Full wwPDB X-ray Structure Validation Report ⓘ

Jun 15, 2026 – 10:58 am BST

PDB ID	:	9RTG / pdb_00009rtg
Title	:	Crystal structure of Ara h 2 immunocomplex with IgE Fab fragment
Authors	:	Parkkinen, T.; Rouvinen, J.
Deposited on	:	2025-07-02
Resolution	:	3.19 Å(reported)

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

We welcome your comments at *validation@mail.wwpdb.org*
A user guide is available at
https://www.wwpdb.org/validation/2017/XrayValidationReportHelp
with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at
http://www.wwpdb.org/validation/2017/FAQs#types.

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

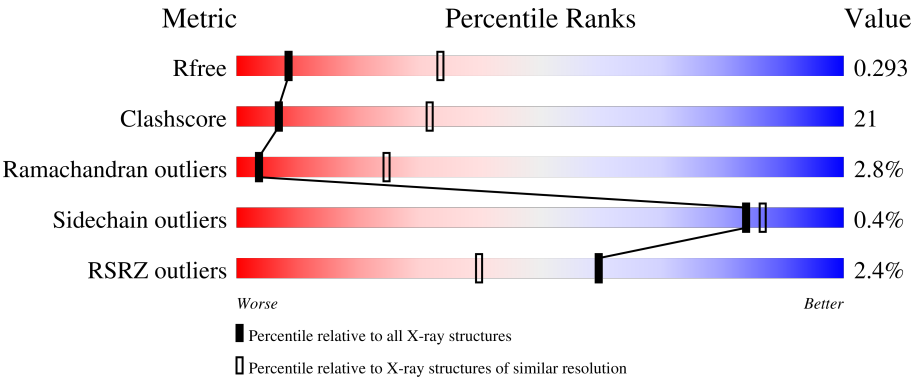
MolProbity	:	4-5-2 with Phenix2.0
Xtriage (Phenix)	:	2.0
EDS	:	3.0
Percentile statistics	:	20250101.v01 (using entries in the PDB archive January 1st 2025)
CCP4	:	9.0.010 (Gargrove)
Density-Fitness	:	1.0.12
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.49

1 Overall quality at a glance (i)

The following experimental techniques were used to determine the structure:
X-RAY DIFFRACTION

The reported resolution of this entry is 3.19 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}	180053	1466 (3.20-3.20)
Clashscore	190562	1573 (3.20-3.20)
Ramachandran outliers	187476	1548 (3.20-3.20)
Sidechain outliers	187428	1547 (3.20-3.20)
RSRZ outliers	180081	1466 (3.20-3.20)

The table below summarises the geometric issues observed across the polymeric chains and their fit to the electron density. The red, orange, yellow and green segments of the lower bar indicate the fraction of residues that contain outliers for >=3, 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions <=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	216	65% 32% .
1	C	216	62% 36% .
1	E	216	% 58% 40% .
1	G	216	57% 41% .
1	I	216	2% 58% 40% .

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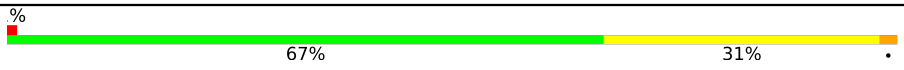
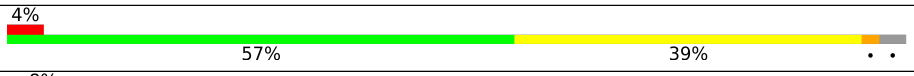
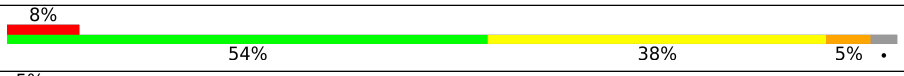
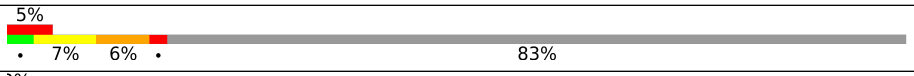
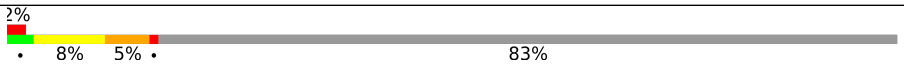
Mol	Chain	Length	Quality of chain
1	K	216	
2	B	233	
2	D	233	
2	F	233	
2	H	233	
2	J	233	
2	L	233	
3	M	152	
3	X	152	

2 Entry composition (i)

There are 3 unique types of molecules in this entry. The entry contains 20780 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 D08 IgE Fab fragment, L-chain.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	216	Total	C	N	O	S	0	0	0
			1681	1053	284	339	5			
1	C	216	Total	C	N	O	S	0	0	0
			1681	1053	284	339	5			
1	E	216	Total	C	N	O	S	0	0	0
			1681	1053	284	339	5			
1	G	216	Total	C	N	O	S	0	0	0
			1681	1053	284	339	5			
1	I	216	Total	C	N	O	S	0	0	0
			1681	1053	284	339	5			
1	K	216	Total	C	N	O	S	0	0	0
			1681	1053	284	339	5			

- Molecule 2 is a protein called D08 IgE Fab fragment, H-chain.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
2	B	227	Total	C	N	O	S	0	0	0
			1713	1078	291	336	8			
2	D	227	Total	C	N	O	S	0	0	0
			1713	1078	291	336	8			
2	F	227	Total	C	N	O	S	0	0	0
			1713	1078	291	336	8			
2	H	227	Total	C	N	O	S	0	0	0
			1713	1078	291	336	8			
2	J	227	Total	C	N	O	S	0	0	0
			1713	1078	291	336	8			
2	L	227	Total	C	N	O	S	0	0	0
			1713	1078	291	336	8			

- Molecule 3 is a protein called Conglutin-7.

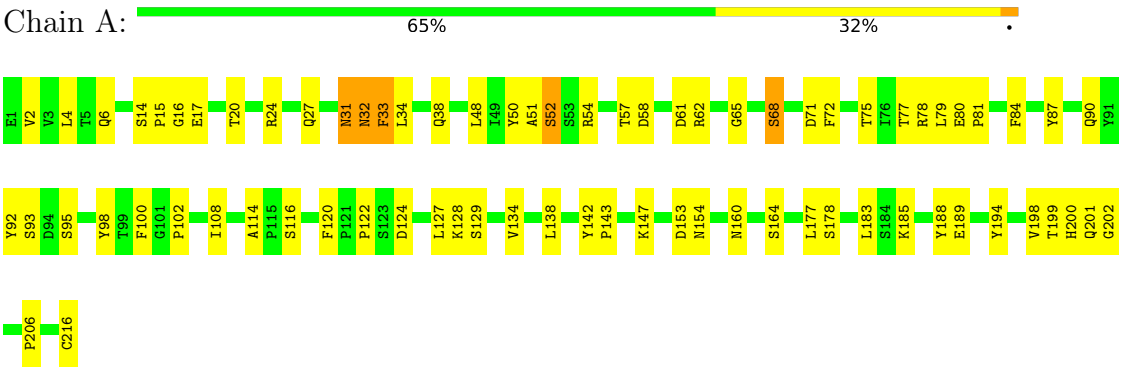
Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
3	X	26	Total 208	C 127	N 34	O 47	0	0	0
3	M	26	Total 208	C 127	N 34	O 47	0	0	0

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 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.

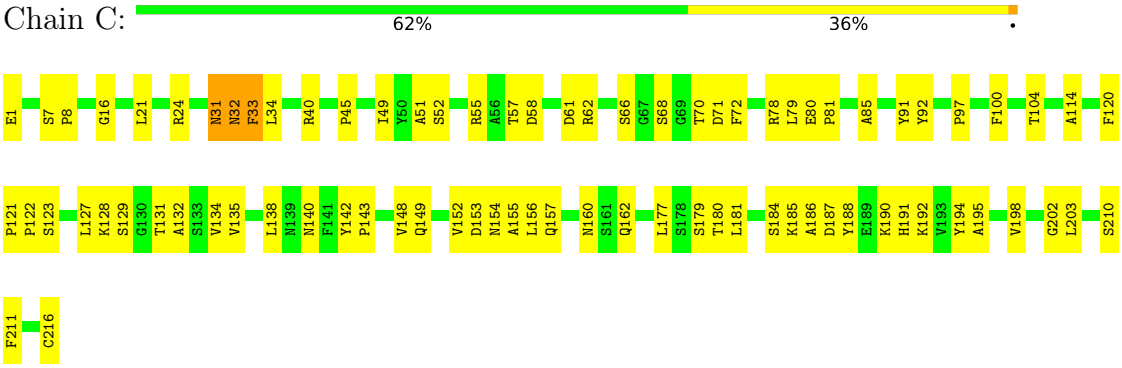
• Molecule 1: D08 IgE Fab fragment, L-chain

Chain A:



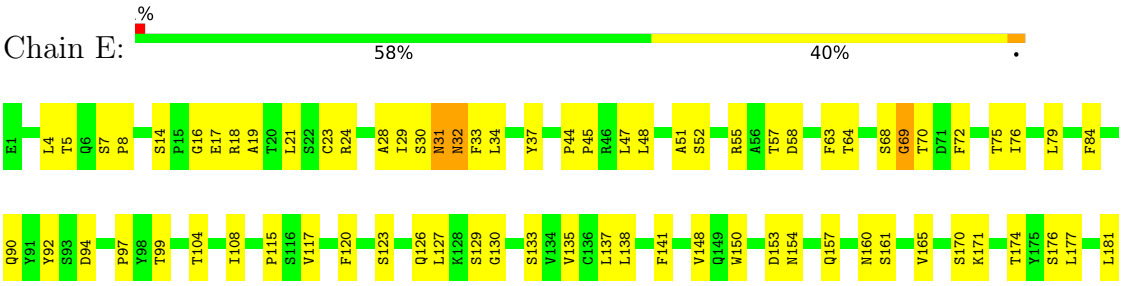
• Molecule 1: D08 IgE Fab fragment, L-chain

Chain C:

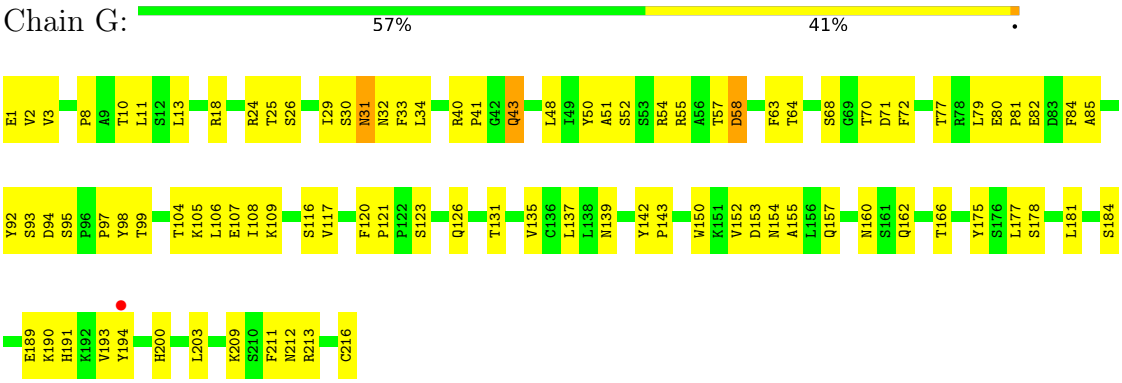


• Molecule 1: D08 IgE Fab fragment, L-chain

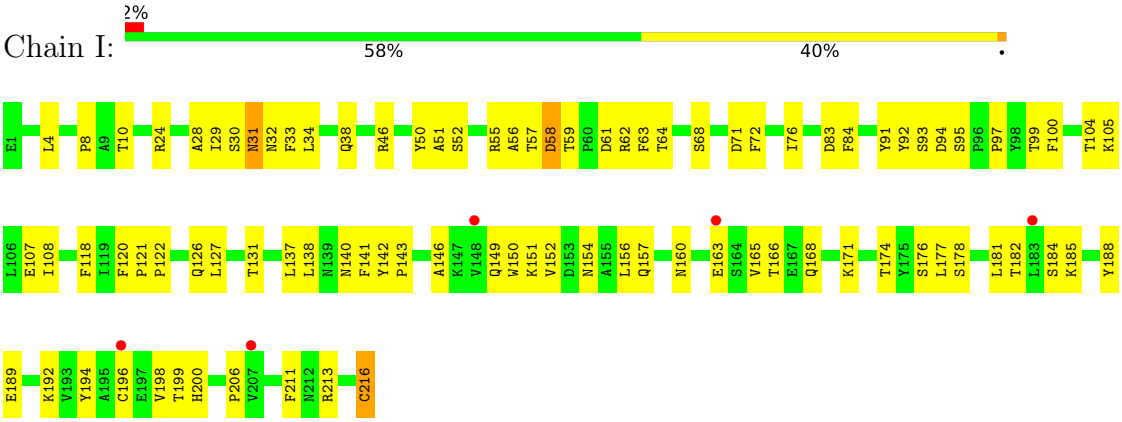
Chain E:



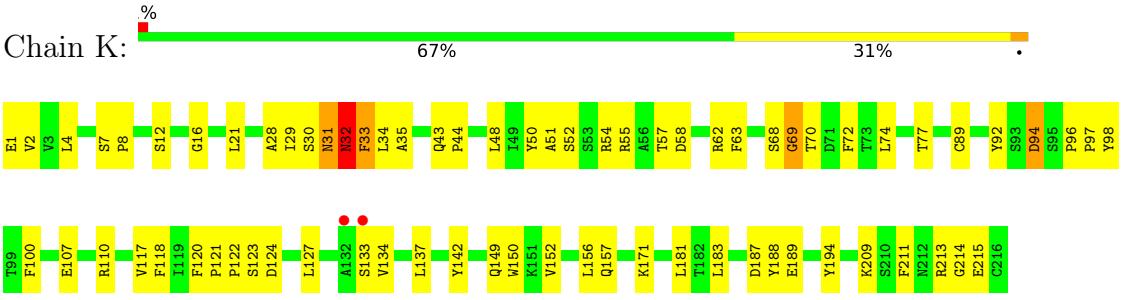
• Molecule 1: D08 IgE Fab fragment, L-chain



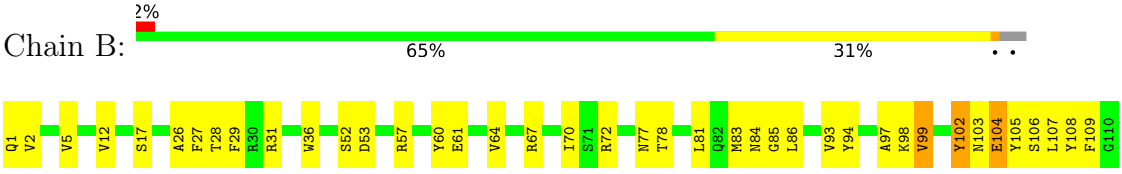
• Molecule 1: D08 IgE Fab fragment, L-chain



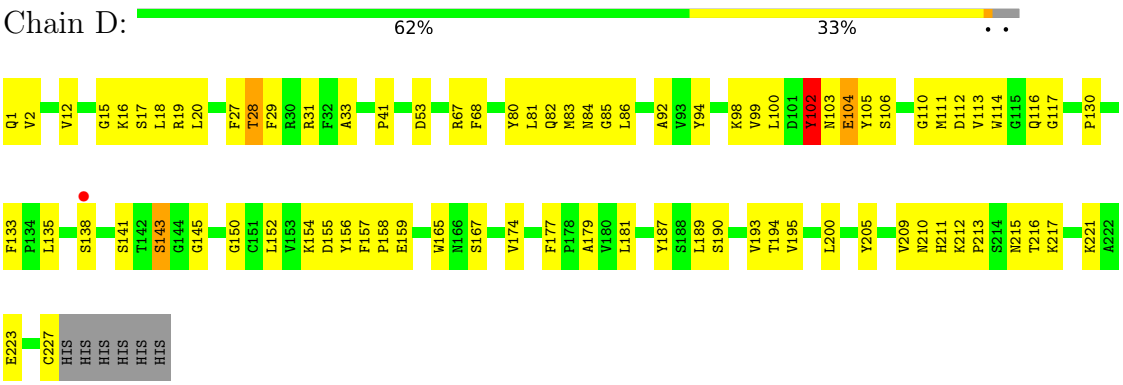
• Molecule 1: D08 IgE Fab fragment, L-chain



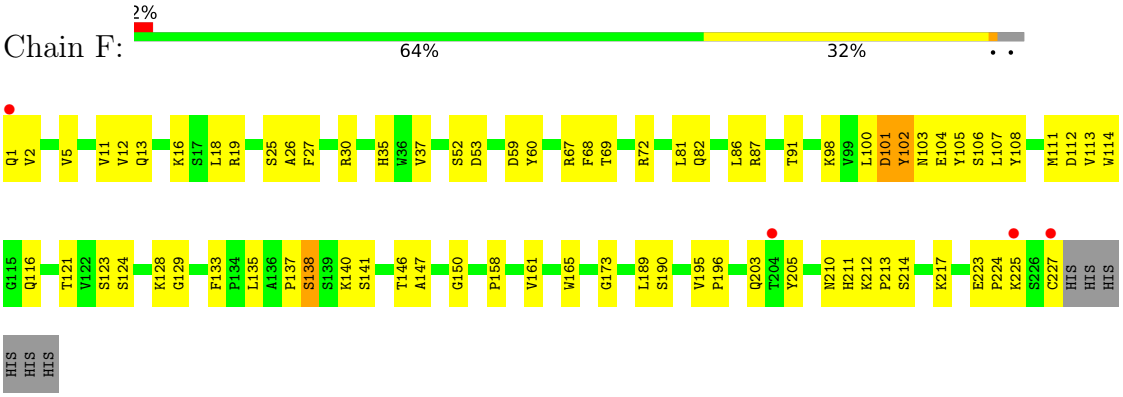
• Molecule 2: D08 IgE Fab fragment, H-chain



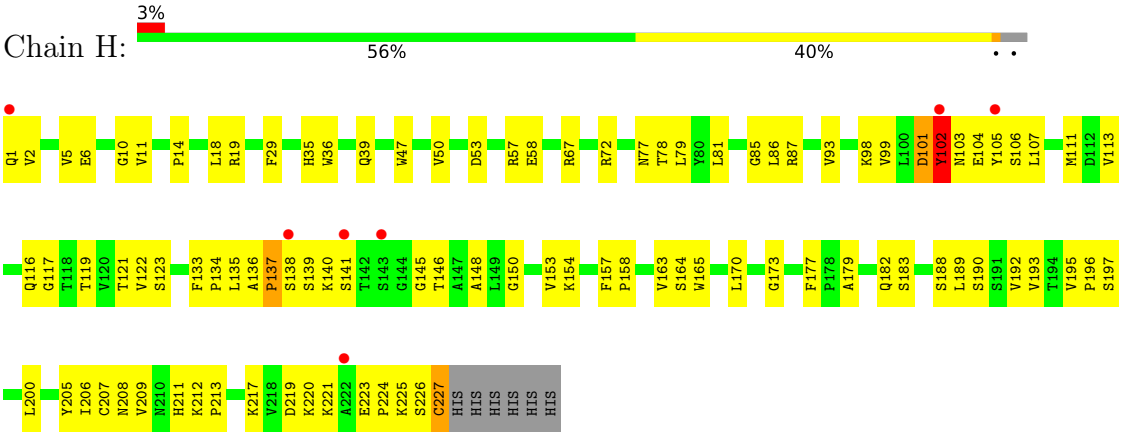
• Molecule 2: D08 IgE Fab fragment, H-chain



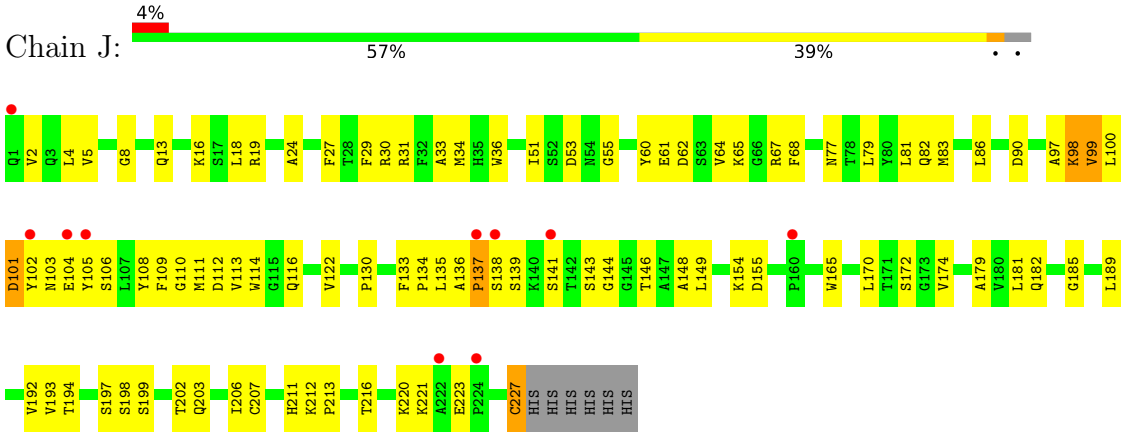
• Molecule 2: D08 IgE Fab fragment, H-chain



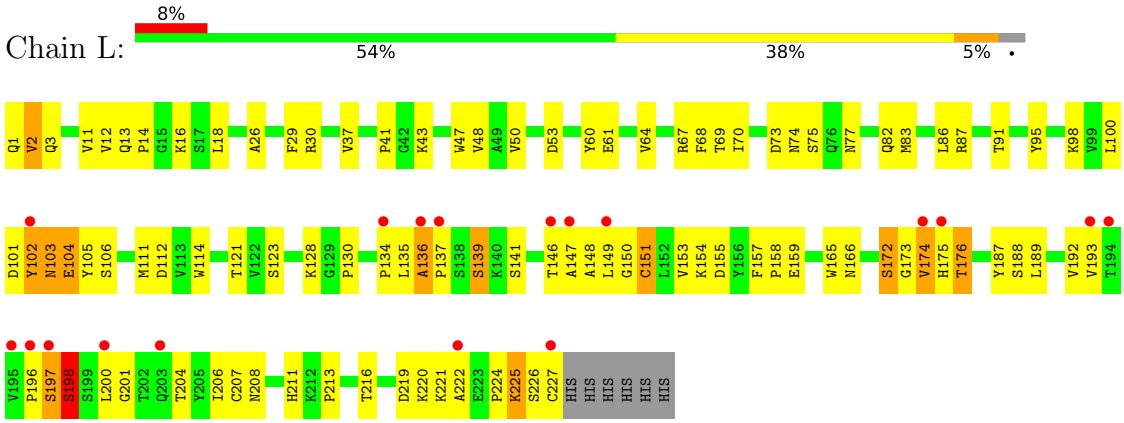
• Molecule 2: D08 IgE Fab fragment, H-chain



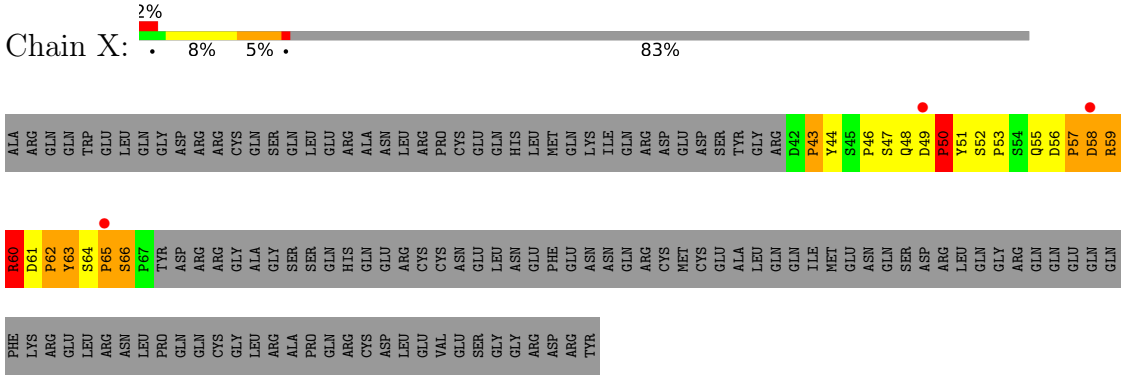
• Molecule 2: D08 IgE Fab fragment, H-chain



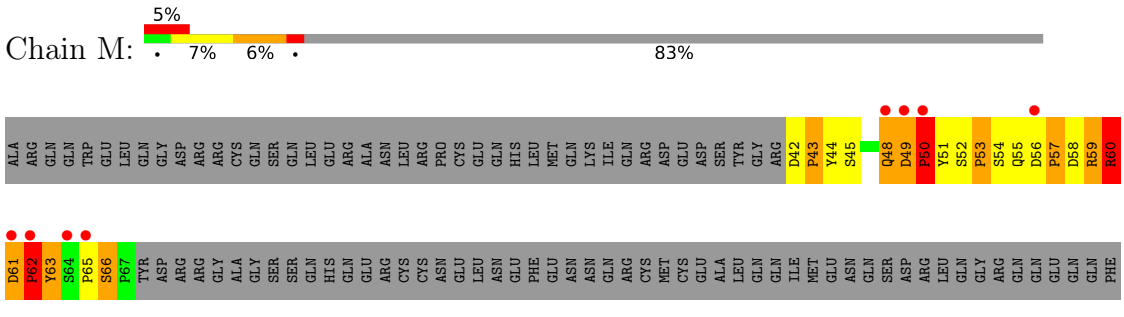
• Molecule 2: D08 IgE Fab fragment, H-chain



• Molecule 3: Conglutin-7



• Molecule 3: Conglutin-7



LYS
ARG
GLU
LEU
ARG
ASN
LEU
PRO
GLN
GLN
CYS
GLY
LEU
ARG
ALA
PRO
GLN
ARG
CYS
ASP
LEU
GLU
VAL
GLU
SER
GLY
GLY
ARG
ASP
ARG
TYR

4 Data and refinement statistics (i)

Property	Value	Source
Space group	P 21 21 21	Depositor
Cell constants a, b, c, α, β, γ	124.75Å 139.25Å 226.08Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	48.29 – 3.19 48.29 – 3.19	Depositor EDS
% Data completeness (in resolution range)	99.5 (48.29-3.19) 85.8 (48.29-3.19)	Depositor EDS
R_{merge}	(Not available)	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	0.35 (at 3.19Å)	Xtriage
Refinement program	PHENIX (1.20.1_4487: ???)	Depositor
R, R_{free}	0.226 , 0.293 0.226 , 0.293	Depositor DCC
R_{free} test set	2000 reflections (3.03%)	wwPDB-VP
Wilson B-factor (Å^2)	62.6	Xtriage
Anisotropy	0.228	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.33 , 60.6	EDS
L-test for twinning[2]	$< \|L\| > = 0.47$, $< L^2 > = 0.30$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o,F_c correlation	0.89	EDS
Total number of atoms	20780	wwPDB-VP
Average B, all atoms (Å^2)	87.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 2.39% of the height of the origin peak. No significant pseudotranslation is detected.*

[1] Intensities estimated from amplitudes.

[2] Theoretical values of $< |L| >$, $< L^2 >$ for acentric reflections are 0.5, 0.333 respectively for untwinned datasets, and 0.375, 0.2 for perfectly twinned datasets.

5 Model quality

5.1 Standard geometry

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	0.60	0/1721	0.84	2/2342 (0.1%)
1	C	0.59	0/1721	0.87	2/2342 (0.1%)
1	E	0.51	0/1721	0.85	2/2342 (0.1%)
1	G	0.52	0/1721	0.80	1/2342 (0.0%)
1	I	0.48	0/1721	0.76	0/2342
1	K	0.48	0/1721	0.81	5/2342 (0.2%)
2	B	0.57	0/1752	0.81	0/2383
2	D	0.59	1/1752 (0.1%)	0.85	0/2383
2	F	0.55	0/1752	0.83	0/2383
2	H	0.56	0/1752	0.81	2/2383 (0.1%)
2	J	0.54	0/1752	0.83	0/2383
2	L	0.51	0/1752	0.88	5/2383 (0.2%)
3	M	0.82	0/218	1.78	6/302 (2.0%)
3	X	0.88	0/218	1.43	2/302 (0.7%)
All	All	0.55	1/21274 (0.0%)	0.85	27/28954 (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	G	0	1
1	I	0	1
2	F	0	2
2	H	0	2
2	J	0	1
2	L	0	1
3	M	0	5
3	X	0	3
All	All	0	16

All (1) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	D	102	TYR	CB-CG	5.00	1.62	1.51

All (27) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
3	M	50	PRO	CA-C-N	9.79	138.50	122.14
3	M	50	PRO	C-N-CA	9.79	138.50	122.14
1	E	31	ASN	CA-C-N	7.88	135.89	121.70
1	E	31	ASN	C-N-CA	7.88	135.89	121.70
1	C	31	ASN	CA-C-N	7.82	135.77	121.70
1	C	31	ASN	C-N-CA	7.82	135.77	121.70
2	L	102	TYR	CA-CB-CG	7.22	126.89	113.90
1	K	31	ASN	CA-C-N	7.07	134.43	121.70
1	K	31	ASN	C-N-CA	7.07	134.43	121.70
1	A	31	ASN	CA-C-N	6.92	134.16	121.70
1	A	31	ASN	C-N-CA	6.92	134.16	121.70
2	L	198	SER	N-CA-C	6.62	124.91	110.80
1	G	43	GLN	CA-CB-CG	-5.87	102.36	114.10
3	M	62	PRO	CA-C-N	5.67	130.76	122.08
3	M	62	PRO	C-N-CA	5.67	130.76	122.08
1	K	94	ASP	CA-C-N	5.62	138.34	122.21
1	K	94	ASP	C-N-CA	5.62	138.34	122.21
2	L	200	LEU	CA-CB-CG	5.60	135.89	116.30
3	M	48	GLN	CA-CB-CG	-5.48	103.13	114.10
2	L	101	ASP	CA-C-N	5.44	131.94	121.54
2	L	101	ASP	C-N-CA	5.44	131.94	121.54
3	X	50	PRO	CA-C-N	5.44	131.23	122.14
3	X	50	PRO	C-N-CA	5.44	131.23	122.14
2	H	102	TYR	CA-CB-CG	5.32	123.48	113.90
1	K	32	ASN	N-CA-C	5.22	125.60	111.00
2	H	102	TYR	N-CA-C	5.11	121.69	110.80
3	M	50	PRO	O-C-N	5.03	129.43	122.64

There are no chirality outliers.

All (16) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
2	F	101	ASP	Peptide
2	F	203	GLN	Peptide
1	G	31	ASN	Peptide
2	H	101	ASP	Peptide
2	H	102	TYR	Peptide

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Mol	Chain	Res	Type	Group
1	I	31	ASN	Peptide
2	J	101	ASP	Peptide
2	L	139	SER	Peptide
3	M	49	ASP	Peptide
3	M	59	ARG	Peptide
3	M	60	ARG	Peptide
3	M	63	TYR	Peptide
3	M	66	SER	Peptide
3	X	59	ARG	Peptide
3	X	60	ARG	Peptide
3	X	63	TYR	Peptide

5.2 Too-close contacts (i)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	1681	0	1624	61	0
1	C	1681	0	1624	65	0
1	E	1681	0	1624	78	0
1	G	1681	0	1624	74	0
1	I	1681	0	1624	84	0
1	K	1681	0	1625	69	0
2	B	1713	0	1674	74	0
2	D	1713	0	1675	72	1
2	F	1713	0	1675	77	1
2	H	1713	0	1675	86	0
2	J	1713	0	1675	84	0
2	L	1713	0	1676	89	0
3	M	208	0	174	31	0
3	X	208	0	174	29	0
All	All	20780	0	20143	865	1

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 21.

All (865) 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:G:32:ASN:HA	1:G:51:ALA:HA	1.35	1.06
2:F:101:ASP:HB3	2:F:102:TYR:HB3	1.37	1.05
3:X:56:ASP:HB3	3:X:60:ARG:HB3	1.44	0.96
2:B:103:ASN:O	2:B:105:TYR:N	2.01	0.93
1:C:32:ASN:HA	1:C:51:ALA:HA	1.50	0.93
1:I:189:GLU:HG2	1:I:213:ARG:HH12	1.33	0.91
1:I:32:ASN:HA	1:I:51:ALA:HA	1.53	0.91
2:D:1:GLN:HG2	2:D:2:VAL:H	1.35	0.91
2:L:2:VAL:H	2:L:26:ALA:HB3	1.35	0.90
2:D:194:THR:O	2:L:1:GLN:NE2	2.06	0.89
2:B:172:SER:O	2:F:1:GLN:NE2	2.08	0.87
1:A:31:ASN:HB2	1:A:52:SER:OG	1.75	0.87
1:K:34:LEU:HD13	1:K:72:PHE:CD2	2.10	0.86
2:B:106:SER:HB2	3:X:55:GLN:HB3	1.58	0.86
2:H:103:ASN:O	2:H:106:SER:N	2.09	0.85
1:G:10:THR:HG23	1:G:105:LYS:HD3	1.60	0.84
3:M:50:PRO:HG2	3:M:52:SER:H	1.43	0.83
1:I:34:LEU:HD13	1:I:72:PHE:HD2	1.43	0.83
1:C:138:LEU:HD11	1:C:198:VAL:HG21	1.59	0.82
1:A:57:THR:HG22	2:L:105:TYR:HB3	1.61	0.82
1:G:121:PRO:HD2	2:H:136:ALA:HB3	1.62	0.81
2:D:102:TYR:HD1	3:M:55:GLN:HG2	1.45	0.81
2:D:116:GLN:HE21	1:K:16:GLY:HA3	1.45	0.80
3:X:60:ARG:NH1	3:X:64:SER:OG	2.15	0.79
3:M:48:GLN:O	3:M:50:PRO:HD3	1.81	0.79
1:I:127:LEU:HB3	1:I:185:LYS:HE3	1.64	0.79
1:K:32:ASN:HA	1:K:51:ALA:HA	1.63	0.79
2:B:116:GLN:HE21	1:E:16:GLY:HA3	1.48	0.79
1:K:21:LEU:HD22	1:K:74:LEU:HD23	1.64	0.79
2:J:18:LEU:HD12	2:J:19:ARG:H	1.48	0.78
2:D:103:ASN:O	2:D:106:SER:N	2.16	0.78
2:F:103:ASN:HB3	2:F:106:SER:N	1.99	0.78
2:J:211:HIS:HB3	2:J:216:THR:HB	1.65	0.78
1:K:55:ARG:NH1	1:K:63:PHE:O	2.16	0.78
2:D:103:ASN:O	2:D:105:TYR:N	2.17	0.77
2:B:28:THR:OG1	1:K:94:ASP:OD2	2.02	0.77
1:E:97:PRO:HB2	1:E:99:THR:HG23	1.66	0.77
1:K:34:LEU:HD13	1:K:72:PHE:HD2	1.47	0.77
1:K:120:PHE:HB3	2:L:135:LEU:HB3	1.66	0.77
1:E:32:ASN:HA	1:E:51:ALA:HA	1.66	0.76
1:I:163:GLU:HB3	1:I:177:LEU:HD21	1.66	0.76
2:B:1:GLN:HG2	2:B:2:VAL:H	1.50	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:I:138:LEU:HD11	1:I:198:VAL:HG21	1.66	0.76
2:J:103:ASN:O	2:J:106:SER:N	2.19	0.76
1:E:126:GLN:O	1:E:129:SER:OG	2.02	0.76
2:H:101:ASP:HB3	2:H:102:TYR:HB3	1.67	0.76
1:G:131:THR:HA	1:G:184:SER:HA	1.66	0.75
1:C:148:VAL:HG22	1:C:198:VAL:HG22	1.67	0.75
1:G:193:VAL:HG22	1:G:212:ASN:HA	1.69	0.75
2:D:130:PRO:HB3	2:D:156:TYR:HB3	1.69	0.74
1:C:34:LEU:HD13	1:C:72:PHE:CD2	2.23	0.74
1:I:50:TYR:OH	2:J:103:ASN:OD1	2.05	0.74
2:B:130:PRO:HB3	2:B:156:TYR:HB3	1.69	0.73
1:I:157:GLN:HB3	1:I:160:ASN:HD22	1.52	0.73
2:L:204:THR:HG23	2:L:221:LYS:HE3	1.68	0.73
1:A:15:PRO:HD2	1:G:3:VAL:HG11	1.70	0.73
2:L:175:HIS:ND1	2:L:192:VAL:O	2.22	0.73
2:H:103:ASN:O	2:H:105:TYR:N	2.22	0.73
1:I:199:THR:HG23	1:I:206:PRO:HG3	1.71	0.73
1:I:34:LEU:HD13	1:I:72:PHE:CD2	2.23	0.72
1:K:189:GLU:HG2	1:K:213:ARG:NH2	2.03	0.72
2:H:57:ARG:NH1	3:M:56:ASP:OD1	2.22	0.72
1:K:188:TYR:O	1:K:194:TYR:OH	2.07	0.72
2:H:1:GLN:HG2	2:H:2:VAL:H	1.55	0.72
2:H:165:TRP:HB2	2:H:170:LEU:HB3	1.72	0.71
2:H:170:LEU:HD21	2:H:193:VAL:HG21	1.72	0.71
1:A:34:LEU:HD13	1:A:72:PHE:CD2	2.26	0.70
1:G:157:GLN:HB3	1:G:160:ASN:HD22	1.56	0.70
2:L:130:PRO:HD2	2:L:216:THR:HG21	1.72	0.70
3:X:48:GLN:C	3:X:50:PRO:HD3	2.16	0.70
2:B:29:PHE:HD2	2:B:77:ASN:HA	1.56	0.69
2:L:29:PHE:HD2	2:L:77:ASN:HA	1.56	0.69
2:L:173:GLY:O	2:L:175:HIS:N	2.25	0.69
2:F:13:GLN:HB2	2:F:16:LYS:HG2	1.74	0.69
1:I:100:PHE:HZ	2:J:111:MET:HE1	1.56	0.69
2:B:116:GLN:NE2	1:E:16:GLY:HA3	2.06	0.69
1:K:120:PHE:CD2	2:L:148:ALA:HB1	2.27	0.69
2:D:31:ARG:HD2	3:M:49:ASP:HB3	1.75	0.69
1:I:55:ARG:NH1	1:I:63:PHE:O	2.25	0.69
3:X:60:ARG:HD3	3:X:61:ASP:HB2	1.73	0.69
1:A:32:ASN:HA	1:A:51:ALA:HA	1.74	0.69
2:F:1:GLN:HG2	2:F:2:VAL:H	1.58	0.69
2:J:111:MET:HE3	2:J:114:TRP:CZ2	2.28	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:H:197:SER:HA	2:H:200:LEU:HG	1.74	0.68
2:H:18:LEU:HD12	2:H:19:ARG:H	1.57	0.68
2:F:138:SER:HA	2:F:225:LYS:HD3	1.75	0.68
1:C:120:PHE:CD1	2:D:135:LEU:HB3	2.29	0.68
2:F:210:ASN:HB2	2:F:217:LYS:NZ	2.09	0.68
1:E:192:LYS:O	1:E:213:ARG:HB2	1.94	0.68
2:F:211:HIS:CE1	2:F:213:PRO:HB2	2.28	0.68
1:A:6:GLN:HG3	1:A:102:PRO:HD2	1.75	0.68
1:C:31:ASN:HB2	1:C:52:SER:OG	1.94	0.68
1:G:97:PRO:HB2	1:G:99:THR:HG23	1.75	0.68
3:X:58:ASP:HB2	3:X:60:ARG:HE	1.58	0.67
1:K:1:GLU:CG	1:K:2:VAL:H	2.07	0.67
1:G:34:LEU:HD13	1:G:72:PHE:CD2	2.28	0.67
1:E:21:LEU:HD23	1:E:104:THR:HB	1.76	0.67
2:L:11:VAL:HG21	2:L:158:PRO:HG3	1.76	0.67
2:D:221:LYS:HG2	2:D:223:GLU:HG2	1.77	0.67
2:L:136:ALA:HA	2:L:148:ALA:HB3	1.77	0.67
2:B:144:GLY:C	2:H:85:GLY:HA3	2.19	0.67
2:F:52:SER:O	2:F:72:ARG:NH1	2.27	0.67
2:D:98:LYS:NZ	2:D:99:VAL:O	2.26	0.66
1:K:29:ILE:HD11	1:K:72:PHE:HE2	1.58	0.66
1:K:33:PHE:HA	1:K:92:TYR:O	1.95	0.66
1:A:160:ASN:HD21	1:A:183:LEU:HD21	1.60	0.66
2:D:111:MET:HE3	2:D:114:TRP:CZ2	2.31	0.65
2:B:144:GLY:HA2	2:H:85:GLY:O	1.96	0.65
2:L:175:HIS:NE2	2:L:192:VAL:HB	2.11	0.65
1:E:14:SER:N	1:E:17:GLU:OE1	2.30	0.65
1:K:213:ARG:HG2	1:K:214:GLY:H	1.62	0.65
2:J:136:ALA:HB1	2:J:149:LEU:HD22	1.79	0.65
1:A:6:GLN:HB2	1:A:102:PRO:HG2	1.78	0.65
1:C:66:SER:HB3	1:G:30:SER:HB2	1.78	0.65
2:F:18:LEU:HD12	2:F:19:ARG:H	1.62	0.65
2:F:210:ASN:HB2	2:F:217:LYS:HZ3	1.62	0.65
2:D:1:GLN:HG2	2:D:2:VAL:N	2.12	0.64
2:L:149:LEU:HB2	2:L:222:ALA:HB1	1.78	0.64
2:L:165:TRP:CE2	2:L:207:CYS:HB3	2.32	0.64
2:J:8:GLY:O	2:J:18:LEU:HD11	1.98	0.64
2:J:137:PRO:HG2	2:J:141:SER:OG	1.97	0.64
2:B:1:GLN:H1	1:E:18:ARG:NH2	1.96	0.64
1:C:121:PRO:HB3	1:C:211:PHE:CE2	2.33	0.64
1:I:97:PRO:HB2	1:I:99:THR:HG23	1.77	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:31:ASN:HB2	1:E:52:SER:OG	1.98	0.64
1:E:211:PHE:HA	2:F:140:LYS:HE3	1.80	0.63
1:I:192:LYS:O	1:I:213:ARG:HD3	1.97	0.63
2:J:211:HIS:CB	2:J:216:THR:HB	2.28	0.63
2:F:11:VAL:HG22	2:F:121:THR:HB	1.80	0.63
2:H:212:LYS:HB2	2:H:213:PRO:HD3	1.79	0.63
2:D:102:TYR:CD1	3:M:55:GLN:HG2	2.29	0.63
2:H:173:GLY:O	2:H:193:VAL:HG23	1.98	0.63
1:A:84:PHE:CD2	1:A:108:ILE:HG13	2.34	0.63
1:A:188:TYR:O	1:A:194:TYR:OH	2.17	0.63
2:J:97:ALA:HB1	2:J:111:MET:HB3	1.81	0.62
1:I:31:ASN:HB2	1:I:52:SER:OG	1.99	0.62
2:B:144:GLY:O	2:H:67:ARG:HG2	1.98	0.62
2:J:206:ILE:HG23	2:J:220:LYS:O	2.00	0.62
2:L:29:PHE:CD2	2:L:77:ASN:HA	2.33	0.62
1:E:188:TYR:CD2	1:E:189:GLU:HG3	2.34	0.62
1:K:152:VAL:HG13	1:K:194:TYR:CE1	2.35	0.62
1:E:130:GLY:O	1:E:185:LYS:N	2.27	0.62
1:A:124:ASP:OD2	2:B:225:LYS:NZ	2.29	0.62
2:F:103:ASN:HB3	2:F:106:SER:H	1.64	0.62
2:J:62:ASP:HA	2:J:65:LYS:HE3	1.82	0.62
1:E:187:ASP:OD1	1:E:190:LYS:NZ	2.28	0.62
1:I:33:PHE:HA	1:I:92:TYR:O	2.00	0.62
1:I:63:PHE:CD1	1:I:76:ILE:HG12	2.35	0.62
2:L:225:LYS:HG2	2:L:227:CYS:H	1.65	0.62
1:A:68:SER:C	2:J:105:TYR:HB3	2.25	0.62
2:L:103:ASN:HB3	2:L:106:SER:N	2.15	0.62
1:E:150:TRP:CE2	1:E:181:LEU:HB2	2.35	0.61
1:G:190:LYS:O	1:G:191:HIS:ND1	2.32	0.61
1:E:34:LEU:HD13	1:E:72:PHE:CG	2.36	0.61
1:I:142:TYR:CG	1:I:143:PRO:HA	2.35	0.61
2:B:1:GLN:N	1:E:18:ARG:NH2	2.48	0.61
1:E:68:SER:O	1:E:70:THR:N	2.31	0.61
1:K:1:GLU:HG2	1:K:2:VAL:H	1.64	0.61
3:M:43:PRO:HD2	3:M:45:SER:HB2	1.83	0.61
2:B:2:VAL:HG22	1:K:30:SER:HB2	1.81	0.61
1:E:57:THR:O	1:E:58:ASP:HB2	2.00	0.61
2:L:225:LYS:HE2	2:L:227:CYS:C	2.26	0.61
2:H:165:TRP:CZ3	2:H:207:CYS:HB3	2.36	0.61
1:I:120:PHE:HB3	2:J:135:LEU:HB3	1.82	0.61
2:B:102:TYR:HD2	3:X:55:GLN:HG3	1.65	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:195:ALA:HB2	1:C:210:SER:HB2	1.83	0.61
1:G:25:THR:HG21	1:G:29:ILE:HD13	1.83	0.61
1:I:118:PHE:HD2	1:I:137:LEU:HD23	1.66	0.60
2:J:165:TRP:CZ3	2:J:207:CYS:HB3	2.36	0.60
3:M:57:PRO:O	3:M:59:ARG:N	2.35	0.60
1:E:55:ARG:NH1	1:E:63:PHE:O	2.34	0.60
1:G:189:GLU:HG2	1:G:213:ARG:HH12	1.66	0.60
1:I:150:TRP:CZ3	1:I:196:CYS:HB3	2.36	0.60
2:L:134:PRO:HD3	2:L:220:LYS:HG2	1.82	0.60
2:H:103:ASN:OD1	2:H:105:TYR:HB2	2.02	0.60
1:G:31:ASN:HB2	1:G:52:SER:OG	2.01	0.60
1:G:150:TRP:NE1	1:G:181:LEU:HB2	2.16	0.60
1:A:71:ASP:C	1:A:72:PHE:HD1	2.09	0.59
2:L:14:PRO:HD3	2:L:123:SER:O	2.02	0.59
3:M:60:ARG:HG3	3:M:61:ASP:C	2.28	0.59
2:B:146:THR:HG23	2:H:67:ARG:HG3	1.84	0.59
1:C:71:ASP:C	1:C:72:PHE:HD1	2.09	0.59
2:L:73:ASP:OD1	2:L:75:SER:OG	2.19	0.59
2:B:97:ALA:HB1	2:B:111:MET:HB3	1.84	0.59
2:F:103:ASN:O	2:F:105:TYR:N	2.33	0.59
1:G:94:ASP:O	3:M:62:PRO:HG3	2.02	0.59
1:K:152:VAL:HB	1:K:157:GLN:HE21	1.66	0.59
1:A:147:LYS:HB3	1:A:199:THR:HB	1.83	0.59
1:C:57:THR:HG22	2:F:105:TYR:HB3	1.83	0.59
2:H:137:PRO:HA	2:H:141:SER:OG	2.01	0.59
2:H:146:THR:HB	2:H:196:PRO:HA	1.83	0.59
1:I:157:GLN:HB3	1:I:160:ASN:ND2	2.17	0.59
2:D:17:SER:OG	2:D:84:ASN:HA	2.03	0.59
2:H:1:GLN:HG2	2:H:2:VAL:N	2.18	0.59
1:I:138:LEU:HD21	1:I:198:VAL:HG11	1.83	0.59
2:J:99:VAL:HA	2:J:110:GLY:O	2.02	0.59
2:J:130:PRO:HD2	2:J:216:THR:HG21	1.85	0.59
1:A:32:ASN:O	1:A:33:PHE:HB2	2.02	0.59
1:A:65:GLY:O	1:I:30:SER:HB2	2.02	0.59
1:G:1:GLU:CG	1:G:2:VAL:H	2.15	0.58
2:L:211:HIS:HE1	2:L:213:PRO:HB2	1.67	0.58
1:G:116:SER:HB2	1:G:139:ASN:HB3	1.85	0.58
1:K:189:GLU:HG2	1:K:213:ARG:HH22	1.68	0.58
3:X:48:GLN:O	3:X:50:PRO:HD3	2.03	0.58
2:B:29:PHE:CD2	2:B:77:ASN:HA	2.38	0.58
1:G:121:PRO:HG2	2:H:140:LYS:HG3	1.85	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:F:146:THR:HG22	2:F:196:PRO:HA	1.84	0.58
1:G:71:ASP:C	1:G:72:PHE:HD1	2.12	0.58
2:B:67:ARG:NH1	2:B:85:GLY:O	2.36	0.58
1:I:127:LEU:O	1:I:185:LYS:HD2	2.03	0.58
1:I:194:TYR:HB2	1:I:211:PHE:CE2	2.39	0.58
3:X:57:PRO:O	3:X:59:ARG:N	2.37	0.58
2:B:103:ASN:HB2	2:B:107:LEU:O	2.04	0.57
1:I:55:ARG:HH12	1:I:64:THR:HG22	1.69	0.57
2:L:103:ASN:HB3	2:L:106:SER:H	1.68	0.57
2:B:104:GLU:O	3:X:55:GLN:HA	2.03	0.57
1:C:78:ARG:HH12	1:I:24:ARG:HB3	1.70	0.57
1:C:149:GLN:HB3	1:C:156:LEU:CD1	2.34	0.57
2:H:47:TRP:HZ2	2:H:50:VAL:HG12	1.69	0.57
2:J:103:ASN:O	2:J:105:TYR:N	2.37	0.57
2:B:204:THR:HG23	2:B:221:LYS:HG3	1.87	0.57
1:E:195:ALA:HB2	1:E:210:SER:HB2	1.87	0.57
1:I:140:ASN:HA	1:I:174:THR:OG1	2.04	0.57
2:F:12:VAL:HG22	2:F:16:LYS:HB2	1.86	0.57
2:H:195:VAL:HG11	2:H:205:TYR:CE2	2.39	0.57
1:I:189:GLU:HG2	1:I:213:ARG:NH1	2.14	0.57
2:D:179:ALA:HA	2:D:189:LEU:HB3	1.86	0.57
2:H:197:SER:HA	2:H:200:LEU:CG	2.34	0.57
2:L:196:PRO:O	2:L:197:SER:OG	2.16	0.57
1:C:57:THR:O	1:C:58:ASP:HB2	2.04	0.57
2:H:145:GLY:O	2:H:197:SER:OG	2.23	0.57
1:A:100:PHE:HZ	2:B:111:MET:HE1	1.70	0.57
1:E:34:LEU:HD13	1:E:72:PHE:CD2	2.40	0.57
2:H:5:VAL:HG22	2:H:116:GLN:HE22	1.69	0.57
1:I:131:THR:HA	1:I:184:SER:HA	1.87	0.57
2:H:58:GLU:N	2:H:58:GLU:OE1	2.37	0.56
2:J:165:TRP:CH2	2:J:207:CYS:HB3	2.40	0.56
2:D:18:LEU:HD12	2:D:19:ARG:H	1.71	0.56
2:D:19:ARG:HA	2:D:81:LEU:O	2.05	0.56
2:D:159:GLU:HG2	2:D:187:TYR:CE2	2.39	0.56
2:H:11:VAL:HG22	2:H:121:THR:HB	1.87	0.56
1:I:93:SER:HB3	1:I:95:SER:O	2.06	0.56
1:K:100:PHE:HZ	2:L:111:MET:HE1	1.70	0.56
1:I:126:GLN:NE2	2:J:135:LEU:HD21	2.20	0.56
3:M:50:PRO:HG2	3:M:52:SER:N	2.17	0.56
1:A:92:TYR:HA	1:A:98:TYR:HD1	1.70	0.56
2:L:67:ARG:NH1	2:L:87:ARG:HG3	2.21	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:102:TYR:CD2	3:X:55:GLN:HG3	2.40	0.56
2:B:155:ASP:OD1	2:B:182:GLN:NE2	2.31	0.56
2:F:2:VAL:HA	2:F:26:ALA:HB3	1.88	0.56
2:F:103:ASN:ND2	2:F:105:TYR:HB2	2.21	0.56
1:G:166:THR:HG23	2:H:177:PHE:CE1	2.41	0.56
2:F:30:ARG:O	2:F:53:ASP:HB2	2.05	0.56
2:H:6:GLU:OE2	2:H:117:GLY:N	2.34	0.55
1:A:34:LEU:HD22	1:A:72:PHE:HD2	1.71	0.55
1:G:55:ARG:HH12	1:G:64:THR:HG22	1.71	0.55
2:H:221:LYS:HE2	2:H:223:GLU:HG3	1.88	0.55
2:D:1:GLN:CG	2:D:2:VAL:H	2.12	0.55
2:D:210:ASN:HB2	2:D:217:LYS:NZ	2.20	0.55
2:F:211:HIS:HE1	2:F:213:PRO:HB2	1.71	0.55
2:B:111:MET:HE3	2:B:114:TRP:CZ2	2.42	0.55
1:K:152:VAL:HB	1:K:157:GLN:NE2	2.21	0.55
3:X:56:ASP:HB3	3:X:60:ARG:CB	2.28	0.55
2:D:116:GLN:NE2	1:K:16:GLY:HA3	2.19	0.55
2:D:150:GLY:HA2	2:D:165:TRP:CZ2	2.42	0.55
2:F:137:PRO:HD2	2:F:224:PRO:HA	1.87	0.55
2:L:103:ASN:O	2:L:105:TYR:N	2.39	0.55
1:G:8:PRO:O	1:G:104:THR:HG23	2.07	0.55
2:L:150:GLY:HA3	2:L:192:VAL:HG13	1.88	0.55
1:G:24:ARG:HA	1:G:70:THR:O	2.06	0.55
1:G:55:ARG:NH1	1:G:63:PHE:O	2.35	0.55
2:J:86:LEU:HB3	2:J:122:VAL:HG21	1.88	0.55
2:F:223:GLU:CD	2:F:224:PRO:HD2	2.32	0.55
2:B:108:TYR:CD2	3:X:46:PRO:HD3	2.42	0.54
2:B:144:GLY:C	2:B:146:THR:H	2.15	0.54
1:C:138:LEU:HD11	1:C:198:VAL:CG2	2.35	0.54
1:E:117:VAL:HA	1:E:137:LEU:O	2.07	0.54
2:H:165:TRP:CB	2:H:170:LEU:HB3	2.38	0.54
2:J:2:VAL:HG13	2:J:27:PHE:CD2	2.42	0.54
1:K:62:ARG:O	1:K:77:THR:HG23	2.06	0.54
1:E:33:PHE:HA	1:E:92:TYR:O	2.07	0.54
1:E:92:TYR:HH	2:F:35:HIS:HE2	1.52	0.54
1:E:165:VAL:HG22	1:E:177:LEU:HG	1.90	0.54
2:H:87:ARG:C	2:H:122:VAL:HG11	2.32	0.54
1:K:123:SER:O	1:K:127:LEU:HG	2.08	0.54
2:B:94:TYR:O	2:B:117:GLY:HA2	2.06	0.54
2:B:179:ALA:HB2	2:B:189:LEU:HD23	1.89	0.54
2:D:15:GLY:O	2:D:85:GLY:HA2	2.07	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:X:48:GLN:HG2	3:X:50:PRO:HD3	1.89	0.54
1:C:62:ARG:HH11	1:C:62:ARG:HG2	1.72	0.54
2:J:18:LEU:HD12	2:J:19:ARG:N	2.20	0.54
1:C:122:PRO:HD3	1:C:134:VAL:HG22	1.89	0.54
1:A:20:THR:HG22	1:A:75:THR:HG23	1.90	0.54
2:B:12:VAL:HG11	2:B:86:LEU:HD13	1.89	0.54
1:C:188:TYR:O	1:C:194:TYR:OH	2.26	0.54
1:G:1:GLU:HG2	1:G:2:VAL:H	1.73	0.54
2:B:1:GLN:N	1:E:18:ARG:HH22	2.05	0.54
1:I:216:CYS:HA	2:J:227:CYS:HA	1.90	0.54
1:I:57:THR:O	1:I:58:ASP:HB2	2.08	0.54
2:L:154:LYS:HE3	2:L:155:ASP:OD2	2.07	0.54
2:B:174:VAL:HG22	2:B:193:VAL:HB	1.90	0.53
2:D:181:LEU:HD13	2:D:187:TYR:CE1	2.43	0.53
1:C:149:GLN:HB3	1:C:156:LEU:HD11	1.90	0.53
2:H:137:PRO:HB3	2:H:148:ALA:O	2.07	0.53
2:H:195:VAL:HG11	2:H:205:TYR:CZ	2.43	0.53
2:J:30:ARG:HB2	2:J:30:ARG:CZ	2.38	0.53
2:L:91:THR:HG23	2:L:121:THR:HA	1.90	0.53
2:L:154:LYS:HA	2:L:188:SER:OG	2.08	0.53
3:X:60:ARG:HH12	3:X:66:SER:HA	1.73	0.53
2:D:28:THR:OG1	1:E:94:ASP:OD2	2.14	0.53
1:C:31:ASN:HA	1:C:32:ASN:O	2.09	0.53
1:C:49:ILE:HD13	1:C:55:ARG:HA	1.89	0.53
1:G:142:TYR:CG	1:G:143:PRO:HA	2.44	0.53
2:J:100:LEU:HD21	2:J:112:ASP:HB3	1.89	0.53
1:A:122:PRO:HD3	1:A:134:VAL:HG22	1.90	0.53
2:B:26:ALA:O	1:K:30:SER:HB3	2.08	0.53
1:I:97:PRO:CB	1:I:99:THR:HG23	2.38	0.53
2:D:41:PRO:HD3	2:D:92:ALA:HA	1.90	0.53
1:E:92:TYR:OH	2:F:35:HIS:NE2	2.42	0.53
3:M:43:PRO:HD2	3:M:45:SER:CB	2.38	0.53
1:K:28:ALA:HA	1:K:69:GLY:O	2.09	0.53
1:E:160:ASN:CG	1:E:181:LEU:HD11	2.34	0.53
1:G:1:GLU:HG2	1:G:2:VAL:N	2.25	0.52
1:I:33:PHE:O	1:I:92:TYR:N	2.42	0.52
2:F:103:ASN:HD22	2:F:105:TYR:HB2	1.75	0.52
2:B:67:ARG:HB3	2:B:84:ASN:O	2.10	0.52
1:E:97:PRO:CB	1:E:99:THR:HG23	2.37	0.52
1:G:33:PHE:HA	1:G:92:TYR:O	2.10	0.52
1:A:54:ARG:NH1	2:L:104:GLU:HG3	2.24	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:5:VAL:HG13	2:B:116:GLN:HE22	1.74	0.52
2:L:211:HIS:CE1	2:L:213:PRO:HB2	2.44	0.52
3:M:62:PRO:HB2	3:M:63:TYR:CD2	2.45	0.52
2:D:33:ALA:O	2:D:99:VAL:HG12	2.09	0.52
1:E:32:ASN:O	1:E:33:PHE:HB2	2.09	0.52
1:K:171:LYS:NZ	2:L:172:SER:HA	2.25	0.52
2:B:172:SER:N	2:F:1:GLN:OE1	2.41	0.52
1:E:153:ASP:OD2	1:E:191:HIS:HB3	2.10	0.52
2:F:37:VAL:HG21	2:F:111:MET:HE1	1.90	0.52
2:H:29:PHE:CD2	2:H:77:ASN:HA	2.45	0.52
2:J:134:PRO:HD3	2:J:220:LYS:HG2	1.92	0.52
1:C:55:ARG:NH1	1:C:61:ASP:O	2.43	0.52
2:F:161:VAL:HG23	2:F:211:HIS:HB2	1.92	0.52
2:L:146:THR:HA	2:L:198:SER:O	2.10	0.52
1:K:152:VAL:HG13	1:K:194:TYR:HE1	1.76	0.51
1:C:8:PRO:O	1:C:104:THR:HG23	2.10	0.51
2:B:61:GLU:HG2	2:B:64:VAL:HG22	1.92	0.51
2:L:64:VAL:HG12	2:L:67:ARG:HH21	1.75	0.51
2:L:172:SER:OG	2:L:173:GLY:N	2.43	0.51
1:C:157:GLN:HG3	1:C:181:LEU:HD21	1.93	0.51
2:F:101:ASP:HB3	2:F:102:TYR:CB	2.25	0.51
1:G:50:TYR:O	1:G:54:ARG:HB2	2.09	0.51
1:I:24:ARG:HG3	1:I:71:ASP:HA	1.91	0.51
1:A:62:ARG:HG2	1:A:62:ARG:HH11	1.75	0.51
2:D:106:SER:HB2	3:M:55:GLN:HB3	1.91	0.51
1:G:31:ASN:HD22	1:G:68:SER:HA	1.76	0.51
1:I:194:TYR:HB2	1:I:211:PHE:CZ	2.46	0.51
1:K:188:TYR:CZ	1:K:213:ARG:HD2	2.46	0.51
2:B:83:MET:HE1	2:B:120:VAL:HG21	1.92	0.51
1:G:32:ASN:CA	1:G:51:ALA:HA	2.25	0.51
2:J:98:LYS:O	2:J:99:VAL:HB	2.11	0.51
1:K:100:PHE:CZ	2:L:111:MET:HE1	2.46	0.51
1:K:189:GLU:HG2	1:K:213:ARG:CZ	2.40	0.51
1:C:191:HIS:C	1:C:192:LYS:HG3	2.36	0.51
1:E:84:PHE:CE2	1:E:108:ILE:HG13	2.46	0.51
2:J:29:PHE:CD2	2:J:77:ASN:HA	2.46	0.51
2:J:68:PHE:HA	2:J:82:GLN:O	2.10	0.51
2:L:208:ASN:ND2	2:L:219:ASP:OD1	2.43	0.51
1:A:50:TYR:CE1	1:A:54:ARG:HB3	2.46	0.51
2:B:93:VAL:HG22	2:B:119:THR:HG23	1.93	0.51
2:B:103:ASN:HB3	2:B:107:LEU:HG	1.93	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:152:VAL:HG22	1:G:194:TYR:CD1	2.46	0.51
2:H:135:LEU:O	2:H:137:PRO:HD3	2.11	0.51
2:H:154:LYS:NZ	2:H:182:GLN:OE1	2.22	0.51
2:J:100:LEU:CD2	2:J:112:ASP:HB3	2.41	0.51
1:K:31:ASN:HB2	1:K:52:SER:OG	2.11	0.51
2:D:83:MET:HB3	2:D:86:LEU:HD21	1.92	0.50
2:H:157:PHE:CD1	2:H:158:PRO:HA	2.46	0.50
2:J:53:ASP:N	2:J:53:ASP:OD1	2.43	0.50
1:A:185:LYS:HE2	1:A:189:GLU:OE2	2.11	0.50
2:B:17:SER:OG	2:B:84:ASN:HA	2.11	0.50
2:B:53:ASP:N	2:B:53:ASP:OD1	2.45	0.50
2:D:210:ASN:HB2	2:D:217:LYS:HZ3	1.76	0.50
1:G:32:ASN:O	1:G:33:PHE:HB2	2.11	0.50
1:G:93:SER:HB3	1:G:95:SER:O	2.12	0.50
2:H:103:ASN:HB3	2:H:107:LEU:HG	1.94	0.50
2:L:69:THR:HB	2:L:82:GLN:HB3	1.93	0.50
1:G:40:ARG:NE	1:G:82:GLU:O	2.45	0.50
1:G:152:VAL:HG23	1:G:157:GLN:HG3	1.92	0.50
2:H:209:VAL:O	2:H:217:LYS:HD2	2.12	0.50
1:K:31:ASN:HA	1:K:32:ASN:O	2.11	0.50
1:A:142:TYR:CD1	1:A:143:PRO:HA	2.46	0.50
2:D:143:SER:HB3	2:D:145:GLY:H	1.76	0.50
1:E:196:CYS:O	1:E:208:THR:HG23	2.11	0.50
2:J:27:PHE:O	2:J:29:PHE:N	2.44	0.50
2:J:62:ASP:OD1	2:J:65:LYS:NZ	2.34	0.50
3:X:50:PRO:HG2	3:X:52:SER:HB3	1.94	0.50
2:D:177:PHE:CD2	2:D:190:SER:HB2	2.46	0.50
2:J:141:SER:C	2:J:143:SER:H	2.20	0.50
2:L:98:LYS:O	2:L:111:MET:HA	2.12	0.50
2:L:154:LYS:HG2	2:L:155:ASP:CG	2.36	0.50
1:E:63:PHE:CD1	1:E:76:ILE:HG12	2.47	0.49
1:I:68:SER:HA	1:I:72:PHE:HE1	1.77	0.49
2:L:37:VAL:HG22	2:L:47:TRP:HA	1.93	0.49
2:B:128:LYS:HD3	2:B:186:LEU:HD13	1.94	0.49
2:F:1:GLN:HG2	2:F:2:VAL:N	2.25	0.49
1:I:171:LYS:NZ	2:J:172:SER:HA	2.27	0.49
2:J:108:TYR:CD2	3:X:65:PRO:HD3	2.47	0.49
2:D:174:VAL:HG22	2:D:193:VAL:HB	1.93	0.49
1:E:90:GLN:OE1	1:E:92:TYR:HD2	1.95	0.49
2:L:175:HIS:CE1	2:L:192:VAL:HB	2.47	0.49
3:M:57:PRO:O	3:M:60:ARG:N	2.44	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:16:GLY:O	1:A:78:ARG:HG3	2.12	0.49
1:A:24:ARG:HG3	1:A:71:ASP:OD1	2.11	0.49
1:A:57:THR:O	1:A:58:ASP:HB2	2.12	0.49
2:B:52:SER:O	2:B:72:ARG:NH1	2.46	0.49
2:D:100:LEU:HD23	2:D:112:ASP:HB3	1.94	0.49
2:F:111:MET:HE3	2:F:114:TRP:CZ2	2.47	0.49
2:H:53:ASP:OD1	2:H:53:ASP:N	2.45	0.49
2:H:163:VAL:HA	2:H:208:ASN:O	2.13	0.49
1:I:55:ARG:HH12	1:I:64:THR:CG2	2.25	0.49
2:D:157:PHE:CE1	2:D:158:PRO:HB3	2.47	0.49
1:E:4:LEU:HD23	1:E:23:CYS:SG	2.52	0.49
1:G:211:PHE:CD1	1:G:211:PHE:C	2.91	0.49
1:I:50:TYR:OH	2:J:103:ASN:CG	2.55	0.49
2:J:148:ALA:HB2	2:J:194:THR:HG22	1.94	0.49
3:X:43:PRO:HG2	3:X:44:TYR:H	1.76	0.49
2:B:2:VAL:CG2	1:K:30:SER:HB2	2.42	0.49
2:F:53:ASP:OD2	3:M:54:SER:HB2	2.12	0.49
1:C:123:SER:OG	2:D:133:PHE:HB3	2.13	0.49
2:D:17:SER:HA	2:D:83:MET:O	2.12	0.49
1:E:148:VAL:HG22	1:E:198:VAL:HG22	1.93	0.49
2:H:36:TRP:CE2	2:H:81:LEU:HB2	2.48	0.49
1:C:31:ASN:HA	1:C:32:ASN:C	2.38	0.49
1:E:16:GLY:H	1:E:79:LEU:HB2	1.76	0.49
2:F:195:VAL:HG11	2:F:205:TYR:CE1	2.48	0.49
2:H:225:LYS:O	2:H:227:CYS:N	2.46	0.49
2:J:5:VAL:HG22	2:J:116:GLN:HE22	1.76	0.49
2:L:153:VAL:HB	2:L:189:LEU:HG	1.95	0.49
1:G:107:GLU:OE1	1:G:175:TYR:OH	2.31	0.49
1:I:68:SER:CA	1:I:72:PHE:HE1	2.26	0.49
2:D:141:SER:C	2:D:143:SER:H	2.20	0.48
1:A:90:GLN:HE22	2:B:111:MET:HE2	1.78	0.48
2:B:221:LYS:HE2	2:B:223:GLU:OE2	2.13	0.48
1:C:45:PRO:HD2	2:D:114:TRP:CE3	2.47	0.48
2:H:29:PHE:O	2:H:72:ARG:NH2	2.45	0.48
1:A:127:LEU:C	1:A:129:SER:H	2.21	0.48
1:C:131:THR:HA	1:C:184:SER:HA	1.95	0.48
1:C:16:GLY:HA2	1:C:78:ARG:HG3	1.95	0.48
2:F:150:GLY:HA2	2:F:165:TRP:CH2	2.48	0.48
2:H:10:GLY:N	2:H:119:THR:O	2.46	0.48
2:H:18:LEU:HD12	2:H:19:ARG:N	2.24	0.48
1:I:8:PRO:O	1:I:104:THR:HG23	2.13	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:I:56:ALA:O	1:I:59:THR:N	2.46	0.48
1:I:62:ARG:NH2	1:I:83:ASP:OD1	2.45	0.48
2:L:100:LEU:HD21	2:L:112:ASP:HB3	1.95	0.48
1:G:189:GLU:HA	1:G:213:ARG:CZ	2.43	0.48
1:I:120:PHE:CE1	2:J:149:LEU:HA	2.49	0.48
1:I:151:LYS:HD3	1:I:154:ASN:HA	1.94	0.48
2:L:68:PHE:CD1	2:L:83:MET:HA	2.47	0.48
1:A:16:GLY:O	1:A:78:ARG:HA	2.14	0.48
2:H:98:LYS:O	2:H:111:MET:HA	2.13	0.48
1:I:118:PHE:HE1	2:J:144:GLY:HA3	1.78	0.48
1:I:146:ALA:HB2	1:I:200:HIS:HD2	1.78	0.48
1:K:149:GLN:HB3	1:K:156:LEU:HD13	1.96	0.48
2:L:37:VAL:HA	2:L:48:VAL:HG23	1.96	0.48
3:X:43:PRO:CG	3:X:44:TYR:H	2.25	0.48
1:A:114:ALA:HB2	1:A:202:GLY:HA3	1.95	0.48
2:B:98:LYS:NZ	2:B:99:VAL:O	2.41	0.48
2:F:103:ASN:C	2:F:105:TYR:N	2.71	0.48
1:G:84:PHE:CD2	1:G:108:ILE:HG13	2.49	0.48
1:G:200:HIS:HB3	1:G:203:LEU:HG	1.96	0.48
2:J:18:LEU:HB3	2:J:86:LEU:HD11	1.94	0.48
2:L:16:LYS:HD3	2:L:16:LYS:N	2.28	0.48
2:L:68:PHE:HA	2:L:82:GLN:O	2.14	0.48
2:H:5:VAL:HG22	2:H:116:GLN:NE2	2.28	0.48
1:I:142:TYR:CD1	1:I:143:PRO:HA	2.48	0.48
1:K:34:LEU:HG	1:K:35:ALA:N	2.29	0.48
2:J:2:VAL:HG12	2:J:113:VAL:HG11	1.96	0.48
1:A:153:ASP:O	1:A:154:ASN:HB2	2.13	0.47
1:G:41:PRO:O	1:G:43:GLN:HG3	2.14	0.47
2:L:103:ASN:C	2:L:105:TYR:N	2.72	0.47
2:L:151:CYS:H	2:L:165:TRP:HZ2	1.61	0.47
1:A:200:HIS:CG	1:A:201:GLN:H	2.33	0.47
2:B:98:LYS:O	2:B:99:VAL:HB	2.14	0.47
2:L:111:MET:HE3	2:L:114:TRP:CZ2	2.49	0.47
1:C:68:SER:HB2	2:H:105:TYR:O	2.15	0.47
1:E:194:TYR:HD2	1:E:211:PHE:CZ	2.32	0.47
1:G:13:LEU:HD12	1:G:106:LEU:HD11	1.96	0.47
2:H:14:PRO:HD3	2:H:123:SER:O	2.14	0.47
2:L:61:GLU:HG2	2:L:64:VAL:HG22	1.96	0.47
2:D:53:ASP:OD1	2:D:53:ASP:N	2.46	0.47
1:E:171:LYS:HE3	2:F:173:GLY:HA2	1.95	0.47
2:H:138:SER:OG	2:H:139:SER:N	2.46	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:K:122:PRO:HD3	1:K:134:VAL:HG22	1.97	0.47
2:D:130:PRO:HA	2:D:155:ASP:O	2.15	0.47
2:L:175:HIS:CE1	2:L:192:VAL:C	2.93	0.47
1:G:98:TYR:CD2	2:H:35:HIS:HE1	2.33	0.47
2:H:86:LEU:HB3	2:H:122:VAL:HG21	1.96	0.47
2:L:13:GLN:HB2	2:L:16:LYS:HG2	1.96	0.47
3:M:48:GLN:C	3:M:50:PRO:HD3	2.38	0.47
1:C:33:PHE:O	1:C:91:TYR:HA	2.14	0.47
1:C:33:PHE:HA	1:C:92:TYR:O	2.13	0.47
2:H:179:ALA:HA	2:H:189:LEU:HB3	1.97	0.47
2:J:2:VAL:HG13	2:J:27:PHE:HD2	1.78	0.47
1:K:124:ASP:HA	1:K:127:LEU:HD12	1.96	0.47
3:M:56:ASP:C	3:M:60:ARG:HB2	2.39	0.47
1:E:28:ALA:HA	1:E:69:GLY:O	2.14	0.47
1:K:50:TYR:CZ	1:K:54:ARG:HB3	2.49	0.47
1:K:183:LEU:HD13	1:K:187:ASP:HB3	1.97	0.47
2:B:144:GLY:CA	2:H:85:GLY:HA3	2.45	0.47
2:D:27:PHE:O	2:D:29:PHE:N	2.48	0.47
1:E:55:ARG:HH12	1:E:64:THR:HG22	1.80	0.47
2:J:111:MET:HE3	2:J:114:TRP:HZ2	1.76	0.47
2:B:179:ALA:HA	2:B:189:LEU:HB3	1.97	0.47
2:D:98:LYS:O	2:D:111:MET:HA	2.14	0.47
2:J:154:LYS:NZ	2:J:182:GLN:OE1	2.42	0.47
2:B:130:PRO:CB	2:B:156:TYR:HB3	2.41	0.46
1:C:152:VAL:HG13	1:C:194:TYR:CD1	2.49	0.46
2:F:135:LEU:N	2:F:150:GLY:O	2.33	0.46
1:G:72:PHE:HD1	1:G:72:PHE:N	2.13	0.46
1:G:72:PHE:N	1:G:72:PHE:CD1	2.82	0.46
2:H:177:PHE:HB2	2:H:190:SER:HB2	1.97	0.46
1:K:96:PRO:HB3	1:K:98:TYR:CE2	2.50	0.46
1:A:183:LEU:HA	1:A:183:LEU:HD23	1.55	0.46
2:B:60:TYR:CZ	2:B:70:ILE:HG22	2.51	0.46
2:F:217:LYS:HD2	2:F:217:LYS:HA	1.76	0.46
1:A:116:SER:OG	2:H:87:ARG:NH1	2.48	0.46
1:C:24:ARG:HA	1:C:70:THR:O	2.14	0.46
2:D:20:LEU:O	2:D:80:TYR:HA	2.16	0.46
2:D:67:ARG:HB3	2:D:84:ASN:O	2.15	0.46
1:G:137:LEU:HD22	2:H:192:VAL:HG11	1.97	0.46
1:E:150:TRP:HE1	1:E:161:SER:CB	2.29	0.46
1:K:117:VAL:O	1:K:209:LYS:HE3	2.15	0.46
2:L:136:ALA:HB2	2:L:148:ALA:O	2.16	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:L:159:GLU:HG2	2:L:187:TYR:CD2	2.50	0.46
1:C:80:GLU:HG2	1:C:81:PRO:HD2	1.97	0.46
1:A:92:TYR:CD1	2:B:109:PHE:HA	2.51	0.46
1:C:120:PHE:HB3	2:D:135:LEU:HD22	1.98	0.46
2:H:134:PRO:HD3	2:H:220:LYS:HE2	1.97	0.46
1:I:84:PHE:CD1	1:I:108:ILE:HG13	2.50	0.46
1:I:141:PHE:CE1	1:I:176:SER:HA	2.49	0.46
2:J:30:ARG:HB2	2:J:30:ARG:NH1	2.31	0.46
1:K:31:ASN:HA	1:K:32:ASN:C	2.40	0.46
1:E:120:PHE:HB2	1:E:135:VAL:HB	1.96	0.46
1:G:32:ASN:O	1:G:33:PHE:CB	2.63	0.46
1:I:4:LEU:HD11	1:I:91:TYR:HB2	1.96	0.46
1:I:189:GLU:HA	1:I:213:ARG:CZ	2.46	0.46
1:K:57:THR:O	1:K:58:ASP:HB2	2.15	0.46
2:L:139:SER:OG	2:L:225:LYS:NZ	2.48	0.46
2:L:165:TRP:CD2	2:L:207:CYS:HB3	2.51	0.46
2:B:211:HIS:HB3	2:B:216:THR:HB	1.98	0.46
1:C:187:ASP:HA	1:C:190:LYS:HD2	1.96	0.46
1:E:137:LEU:HD12	1:E:138:LEU:N	2.31	0.46
1:G:120:PHE:HB3	2:H:135:LEU:HB3	1.97	0.46
1:K:7:SER:HA	1:K:8:PRO:C	2.41	0.46
1:A:61:ASP:O	1:I:28:ALA:HB3	2.15	0.46
1:I:108:ILE:HD12	1:I:168:GLN:OE1	2.15	0.46
2:B:1:GLN:H1	1:E:18:ARG:HH22	1.61	0.46
1:G:153:ASP:O	1:G:154:ASN:HB2	2.16	0.46
1:I:152:VAL:HG22	1:I:194:TYR:HD1	1.81	0.46
1:K:213:ARG:NH2	1:K:215:GLU:HG3	2.30	0.46
2:L:128:LYS:HZ1	2:L:155:ASP:HB3	1.81	0.46
1:C:32:ASN:O	1:C:33:PHE:HB2	2.15	0.45
1:E:153:ASP:O	1:E:154:ASN:HB2	2.16	0.45
2:J:60:TYR:CD1	2:J:60:TYR:N	2.84	0.45
3:M:62:PRO:CG	3:M:63:TYR:H	2.29	0.45
1:A:54:ARG:HH11	2:L:104:GLU:HG3	1.82	0.45
1:A:200:HIS:CG	1:A:201:GLN:N	2.85	0.45
1:G:18:ARG:HG3	1:G:77:THR:HA	1.99	0.45
1:I:38:GLN:OE1	1:I:46:ARG:NH1	2.49	0.45
2:L:60:TYR:CZ	2:L:70:ILE:HG22	2.51	0.45
2:L:111:MET:HE3	2:L:114:TRP:HZ2	1.81	0.45
3:M:56:ASP:HB3	3:M:60:ARG:HG2	1.97	0.45
1:A:93:SER:HB3	1:A:95:SER:O	2.16	0.45
1:C:16:GLY:O	1:C:78:ARG:HG3	2.16	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:127:LEU:C	1:E:129:SER:H	2.25	0.45
2:F:11:VAL:HG21	2:F:158:PRO:HG3	1.98	0.45
1:K:1:GLU:OE2	1:K:97:PRO:HD2	2.16	0.45
1:K:4:LEU:HD23	1:K:89:CYS:SG	2.55	0.45
2:L:12:VAL:HG11	2:L:86:LEU:HD13	1.98	0.45
2:L:166:ASN:N	2:L:206:ILE:O	2.35	0.45
2:L:192:VAL:HG12	2:L:193:VAL:N	2.32	0.45
1:C:114:ALA:HB2	1:C:202:GLY:HA3	1.99	0.45
1:C:155:ALA:O	1:C:157:GLN:NE2	2.49	0.45
1:E:171:LYS:HE3	2:F:173:GLY:CA	2.46	0.45
2:F:5:VAL:HG13	2:F:116:GLN:HE22	1.82	0.45
2:J:211:HIS:CE1	2:J:213:PRO:HD2	2.51	0.45
2:L:18:LEU:O	2:L:83:MET:HB2	2.16	0.45
2:L:100:LEU:CD2	2:L:112:ASP:HB3	2.46	0.45
1:C:160:ASN:HB3	1:C:181:LEU:HD13	1.98	0.45
2:D:19:ARG:HB2	2:D:82:GLN:HA	1.99	0.45
2:J:199:SER:HA	2:J:202:THR:OG1	2.17	0.45
1:K:68:SER:O	1:K:70:THR:N	2.45	0.45
1:A:79:LEU:HA	1:A:79:LEU:HD23	1.72	0.45
2:B:29:PHE:HE2	2:B:78:THR:N	2.14	0.45
3:M:57:PRO:HD2	3:M:60:ARG:HH21	1.82	0.45
2:B:36:TRP:CE2	2:B:81:LEU:HB2	2.51	0.45
2:D:94:TYR:O	2:D:117:GLY:HA2	2.16	0.45
2:F:141:SER:HB2	2:F:147:ALA:HB1	1.99	0.45
1:G:162:GLN:HE22	2:H:182:GLN:HA	1.82	0.45
1:I:29:ILE:HD11	1:I:72:PHE:HE2	1.81	0.45
2:L:137:PRO:HD3	2:L:147:ALA:HA	1.98	0.45
2:B:108:TYR:CE1	2:B:109:PHE:CE1	3.05	0.45
1:G:211:PHE:HB2	2:H:140:LYS:HB3	1.98	0.45
1:I:63:PHE:HD1	1:I:76:ILE:HG12	1.80	0.45
1:I:126:GLN:HE22	2:J:135:LEU:HD21	1.80	0.45
2:J:33:ALA:CB	3:X:63:TYR:HB3	2.47	0.45
2:D:31:ARG:NH1	1:E:94:ASP:OD1	2.50	0.45
2:D:211:HIS:HB3	2:D:216:THR:HB	1.99	0.45
2:F:111:MET:HE3	2:F:114:TRP:CH2	2.51	0.45
2:F:189:LEU:HD12	2:F:190:SER:N	2.32	0.45
2:H:107:LEU:HD12	2:H:107:LEU:C	2.42	0.45
2:J:86:LEU:HB3	2:J:122:VAL:CG2	2.47	0.45
2:L:47:TRP:HZ2	2:L:50:VAL:HG12	1.82	0.45
1:A:72:PHE:N	1:A:72:PHE:CD1	2.84	0.45
1:G:126:GLN:HG2	1:G:131:THR:O	2.17	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:I:10:THR:HG23	1:I:105:LYS:HD3	1.99	0.45
1:K:171:LYS:HZ1	2:L:172:SER:HA	1.80	0.45
2:D:212:LYS:HB2	2:D:213:PRO:HD3	1.99	0.44
2:F:11:VAL:HA	2:F:121:THR:O	2.17	0.44
2:F:68:PHE:HA	2:F:82:GLN:O	2.17	0.44
1:I:122:PRO:HD2	1:I:188:TYR:CZ	2.51	0.44
1:I:177:LEU:HD23	1:I:178:SER:N	2.33	0.44
2:J:31:ARG:NH2	2:J:101:ASP:OD1	2.50	0.44
1:C:127:LEU:C	1:C:129:SER:H	2.25	0.44
2:F:53:ASP:HA	2:F:72:ARG:NH1	2.33	0.44
2:F:67:ARG:HH12	2:F:87:ARG:HG3	1.82	0.44
1:I:118:PHE:CD2	1:I:137:LEU:HD23	2.50	0.44
2:J:181:LEU:HD11	2:J:185:GLY:C	2.43	0.44
1:K:150:TRP:O	1:K:156:LEU:HA	2.17	0.44
2:D:100:LEU:HG	2:D:110:GLY:O	2.18	0.44
1:E:115:PRO:HB3	1:E:141:PHE:HB3	2.00	0.44
1:G:117:VAL:O	1:G:209:LYS:HE3	2.17	0.44
2:H:103:ASN:C	2:H:105:TYR:N	2.70	0.44
1:K:211:PHE:CD1	1:K:211:PHE:C	2.95	0.44
2:D:68:PHE:CE1	2:D:83:MET:HG2	2.52	0.44
2:F:100:LEU:HD21	2:F:112:ASP:HB3	1.99	0.44
1:I:108:ILE:H	1:I:168:GLN:HE22	1.65	0.44
2:L:41:PRO:O	2:L:43:LYS:HG2	2.17	0.44
2:L:128:LYS:NZ	2:L:155:ASP:HB3	2.33	0.44
1:A:14:SER:N	1:A:17:GLU:OE1	2.51	0.44
1:A:138:LEU:HD11	1:A:198:VAL:HG21	2.00	0.44
2:B:150:GLY:HA2	2:B:165:TRP:CH2	2.53	0.44
1:C:7:SER:HB3	1:C:24:ARG:HH12	1.82	0.44
2:H:211:HIS:CE1	2:H:213:PRO:HD2	2.52	0.44
1:I:149:GLN:CD	1:I:156:LEU:HD11	2.43	0.44
2:B:1:GLN:HG2	2:B:2:VAL:N	2.26	0.44
2:D:105:TYR:HB3	3:M:61:ASP:H	1.81	0.44
2:D:167:SER:O	1:K:43:GLN:HB3	2.18	0.44
2:D:167:SER:O	1:K:44:PRO:HD2	2.18	0.44
1:E:194:TYR:CD2	1:E:211:PHE:CZ	3.06	0.44
2:F:150:GLY:HA2	2:F:165:TRP:CZ2	2.53	0.44
1:G:3:VAL:HB	1:G:26:SER:HB3	1.99	0.44
1:K:110:ARG:HD3	1:K:142:TYR:HB2	2.00	0.44
1:K:133:SER:HA	1:K:181:LEU:O	2.18	0.44
1:C:40:ARG:HG2	1:C:85:ALA:HB2	1.99	0.44
1:C:72:PHE:N	1:C:72:PHE:CD1	2.85	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:116:GLN:OE1	2:D:116:GLN:N	2.48	0.44
1:G:8:PRO:HG2	1:G:11:LEU:HB2	1.99	0.44
1:I:92:TYR:HB3	2:J:109:PHE:HB3	2.00	0.44
2:J:67:ARG:HH22	2:J:90:ASP:CG	2.26	0.44
1:C:127:LEU:HD23	1:C:132:ALA:HB2	1.99	0.43
1:E:24:ARG:HA	1:E:70:THR:O	2.18	0.43
1:E:123:SER:OG	2:F:133:PHE:HB3	2.18	0.43
1:E:150:TRP:HE1	1:E:161:SER:HB3	1.82	0.43
2:F:141:SER:HB2	2:F:147:ALA:CB	2.47	0.43
1:G:79:LEU:HD23	1:G:79:LEU:HA	1.77	0.43
2:H:39:GLN:N	2:H:93:VAL:O	2.50	0.43
1:K:194:TYR:HE2	1:K:213:ARG:HD3	1.82	0.43
2:L:174:VAL:HG12	2:L:174:VAL:O	2.18	0.43
3:X:57:PRO:O	3:X:60:ARG:N	2.51	0.43
3:M:61:ASP:HB3	3:M:62:PRO:CD	2.48	0.43
2:B:167:SER:O	1:E:44:PRO:HD2	2.19	0.43
1:E:130:GLY:HA2	1:E:185:LYS:HB2	1.99	0.43
2:H:36:TRP:CD1	2:H:81:LEU:HD13	2.52	0.43
1:I:105:LYS:HE2	1:I:107:GLU:HB3	2.00	0.43
2:B:31:ARG:HD2	3:X:49:ASP:HB3	2.00	0.43
1:C:135:VAL:HG22	1:C:180:THR:OG1	2.18	0.43
2:D:67:ARG:NH1	2:D:85:GLY:O	2.51	0.43
1:E:141:PHE:N	1:E:174:THR:HB	2.33	0.43
1:G:57:THR:O	1:G:58:ASP:HB2	2.18	0.43
2:J:34:MET:HB2	2:J:79:LEU:HD13	2.00	0.43
1:A:62:ARG:HG2	1:A:62:ARG:NH1	2.32	0.43
1:A:80:GLU:HB3	1:A:81:PRO:HD2	2.00	0.43
2:F:146:THR:HA	2:F:196:PRO:HA	2.00	0.43
1:G:152:VAL:HB	1:G:157:GLN:NE2	2.33	0.43
2:J:206:ILE:CG1	2:J:221:LYS:HA	2.48	0.43
2:L:67:ARG:HH12	2:L:87:ARG:HG3	1.83	0.43
1:A:164:SER:O	1:A:177:LEU:HA	2.19	0.43
1:C:72:PHE:HD1	1:C:72:PHE:N	2.16	0.43
1:G:155:ALA:O	1:G:157:GLN:HG2	2.18	0.43
1:G:177:LEU:HD23	1:G:178:SER:N	2.33	0.43
2:L:175:HIS:HB3	2:L:176:THR:H	1.55	0.43
1:G:120:PHE:HB2	1:G:135:VAL:HB	2.00	0.43
1:I:181:LEU:HD12	1:I:182:THR:N	2.33	0.43
1:K:48:LEU:HD23	1:K:48:LEU:HA	1.80	0.43
1:K:118:PHE:HD2	1:K:137:LEU:HD23	1.84	0.43
2:D:209:VAL:O	2:D:217:LYS:HD2	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:J:211:HIS:ND1	2:J:213:PRO:HD2	2.34	0.43
2:L:14:PRO:HD3	2:L:123:SER:C	2.44	0.43
3:M:62:PRO:CD	3:M:63:TYR:H	2.32	0.43
1:A:2:VAL:HG22	1:A:27:GLN:HG2	2.00	0.43
1:G:109:LYS:HA	1:G:142:TYR:OH	2.19	0.43
1:I:118:PHE:CE1	2:J:144:GLY:HA3	2.53	0.43
2:J:13:GLN:HB2	2:J:16:LYS:HG2	2.00	0.43
2:J:221:LYS:HE2	2:J:223:GLU:HG2	2.00	0.43
2:L:2:VAL:O	2:L:3:GLN:HG3	2.19	0.43
2:B:211:HIS:CE1	2:B:213:PRO:HD2	2.54	0.43
1:E:19:ALA:HB3	1:E:76:ILE:HB	2.01	0.43
2:H:98:LYS:HG2	2:H:99:VAL:O	2.18	0.43
1:K:12:SER:HA	1:K:107:GLU:O	2.18	0.43
3:X:60:ARG:HG3	3:X:61:ASP:O	2.18	0.43
1:E:153:ASP:HB2	1:E:191:HIS:CD2	2.54	0.42
2:F:103:ASN:CB	2:F:107:LEU:H	2.31	0.42
2:H:206:ILE:HG23	2:H:220:LYS:C	2.44	0.42
1:I:55:ARG:HD3	1:I:61:ASP:HA	1.99	0.42
3:M:60:ARG:O	3:M:61:ASP:HB2	2.19	0.42
1:A:72:PHE:HD1	1:A:72:PHE:N	2.16	0.42
1:C:32:ASN:O	1:C:33:PHE:CB	2.67	0.42
1:E:133:SER:HA	1:E:181:LEU:O	2.19	0.42
2:J:4:LEU:HD23	2:J:24:ALA:HB2	2.01	0.42
2:J:146:THR:HB	2:J:197:SER:N	2.34	0.42
2:L:201:GLY:O	2:L:224:PRO:HG2	2.19	0.42
1:A:127:LEU:HB3	1:A:185:LYS:HE3	2.01	0.42
2:H:206:ILE:HG21	2:H:219:ASP:HB3	2.01	0.42
1:I:94:ASP:O	3:X:62:PRO:HG3	2.19	0.42
1:I:141:PHE:HE1	1:I:176:SER:HA	1.84	0.42
1:I:165:VAL:HG12	1:I:166:THR:O	2.18	0.42
2:L:30:ARG:HG2	2:L:74:ASN:HB3	2.00	0.42
1:A:48:LEU:HD23	1:A:48:LEU:HA	1.82	0.42
1:A:84:PHE:CE2	1:A:108:ILE:HG13	2.55	0.42
1:C:79:LEU:HA	1:C:79:LEU:HD23	1.72	0.42
2:D:152:LEU:HD21	2:D:154:LYS:HB2	2.01	0.42
1:E:7:SER:HA	1:E:8:PRO:C	2.44	0.42
1:E:138:LEU:O	1:E:176:SER:HA	2.18	0.42
2:F:25:SER:O	2:F:26:ALA:HB3	2.18	0.42
2:F:128:LYS:HG2	2:F:129:GLY:O	2.19	0.42
2:L:201:GLY:HA2	2:L:226:SER:HB3	2.01	0.42
1:C:100:PHE:HZ	2:D:111:MET:HE1	1.85	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:130:PRO:CB	2:D:156:TYR:HB3	2.45	0.42
1:E:19:ALA:O	1:E:75:THR:HA	2.19	0.42
3:X:50:PRO:HB2	3:X:51:TYR:H	1.34	0.42
1:E:29:ILE:HG13	1:E:30:SER:O	2.19	0.42
2:F:59:ASP:C	2:F:60:TYR:CD1	2.97	0.42
2:F:81:LEU:HA	2:F:81:LEU:HD12	1.73	0.42
2:F:123:SER:OG	2:F:124:SER:N	2.53	0.42
2:F:225:LYS:O	2:F:225:LYS:HG2	2.20	0.42
1:I:31:ASN:O	1:I:32:ASN:CG	2.63	0.42
2:J:51:ILE:HD11	2:J:55:GLY:HA2	2.02	0.42
2:J:170:LEU:HD21	2:J:193:VAL:HG21	2.02	0.42
2:L:157:PHE:HA	2:L:158:PRO:HA	1.75	0.42
1:E:31:ASN:HB2	1:E:72:PHE:HE2	1.85	0.42
2:F:108:TYR:CD1	2:F:108:TYR:N	2.87	0.42
1:G:166:THR:HG23	2:H:177:PHE:CD1	2.54	0.42
2:H:153:VAL:O	2:H:188:SER:HA	2.20	0.42
1:A:206:PRO:HD2	2:H:183:SER:HA	2.02	0.42
2:D:12:VAL:HG22	2:D:16:LYS:HB2	2.02	0.42
1:G:123:SER:OG	2:H:133:PHE:HB3	2.20	0.42
1:I:171:LYS:HZ1	2:J:172:SER:HA	1.84	0.42
1:K:194:TYR:HD2	1:K:211:PHE:CE1	2.38	0.42
3:M:43:PRO:HB2	3:M:44:TYR:H	1.44	0.42
1:A:120:PHE:CD1	2:B:135:LEU:HB3	2.54	0.42
2:F:5:VAL:HG13	2:F:116:GLN:NE2	2.35	0.42
2:F:108:TYR:CE2	3:M:52:SER:HA	2.54	0.42
1:K:50:TYR:O	1:K:54:ARG:HB2	2.20	0.42
1:K:194:TYR:HD2	1:K:211:PHE:CZ	2.38	0.42
3:X:60:ARG:HG3	3:X:61:ASP:N	2.35	0.42
1:A:177:LEU:HD23	1:A:178:SER:N	2.35	0.42
1:C:1:GLU:OE2	1:C:97:PRO:HD2	2.19	0.42
1:E:48:LEU:HD23	1:E:48:LEU:HA	1.78	0.42
2:H:164:SER:O	2:H:208:ASN:N	2.44	0.42
3:X:50:PRO:HG2	3:X:52:SER:CB	2.50	0.42
1:A:38:GLN:HG3	1:A:87:TYR:CE1	2.55	0.41
1:C:21:LEU:HD23	1:C:104:THR:HB	2.02	0.41
2:D:103:ASN:O	2:D:104:GLU:C	2.63	0.41
1:E:193:VAL:HG22	1:E:212:ASN:HA	2.01	0.41
1:K:44:PRO:HB3	2:L:95:TYR:CE2	2.54	0.41
1:A:4:LEU:HA	1:A:24:ARG:O	2.19	0.41
2:D:86:LEU:HA	2:D:86:LEU:HD23	1.73	0.41
2:J:36:TRP:CE2	2:J:81:LEU:HB2	2.55	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:J:212:LYS:HB2	2:J:213:PRO:HD3	2.02	0.41
1:C:142:TYR:CD1	1:C:143:PRO:HA	2.55	0.41
1:C:153:ASP:O	1:C:154:ASN:HB2	2.20	0.41
1:E:37:TYR:CE2	1:E:47:LEU:HD13	2.55	0.41
2:F:98:LYS:HE3	2:F:113:VAL:CG2	2.50	0.41
2:H:78:THR:HG22	2:H:79:LEU:N	2.36	0.41
2:J:61:GLU:HG2	2:J:64:VAL:HG22	2.01	0.41
3:X:61:ASP:HB3	3:X:64:SER:HB2	2.01	0.41
1:E:5:THR:O	1:E:23:CYS:HA	2.20	0.41
2:F:161:VAL:CG1	2:F:189:LEU:HD21	2.50	0.41
2:H:2:VAL:HG12	2:H:113:VAL:HG11	2.03	0.41
1:I:32:ASN:O	1:I:33:PHE:HB2	2.19	0.41
1:I:126:GLN:HG3	2:J:133:PHE:CD2	2.55	0.41
3:M:42:ASP:N	3:M:43:PRO:HD3	2.35	0.41
3:M:50:PRO:HB2	3:M:51:TYR:H	1.24	0.41
2:B:154:LYS:HE3	2:B:155:ASP:OD2	2.20	0.41
1:E:31:ASN:HA	1:E:32:ASN:O	2.21	0.41
1:E:115:PRO:HD3	1:E:200:HIS:ND1	2.36	0.41
2:J:27:PHE:CE1	2:J:29:PHE:HA	2.56	0.41
2:J:64:VAL:HB	2:J:68:PHE:CD2	2.55	0.41
2:L:68:PHE:CE1	2:L:83:MET:HG2	2.55	0.41
1:A:62:ARG:HB2	1:A:77:THR:OG1	2.21	0.41
2:B:57:ARG:HD2	2:B:57:ARG:HA	1.88	0.41
2:B:212:LYS:HD2	1:E:170:SER:CB	2.51	0.41
1:E:45:PRO:HD2	2:F:114:TRP:CE3	2.56	0.41
1:I:152:VAL:HG22	1:I:194:TYR:CD1	2.55	0.41
2:J:83:MET:HB3	2:J:86:LEU:HD21	2.03	0.41
1:C:127:LEU:HD23	1:C:127:LEU:HA	1.91	0.41
1:C:160:ASN:HB3	1:C:181:LEU:CD1	2.51	0.41
1:C:194:TYR:HB2	1:C:211:PHE:CE1	2.56	0.41
2:F:18:LEU:HD12	2:F:19:ARG:N	2.32	0.41
2:F:27:PHE:CZ	2:F:98:LYS:HD3	2.56	0.41
1:G:97:PRO:CB	1:G:99:THR:HG23	2.47	0.41
2:H:150:GLY:HA2	2:H:165:TRP:CH2	2.55	0.41
2:H:163:VAL:HG22	2:H:209:VAL:HG22	2.03	0.41
2:J:174:VAL:HG22	2:J:193:VAL:HB	2.01	0.41
1:A:31:ASN:HA	1:A:32:ASN:C	2.46	0.41
2:D:200:LEU:HD23	2:D:200:LEU:HA	1.94	0.41
2:F:69:THR:HB	2:F:82:GLN:HB3	2.02	0.41
1:G:142:TYR:CD1	1:G:143:PRO:HA	2.56	0.41
2:H:36:TRP:NE1	2:H:81:LEU:HB2	2.35	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:I:121:PRO:HG3	1:I:211:PHE:CD2	2.56	0.41
1:I:189:GLU:CG	1:I:213:ARG:HH12	2.18	0.41
2:J:138:SER:OG	2:J:139:SER:N	2.53	0.41
2:J:206:ILE:HG12	2:J:221:LYS:HA	2.02	0.41
1:C:127:LEU:O	1:C:185:LYS:HD2	2.20	0.41
1:C:203:LEU:HD23	1:C:203:LEU:HA	1.85	0.41
2:D:18:LEU:O	2:D:83:MET:N	2.50	0.41
2:D:102:TYR:HD1	3:M:55:GLN:CG	2.24	0.41
1:E:137:LEU:C	1:E:138:LEU:HD12	2.44	0.41
1:E:150:TRP:CG	1:E:181:LEU:HD22	2.56	0.41
1:G:80:GLU:HB3	1:G:81:PRO:HD2	2.03	0.41
1:K:62:ARG:HG2	1:K:62:ARG:HH11	1.85	0.41
1:K:120:PHE:CD2	2:L:135:LEU:HB3	2.55	0.41
1:K:152:VAL:HG13	1:K:194:TYR:CD1	2.56	0.41
2:L:30:ARG:CZ	2:L:30:ARG:HB2	2.51	0.41
3:X:47:SER:O	3:X:47:SER:OG	2.32	0.41
2:B:111:MET:HE3	2:B:114:TRP:CH2	2.56	0.41
1:C:138:LEU:HB2	1:C:177:LEU:HB3	2.02	0.41
1:G:40:ARG:HG2	1:G:85:ALA:HB2	2.03	0.41
2:H:138:SER:HB3	2:H:224:PRO:HA	2.02	0.41
2:J:154:LYS:HE3	2:J:155:ASP:OD2	2.21	0.41
2:J:179:ALA:HA	2:J:189:LEU:HB3	2.02	0.41
2:L:53:ASP:OD1	2:L:53:ASP:N	2.54	0.41
2:B:103:ASN:O	2:B:104:GLU:C	2.63	0.40
1:C:162:GLN:O	1:C:179:SER:HA	2.21	0.40
2:D:195:VAL:HG21	2:D:205:TYR:CE2	2.57	0.40
2:F:108:TYR:CD2	3:M:53:PRO:HD2	2.56	0.40
1:G:55:ARG:NH1	1:G:64:THR:HG22	2.35	0.40
1:G:153:ASP:OD2	1:G:191:HIS:HB3	2.22	0.40
2:J:83:MET:HE3	2:J:86:LEU:HD21	2.03	0.40
2:B:27:PHE:O	2:B:29:PHE:N	2.54	0.40
2:F:86:LEU:HD23	2:F:86:LEU:HA	1.77	0.40
1:K:120:PHE:HA	1:K:121:PRO:HD3	1.95	0.40
2:D:98:LYS:HE3	2:D:113:VAL:HG23	2.03	0.40
1:G:48:LEU:HA	1:G:48:LEU:HD23	1.67	0.40
2:H:81:LEU:HA	2:H:81:LEU:HD12	1.87	0.40
1:C:195:ALA:HB2	1:C:210:SER:CB	2.50	0.40
2:D:154:LYS:HE3	2:D:155:ASP:OD2	2.22	0.40
2:F:91:THR:HG23	2:F:121:THR:HA	2.02	0.40
2:F:189:LEU:HD12	2:F:190:SER:O	2.22	0.40
2:F:195:VAL:HG11	2:F:205:TYR:CZ	2.57	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:F:212:LYS:N	2:F:213:PRO:CD	2.84	0.40
2:H:221:LYS:CG	2:H:223:GLU:HG2	2.52	0.40
2:J:174:VAL:HG13	2:J:192:VAL:O	2.22	0.40

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

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:19:ARG:NH2	2:F:214:SER:O[4_455]	2.06	0.14

5.3 Torsion angles (i)

5.3.1 Protein backbone (i)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
1	A	214/216 (99%)	189 (88%)	20 (9%)	5 (2%)	5 29
1	C	214/216 (99%)	190 (89%)	19 (9%)	5 (2%)	5 29
1	E	214/216 (99%)	188 (88%)	22 (10%)	4 (2%)	6 33
1	G	214/216 (99%)	194 (91%)	19 (9%)	1 (0%)	24 59
1	I	214/216 (99%)	191 (89%)	22 (10%)	1 (0%)	24 59
1	K	214/216 (99%)	194 (91%)	17 (8%)	3 (1%)	9 39
2	B	225/233 (97%)	194 (86%)	26 (12%)	5 (2%)	5 29
2	D	225/233 (97%)	197 (88%)	22 (10%)	6 (3%)	4 25
2	F	225/233 (97%)	203 (90%)	19 (8%)	3 (1%)	9 40
2	H	225/233 (97%)	207 (92%)	14 (6%)	4 (2%)	6 34
2	J	225/233 (97%)	202 (90%)	16 (7%)	7 (3%)	3 22
2	L	225/233 (97%)	192 (85%)	21 (9%)	12 (5%)	1 12
3	M	24/152 (16%)	10 (42%)	4 (17%)	10 (42%)	0 0

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
3	X	24/152 (16%)	10 (42%)	5 (21%)	9 (38%)	0 0
All	All	2682/2998 (90%)	2361 (88%)	246 (9%)	75 (3%)	4 25

All (75) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	32	ASN
2	B	99	VAL
2	B	104	GLU
1	C	32	ASN
2	D	104	GLU
2	D	143	SER
1	E	32	ASN
1	E	213	ARG
2	F	102	TYR
2	F	138	SER
1	G	58	ASP
2	H	102	TYR
2	H	226	SER
1	I	58	ASP
2	J	99	VAL
2	J	102	TYR
2	J	104	GLU
2	J	198	SER
1	K	32	ASN
2	L	102	TYR
2	L	104	GLU
2	L	141	SER
2	L	174	VAL
3	X	43	PRO
3	X	50	PRO
3	X	58	ASP
3	X	62	PRO
3	X	65	PRO
3	X	66	SER
3	M	43	PRO
3	M	50	PRO
3	M	58	ASP
3	M	60	ARG
3	M	61	ASP
3	M	62	PRO
3	M	66	SER

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Mol	Chain	Res	Type
1	A	33	PHE
2	B	139	SER
2	B	215	ASN
1	C	33	PHE
1	E	69	GLY
2	F	104	GLU
2	L	172	SER
2	L	197	SER
3	X	57	PRO
3	X	60	ARG
3	M	57	PRO
3	M	65	PRO
2	B	102	TYR
1	C	128	LYS
2	D	138	SER
1	E	157	GLN
2	H	104	GLU
2	J	98	LYS
2	J	203	GLN
1	K	69	GLY
2	L	176	THR
2	L	198	SER
1	A	68	SER
2	D	102	TYR
2	D	215	ASN
2	H	137	PRO
2	L	103	ASN
1	A	128	LYS
1	C	140	ASN
1	C	186	ALA
2	D	28	THR
1	K	33	PHE
2	L	225	LYS
3	X	53	PRO
1	A	52	SER
2	J	137	PRO
2	L	2	VAL
2	L	136	ALA
3	M	53	PRO

5.3.2 Protein sidechains (i)

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
1	A	191/191 (100%)	190 (100%)	1 (0%)	81 85
1	C	191/191 (100%)	190 (100%)	1 (0%)	81 85
1	E	191/191 (100%)	191 (100%)	0	100 100
1	G	191/191 (100%)	190 (100%)	1 (0%)	81 85
1	I	191/191 (100%)	190 (100%)	1 (0%)	81 85
1	K	191/191 (100%)	191 (100%)	0	100 100
2	B	191/197 (97%)	190 (100%)	1 (0%)	81 85
2	D	191/197 (97%)	190 (100%)	1 (0%)	81 85
2	F	191/197 (97%)	190 (100%)	1 (0%)	81 85
2	H	191/197 (97%)	190 (100%)	1 (0%)	81 85
2	J	191/197 (97%)	190 (100%)	1 (0%)	81 85
2	L	191/197 (97%)	190 (100%)	1 (0%)	81 85
3	M	26/139 (19%)	26 (100%)	0	100 100
3	X	26/139 (19%)	26 (100%)	0	100 100
All	All	2344/2606 (90%)	2334 (100%)	10 (0%)	84 86

All (10) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	216	CYS
2	B	227	CYS
1	C	216	CYS
2	D	227	CYS
2	F	227	CYS
1	G	216	CYS
2	H	227	CYS
1	I	216	CYS
2	J	227	CYS
2	L	151	CYS

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (31) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	160	ASN
2	B	39	GLN
2	B	77	ASN
2	B	116	GLN
2	B	210	ASN
1	C	39	GLN
2	D	39	GLN
2	D	182	GLN
1	E	39	GLN
2	F	13	GLN
2	F	39	GLN
2	F	210	ASN
1	G	39	GLN
1	G	139	ASN
1	G	149	GLN
1	G	157	GLN
1	G	160	ASN
1	G	200	HIS
1	G	212	ASN
2	H	39	GLN
1	I	126	GLN
1	I	157	GLN
1	I	200	HIS
1	I	212	ASN
2	J	3	GLN
2	J	13	GLN
2	J	116	GLN
1	K	39	GLN
1	K	157	GLN
2	L	166	ASN
2	L	182	GLN

5.3.3 RNA

There are no RNA molecules in this entry.

5.4 Non-standard residues in protein, DNA, RNA chains

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)

There are no ligands in this entry.

5.7 Other polymers (i)

There are no such residues in this entry.

5.8 Polymer linkage issues (i)

The following chains have linkage breaks:

Mol	Chain	Number of breaks
2	B	1

All chain breaks are listed below:

Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	B	222:ALA	C	223:GLU	N	1.09

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^{th} percentile and maximum values of the occupancy-weighted average B-factor per residue. The column labelled 'Q< 0.9' lists the number of (and percentage) of residues with an average occupancy less than 0.9.

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å^2)	Q<0.9
1	A	216/216 (100%)	-0.21	0 100 100	51, 66, 85, 136	0
1	C	216/216 (100%)	-0.12	0 100 100	48, 70, 102, 152	0
1	E	216/216 (100%)	0.26	3 (1%) 73 54	51, 85, 150, 175	0
1	G	216/216 (100%)	0.09	1 (0%) 87 76	49, 94, 140, 181	0
1	I	216/216 (100%)	0.25	5 (2%) 61 41	51, 102, 159, 172	0
1	K	216/216 (100%)	0.24	2 (0%) 81 64	57, 89, 149, 169	0
2	B	227/233 (97%)	-0.20	4 (1%) 67 48	48, 72, 95, 150	0
2	D	227/233 (97%)	-0.08	1 (0%) 88 79	53, 71, 106, 152	0
2	F	227/233 (97%)	-0.02	4 (1%) 67 48	50, 73, 140, 189	0
2	H	227/233 (97%)	0.15	7 (3%) 51 32	44, 75, 149, 174	0
2	J	227/233 (97%)	0.35	10 (4%) 39 24	54, 80, 167, 182	0
2	L	227/233 (97%)	0.57	18 (7%) 18 12	67, 105, 170, 180	0
3	M	26/152 (17%)	1.13	8 (30%) 1 1	55, 72, 99, 106	0
3	X	26/152 (17%)	0.98	3 (11%) 9 7	68, 85, 105, 116	0
All	All	2710/2998 (90%)	0.13	66 (2%) 59 40	44, 77, 150, 189	0

All (66) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
3	M	49	ASP	5.0
2	L	196	PRO	3.9
2	L	195	VAL	3.8
2	F	1	GLN	3.7
2	L	146	THR	3.6
2	D	138	SER	3.6
2	L	149	LEU	3.5
2	J	104	GLU	3.3

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Mol	Chain	Res	Type	RSRZ
3	M	61	ASP	3.2
2	J	105	TYR	3.2
2	H	141	SER	3.0
2	B	143	SER	3.0
2	L	194	THR	3.0
3	M	65	PRO	2.9
3	X	49	ASP	2.9
2	H	105	TYR	2.8
3	X	65	PRO	2.8
1	K	133	SER	2.7
2	L	175	HIS	2.6
2	L	174	VAL	2.6
2	L	137	PRO	2.6
2	H	143	SER	2.5
3	X	58	ASP	2.5
2	L	136	ALA	2.5
1	I	196	CYS	2.5
2	B	144	GLY	2.5
1	K	132	ALA	2.5
2	J	137	PRO	2.5
2	J	138	SER	2.5
3	M	64	SER	2.5
2	L	197	SER	2.4
2	B	142	THR	2.4
2	L	200	LEU	2.4
2	F	204	THR	2.4
2	L	134	PRO	2.4
2	J	141	SER	2.4
1	I	207	VAL	2.4
2	H	102	TYR	2.3
2	L	193	VAL	2.3
1	E	199	THR	2.3
2	H	1	GLN	2.3
2	J	224	PRO	2.3
3	M	62	PRO	2.3
1	E	186	ALA	2.3
2	F	227	CYS	2.3
1	I	148	VAL	2.3
2	J	102	TYR	2.3
3	M	48	GLN	2.3
2	L	227	CYS	2.3
2	L	102	TYR	2.2

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Mol	Chain	Res	Type	RSRZ
2	L	222	ALA	2.2
1	G	194	TYR	2.2
2	B	141	SER	2.2
2	L	147	ALA	2.2
2	L	203	GLN	2.2
2	F	225	LYS	2.2
2	J	222	ALA	2.1
2	J	160	PRO	2.1
3	M	50	PRO	2.1
2	H	138	SER	2.1
1	E	183	LEU	2.1
1	I	183	LEU	2.1
2	J	1	GLN	2.1
1	I	163	GLU	2.1
2	H	222	ALA	2.0
3	M	56	ASP	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 oligosaccharides in this entry.

6.4 Ligands (i)

There are no ligands in this entry.

6.5 Other polymers (i)

There are no such residues in this entry.