Full wwPDB X-ray Structure Validation Report ⓘ

Jan 31, 2016 – 07:28 PM GMT

PDB ID	:	1FQ3
Title	:	CRYSTAL STRUCTURE OF HUMAN GRANZYME B
Authors	:	Estebanez-Perpina, E.; Fuentes-Prior, P.; Belorgey, D.; Rubin, H.; Bode, W.
Deposited on	:	2000-09-03
Resolution	:	3.10 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
http://wwpdb.org/validation/2016/XrayValidationReportHelp
with specific help available everywhere you see the ⓘ symbol.

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

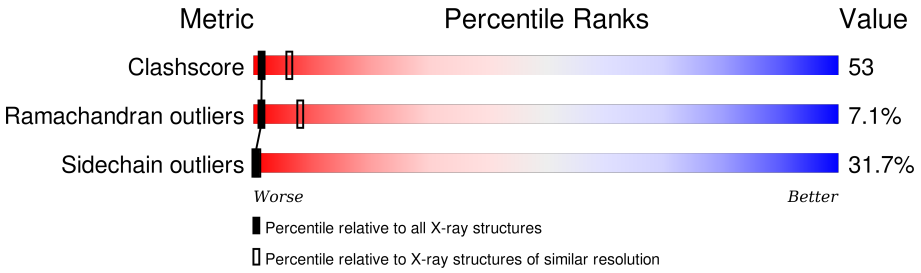
MolProbity	:	4.02b-467
Mogul	:	1.7 (RC4), CSD as536be (2015)
Xtriage (Phenix)	:	NOT EXECUTED
EDS	:	NOT EXECUTED
Percentile statistics	:	20151230.v01 (using entries in the PDB archive December 30th 2015)
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	trunk26865

1 Overall quality at a glance (i)

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

The reported resolution of this entry is 3.10 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))
Clashscore	102246	1222 (3.14-3.06)
Ramachandran outliers	100387	1174 (3.14-3.06)
Sidechain outliers	100360	1174 (3.14-3.06)

The table below summarises the geometric issues observed across the polymeric chains and their fit to the electron density. The red, orange, yellow and green segments on the lower bar indicate the fraction of residues that contain outliers for >=3, 2, 1 and 0 types of geometric quality criteria. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions <=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.

Note EDS was not executed.

Mol	Chain	Length	Quality of chain
1	A	227	28% 48% 22% .
1	B	227	29% 50% 19% .

2 Entry composition

There are 3 unique types of molecules in this entry. The entry contains 3670 atoms, of which 0 are hydrogens and 0 are deuteriums.

In the tables below, the ZeroOcc column contains the number of atoms modelled with zero occupancy, the AltConf column contains the number of residues with at least one atom in alternate conformation and the Trace column contains the number of residues modelled with at most 2 atoms.

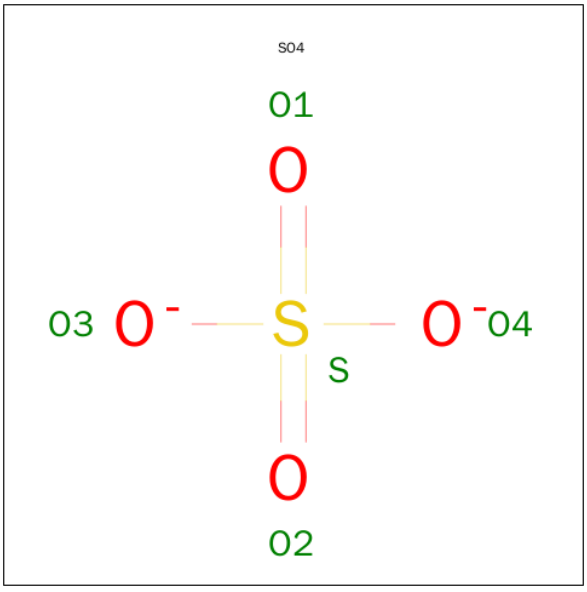
- Molecule 1 is a protein called GRANZYME B.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	227	Total	C	N	O	S	149	0	0
			1791	1130	328	320	13			
1	B	227	Total	C	N	O	S	103	0	0
			1791	1130	328	320	13			

- Molecule 2 is a polymer of unknown type called SUGAR (3-MER).

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
2	A	3	Total	C	N	O	0	0
			39	22	2	15		
2	B	3	Total	C	N	O	0	0
			39	22	2	15		

- Molecule 3 is SULFATE ION (three-letter code: SO4) (formula: O_4S).



Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
3	A	1	Total O S 5 4 1	0	0
3	B	1	Total O S 5 4 1	0	0

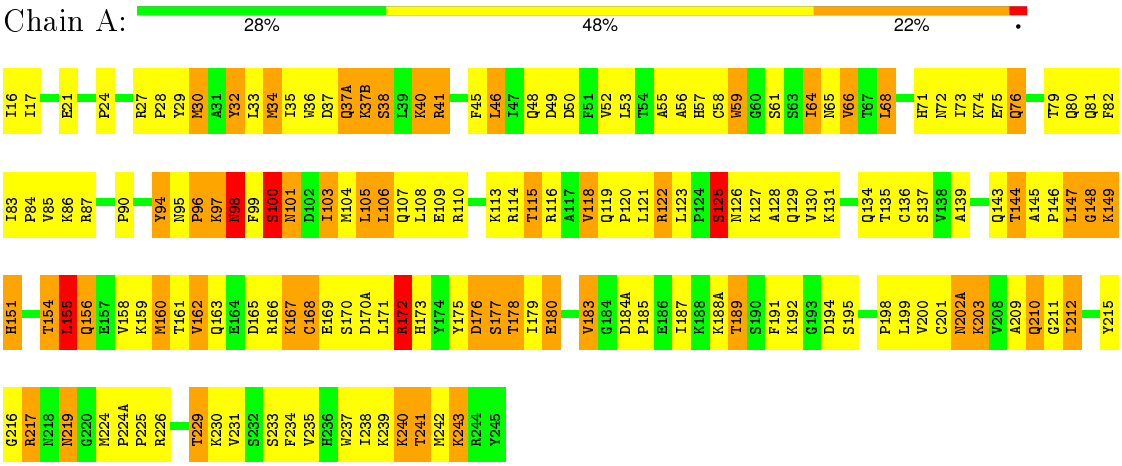
3 Residue-property plots (i)

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

Note EDS was not executed.

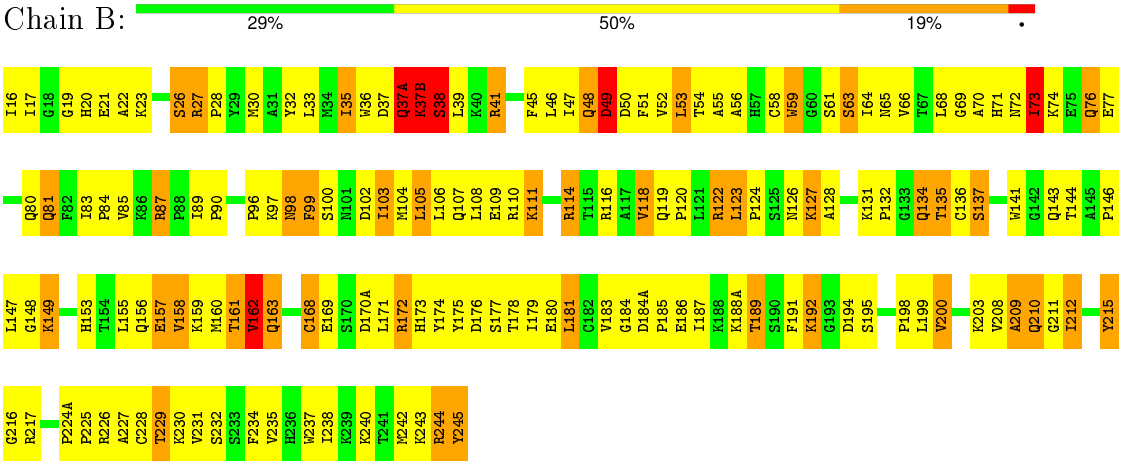
- Molecule 1: GRANZYME B

Chain A:



- Molecule 1: GRANZYME B

Chain B:



4 Data and refinement statistics (i)

Xtriage (Phenix) and EDS were not executed - this section will therefore be incomplete.

Property	Value	Source
Space group	P 21 21 21	Depositor
Cell constants a, b, c, α, β, γ	41.74Å 114.31Å 135.52Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	15.00 – 3.10	Depositor
% Data completeness (in resolution range)	(Not available) (15.00-3.10)	Depositor
R_{merge}	0.20	Depositor
R_{sym}	(Not available)	Depositor
Refinement program	X-PLOR	Depositor
R, R_{free}	0.227 , (Not available)	Depositor
Estimated twinning fraction	No twinning to report.	Xtriage
Total number of atoms	3670	wwPDB-VP
Average B, all atoms (Å^2)	29.0	wwPDB-VP

5 Model quality

5.1 Standard geometry

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

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	0.36	0/1836	0.62	1/2479 (0.0%)
1	B	0.37	0/1836	0.60	0/2479
All	All	0.37	0/3672	0.61	1/4958 (0.0%)

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

Mol	Chain	#Chirality outliers	#Planarity outliers
1	A	0	1

There are no bond length outliers.

All (1) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	38	SER	N-CA-C	6.62	128.88	111.00

There are no chirality outliers.

All (1) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	A	32	TYR	Sidechain

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	1791	0	1798	179	0
1	B	1791	0	1798	182	0
2	A	39	0	34	1	0
2	B	39	0	34	1	0
3	A	5	0	0	0	0
3	B	5	0	0	0	0
All	All	3670	0	3664	358	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 53.

All (358) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:219:ASN:HD22	1:A:224:MET:HB2	1.13	1.11
1:A:41:ARG:HG2	1:A:41:ARG:HH21	1.00	1.10
1:A:125:SER:HA	1:A:235:VAL:HG11	1.31	1.08
1:A:35:ILE:HG13	1:A:40:LYS:HB3	1.47	0.95
1:A:64:ILE:HB	1:A:85:VAL:HG11	1.50	0.92
1:A:219:ASN:ND2	1:A:224:MET:HB2	1.87	0.90
1:B:158:VAL:HG22	1:B:188(A):LYS:HD3	1.54	0.89
1:A:41:ARG:NH2	1:A:41:ARG:HG2	1.77	0.89
1:A:156:GLN:HA	1:A:156:GLN:OE1	1.73	0.87
1:A:97:LYS:HG3	1:A:97:LYS:O	1.76	0.85
1:A:56:ALA:HA	1:A:104:MET:HB2	1.61	0.82
1:A:64:ILE:O	1:A:85:VAL:HG12	1.79	0.81
1:B:184(A):ASP:O	1:B:187:ILE:HG13	1.80	0.81
1:A:35:ILE:CG1	1:A:40:LYS:HB3	2.11	0.80
1:B:171:LEU:HD21	1:B:216:GLY:HA2	1.64	0.78
1:A:179:ILE:O	1:A:230:LYS:HB3	1.84	0.78
1:B:184(A):ASP:HB3	1:B:187:ILE:HG12	1.64	0.77
1:A:35:ILE:HG22	1:A:64:ILE:HG23	1.67	0.76
1:B:54:THR:HG23	1:B:104:MET:HB3	1.68	0.76
1:A:17:ILE:HG12	1:A:145:ALA:H	1.52	0.75
1:A:202(A):ASN:O	1:A:203:LYS:HB2	1.86	0.75
1:B:65:ASN:OD1	1:B:84:PRO:HB3	1.87	0.74
1:B:124:PRO:HD3	1:B:209:ALA:O	1.87	0.74
1:B:176:ASP:O	1:B:180:GLU:HG2	1.87	0.74
1:A:66:VAL:HG11	1:A:108:LEU:CD2	2.17	0.74
1:A:146:PRO:HA	1:A:191:PHE:CE2	2.23	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:87:ARG:HE	1:B:107:GLN:NE2	1.86	0.73
1:A:45:PHE:CD1	1:A:198:PRO:HB3	2.25	0.72
1:A:136:CYS:O	1:A:160:MET:N	2.21	0.72
1:B:243:LYS:C	1:B:245:TYR:H	1.92	0.72
1:A:64:ILE:HB	1:A:85:VAL:CG1	2.19	0.72
1:B:68:LEU:HB3	1:B:118:VAL:HG21	1.71	0.72
1:A:66:VAL:HG22	1:A:83:ILE:O	1.91	0.71
1:A:37:ASP:O	1:A:37(A):GLN:HB2	1.90	0.71
1:B:35:ILE:HA	1:B:63:SER:O	1.91	0.70
1:A:179:ILE:HG13	1:A:180:GLU:HG2	1.71	0.70
1:B:103:ILE:HD11	1:B:238:ILE:HD11	1.73	0.70
1:A:41:ARG:CG	1:A:41:ARG:HH21	1.91	0.69
1:B:211:GLY:HA2	1:B:231:VAL:HG23	1.74	0.69
1:A:87:ARG:HB2	1:A:107:GLN:HB3	1.73	0.69
1:A:16:ILE:HG13	1:A:156:GLN:O	1.90	0.69
1:A:134:GLN:O	1:A:162:VAL:HG23	1.92	0.69
1:A:183:VAL:HG21	1:A:199:LEU:HD11	1.74	0.69
1:B:84:PRO:HG2	1:B:109:GLU:OE2	1.92	0.68
1:A:16:ILE:HB	1:A:156:GLN:HB3	1.73	0.68
1:A:17:ILE:HG12	1:A:145:ALA:N	2.09	0.67
1:A:155:LEU:HD22	1:A:156:GLN:H	1.59	0.67
1:A:66:VAL:HG11	1:A:108:LEU:HD21	1.77	0.67
1:A:128:ALA:O	1:A:129:GLN:HG2	1.95	0.67
1:B:27:ARG:HH22	1:B:137:SER:CB	2.08	0.67
1:B:23:LYS:O	1:B:26:SER:HB3	1.96	0.66
1:A:52:VAL:HG23	1:A:52:VAL:O	1.93	0.66
1:B:84:PRO:O	1:B:109:GLU:HB2	1.95	0.66
1:B:70:ALA:HB2	1:B:80:GLN:HG2	1.76	0.66
1:A:191:PHE:O	1:A:194:ASP:HB2	1.96	0.66
1:A:211:GLY:HA2	1:A:231:VAL:H	1.59	0.66
1:A:35:ILE:HD13	1:A:58:CYS:O	1.96	0.66
1:A:41:ARG:HE	1:A:151:HIS:CB	2.09	0.66
1:A:184(A):ASP:HB3	1:A:187:ILE:HG12	1.77	0.66
1:B:191:PHE:O	1:B:194:ASP:HB2	1.96	0.65
1:A:103:ILE:HB	1:A:212:ILE:HD11	1.79	0.65
1:B:64:ILE:HG22	1:B:85:VAL:HG21	1.79	0.65
1:B:242:MET:C	1:B:244:ARG:H	1.98	0.65
1:B:183:VAL:HG21	1:B:199:LEU:HD21	1.79	0.65
1:B:143:GLN:HE21	1:B:149:LYS:HA	1.61	0.65
1:A:179:ILE:HG13	1:A:180:GLU:N	2.12	0.64
1:B:47:ILE:HD13	1:B:53:LEU:HD22	1.78	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:45:PHE:CD1	1:B:198:PRO:HB3	2.32	0.64
1:A:56:ALA:HB1	1:A:94:TYR:CD1	2.32	0.64
1:A:224(A):PRO:HB2	1:A:225:PRO:HA	1.80	0.64
1:A:27:ARG:HD3	1:A:29:TYR:OH	1.99	0.63
1:A:46:LEU:HD13	1:A:68:LEU:HD13	1.81	0.63
1:B:122:ARG:O	1:B:208:VAL:HG13	1.99	0.63
1:B:181:LEU:HB3	1:B:230:LYS:HE3	1.80	0.62
1:A:215:TYR:HA	1:A:226:ARG:NH2	2.15	0.62
1:A:34:MET:O	2:A:600:NDG:H8C3	2.00	0.61
1:A:46:LEU:O	1:A:120:PRO:HA	2.00	0.61
1:A:234:PHE:O	1:A:238:ILE:HG13	1.99	0.61
1:A:176:ASP:O	1:A:180:GLU:HG3	2.00	0.61
1:A:35:ILE:CG2	1:A:64:ILE:HG23	2.30	0.61
1:B:46:LEU:O	1:B:120:PRO:HA	2.00	0.61
1:A:28:PRO:CB	1:A:119:GLN:HG3	2.31	0.61
1:A:37(A):GLN:O	1:A:38:SER:N	2.34	0.61
1:A:216:GLY:HA3	1:A:226:ARG:HD2	1.83	0.60
1:B:179:ILE:O	1:B:230:LYS:HB2	2.01	0.60
1:A:185:PRO:HA	1:A:224(A):PRO:HG2	1.82	0.60
1:B:32:TYR:OH	1:B:41:ARG:CZ	2.49	0.60
1:A:85:VAL:HG21	1:A:106:LEU:HB3	1.83	0.60
1:B:21:GLU:HA	1:B:156:GLN:NE2	2.16	0.60
1:A:85:VAL:CG2	1:A:106:LEU:HB3	2.32	0.60
1:B:85:VAL:HG21	1:B:106:LEU:HD13	1.83	0.60
1:B:64:ILE:CG2	1:B:85:VAL:HG21	2.32	0.60
1:B:59:TRP:HA	1:B:64:ILE:HD11	1.84	0.60
1:B:28:PRO:HB2	1:B:119:GLN:H	1.65	0.60
1:B:155:LEU:O	1:B:156:GLN:HG2	2.01	0.59
1:B:243:LYS:O	1:B:245:TYR:N	2.35	0.59
1:B:21:GLU:N	1:B:156:GLN:HE22	1.98	0.59
1:B:134:GLN:O	1:B:162:VAL:HG12	2.02	0.59
1:A:229:THR:HG23	1:A:234:PHE:HE1	1.65	0.59
1:B:96:PRO:O	1:B:97:LYS:HB2	2.03	0.59
1:B:189:THR:HB	1:B:224(A):PRO:HG3	1.85	0.59
1:B:35:ILE:HG22	1:B:64:ILE:HG12	1.84	0.59
1:A:115:THR:OG1	1:A:116:ARG:N	2.32	0.58
1:A:154:THR:HG23	1:A:155:LEU:O	2.03	0.58
1:B:27:ARG:HB3	1:B:30:MET:HG2	1.85	0.58
1:B:54:THR:OG1	1:B:55:ALA:N	2.37	0.58
1:A:209:ALA:C	1:A:211:GLY:H	2.07	0.58
1:A:37:ASP:O	1:A:37(A):GLN:CB	2.50	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:103:ILE:HG12	1:B:237:TRP:HZ3	1.69	0.57
1:B:52:VAL:O	1:B:52:VAL:HG23	2.04	0.57
1:A:241:THR:C	1:A:243:LYS:H	2.07	0.57
1:B:35:ILE:HD12	1:B:58:CYS:O	2.04	0.57
1:A:230:LYS:HG2	1:A:233:SER:H	1.70	0.57
1:A:59:TRP:HB2	1:A:104:MET:SD	2.45	0.57
1:A:35:ILE:HG22	1:A:64:ILE:HG12	1.87	0.57
1:B:27:ARG:HH22	1:B:137:SER:HB3	1.69	0.57
1:A:215:TYR:HA	1:A:226:ARG:HH22	1.69	0.57
1:B:83:ILE:HD13	1:B:108:LEU:HD23	1.87	0.57
1:A:94:TYR:HD2	1:A:95:ASN:N	2.03	0.57
1:B:55:ALA:HB2	1:B:212:ILE:HD11	1.87	0.57
1:B:64:ILE:HG21	1:B:106:LEU:HD13	1.85	0.57
1:B:174:TYR:HB3	1:B:215:TYR:OH	2.05	0.57
1:B:137:SER:HA	1:B:158:VAL:O	2.05	0.56
1:B:59:TRP:HB3	1:B:104:MET:SD	2.46	0.56
1:B:56:ALA:HA	1:B:104:MET:HB2	1.87	0.56
1:B:210:GLN:HA	1:B:210:GLN:OE1	2.05	0.56
1:A:241:THR:O	1:A:243:LYS:N	2.39	0.56
1:B:64:ILE:O	1:B:85:VAL:HB	2.05	0.56
1:B:181:LEU:CD1	1:B:228:CYS:HB2	2.36	0.56
1:B:148:GLY:O	1:B:149:LYS:HG2	2.05	0.56
1:A:191:PHE:CG	1:A:192:LYS:N	2.74	0.56
1:B:132:PRO:HA	1:B:162:VAL:HG22	1.88	0.56
1:A:45:PHE:CZ	1:A:212:ILE:HG22	2.41	0.55
1:A:59:TRP:CD1	1:A:59:TRP:C	2.80	0.55
1:A:28:PRO:HB2	1:A:119:GLN:HG3	1.88	0.55
1:B:184(A):ASP:HB3	1:B:187:ILE:CG1	2.34	0.55
1:A:139:ALA:HA	1:A:156:GLN:O	2.06	0.55
1:B:135:THR:HG23	1:B:161:THR:HG23	1.88	0.55
1:B:136:CYS:O	1:B:159:LYS:HA	2.07	0.55
1:A:21:GLU:HA	1:A:156:GLN:OE1	2.07	0.55
1:B:65:ASN:OD1	1:B:84:PRO:CB	2.54	0.55
1:A:147:LEU:O	1:A:148:GLY:O	2.25	0.55
1:A:64:ILE:CB	1:A:85:VAL:HG11	2.32	0.55
1:B:35:ILE:CG2	1:B:64:ILE:HG12	2.37	0.55
1:A:165:ASP:O	1:A:168:CYS:N	2.40	0.55
1:B:22:ALA:HB2	1:B:157:GLU:HG2	1.89	0.55
1:A:123:LEU:N	1:A:123:LEU:HD22	2.22	0.54
1:A:210:GLN:OE1	1:A:210:GLN:HA	2.05	0.54
1:A:83:ILE:HG21	1:A:108:LEU:HB3	1.90	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:41:ARG:HE	1:A:151:HIS:HB2	1.73	0.54
1:A:32:TYR:CZ	1:A:73:ILE:HD13	2.43	0.54
1:A:209:ALA:O	1:A:211:GLY:N	2.41	0.54
1:B:187:ILE:HD12	1:B:187:ILE:O	2.08	0.54
1:A:104:MET:CG	1:A:105:LEU:H	2.21	0.54
1:B:183:VAL:HG21	1:B:199:LEU:CD2	2.38	0.54
1:A:99:PHE:O	1:A:100:SER:O	2.25	0.54
1:B:104:MET:CG	1:B:105:LEU:H	2.22	0.54
1:B:131:LYS:N	1:B:134:GLN:OE1	2.41	0.54
1:B:17:ILE:HA	1:B:144:THR:O	2.07	0.54
1:B:19:GLY:CA	1:B:158:VAL:HG23	2.39	0.53
1:A:45:PHE:CE1	1:A:212:ILE:HG22	2.43	0.53
1:B:231:VAL:O	1:B:235:VAL:HG23	2.08	0.53
1:A:215:TYR:C	1:A:226:ARG:HH21	2.11	0.53
1:A:231:VAL:O	1:A:235:VAL:HG23	2.09	0.53
1:A:118:VAL:HG12	1:A:118:VAL:O	2.08	0.53
1:B:211:GLY:CA	1:B:231:VAL:HG23	2.38	0.52
1:B:191:PHE:CG	1:B:192:LYS:N	2.77	0.52
1:B:16:ILE:HB	1:B:156:GLN:HB3	1.90	0.52
1:B:243:LYS:C	1:B:245:TYR:N	2.61	0.52
1:A:240:LYS:O	1:A:243:LYS:HG3	2.09	0.52
1:B:37:ASP:O	1:B:37(A):GLN:O	2.27	0.52
1:A:76:GLN:HB2	1:B:59:TRP:CE3	2.44	0.52
1:B:35:ILE:O	1:B:35:ILE:HG12	2.09	0.52
1:B:229:THR:HG23	1:B:234:PHE:HE1	1.75	0.52
1:B:87:ARG:HB3	1:B:89:ILE:HD11	1.91	0.52
1:B:52:VAL:O	1:B:52:VAL:CG2	2.58	0.51
1:B:181:LEU:HD12	1:B:228:CYS:HB2	1.91	0.51
1:B:181:LEU:O	1:B:181:LEU:HD12	2.10	0.51
1:B:19:GLY:HA2	1:B:158:VAL:HG23	1.92	0.51
1:A:86:LYS:HB2	1:A:109:GLU:OE2	2.11	0.51
1:B:73:ILE:HD13	1:B:153:HIS:O	2.09	0.51
1:B:27:ARG:HH22	1:B:137:SER:HB2	1.75	0.51
1:B:168:CYS:SG	1:B:171:LEU:HD12	2.51	0.51
1:B:118:VAL:O	1:B:118:VAL:HG12	2.11	0.51
1:A:37:ASP:O	1:A:37:ASP:CG	2.49	0.51
1:B:170(A):ASP:C	1:B:172:ARG:H	2.14	0.51
1:A:160:MET:HE2	1:A:189:THR:HA	1.93	0.51
1:A:66:VAL:HG11	1:A:108:LEU:HD22	1.93	0.51
1:B:99:PHE:O	1:B:102:ASP:HB2	2.10	0.51
1:A:94:TYR:CD2	1:A:95:ASN:N	2.79	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:118:VAL:C	1:A:119:GLN:HG2	2.30	0.51
1:B:162:VAL:O	1:B:162:VAL:HG22	2.10	0.50
1:A:81:GLN:O	1:A:83:ILE:HD12	2.12	0.50
1:A:167:LYS:O	1:A:170:SER:HB2	2.11	0.50
1:B:51:PHE:HB3	1:B:105:LEU:CD1	2.41	0.50
1:B:28:PRO:HB2	1:B:119:GLN:N	2.26	0.50
1:B:83:ILE:HG21	1:B:108:LEU:HG	1.93	0.50
1:A:52:VAL:CG2	1:A:106:LEU:HD12	2.42	0.50
1:A:35:ILE:HG22	1:A:64:ILE:CG2	2.41	0.50
1:A:55:ALA:O	1:A:58:CYS:HB2	2.11	0.50
1:B:83:ILE:CG2	1:B:108:LEU:HG	2.42	0.50
1:A:24:PRO:HG3	1:A:71:HIS:CE1	2.47	0.50
1:B:208:VAL:O	1:B:210:GLN:N	2.44	0.50
1:A:65:ASN:OD1	1:A:84:PRO:HA	2.12	0.50
1:B:22:ALA:HA	1:B:157:GLU:OE2	2.11	0.49
1:B:48:GLN:OE1	1:B:49:ASP:N	2.45	0.49
1:A:149:LYS:O	1:A:151:HIS:C	2.50	0.49
1:A:199:LEU:O	1:A:209:ALA:O	2.29	0.49
1:A:199:LEU:HD23	1:A:201:CYS:SG	2.52	0.49
1:A:64:ILE:C	1:A:85:VAL:HG12	2.32	0.49
1:B:72:ASN:O	1:B:74:LYS:N	2.45	0.49
1:A:32:TYR:OH	1:A:41:ARG:NH2	2.45	0.49
1:B:212:ILE:HG23	1:B:229:THR:HB	1.94	0.49
1:B:63:SER:HB3	2:B:700:NDG:H8C1	1.93	0.49
1:B:69:GLY:CA	1:B:118:VAL:HG23	2.42	0.49
1:B:48:GLN:NE2	1:B:50:ASP:H	2.10	0.49
1:B:177:SER:O	1:B:179:ILE:N	2.46	0.49
1:A:168:CYS:SG	1:A:175:TYR:CE2	3.06	0.49
1:B:64:ILE:HG22	1:B:85:VAL:CG2	2.41	0.49
1:B:199:LEU:HD22	1:B:228:CYS:SG	2.52	0.49
1:B:68:LEU:HB3	1:B:118:VAL:CG2	2.41	0.48
1:B:36:TRP:CH2	1:B:37(B):LYS:N	2.81	0.48
1:A:82:PHE:CE1	1:B:61:SER:HB3	2.48	0.48
1:A:74:LYS:C	1:A:75:GLU:O	2.50	0.48
1:B:51:PHE:CE2	1:B:107:GLN:HB2	2.48	0.48
1:B:72:ASN:C	1:B:74:LYS:H	2.16	0.48
1:B:45:PHE:N	1:B:45:PHE:CD1	2.82	0.48
1:A:129:GLN:HA	1:A:129:GLN:OE1	2.13	0.48
1:B:143:GLN:HE21	1:B:149:LYS:CA	2.26	0.48
1:A:179:ILE:HG13	1:A:180:GLU:H	1.78	0.48
1:B:45:PHE:HB3	1:B:198:PRO:HG3	1.95	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:16:ILE:CB	1:A:156:GLN:HB3	2.43	0.47
1:B:242:MET:C	1:B:244:ARG:N	2.68	0.47
1:A:30:MET:HG2	1:A:155:LEU:HD11	1.97	0.47
1:B:87:ARG:HE	1:B:107:GLN:HE22	1.61	0.47
1:B:45:PHE:CZ	1:B:53:LEU:HB3	2.50	0.47
1:A:29:TYR:HA	1:A:119:GLN:O	2.15	0.47
1:A:46:LEU:CD1	1:A:68:LEU:HD13	2.43	0.47
1:A:86:LYS:HG2	1:A:87:ARG:HG3	1.96	0.47
1:B:32:TYR:CE2	1:B:73:ILE:HG13	2.50	0.47
1:B:22:ALA:O	1:B:71:HIS:HE1	1.98	0.46
1:A:155:LEU:CD2	1:A:156:GLN:H	2.25	0.46
1:A:177:SER:O	1:A:179:ILE:N	2.48	0.46
1:A:98:ASN:OD1	1:A:100:SER:N	2.49	0.46
1:B:36:TRP:CZ3	1:B:37(A):GLN:HA	2.50	0.46
1:A:143:GLN:HE21	1:A:191:PHE:HE2	1.61	0.46
1:A:16:ILE:N	1:A:194:ASP:OD2	2.48	0.46
1:B:48:GLN:CD	1:B:49:ASP:N	2.68	0.46
1:B:65:ASN:OD1	1:B:84:PRO:HA	2.15	0.46
1:A:216:GLY:N	1:A:226:ARG:HH21	2.13	0.46
1:A:90:PRO:HA	1:A:104:MET:HA	1.98	0.46
1:B:64:ILE:HG21	1:B:106:LEU:CD1	2.45	0.46
1:B:70:ALA:HB1	1:B:80:GLN:HE21	1.81	0.46
1:A:35:ILE:HG22	1:A:64:ILE:CG1	2.45	0.46
1:A:178:THR:HG23	1:A:179:ILE:HG23	1.98	0.46
1:B:234:PHE:O	1:B:238:ILE:HG12	2.15	0.46
1:A:64:ILE:HD12	1:A:85:VAL:HG11	1.97	0.46
1:B:51:PHE:HB3	1:B:105:LEU:HD11	1.97	0.46
1:A:225:PRO:O	1:A:226:ARG:HG2	2.16	0.46
1:B:216:GLY:HA3	1:B:226:ARG:HD2	1.99	0.45
1:A:144:THR:O	1:A:145:ALA:HB3	2.15	0.45
1:B:48:GLN:O	1:B:50:ASP:N	2.50	0.45
1:B:50:ASP:O	1:B:108:LEU:N	2.41	0.45
1:B:127:LYS:HZ3	1:B:128:ALA:HA	1.81	0.45
1:B:127:LYS:NZ	1:B:128:ALA:HA	2.31	0.45
1:A:212:ILE:HG23	1:A:231:VAL:HG23	1.99	0.45
1:A:168:CYS:C	1:A:170:SER:N	2.70	0.45
1:A:48:GLN:O	1:A:50:ASP:N	2.50	0.45
1:A:32:TYR:OH	1:A:41:ARG:CZ	2.65	0.45
1:A:122:ARG:C	1:A:123:LEU:HD22	2.37	0.45
1:B:59:TRP:CZ3	1:B:90:PRO:HG3	2.51	0.45
1:B:179:ILE:O	1:B:230:LYS:CB	2.63	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:156:GLN:NE2	1:B:156:GLN:HA	2.31	0.45
1:A:45:PHE:CD1	1:A:45:PHE:N	2.84	0.45
1:A:209:ALA:C	1:A:211:GLY:N	2.71	0.44
1:A:45:PHE:CE1	1:A:198:PRO:HB3	2.52	0.44
1:B:199:LEU:HB3	1:B:211:GLY:O	2.17	0.44
1:B:21:GLU:HA	1:B:156:GLN:HE21	1.79	0.44
1:A:57:HIS:CB	1:A:94:TYR:OH	2.65	0.44
1:A:85:VAL:HG13	1:A:85:VAL:O	2.16	0.44
1:A:160:MET:CE	1:A:189:THR:HA	2.48	0.44
1:A:66:VAL:CG2	1:A:68:LEU:HD21	2.47	0.44
1:A:105:LEU:HD12	1:A:237:TRP:CZ3	2.53	0.44
1:A:68:LEU:HB2	1:A:118:VAL:CG2	2.47	0.44
1:B:169:GLU:HG3	1:B:175:TYR:HD1	1.83	0.44
1:B:55:ALA:O	1:B:58:CYS:HB2	2.18	0.44
1:A:66:VAL:CG2	1:A:83:ILE:HB	2.48	0.44
1:B:136:CYS:HB3	1:B:200:VAL:O	2.18	0.44
1:A:73:ILE:HD12	1:A:74:LYS:NZ	2.32	0.44
1:B:69:GLY:N	1:B:118:VAL:HG23	2.32	0.44
1:B:73:ILE:HD12	1:B:141:TRP:CD1	2.53	0.44
1:A:100:SER:HB3	1:A:101:ASN:H	1.52	0.43
1:B:20:HIS:C	1:B:156:GLN:HE22	2.21	0.43
1:A:96:PRO:C	1:A:98:ASN:N	2.69	0.43
1:A:41:ARG:HH12	1:A:74:LYS:HZ3	1.66	0.43
1:B:171:LEU:HD13	1:B:227:ALA:HB2	2.00	0.43
1:B:104:MET:HG3	1:B:105:LEU:H	1.82	0.43
1:B:17:ILE:HD13	1:B:146:PRO:HG3	1.99	0.43
1:B:37(B):LYS:O	1:B:38:SER:CB	2.66	0.43
1:A:82:PHE:CD1	1:B:61:SER:HB3	2.53	0.43
1:B:49:ASP:HB3	1:B:111:LYS:CG	2.49	0.43
1:A:52:VAL:O	1:A:52:VAL:CG2	2.64	0.43
1:B:103:ILE:HG12	1:B:237:TRP:CZ3	2.52	0.43
1:A:29:TYR:CD2	1:A:121:LEU:HD13	2.54	0.43
1:B:84:PRO:HD2	1:B:109:GLU:OE2	2.18	0.43
1:B:160:MET:HE1	1:B:184:GLY:HA3	2.00	0.43
1:B:72:ASN:OD1	1:B:153:HIS:HB3	2.19	0.43
1:B:132:PRO:HA	1:B:162:VAL:O	2.17	0.43
1:A:29:TYR:OH	1:A:200:VAL:HG21	2.19	0.43
1:B:163:GLN:CD	1:B:184(A):ASP:HA	2.39	0.43
1:B:69:GLY:N	1:B:118:VAL:CG2	2.82	0.43
1:A:45:PHE:CG	1:A:198:PRO:HB3	2.52	0.42
1:A:184(A):ASP:HB3	1:A:187:ILE:CD1	2.49	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:237:TRP:HE1	1:A:241:THR:HG23	1.84	0.42
1:B:124:PRO:HB3	1:B:210:GLN:NE2	2.34	0.42
1:A:83:ILE:HA	1:A:84:PRO:HD3	1.84	0.42
1:A:171:LEU:O	1:A:172:ARG:C	2.56	0.42
1:A:35:ILE:HD12	1:A:59:TRP:O	2.19	0.42
1:A:86:LYS:HB2	1:A:109:GLU:HA	2.02	0.42
1:A:216:GLY:O	1:A:217:ARG:C	2.58	0.42
1:B:33:LEU:O	1:B:41:ARG:HA	2.20	0.42
1:B:36:TRP:CZ2	1:B:37(B):LYS:HA	2.54	0.42
1:A:179:ILE:O	1:A:230:LYS:CB	2.61	0.42
1:B:225:PRO:C	1:B:226:ARG:HG2	2.40	0.42
1:B:90:PRO:HA	1:B:104:MET:HA	2.01	0.42
1:A:184(A):ASP:HB3	1:A:187:ILE:CG1	2.46	0.42
1:A:224(A):PRO:CB	1:A:225:PRO:HA	2.48	0.42
1:A:146:PRO:HA	1:A:191:PHE:HE2	1.77	0.42
1:A:237:TRP:NE1	1:A:241:THR:HG23	2.35	0.41
1:B:237:TRP:CE3	1:B:238:ILE:HD13	2.55	0.41
1:B:98:ASN:HD22	1:B:98:ASN:HA	1.65	0.41
1:A:137:SER:HA	1:A:158:VAL:O	2.20	0.41
1:A:16:ILE:HG13	1:A:156:GLN:HB3	2.02	0.41
1:B:184(A):ASP:O	1:B:224(A):PRO:HG2	2.20	0.41
1:B:55:ALA:N	1:B:212:ILE:HD11	2.34	0.41
1:A:66:VAL:HG21	1:A:68:LEU:HD21	2.02	0.41
1:A:35:ILE:CG2	1:A:64:ILE:HG12	2.49	0.41
1:A:104:MET:CG	1:A:105:LEU:N	2.83	0.41
1:B:156:GLN:HE21	1:B:156:GLN:HA	1.86	0.41
1:A:94:TYR:C	1:A:94:TYR:CD2	2.92	0.41
1:B:104:MET:CG	1:B:105:LEU:N	2.84	0.41
1:B:114:ARG:HG2	1:B:114:ARG:O	2.21	0.41
1:B:123:LEU:CB	1:B:124:PRO:HD2	2.50	0.41
1:B:49:ASP:HB3	1:B:111:LYS:HG3	2.02	0.41
1:B:215:TYR:N	1:B:215:TYR:CD1	2.88	0.41
1:B:124:PRO:CD	1:B:209:ALA:O	2.65	0.41
1:B:71:HIS:HB3	1:B:77:GLU:OE2	2.21	0.41
1:A:52:VAL:HG21	1:A:106:LEU:HD12	2.01	0.40
1:B:47:ILE:HD12	1:B:123:LEU:HD21	2.03	0.40
1:A:136:CYS:HB3	1:A:200:VAL:O	2.21	0.40
1:A:28:PRO:HB2	1:A:119:GLN:CG	2.51	0.40
1:B:37(A):GLN:O	1:B:37(B):LYS:C	2.60	0.40
1:B:27:ARG:NH2	1:B:137:SER:HB2	2.35	0.40
1:A:16:ILE:CG1	1:A:156:GLN:HB3	2.51	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:183:VAL:HG12	1:B:184:GLY:N	2.35	0.40
1:B:184(A):ASP:HA	1:B:185:PRO:HD3	1.96	0.40
1:B:87:ARG:O	1:B:89:ILE:HD12	2.21	0.40
1:B:81:GLN:HB2	1:B:81:GLN:HE21	1.73	0.40

There are no symmetry-related clashes.

5.3 Torsion angles (i)

5.3.1 Protein backbone (i)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	A	225/227 (99%)	169 (75%)	39 (17%)	17 (8%)	1	7
1	B	225/227 (99%)	177 (79%)	33 (15%)	15 (7%)	1	9
All	All	450/454 (99%)	346 (77%)	72 (16%)	32 (7%)	1	8

All (32) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	37(B)	LYS
1	A	100	SER
1	A	242	MET
1	B	37(A)	GLN
1	B	162	VAL
1	B	172	ARG
1	B	178	THR
1	B	209	ALA
1	A	49	ASP
1	A	148	GLY
1	A	151	HIS
1	A	172	ARG
1	A	178	THR
1	A	203	LYS

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Mol	Chain	Res	Type
1	A	210	GLN
1	B	38	SER
1	B	49	ASP
1	B	73	ILE
1	B	76	GLN
1	B	99	PHE
1	A	96	PRO
1	A	98	ASN
1	A	125	SER
1	A	217	ARG
1	B	37(B)	LYS
1	B	244	ARG
1	B	163	GLN
1	B	217	ARG
1	A	126	ASN
1	B	126	ASN
1	A	155	LEU
1	A	162	VAL

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	197/197 (100%)	127 (64%)	70 (36%)	0 0
1	B	197/197 (100%)	142 (72%)	55 (28%)	0 1
All	All	394/394 (100%)	269 (68%)	125 (32%)	0 1

All (125) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	30	MET
1	A	33	LEU
1	A	34	MET
1	A	36	TRP
1	A	37(A)	GLN

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Mol	Chain	Res	Type
1	A	37(B)	LYS
1	A	40	LYS
1	A	41	ARG
1	A	46	LEU
1	A	53	LEU
1	A	59	TRP
1	A	61	SER
1	A	64	ILE
1	A	66	VAL
1	A	68	LEU
1	A	72	ASN
1	A	76	GLN
1	A	79	THR
1	A	80	GLN
1	A	94	TYR
1	A	97	LYS
1	A	98	ASN
1	A	100	SER
1	A	101	ASN
1	A	103	ILE
1	A	105	LEU
1	A	106	LEU
1	A	110	ARG
1	A	113	LYS
1	A	114	ARG
1	A	115	THR
1	A	118	VAL
1	A	122	ARG
1	A	125	SER
1	A	127	LYS
1	A	130	VAL
1	A	131	LYS
1	A	135	THR
1	A	144	THR
1	A	147	LEU
1	A	149	LYS
1	A	154	THR
1	A	155	LEU
1	A	156	GLN
1	A	159	LYS
1	A	160	MET
1	A	161	THR

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Mol	Chain	Res	Type
1	A	163	GLN
1	A	166	ARG
1	A	167	LYS
1	A	168	CYS
1	A	169	GLU
1	A	170(A)	ASP
1	A	172	ARG
1	A	173	HIS
1	A	176	ASP
1	A	177	SER
1	A	180	GLU
1	A	183	VAL
1	A	188(A)	LYS
1	A	189	THR
1	A	195	SER
1	A	202(A)	ASN
1	A	212	ILE
1	A	219	ASN
1	A	229	THR
1	A	239	LYS
1	A	240	LYS
1	A	241	THR
1	A	243	LYS
1	B	26	SER
1	B	27	ARG
1	B	35	ILE
1	B	37(A)	GLN
1	B	37(B)	LYS
1	B	38	SER
1	B	39	LEU
1	B	41	ARG
1	B	48	GLN
1	B	49	ASP
1	B	53	LEU
1	B	59	TRP
1	B	63	SER
1	B	66	VAL
1	B	73	ILE
1	B	76	GLN
1	B	81	GLN
1	B	87	ARG
1	B	98	ASN

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Mol	Chain	Res	Type
1	B	100	SER
1	B	103	ILE
1	B	105	LEU
1	B	110	ARG
1	B	111	LYS
1	B	114	ARG
1	B	116	ARG
1	B	118	VAL
1	B	122	ARG
1	B	123	LEU
1	B	127	LYS
1	B	134	GLN
1	B	135	THR
1	B	137	SER
1	B	147	LEU
1	B	149	LYS
1	B	157	GLU
1	B	158	VAL
1	B	161	THR
1	B	162	VAL
1	B	168	CYS
1	B	173	HIS
1	B	181	LEU
1	B	186	GLU
1	B	189	THR
1	B	192	LYS
1	B	195	SER
1	B	200	VAL
1	B	203	LYS
1	B	210	GLN
1	B	212	ILE
1	B	215	TYR
1	B	229	THR
1	B	232	SER
1	B	240	LYS
1	B	245	TYR

Some sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (17) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	71	HIS
1	A	72	ASN

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Mol	Chain	Res	Type
1	A	80	GLN
1	A	134	GLN
1	A	153	HIS
1	A	163	GLN
1	A	219	ASN
1	A	236	HIS
1	B	20	HIS
1	B	25	HIS
1	B	71	HIS
1	B	80	GLN
1	B	98	ASN
1	B	107	GLN
1	B	143	GLN
1	B	153	HIS
1	B	156	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

6 carbohydrates are modelled in this entry.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
2	NDG	A	600	1,2	14,14,15	0.71	0	15,19,21	1.22	1 (6%)
2	NAG	A	601	2	14,14,15	0.73	0	15,19,21	1.45	2 (13%)
2	BMA	A	602	2	11,11,12	1.50	3 (27%)	14,15,17	0.66	0

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
2	NDG	B	700	1,2	14,14,15	0.59	0	15,19,21	1.20	3 (20%)
2	NAG	B	701	2	14,14,15	0.59	0	15,19,21	1.35	2 (13%)
2	BMA	B	702	2	11,11,12	0.95	1 (9%)	14,15,17	0.60	0

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
2	NDG	A	600	1,2	-	0/6/23/26	0/1/1/1
2	NAG	A	601	2	-	0/6/23/26	0/1/1/1
2	BMA	A	602	2	-	0/2/19/22	0/1/1/1
2	NDG	B	700	1,2	-	0/6/23/26	0/1/1/1
2	NAG	B	701	2	-	0/6/23/26	0/1/1/1
2	BMA	B	702	2	-	0/2/19/22	0/1/1/1

All (4) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	A	602	BMA	O5-C1	2.09	1.47	1.43
2	B	702	BMA	O5-C5	2.30	1.48	1.43
2	A	602	BMA	C2-C3	2.74	1.56	1.52
2	A	602	BMA	O5-C5	2.91	1.49	1.43

All (8) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	A	601	NAG	O3-C3-C2	-2.48	104.20	109.11
2	A	600	NDG	C8-C7-N2	-2.42	111.47	116.11
2	B	701	NAG	O4-C4-C5	-2.25	103.28	109.24
2	B	700	NDG	C8-C7-N2	-2.25	111.81	116.11
2	B	700	NDG	O7-C7-N2	2.07	126.09	121.86
2	B	700	NDG	C1-O-C5	2.21	115.05	112.25
2	A	601	NAG	C1-O5-C5	2.25	115.10	112.25
2	B	701	NAG	C1-O5-C5	2.57	115.51	112.25

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

2 monomers are involved in 2 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
2	A	600	NDG	1	0
2	B	700	NDG	1	0

5.6 Ligand geometry (i)

2 ligands are modelled in this entry.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\| > 2$	Counts	RMSZ	$\#\|Z\| > 2$
3	SO4	A	800	-	4,4,4	0.31	0	6,6,6	0.10	0
3	SO4	B	900	-	4,4,4	0.33	0	6,6,6	0.17	0

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
3	SO4	A	800	-	-	0/0/0/0	0/0/0/0
3	SO4	B	900	-	-	0/0/0/0	0/0/0/0

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.

6 Fit of model and data

6.1 Protein, DNA and RNA chains

EDS was not executed - this section will therefore be empty.

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

EDS was not executed - this section will therefore be empty.

6.3 Carbohydrates

EDS was not executed - this section will therefore be empty.

6.4 Ligands

EDS was not executed - this section will therefore be empty.

6.5 Other polymers

EDS was not executed - this section will therefore be empty.