1.91	1.00
1:C:16:ILE:CG2	1:C:145:VAL:HA	1.92	1.00
1:D:134:GLY:O	1:H:83:PHE:HB3	1.61	1.00
1:G:84:ILE:HD13	1:G:111:ARG:NH2	1.78	0.98
1:B:47:ILE:HG23	1:B:200:PRO:HG3	1.45	0.98
1:A:17:ILE:HD11	1:A:193:PHE:CE2	1.98	0.98
1:B:117:THR:HA	1:B:120:ARG:HH21	1.30	0.96
1:E:143:GLY:HA3	1:E:196:ASP:OD1	1.65	0.95
1:D:36:LEU:HD12	1:D:40:SER:O	1.66	0.95

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:K:47:ILE:HG22	1:K:55:LEU:HB3	1.49	0.95
1:B:173:GLY:O	1:B:174:ASN:HB2	1.65	0.95
1:B:148:SER:HB2	1:J:168:GLU:OE2	1.67	0.94
1:C:58:ALA:O	1:C:61:GLN:HG3	1.68	0.94
1:H:16:ILE:HG21	1:H:155:GLN:CB	1.98	0.94
1:A:83:PHE:CD2	1:K:135:GLN:HA	2.04	0.93
1:A:27:ARG:HH22	1:A:138:SER:HB3	1.30	0.93
1:E:96:ASN:HB3	1:E:99:ASN:OD1	1.69	0.93
1:G:84:ILE:CD1	1:G:111:ARG:HH21	1.81	0.91
1:F:19:GLY:HA3	1:F:157:VAL:HG12	1.49	0.91
1:A:72:HIS:O	1:A:153:THR:HA	1.69	0.91
1:D:115:TRP:HZ3	1:D:121:PRO:HD2	1.33	0.91
1:E:186:PRO:HA	1:E:220:PRO:HG2	1.53	0.90
1:A:138:SER:O	1:A:139:VAL:CG2	2.20	0.90
1:L:19:GLY:HA3	1:L:157:VAL:HG12	1.51	0.90
1:B:91:PRO:HA	1:B:105:MET:HB2	1.55	0.89
1:K:50:ARG:HA	1:K:121:PRO:HB3	1.54	0.89
1:D:143:GLY:HA3	1:D:196:ASP:OD1	1.72	0.89
1:L:19:GLY:CA	1:L:157:VAL:HG12	2.02	0.89
1:F:16:ILE:CG2	1:F:157:VAL:HG13	2.01	0.88
1:C:158:LEU:HD11	1:K:41:ARG:NH1	1.89	0.88
1:A:61:GLN:NE2	1:A:105:MET:SD	2.47	0.87
1:F:136:LEU:HD11	1:F:158:LEU:HB3	1.57	0.87
1:D:134:GLY:C	1:H:83:PHE:HB3	1.94	0.86
1:H:32:PHE:CE1	1:H:74:ILE:HD13	2.09	0.86
1:H:61:GLN:NE2	1:H:91:PRO:HG3	1.90	0.86
1:H:146:SER:HB3	1:H:149:THR:OG1	1.75	0.86
1:A:92:HIS:CG	1:A:93:PRO:HD2	2.11	0.86
1:A:17:ILE:HD11	1:A:193:PHE:HE2	1.38	0.85
1:C:212:SER:HG	1:C:213:TYR:HD2	1.25	0.84
1:K:28:PRO:HB3	1:K:120:ARG:H	1.42	0.84
1:I:190:GLN:CD	1:I:190:GLN:H	1.79	0.84
1:J:20:HIS:CD2	1:L:39:LYS:HB2	2.12	0.84
1:H:25:HIS:O	1:H:28:PRO:HD3	1.78	0.84
1:C:158:LEU:HD11	1:K:41:ARG:HH11	1.42	0.83
1:A:59:HIS:HB3	1:A:95:TYR:OH	1.79	0.83
1:E:213:TYR:CE1	1:E:223:VAL:HG21	2.14	0.82
1:C:208:GLN:O	1:C:227:VAL:HG13	1.78	0.82
1:A:49:VAL:HG23	1:A:50:ARG:HG3	1.62	0.82
1:H:16:ILE:CG2	1:H:155:GLN:HB2	2.07	0.82
1:D:115:TRP:CZ3	1:D:121:PRO:HD2	2.15	0.81

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:172:HIS:C	1:D:174:ASN:H	1.81	0.81
1:L:198:GLY:HA2	1:L:210:ILE:HG23	1.60	0.81
1:L:16:ILE:CG2	1:L:157:VAL:HG13	2.11	0.81
1:L:166:GLN:OE1	1:L:186:PRO:HG3	1.80	0.81
1:I:43:ARG:O	1:I:195:GLY:HA2	1.81	0.81
1:D:139:VAL:HG23	1:D:200:PRO:O	1.80	0.81
1:F:52:ASP:OD1	1:F:53:PHE:CD2	2.34	0.81
1:L:225:ILE:HG23	1:L:230:PHE:HE2	1.45	0.81
1:J:234:ILE:O	1:J:238:MET:HB2	1.81	0.81
1:J:19:GLY:HA2	1:J:157:VAL:HG13	1.61	0.81
1:D:58:ALA:HA	1:D:105:MET:HB2	1.64	0.80
1:B:124:LEU:N	1:B:124:LEU:HD12	1.97	0.80
1:E:183:VAL:HG21	1:E:224:TYR:CD2	2.17	0.80
1:B:125:PRO:HD3	1:B:206:VAL:HG13	1.62	0.80
1:E:55:LEU:HD12	1:E:106:LEU:CD2	2.12	0.80
1:C:16:ILE:HG21	1:C:145:VAL:CA	2.11	0.79
1:A:135:GLN:O	1:A:161:VAL:HG23	1.82	0.79
1:A:27:ARG:HB3	1:A:29:TYR:CE2	2.18	0.79
1:D:181:ILE:HD12	1:D:226:LYS:HG2	1.62	0.79
1:F:225:ILE:HG23	1:F:230:PHE:HE2	1.46	0.79
1:H:43:ARG:NH1	1:H:142:TRP:O	2.15	0.79
1:C:204:LYS:HD2	1:K:75:LYS:HZ2	1.46	0.79
1:J:78:GLU:HB2	1:J:81:GLN:OE1	1.83	0.79
1:C:204:LYS:HD2	1:K:75:LYS:NZ	1.98	0.79
1:A:94:ALA:HB1	1:A:102:ASN:CB	2.13	0.78
1:B:48:LEU:HD22	1:B:69:LEU:HD13	1.65	0.78
1:G:67:VAL:HG12	1:G:84:ILE:O	1.83	0.78
1:A:23:LYS:O	1:A:26:SER:HB2	1.84	0.78
1:A:47:ILE:HG21	1:A:200:PRO:HB3	1.65	0.78
1:I:155:GLN:HA	1:I:155:GLN:OE1	1.83	0.78
1:B:91:PRO:HB3	1:B:105:MET:HE3	1.66	0.77
1:G:32:PHE:HB3	1:G:68:THR:HG23	1.66	0.77
1:E:50:ARG:HB3	1:E:53:PHE:HB2	1.67	0.77
1:K:47:ILE:CG2	1:K:55:LEU:HB3	2.13	0.77
1:A:138:SER:O	1:A:139:VAL:HG23	1.84	0.77
1:J:21:GLU:HG3	1:J:153:THR:HG21	1.67	0.77
1:L:19:GLY:HA3	1:L:157:VAL:CG1	2.15	0.76
1:C:99:ASN:ND2	1:C:101:SER:OG	2.17	0.76
1:E:55:LEU:CD1	1:E:106:LEU:HD21	2.14	0.76
1:L:135:GLN:HE21	1:L:203:CYS:HB3	1.49	0.76
1:K:48:LEU:HD22	1:K:121:PRO:HA	1.68	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:86:VAL:CG1	1:A:107:LEU:HD21	2.16	0.76
1:H:166:GLN:O	1:H:170:LEU:HD12	1.86	0.76
1:J:104:ILE:HD12	1:J:225:ILE:HG21	1.67	0.76
1:H:122:LEU:HD11	1:H:205:ASP:O	1.85	0.76
1:K:202:VAL:HG12	1:K:202:VAL:O	1.86	0.76
1:I:193:PHE:O	1:I:196:ASP:HB2	1.84	0.76
1:F:16:ILE:CG2	1:F:157:VAL:CG1	2.65	0.75
1:D:172:HIS:C	1:D:174:ASN:N	2.38	0.75
1:L:38:GLU:O	1:L:39:LYS:HG2	1.86	0.75
1:E:55:LEU:HD11	1:E:104:ILE:HD11	1.67	0.75
1:F:87:LYS:HB2	1:F:110:GLU:HA	1.67	0.75
1:F:26:SER:O	1:F:28:PRO:HD3	1.87	0.75
1:L:164:ASP:O	1:L:168:GLU:HG3	1.87	0.75
1:L:40:SER:CB	4:L:404:HOH:O	2.35	0.75
1:K:59:HIS:CE1	1:K:197:SER:HB3	2.22	0.75
1:C:231:LEU:N	1:C:232:PRO:HD2	2.01	0.75
1:A:30:MET:HE1	1:A:200:PRO:HG3	1.68	0.74
1:J:38:GLU:O	1:J:39:LYS:HB3	1.87	0.74
1:J:48:LEU:HD22	1:J:69:LEU:HD22	1.66	0.74
1:B:171:PHE:CD2	1:B:213:TYR:HE1	2.06	0.74
1:G:47:ILE:CG2	1:G:200:PRO:HG3	2.16	0.74
1:H:86:VAL:HG12	1:H:109:LEU:HD23	1.70	0.74
1:B:117:THR:HA	1:B:120:ARG:NH2	2.03	0.74
1:A:138:SER:O	1:A:139:VAL:HG22	1.87	0.74
1:D:116:THR:HG22	1:D:118:ALA:H	1.51	0.74
1:C:158:LEU:CD1	1:K:41:ARG:HH11	2.01	0.73
1:A:59:HIS:CB	1:A:95:TYR:OH	2.37	0.73
1:C:185:ASP:N	1:C:185:ASP:OD1	2.20	0.73
1:E:166:GLN:HA	1:E:169:ARG:HH12	1.53	0.73
1:B:19:GLY:CA	1:B:157:VAL:CG1	2.55	0.73
1:H:61:GLN:HE22	1:H:91:PRO:CG	1.96	0.73
1:L:135:GLN:NE2	1:L:203:CYS:HB3	2.03	0.73
1:C:51:LYS:NZ	1:I:239:LYS:O	2.19	0.73
1:A:164:ASP:HB3	1:A:175:TYR:HE2	1.54	0.73
1:I:215:ASN:HD21	1:I:217:LYS:HB2	1.52	0.72
1:I:27:ARG:NH1	1:I:29:TYR:OH	2.22	0.72
1:H:16:ILE:CG2	1:H:155:GLN:CB	2.66	0.72
1:D:133:PRO:HA	1:D:161:VAL:CG1	2.18	0.72
1:F:37:GLN:HG3	1:F:42:LYS:HE2	1.70	0.72
1:B:37:GLN:HG3	1:B:37:GLN:O	1.87	0.72
1:F:38:GLU:O	1:F:39:LYS:HG2	1.88	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:L:22:ALA:HB2	1:L:156:GLU:HG2	1.70	0.72
1:K:190:GLN:O	1:K:191:THR:HB	1.87	0.72
1:F:126:SER:HB3	1:F:130:GLN:NE2	2.04	0.72
1:G:51:LYS:HB3	1:G:112:LYS:HB2	1.71	0.72
1:F:88:ARG:HH11	1:G:240:ARG:HH21	1.35	0.72
1:J:19:GLY:CA	1:J:157:VAL:HG13	2.20	0.71
1:B:215:ASN:HB3	1:B:219:THR:OG1	1.90	0.71
1:J:38:GLU:O	1:J:39:LYS:CB	2.37	0.71
1:F:126:SER:HB3	1:F:130:GLN:HE22	1.55	0.71
1:C:47:ILE:HD11	1:C:122:LEU:HB3	1.73	0.71
1:G:47:ILE:HG21	1:G:200:PRO:HG3	1.73	0.71
1:G:17:ILE:HD11	1:G:193:PHE:CD2	2.26	0.71
1:L:16:ILE:HG21	1:L:157:VAL:HG13	1.73	0.71
1:B:127:SER:C	1:B:129:ALA:N	2.41	0.71
1:H:84:ILE:HG21	1:H:109:LEU:HB3	1.73	0.71
1:J:169:ARG:HG2	1:J:170:LEU:HD23	1.73	0.71
1:H:188:LYS:HG2	1:H:190:GLN:HE22	1.55	0.70
1:I:47:ILE:HG12	1:I:49:VAL:HG12	1.72	0.70
1:B:198:GLY:HA3	1:B:210:ILE:HG23	1.72	0.70
1:I:211:LEU:HD13	1:I:224:TYR:CE2	2.26	0.70
1:B:128:LYS:HG2	1:G:79:ARG:NH1	2.07	0.70
1:J:19:GLY:HA2	1:J:157:VAL:CG1	2.21	0.70
1:E:55:LEU:HD12	1:E:106:LEU:HD23	1.72	0.70
1:H:201:LEU:HD23	1:H:224:TYR:CD1	2.27	0.70
1:E:55:LEU:HD13	1:E:106:LEU:HD21	1.72	0.70
1:G:125:PRO:HB2	1:G:127:SER:HB2	1.73	0.70
1:D:162:GLN:NE2	1:D:185:ASP:HA	2.07	0.70
1:A:84:ILE:HD12	1:A:84:ILE:N	2.07	0.70
1:J:38:GLU:OE1	1:J:38:GLU:HA	1.89	0.70
1:C:209:GLY:O	1:C:210:ILE:HD12	1.91	0.70
1:E:209:GLY:HA2	1:E:227:VAL:HG23	1.74	0.70
1:F:145:VAL:HG23	1:F:146:SER:H	1.57	0.70
1:C:96:ASN:HB3	1:C:99:ASN:O	1.92	0.69
1:J:95:TYR:HA	1:J:102:ASN:HB2	1.74	0.69
1:A:61:GLN:HE22	1:A:91:PRO:HG3	1.56	0.69
1:K:229:HIS:O	1:K:229:HIS:ND1	2.25	0.69
1:C:209:GLY:HA2	1:C:225:ILE:O	1.92	0.69
1:K:51:LYS:HZ2	1:K:115:TRP:HB3	1.58	0.69
1:J:197:SER:HA	1:J:211:LEU:HB3	1.75	0.69
1:I:47:ILE:HG12	1:I:49:VAL:CG1	2.23	0.68
1:K:116:THR:HB	1:K:119:VAL:HG13	1.75	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:191:THR:HB	1:C:220:PRO:HD3	1.73	0.68
1:J:124:LEU:HB3	1:J:125:PRO:HD2	1.74	0.68
1:A:157:VAL:HG11	1:A:190:GLN:HB3	1.75	0.68
1:G:32:PHE:HB3	1:G:68:THR:CG2	2.23	0.68
1:F:37:GLN:O	1:F:38:GLU:HG3	1.93	0.68
1:B:136:LEU:HD13	1:B:158:LEU:HD23	1.74	0.68
1:K:146:SER:HB3	1:K:149:THR:OG1	1.93	0.68
1:H:184:GLY:H	1:H:222:GLY:H	1.38	0.68
1:H:57:ALA:H	1:H:198:GLY:HA2	1.59	0.68
1:F:84:ILE:HD12	1:F:84:ILE:N	2.08	0.68
1:B:37:GLN:HA	1:B:38:GLU:HG3	1.76	0.68
1:D:95:TYR:HA	1:D:101:SER:O	1.93	0.68
1:A:27:ARG:NH2	1:A:138:SER:HB3	2.07	0.67
1:J:84:ILE:HG22	1:J:85:PRO:O	1.94	0.67
1:L:40:SER:HB3	4:L:404:HOH:O	1.94	0.67
1:E:115:TRP:CH2	1:E:121:PRO:HG3	2.29	0.67
1:B:120:ARG:HB2	1:B:121:PRO:HD3	1.76	0.67
1:L:203:CYS:O	1:L:204:LYS:HB2	1.94	0.67
1:J:137:CYS:HB2	1:J:201:LEU:HD11	1.76	0.67
1:B:127:SER:C	1:B:129:ALA:H	1.95	0.67
1:E:29:TYR:O	1:E:47:ILE:HA	1.95	0.67
1:B:32:PHE:CD2	1:B:74:ILE:HD11	2.29	0.67
1:L:40:SER:HB2	4:L:404:HOH:O	1.93	0.67
1:E:183:VAL:HG21	1:E:224:TYR:HE2	1.59	0.67
1:B:50:ARG:HD3	1:B:238:MET:HE1	1.74	0.67
1:G:136:LEU:HD13	1:G:160:THR:HG22	1.75	0.67
1:E:215:ASN:HB3	1:E:217:LYS:HG2	1.76	0.67
1:J:144:TYR:CE2	1:J:150:LEU:HD13	2.29	0.67
1:K:134:GLY:HA2	1:K:160:THR:HG23	1.77	0.66
1:H:33:VAL:HG22	1:H:67:VAL:HG22	1.77	0.66
1:B:80:THR:HB	1:B:118:ALA:CB	2.24	0.66
1:E:166:GLN:HA	1:E:169:ARG:NH1	2.11	0.66
1:A:233:TRP:O	1:A:237:THR:HG22	1.94	0.66
1:C:38:GLU:O	1:C:39:LYS:HG2	1.96	0.66
1:I:212:SER:HG	1:I:213:TYR:HD2	1.40	0.66
1:C:23:LYS:O	1:C:24:PRO:C	2.31	0.66
1:G:127:SER:HA	1:G:129:ALA:H	1.61	0.66
1:D:72:HIS:O	1:D:153:THR:HA	1.96	0.66
1:K:201:LEU:HD12	1:K:209:GLY:HA3	1.77	0.66
1:J:72:HIS:NE2	1:J:153:THR:HG23	2.11	0.66
1:K:212:SER:O	1:K:213:TYR:HB3	1.96	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:124:LEU:HB3	1:F:125:PRO:CD	2.26	0.66
1:A:53:PHE:CE1	1:A:108:GLN:HB3	2.30	0.65
1:G:142:TRP:CZ2	1:G:154:LEU:HD13	2.31	0.65
1:J:215:ASN:OD1	1:J:219:THR:N	2.29	0.65
1:A:133:PRO:HG3	1:A:162:GLN:O	1.96	0.65
1:G:211:LEU:HD13	1:G:224:TYR:CZ	2.31	0.65
1:B:115:TRP:CZ3	1:B:121:PRO:HD3	2.30	0.65
1:E:55:LEU:CD1	1:E:106:LEU:CD2	2.74	0.65
1:B:69:LEU:HB3	1:B:119:VAL:HG13	1.77	0.65
1:H:184:GLY:H	1:H:222:GLY:N	1.94	0.65
1:C:99:ASN:C	1:C:99:ASN:HD22	2.00	0.65
1:L:171:PHE:O	1:L:174:ASN:HB2	1.97	0.65
1:L:84:ILE:HG21	1:L:109:LEU:HB3	1.78	0.65
1:G:22:ALA:HB2	1:G:156:GLU:HG2	1.77	0.65
1:J:27:ARG:NE	1:J:156:GLU:OE1	2.27	0.65
1:C:208:GLN:C	1:C:227:VAL:HG13	2.16	0.65
1:I:155:GLN:CA	1:I:155:GLN:OE1	2.44	0.65
1:F:19:GLY:CA	1:F:157:VAL:HG12	2.26	0.64
1:G:233:TRP:O	1:G:237:THR:HB	1.97	0.64
1:J:23:LYS:HB3	1:J:26:SER:OG	1.97	0.64
1:B:233:TRP:O	1:B:237:THR:CG2	2.30	0.64
1:J:103:ASP:H	1:J:225:ILE:HD11	1.61	0.64
1:G:87:LYS:HD2	1:G:108:GLN:OE1	1.97	0.64
1:F:16:ILE:HG21	1:F:157:VAL:CG1	2.16	0.64
1:F:84:ILE:HG21	1:F:109:LEU:HB3	1.79	0.64
1:C:168:GLU:O	1:C:172:HIS:HA	1.98	0.64
1:L:78:GLU:HB2	1:L:81:GLN:OE1	1.98	0.64
1:F:55:LEU:HG	1:F:210:ILE:HD11	1.79	0.64
1:D:137:CYS:CB	1:D:201:LEU:HD11	2.27	0.64
1:C:53:PHE:HA	1:C:107:LEU:O	1.98	0.64
1:C:204:LYS:CD	1:K:75:LYS:NZ	2.61	0.64
1:H:16:ILE:HB	1:H:196:ASP:OD2	1.98	0.64
1:B:191:THR:HB	1:B:220:PRO:HD3	1.79	0.64
1:K:19:GLY:HA3	1:K:157:VAL:HG22	1.80	0.64
1:I:238:MET:O	1:I:241:LEU:HD23	1.98	0.63
1:J:50:ARG:HD2	1:J:52:ASP:OD1	1.98	0.63
1:A:85:PRO:HB2	1:A:110:GLU:HB2	1.80	0.63
1:K:131:VAL:HG12	1:K:135:GLN:NE2	2.13	0.63
1:C:136:LEU:HD12	1:C:160:THR:CG2	2.29	0.63
1:A:226:LYS:HD3	1:A:229:HIS:CE1	2.34	0.63
1:B:231:LEU:HD21	1:B:235:LYS:NZ	2.13	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:L:87:LYS:HB2	1:L:110:GLU:HA	1.79	0.63
1:I:131:VAL:HG12	1:J:77:GLN:HE22	1.64	0.63
1:J:204:LYS:HB3	1:L:75:LYS:HD2	1.80	0.63
1:C:20:HIS:O	1:C:155:GLN:HA	1.98	0.63
1:K:51:LYS:NZ	1:K:115:TRP:HB3	2.13	0.63
1:C:84:ILE:HG23	1:C:111:ARG:HG2	1.80	0.63
1:K:73:ASN:ND2	1:K:152:THR:OG1	2.32	0.63
1:D:75:LYS:HG3	1:D:152:THR:HG22	1.78	0.63
1:C:16:ILE:CD1	1:C:151:ALA:HB2	2.29	0.63
1:F:170:LEU:HD23	1:F:170:LEU:O	1.99	0.63
1:K:50:ARG:O	1:K:52:ASP:N	2.32	0.62
1:A:32:PHE:HE1	1:A:43:ARG:HD2	1.64	0.62
1:A:58:ALA:HA	1:A:105:MET:HB2	1.81	0.62
1:K:44:CYS:HB3	1:K:197:SER:O	1.99	0.62
1:K:32:PHE:HD2	1:K:68:THR:CG2	2.12	0.62
1:B:91:PRO:HB3	1:B:105:MET:CE	2.29	0.62
1:H:160:THR:O	1:H:183:VAL:O	2.17	0.62
1:B:139:VAL:HG12	1:B:159:LEU:CD1	2.29	0.62
1:J:17:ILE:HG22	1:J:18:GLY:N	2.15	0.62
1:A:27:ARG:HB3	1:A:29:TYR:CZ	2.34	0.62
1:C:20:HIS:ND1	1:K:39:LYS:HD2	2.15	0.62
1:B:53:PHE:CB	1:B:238:MET:HE3	2.29	0.62
1:G:51:LYS:HG3	1:G:115:TRP:CZ2	2.35	0.62
1:I:50:ARG:O	1:I:52:ASP:N	2.33	0.62
1:H:32:PHE:CE1	1:H:43:ARG:HD3	2.34	0.62
1:B:120:ARG:HB2	1:B:121:PRO:CD	2.30	0.62
1:L:17:ILE:O	1:L:190:GLN:HA	2.00	0.62
1:H:157:VAL:HG11	1:H:190:GLN:HB3	1.81	0.61
1:A:94:ALA:O	1:A:102:ASN:HB2	2.00	0.61
1:I:61:GLN:OE1	1:I:105:MET:SD	2.58	0.61
1:D:188:LYS:HG3	1:D:190:GLN:HG3	1.82	0.61
1:I:20:HIS:ND1	1:J:39:LYS:CG	2.63	0.61
1:E:84:ILE:HD13	1:E:109:LEU:HD23	1.81	0.61
1:B:53:PHE:HB2	1:B:238:MET:HE3	1.81	0.61
1:A:30:MET:CE	1:A:200:PRO:HG3	2.30	0.61
1:D:33:VAL:O	1:D:43:ARG:HA	2.00	0.61
1:E:190:GLN:O	1:E:191:THR:HB	2.00	0.61
1:B:29:TYR:HA	1:B:120:ARG:O	2.01	0.61
1:J:104:ILE:HD12	1:J:225:ILE:CG2	2.30	0.61
1:E:165:CYS:O	1:E:169:ARG:HB2	2.01	0.61
1:K:231:LEU:N	1:K:232:PRO:HD2	2.16	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:I:208:GLN:O	1:I:227:VAL:HG13	2.01	0.61
1:C:59:HIS:HD2	1:C:103:ASP:OD2	1.84	0.61
1:H:89:PRO:O	1:H:91:PRO:HD3	2.00	0.61
1:C:59:HIS:CD2	1:C:100:PHE:CE2	2.89	0.61
1:A:122:LEU:HD21	1:A:207:ALA:HB2	1.83	0.61
1:D:103:ASP:HB3	1:D:225:ILE:HD11	1.82	0.61
1:G:175:TYR:HA	1:G:180:GLU:OE1	2.00	0.61
1:F:34:GLN:OE1	1:F:41:ARG:NH2	2.34	0.61
1:A:86:VAL:HB	1:A:107:LEU:HD21	1.82	0.60
1:B:139:VAL:HG12	1:B:159:LEU:HD12	1.83	0.60
1:I:36:LEU:HD21	1:I:39:LYS:HA	1.83	0.60
1:A:181:ILE:HB	1:A:224:TYR:HB2	1.82	0.60
1:L:145:VAL:HG23	1:L:146:SER:H	1.66	0.60
1:I:95:TYR:HA	1:I:101:SER:O	2.01	0.60
1:L:126:SER:HB3	1:L:130:GLN:HE22	1.66	0.60
1:K:28:PRO:CB	1:K:120:ARG:H	2.12	0.60
1:G:144:TYR:CD2	1:G:150:LEU:HD13	2.36	0.60
1:E:19:GLY:HA2	1:E:157:VAL:HG23	1.81	0.60
1:F:231:LEU:N	1:F:232:PRO:HD2	2.17	0.60
1:A:170:LEU:HD22	1:A:221:PRO:HD2	1.83	0.60
1:F:142:TRP:CZ2	1:F:154:LEU:HB2	2.35	0.60
1:A:30:MET:HE1	1:A:200:PRO:CG	2.32	0.60
1:H:52:ASP:HA	1:H:109:LEU:HD12	1.84	0.60
1:C:47:ILE:HD12	1:C:207:ALA:HB2	1.82	0.60
1:G:43:ARG:NH1	1:G:142:TRP:O	2.33	0.60
1:J:21:GLU:CG	1:J:153:THR:HG21	2.31	0.60
1:A:86:VAL:HG12	1:A:107:LEU:HD21	1.83	0.60
1:J:73:ASN:HA	1:J:152:THR:O	2.00	0.60
1:C:135:GLN:HG3	1:K:83:PHE:CZ	2.36	0.60
1:C:38:GLU:C	1:C:40:SER:H	2.05	0.60
1:J:140:ALA:HB2	1:J:156:GLU:HB3	1.82	0.60
1:F:99:ASN:O	1:F:100:PHE:HB2	2.02	0.60
1:B:131:VAL:HG11	1:B:181:ILE:HD13	1.82	0.60
1:K:49:VAL:HG23	1:K:50:ARG:H	1.66	0.60
1:C:204:LYS:CD	1:K:75:LYS:HZ1	2.15	0.60
1:I:131:VAL:HG12	1:J:77:GLN:NE2	2.16	0.60
1:I:183:VAL:HG21	1:I:201:LEU:HD21	1.82	0.60
1:G:27:ARG:HB3	1:G:29:TYR:CZ	2.37	0.60
1:K:200:PRO:HA	1:K:209:GLY:O	2.00	0.59
1:H:135:GLN:O	1:H:160:THR:HA	2.02	0.59
1:C:43:ARG:O	1:C:195:GLY:HA2	2.02	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:168:GLU:HG2	1:B:175:TYR:HD2	1.68	0.59
1:K:57:ALA:HA	1:K:103:ASP:O	2.02	0.59
1:K:98:LYS:C	1:K:100:PHE:H	2.05	0.59
1:D:34:GLN:HA	1:D:42:LYS:O	2.01	0.59
1:K:196:ASP:HB2	1:K:211:LEU:HD23	1.84	0.59
1:I:211:LEU:HD12	1:I:212:SER:N	2.17	0.59
1:G:72:HIS:CE1	1:G:153:THR:HB	2.38	0.59
1:L:225:ILE:CG2	1:L:230:PHE:HE2	2.15	0.59
1:H:47:ILE:HD11	1:H:122:LEU:HB3	1.84	0.59
1:J:20:HIS:CG	1:L:39:LYS:HB2	2.37	0.59
1:F:52:ASP:OD1	1:F:53:PHE:HD2	1.81	0.59
1:K:59:HIS:NE2	1:K:197:SER:CB	2.66	0.59
1:E:209:GLY:CA	1:E:227:VAL:HG23	2.32	0.59
1:E:137:CYS:CB	1:E:201:LEU:CD1	2.81	0.59
1:L:59:HIS:NE2	1:L:197:SER:HB3	2.18	0.59
1:H:100:PHE:O	1:H:103:ASP:HB2	2.03	0.59
1:J:48:LEU:HD22	1:J:69:LEU:CD2	2.32	0.59
1:I:211:LEU:HD12	1:I:212:SER:H	1.66	0.59
1:A:93:PRO:C	1:A:95:TYR:H	2.05	0.58
1:E:102:ASN:HD22	1:E:230:PHE:HZ	1.51	0.58
1:J:110:GLU:OE2	1:J:111:ARG:HG3	2.03	0.58
1:F:73:ASN:HA	1:F:153:THR:HG22	1.85	0.58
1:L:99:ASN:O	1:L:100:PHE:HB2	2.03	0.58
1:F:179:THR:O	1:F:226:LYS:HB3	2.03	0.58
1:K:130:GLN:HG2	1:K:131:VAL:N	2.17	0.58
1:L:19:GLY:HA2	1:L:157:VAL:HG12	1.82	0.58
1:B:124:LEU:HB3	1:B:125:PRO:HD2	1.84	0.58
1:E:137:CYS:HB3	1:E:201:LEU:HD12	1.85	0.58
1:K:185:ASP:OD1	1:K:187:LYS:HG2	2.03	0.58
1:I:114:LYS:O	1:I:116:THR:HG23	2.03	0.58
1:L:233:TRP:O	1:L:237:THR:HG22	2.03	0.58
1:E:73:ASN:OD1	1:E:75:LYS:N	2.36	0.58
1:J:134:GLY:HA3	1:L:83:PHE:O	2.02	0.58
1:D:172:HIS:HB3	1:D:174:ASN:HB2	1.86	0.58
1:C:183:VAL:HG11	1:C:224:TYR:CD2	2.39	0.58
1:A:83:PHE:CD1	1:K:135:GLN:HG2	2.39	0.58
1:A:62:GLY:O	1:A:65:ILE:HG13	2.03	0.58
1:B:48:LEU:CD2	1:B:69:LEU:HD13	2.33	0.58
1:G:24:PRO:HB3	1:G:72:HIS:CD2	2.39	0.58
1:C:212:SER:OG	1:C:213:TYR:HD2	1.86	0.58
1:I:86:VAL:HG12	1:I:88:ARG:H	1.68	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:56:THR:HG23	1:B:57:ALA:N	2.17	0.58
1:E:22:ALA:HB2	1:E:156:GLU:HG2	1.85	0.58
1:G:237:THR:O	1:G:237:THR:HG23	2.03	0.58
1:C:84:ILE:CG2	1:C:111:ARG:HG2	2.34	0.58
1:J:131:VAL:HA	1:L:77:GLN:NE2	2.18	0.58
1:C:26:SER:O	1:C:28:PRO:HD3	2.04	0.58
1:I:215:ASN:ND2	1:I:217:LYS:H	2.02	0.57
1:K:16:ILE:N	1:K:144:TYR:O	2.37	0.57
1:F:142:TRP:CE2	1:F:154:LEU:HB2	2.39	0.57
1:D:132:LYS:NZ	1:H:79:ARG:O	2.32	0.57
1:A:88:ARG:NH1	1:A:90:ILE:HG12	2.19	0.57
1:H:17:ILE:HD11	1:H:193:PHE:CD2	2.39	0.57
1:K:29:TYR:HB3	1:K:122:LEU:HB2	1.86	0.57
1:I:52:ASP:HA	1:I:109:LEU:HD12	1.87	0.57
1:G:138:SER:HB3	1:G:158:LEU:HD23	1.86	0.57
1:F:16:ILE:HG22	1:F:157:VAL:CG1	2.34	0.57
1:K:76:GLU:HB2	1:K:78:GLU:OE1	2.04	0.57
1:C:124:LEU:HD22	1:C:124:LEU:N	2.20	0.57
1:H:211:LEU:HD12	1:H:212:SER:N	2.18	0.57
1:C:99:ASN:C	1:C:99:ASN:ND2	2.58	0.57
1:A:212:SER:HB2	1:A:225:ILE:HD11	1.87	0.57
1:D:172:HIS:CB	1:D:174:ASN:HB2	2.34	0.57
1:D:144:TYR:CD2	1:D:150:LEU:HD13	2.40	0.57
1:E:181:ILE:HG22	1:E:183:VAL:CG1	2.34	0.57
1:K:55:LEU:HD12	1:K:105:MET:O	2.05	0.57
1:B:136:LEU:HD22	1:B:158:LEU:HB3	1.86	0.57
1:K:32:PHE:HD2	1:K:68:THR:HG23	1.69	0.57
1:B:170:LEU:HD23	1:B:170:LEU:O	2.04	0.57
1:E:185:ASP:O	1:E:188:LYS:HB2	2.04	0.56
1:D:52:ASP:OD1	1:D:53:PHE:HD2	1.88	0.56
1:L:43:ARG:NH1	2:L:301:SO4:O4	2.38	0.56
1:J:50:ARG:HG2	1:J:51:LYS:H	1.68	0.56
1:E:137:CYS:CB	1:E:201:LEU:HD11	2.35	0.56
1:C:162:GLN:HG3	1:C:184:GLY:O	2.06	0.56
1:J:43:ARG:NH1	1:J:150:LEU:HG	2.21	0.56
1:G:237:THR:O	1:G:237:THR:CG2	2.53	0.56
1:D:137:CYS:HB2	1:D:201:LEU:HD11	1.85	0.56
1:L:240:ARG:O	1:L:241:LEU:HB2	2.05	0.56
1:A:86:VAL:CB	1:A:107:LEU:HD21	2.36	0.56
1:E:73:ASN:N	1:E:78:GLU:OE2	2.34	0.56
1:L:231:LEU:N	1:L:232:PRO:HD2	2.21	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:H:232:PRO:O	1:H:236:ARG:HB2	2.05	0.56
1:I:27:ARG:HB3	1:I:29:TYR:CZ	2.41	0.56
1:F:47:ILE:O	1:F:54:VAL:HG13	2.05	0.56
1:I:131:VAL:CG1	1:I:208:GLN:HG3	2.35	0.56
1:I:231:LEU:N	1:I:232:PRO:HD2	2.21	0.56
1:J:236:ARG:O	1:J:240:ARG:HB3	2.06	0.56
1:G:52:ASP:N	1:G:52:ASP:OD1	2.38	0.56
1:I:95:TYR:HB2	1:I:102:ASN:O	2.05	0.56
1:L:68:THR:HG22	1:L:71:ALA:HB2	1.87	0.56
1:F:59:HIS:NE2	1:F:197:SER:HB3	2.20	0.56
1:F:16:ILE:HG22	1:F:157:VAL:HG11	1.88	0.56
1:A:47:ILE:CG2	1:A:200:PRO:HB3	2.36	0.56
1:A:31:ALA:HB1	1:A:67:VAL:CG1	2.36	0.56
1:A:83:PHE:CG	1:K:135:GLN:HG2	2.41	0.56
1:H:84:ILE:CG2	1:H:109:LEU:HB3	2.36	0.56
1:D:204:LYS:HE3	1:H:81:GLN:HE22	1.71	0.55
1:G:104:ILE:HB	1:G:225:ILE:HG21	1.88	0.55
1:D:165:CYS:SG	1:D:166:GLN:N	2.79	0.55
1:H:16:ILE:N	1:H:144:TYR:O	2.38	0.55
1:E:27:ARG:HB3	1:E:30:MET:HG2	1.88	0.55
1:G:211:LEU:HD13	1:G:224:TYR:CE2	2.40	0.55
1:D:65:ILE:O	1:D:86:VAL:HG22	2.05	0.55
1:D:27:ARG:NH1	1:D:29:TYR:OH	2.38	0.55
1:D:29:TYR:HB2	1:D:47:ILE:HG13	1.89	0.55
1:C:142:TRP:CH2	1:C:154:LEU:HD13	2.40	0.55
1:J:92:HIS:ND1	1:J:93:PRO:HD2	2.21	0.55
1:I:189:THR:O	1:I:191:THR:HG22	2.06	0.55
1:B:50:ARG:CD	1:B:238:MET:CE	2.72	0.55
1:D:135:GLN:HA	1:H:83:PHE:CD2	2.41	0.55
1:E:48:LEU:HD11	1:E:69:LEU:HD22	1.88	0.55
1:D:115:TRP:HZ3	1:D:121:PRO:CD	2.15	0.55
1:H:184:GLY:HA3	1:H:221:PRO:HA	1.88	0.55
1:E:137:CYS:HB2	1:E:201:LEU:HD11	1.88	0.55
1:I:87:LYS:O	1:I:88:ARG:HB2	2.06	0.55
1:I:73:ASN:HA	1:I:152:THR:O	2.06	0.55
1:I:20:HIS:ND1	1:J:39:LYS:HG2	2.21	0.55
1:F:91:PRO:HA	1:F:105:MET:HG3	1.88	0.55
1:J:57:ALA:H	1:J:198:GLY:HA2	1.71	0.55
1:F:225:ILE:HG23	1:F:230:PHE:CE2	2.35	0.55
1:I:20:HIS:ND1	1:J:39:LYS:HG3	2.22	0.55
1:I:105:MET:HE1	1:I:107:LEU:HD21	1.88	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:K:215:ASN:O	1:K:218:GLY:HA2	2.06	0.55
1:I:183:VAL:HG21	1:I:201:LEU:CD2	2.36	0.55
1:E:129:ALA:HB1	1:E:208:GLN:HE22	1.72	0.55
1:C:38:GLU:O	1:C:40:SER:N	2.40	0.55
1:B:107:LEU:O	1:B:109:LEU:HD13	2.07	0.55
1:I:171:PHE:C	1:I:173:GLY:N	2.61	0.55
1:F:27:ARG:HB3	1:F:29:TYR:CE1	2.42	0.55
1:D:85:PRO:HG2	1:D:110:GLU:OE1	2.07	0.55
1:F:65:ILE:HG22	1:F:86:VAL:HG21	1.89	0.55
1:C:16:ILE:N	1:C:196:ASP:OD2	2.40	0.54
1:E:81:GLN:HE21	1:E:83:PHE:HE2	1.55	0.54
1:D:99:ASN:OD1	1:D:101:SER:HB2	2.07	0.54
1:E:179:THR:HG22	1:E:180:GLU:HG3	1.89	0.54
1:A:20:HIS:CD2	1:A:156:GLU:HG3	2.42	0.54
1:E:86:VAL:HG11	1:E:107:LEU:HD13	1.90	0.54
1:A:16:ILE:N	1:A:196:ASP:OD2	2.40	0.54
1:F:55:LEU:HD13	1:F:106:LEU:HD21	1.89	0.54
1:D:165:CYS:HA	1:D:168:GLU:OE2	2.08	0.54
1:B:17:ILE:HG12	1:B:193:PHE:HB2	1.90	0.54
1:I:85:PRO:HD2	1:I:110:GLU:OE2	2.07	0.54
1:F:137:CYS:HB2	1:F:201:LEU:HD11	1.88	0.54
1:I:158:LEU:HD21	1:J:41:ARG:HG2	1.90	0.54
1:B:50:ARG:CD	1:B:238:MET:HE1	2.36	0.54
1:K:116:THR:HG22	1:K:117:THR:N	2.22	0.54
1:B:136:LEU:HD13	1:B:158:LEU:CD2	2.37	0.54
1:G:29:TYR:CG	1:G:122:LEU:HB2	2.43	0.54
1:J:148:SER:HB2	1:J:149:THR:HG23	1.89	0.54
1:I:198:GLY:H	1:I:211:LEU:HB3	1.71	0.54
1:K:134:GLY:HA2	1:K:160:THR:CG2	2.37	0.54
1:G:167:CYS:HB3	1:G:175:TYR:CD1	2.43	0.54
1:L:126:SER:HB3	1:L:130:GLN:NE2	2.22	0.54
1:K:51:LYS:O	1:K:113:ALA:HB3	2.07	0.54
1:K:202:VAL:CG1	1:K:202:VAL:O	2.56	0.54
1:K:196:ASP:HB2	1:K:211:LEU:CD2	2.36	0.54
1:J:18:GLY:HA3	1:J:190:GLN:HG3	1.89	0.54
1:F:166:GLN:OE1	1:F:186:PRO:HG3	2.06	0.54
1:D:16:ILE:O	1:D:145:VAL:HA	2.08	0.54
1:F:55:LEU:HA	1:F:106:LEU:HD23	1.90	0.54
1:A:17:ILE:HD11	1:A:193:PHE:CD2	2.40	0.54
1:I:211:LEU:HD13	1:I:224:TYR:CZ	2.43	0.54
1:G:56:THR:OG1	1:G:57:ALA:N	2.40	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:116:THR:HG22	1:F:117:THR:N	2.23	0.54
1:A:176:SER:O	1:A:178:ALA:N	2.42	0.53
1:E:215:ASN:HB3	1:E:217:LYS:CG	2.38	0.53
1:L:59:HIS:CE1	1:L:197:SER:HB3	2.43	0.53
1:L:133:PRO:HA	1:L:161:VAL:HG12	1.89	0.53
1:A:31:ALA:HB1	1:A:67:VAL:HG13	1.91	0.53
1:A:120:ARG:HG3	1:A:121:PRO:O	2.08	0.53
1:K:87:LYS:HG2	1:K:88:ARG:HG3	1.90	0.53
1:G:181:ILE:HG22	1:G:183:VAL:HG23	1.89	0.53
1:A:193:PHE:O	1:A:196:ASP:N	2.38	0.53
1:E:143:GLY:CA	1:E:196:ASP:OD1	2.47	0.53
1:H:57:ALA:HB1	1:H:59:HIS:CE1	2.43	0.53
1:G:136:LEU:CD1	1:G:160:THR:HG22	2.39	0.53
1:L:17:ILE:HG12	1:L:145:VAL:O	2.08	0.53
1:D:59:HIS:O	1:D:59:HIS:CD2	2.61	0.53
1:L:16:ILE:CG2	1:L:157:VAL:CG1	2.85	0.53
1:A:84:ILE:CG2	1:A:109:LEU:HB3	2.38	0.53
1:H:191:THR:HB	1:H:220:PRO:HG3	1.90	0.53
1:J:17:ILE:CG2	1:J:18:GLY:N	2.71	0.53
1:L:43:ARG:NH1	1:L:150:LEU:HD21	2.24	0.53
1:G:189:THR:O	1:G:191:THR:HG22	2.08	0.53
1:K:227:VAL:O	1:K:230:PHE:N	2.38	0.53
1:B:32:PHE:CD2	1:B:74:ILE:CD1	2.91	0.53
1:K:56:THR:HG22	1:K:57:ALA:O	2.09	0.53
1:J:208:GLN:O	1:J:227:VAL:HG12	2.09	0.53
1:B:50:ARG:HH11	1:B:238:MET:HE2	1.74	0.53
1:A:138:SER:HB2	1:A:202:VAL:HG13	1.90	0.53
1:A:201:LEU:HB3	1:A:209:GLY:HA3	1.89	0.53
1:A:55:LEU:HD22	1:A:234:ILE:HD11	1.89	0.53
1:G:46:GLY:HA2	1:G:198:GLY:O	2.09	0.53
1:E:215:ASN:HD22	1:E:217:LYS:CE	2.22	0.53
1:C:78:GLU:HB2	1:C:81:GLN:HG3	1.91	0.53
1:K:204:LYS:O	1:K:206:VAL:HG22	2.09	0.53
1:A:16:ILE:HG13	1:A:157:VAL:CG2	2.39	0.53
1:A:193:PHE:HE1	1:A:194:LYS:HE2	1.74	0.53
1:K:47:ILE:HG22	1:K:55:LEU:CB	2.32	0.53
1:I:212:SER:OG	1:I:213:TYR:HD2	1.91	0.53
1:E:18:GLY:HA3	1:E:190:GLN:HG3	1.91	0.53
1:E:137:CYS:HB2	1:E:201:LEU:CD1	2.39	0.52
1:A:75:LYS:O	1:A:76:GLU:HG3	2.09	0.52
1:J:193:PHE:N	1:J:196:ASP:OD2	2.37	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:76:GLU:HA	1:D:76:GLU:OE2	2.08	0.52
1:J:123:ARG:HB2	1:J:123:ARG:NH1	2.24	0.52
1:D:193:PHE:CG	1:D:194:LYS:N	2.77	0.52
1:A:20:HIS:HD2	1:A:156:GLU:HG3	1.73	0.52
1:B:209:GLY:HA2	1:B:225:ILE:O	2.08	0.52
1:J:116:THR:HG22	1:J:117:THR:N	2.24	0.52
1:J:211:LEU:HB2	1:J:224:TYR:CE1	2.44	0.52
1:K:125:PRO:HG3	1:K:206:VAL:HB	1.92	0.52
1:C:30:MET:HE1	1:C:140:ALA:O	2.10	0.52
1:G:37:GLN:O	1:G:38:GLU:OE2	2.27	0.52
1:A:94:ALA:HB1	1:A:102:ASN:CG	2.30	0.52
1:G:29:TYR:HA	1:G:120:ARG:O	2.09	0.52
1:D:88:ARG:HG2	1:D:108:GLN:HB3	1.90	0.52
1:B:240:ARG:O	1:B:241:LEU:HB2	2.08	0.52
1:B:50:ARG:NH1	1:B:238:MET:HB3	2.24	0.52
1:D:172:HIS:O	1:D:174:ASN:N	2.41	0.52
1:A:225:ILE:HG22	1:A:230:PHE:CE2	2.44	0.52
1:F:43:ARG:NH2	1:F:151:ALA:O	2.43	0.52
1:H:16:ILE:CG1	1:H:157:VAL:HG23	2.40	0.52
1:C:38:GLU:C	1:C:40:SER:N	2.63	0.52
1:F:135:GLN:NE2	1:F:203:CYS:HB3	2.25	0.52
1:F:131:VAL:HG23	1:F:131:VAL:O	2.10	0.52
1:F:16:ILE:O	1:F:145:VAL:HA	2.10	0.52
1:D:36:LEU:HD12	1:D:40:SER:C	2.29	0.52
1:H:131:VAL:HB	1:H:135:GLN:OE1	2.09	0.52
1:I:171:PHE:C	1:I:173:GLY:H	2.12	0.52
1:J:54:VAL:HG23	1:J:109:LEU:HD21	1.91	0.52
1:L:34:GLN:OE1	1:L:41:ARG:NH2	2.39	0.52
1:I:190:GLN:CD	1:I:190:GLN:N	2.51	0.52
1:A:30:MET:CE	1:A:200:PRO:CG	2.87	0.52
1:H:16:ILE:CG2	1:H:155:GLN:HG3	2.40	0.52
1:J:21:GLU:CD	1:J:153:THR:HG21	2.30	0.52
1:K:227:VAL:O	1:K:229:HIS:N	2.43	0.52
1:E:32:PHE:HB3	1:E:68:THR:HB	1.92	0.52
1:J:116:THR:C	1:J:118:ALA:N	2.62	0.52
1:B:16:ILE:HD13	1:B:196:ASP:OD2	2.09	0.51
1:A:122:LEU:CD2	1:A:207:ALA:HB2	2.40	0.51
1:E:137:CYS:HB3	1:E:201:LEU:CD1	2.40	0.51
1:F:21:GLU:HG2	1:F:22:ALA:O	2.10	0.51
1:K:199:GLY:O	1:K:210:ILE:HA	2.09	0.51
1:B:79:ARG:NE	1:B:79:ARG:H	2.08	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:75:LYS:HE3	1:B:152:THR:HG22	1.92	0.51
1:E:28:PRO:HB2	1:E:120:ARG:HB2	1.92	0.51
1:C:231:LEU:N	1:C:232:PRO:CD	2.72	0.51
1:L:87:LYS:HB3	1:L:108:GLN:HG2	1.92	0.51
1:C:183:VAL:CG1	1:C:224:TYR:CD2	2.94	0.51
1:K:95:TYR:CE1	1:K:103:ASP:HB3	2.45	0.51
1:H:63:SER:O	1:H:64:SER:HB3	2.11	0.51
1:F:88:ARG:NH1	1:G:240:ARG:HH21	2.07	0.51
1:C:124:LEU:H	1:C:124:LEU:HD22	1.76	0.51
1:B:27:ARG:NE	1:B:156:GLU:OE1	2.44	0.51
1:D:230:PHE:O	1:D:234:ILE:HG13	2.10	0.51
1:B:19:GLY:HA2	1:B:157:VAL:HG12	1.87	0.51
1:J:23:LYS:O	1:J:24:PRO:C	2.48	0.51
1:F:59:HIS:ND1	1:F:103:ASP:OD2	2.36	0.51
1:L:193:PHE:O	1:L:194:LYS:C	2.48	0.51
1:A:94:ALA:HB1	1:A:102:ASN:HB2	1.89	0.51
1:K:146:SER:C	1:K:148:SER:H	2.14	0.51
1:B:91:PRO:HA	1:B:105:MET:CB	2.35	0.51
1:K:51:LYS:HE2	1:K:121:PRO:HG3	1.93	0.51
1:B:91:PRO:O	1:B:92:HIS:C	2.48	0.51
1:B:139:VAL:HG22	1:B:140:ALA:N	2.26	0.51
1:H:29:TYR:HB2	1:H:47:ILE:HG13	1.93	0.51
1:A:43:ARG:NH1	1:A:150:LEU:HD23	2.26	0.51
1:J:193:PHE:HE1	1:J:218:GLY:HA3	1.75	0.51
1:D:216:LYS:O	1:D:217:LYS:C	2.49	0.51
1:J:20:HIS:CG	1:L:39:LYS:CB	2.94	0.50
1:D:133:PRO:HA	1:D:161:VAL:HG12	1.91	0.50
1:E:166:GLN:OE1	1:E:169:ARG:NH1	2.44	0.50
1:J:124:LEU:HB3	1:J:125:PRO:CD	2.42	0.50
1:K:73:ASN:HB3	1:K:76:GLU:CG	2.41	0.50
1:B:128:LYS:H	1:B:128:LYS:NZ	2.09	0.50
1:D:92:HIS:CD2	1:D:230:PHE:CE1	3.00	0.50
1:D:48:LEU:HD13	1:D:69:LEU:HD11	1.94	0.50
1:F:57:ALA:HB3	1:F:60:CYS:SG	2.51	0.50
1:L:73:ASN:HA	1:L:153:THR:HG22	1.92	0.50
1:B:117:THR:CA	1:B:120:ARG:HH21	2.13	0.50
1:G:51:LYS:HE3	1:G:115:TRP:NE1	2.26	0.50
1:E:132:LYS:H	1:E:135:GLN:NE2	2.10	0.50
1:E:211:LEU:HD13	1:E:224:TYR:CZ	2.46	0.50
1:H:83:PHE:O	1:H:111:ARG:NH1	2.43	0.50
1:A:93:PRO:O	1:A:95:TYR:N	2.45	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:K:28:PRO:HB3	1:K:120:ARG:N	2.20	0.50
1:D:171:PHE:CD1	1:D:172:HIS:N	2.80	0.50
1:J:29:TYR:CD2	1:J:122:LEU:HD13	2.46	0.50
1:L:78:GLU:O	1:L:80:THR:N	2.45	0.50
1:B:131:VAL:CG1	1:B:181:ILE:HD13	2.41	0.50
1:K:58:ALA:H	1:K:103:ASP:HB2	1.76	0.50
1:A:74:ILE:HG22	1:A:152:THR:O	2.11	0.50
1:J:16:ILE:CD1	1:J:141:GLY:N	2.75	0.50
1:C:213:TYR:O	1:C:223:VAL:N	2.39	0.50
1:G:124:LEU:HB3	1:G:125:PRO:HD2	1.92	0.50
1:D:65:ILE:HB	1:D:86:VAL:CG2	2.41	0.50
1:D:47:ILE:HD11	1:D:122:LEU:HB3	1.93	0.50
1:K:84:ILE:HG21	1:K:109:LEU:HB3	1.93	0.50
1:A:32:PHE:CE1	1:A:43:ARG:HD2	2.45	0.50
1:A:88:ARG:HH11	1:A:90:ILE:HG12	1.75	0.50
1:J:22:ALA:HB2	1:J:156:GLU:HG2	1.94	0.50
1:G:106:LEU:HD12	1:G:237:THR:HG22	1.93	0.50
1:C:17:ILE:O	1:C:190:GLN:HA	2.12	0.50
1:K:59:HIS:CE1	1:K:197:SER:CB	2.95	0.50
1:G:125:PRO:HB2	1:G:127:SER:CB	2.41	0.50
1:F:104:ILE:HG12	1:F:105:MET:N	2.27	0.50
1:H:231:LEU:N	1:H:232:PRO:HD2	2.26	0.50
1:E:103:ASP:HB3	1:E:225:ILE:HD13	1.94	0.50
1:I:131:VAL:HB	1:I:135:GLN:NE2	2.27	0.50
1:K:73:ASN:HB3	1:K:76:GLU:HG3	1.94	0.50
1:B:49:VAL:O	1:B:50:ARG:HG3	2.12	0.49
1:D:52:ASP:OD1	1:D:53:PHE:CD2	2.65	0.49
1:J:47:ILE:HG13	1:J:55:LEU:HB3	1.94	0.49
1:E:26:SER:O	1:E:28:PRO:HD3	2.11	0.49
1:D:130:GLN:HA	4:D:405:HOH:O	2.12	0.49
1:K:48:LEU:HD22	1:K:121:PRO:CA	2.42	0.49
1:E:215:ASN:ND2	1:E:217:LYS:HE3	2.27	0.49
1:D:24:PRO:HA	1:D:72:HIS:ND1	2.28	0.49
1:A:145:VAL:HG13	1:A:151:ALA:HB2	1.94	0.49
1:J:231:LEU:N	1:J:232:PRO:HD2	2.27	0.49
1:L:131:VAL:HG23	1:L:131:VAL:O	2.11	0.49
1:A:90:ILE:O	1:A:90:ILE:HG22	2.12	0.49
1:B:32:PHE:HB3	1:B:68:THR:HB	1.94	0.49
1:D:193:PHE:CE2	1:D:194:LYS:HG3	2.46	0.49
1:A:50:ARG:HB2	1:A:53:PHE:H	1.78	0.49
1:A:86:VAL:O	1:A:86:VAL:HG23	2.11	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:27:ARG:HG2	1:E:29:TYR:OH	2.12	0.49
1:J:140:ALA:HB1	1:J:155:GLN:O	2.13	0.49
1:E:133:PRO:HG3	1:E:162:GLN:O	2.12	0.49
1:I:237:THR:O	1:I:241:LEU:N	2.41	0.49
1:K:56:THR:HG22	1:K:57:ALA:N	2.28	0.49
1:H:90:ILE:O	1:H:105:MET:HG3	2.12	0.49
1:H:22:ALA:HB2	1:H:156:GLU:HG2	1.94	0.49
1:G:67:VAL:HG11	1:G:109:LEU:HD21	1.94	0.49
1:J:21:GLU:HG3	1:J:153:THR:CG2	2.41	0.49
1:J:201:LEU:HB3	1:J:209:GLY:HA3	1.95	0.49
1:F:124:LEU:HB3	1:F:125:PRO:HD2	1.94	0.49
1:I:144:TYR:CE2	1:I:150:LEU:HD21	2.47	0.49
1:B:153:THR:O	1:B:153:THR:HG23	2.13	0.49
1:C:144:TYR:HB3	1:C:193:PHE:HD2	1.77	0.49
1:A:57:ALA:HB1	1:A:59:HIS:HD1	1.76	0.49
1:A:93:PRO:C	1:A:95:TYR:N	2.66	0.49
1:K:56:THR:HG23	1:K:198:GLY:HA3	1.95	0.49
1:A:225:ILE:HG22	1:A:230:PHE:HE2	1.78	0.49
1:L:49:VAL:HG23	1:L:238:MET:HE1	1.95	0.49
1:A:57:ALA:HB1	1:A:59:HIS:ND1	2.27	0.49
1:G:190:GLN:O	1:G:191:THR:HB	2.13	0.49
1:I:161:VAL:HG12	1:I:162:GLN:N	2.27	0.49
1:K:54:VAL:O	1:K:106:LEU:HA	2.13	0.48
1:D:162:GLN:NE2	1:D:184:GLY:O	2.45	0.48
1:J:200:PRO:HA	1:J:209:GLY:O	2.13	0.48
1:J:51:LYS:HD3	1:J:115:TRP:CD1	2.47	0.48
1:E:157:VAL:CG1	1:E:159:LEU:HD21	2.43	0.48
1:J:65:ILE:HB	1:J:86:VAL:HG21	1.94	0.48
1:I:131:VAL:HG13	1:I:208:GLN:HG3	1.94	0.48
1:A:28:PRO:HG2	1:A:120:ARG:HG2	1.93	0.48
1:K:233:TRP:HA	1:K:236:ARG:HG2	1.94	0.48
1:C:179:THR:HG22	1:C:180:GLU:HG3	1.95	0.48
1:F:52:ASP:C	1:F:109:LEU:HD12	2.34	0.48
1:I:20:HIS:O	1:I:20:HIS:CD2	2.66	0.48
1:G:34:GLN:NE2	1:G:41:ARG:HH21	2.10	0.48
1:I:58:ALA:HB2	1:I:104:ILE:O	2.13	0.48
1:J:116:THR:C	1:J:118:ALA:H	2.17	0.48
1:B:160:THR:O	1:B:161:VAL:C	2.52	0.48
1:A:24:PRO:HA	1:A:72:HIS:CE1	2.48	0.48
1:B:231:LEU:HD21	1:B:235:LYS:HZ1	1.77	0.48
1:H:92:HIS:O	1:H:93:PRO:C	2.51	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:83:PHE:CG	1:K:135:GLN:HA	2.48	0.48
1:A:138:SER:C	1:A:139:VAL:HG23	2.33	0.48
1:L:78:GLU:C	1:L:80:THR:H	2.16	0.48
1:D:84:ILE:HG22	1:D:85:PRO:O	2.13	0.48
1:I:110:GLU:HG2	1:I:110:GLU:O	2.12	0.48
1:A:84:ILE:CD1	1:A:84:ILE:N	2.76	0.48
1:G:211:LEU:HD12	1:G:212:SER:H	1.79	0.48
1:K:35:PHE:CD1	1:K:35:PHE:N	2.81	0.48
1:E:82:GLN:HE21	1:E:119:VAL:HG21	1.78	0.48
1:K:30:MET:HG3	1:K:154:LEU:HD21	1.95	0.48
1:H:16:ILE:HG12	1:H:157:VAL:HG23	1.95	0.48
1:D:171:PHE:HD1	1:D:172:HIS:N	2.12	0.48
1:I:50:ARG:HD2	1:I:50:ARG:HA	1.60	0.48
1:E:131:VAL:HG13	1:E:135:GLN:OE1	2.13	0.48
1:I:165:CYS:O	1:I:169:ARG:HB2	2.14	0.48
1:B:47:ILE:HG21	1:B:200:PRO:HG3	1.88	0.48
1:G:142:TRP:CE2	1:G:154:LEU:HD13	2.49	0.48
1:F:106:LEU:HD12	1:F:237:THR:HG21	1.95	0.48
1:J:190:GLN:H	1:J:190:GLN:CD	2.17	0.48
1:L:145:VAL:HG23	1:L:146:SER:N	2.28	0.48
1:K:101:SER:HA	1:K:102:ASN:HA	1.63	0.48
1:E:87:LYS:N	1:E:108:GLN:O	2.46	0.48
1:G:50:ARG:HB3	1:G:53:PHE:HB2	1.95	0.48
1:G:85:PRO:O	1:G:110:GLU:HB2	2.13	0.48
1:I:75:LYS:HA	1:I:75:LYS:HE2	1.95	0.48
1:K:166:GLN:O	1:K:170:LEU:HD13	2.14	0.48
1:H:154:LEU:HG	1:H:155:GLN:N	2.29	0.48
1:L:198:GLY:N	1:L:211:LEU:O	2.47	0.48
1:D:116:THR:O	1:D:120:ARG:HG3	2.14	0.48
1:L:84:ILE:HG21	1:L:109:LEU:HD22	1.96	0.48
1:E:68:THR:HG23	1:E:83:PHE:CE2	2.49	0.48
1:B:204:LYS:N	2:B:301:SO4:O1	2.37	0.48
1:B:124:LEU:HD12	1:B:124:LEU:H	1.75	0.47
1:F:55:LEU:HD11	1:F:104:ILE:HD11	1.96	0.47
1:D:229:HIS:HB3	1:D:230:PHE:CD2	2.48	0.47
1:H:179:THR:HG22	1:H:229:HIS:CG	2.49	0.47
1:L:170:LEU:HD23	1:L:170:LEU:O	2.14	0.47
1:H:16:ILE:HG12	1:H:157:VAL:CG2	2.44	0.47
1:A:95:TYR:O	1:A:96:ASN:C	2.51	0.47
1:J:123:ARG:HB2	1:J:123:ARG:HH11	1.78	0.47
1:H:162:GLN:OE1	1:H:185:ASP:HA	2.13	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:38:GLU:HG2	1:D:38:GLU:O	2.13	0.47
1:K:27:ARG:NH1	1:K:29:TYR:OH	2.41	0.47
1:A:231:LEU:N	1:A:232:PRO:HD2	2.29	0.47
1:E:227:VAL:O	1:E:228:SER:C	2.52	0.47
1:D:16:ILE:HG13	1:D:155:GLN:HB2	1.96	0.47
1:E:144:TYR:HD1	1:E:149:THR:O	1.96	0.47
1:E:209:GLY:HA2	1:E:225:ILE:O	2.14	0.47
1:E:209:GLY:H	1:E:227:VAL:HG23	1.80	0.47
1:J:85:PRO:HB2	1:J:110:GLU:HG2	1.96	0.47
1:C:183:VAL:HG22	1:C:184:GLY:N	2.29	0.47
1:C:183:VAL:HG11	1:C:224:TYR:CE2	2.49	0.47
1:A:124:LEU:H	1:A:124:LEU:HG	1.40	0.47
1:G:51:LYS:HG2	1:G:113:ALA:O	2.13	0.47
1:J:139:VAL:CG1	1:J:159:LEU:HD12	2.44	0.47
1:I:124:LEU:HD13	1:I:234:ILE:HG21	1.97	0.47
1:D:206:VAL:HG22	1:D:207:ALA:N	2.30	0.47
1:H:32:PHE:CD1	1:H:74:ILE:HD13	2.49	0.47
1:J:139:VAL:HG23	1:J:200:PRO:O	2.15	0.47
1:L:84:ILE:CG2	1:L:109:LEU:HD22	2.45	0.47
1:C:124:LEU:H	1:C:124:LEU:CD2	2.27	0.47
1:D:29:TYR:CD2	1:D:122:LEU:HB2	2.50	0.47
1:F:111:ARG:HH11	1:F:111:ARG:HG2	1.80	0.47
1:E:104:ILE:HG12	1:E:105:MET:N	2.30	0.47
1:I:47:ILE:HB	1:I:200:PRO:HG3	1.97	0.47
1:A:84:ILE:HG21	1:A:109:LEU:HB3	1.96	0.47
1:E:209:GLY:N	1:E:227:VAL:HG23	2.29	0.47
1:I:161:VAL:O	1:I:162:GLN:NE2	2.40	0.47
1:I:81:GLN:HE21	1:I:83:PHE:HZ	1.58	0.47
1:G:44:CYS:HB3	1:G:197:SER:O	2.14	0.47
1:C:75:LYS:HA	1:C:75:LYS:HD2	1.56	0.47
1:B:84:ILE:HG21	1:B:111:ARG:O	2.14	0.47
1:F:47:ILE:HG13	1:F:55:LEU:HB3	1.96	0.47
1:D:231:LEU:HA	1:D:231:LEU:HD12	1.81	0.47
1:B:19:GLY:CA	1:B:157:VAL:HG11	2.41	0.47
1:C:16:ILE:HD11	1:C:151:ALA:CB	2.45	0.47
1:E:181:ILE:HG22	1:E:183:VAL:HG13	1.96	0.47
1:E:143:GLY:O	1:E:151:ALA:HB2	2.15	0.47
1:A:96:ASN:CG	1:A:96:ASN:O	2.52	0.47
1:F:102:ASN:ND2	1:F:230:PHE:CE1	2.79	0.47
1:E:230:PHE:O	1:E:234:ILE:HG13	2.15	0.47
1:C:59:HIS:CD2	1:C:103:ASP:OD2	2.67	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:L:32:PHE:HZ	2:L:301:SO4:O4	1.98	0.47
1:C:30:MET:CE	1:C:140:ALA:O	2.63	0.47
1:H:94:ALA:O	1:H:102:ASN:HB3	2.14	0.47
1:I:139:VAL:HG22	1:I:140:ALA:N	2.29	0.47
1:B:211:LEU:HD12	1:B:212:SER:N	2.29	0.47
1:F:193:PHE:O	1:F:194:LYS:C	2.52	0.46
1:I:42:LYS:HE3	1:I:42:LYS:HB3	1.50	0.46
1:C:16:ILE:HD13	1:C:155:GLN:HG3	1.97	0.46
1:K:27:ARG:NE	1:K:156:GLU:OE1	2.48	0.46
1:A:231:LEU:O	1:A:234:ILE:HG22	2.15	0.46
1:K:191:THR:HG21	1:K:220:PRO:HD3	1.98	0.46
1:K:119:VAL:HG22	1:K:119:VAL:O	2.14	0.46
1:G:171:PHE:O	1:G:172:HIS:C	2.52	0.46
1:D:32:PHE:CZ	1:D:74:ILE:HD13	2.50	0.46
1:B:91:PRO:CA	1:B:105:MET:HB2	2.36	0.46
1:L:203:CYS:O	1:L:204:LYS:CB	2.62	0.46
1:F:165:CYS:HA	1:F:168:GLU:HG3	1.97	0.46
1:L:92:HIS:HB2	1:L:104:ILE:HG23	1.97	0.46
1:L:16:ILE:HG22	1:L:157:VAL:HG13	1.95	0.46
1:H:43:ARG:NH1	1:H:150:LEU:HG	2.30	0.46
1:E:55:LEU:CD1	1:E:104:ILE:HD11	2.42	0.46
1:B:193:PHE:CE1	1:B:218:GLY:CA	2.98	0.46
1:F:137:CYS:CB	1:F:201:LEU:HD11	2.45	0.46
1:K:35:PHE:HB2	1:K:62:GLY:HA3	1.97	0.46
1:J:142:TRP:CE2	1:J:154:LEU:HD23	2.51	0.46
1:J:33:VAL:O	1:J:44:CYS:N	2.34	0.46
1:A:115:TRP:O	1:A:116:THR:HG23	2.15	0.46
1:J:72:HIS:NE2	1:J:153:THR:CG2	2.78	0.46
1:B:136:LEU:HA	1:B:136:LEU:HD23	1.83	0.46
1:C:141:GLY:HA2	1:C:154:LEU:HD12	1.98	0.46
1:B:177:ARG:O	1:B:226:LYS:NZ	2.41	0.46
1:D:124:LEU:HD23	1:D:124:LEU:HA	1.52	0.46
1:B:16:ILE:HG21	1:B:157:VAL:HG13	1.96	0.46
1:K:59:HIS:HE1	1:K:197:SER:HB3	1.79	0.46
1:B:171:PHE:CD1	1:B:171:PHE:N	2.84	0.46
1:A:181:ILE:HG22	1:A:182:CYS:N	2.31	0.46
1:I:125:PRO:HG3	1:I:208:GLN:NE2	2.30	0.46
1:I:102:ASN:HD22	1:I:230:PHE:HZ	1.63	0.46
1:A:146:SER:OG	1:A:147:MET:N	2.47	0.46
1:D:50:ARG:NH2	2:D:303:SO4:O4	2.48	0.46
1:K:131:VAL:HG21	1:K:181:ILE:HD12	1.98	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:53:PHE:HA	1:A:107:LEU:O	2.14	0.46
1:K:159:LEU:HD21	1:K:191:THR:HA	1.97	0.46
1:B:139:VAL:HG12	1:B:159:LEU:HD11	1.98	0.46
1:H:17:ILE:HD11	1:H:193:PHE:HD2	1.79	0.46
1:H:92:HIS:CD2	1:H:93:PRO:HD2	2.50	0.46
1:G:78:GLU:HB3	1:G:80:THR:HG23	1.97	0.46
1:C:233:TRP:O	1:C:237:THR:HG23	2.15	0.46
1:J:136:LEU:HD13	1:J:158:LEU:HD13	1.97	0.46
1:K:47:ILE:O	1:K:54:VAL:HA	2.16	0.46
1:B:82:GLN:HE22	1:B:114:LYS:N	2.12	0.46
1:A:232:PRO:O	1:A:236:ARG:HB2	2.16	0.46
1:D:65:ILE:HB	1:D:86:VAL:HG21	1.98	0.46
1:G:58:ALA:O	1:G:60:CYS:N	2.49	0.46
1:C:215:ASN:OD1	1:C:217:LYS:HB2	2.15	0.46
1:D:197:SER:N	1:D:211:LEU:HD23	2.30	0.46
1:I:145:VAL:HG11	1:I:155:GLN:HE21	1.81	0.46
1:B:32:PHE:CZ	1:B:74:ILE:HG12	2.51	0.46
1:D:137:CYS:HB3	1:D:201:LEU:HD11	1.96	0.46
1:G:179:THR:HG22	1:G:229:HIS:CG	2.51	0.46
1:J:193:PHE:CE1	1:J:218:GLY:HA3	2.51	0.46
1:B:100:PHE:O	1:B:103:ASP:HB2	2.16	0.46
1:L:225:ILE:CG2	1:L:230:PHE:CE2	2.99	0.46
1:K:190:GLN:O	1:K:191:THR:CB	2.60	0.46
1:B:86:VAL:HG11	1:B:107:LEU:HD13	1.98	0.46
1:D:193:PHE:CZ	1:D:194:LYS:HE3	2.51	0.46
1:J:65:ILE:O	1:J:86:VAL:HG22	2.16	0.46
1:E:38:GLU:HB3	1:E:39:LYS:H	1.53	0.46
1:C:240:ARG:HB2	1:C:241:LEU:HG	1.98	0.46
1:D:28:PRO:CB	1:D:120:ARG:HB2	2.46	0.45
1:C:171:PHE:O	1:C:172:HIS:C	2.55	0.45
1:J:203:CYS:O	1:J:204:LYS:HB2	2.16	0.45
1:D:43:ARG:HH22	1:D:75:LYS:HZ1	1.63	0.45
1:H:228:SER:O	1:H:231:LEU:HG	2.16	0.45
1:A:41:ARG:NH2	1:K:204:LYS:HD2	2.31	0.45
1:H:58:ALA:HA	1:H:105:MET:HB2	1.99	0.45
1:E:58:ALA:HB1	1:E:95:TYR:CD2	2.51	0.45
1:A:79:ARG:HG2	1:K:130:GLN:HE22	1.80	0.45
1:A:86:VAL:O	1:A:86:VAL:CG2	2.65	0.45
1:K:193:PHE:O	1:K:196:ASP:OD2	2.34	0.45
1:D:162:GLN:CG	1:D:184:GLY:O	2.65	0.45
1:A:82:GLN:HB3	1:A:84:ILE:HD11	1.97	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:209:GLY:H	1:E:227:VAL:CG2	2.29	0.45
1:K:227:VAL:HG23	1:K:228:SER:N	2.31	0.45
1:A:32:PHE:O	1:A:67:VAL:HA	2.15	0.45
1:A:67:VAL:HG12	1:A:69:LEU:CD1	2.46	0.45
1:J:57:ALA:HB3	1:J:60:CYS:SG	2.56	0.45
1:H:37:GLN:HB2	1:H:42:LYS:HG3	1.98	0.45
1:C:166:GLN:O	1:C:170:LEU:HD23	2.16	0.45
1:B:51:LYS:HB3	1:B:112:LYS:HG3	1.98	0.45
1:H:106:LEU:HD23	1:H:106:LEU:HA	1.70	0.45
1:B:82:GLN:HG3	1:B:119:VAL:HG21	1.99	0.45
1:H:85:PRO:O	1:H:110:GLU:HB2	2.16	0.45
1:K:16:ILE:CG2	1:K:157:VAL:HG23	2.47	0.45
1:C:47:ILE:HG23	1:C:55:LEU:HB3	1.99	0.45
1:G:125:PRO:HG2	1:G:231:LEU:HD11	1.98	0.45
1:H:159:LEU:HD21	1:H:191:THR:HA	1.99	0.45
1:H:184:GLY:CA	1:H:221:PRO:HA	2.47	0.45
1:I:132:LYS:H	1:I:135:GLN:HE21	1.65	0.45
1:I:87:LYS:O	1:I:87:LYS:HG3	2.16	0.45
1:B:193:PHE:CD1	1:B:218:GLY:CA	2.99	0.45
1:L:147:MET:SD	1:L:193:PHE:HZ	2.40	0.45
1:K:102:ASN:ND2	1:K:102:ASN:N	2.64	0.45
1:I:111:ARG:HG3	1:I:112:LYS:O	2.16	0.45
1:K:161:VAL:HG12	1:K:162:GLN:N	2.31	0.45
1:K:205:ASP:OD1	1:K:205:ASP:N	2.50	0.45
1:K:181:ILE:HG23	1:K:224:TYR:HB2	1.99	0.45
1:D:143:GLY:CA	1:D:196:ASP:OD1	2.55	0.45
1:F:126:SER:O	1:F:128:LYS:HG3	2.17	0.45
1:F:128:LYS:HD3	1:F:130:GLN:OE1	2.15	0.45
1:B:128:LYS:H	1:B:128:LYS:HZ3	1.64	0.45
1:G:90:ILE:HD11	1:G:108:GLN:HB2	1.98	0.45
1:G:144:TYR:CG	1:G:150:LEU:HD13	2.51	0.45
1:G:116:THR:O	1:G:120:ARG:NE	2.46	0.45
1:K:57:ALA:H	1:K:198:GLY:HA2	1.81	0.45
1:L:71:ALA:O	1:L:142:TRP:HZ2	2.00	0.45
1:B:162:GLN:NE2	1:B:185:ASP:HA	2.32	0.45
1:J:166:GLN:O	1:J:170:LEU:HG	2.16	0.45
1:F:58:ALA:HA	1:F:105:MET:HB2	1.98	0.45
1:F:47:ILE:HD13	1:F:200:PRO:HB3	1.98	0.45
1:L:32:PHE:CE1	1:L:74:ILE:HG12	2.51	0.45
1:G:185:ASP:OD1	1:G:185:ASP:C	2.54	0.45
1:K:188:LYS:HB3	1:K:190:GLN:OE1	2.16	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:H:162:GLN:HA	1:H:162:GLN:HE21	1.81	0.45
1:K:38:GLU:C	1:K:40:SER:H	2.20	0.45
1:H:233:TRP:O	1:H:237:THR:OG1	2.21	0.45
1:L:86:VAL:HG21	1:L:107:LEU:HD13	1.98	0.45
1:K:47:ILE:HD12	1:K:47:ILE:HA	1.69	0.45
1:H:86:VAL:HG21	1:H:107:LEU:HD22	1.99	0.45
1:B:139:VAL:CG2	1:B:140:ALA:N	2.80	0.45
1:F:73:ASN:CB	1:F:153:THR:HG22	2.47	0.45
1:C:183:VAL:HG22	1:C:184:GLY:H	1.82	0.45
1:G:94:ALA:O	1:G:96:ASN:N	2.49	0.45
1:C:144:TYR:CB	1:C:193:PHE:HD2	2.29	0.45
1:A:109:LEU:O	1:A:110:GLU:C	2.54	0.45
1:K:227:VAL:O	1:K:228:SER:C	2.55	0.45
1:L:54:VAL:HB	1:L:107:LEU:HB2	1.99	0.45
1:G:16:ILE:HD13	1:G:196:ASP:OD2	2.17	0.45
1:H:50:ARG:O	1:H:51:LYS:C	2.54	0.45
1:B:122:LEU:HA	1:B:122:LEU:HD12	1.68	0.45
1:H:72:HIS:HB3	1:H:78:GLU:OE2	2.16	0.45
1:A:18:GLY:HA3	1:A:190:GLN:HG3	1.99	0.45
1:E:16:ILE:HD13	1:E:196:ASP:CG	2.37	0.45
1:D:139:VAL:HG22	1:D:140:ALA:H	1.82	0.45
1:I:47:ILE:HD13	1:I:207:ALA:HB2	1.99	0.45
1:I:58:ALA:HB3	1:I:95:TYR:CD1	2.51	0.45
1:C:142:TRP:CZ2	1:C:154:LEU:HD13	2.52	0.45
1:K:236:ARG:NH1	4:K:301:HOH:O	2.45	0.45
1:I:25:HIS:CE1	1:I:80:THR:HG21	2.52	0.45
1:H:165:CYS:HA	1:H:168:GLU:HG3	1.99	0.45
1:A:203:CYS:O	1:A:204:LYS:HB2	2.17	0.45
1:D:136:LEU:HD12	1:D:136:LEU:HA	1.60	0.45
1:F:83:PHE:CD1	1:F:83:PHE:N	2.85	0.45
1:C:16:ILE:HD13	1:C:145:VAL:HG12	1.99	0.45
1:L:16:ILE:HG22	1:L:157:VAL:CG1	2.47	0.45
1:I:16:ILE:HD12	1:I:155:GLN:HB2	1.99	0.45
1:E:59:HIS:ND1	1:E:103:ASP:OD2	2.50	0.45
1:B:139:VAL:CG1	1:B:159:LEU:HD11	2.47	0.45
1:D:92:HIS:CD2	1:D:230:PHE:HE1	2.34	0.45
1:K:37:GLN:HG2	1:K:42:LYS:CG	2.46	0.45
1:G:65:ILE:O	1:G:86:VAL:HG13	2.16	0.45
1:G:69:LEU:HB3	1:G:119:VAL:HG22	1.98	0.45
1:A:71:ALA:HA	1:A:81:GLN:HG3	1.98	0.45
1:F:102:ASN:ND2	1:F:230:PHE:HE1	2.15	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:175:TYR:HE1	1:A:181:ILE:O	2.00	0.44
1:J:123:ARG:CB	1:J:123:ARG:HH11	2.30	0.44
1:A:193:PHE:CE1	1:A:194:LYS:HE2	2.52	0.44
1:K:29:TYR:CG	1:K:122:LEU:HD22	2.51	0.44
1:K:144:TYR:CZ	1:K:150:LEU:HD13	2.51	0.44
1:F:90:ILE:O	1:F:105:MET:HG3	2.17	0.44
1:C:120:ARG:HB3	1:C:121:PRO:CD	2.46	0.44
1:D:96:ASN:HD21	1:D:98:LYS:NZ	2.16	0.44
1:H:150:LEU:HD12	1:H:150:LEU:HA	1.62	0.44
1:A:55:LEU:CD2	1:A:234:ILE:HD11	2.47	0.44
1:C:231:LEU:CD2	1:C:235:LYS:HG3	2.47	0.44
1:C:232:PRO:O	1:C:236:ARG:HB2	2.17	0.44
1:F:233:TRP:O	1:F:237:THR:HG22	2.18	0.44
1:G:225:ILE:HG23	1:G:230:PHE:CE2	2.53	0.44
1:D:35:PHE:HB3	1:D:65:ILE:HG12	1.99	0.44
1:I:161:VAL:CG1	1:I:162:GLN:N	2.80	0.44
1:I:48:LEU:O	1:I:121:PRO:HA	2.17	0.44
1:I:184:GLY:O	1:I:185:ASP:C	2.53	0.44
1:H:48:LEU:CD2	1:H:115:TRP:HZ3	2.30	0.44
1:K:29:TYR:HB2	1:K:47:ILE:HD11	1.98	0.44
1:I:124:LEU:CD1	1:I:234:ILE:HG21	2.48	0.44
1:C:85:PRO:HD2	1:C:110:GLU:HB3	2.00	0.44
1:I:56:THR:HG23	1:I:57:ALA:N	2.31	0.44
1:C:144:TYR:CD2	1:C:194:LYS:HB2	2.52	0.44
1:A:59:HIS:CE1	1:A:197:SER:OG	2.70	0.44
1:A:88:ARG:HB3	1:A:108:GLN:HE21	1.83	0.44
1:A:25:HIS:NE2	1:A:80:THR:OG1	2.51	0.44
1:A:188:LYS:HB3	1:A:190:GLN:OE1	2.18	0.44
1:F:209:GLY:HA2	1:F:227:VAL:HG23	1.99	0.44
1:B:171:PHE:CD2	1:B:213:TYR:CE1	2.95	0.44
1:A:179:THR:HG23	1:A:229:HIS:HB3	2.00	0.44
1:K:230:PHE:C	1:K:232:PRO:HD2	2.38	0.44
1:D:213:TYR:CE2	1:D:223:VAL:HG11	2.52	0.44
1:A:226:LYS:O	1:A:229:HIS:HB2	2.16	0.44
1:K:174:ASN:HB3	1:K:213:TYR:OH	2.17	0.44
1:I:124:LEU:HD23	1:I:125:PRO:HD2	1.99	0.44
1:D:204:LYS:HE3	1:H:81:GLN:NE2	2.32	0.44
1:A:227:VAL:CG1	1:A:227:VAL:O	2.65	0.44
1:C:52:ASP:OD1	1:C:52:ASP:N	2.51	0.44
1:G:54:VAL:HG21	1:G:67:VAL:HG21	2.00	0.44
1:A:27:ARG:HH22	1:A:138:SER:CB	2.15	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:J:84:ILE:HG12	1:J:111:ARG:NH2	2.32	0.44
1:I:84:ILE:HG21	1:I:109:LEU:HB3	1.99	0.44
1:J:135:GLN:HG3	1:L:83:PHE:CD2	2.53	0.44
1:H:88:ARG:HA	1:H:89:PRO:HD3	1.78	0.44
1:E:227:VAL:O	1:E:230:PHE:N	2.40	0.44
1:F:58:ALA:HB2	1:F:104:ILE:O	2.18	0.44
1:C:211:LEU:HB2	1:C:224:TYR:CE1	2.53	0.44
1:E:133:PRO:HA	1:E:161:VAL:HG12	2.00	0.44
1:C:179:THR:HG23	1:C:230:PHE:CE2	2.53	0.44
1:E:33:VAL:O	1:E:44:CYS:N	2.34	0.44
1:J:194:LYS:HD3	1:J:194:LYS:HA	1.39	0.44
1:H:146:SER:CB	1:H:149:THR:OG1	2.56	0.43
1:A:231:LEU:HA	1:A:234:ILE:HG22	1.99	0.43
1:G:70:GLY:O	1:G:80:THR:OG1	2.35	0.43
1:C:131:VAL:HA	1:K:77:GLN:NE2	2.33	0.43
1:A:37:GLN:CG	1:A:42:LYS:HG3	2.48	0.43
1:E:210:ILE:O	1:E:224:TYR:HA	2.18	0.43
1:A:78:GLU:HG2	1:A:79:ARG:H	1.83	0.43
1:A:47:ILE:HD11	1:A:55:LEU:HB3	2.01	0.43
1:A:226:LYS:HB3	1:A:229:HIS:ND1	2.32	0.43
1:H:135:GLN:HG3	1:H:136:LEU:H	1.83	0.43
1:G:181:ILE:HG13	1:G:226:LYS:HB2	1.99	0.43
1:H:112:LYS:HB2	1:H:112:LYS:HE3	1.89	0.43
1:A:193:PHE:O	1:A:196:ASP:HB2	2.18	0.43
1:K:47:ILE:HD13	1:K:200:PRO:HG3	1.99	0.43
1:B:193:PHE:CD1	1:B:218:GLY:HA2	2.54	0.43
1:L:47:ILE:HD13	1:L:200:PRO:HB3	2.01	0.43
1:F:128:LYS:HB2	1:F:130:GLN:HG2	2.00	0.43
1:G:231:LEU:N	1:G:232:PRO:HD2	2.33	0.43
1:E:78:GLU:HB2	1:E:81:GLN:OE1	2.18	0.43
1:I:27:ARG:NH1	1:I:29:TYR:HH	2.17	0.43
1:B:32:PHE:HD1	1:B:142:TRP:CE3	2.36	0.43
1:C:183:VAL:CG1	1:C:224:TYR:CE2	3.02	0.43
1:G:97:PRO:O	1:G:100:PHE:N	2.46	0.43
1:L:37:GLN:O	1:L:38:GLU:HG3	2.19	0.43
1:A:197:SER:HA	1:A:211:LEU:HG	2.00	0.43
1:E:215:ASN:HD22	1:E:217:LYS:HE3	1.82	0.43
1:K:58:ALA:H	1:K:103:ASP:C	2.22	0.43
1:F:86:VAL:HG12	1:F:86:VAL:O	2.17	0.43
1:J:25:HIS:CD2	1:J:118:ALA:HB1	2.54	0.43
1:C:115:TRP:CE3	1:C:115:TRP:HA	2.53	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:204:LYS:HA	1:C:204:LYS:HD3	1.46	0.43
1:E:115:TRP:CZ2	1:E:121:PRO:HG3	2.53	0.43
1:K:98:LYS:C	1:K:100:PHE:N	2.71	0.43
1:L:96:ASN:HB3	1:L:99:ASN:HB3	2.01	0.43
1:G:57:ALA:O	1:G:58:ALA:C	2.57	0.43
1:J:208:GLN:C	1:J:227:VAL:HG12	2.39	0.43
1:C:87:LYS:HB2	1:C:110:GLU:HA	2.01	0.43
1:C:139:VAL:HG12	1:C:201:LEU:HA	2.01	0.43
1:A:47:ILE:O	1:A:47:ILE:HG13	2.18	0.43
1:A:181:ILE:HG13	1:A:226:LYS:HG3	2.01	0.43
1:K:16:ILE:HG22	1:K:157:VAL:CG2	2.48	0.43
1:H:201:LEU:HD23	1:H:224:TYR:CE1	2.54	0.43
1:D:162:GLN:NE2	1:D:186:PRO:HD3	2.34	0.43
1:F:124:LEU:HB3	1:F:125:PRO:HD3	2.01	0.43
1:F:129:ALA:HB1	1:F:226:LYS:HD2	1.99	0.43
1:H:27:ARG:HH22	1:H:138:SER:HB3	1.83	0.43
1:E:144:TYR:HA	1:E:150:LEU:HA	2.01	0.43
1:E:37:GLN:HB3	1:E:42:LYS:HD2	2.01	0.43
1:F:115:TRP:NE1	1:F:121:PRO:HD3	2.33	0.43
1:B:137:CYS:CB	1:B:201:LEU:HD22	2.49	0.43
1:C:16:ILE:HD11	1:C:151:ALA:HB2	1.99	0.43
1:A:179:THR:O	1:A:226:LYS:HB2	2.18	0.43
1:J:51:LYS:HB3	1:J:113:ALA:HB3	2.01	0.43
1:I:105:MET:CE	1:I:107:LEU:HD21	2.47	0.43
1:H:69:LEU:O	1:H:81:GLN:HA	2.19	0.43
1:D:59:HIS:O	1:D:59:HIS:HD2	2.02	0.43
1:E:87:LYS:HD2	1:E:108:GLN:NE2	2.33	0.43
1:K:136:LEU:HD23	1:K:136:LEU:HA	1.69	0.43
1:H:144:TYR:CD2	1:H:194:LYS:HB3	2.54	0.42
1:F:145:VAL:HG23	1:F:146:SER:N	2.29	0.42
1:G:90:ILE:C	1:G:105:MET:HG3	2.39	0.42
1:A:43:ARG:HB2	1:A:195:GLY:HA2	2.01	0.42
1:K:56:THR:CG2	1:K:57:ALA:N	2.82	0.42
1:L:147:MET:SD	1:L:193:PHE:CZ	3.12	0.42
1:K:37:GLN:HG2	1:K:42:LYS:HG2	2.00	0.42
1:C:52:ASP:HA	1:C:109:LEU:HD12	2.01	0.42
1:C:129:ALA:O	1:C:130:GLN:HG2	2.19	0.42
1:A:215:ASN:HB2	1:A:219:THR:O	2.19	0.42
1:B:123:ARG:HA	1:B:123:ARG:HD3	1.86	0.42
1:E:68:THR:HG23	1:E:83:PHE:CD2	2.53	0.42
1:E:26:SER:C	1:E:28:PRO:HD3	2.39	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:162:GLN:HB3	1:B:182:CYS:O	2.19	0.42
1:H:234:ILE:O	1:H:235:LYS:C	2.58	0.42
1:I:235:LYS:HB3	1:I:235:LYS:HE2	1.74	0.42
1:H:125:PRO:O	1:H:128:LYS:N	2.52	0.42
1:K:130:GLN:HG2	1:K:131:VAL:H	1.84	0.42
1:H:32:PHE:CE1	1:H:74:ILE:CD1	2.94	0.42
1:J:95:TYR:CA	1:J:102:ASN:HB2	2.47	0.42
1:K:73:ASN:OD1	1:K:76:GLU:HG2	2.18	0.42
1:E:39:LYS:HA	1:E:39:LYS:HD2	1.69	0.42
1:G:119:VAL:HG12	1:G:119:VAL:O	2.19	0.42
1:C:234:ILE:O	1:C:238:MET:HG3	2.20	0.42
1:K:135:GLN:NE2	1:K:203:CYS:SG	2.92	0.42
1:H:84:ILE:HG22	1:H:110:GLU:H	1.84	0.42
1:K:144:TYR:CD2	1:K:194:LYS:HG3	2.53	0.42
1:I:50:ARG:C	1:I:52:ASP:N	2.72	0.42
1:K:84:ILE:HB	1:K:109:LEU:HD22	2.00	0.42
1:H:92:HIS:HB3	1:H:94:ALA:O	2.19	0.42
1:L:92:HIS:HA	1:L:93:PRO:HD2	1.79	0.42
1:J:136:LEU:HA	1:J:136:LEU:HD23	1.86	0.42
1:G:215:ASN:OD1	1:G:219:THR:O	2.36	0.42
1:A:185:ASP:OD2	1:A:188:LYS:HG2	2.19	0.42
1:K:96:ASN:ND2	1:K:98:LYS:O	2.52	0.42
1:H:58:ALA:HB2	1:H:104:ILE:C	2.40	0.42
1:F:224:TYR:N	1:F:224:TYR:CD2	2.88	0.42
1:A:194:LYS:HB3	1:A:194:LYS:HE2	1.79	0.42
1:K:105:MET:HG2	1:K:106:LEU:O	2.20	0.42
1:A:134:GLY:O	1:A:135:GLN:C	2.57	0.42
1:G:125:PRO:CB	1:G:127:SER:HB2	2.47	0.42
1:J:27:ARG:HB3	1:J:29:TYR:CZ	2.55	0.42
1:D:193:PHE:CD2	1:D:194:LYS:N	2.87	0.42
1:B:104:ILE:HD12	1:B:225:ILE:HG21	2.00	0.42
1:J:47:ILE:HD11	1:J:55:LEU:HD23	2.01	0.42
1:C:92:HIS:ND1	1:C:93:PRO:HD2	2.35	0.42
1:A:33:VAL:HB	1:A:44:CYS:HB3	2.01	0.42
1:L:116:THR:HG22	1:L:117:THR:H	1.85	0.42
1:H:73:ASN:CG	1:H:76:GLU:HG2	2.40	0.42
1:K:54:VAL:CG1	1:K:107:LEU:HB2	2.50	0.42
1:L:198:GLY:HA2	1:L:210:ILE:CG2	2.40	0.42
1:H:84:ILE:HG22	1:H:85:PRO:O	2.20	0.42
1:K:227:VAL:HG23	1:K:228:SER:H	1.85	0.42
1:L:74:ILE:HD12	1:L:74:ILE:HA	1.82	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:48:LEU:HD13	1:D:69:LEU:HD21	2.01	0.42
1:D:211:LEU:HB2	1:D:224:TYR:CE1	2.55	0.42
1:I:233:TRP:O	1:I:236:ARG:HB3	2.20	0.42
1:K:24:PRO:HA	1:K:72:HIS:ND1	2.35	0.42
1:H:135:GLN:HG3	1:H:136:LEU:N	2.35	0.42
1:F:96:ASN:HB3	1:F:99:ASN:HB3	2.01	0.42
1:H:27:ARG:NH2	1:H:156:GLU:OE1	2.51	0.42
1:G:208:GLN:C	1:G:227:VAL:HG12	2.40	0.42
1:H:144:TYR:HD2	1:H:194:LYS:HB3	1.85	0.42
1:B:47:ILE:CG2	1:B:200:PRO:CG	2.80	0.42
1:K:116:THR:CG2	1:K:117:THR:N	2.82	0.42
1:J:139:VAL:HG11	1:J:159:LEU:HD12	2.02	0.42
1:J:215:ASN:OD1	1:J:219:THR:HB	2.20	0.42
1:I:50:ARG:O	1:I:51:LYS:C	2.58	0.42
1:E:132:LYS:HA	1:E:133:PRO:HD2	1.86	0.42
1:I:185:ASP:HA	1:I:186:PRO:HD2	1.76	0.42
1:B:73:ASN:HB3	1:B:76:GLU:OE1	2.20	0.42
1:A:27:ARG:HH12	1:A:202:VAL:HG11	1.84	0.42
1:A:92:HIS:ND1	1:A:93:PRO:HD2	2.34	0.42
1:A:50:ARG:HD3	1:A:53:PHE:HD2	1.84	0.42
1:D:116:THR:HG22	1:D:117:THR:N	2.35	0.42
1:K:146:SER:O	1:K:148:SER:N	2.52	0.42
1:J:228:SER:O	1:J:231:LEU:HD12	2.20	0.42
1:B:153:THR:CG2	1:B:153:THR:O	2.68	0.42
1:B:160:THR:HG22	1:B:161:VAL:O	2.19	0.42
1:B:176:SER:C	1:B:178:ALA:N	2.73	0.42
1:L:114:LYS:HE3	1:L:114:LYS:HB2	1.87	0.42
1:A:16:ILE:HD11	1:A:140:ALA:C	2.40	0.41
1:A:27:ARG:NH1	1:A:202:VAL:HG11	2.34	0.41
1:A:50:ARG:HH11	1:A:238:MET:CG	2.33	0.41
1:K:144:TYR:HB2	1:K:193:PHE:HD2	1.85	0.41
1:K:229:HIS:O	1:K:229:HIS:CG	2.73	0.41
1:I:94:ALA:O	1:I:95:TYR:C	2.59	0.41
1:K:95:TYR:CZ	1:K:97:PRO:HA	2.55	0.41
1:J:58:ALA:C	1:J:60:CYS:H	2.22	0.41
1:G:183:VAL:HG21	1:G:201:LEU:HD22	2.02	0.41
1:B:83:PHE:O	1:B:111:ARG:NH2	2.53	0.41
1:F:211:LEU:HB2	1:F:224:TYR:CE1	2.54	0.41
1:H:111:ARG:HG3	1:H:112:LYS:O	2.20	0.41
1:K:86:VAL:HG11	1:K:107:LEU:HD13	2.02	0.41
1:A:23:LYS:O	1:A:26:SER:CB	2.64	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:200:PRO:HA	1:A:209:GLY:O	2.20	0.41
1:E:217:LYS:HG3	1:E:219:THR:OG1	2.21	0.41
1:K:240:ARG:O	1:K:241:LEU:HB2	2.20	0.41
1:A:65:ILE:O	1:A:86:VAL:HG13	2.21	0.41
1:G:127:SER:CA	1:G:129:ALA:H	2.30	0.41
1:I:144:TYR:CE1	1:I:150:LEU:HG	2.55	0.41
1:F:111:ARG:NH1	1:F:111:ARG:HG2	2.35	0.41
1:I:202:VAL:CG1	1:I:205:ASP:HA	2.51	0.41
1:H:16:ILE:CG2	1:H:155:GLN:CG	2.98	0.41
1:C:193:PHE:H	1:C:196:ASP:HB2	1.85	0.41
1:E:186:PRO:HA	1:E:220:PRO:CG	2.37	0.41
1:F:209:GLY:HA2	1:F:225:ILE:O	2.20	0.41
1:K:157:VAL:HG11	1:K:190:GLN:HB3	2.01	0.41
1:H:188:LYS:HG2	1:H:190:GLN:NE2	2.31	0.41
1:F:55:LEU:CD2	1:F:210:ILE:HD11	2.51	0.41
1:D:57:ALA:HA	1:D:103:ASP:O	2.21	0.41
1:B:168:GLU:HG2	1:B:175:TYR:CD2	2.53	0.41
1:C:215:ASN:OD1	1:C:218:GLY:N	2.54	0.41
1:D:23:LYS:HB3	1:D:26:SER:HB3	2.01	0.41
1:J:181:ILE:HD11	1:J:226:LYS:HA	2.01	0.41
1:L:52:ASP:OD1	1:L:53:PHE:CD2	2.73	0.41
1:I:23:LYS:HB3	1:I:26:SER:CB	2.51	0.41
1:I:34:GLN:O	1:I:35:PHE:HB3	2.20	0.41
1:B:216:LYS:HA	1:B:216:LYS:HD2	1.72	0.41
1:I:100:PHE:HB3	1:I:103:ASP:HB2	2.02	0.41
1:A:50:ARG:C	1:A:115:TRP:HH2	2.24	0.41
1:G:105:MET:HG2	1:G:106:LEU:O	2.21	0.41
1:A:32:PHE:CE1	1:A:43:ARG:CD	3.04	0.41
1:K:234:ILE:O	1:K:238:MET:HB2	2.21	0.41
1:G:74:ILE:HG22	1:G:75:LYS:HG2	2.03	0.41
1:B:120:ARG:CB	1:B:121:PRO:HD3	2.50	0.41
1:C:158:LEU:HA	1:C:158:LEU:HD12	1.99	0.41
1:K:73:ASN:HA	1:K:152:THR:O	2.21	0.41
1:K:95:TYR:HE1	1:K:103:ASP:HB3	1.83	0.41
1:D:144:TYR:CZ	1:D:150:LEU:HD22	2.55	0.41
1:G:69:LEU:CD1	1:G:69:LEU:N	2.83	0.41
1:L:225:ILE:HG23	1:L:230:PHE:CE2	2.37	0.41
1:A:164:ASP:HB3	1:A:175:TYR:CE2	2.45	0.41
1:B:231:LEU:HA	1:B:234:ILE:HD12	2.03	0.41
1:B:193:PHE:CG	1:B:194:LYS:N	2.87	0.41
1:A:199:GLY:O	1:A:210:ILE:HA	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:34:GLN:HB2	1:C:66:ASN:HD22	1.86	0.41
1:D:135:GLN:HB3	1:D:161:VAL:HG21	2.02	0.41
1:K:131:VAL:HG12	1:K:135:GLN:HE22	1.84	0.41
1:A:198:GLY:H	1:A:211:LEU:HB3	1.85	0.41
1:A:56:THR:OG1	1:A:57:ALA:N	2.54	0.41
1:F:84:ILE:CD1	1:F:84:ILE:N	2.77	0.41
1:D:58:ALA:CA	1:D:105:MET:HB2	2.42	0.41
1:G:17:ILE:HG12	1:G:193:PHE:HB2	2.02	0.41
1:H:139:VAL:CG1	1:H:159:LEU:HD12	2.51	0.41
1:H:191:THR:OG1	1:H:192:GLY:N	2.53	0.41
1:H:184:GLY:HA3	1:H:220:PRO:HB3	2.03	0.41
1:J:215:ASN:OD1	1:J:219:THR:CB	2.69	0.41
1:I:204:LYS:HG3	1:J:77:GLN:HG2	2.02	0.41
1:B:170:LEU:HD23	1:B:170:LEU:C	2.42	0.41
1:D:92:HIS:HD2	1:D:230:PHE:CD1	2.39	0.41
1:G:74:ILE:HA	1:G:74:ILE:HD13	1.76	0.41
1:I:32:PHE:O	1:I:32:PHE:CD2	2.74	0.41
1:D:106:LEU:HD23	1:D:106:LEU:HA	1.86	0.41
1:G:38:GLU:O	1:G:38:GLU:CG	2.39	0.41
1:G:32:PHE:HD1	1:G:142:TRP:CE3	2.39	0.41
1:C:235:LYS:O	1:C:239:LYS:HB2	2.21	0.41
1:F:105:MET:CE	1:F:107:LEU:HD21	2.51	0.41
1:G:179:THR:O	1:G:180:GLU:HG2	2.21	0.41
1:F:142:TRP:NE1	1:F:154:LEU:N	2.69	0.41
1:E:69:LEU:O	1:E:81:GLN:HA	2.20	0.41
1:C:124:LEU:CD2	1:C:124:LEU:N	2.82	0.41
1:L:73:ASN:CB	1:L:153:THR:HG22	2.51	0.41
1:C:34:GLN:O	1:C:65:ILE:HG23	2.20	0.41
1:H:116:THR:C	1:H:118:ALA:N	2.74	0.41
1:F:74:ILE:HA	1:F:74:ILE:HD12	1.76	0.41
1:I:208:GLN:HA	1:I:227:VAL:HG22	2.02	0.40
1:C:136:LEU:HD21	1:C:158:LEU:HD11	2.03	0.40
1:A:94:ALA:HB1	1:A:102:ASN:HB3	2.01	0.40
1:F:105:MET:HE3	1:F:107:LEU:HD21	2.02	0.40
1:F:106:LEU:HD12	1:F:237:THR:CG2	2.50	0.40
1:I:204:LYS:N	2:I:302:SO4:O2	2.51	0.40
1:E:86:VAL:HG23	1:E:86:VAL:O	2.20	0.40
1:D:156:GLU:C	1:D:157:VAL:HG22	2.42	0.40
1:H:58:ALA:HA	1:H:105:MET:CB	2.51	0.40
1:H:133:PRO:HA	1:H:161:VAL:HG12	2.03	0.40
1:C:116:THR:HG22	1:C:117:THR:N	2.36	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:27:ARG:HH22	1:C:138:SER:HB2	1.85	0.40
1:K:61:GLN:HA	1:K:65:ILE:HD11	2.03	0.40
1:K:179:THR:O	1:K:226:LYS:HB3	2.21	0.40
1:C:177:ARG:HG3	1:C:177:ARG:H	1.59	0.40
1:F:84:ILE:HD12	1:F:84:ILE:H	1.85	0.40
1:J:201:LEU:N	1:J:209:GLY:O	2.43	0.40
1:E:215:ASN:HD22	1:E:217:LYS:CD	2.35	0.40
1:G:144:TYR:CD2	1:G:194:LYS:HB2	2.56	0.40
1:D:16:ILE:HG23	1:D:157:VAL:CG2	2.51	0.40
1:L:58:ALA:HB2	1:L:104:ILE:O	2.21	0.40
1:C:166:GLN:CD	1:C:186:PRO:HG2	2.42	0.40
1:G:96:ASN:HA	1:G:97:PRO:HD3	1.85	0.40
1:I:70:GLY:O	1:I:80:THR:OG1	2.36	0.40
1:I:186:PRO:HA	1:I:220:PRO:HG2	2.03	0.40
1:I:32:PHE:CD1	1:I:74:ILE:HG21	2.57	0.40
1:A:178:ALA:O	1:A:229:HIS:CD2	2.74	0.40
1:B:139:VAL:CG2	1:B:140:ALA:H	2.34	0.40
1:C:183:VAL:O	1:C:221:PRO:CB	2.70	0.40
1:I:139:VAL:CG2	1:I:140:ALA:N	2.85	0.40
1:K:92:HIS:ND1	1:K:94:ALA:HB3	2.36	0.40
1:F:114:LYS:HB2	1:F:114:LYS:HE3	1.71	0.40
1:L:37:GLN:HB2	4:L:404:HOH:O	2.22	0.40
1:K:29:TYR:CB	1:K:122:LEU:HB2	2.51	0.40
1:A:50:ARG:HD3	1:A:53:PHE:CD2	2.57	0.40
1:B:69:LEU:HB3	1:B:119:VAL:CG1	2.49	0.40
1:C:92:HIS:NE2	1:C:230:PHE:HD1	2.19	0.40
1:D:123:ARG:O	1:D:206:VAL:HG23	2.21	0.40
1:A:186:PRO:HA	1:A:220:PRO:HG2	2.03	0.40
1:H:187:LYS:HE3	1:H:187:LYS:HB2	1.60	0.40

All (2) 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:A:172:HIS:CE1	1:L:173:GLY:O[1_554]	1.68	0.52
1:A:172:HIS:ND1	1:L:173:GLY:O[1_554]	2.06	0.14

## 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	220/226 (97%)	167 (76%)	39 (18%)	14 (6%)	2	9
1	B	224/226 (99%)	196 (88%)	24 (11%)	4 (2%)	11	45
1	C	224/226 (99%)	185 (83%)	35 (16%)	4 (2%)	11	45
1	D	224/226 (99%)	183 (82%)	31 (14%)	10 (4%)	3	18
1	E	224/226 (99%)	193 (86%)	23 (10%)	8 (4%)	4	24
1	F	224/226 (99%)	190 (85%)	23 (10%)	11 (5%)	3	16
1	G	224/226 (99%)	187 (84%)	30 (13%)	7 (3%)	5	28
1	H	215/226 (95%)	181 (84%)	27 (13%)	7 (3%)	5	26
1	I	224/226 (99%)	192 (86%)	28 (12%)	4 (2%)	11	45
1	J	224/226 (99%)	187 (84%)	31 (14%)	6 (3%)	6	32
1	K	224/226 (99%)	183 (82%)	31 (14%)	10 (4%)	3	18
1	L	224/226 (99%)	192 (86%)	25 (11%)	7 (3%)	5	28
All	All	2675/2712 (99%)	2236 (84%)	347 (13%)	92 (3%)	5	25

All (92) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	94	ALA
1	A	172	HIS
1	A	177	ARG
1	D	240	ARG
1	E	191	THR
1	K	51	LYS
1	L	131	VAL
1	B	128	LYS
1	C	39	LYS
1	C	164	ASP
1	C	172	HIS
1	D	144	TYR

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Mol	Chain	Res	Type
1	D	197	SER
1	F	125	PRO
1	G	59	HIS
1	G	95	TYR
1	G	191	THR
1	H	117	THR
1	I	51	LYS
1	K	191	THR
1	K	200	PRO
1	K	213	TYR
1	K	218	GLY
1	L	100	PHE
1	L	143	GLY
1	L	240	ARG
1	A	28	PRO
1	A	144	TYR
1	C	143	GLY
1	D	63	SER
1	E	151	ALA
1	E	169	ARG
1	G	97	PRO
1	G	216	LYS
1	H	91	PRO
1	J	218	GLY
1	J	238	MET
1	K	147	MET
1	K	205	ASP
1	K	228	SER
1	L	79	ARG
1	L	93	PRO
1	L	197	SER
1	A	34	GLN
1	A	110	GLU
1	A	179	THR
1	A	197	SER
1	A	240	ARG
1	D	125	PRO
1	F	129	ALA
1	F	131	VAL
1	F	151	ALA
1	F	194	LYS
1	F	240	ARG

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Mol	Chain	Res	Type
1	G	239	LYS
1	H	28	PRO
1	H	77	GLN
1	H	103	ASP
1	H	115	TRP
1	I	168	GLU
1	J	24	PRO
1	J	117	THR
1	A	133	PRO
1	A	139	VAL
1	A	168	GLU
1	A	178	ALA
1	B	161	VAL
1	D	22	ALA
1	D	129	ALA
1	E	51	LYS
1	E	121	PRO
1	E	133	PRO
1	E	197	SER
1	H	165	CYS
1	J	98	LYS
1	K	119	VAL
1	K	164	ASP
1	F	93	PRO
1	F	100	PHE
1	F	197	SER
1	G	38	GLU
1	I	88	ARG
1	I	92	HIS
1	D	157	VAL
1	J	89	PRO
1	D	234	ILE
1	E	47	ILE
1	F	27	ARG
1	F	200	PRO
1	B	89	PRO
1	B	218	GLY
1	D	173	GLY

### 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	192/194 (99%)	166 (86%)	26 (14%)	5	20
1	B	194/194 (100%)	175 (90%)	19 (10%)	10	36
1	C	194/194 (100%)	174 (90%)	20 (10%)	9	33
1	D	194/194 (100%)	171 (88%)	23 (12%)	6	26
1	E	194/194 (100%)	179 (92%)	15 (8%)	16	50
1	F	194/194 (100%)	177 (91%)	17 (9%)	12	42
1	G	194/194 (100%)	173 (89%)	21 (11%)	8	30
1	H	190/194 (98%)	173 (91%)	17 (9%)	12	42
1	I	194/194 (100%)	173 (89%)	21 (11%)	8	30
1	J	194/194 (100%)	174 (90%)	20 (10%)	9	33
1	K	194/194 (100%)	177 (91%)	17 (9%)	12	42
1	L	194/194 (100%)	176 (91%)	18 (9%)	11	39
All	All	2322/2328 (100%)	2088 (90%)	234 (10%)	9	34

All (234) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	20	HIS
1	A	21	GLU
1	A	27	ARG
1	A	47	ILE
1	A	64	SER
1	A	80	THR
1	A	92	HIS
1	A	99	ASN
1	A	102	ASN
1	A	106	LEU
1	A	116	THR
1	A	117	THR
1	A	124	LEU
1	A	132	LYS

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Mol	Chain	Res	Type
1	A	135	GLN
1	A	154	LEU
1	A	157	VAL
1	A	160	THR
1	A	170	LEU
1	A	172	HIS
1	A	176	SER
1	A	179	THR
1	A	197	SER
1	A	203	CYS
1	A	213	TYR
1	A	219	THR
1	B	38	GLU
1	B	56	THR
1	B	79	ARG
1	B	83	PHE
1	B	109	LEU
1	B	124	LEU
1	B	131	VAL
1	B	147	MET
1	B	148	SER
1	B	176	SER
1	B	188	LYS
1	B	189	THR
1	B	197	SER
1	B	201	LEU
1	B	206	VAL
1	B	215	ASN
1	B	216	LYS
1	B	219	THR
1	B	237	THR
1	C	16	ILE
1	C	42	LYS
1	C	47	ILE
1	C	48	LEU
1	C	59	HIS
1	C	63	SER
1	C	99	ASN
1	C	106	LEU
1	C	115	TRP
1	C	117	THR
1	C	157	VAL

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Mol	Chain	Res	Type
1	C	174	ASN
1	C	185	ASP
1	C	189	THR
1	C	191	THR
1	C	204	LYS
1	C	210	ILE
1	C	212	SER
1	C	228	SER
1	C	232	PRO
1	D	61	GLN
1	D	63	SER
1	D	68	THR
1	D	74	ILE
1	D	83	PHE
1	D	96	ASN
1	D	98	LYS
1	D	127	SER
1	D	130	GLN
1	D	146	SER
1	D	149	THR
1	D	150	LEU
1	D	157	VAL
1	D	165	CYS
1	D	171	PHE
1	D	181	ILE
1	D	188	LYS
1	D	191	THR
1	D	197	SER
1	D	210	ILE
1	D	219	THR
1	D	231	LEU
1	D	235	LYS
1	E	38	GLU
1	E	41	ARG
1	E	47	ILE
1	E	65	ILE
1	E	66	ASN
1	E	115	TRP
1	E	122	LEU
1	E	126	SER
1	E	127	SER
1	E	139	VAL

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Mol	Chain	Res	Type
1	E	157	VAL
1	E	160	THR
1	E	201	LEU
1	E	210	ILE
1	E	240	ARG
1	F	36	LEU
1	F	43	ARG
1	F	47	ILE
1	F	64	SER
1	F	80	THR
1	F	91	PRO
1	F	101	SER
1	F	117	THR
1	F	127	SER
1	F	130	GLN
1	F	154	LEU
1	F	177	ARG
1	F	181	ILE
1	F	191	THR
1	F	210	ILE
1	F	228	SER
1	F	231	LEU
1	G	27	ARG
1	G	38	GLU
1	G	63	SER
1	G	64	SER
1	G	67	VAL
1	G	69	LEU
1	G	74	ILE
1	G	80	THR
1	G	84	ILE
1	G	101	SER
1	G	127	SER
1	G	138	SER
1	G	139	VAL
1	G	146	SER
1	G	156	GLU
1	G	157	VAL
1	G	159	LEU
1	G	197	SER
1	G	206	VAL
1	G	219	THR

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Mol	Chain	Res	Type
1	G	237	THR
1	H	37	GLN
1	H	40	SER
1	H	74	ILE
1	H	87	LYS
1	H	108	GLN
1	H	110	GLU
1	H	116	THR
1	H	136	LEU
1	H	138	SER
1	H	158	LEU
1	H	165	CYS
1	H	201	LEU
1	H	204	LYS
1	H	206	VAL
1	H	213	TYR
1	H	219	THR
1	H	237	THR
1	I	20	HIS
1	I	40	SER
1	I	47	ILE
1	I	74	ILE
1	I	75	LYS
1	I	79	ARG
1	I	80	THR
1	I	104	ILE
1	I	110	GLU
1	I	122	LEU
1	I	149	THR
1	I	155	GLN
1	I	157	VAL
1	I	160	THR
1	I	170	LEU
1	I	189	THR
1	I	190	GLN
1	I	193	PHE
1	I	206	VAL
1	I	216	LYS
1	I	224	TYR
1	J	33	VAL
1	J	38	GLU
1	J	68	THR

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Mol	Chain	Res	Type
1	J	74	ILE
1	J	90	ILE
1	J	110	GLU
1	J	123	ARG
1	J	148	SER
1	J	157	VAL
1	J	174	ASN
1	J	177	ARG
1	J	179	THR
1	J	185	ASP
1	J	187	LYS
1	J	194	LYS
1	J	206	VAL
1	J	215	ASN
1	J	228	SER
1	J	231	LEU
1	J	241	LEU
1	K	47	ILE
1	K	51	LYS
1	K	54	VAL
1	K	68	THR
1	K	98	LYS
1	K	102	ASN
1	K	119	VAL
1	K	128	LYS
1	K	131	VAL
1	K	153	THR
1	K	157	VAL
1	K	165	CYS
1	K	176	SER
1	K	205	ASP
1	K	206	VAL
1	K	233	TRP
1	K	236	ARG
1	L	25	HIS
1	L	26	SER
1	L	40	SER
1	L	43	ARG
1	L	98	LYS
1	L	101	SER
1	L	116	THR
1	L	117	THR

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Mol	Chain	Res	Type
1	L	127	SER
1	L	130	GLN
1	L	138	SER
1	L	170	LEU
1	L	177	ARG
1	L	181	ILE
1	L	189	THR
1	L	191	THR
1	L	228	SER
1	L	231	LEU

Some sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (39) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	20	HIS
1	A	59	HIS
1	A	108	GLN
1	A	155	GLN
1	B	66	ASN
1	B	82	GLN
1	B	108	GLN
1	B	135	GLN
1	B	162	GLN
1	C	59	HIS
1	C	99	ASN
1	C	102	ASN
1	C	190	GLN
1	D	96	ASN
1	D	99	ASN
1	D	108	GLN
1	D	162	GLN
1	D	208	GLN
1	E	108	GLN
1	E	135	GLN
1	E	155	GLN
1	E	190	GLN
1	E	215	ASN
1	F	130	GLN
1	H	61	GLN
1	H	77	GLN
1	H	92	HIS
1	H	190	GLN

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Mol	Chain	Res	Type
1	I	25	HIS
1	I	135	GLN
1	I	208	GLN
1	I	215	ASN
1	J	20	HIS
1	J	155	GLN
1	K	25	HIS
1	K	73	ASN
1	K	102	ASN
1	L	130	GLN
1	L	135	GLN

### 5.3.3 RNA [i](#)

There are no RNA molecules in this entry.

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

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 18 ligands modelled in this entry, 3 are monoatomic - leaving 15 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	SO4	B	301	-	4,4,4	1.05	0	6,6,6	0.77	0
2	SO4	B	302	-	4,4,4	1.62	1 (25%)	6,6,6	1.09	1 (16%)
2	SO4	B	303	-	4,4,4	0.48	0	6,6,6	0.27	0

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z  > 2	Counts	RMSZ	# Z  > 2
2	SO4	B	304	-	4,4,4	0.60	0	6,6,6	0.70	0
2	SO4	D	301	-	4,4,4	0.66	0	6,6,6	0.58	0
2	SO4	D	302	-	4,4,4	0.69	0	6,6,6	0.75	0
2	SO4	D	303	-	4,4,4	0.49	0	6,6,6	0.41	0
2	SO4	E	301	-	4,4,4	0.63	0	6,6,6	0.52	0
2	SO4	F	301	-	4,4,4	1.36	0	6,6,6	0.45	0
2	SO4	F	302	-	4,4,4	0.87	0	6,6,6	0.43	0
2	SO4	F	303	-	4,4,4	0.56	0	6,6,6	0.48	0
2	SO4	I	301	-	4,4,4	0.43	0	6,6,6	0.45	0
2	SO4	I	302	-	4,4,4	0.44	0	6,6,6	0.16	0
2	SO4	L	301	-	4,4,4	0.53	0	6,6,6	0.59	0
2	SO4	L	302	-	4,4,4	0.38	0	6,6,6	0.21	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	SO4	B	301	-	-	0/0/0/0	0/0/0/0
2	SO4	B	302	-	-	0/0/0/0	0/0/0/0
2	SO4	B	303	-	-	0/0/0/0	0/0/0/0
2	SO4	B	304	-	-	0/0/0/0	0/0/0/0
2	SO4	D	301	-	-	0/0/0/0	0/0/0/0
2	SO4	D	302	-	-	0/0/0/0	0/0/0/0
2	SO4	D	303	-	-	0/0/0/0	0/0/0/0
2	SO4	E	301	-	-	0/0/0/0	0/0/0/0
2	SO4	F	301	-	-	0/0/0/0	0/0/0/0
2	SO4	F	302	-	-	0/0/0/0	0/0/0/0
2	SO4	F	303	-	-	0/0/0/0	0/0/0/0
2	SO4	I	301	-	-	0/0/0/0	0/0/0/0
2	SO4	I	302	-	-	0/0/0/0	0/0/0/0
2	SO4	L	301	-	-	0/0/0/0	0/0/0/0
2	SO4	L	302	-	-	0/0/0/0	0/0/0/0

All (1) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	B	302	SO4	O4-S	2.18	1.55	1.47

All (1) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed( $^{\circ}$ )	Ideal( $^{\circ}$ )
2	B	302	SO4	O2-S-O1	-2.34	102.09	109.50

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

4 monomers are involved in 5 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
2	B	301	SO4	1	0
2	D	303	SO4	1	0
2	I	302	SO4	1	0
2	L	301	SO4	2	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	224/226 (99%)	0.24	12 (5%) 29 11	53, 79, 114, 155	2 (0%)
1	B	226/226 (100%)	-0.45	0 100 100	26, 39, 61, 91	3 (1%)
1	C	226/226 (100%)	-0.19	2 (0%) 85 64	44, 62, 91, 127	3 (1%)
1	D	226/226 (100%)	-0.38	1 (0%) 93 80	40, 49, 73, 97	3 (1%)
1	E	226/226 (100%)	-0.33	0 100 100	47, 54, 76, 101	3 (1%)
1	F	226/226 (100%)	-0.51	1 (0%) 93 80	28, 39, 67, 120	3 (1%)
1	G	226/226 (100%)	-0.45	1 (0%) 93 80	35, 44, 81, 149	3 (1%)
1	H	221/226 (97%)	-0.03	5 (2%) 64 33	57, 75, 114, 173	3 (1%)
1	I	226/226 (100%)	-0.43	0 100 100	34, 46, 77, 117	3 (1%)
1	J	226/226 (100%)	-0.17	3 (1%) 79 53	58, 69, 103, 151	3 (1%)
1	K	226/226 (100%)	0.44	8 (3%) 48 21	87, 115, 202, 314	3 (1%)
1	L	226/226 (100%)	0.68	24 (10%) 8 3	71, 102, 152, 183	3 (1%)
All	All	2705/2712 (99%)	-0.13	57 (2%) 67 36	26, 62, 129, 314	35 (1%)

All (57) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	L	216	LYS	6.2
1	L	241	LEU	5.6
1	L	169	ARG	5.5
1	A	218	GLY	5.0
1	J	241	LEU	4.8
1	A	241	LEU	4.5
1	K	115	TRP	4.2
1	A	170	LEU	4.2
1	L	172	HIS	4.0
1	L	145	VAL	3.2
1	H	241	LEU	3.2

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Mol	Chain	Res	Type	RSRZ
1	K	203	CYS	3.1
1	L	166	GLN	3.1
1	L	189	THR	3.0
1	L	146	SER	2.9
1	A	145	VAL	2.9
1	G	241	LEU	2.9
1	K	205	ASP	2.8
1	A	217	LYS	2.8
1	L	223	VAL	2.7
1	J	100	PHE	2.6
1	L	129	ALA	2.6
1	L	127	SER	2.6
1	K	56	THR	2.5
1	A	219	THR	2.5
1	K	125	PRO	2.5
1	L	217	LYS	2.4
1	L	170	LEU	2.4
1	K	128	LYS	2.4
1	K	240	ARG	2.3
1	F	128	LYS	2.3
1	L	218	GLY	2.3
1	H	240	ARG	2.3
1	L	144	TYR	2.3
1	A	110	GLU	2.3
1	H	114	LYS	2.2
1	A	179	THR	2.2
1	L	141	GLY	2.2
1	L	87	LYS	2.2
1	A	130	GLN	2.2
1	L	222	GLY	2.1
1	L	128	LYS	2.1
1	L	110	GLU	2.1
1	C	117	THR	2.1
1	L	149	THR	2.1
1	J	240	ARG	2.1
1	H	97	PRO	2.1
1	A	24	PRO	2.1
1	H	116	THR	2.1
1	L	219	THR	2.1
1	D	169	ARG	2.1
1	A	189	THR	2.0
1	A	240	ARG	2.0

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Mol	Chain	Res	Type	RSRZ
1	L	167	CYS	2.0
1	C	98	LYS	2.0
1	K	82	GLN	2.0
1	L	92	HIS	2.0

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

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

## 6.3 Carbohydrates [i](#)

There are no carbohydrates 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. 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
3	CL	C	301	1/1	0.94	0.31	2.52	54,54,54,54	0
2	SO4	B	304	5/5	0.89	0.20	2.19	69,71,75,78	0
2	SO4	E	301	5/5	0.95	0.28	1.82	65,66,68,71	0
2	SO4	I	301	5/5	0.95	0.17	1.75	67,69,70,73	0
2	SO4	L	302	5/5	0.64	0.41	1.36	132,140,145,147	0
2	SO4	D	302	5/5	0.93	0.17	0.29	72,76,79,80	0
2	SO4	L	301	5/5	0.84	0.29	-0.24	87,87,88,92	0
2	SO4	F	302	5/5	0.98	0.12	-0.90	43,44,46,47	0
2	SO4	D	303	5/5	0.95	0.18	-1.13	66,67,67,68	0
2	SO4	D	301	5/5	0.97	0.16	-1.17	46,48,49,50	0
2	SO4	B	301	5/5	0.97	0.13	-1.20	34,34,36,37	0
2	SO4	B	303	5/5	0.95	0.17	-1.22	82,83,87,88	0
2	SO4	I	302	5/5	0.96	0.12	-1.64	68,69,71,75	0
2	SO4	B	302	5/5	0.98	0.10	-2.44	32,33,35,36	0
2	SO4	F	301	5/5	0.98	0.13	-3.45	35,36,37,38	0
2	SO4	F	303	5/5	0.93	0.24	-	77,81,82,85	0
3	CL	D	304	1/1	0.96	0.21	-	48,48,48,48	0
3	CL	I	303	1/1	0.95	0.10	-	44,44,44,44	0

## 6.5 Other polymers [i](#)

There are no such residues in this entry.