



Full wwPDB EM Validation Report ⓘ

Jan 4, 2026 – 01:25 AM JST

PDB ID : 9LKL / pdb_00009lkl
EMDB ID : EMD-63181
Title : Cryo-EM map of C1ql1-gC1q hexamer and BAI3-eCUB complex
Authors : Liao, L.; Niu, F.; Wei, Z.
Deposited on : 2025-01-16
Resolution : 3.48 Å(reported)
Based on initial models : ., 4qq2

This is a Full wwPDB EM Validation Report for a publicly released PDB entry.

We welcome your comments at validation@mail.wwpdb.org

A user guide is available at

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

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

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

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

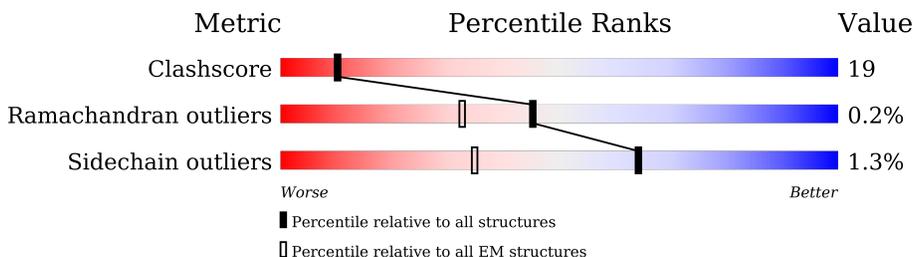
EMDB validation analysis : **FAILED**
MolProbity : 4-5-2 with Phenix2.0
Percentile statistics : 20231227.v01 (using entries in the PDB archive December 27th 2023)
EM percentile statistics : **NOT EXECUTED**
MapQ : **FAILED**
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.47

1 Overall quality at a glance i

The following experimental techniques were used to determine the structure:
ELECTRON MICROSCOPY

The reported resolution of this entry is 3.48 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.



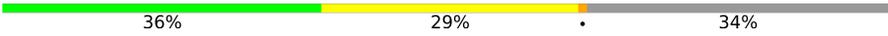
Metric	Whole archive (#Entries)	EM structures (#Entries)
Clashscore	210492	15764
Ramachandran outliers	207382	16835
Sidechain outliers	206894	16415

The table below summarises the geometric issues observed across the polymeric chains and their fit to the map. The red, orange, yellow and green segments of the bar indicate the fraction of residues that contain outliers for ≥ 3 , 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions $\leq 5\%$

Mol	Chain	Length	Quality of chain
1	A	140	58% 35% 6%
1	B	140	66% 29% 6%
1	C	140	64% 31% 6%
1	F	140	68% 26% 6%
1	G	140	62% 31% 6%
1	H	140	64% 31% 6%
2	D	238	33% 31% 34%
2	E	238	46% 19% 34%
2	I	238	44% 21% 34%

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Mol	Chain	Length	Quality of chain
2	J	238	 <p>A horizontal bar chart representing the quality of chain. The bar is divided into three segments: a green segment on the left labeled '36%', a yellow segment in the middle labeled '29%', and a grey segment on the right labeled '34%'. A small black dot is located at the end of the grey segment.</p>

2 Entry composition i

There are 3 unique types of molecules in this entry. The entry contains 11279 atoms, of which 0 are hydrogens and 0 are deuteriums.

In the tables below, 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 C1q-related factor.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
1	A	132	1017	643	170	200	4	0	0
1	B	132	1017	643	170	200	4	0	0
1	C	132	1017	643	170	200	4	0	0
1	F	132	1017	643	170	200	4	0	0
1	G	132	1017	643	170	200	4	0	0
1	H	132	1017	643	170	200	4	0	0

There are 36 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	119	GLY	-	expression tag	UNP O88992
A	120	PRO	-	expression tag	UNP O88992
A	121	GLY	-	expression tag	UNP O88992
A	122	SER	-	expression tag	UNP O88992
A	123	GLU	-	expression tag	UNP O88992
A	124	PHE	-	expression tag	UNP O88992
B	119	GLY	-	expression tag	UNP O88992
B	120	PRO	-	expression tag	UNP O88992
B	121	GLY	-	expression tag	UNP O88992
B	122	SER	-	expression tag	UNP O88992
B	123	GLU	-	expression tag	UNP O88992
B	124	PHE	-	expression tag	UNP O88992
C	119	GLY	-	expression tag	UNP O88992
C	120	PRO	-	expression tag	UNP O88992
C	121	GLY	-	expression tag	UNP O88992
C	122	SER	-	expression tag	UNP O88992
C	123	GLU	-	expression tag	UNP O88992
C	124	PHE	-	expression tag	UNP O88992

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Chain	Residue	Modelled	Actual	Comment	Reference
F	119	GLY	-	expression tag	UNP O88992
F	120	PRO	-	expression tag	UNP O88992
F	121	GLY	-	expression tag	UNP O88992
F	122	SER	-	expression tag	UNP O88992
F	123	GLU	-	expression tag	UNP O88992
F	124	PHE	-	expression tag	UNP O88992
G	119	GLY	-	expression tag	UNP O88992
G	120	PRO	-	expression tag	UNP O88992
G	121	GLY	-	expression tag	UNP O88992
G	122	SER	-	expression tag	UNP O88992
G	123	GLU	-	expression tag	UNP O88992
G	124	PHE	-	expression tag	UNP O88992
H	119	GLY	-	expression tag	UNP O88992
H	120	PRO	-	expression tag	UNP O88992
H	121	GLY	-	expression tag	UNP O88992
H	122	SER	-	expression tag	UNP O88992
H	123	GLU	-	expression tag	UNP O88992
H	124	PHE	-	expression tag	UNP O88992

- Molecule 2 is a protein called Adhesion G protein-coupled receptor B3.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
2	D	158	1294	841	208	232	13	0	0
2	E	158	1294	841	208	232	13	0	0
2	I	157	1287	837	207	230	13	0	0
2	J	158	1294	841	208	232	13	0	0

There are 36 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
D	22	ALA	-	expression tag	UNP O60242
D	23	GLY	-	expression tag	UNP O60242
D	24	SER	ALA	conflict	UNP O60242
D	254	GLU	-	expression tag	UNP O60242
D	255	ASN	-	expression tag	UNP O60242
D	256	LEU	-	expression tag	UNP O60242
D	257	TYR	-	expression tag	UNP O60242
D	258	PHE	-	expression tag	UNP O60242

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Chain	Residue	Modelled	Actual	Comment	Reference
D	259	GLN	-	expression tag	UNP O60242
E	22	ALA	-	expression tag	UNP O60242
E	23	GLY	-	expression tag	UNP O60242
E	24	SER	ALA	conflict	UNP O60242
E	254	GLU	-	expression tag	UNP O60242
E	255	ASN	-	expression tag	UNP O60242
E	256	LEU	-	expression tag	UNP O60242
E	257	TYR	-	expression tag	UNP O60242
E	258	PHE	-	expression tag	UNP O60242
E	259	GLN	-	expression tag	UNP O60242
I	22	ALA	-	expression tag	UNP O60242
I	23	GLY	-	expression tag	UNP O60242
I	24	SER	ALA	conflict	UNP O60242
I	254	GLU	-	expression tag	UNP O60242
I	255	ASN	-	expression tag	UNP O60242
I	256	LEU	-	expression tag	UNP O60242
I	257	TYR	-	expression tag	UNP O60242
I	258	PHE	-	expression tag	UNP O60242
I	259	GLN	-	expression tag	UNP O60242
J	22	ALA	-	expression tag	UNP O60242
J	23	GLY	-	expression tag	UNP O60242
J	24	SER	ALA	conflict	UNP O60242
J	254	GLU	-	expression tag	UNP O60242
J	255	ASN	-	expression tag	UNP O60242
J	256	LEU	-	expression tag	UNP O60242
J	257	TYR	-	expression tag	UNP O60242
J	258	PHE	-	expression tag	UNP O60242
J	259	GLN	-	expression tag	UNP O60242

- Molecule 3 is CALCIUM ION (CCD ID: CA) (formula: Ca) (labeled as "Ligand of Interest" by depositor).

Mol	Chain	Residues	Atoms	AltConf
3	A	1	Total Ca 1 1	0
3	B	2	Total Ca 2 2	0
3	C	1	Total Ca 1 1	0
3	F	1	Total Ca 1 1	0
3	G	2	Total Ca 2 2	0

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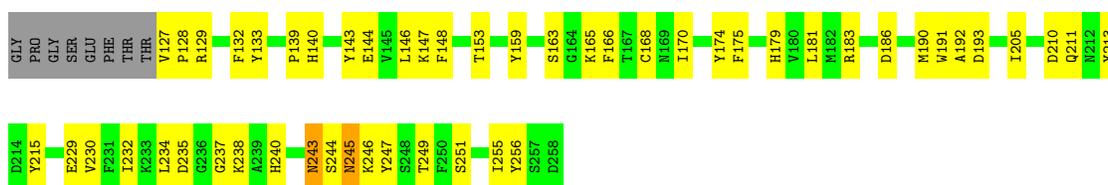
Mol	Chain	Residues	Atoms		AltConf
3	H	1	Total 1	Ca 1	0

3 Residue-property plots [i](#)

These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry. 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. 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: C1q-related factor

Chain A: 



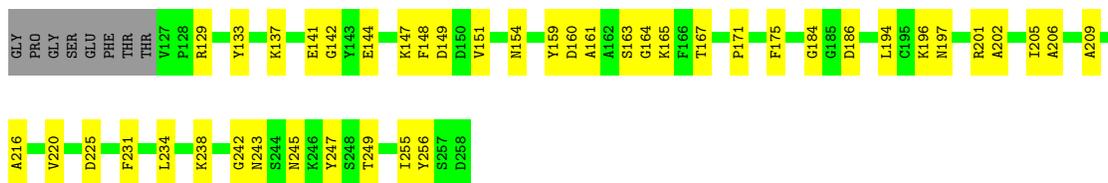
- Molecule 1: C1q-related factor

Chain B: 



- Molecule 1: C1q-related factor

Chain C: 



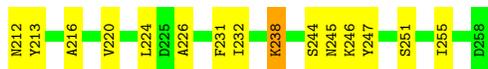
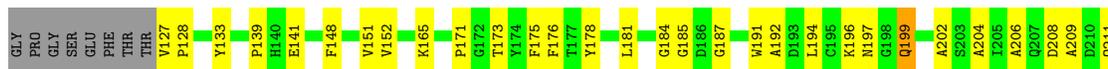
- Molecule 1: C1q-related factor

Chain F: 





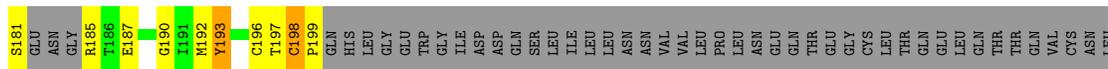
• Molecule 1: C1q-related factor



• Molecule 1: C1q-related factor



• Molecule 2: Adhesion G protein-coupled receptor B3



• Molecule 2: Adhesion G protein-coupled receptor B3



4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, C1	Depositor
Number of particles used	143870	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	NONE	Depositor
Microscope	TFS KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/\text{\AA}^2$)	50	Depositor
Minimum defocus (nm)	1500	Depositor
Maximum defocus (nm)	2500	Depositor
Magnification	Not provided	
Image detector	GATAN K3 (6k x 4k)	Depositor

5 Model quality

5.1 Standard geometry

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

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	0.50	0/1042	0.65	0/1410
1	B	0.43	0/1042	0.63	1/1410 (0.1%)
1	C	0.35	0/1042	0.55	0/1410
1	F	0.65	0/1042	0.86	2/1410 (0.1%)
1	G	0.56	0/1042	0.74	0/1410
1	H	0.49	0/1042	0.69	0/1410
2	D	0.64	0/1329	0.80	0/1791
2	E	0.41	0/1329	0.65	1/1791 (0.1%)
2	I	0.44	0/1322	0.65	1/1781 (0.1%)
2	J	0.57	0/1329	0.77	0/1791
All	All	0.51	0/11561	0.71	5/15614 (0.0%)

There are no bond length outliers.

All (5) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	E	168	CYS	CB-CA-C	-8.92	95.99	110.79
2	I	192	MET	CA-C-O	-6.50	113.90	122.03
1	B	169	ASN	N-CA-C	-5.99	106.58	114.31
1	F	237	GLY	CA-C-O	-5.79	118.28	122.45
1	F	187	GLY	CA-C-O	-5.62	118.08	122.52

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts

In the following table, the Non-H and H(model) columns list the number of non-hydrogen atoms and hydrogen atoms in the chain respectively. The H(added) column lists the number of hydrogen

atoms added and optimized by MolProbity. The Clashes column lists the number of clashes within the asymmetric unit, whereas Symm-Clashes lists symmetry-related clashes.

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	1017	0	946	49	0
1	B	1017	0	946	32	0
1	C	1017	0	946	36	0
1	F	1017	0	946	26	0
1	G	1017	0	946	49	0
1	H	1017	0	946	44	0
2	D	1294	0	1256	64	0
2	E	1294	0	1256	40	0
2	I	1287	0	1249	45	0
2	J	1294	0	1256	70	0
3	A	1	0	0	0	0
3	B	2	0	0	0	0
3	C	1	0	0	0	0
3	F	1	0	0	0	0
3	G	2	0	0	0	0
3	H	1	0	0	0	0
All	All	11279	0	10693	414	0

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 19.

All (414) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:E:73:PHE:HE1	2:E:119:VAL:HB	1.15	1.04
2:J:120:PHE:CE2	2:J:178:CYS:HB2	1.96	1.01
1:C:137:LYS:HG3	1:C:243:ASN:HA	1.49	0.95
2:J:177:SER:HA	2:J:180:LYS:HE3	1.50	0.93
2:E:73:PHE:CE1	2:E:119:VAL:HB	2.05	0.92
1:A:168:CYS:SG	1:A:174:TYR:CE1	2.66	0.89
2:D:72:LYS:HE3	2:D:174:TRP:CE2	2.07	0.89
2:J:171:LEU:HD12	2:J:174:TRP:HE1	1.36	0.88
1:C:147:LYS:HA	1:C:164:GLY:HA3	1.57	0.86
2:D:68:SER:HB2	2:D:160:LYS:HE2	1.58	0.86
2:D:171:LEU:HA	2:D:174:TRP:NE1	1.91	0.84
1:C:206:ALA:HB2	1:H:216:ALA:HB2	1.59	0.84
2:J:39:TYR:HD1	2:J:156:LEU:HD13	1.44	0.82
2:D:171:LEU:HA	2:D:174:TRP:CE2	2.15	0.81
2:E:190:GLY:HA2	2:E:193:TYR:CZ	2.16	0.81

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:I:72:LYS:HZ2	2:I:174:TRP:HE3	1.28	0.79
1:C:202:ALA:HB2	1:H:220:VAL:HG21	1.64	0.79
1:G:176:PHE:HE2	1:G:224:LEU:HD11	1.47	0.78
1:A:168:CYS:SG	1:A:174:TYR:CZ	2.76	0.78
1:B:149:ASP:HA	1:B:161:ALA:HB1	1.66	0.77
2:D:120:PHE:HE2	2:D:178:CYS:HB2	1.50	0.76
2:I:122:GLN:HE22	2:I:192:MET:HB2	1.51	0.75
1:G:133:TYR:HB2	1:H:221:ILE:HB	1.68	0.75
2:J:72:LYS:HD2	2:J:174:TRP:HB3	1.68	0.74
2:D:72:LYS:HZ1	2:D:174:TRP:CG	2.05	0.74
2:J:156:LEU:HD22	2:J:174:TRP:HH2	1.51	0.74
2:J:42:TYR:CE2	2:J:155:PHE:HE1	2.06	0.73
1:H:137:LYS:HD3	1:H:149:ASP:HB3	1.71	0.73
1:G:133:TYR:CZ	1:H:220:VAL:HG13	2.24	0.73
1:G:194:LEU:HB3	1:G:202:ALA:HB3	1.71	0.72
1:A:140:HIS:HB2	1:A:146:LEU:CD2	2.19	0.72
2:J:120:PHE:CE1	2:J:174:TRP:HB2	2.25	0.72
2:D:199:PRO:HD3	2:I:199:PRO:HD2	1.72	0.71
1:C:201:ARG:HD2	1:H:222:LEU:HD22	1.72	0.71
2:I:124:ASP:OD2	2:I:160:LYS:NZ	2.22	0.70
1:G:148:PHE:CE1	1:G:232:ILE:HD12	2.26	0.70
1:G:133:TYR:HD1	1:G:251:SER:HB3	1.56	0.69
1:A:183:ARG:HA	1:A:240:HIS:HB2	1.74	0.69
2:J:190:GLY:HA2	2:J:193:TYR:CE2	2.26	0.69
1:A:181:LEU:HD11	1:A:213:TYR:HB3	1.75	0.69
2:I:90:PHE:HE1	2:I:129:GLN:HB2	1.58	0.69
2:E:111:LEU:HD21	2:E:121:LEU:HD11	1.75	0.68
1:C:196:LYS:HE2	1:C:201:ARG:HE	1.58	0.68
2:D:125:LYS:HG3	2:D:126:ASN:H	1.59	0.67
2:D:72:LYS:HE3	2:D:174:TRP:CD2	2.29	0.67
2:J:171:LEU:HA	2:J:174:TRP:CE2	2.30	0.66
2:E:120:PHE:HE2	2:E:174:TRP:HB2	1.61	0.66
2:J:120:PHE:HE2	2:J:178:CYS:HB2	1.56	0.66
2:J:53:THR:HG23	2:J:134:PHE:HB3	1.78	0.65
2:J:56:THR:HG21	2:J:98:ILE:HD13	1.79	0.65
2:D:180:LYS:O	2:D:181:SER:C	2.40	0.64
1:F:155:LEU:HD11	1:G:173:THR:HG21	1.79	0.64
1:C:201:ARG:HD2	1:H:222:LEU:CD2	2.26	0.64
2:D:90:PHE:HE1	2:D:129:GLN:HB2	1.63	0.64
2:J:29:TRP:HZ2	2:J:96:GLU:HA	1.62	0.64
2:J:47:MET:HE2	2:J:48:PHE:CZ	2.33	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:128:PRO:HB3	1:A:170:ILE:HD13	1.80	0.64
1:A:191:TRP:HB2	1:A:235:ASP:O	1.98	0.63
1:B:223:HIS:NE2	1:B:258:ASP:OD2	2.31	0.63
1:G:148:PHE:HE1	1:G:232:ILE:HD12	1.62	0.63
2:D:176:GLU:HA	2:D:179:LEU:HD12	1.81	0.63
1:F:128:PRO:HB3	1:F:170:ILE:HD13	1.81	0.62
1:C:149:ASP:O	1:C:161:ALA:HB1	1.99	0.62
2:D:175:LEU:HD11	2:D:193:TYR:HE1	1.63	0.62
1:C:151:VAL:HG21	1:C:154:ASN:HB2	1.82	0.62
1:C:245:ASN:HB3	1:C:247:TYR:CE1	2.35	0.62
2:E:66:LYS:HD2	2:E:67:TYR:CZ	2.34	0.62
1:F:204:ALA:HA	1:H:215:TYR:OH	2.00	0.62
1:C:165:LYS:HG3	1:C:231:PHE:HB3	1.82	0.61
1:C:175:PHE:HB2	1:C:255:ILE:HD11	1.82	0.61
1:H:181:LEU:HD13	1:H:215:TYR:CD1	2.34	0.61
1:G:196:LYS:HZ1	1:G:224:LEU:HA	1.66	0.61
1:B:171:PRO:HG3	1:B:226:ALA:HB2	1.82	0.61
1:C:160:ASP:HB2	1:C:163:SER:OG	2.00	0.61
1:B:191:TRP:NE1	1:B:205:ILE:HD13	2.16	0.61
1:A:245:ASN:HB3	1:A:247:TYR:CE1	2.36	0.60
1:F:183:ARG:HB2	1:F:238:LYS:O	2.01	0.60
2:D:175:LEU:HD11	2:D:193:TYR:CE1	2.36	0.60
2:J:75:LYS:HD2	2:J:78:LEU:HD22	1.83	0.60
2:J:62:PRO:HG2	2:J:67:TYR:HD2	1.66	0.60
2:I:90:PHE:CE1	2:I:129:GLN:HB2	2.35	0.60
2:I:100:ASP:HA	2:I:103:ARG:HD2	1.84	0.60
2:J:76:LYS:HB2	2:J:150:LYS:HB2	1.83	0.60
2:J:120:PHE:HE1	2:J:174:TRP:HB2	1.64	0.59
1:C:245:ASN:HB3	1:C:247:TYR:HE1	1.67	0.59
2:E:102:LEU:HD23	2:E:108:ILE:HD13	1.84	0.59
2:J:156:LEU:HD22	2:J:174:TRP:CH2	2.35	0.59
2:D:72:LYS:HZ1	2:D:174:TRP:CD1	2.21	0.59
1:G:185:GLY:H	1:G:211:GLN:HB3	1.65	0.59
1:A:243:ASN:N	1:A:243:ASN:OD1	2.36	0.59
1:H:187:GLY:HA2	1:H:209:ALA:HB2	1.85	0.59
2:D:56:THR:HG22	2:D:131:ARG:HA	1.85	0.59
1:H:175:PHE:HB2	1:H:255:ILE:HD11	1.83	0.59
2:I:171:LEU:HA	2:I:174:TRP:NE1	2.18	0.59
2:J:166:PHE:O	2:J:170:VAL:HG22	2.03	0.59
1:B:138:ASN:HB3	2:D:92:HIS:NE2	2.19	0.58
2:D:86:LEU:HG	2:D:110:GLN:HG2	1.85	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:H:180:VAL:O	1:H:216:ALA:N	2.32	0.58
2:J:171:LEU:HA	2:J:174:TRP:NE1	2.17	0.58
1:B:191:TRP:CD1	1:B:205:ILE:HD13	2.38	0.58
1:A:146:LEU:HD12	1:A:232:ILE:HG21	1.86	0.58
1:H:181:LEU:HD13	1:H:215:TYR:CE1	2.37	0.58
1:A:133:TYR:HD1	1:A:251:SER:HB3	1.68	0.58
2:E:56:THR:HG21	2:E:98:ILE:HD13	1.85	0.58
2:J:39:TYR:CD1	2:J:156:LEU:HD13	2.32	0.57
1:F:210:ASP:OD2	1:G:209:ALA:HB2	2.03	0.57
1:A:245:ASN:HB3	1:A:247:TYR:HE1	1.70	0.57
1:F:202:ALA:HB2	1:F:220:VAL:HG11	1.87	0.57
2:J:29:TRP:HZ3	2:J:31:SER:HB2	1.68	0.57
2:E:90:PHE:CE1	2:E:129:GLN:HB2	2.39	0.57
2:I:180:LYS:O	2:I:181:SER:C	2.48	0.57
1:G:191:TRP:CD2	2:J:66:LYS:HE2	2.39	0.57
1:H:183:ARG:HH11	1:H:241:GLY:H	1.53	0.57
2:J:53:THR:CG2	2:J:134:PHE:HB3	2.34	0.57
1:F:181:LEU:HD11	1:F:213:TYR:HB3	1.86	0.57
1:B:191:TRP:HB2	1:B:235:ASP:O	2.04	0.57
2:D:197:THR:OG1	2:I:197:THR:HB	2.04	0.57
2:J:175:LEU:O	2:J:179:LEU:HG	2.05	0.57
1:B:202:ALA:HB2	1:B:220:VAL:HG11	1.87	0.56
1:A:191:TRP:NE1	1:A:205:ILE:HD12	2.20	0.56
1:B:138:ASN:HB3	2:D:92:HIS:CE1	2.40	0.56
1:A:140:HIS:HB2	1:A:146:LEU:HD23	1.87	0.56
2:D:165:GLN:O	2:D:169:HIS:HB3	2.06	0.56
2:J:42:TYR:HE2	2:J:155:PHE:HE1	1.54	0.56
2:J:72:LYS:CD	2:J:174:TRP:HB3	2.35	0.56
1:F:165:LYS:HG2	1:F:231:PHE:HB3	1.88	0.55
1:H:179:HIS:HA	1:H:217:SER:HB3	1.89	0.55
1:C:133:TYR:HE1	1:C:249:THR:HB	1.71	0.55
2:J:48:PHE:CD1	2:J:132:ARG:HD3	2.41	0.55
2:J:170:VAL:HA	2:J:173:THR:HG23	1.88	0.55
2:D:43:SER:O	2:D:46:GLU:HG2	2.06	0.55
1:B:129:ARG:CZ	1:C:256:TYR:HB3	2.36	0.55
1:G:165:LYS:HG2	1:G:231:PHE:HB3	1.89	0.55
2:J:29:TRP:CZ3	2:J:31:SER:HB2	2.42	0.55
1:F:245:ASN:HB3	1:F:247:TYR:CE1	2.41	0.55
1:G:244:SER:O	1:G:246:LYS:HG3	2.06	0.55
2:J:30:CYS:N	2:J:55:CYS:SG	2.80	0.55
2:E:121:LEU:HB3	2:E:123:TYR:CE1	2.42	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:190:GLY:HA2	2:D:193:TYR:CZ	2.42	0.55
2:I:171:LEU:HA	2:I:174:TRP:HE1	1.72	0.55
2:D:89:GLN:HG2	2:D:128:ILE:HG12	1.89	0.54
2:E:100:ASP:OD1	2:E:104:LYS:HE3	2.07	0.54
1:H:165:LYS:HG2	1:H:231:PHE:HB3	1.87	0.54
2:E:175:LEU:HD11	2:E:193:TYR:HE1	1.71	0.54
1:G:192:ALA:HB3	1:G:204:ALA:HB3	1.89	0.54
1:H:220:VAL:HG12	1:H:222:LEU:HG	1.89	0.54
1:A:244:SER:O	1:A:246:LYS:HG3	2.07	0.54
2:D:168:CYS:O	2:D:172:CYS:SG	2.65	0.54
2:J:110:GLN:C	2:J:111:LEU:HD12	2.32	0.54
1:C:184:GLY:HA2	1:H:188:THR:HG21	1.89	0.54
2:I:90:PHE:O	2:I:127:PHE:HB2	2.07	0.54
1:H:128:PRO:O	1:H:130:VAL:HG23	2.07	0.54
2:D:114:SER:HB2	2:D:119:VAL:HG21	1.88	0.54
2:J:45:SER:HA	2:J:48:PHE:O	2.08	0.54
2:J:169:HIS:O	2:J:172:CYS:HB2	2.08	0.53
1:A:186:ASP:OD2	1:A:238:LYS:HG3	2.08	0.53
2:E:89:GLN:HE21	2:E:123:TYR:HB3	1.73	0.53
2:D:169:HIS:O	2:D:173:THR:HG23	2.08	0.53
1:C:196:LYS:HE2	1:C:201:ARG:NE	2.23	0.53
1:B:151:VAL:HG13	1:B:161:ALA:HB2	1.91	0.53
2:D:192:MET:O	2:D:193:TYR:C	2.52	0.53
1:A:163:SER:O	1:A:165:LYS:HG3	2.08	0.53
1:H:183:ARG:HB2	1:H:240:HIS:HB2	1.90	0.53
1:C:141:GLU:O	1:C:144:GLU:HG2	2.09	0.53
2:J:171:LEU:HD12	2:J:174:TRP:NE1	2.14	0.53
2:E:161:VAL:HA	2:E:195:LYS:NZ	2.24	0.53
2:D:168:CYS:SG	2:D:198:CYS:HB3	2.49	0.52
1:A:127:VAL:HB	1:A:128:PRO:HD3	1.92	0.52
1:H:183:ARG:NH1	1:H:241:GLY:H	2.06	0.52
2:J:181:SER:HG	2:J:185:ARG:N	2.06	0.52
2:D:73:PHE:CZ	2:D:111:LEU:HB3	2.45	0.52
2:E:91:ASP:OD2	2:E:125:LYS:HD2	2.09	0.52
2:I:75:LYS:HB2	2:I:78:LEU:HB2	1.91	0.52
1:B:233:LYS:HD3	1:B:234:LEU:N	2.25	0.52
1:H:144:GLU:HG2	1:H:145:VAL:N	2.25	0.52
2:D:69:ILE:HD13	2:D:157:VAL:HG12	1.90	0.52
2:J:74:SER:OG	2:J:152:PHE:HB2	2.09	0.52
1:F:213:TYR:HE2	1:F:240:HIS:CD2	2.27	0.52
2:I:76:LYS:HB2	2:I:150:LYS:HB2	1.91	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:140:HIS:HB3	1:A:144:GLU:OE2	2.11	0.51
1:F:245:ASN:O	1:F:246:LYS:C	2.53	0.51
2:I:89:GLN:HG3	2:I:123:TYR:CD2	2.45	0.51
1:C:220:VAL:HG11	1:H:202:ALA:HB2	1.92	0.51
2:I:169:HIS:O	2:I:172:CYS:HB2	2.09	0.51
2:J:52:PHE:O	2:J:132:ARG:NH2	2.43	0.51
2:D:69:ILE:HB	2:D:123:TYR:O	2.10	0.51
1:G:176:PHE:CE2	1:G:224:LEU:HD11	2.37	0.51
2:D:45:SER:HB2	2:D:148:ASP:HB2	1.92	0.51
2:E:168:CYS:O	2:E:171:LEU:HB3	2.11	0.51
2:E:192:MET:O	2:E:193:TYR:C	2.54	0.51
2:I:170:VAL:HB	2:I:174:TRP:CZ2	2.45	0.51
1:F:145:VAL:HA	1:F:233:LYS:HA	1.92	0.51
2:I:170:VAL:HA	2:I:173:THR:HG23	1.91	0.51
1:B:244:SER:O	1:B:246:LYS:HG3	2.11	0.51
2:D:73:PHE:CE1	2:D:111:LEU:HB3	2.46	0.51
1:A:148:PHE:HB2	1:A:159:TYR:OH	2.11	0.51
1:H:133:TYR:HE1	1:H:249:THR:HB	1.76	0.51
2:I:70:TYR:CE2	2:I:158:LEU:HD12	2.46	0.51
2:D:88:TYR:HB3	2:D:108:ILE:HG12	1.94	0.50
2:E:75:LYS:HB2	2:E:78:LEU:HB2	1.93	0.50
1:H:133:TYR:HD1	1:H:251:SER:HB3	1.77	0.50
2:J:44:VAL:HG23	2:J:151:SER:HB2	1.94	0.50
1:C:216:ALA:HB2	1:H:206:ALA:HB2	1.94	0.50
1:H:154:ASN:ND2	1:H:159:TYR:O	2.42	0.50
1:A:181:LEU:HD23	1:A:240:HIS:ND1	2.26	0.50
1:B:165:LYS:HG2	1:B:231:PHE:HB3	1.94	0.49
2:E:71:LEU:O	2:E:120:PHE:HA	2.12	0.49
1:A:129:ARG:NH1	1:B:256:TYR:HB3	2.27	0.49
2:J:42:TYR:CE2	2:J:155:PHE:CE1	2.95	0.49
2:J:175:LEU:HD11	2:J:193:TYR:HE1	1.77	0.49
1:F:178:TYR:HB3	1:F:250:PHE:HD1	1.77	0.49
1:G:247:TYR:HE2	2:I:65:THR:HG21	1.77	0.49
2:I:156:LEU:HD22	2:I:174:TRP:HZ2	1.76	0.49
2:D:69:ILE:HG21	2:D:128:ILE:HD12	1.93	0.49
2:J:72:LYS:CE	2:J:174:TRP:HB3	2.41	0.49
1:A:256:TYR:HB3	1:C:129:ARG:NH1	2.27	0.49
2:D:75:LYS:HB2	2:D:78:LEU:HB2	1.94	0.49
1:C:167:THR:HG23	1:C:167:THR:O	2.11	0.49
2:D:88:TYR:HB3	2:D:108:ILE:HA	1.95	0.49
2:E:42:TYR:HE2	2:E:155:PHE:HE1	1.59	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:178:TYR:HB2	1:G:232:ILE:HD11	1.95	0.49
1:G:251:SER:HB2	1:H:221:ILE:HG13	1.95	0.49
2:I:166:PHE:CZ	2:I:170:VAL:HG11	2.47	0.49
2:J:92:HIS:O	2:J:92:HIS:ND1	2.46	0.49
2:I:89:GLN:HB3	2:I:125:LYS:HG3	1.95	0.48
1:C:186:ASP:HB3	1:C:209:ALA:HB1	1.95	0.48
1:C:197:ASN:HD21	1:H:228:ASP:HA	1.77	0.48
2:D:87:ALA:O	2:D:108:ILE:HA	2.13	0.48
2:E:165:GLN:O	2:E:169:HIS:HB3	2.13	0.48
1:F:147:LYS:HD3	1:F:162:ALA:O	2.12	0.48
2:J:43:SER:O	2:J:46:GLU:HB3	2.12	0.48
1:A:190:MET:CB	1:A:237:GLY:HA3	2.43	0.48
2:D:90:PHE:CE1	2:D:129:GLN:HB2	2.46	0.48
2:J:83:PHE:HA	2:J:135:PRO:HD3	1.96	0.48
2:J:109:MET:HE3	2:J:121:LEU:HD13	1.96	0.48
2:D:116:ASN:O	2:D:119:VAL:HG23	2.14	0.48
2:J:88:TYR:HB3	2:J:108:ILE:HG12	1.96	0.48
1:G:133:TYR:CE2	1:H:220:VAL:HG13	2.48	0.48
2:E:120:PHE:CE2	2:E:174:TRP:HB2	2.45	0.47
1:G:191:TRP:CE3	2:J:66:LYS:HE2	2.49	0.47
1:A:210:ASP:O	1:A:211:GLN:HB2	2.14	0.47
2:I:89:GLN:CD	2:I:125:LYS:HB2	2.39	0.47
1:B:128:PRO:HG2	1:B:257:SER:OG	2.14	0.47
2:D:29:TRP:H	2:D:29:TRP:CD1	2.32	0.47
2:E:171:LEU:HA	2:E:174:TRP:CE2	2.49	0.47
1:G:165:LYS:HG2	1:G:231:PHE:CB	2.44	0.47
1:G:202:ALA:HB2	1:G:220:VAL:HG11	1.95	0.47
1:G:245:ASN:O	1:G:246:LYS:C	2.57	0.47
1:H:148:PHE:HB2	1:H:159:TYR:OH	2.14	0.47
2:J:72:LYS:NZ	2:J:174:TRP:HB3	2.29	0.47
1:G:178:TYR:HE2	1:G:192:ALA:HB1	1.80	0.47
1:G:184:GLY:H	1:G:213:TYR:HE1	1.62	0.47
1:H:129:ARG:HA	1:H:129:ARG:HD3	1.67	0.47
1:A:175:PHE:HB2	1:A:255:ILE:HD11	1.96	0.47
2:E:104:LYS:HD3	2:E:106:HIS:NE2	2.29	0.47
2:E:169:HIS:O	2:E:173:THR:HG23	2.14	0.47
1:F:127:VAL:HB	1:F:128:PRO:HD3	1.96	0.47
1:A:165:LYS:HD3	1:A:229:GLU:OE2	2.14	0.47
1:H:171:PRO:HG3	1:H:226:ALA:HB2	1.96	0.47
1:F:163:SER:O	1:F:165:LYS:HG3	2.15	0.46
2:J:192:MET:O	2:J:193:TYR:C	2.57	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:J:190:GLY:HA2	2:J:193:TYR:CZ	2.50	0.46
1:C:205:ILE:HG21	1:G:213:TYR:HD2	1.79	0.46
2:D:88:TYR:CB	2:D:108:ILE:HG12	2.45	0.46
1:G:194:LEU:HD23	1:G:194:LEU:C	2.41	0.46
2:J:72:LYS:HZ2	2:J:174:TRP:HB3	1.80	0.46
2:J:168:CYS:O	2:J:171:LEU:HB3	2.15	0.46
1:A:179:HIS:HB3	1:A:215:TYR:HD2	1.81	0.46
1:F:215:TYR:OH	1:F:247:TYR:HB3	2.15	0.46
1:G:133:TYR:CE1	1:H:220:VAL:HA	2.51	0.46
1:A:181:LEU:HD22	1:A:247:TYR:HD2	1.81	0.46
2:D:48:PHE:CD1	2:D:132:ARG:HD3	2.51	0.46
2:I:69:ILE:HD12	2:I:157:VAL:HG12	1.97	0.46
1:A:243:ASN:CG	2:E:126:ASN:HD21	2.24	0.46
1:A:129:ARG:NH1	1:B:257:SER:O	2.40	0.45
1:A:168:CYS:SG	1:A:174:TYR:OH	2.58	0.45
2:D:159:ASN:C	2:D:161:VAL:H	2.24	0.45
1:B:151:VAL:CG1	1:B:161:ALA:HB2	2.46	0.45
2:D:42:TYR:HB3	2:D:47:MET:SD	2.57	0.45
1:B:197:ASN:N	1:B:229:GLU:O	2.41	0.45
2:J:69:ILE:HD13	2:J:157:VAL:HG12	1.98	0.45
1:B:133:TYR:HE1	1:B:249:THR:HB	1.82	0.45
1:C:205:ILE:HD13	1:G:213:TYR:HD2	1.81	0.45
2:D:71:LEU:O	2:D:72:LYS:HG3	2.16	0.45
2:E:110:GLN:N	2:E:110:GLN:OE1	2.50	0.45
2:I:168:CYS:O	2:I:172:CYS:SG	2.75	0.45
2:J:43:SER:HB3	2:J:46:GLU:HB2	1.99	0.45
1:C:142:GLY:O	1:C:234:LEU:HD23	2.17	0.45
2:D:32:THR:HG22	2:D:34:VAL:HG23	1.99	0.45
1:H:127:VAL:HG12	1:H:129:ARG:HG2	1.99	0.45
1:H:215:TYR:CE2	1:H:247:TYR:O	2.70	0.45
2:D:72:LYS:NZ	2:D:174:TRP:CG	2.79	0.45
1:G:181:LEU:HD23	1:G:247:TYR:CD2	2.51	0.45
1:A:133:TYR:HE1	1:A:249:THR:HB	1.82	0.44
2:D:71:LEU:HD23	2:D:153:PHE:HZ	1.82	0.44
2:J:28:PHE:CG	2:J:29:TRP:N	2.85	0.44
1:H:139:PRO:HG3	1:H:183:ARG:HH12	1.83	0.44
2:I:72:LYS:HG3	2:I:120:PHE:CE1	2.52	0.44
2:J:29:TRP:CZ2	2:J:95:HIS:O	2.70	0.44
2:J:171:LEU:HA	2:J:174:TRP:CZ2	2.52	0.44
1:A:146:LEU:HD12	1:A:232:ILE:CG2	2.46	0.44
2:J:42:TYR:HE2	2:J:155:PHE:CE1	2.35	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:J:180:LYS:O	2:J:181:SER:C	2.60	0.44
1:A:192:ALA:C	1:A:193:ASP:OD1	2.60	0.44
1:C:154:ASN:ND2	1:C:159:TYR:O	2.50	0.44
2:D:49:PRO:HD2	2:D:52:PHE:HD2	1.83	0.44
2:D:101:LEU:HD23	2:D:104:LYS:HD2	2.00	0.44
1:C:137:LYS:HA	1:C:242:GLY:O	2.18	0.44
1:G:175:PHE:HB2	1:G:255:ILE:HD11	2.00	0.44
1:G:196:LYS:O	1:G:197:ASN:C	2.59	0.44
1:G:247:TYR:CE2	2:I:65:THR:HG21	2.53	0.44
2:J:58:THR:OG1	2:J:129:GLN:NE2	2.51	0.44
1:B:178:TYR:CE1	1:B:218:ASN:HB3	2.53	0.44
1:C:205:ILE:HD13	1:G:213:TYR:CD2	2.53	0.44
2:I:121:LEU:HD13	2:I:123:TYR:HE1	1.83	0.44
2:E:190:GLY:HA2	2:E:193:TYR:CE2	2.53	0.44
1:H:180:VAL:O	1:H:215:TYR:HA	2.18	0.44
1:C:141:GLU:OE1	1:C:238:LYS:HG2	2.18	0.43
2:D:120:PHE:CE2	2:D:178:CYS:HB2	2.40	0.43
1:G:133:TYR:HD2	1:G:152:VAL:HB	1.82	0.43
1:G:199:GLN:H	1:G:199:GLN:CD	2.25	0.43
1:G:171:PRO:HG3	1:G:226:ALA:HB2	1.99	0.43
1:A:215:TYR:OH	1:B:204:ALA:HA	2.19	0.43
2:E:169:HIS:CE1	2:E:170:VAL:HG13	2.53	0.43
2:I:29:TRP:CZ2	2:I:96:GLU:HG2	2.54	0.43
1:B:202:ALA:HB1	1:B:218:ASN:ND2	2.33	0.43
1:F:256:TYR:OH	1:H:254:ILE:HG22	2.19	0.43
1:G:178:TYR:CD1	1:G:194:LEU:HD12	2.53	0.43
2:I:187:GLU:OE1	2:I:187:GLU:N	2.52	0.43
1:A:139:PRO:HB2	1:A:183:ARG:NH2	2.33	0.43
2:I:39:TYR:CE1	2:I:174:TRP:CH2	3.06	0.43
2:J:90:PHE:O	2:J:127:PHE:HB2	2.19	0.43
1:F:149:ASP:HA	1:F:161:ALA:HB1	2.00	0.43
2:J:91:ASP:OD1	2:J:126:ASN:HB3	2.19	0.43
1:C:171:PRO:HB3	1:C:225:ASP:HA	2.00	0.43
2:D:68:SER:O	2:D:157:VAL:HA	2.19	0.43
1:B:188:THR:O	1:B:207:GLN:HA	2.19	0.43
2:E:191:ILE:HG22	2:E:192:MET:SD	2.58	0.43
1:G:139:PRO:HD2	2:I:92:HIS:HD2	1.83	0.43
1:A:190:MET:HA	1:A:237:GLY:HA3	2.01	0.43
2:I:171:LEU:HD23	2:I:171:LEU:C	2.43	0.43
2:J:29:TRP:CZ2	2:J:96:GLU:HA	2.48	0.43
2:J:62:PRO:HG2	2:J:67:TYR:CD2	2.48	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:148:PHE:HB2	1:B:159:TYR:OH	2.19	0.43
2:I:156:LEU:HD22	2:I:174:TRP:CZ2	2.53	0.43
1:B:234:LEU:HA	1:B:234:LEU:HD12	1.83	0.42
2:D:29:TRP:CZ2	2:D:96:GLU:HA	2.54	0.42
2:E:190:GLY:HA2	2:E:193:TYR:CE1	2.52	0.42
1:F:205:ILE:HG22	1:H:215:TYR:HE1	1.83	0.42
2:I:29:TRP:CD1	2:I:29:TRP:H	2.36	0.42
2:I:190:GLY:O	2:I:191:ILE:C	2.62	0.42
2:D:90:PHE:O	2:D:127:PHE:HB2	2.18	0.42
1:F:133:TYR:CZ	1:G:220:VAL:HG12	2.55	0.42
1:G:187:GLY:O	1:G:211:GLN:HG3	2.20	0.42
1:F:240:HIS:CG	1:F:241:GLY:H	2.37	0.42
2:J:176:GLU:O	2:J:180:LYS:HG3	2.18	0.42
1:B:191:TRP:HB3	1:B:235:ASP:HB3	2.00	0.42
2:D:74:SER:OG	2:D:152:PHE:HB2	2.19	0.42
1:A:133:TYR:CD1	1:A:251:SER:HB3	2.53	0.42
1:A:191:TRP:O	1:A:235:ASP:N	2.48	0.42
1:B:133:TYR:CD2	1:B:152:VAL:HB	2.55	0.42
1:A:129:ARG:CZ	1:B:256:TYR:HB3	2.50	0.42
2:D:52:PHE:O	2:D:132:ARG:NH2	2.53	0.42
2:E:171:LEU:HD12	2:E:174:TRP:NE1	2.35	0.42
1:C:194:LEU:HB3	1:C:202:ALA:HB3	2.01	0.42
1:G:151:VAL:HG13	1:G:151:VAL:O	2.20	0.42
2:I:78:LEU:HD11	2:I:85:LEU:CD1	2.50	0.42
2:J:43:SER:H	2:J:46:GLU:HB3	1.84	0.42
1:A:143:TYR:HA	1:A:234:LEU:O	2.20	0.41
1:A:168:CYS:SG	1:A:174:TYR:HE1	2.38	0.41
1:A:191:TRP:HE1	1:A:205:ILE:HD12	1.84	0.41
2:D:69:ILE:CD1	2:D:157:VAL:HG12	2.49	0.41
1:F:194:LEU:C	1:F:194:LEU:HD23	2.45	0.41
1:G:127:VAL:HB	1:G:128:PRO:HD3	2.02	0.41
2:I:181:SER:OG	2:I:187:GLU:OE2	2.34	0.41
1:G:141:GLU:HB2	1:G:238:LYS:HG3	2.01	0.41
2:I:39:TYR:CE1	2:I:174:TRP:HH2	2.38	0.41
2:E:69:ILE:CD1	2:E:157:VAL:HG12	2.50	0.41
2:E:89:GLN:HE21	2:E:123:TYR:HD2	1.69	0.41
1:F:133:TYR:HD1	1:F:251:SER:HB3	1.86	0.41
1:A:243:ASN:OD1	2:E:126:ASN:ND2	2.53	0.41
1:G:199:GLN:H	1:G:199:GLN:NE2	2.19	0.41
1:H:130:VAL:HB	1:H:254:ILE:HB	2.03	0.41
2:I:104:LYS:HD2	2:I:106:HIS:CD2	2.56	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:129:ARG:NH2	1:B:257:SER:H	2.19	0.41
1:C:148:PHE:HB2	1:C:159:TYR:OH	2.21	0.41
1:A:166:PHE:HB3	1:A:230:VAL:HG22	2.02	0.41
2:D:82:ASN:OD1	2:D:83:PHE:N	2.54	0.41
1:H:180:VAL:HG23	1:H:216:ALA:HB3	2.03	0.41
1:A:132:PHE:HA	1:A:153:THR:O	2.20	0.41
2:D:185:ARG:HG3	2:D:187:GLU:HG3	2.02	0.41
2:E:156:LEU:HD22	2:E:174:TRP:HH2	1.85	0.41
2:E:177:SER:O	2:E:180:LYS:HG3	2.21	0.41
1:F:181:LEU:HD13	1:F:215:TYR:CE2	2.56	0.41
1:G:206:ALA:HB2	1:G:216:ALA:HB2	2.03	0.41
1:G:208:ASP:OD2	1:G:212:ASN:HB2	2.20	0.41
2:J:33:LEU:HD23	2:J:58:THR:HB	2.02	0.41
2:E:42:TYR:HB3	2:E:47:MET:SD	2.61	0.41
2:I:48:PHE:HE2	2:I:57:TRP:HB2	1.86	0.41
1:B:143:TYR:HD1	1:B:233:LYS:NZ	2.19	0.40
2:E:70:TYR:CD2	2:E:122:GLN:HB2	2.56	0.40
1:F:128:PRO:HB3	1:F:170:ILE:CD1	2.51	0.40
2:I:122:GLN:HE22	2:I:192:MET:CB	2.27	0.40
2:D:63:ASP:HA	2:D:64:PRO:HD3	1.82	0.40
2:E:175:LEU:CD1	2:E:193:TYR:HE1	2.33	0.40
1:H:201:ARG:HA	1:H:201:ARG:HE	1.86	0.40
1:C:197:ASN:N	1:H:229:GLU:O	2.51	0.40
2:D:159:ASN:C	2:D:161:VAL:N	2.80	0.40
1:G:181:LEU:HD23	1:G:247:TYR:HD2	1.85	0.40
2:I:74:SER:OG	2:I:152:PHE:HB2	2.22	0.40
1:B:184:GLY:HA3	1:B:213:TYR:CE1	2.56	0.40
1:A:147:LYS:HE2	1:A:163:SER:C	2.46	0.40
2:D:30:CYS:N	2:D:55:CYS:SG	2.75	0.40
2:I:170:VAL:HB	2:I:174:TRP:CH2	2.56	0.40

There are no symmetry-related clashes.

5.3 Torsion angles [i](#)

5.3.1 Protein backbone [i](#)

In the following table, the Percentiles column shows the percent Ramachandran outliers of the chain as a percentile score with respect to all PDB entries followed by that with respect to all EM entries.

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	130/140 (93%)	120 (92%)	10 (8%)	0	100	100
1	B	130/140 (93%)	120 (92%)	10 (8%)	0	100	100
1	C	130/140 (93%)	121 (93%)	9 (7%)	0	100	100
1	F	130/140 (93%)	122 (94%)	8 (6%)	0	100	100
1	G	130/140 (93%)	120 (92%)	10 (8%)	0	100	100
1	H	130/140 (93%)	126 (97%)	4 (3%)	0	100	100
2	D	152/238 (64%)	142 (93%)	9 (6%)	1 (1%)	19	53
2	E	152/238 (64%)	143 (94%)	9 (6%)	0	100	100
2	I	151/238 (63%)	141 (93%)	9 (6%)	1 (1%)	19	53
2	J	152/238 (64%)	138 (91%)	13 (9%)	1 (1%)	19	53
All	All	1387/1792 (77%)	1293 (93%)	91 (7%)	3 (0%)	45	76

All (3) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
2	J	193	TYR
2	D	193	TYR
2	I	193	TYR

5.3.2 Protein sidechains [i](#)

In the following table, the Percentiles column shows the percent sidechain outliers of the chain as a percentile score with respect to all PDB entries followed by that with respect to all EM entries.

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	105/111 (95%)	103 (98%)	2 (2%)	52	73
1	B	105/111 (95%)	104 (99%)	1 (1%)	73	84
1	C	105/111 (95%)	105 (100%)	0	100	100
1	F	105/111 (95%)	104 (99%)	1 (1%)	73	84
1	G	105/111 (95%)	103 (98%)	2 (2%)	52	73
1	H	105/111 (95%)	105 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
2	D	151/222 (68%)	146 (97%)	5 (3%)	33	61
2	E	151/222 (68%)	149 (99%)	2 (1%)	65	80
2	I	150/222 (68%)	148 (99%)	2 (1%)	65	80
2	J	151/222 (68%)	150 (99%)	1 (1%)	81	88
All	All	1233/1554 (79%)	1217 (99%)	16 (1%)	64	80

All (16) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	243	ASN
1	A	245	ASN
1	B	238	LYS
2	D	48	PHE
2	D	92	HIS
2	D	169	HIS
2	D	196	CYS
2	D	198	CYS
2	E	122	GLN
2	E	169	HIS
1	F	138	ASN
1	G	199	GLN
1	G	238	LYS
2	I	174	TRP
2	I	196	CYS
2	J	48	PHE

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (20) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	140	HIS
1	B	138	ASN
1	C	158	ASN
1	C	197	ASN
1	C	207	GLN
1	C	211	GLN
1	C	240	HIS
2	D	122	GLN
2	E	89	GLN
2	E	116	ASN
1	F	138	ASN

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Mol	Chain	Res	Type
1	F	140	HIS
1	F	211	GLN
1	F	240	HIS
1	G	138	ASN
1	G	199	GLN
1	H	157	ASN
2	I	92	HIS
2	I	122	GLN
2	I	169	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 oligosaccharides in this entry.

5.6 Ligand geometry [i](#)

Of 8 ligands modelled in this entry, 8 are monoatomic - leaving 0 for Mogul analysis.

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

No monomer is involved in short contacts.

5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues

There are no chain breaks in this entry.