Full wwPDB X-ray Structure Validation Report ⓘ

Apr 20, 2023 – 07:13 am BST

PDB ID	:	8CJH
Title	:	Architecture of a PKS-NRPS hybrid megaenzyme involved in the biosynthesis of the genotoxin colibactin
Authors	:	Bonhomme, S.; Dessen, A.; Macheboeuf, P.
Deposited on	:	2023-02-13
Resolution	:	2.98 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:

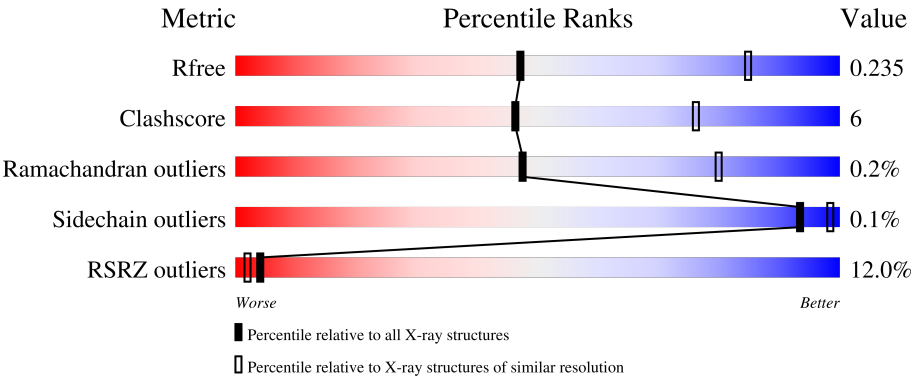
MolProbity	:	4.02b-467
Xtriage (Phenix)	:	1.13
EDS	:	2.32.2
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac	:	5.8.0158
CCP4	:	7.0.044 (Gargrove)
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.32.2

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 2.98 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}	130704	2754 (3.00-2.96)
Clashscore	141614	3103 (3.00-2.96)
Ramachandran outliers	138981	2993 (3.00-2.96)
Sidechain outliers	138945	2996 (3.00-2.96)
RSRZ outliers	127900	2644 (3.00-2.96)

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	787	6% 74% 13% 13%
1	B	787	9% 73% 14% 13%
1	C	787	7% 74% 13% 13%
1	D	787	8% 73% 14% 13%
1	E	787	7% 8% . 90%

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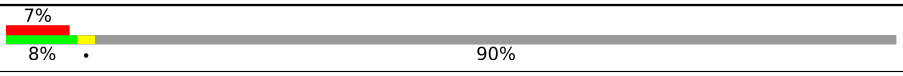
Mol	Chain	Length	Quality of chain
1	F	787	

2 Entry composition (i)

There is only 1 type of molecule in this entry. The entry contains 22022 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 Colibactin hybrid non-ribosomal peptide synthetase/type I polyketide synthase ClbK.

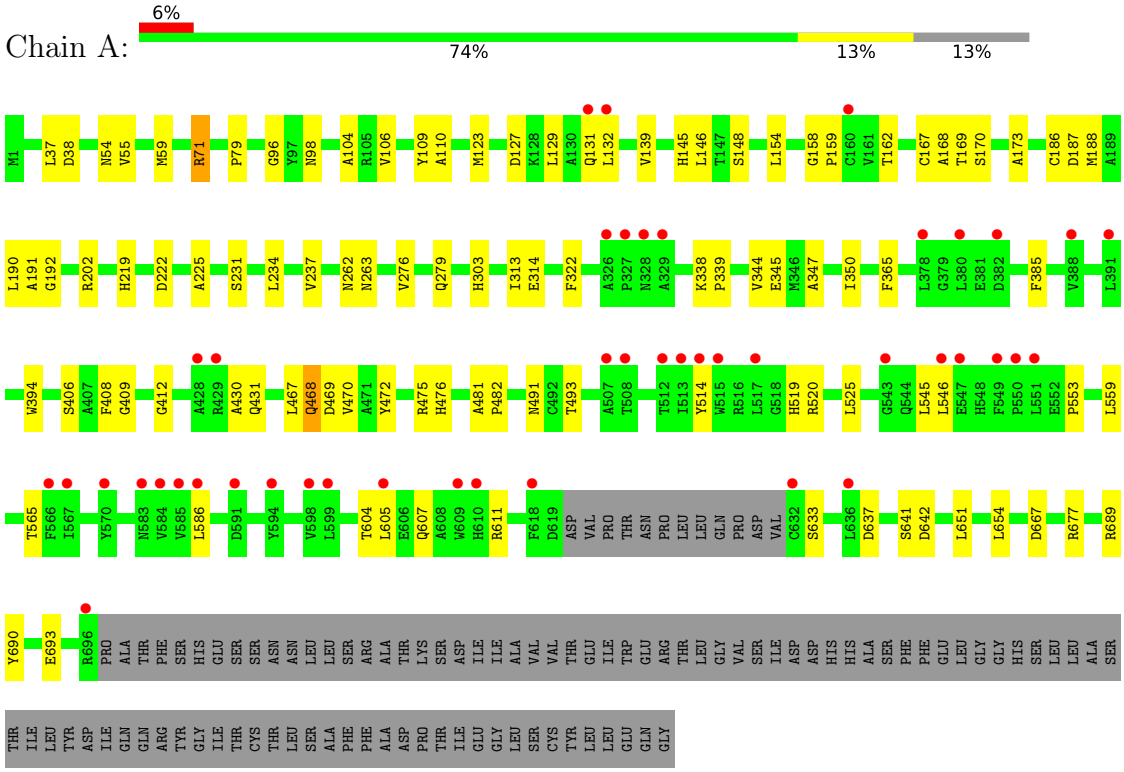
Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	684	Total	C	N	O	S	0	0	0
			5202	3264	918	987	33			
1	B	684	Total	C	N	O	S	0	0	0
			5202	3264	918	987	33			
1	C	684	Total	C	N	O	S	0	0	0
			5202	3264	918	987	33			
1	D	684	Total	C	N	O	S	0	0	0
			5202	3264	918	987	33			
1	E	78	Total	C	N	O	S	0	0	0
			607	388	99	118	2			
1	F	78	Total	C	N	O	S	0	0	0
			607	388	99	118	2			

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.

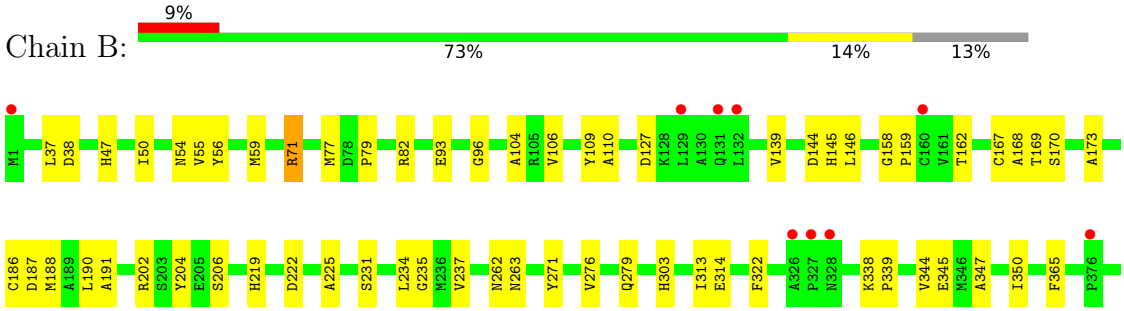
• Molecule 1: Colibactin hybrid non-ribosomal peptide synthetase/type I polyketide synthase ClbK

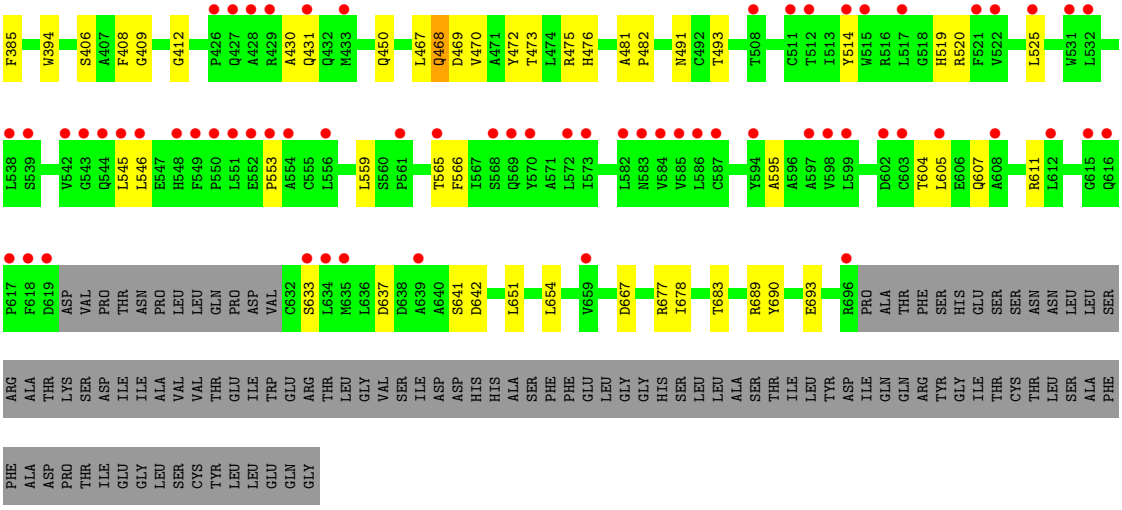
Chain A:



• Molecule 1: Colibactin hybrid non-ribosomal peptide synthetase/type I polyketide synthase ClbK

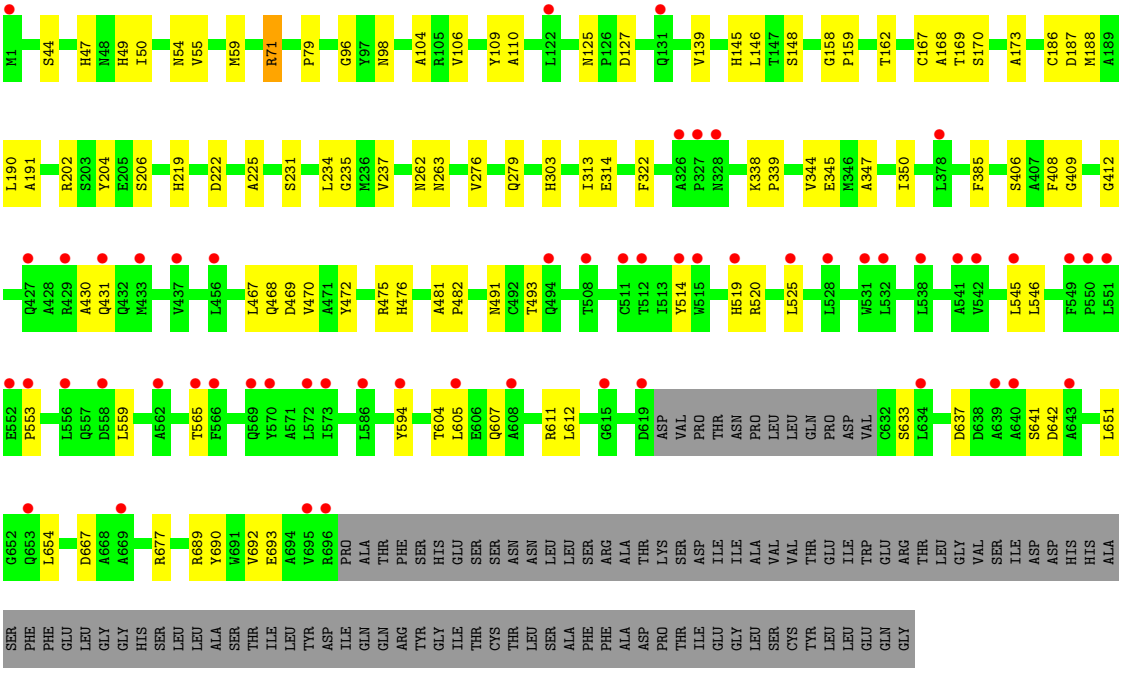
Chain B:





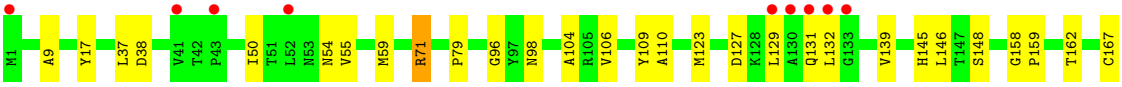
• Molecule 1: Colibactin hybrid non-ribosomal peptide synthetase/type I polyketide synthase ClbK

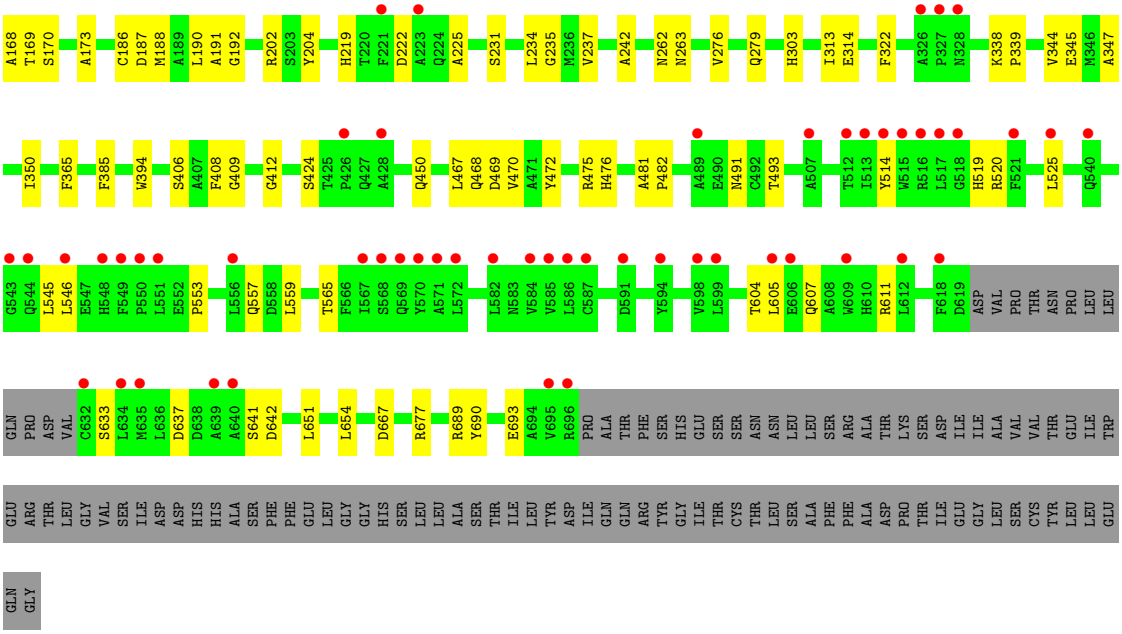
Chain C:



• Molecule 1: Colibactin hybrid non-ribosomal peptide synthetase/type I polyketide synthase ClbK

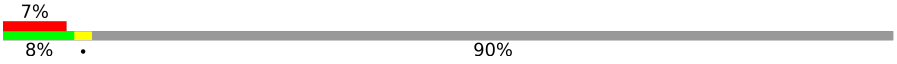
Chain D:

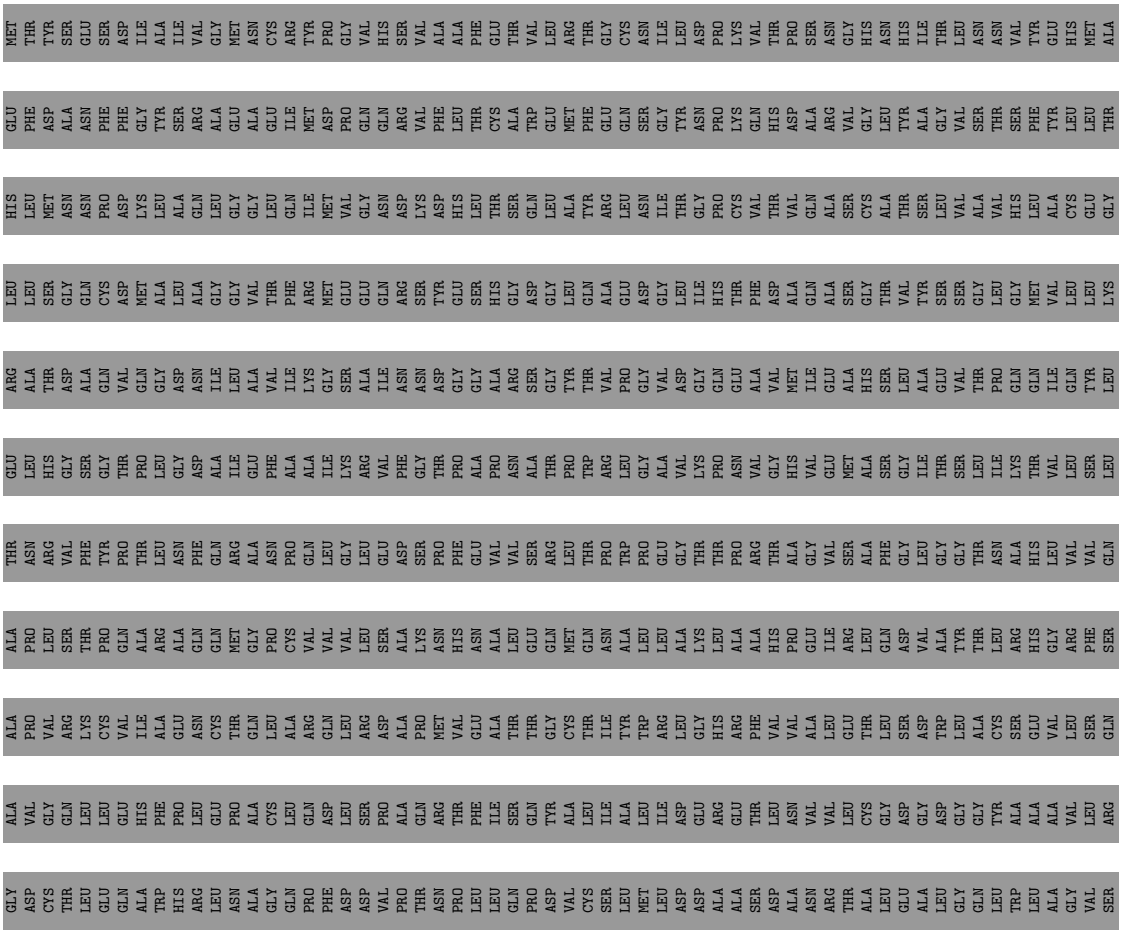


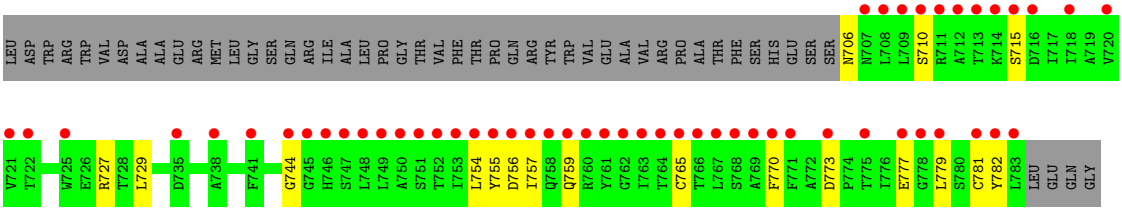


• Molecule 1: Colibactin hybrid non-ribosomal peptide synthetase/type I polyketide synthase ClbK

Chain E:

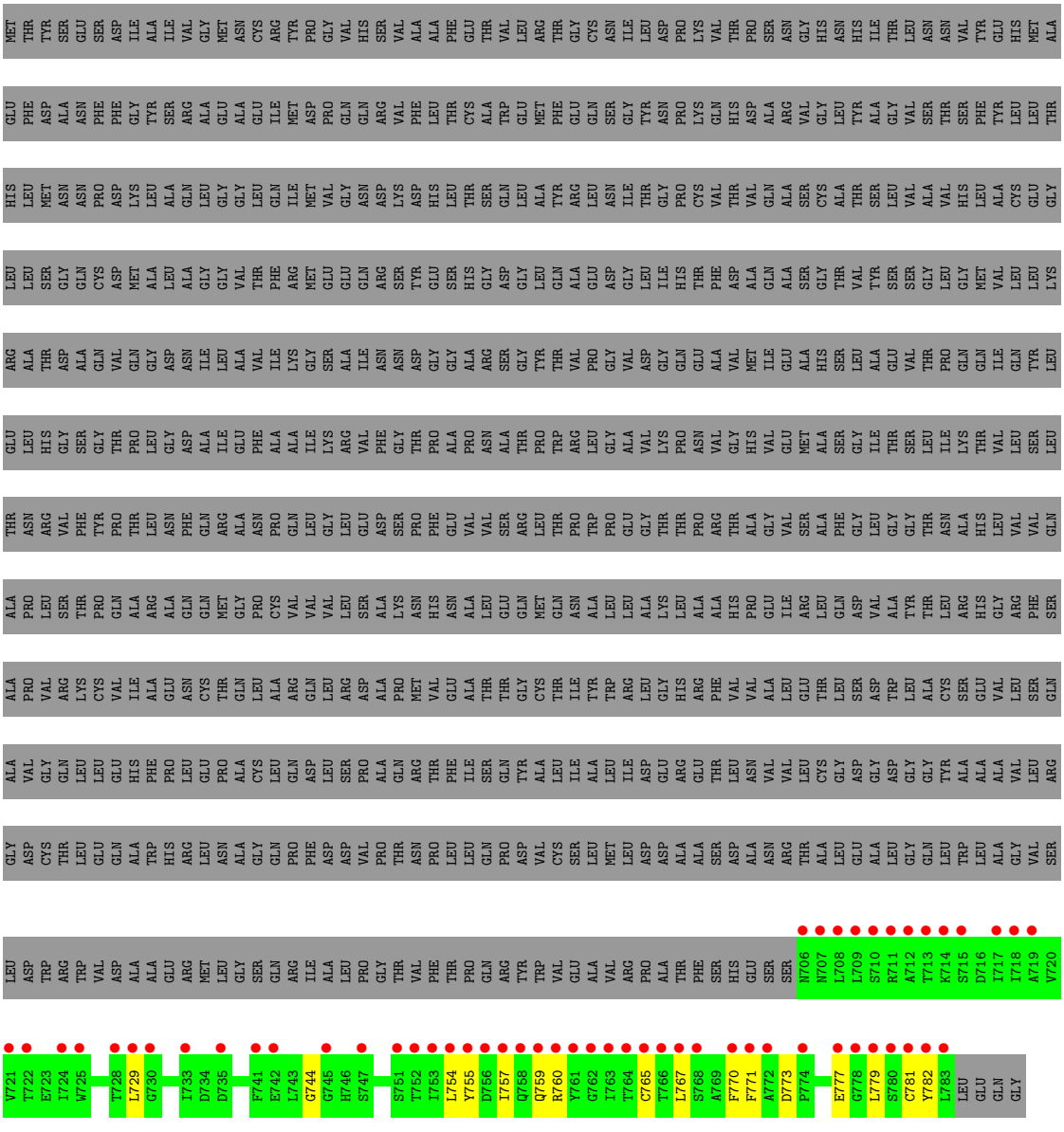






• Molecule 1: Colibactin hybrid non-ribosomal peptide synthetase/type I polyketide synthase ClbK

Chain F:



4 Data and refinement statistics (i)

Property	Value	Source
Space group	C 2 2 21	Depositor
Cell constants a, b, c, α, β, γ	187.64Å 233.37Å 256.60Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	49.40 – 2.98 49.35 – 2.98	Depositor EDS
% Data completeness (in resolution range)	68.5 (49.40-2.98) 68.5 (49.35-2.98)	Depositor EDS
R_{merge}	0.14	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	1.17 (at 2.96Å)	Xtriage
Refinement program	REFMAC 5.8.0403	Depositor
R, R_{free}	0.217 , 0.238 0.216 , 0.235	Depositor DCC
R_{free} test set	1940 reflections (2.48%)	wwPDB-VP
Wilson B-factor (Å^2)	81.7	Xtriage
Anisotropy	0.031	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.33 , 49.9	EDS
L-test for twinning[2]	$< \|L\| > = 0.48$, $< L^2 > = 0.31$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o,F_c correlation	0.92	EDS
Total number of atoms	22022	wwPDB-VP
Average B, all atoms (Å^2)	96.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 2.33% 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	0.37	0/5311	0.62	1/7233 (0.0%)
1	B	0.38	0/5311	0.62	1/7233 (0.0%)
1	C	0.39	0/5311	0.63	0/7233
1	D	0.38	0/5311	0.61	0/7233
1	E	0.37	0/619	0.55	0/842
1	F	0.36	0/619	0.55	0/842
All	All	0.38	0/22482	0.62	2/30616 (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
1	B	0	1
1	C	0	1
1	D	0	1
All	All	0	4

There are no bond length outliers.

All (2) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	468	GLN	CB-CA-C	-5.24	99.92	110.40
1	B	468	GLN	CB-CA-C	-5.03	100.35	110.40

There are no chirality outliers.

All (4) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	A	71	ARG	Sidechain

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Mol	Chain	Res	Type	Group
1	B	71	ARG	Sidechain
1	C	71	ARG	Sidechain
1	D	71	ARG	Sidechain

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	5202	0	5102	61	0
1	B	5202	0	5102	66	0
1	C	5202	0	5102	63	0
1	D	5202	0	5102	67	1
1	E	607	0	593	11	0
1	F	607	0	593	13	0
All	All	22022	0	21594	275	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 6.

All (275) 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:F:755:TYR:O	1:F:759:GLN:HG2	1.75	0.85
1:E:755:TYR:O	1:E:759:GLN:HG2	1.78	0.84
1:D:525:LEU:HD21	1:D:553:PRO:HB3	1.70	0.73
1:B:525:LEU:HD21	1:B:553:PRO:HB3	1.71	0.70
1:D:219:HIS:HB3	1:D:222:ASP:HB3	1.75	0.69
1:B:219:HIS:HB3	1:B:222:ASP:HB3	1.74	0.69
1:C:219:HIS:HB3	1:C:222:ASP:HB3	1.73	0.69
1:A:219:HIS:HB3	1:A:222:ASP:HB3	1.75	0.67
1:C:519:HIS:O	1:C:565:THR:HG21	1.95	0.67
1:C:106:VAL:O	1:C:158:GLY:HA3	1.95	0.66
1:D:519:HIS:O	1:D:565:THR:HG21	1.95	0.66
1:A:519:HIS:O	1:A:565:THR:HG21	1.95	0.66
1:D:104:ALA:HB1	1:D:187:ASP:HB2	1.78	0.65
1:B:519:HIS:O	1:B:565:THR:HG21	1.95	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:450:GLN:HE21	1:D:450:GLN:HE21	1.45	0.65
1:C:170:SER:HB2	1:C:350:ILE:HB	1.79	0.65
1:D:170:SER:HB2	1:D:350:ILE:HB	1.79	0.65
1:B:106:VAL:O	1:B:158:GLY:HA3	1.97	0.65
1:C:190:LEU:C	1:C:190:LEU:HD23	2.17	0.64
1:A:170:SER:HB2	1:A:350:ILE:HB	1.78	0.64
1:C:49:HIS:CE1	1:F:759:GLN:HB3	2.32	0.64
1:B:190:LEU:C	1:B:190:LEU:HD23	2.18	0.63
1:B:54:ASN:HB2	1:B:231:SER:HA	1.81	0.63
1:B:234:LEU:C	1:B:234:LEU:HD23	2.19	0.63
1:B:170:SER:HB2	1:B:350:ILE:HB	1.78	0.63
1:C:525:LEU:HD21	1:C:553:PRO:HB3	1.81	0.63
1:A:190:LEU:HD23	1:A:190:LEU:C	2.19	0.63
1:A:525:LEU:HD21	1:A:553:PRO:HB3	1.80	0.63
1:A:106:VAL:O	1:A:158:GLY:HA3	1.99	0.62
1:D:123:MET:HA	1:D:129:LEU:HD13	1.80	0.62
1:D:190:LEU:HD23	1:D:190:LEU:C	2.19	0.62
1:D:234:LEU:HD23	1:D:234:LEU:C	2.20	0.62
1:A:104:ALA:HB1	1:A:187:ASP:HB2	1.80	0.62
1:C:234:LEU:C	1:C:234:LEU:HD23	2.19	0.62
1:B:139:VAL:HA	1:B:145:HIS:CD2	2.34	0.62
1:D:71:ARG:NH2	1:D:689:ARG:O	2.29	0.62
1:C:54:ASN:HB2	1:C:231:SER:HA	1.82	0.62
1:D:139:VAL:HA	1:D:145:HIS:CD2	2.34	0.62
1:C:167:CYS:HB2	1:C:409:GLY:HA2	1.82	0.62
1:A:234:LEU:C	1:A:234:LEU:HD23	2.20	0.61
1:D:106:VAL:O	1:D:158:GLY:HA3	2.00	0.61
1:B:450:GLN:HE21	1:D:450:GLN:NE2	1.97	0.61
1:A:139:VAL:HA	1:A:145:HIS:CD2	2.35	0.61
1:A:481:ALA:HB1	1:A:482:PRO:HD2	1.83	0.61
1:A:54:ASN:HB2	1:A:231:SER:HA	1.82	0.61
1:D:54:ASN:HB2	1:D:231:SER:HA	1.82	0.61
1:B:109:TYR:O	1:B:191:ALA:HA	2.02	0.60
1:F:757:ILE:CD1	1:F:779:LEU:HD21	2.32	0.60
1:C:47:HIS:HB3	1:C:206:SER:O	2.01	0.60
1:B:481:ALA:HB1	1:B:482:PRO:HD2	1.84	0.60
1:A:109:TYR:O	1:A:191:ALA:HA	2.02	0.60
1:B:167:CYS:HB2	1:B:409:GLY:HA2	1.84	0.59
1:C:481:ALA:HB1	1:C:482:PRO:HD2	1.83	0.59
1:C:109:TYR:O	1:C:191:ALA:HA	2.02	0.59
1:C:139:VAL:HA	1:C:145:HIS:CD2	2.38	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:109:TYR:O	1:D:191:ALA:HA	2.03	0.59
1:A:651:LEU:O	1:A:654:LEU:HB2	2.03	0.59
1:D:651:LEU:O	1:D:654:LEU:HB2	2.02	0.59
1:D:481:ALA:HB1	1:D:482:PRO:HD2	1.84	0.58
1:C:71:ARG:NH2	1:C:689:ARG:O	2.29	0.58
1:B:651:LEU:O	1:B:654:LEU:HB2	2.02	0.58
1:E:757:ILE:CD1	1:E:779:LEU:HD21	2.34	0.57
1:A:344:VAL:O	1:A:345:GLU:C	2.43	0.57
1:C:651:LEU:O	1:C:654:LEU:HB2	2.04	0.57
1:C:344:VAL:O	1:C:345:GLU:C	2.43	0.57
1:D:344:VAL:O	1:D:345:GLU:C	2.42	0.57
1:B:104:ALA:HB1	1:B:187:ASP:HB2	1.85	0.57
1:A:219:HIS:HB2	1:A:225:ALA:HA	1.87	0.57
1:B:47:HIS:HB3	1:B:206:SER:O	2.04	0.57
1:A:148:SER:HB2	1:B:271:TYR:OH	2.04	0.56
1:D:219:HIS:HB2	1:D:225:ALA:HA	1.88	0.56
1:B:219:HIS:HB2	1:B:225:ALA:HA	1.87	0.56
1:F:777:GLU:O	1:F:781:CYS:SG	2.60	0.56
1:B:344:VAL:O	1:B:345:GLU:C	2.43	0.56
1:A:406:SER:HB3	1:A:408:PHE:CZ	2.41	0.56
1:C:219:HIS:HB2	1:C:225:ALA:HA	1.88	0.56
1:A:167:CYS:HB2	1:A:409:GLY:HA2	1.87	0.55
1:D:167:CYS:HB2	1:D:409:GLY:HA2	1.89	0.55
1:D:406:SER:HB3	1:D:408:PHE:CZ	2.42	0.55
1:B:71:ARG:NH2	1:B:689:ARG:O	2.29	0.54
1:F:754:LEU:HD22	1:F:765:CYS:HB3	1.88	0.54
1:D:525:LEU:HD12	1:D:557:GLN:HB2	1.89	0.54
1:E:777:GLU:O	1:E:781:CYS:SG	2.60	0.54
1:C:276:VAL:HG22	1:C:313:ILE:HG23	1.90	0.54
1:B:406:SER:HB3	1:B:408:PHE:CZ	2.44	0.53
1:B:604:THR:O	1:B:607:GLN:HB2	2.08	0.53
1:A:71:ARG:NH2	1:A:689:ARG:O	2.30	0.52
1:D:475:ARG:NH1	1:D:667:ASP:OD1	2.42	0.52
1:B:276:VAL:HG22	1:B:313:ILE:HG23	1.91	0.52
1:D:123:MET:HA	1:D:129:LEU:CD1	2.39	0.52
1:C:604:THR:O	1:C:607:GLN:HB2	2.09	0.52
1:A:475:ARG:NH1	1:A:667:ASP:OD1	2.43	0.52
1:B:71:ARG:NH1	1:B:690:TYR:CE2	2.78	0.52
1:D:604:THR:O	1:D:607:GLN:HB2	2.09	0.52
1:B:77:MET:HG2	1:B:82:ARG:HG2	1.92	0.51
1:C:472:TYR:CE1	1:C:476:HIS:CD2	2.98	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:49:HIS:CE1	1:F:759:GLN:OE1	2.64	0.51
1:B:546:LEU:HD21	1:B:559:LEU:HD21	1.92	0.51
1:A:604:THR:O	1:A:607:GLN:HB2	2.09	0.51
1:C:104:ALA:HB1	1:C:187:ASP:HB2	1.92	0.51
1:C:406:SER:HB3	1:C:408:PHE:CZ	2.45	0.51
1:B:475:ARG:NH1	1:B:667:ASP:OD1	2.43	0.51
1:B:472:TYR:CE1	1:B:476:HIS:CD2	2.98	0.51
1:B:607:GLN:O	1:B:611:ARG:HG3	2.12	0.50
1:E:754:LEU:HD22	1:E:765:CYS:HB3	1.93	0.50
1:F:765:CYS:SG	1:F:782:TYR:CE1	3.04	0.50
1:C:475:ARG:NH1	1:C:667:ASP:OD1	2.44	0.50
1:D:276:VAL:HG22	1:D:313:ILE:HG23	1.92	0.50
1:E:765:CYS:SG	1:E:782:TYR:CE1	3.03	0.50
1:B:566:PHE:CE1	1:B:595:ALA:HA	2.47	0.50
1:C:594:TYR:CE2	1:C:612:LEU:HA	2.47	0.50
1:A:472:TYR:CE1	1:A:476:HIS:CD2	3.00	0.50
1:D:472:TYR:CE1	1:D:476:HIS:CD2	3.00	0.50
1:C:607:GLN:O	1:C:611:ARG:HG3	2.12	0.49
1:A:106:VAL:HA	1:A:188:MET:O	2.12	0.49
1:A:276:VAL:HG22	1:A:313:ILE:HG23	1.92	0.49
1:C:106:VAL:HA	1:C:188:MET:O	2.13	0.49
1:B:106:VAL:HA	1:B:188:MET:O	2.12	0.49
1:A:607:GLN:O	1:A:611:ARG:HG3	2.13	0.49
1:D:106:VAL:HA	1:D:188:MET:O	2.12	0.49
1:A:167:CYS:HA	1:A:345:GLU:O	2.12	0.49
1:D:546:LEU:HD21	1:D:559:LEU:HD21	1.95	0.48
1:F:770:PHE:O	1:F:773:ASP:C	2.52	0.48
1:A:263:ASN:HA	1:A:412:GLY:O	2.14	0.48
1:C:167:CYS:HA	1:C:345:GLU:O	2.13	0.48
1:D:167:CYS:HA	1:D:345:GLU:O	2.13	0.48
1:C:338:LYS:N	1:C:339:PRO:CD	2.76	0.48
1:B:344:VAL:HG11	1:B:347:ALA:HB3	1.95	0.48
1:D:607:GLN:O	1:D:611:ARG:HG3	2.13	0.48
1:C:237:VAL:HG13	1:C:350:ILE:HD11	1.96	0.48
1:B:50:ILE:HD12	1:B:204:TYR:CE1	2.48	0.48
1:D:263:ASN:HA	1:D:412:GLY:O	2.13	0.47
1:D:467:LEU:O	1:D:468:GLN:C	2.53	0.47
1:D:50:ILE:HD12	1:D:204:TYR:CE1	2.48	0.47
1:D:237:VAL:HG13	1:D:350:ILE:HD11	1.96	0.47
1:C:50:ILE:HD12	1:C:204:TYR:CE1	2.50	0.47
1:B:263:ASN:HA	1:B:412:GLY:O	2.15	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:344:VAL:HG11	1:C:347:ALA:HB3	1.95	0.47
1:E:770:PHE:O	1:E:773:ASP:C	2.52	0.47
1:C:44:SER:OG	1:F:760:ARG:HG2	2.15	0.47
1:D:545:LEU:HD11	1:D:605:LEU:HG	1.96	0.47
1:B:145:HIS:O	1:B:146:LEU:C	2.53	0.47
1:B:338:LYS:N	1:B:339:PRO:CD	2.77	0.47
1:B:546:LEU:CD2	1:B:559:LEU:HD21	2.44	0.47
1:C:71:ARG:NH1	1:C:690:TYR:CE1	2.83	0.47
1:C:545:LEU:HD11	1:C:605:LEU:HG	1.96	0.47
1:C:546:LEU:HD21	1:C:559:LEU:HD21	1.97	0.47
1:E:729:LEU:HD22	1:E:744:GLY:O	2.15	0.47
1:D:338:LYS:N	1:D:339:PRO:CD	2.78	0.47
1:B:167:CYS:HA	1:B:345:GLU:O	2.15	0.47
1:C:145:HIS:HA	1:C:148:SER:OG	2.14	0.47
1:A:641:SER:O	1:A:642:ASP:C	2.54	0.47
1:B:237:VAL:HG13	1:B:350:ILE:HD11	1.97	0.47
1:A:71:ARG:NH1	1:A:690:TYR:CE1	2.83	0.46
1:A:145:HIS:O	1:A:146:LEU:C	2.54	0.46
1:F:757:ILE:HD11	1:F:779:LEU:HD21	1.97	0.46
1:A:546:LEU:HD21	1:A:559:LEU:HD21	1.96	0.46
1:C:145:HIS:O	1:C:146:LEU:C	2.53	0.46
1:D:641:SER:O	1:D:642:ASP:C	2.53	0.46
1:B:303:HIS:CD2	1:B:408:PHE:H	2.34	0.46
1:B:520:ARG:O	1:B:637:ASP:HA	2.15	0.46
1:A:338:LYS:N	1:A:339:PRO:CD	2.78	0.46
1:A:344:VAL:HG11	1:A:347:ALA:HB3	1.98	0.46
1:C:279:GLN:OE1	1:C:314:GLU:HA	2.16	0.46
1:D:55:VAL:HB	1:D:202:ARG:NH2	2.30	0.46
1:A:431:GLN:O	1:A:431:GLN:HG3	2.16	0.46
1:C:263:ASN:HA	1:C:412:GLY:O	2.15	0.46
1:D:71:ARG:NH1	1:D:690:TYR:CE1	2.84	0.46
1:A:279:GLN:OE1	1:A:314:GLU:HA	2.16	0.46
1:D:145:HIS:O	1:D:146:LEU:C	2.54	0.46
1:B:279:GLN:OE1	1:B:314:GLU:HA	2.16	0.46
1:C:55:VAL:HB	1:C:202:ARG:NH2	2.31	0.46
1:C:59:MET:HB2	1:C:79:PRO:HB3	1.97	0.46
1:C:110:ALA:O	1:C:162:THR:HA	2.16	0.46
1:B:641:SER:O	1:B:642:ASP:C	2.54	0.46
1:B:491:ASN:OD1	1:B:493:THR:HB	2.16	0.45
1:C:546:LEU:CD2	1:C:559:LEU:HD21	2.46	0.45
1:D:520:ARG:O	1:D:637:ASP:HA	2.16	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:322:PHE:HB2	1:A:385:PHE:HZ	1.80	0.45
1:C:520:ARG:O	1:C:637:ASP:HA	2.16	0.45
1:D:131:GLN:C	1:D:132:LEU:HD12	2.35	0.45
1:D:303:HIS:CD2	1:D:408:PHE:H	2.34	0.45
1:A:303:HIS:CD2	1:A:408:PHE:H	2.35	0.45
1:E:765:CYS:SG	1:E:782:TYR:CD1	3.09	0.45
1:A:131:GLN:C	1:A:132:LEU:HD12	2.37	0.45
1:A:467:LEU:O	1:A:468:GLN:C	2.54	0.45
1:B:545:LEU:HD11	1:B:605:LEU:HG	1.98	0.45
1:C:491:ASN:OD1	1:C:493:THR:HB	2.17	0.45
1:D:344:VAL:HG11	1:D:347:ALA:HB3	1.99	0.45
1:E:727:ARG:NH2	1:E:756:ASP:OD2	2.48	0.45
1:A:545:LEU:HD11	1:A:605:LEU:HG	1.98	0.45
1:B:431:GLN:HG3	1:B:431:GLN:O	2.17	0.45
1:D:110:ALA:O	1:D:162:THR:HA	2.16	0.45
1:A:110:ALA:O	1:A:162:THR:HA	2.17	0.45
1:D:491:ASN:OD1	1:D:493:THR:HB	2.16	0.45
1:B:55:VAL:HB	1:B:202:ARG:NH2	2.32	0.44
1:C:431:GLN:O	1:C:431:GLN:HG3	2.17	0.44
1:D:279:GLN:OE1	1:D:314:GLU:HA	2.17	0.44
1:B:110:ALA:O	1:B:162:THR:HA	2.17	0.44
1:A:170:SER:O	1:A:173:ALA:HB3	2.18	0.44
1:B:467:LEU:O	1:B:468:GLN:C	2.54	0.44
1:D:145:HIS:HA	1:D:148:SER:OG	2.16	0.44
1:A:55:VAL:HB	1:A:202:ARG:NH2	2.32	0.44
1:C:322:PHE:HB2	1:C:385:PHE:HZ	1.81	0.44
1:A:237:VAL:HG13	1:A:350:ILE:HD11	1.99	0.44
1:B:37:LEU:O	1:B:38:ASP:C	2.55	0.44
1:A:491:ASN:OD1	1:A:493:THR:HB	2.17	0.44
1:B:59:MET:HB2	1:B:79:PRO:HB3	1.99	0.44
1:D:322:PHE:HB2	1:D:385:PHE:HZ	1.81	0.44
1:A:123:MET:HA	1:A:129:LEU:HD13	2.00	0.44
1:C:641:SER:O	1:C:642:ASP:C	2.54	0.44
1:C:693:GLU:HA	1:C:693:GLU:OE2	2.18	0.44
1:B:693:GLU:OE2	1:B:693:GLU:HA	2.18	0.44
1:F:729:LEU:HD22	1:F:744:GLY:O	2.18	0.44
1:A:520:ARG:O	1:A:637:ASP:HA	2.17	0.43
1:A:546:LEU:CD2	1:A:559:LEU:HD21	2.48	0.43
1:B:93:GLU:OE2	1:B:683:THR:OG1	2.33	0.43
1:C:168:ALA:O	1:C:169:THR:C	2.57	0.43
1:C:303:HIS:CD2	1:C:408:PHE:H	2.35	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:170:SER:O	1:D:173:ALA:HB3	2.19	0.43
1:B:322:PHE:HB2	1:B:385:PHE:HZ	1.82	0.43
1:A:159:PRO:HD2	1:A:186:CYS:HB3	2.00	0.43
1:A:59:MET:HB2	1:A:79:PRO:HB3	2.00	0.43
1:A:168:ALA:O	1:A:169:THR:C	2.57	0.43
1:C:467:LEU:O	1:C:468:GLN:C	2.55	0.42
1:D:59:MET:HB2	1:D:79:PRO:HB3	2.01	0.42
1:D:98:ASN:C	1:D:98:ASN:OD1	2.58	0.42
1:D:159:PRO:HD2	1:D:186:CYS:HB3	2.00	0.42
1:E:757:ILE:HD11	1:E:779:LEU:HD21	2.00	0.42
1:A:469:ASP:O	1:A:470:VAL:C	2.58	0.42
1:D:37:LEU:O	1:D:38:ASP:C	2.58	0.42
1:D:168:ALA:O	1:D:169:THR:C	2.58	0.42
1:D:96:GLY:O	1:D:677:ARG:NH1	2.49	0.42
1:F:765:CYS:SG	1:F:782:TYR:CD1	3.09	0.42
1:A:37:LEU:O	1:A:38:ASP:C	2.57	0.42
1:A:262:ASN:C	1:A:262:ASN:OD1	2.58	0.42
1:D:469:ASP:O	1:D:470:VAL:C	2.59	0.42
1:A:98:ASN:OD1	1:A:98:ASN:C	2.58	0.41
1:B:469:ASP:O	1:B:470:VAL:C	2.58	0.41
1:C:514:TYR:HB3	1:C:633:SER:HA	2.02	0.41
1:D:693:GLU:OE2	1:D:693:GLU:HA	2.20	0.41
1:B:168:ALA:O	1:B:169:THR:C	2.58	0.41
1:D:262:ASN:OD1	1:D:262:ASN:C	2.58	0.41
1:B:56:TYR:O	1:B:59:MET:HG2	2.21	0.41
1:B:262:ASN:OD1	1:B:262:ASN:C	2.59	0.41
1:C:170:SER:O	1:C:173:ALA:HB3	2.21	0.41
1:D:17:TYR:CD1	1:D:17:TYR:N	2.88	0.41
1:C:159:PRO:HD2	1:C:186:CYS:HB3	2.02	0.41
1:C:234:LEU:HD23	1:C:235:GLY:N	2.36	0.41
1:B:365:PHE:CE1	1:B:394:TRP:CD2	3.09	0.41
1:A:154:LEU:N	1:A:154:LEU:HD23	2.36	0.41
1:A:365:PHE:CE1	1:A:394:TRP:CD2	3.08	0.41
1:B:170:SER:O	1:B:173:ALA:HB3	2.21	0.41
1:B:234:LEU:HD23	1:B:235:GLY:N	2.35	0.41
1:B:514:TYR:HB3	1:B:633:SER:HA	2.02	0.41
1:C:98:ASN:OD1	1:C:98:ASN:C	2.59	0.41
1:D:365:PHE:CE1	1:D:394:TRP:CD2	3.09	0.41
1:D:546:LEU:CD2	1:D:559:LEU:HD21	2.50	0.41
1:C:96:GLY:O	1:C:677:ARG:NH1	2.52	0.41
1:C:262:ASN:OD1	1:C:262:ASN:C	2.58	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:706:ASN:O	1:E:710:SER:CB	2.69	0.41
1:A:693:GLU:OE2	1:A:693:GLU:HA	2.20	0.40
1:B:96:GLY:O	1:B:677:ARG:NH1	2.52	0.40
1:C:125:ASN:HD22	1:C:692:VAL:HG13	1.85	0.40
1:D:234:LEU:HD23	1:D:235:GLY:N	2.36	0.40
1:A:514:TYR:HB3	1:A:633:SER:HA	2.03	0.40
1:B:159:PRO:HD2	1:B:186:CYS:HB3	2.02	0.40
1:B:473:THR:HG21	1:B:678:ILE:O	2.21	0.40
1:D:9:ALA:HB2	1:D:242:ALA:HA	2.04	0.40
1:C:469:ASP:O	1:C:470:VAL:C	2.58	0.40
1:D:110:ALA:HA	1:D:192:GLY:O	2.21	0.40
1:A:110:ALA:HA	1:A:192:GLY:O	2.21	0.40
1:D:514:TYR:HB3	1:D:633:SER:HA	2.04	0.40
1:A:96:GLY:O	1:A:677:ARG:NH1	2.52	0.40
1:F:767:LEU:HD22	1:F:771:PHE:CE2	2.57	0.40

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

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:424:SER:O	1:D:557:GLN:NE2[3_454]	1.91	0.29

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	680/787 (86%)	632 (93%)	46 (7%)	2 (0%)	41	74
1	B	680/787 (86%)	630 (93%)	48 (7%)	2 (0%)	41	74
1	C	680/787 (86%)	632 (93%)	46 (7%)	2 (0%)	41	74
1	D	680/787 (86%)	634 (93%)	45 (7%)	1 (0%)	51	83

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
1	E	76/787 (10%)	72 (95%)	4 (5%)	0	100 100
1	F	76/787 (10%)	72 (95%)	4 (5%)	0	100 100
All	All	2872/4722 (61%)	2672 (93%)	193 (7%)	7 (0%)	47 80

All (7) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	127	ASP
1	B	127	ASP
1	C	127	ASP
1	D	127	ASP
1	A	430	ALA
1	B	430	ALA
1	C	430	ALA

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	550/640 (86%)	549 (100%)	1 (0%)	93 98
1	B	550/640 (86%)	549 (100%)	1 (0%)	93 98
1	C	550/640 (86%)	550 (100%)	0	100 100
1	D	550/640 (86%)	550 (100%)	0	100 100
1	E	67/640 (10%)	66 (98%)	1 (2%)	65 86
1	F	67/640 (10%)	67 (100%)	0	100 100
All	All	2334/3840 (61%)	2331 (100%)	3 (0%)	93 98

All (3) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	586	LEU
1	B	144	ASP
1	E	715	SER

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (22) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	131	GLN
1	A	303	HIS
1	A	343	HIS
1	A	476	HIS
1	B	35	ASN
1	B	131	GLN
1	B	303	HIS
1	B	343	HIS
1	B	476	HIS
1	C	35	ASN
1	C	131	GLN
1	C	303	HIS
1	C	370	ASN
1	C	476	HIS
1	D	131	GLN
1	D	212	GLN
1	D	303	HIS
1	D	343	HIS
1	D	446	ASN
1	D	450	GLN
1	D	476	HIS
1	F	707	ASN

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

There are no monosaccharides in this entry.

5.6 Ligand geometry

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)

There are no chain breaks in this entry.

6 Fit of model and data

6.1 Protein, DNA and RNA chains

In the following table, the column labelled '#RSRZ> 2' contains the number (and percentage) of RSRZ outliers, followed by percent RSRZ outliers for the chain as percentile scores relative to all X-ray entries and entries of similar resolution. The OWAB column contains the minimum, median, 95^{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	684/787 (86%)	0.32	45 (6%) 18 9	48, 83, 154, 180	0
1	B	684/787 (86%)	0.50	74 (10%) 5 3	43, 75, 168, 192	0
1	C	684/787 (86%)	0.45	56 (8%) 11 5	50, 81, 161, 193	0
1	D	684/787 (86%)	0.55	63 (9%) 9 5	47, 84, 160, 196	0
1	E	78/787 (9%)	2.91	54 (69%) 0 0	126, 149, 178, 189	0
1	F	78/787 (9%)	3.66	55 (70%) 0 0	147, 178, 203, 213	0
All	All	2892/4722 (61%)	0.61	347 (11%) 4 2	43, 83, 168, 213	0

All (347) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	F	763	ILE	8.9
1	F	709	LEU	8.1
1	F	781	CYS	7.8
1	E	781	CYS	7.3
1	C	639	ALA	7.1
1	D	599	LEU	6.9
1	F	718	ILE	6.9
1	F	710	SER	6.9
1	F	714	LYS	6.9
1	E	768	SER	6.8
1	F	717	ILE	6.6
1	F	764	THR	6.6
1	E	767	LEU	6.6
1	F	783	LEU	6.5
1	E	709	LEU	6.4
1	F	771	PHE	6.3
1	F	741	PHE	6.3
1	F	722	THR	6.2
1	D	515	TRP	6.1

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Mol	Chain	Res	Type	RSRZ
1	E	714	LYS	6.0
1	F	780	SER	6.0
1	F	779	LEU	6.0
1	F	754	LEU	5.9
1	E	764	THR	5.9
1	F	745	GLY	5.9
1	B	514	TYR	5.8
1	F	725	TRP	5.8
1	E	763	ILE	5.8
1	C	696	ARG	5.7
1	F	778	GLY	5.7
1	B	639	ALA	5.7
1	A	551	LEU	5.6
1	B	546	LEU	5.5
1	E	754	LEU	5.5
1	E	771	PHE	5.3
1	A	326	ALA	5.3
1	E	713	THR	5.2
1	F	756	ASP	5.2
1	E	748	LEU	5.2
1	E	760	ARG	5.2
1	F	707	ASN	5.2
1	B	511	CYS	5.2
1	D	130	ALA	5.1
1	F	777	GLU	5.1
1	D	586	LEU	5.0
1	E	725	TRP	5.0
1	D	514	TYR	5.0
1	F	760	ARG	5.0
1	B	586	LEU	5.0
1	E	778	GLY	4.9
1	D	587	CYS	4.9
1	C	532	LEU	4.9
1	F	757	ILE	4.8
1	D	132	LEU	4.8
1	F	755	TYR	4.7
1	D	131	GLN	4.7
1	F	767	LEU	4.7
1	B	427	GLN	4.6
1	E	721	VAL	4.6
1	D	618	PHE	4.5
1	F	721	VAL	4.5

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Mol	Chain	Res	Type	RSRZ
1	E	718	ILE	4.5
1	F	759	GLN	4.5
1	E	715	SER	4.5
1	E	761	TYR	4.5
1	D	696	ARG	4.4
1	A	508	THR	4.4
1	E	766	THR	4.4
1	D	546	LEU	4.4
1	C	542	VAL	4.4
1	F	729	LEU	4.4
1	C	556	LEU	4.4
1	D	605	LEU	4.4
1	B	542	VAL	4.4
1	F	712	ALA	4.4
1	F	708	LEU	4.3
1	F	765	CYS	4.3
1	B	549	PHE	4.3
1	B	538	LEU	4.2
1	D	513	ILE	4.2
1	B	585	VAL	4.2
1	C	514	TYR	4.2
1	B	550	PRO	4.2
1	B	531	TRP	4.2
1	A	327	PRO	4.2
1	F	768	SER	4.1
1	C	562	ALA	4.1
1	B	553	PRO	4.1
1	E	744	GLY	4.1
1	D	129	LEU	4.1
1	E	753	ILE	4.1
1	A	584	VAL	4.0
1	F	770	PHE	4.0
1	A	131	GLN	4.0
1	C	553	PRO	4.0
1	F	782	TYR	4.0
1	F	766	THR	3.9
1	A	598	VAL	3.9
1	B	619	ASP	3.9
1	F	735	ASP	3.9
1	A	605	LEU	3.9
1	D	594	TYR	3.9
1	E	757	ILE	3.9

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Mol	Chain	Res	Type	RSRZ
1	F	742	GLU	3.9
1	B	551	LEU	3.8
1	D	634	LEU	3.8
1	D	327	PRO	3.8
1	F	772	ALA	3.8
1	D	551	LEU	3.8
1	B	584	VAL	3.8
1	F	713	THR	3.8
1	A	428	ALA	3.8
1	A	696	ARG	3.8
1	C	549	PHE	3.7
1	B	515	TRP	3.7
1	A	514	TYR	3.7
1	C	538	LEU	3.7
1	F	706	ASN	3.7
1	E	765	CYS	3.7
1	A	328	ASN	3.6
1	D	549	PHE	3.6
1	B	433	MET	3.6
1	C	570	TYR	3.6
1	D	570	TYR	3.6
1	F	762	GLY	3.6
1	E	777	GLU	3.6
1	D	1	MET	3.6
1	C	566	PHE	3.6
1	B	617	PRO	3.6
1	C	551	LEU	3.6
1	E	759	GLN	3.6
1	B	556	LEU	3.5
1	A	515	TRP	3.5
1	B	587	CYS	3.5
1	C	586	LEU	3.5
1	F	761	TYR	3.5
1	B	659	VAL	3.5
1	B	603	CYS	3.4
1	C	429	ARG	3.4
1	E	712	ALA	3.4
1	D	133	GLY	3.4
1	B	608	ALA	3.4
1	C	512	THR	3.4
1	E	752	THR	3.4
1	A	618	PHE	3.4

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Mol	Chain	Res	Type	RSRZ
1	D	326	ALA	3.4
1	C	531	TRP	3.4
1	B	327	PRO	3.4
1	C	525	LEU	3.4
1	F	711	ARG	3.4
1	A	632	CYS	3.4
1	B	548	HIS	3.4
1	D	632	CYS	3.4
1	F	758	GLN	3.3
1	D	584	VAL	3.3
1	C	594	TYR	3.3
1	E	711	ARG	3.3
1	B	1	MET	3.3
1	B	605	LEU	3.3
1	C	508	THR	3.3
1	D	518	GLY	3.3
1	D	585	VAL	3.3
1	C	427	GLN	3.3
1	E	758	GLN	3.3
1	B	512	THR	3.3
1	C	1	MET	3.3
1	A	585	VAL	3.3
1	C	605	LEU	3.3
1	C	558	ASP	3.2
1	E	750	ALA	3.2
1	D	517	LEU	3.2
1	C	326	ALA	3.2
1	C	541	ALA	3.2
1	B	517	LEU	3.2
1	B	532	LEU	3.2
1	E	747	SER	3.2
1	B	429	ARG	3.2
1	A	543	GLY	3.1
1	E	755	TYR	3.1
1	B	634	LEU	3.1
1	A	610	HIS	3.1
1	C	545	LEU	3.1
1	C	640	ALA	3.1
1	E	770	PHE	3.1
1	E	746	HIS	3.1
1	B	328	ASN	3.1
1	D	426	PRO	3.1

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Mol	Chain	Res	Type	RSRZ
1	E	720	VAL	3.0
1	D	598	VAL	3.0
1	B	572	LEU	3.0
1	D	609	TRP	3.0
1	E	779	LEU	3.0
1	D	582	LEU	3.0
1	A	429	ARG	3.0
1	A	388	VAL	3.0
1	B	543	GLY	2.9
1	A	513	ILE	2.9
1	A	583	ASN	2.9
1	F	730	GLY	2.9
1	D	550	PRO	2.9
1	F	753	ILE	2.9
1	D	43	PRO	2.8
1	C	433	MET	2.8
1	C	456	LEU	2.8
1	E	775	THR	2.8
1	B	569	GLN	2.8
1	C	569	GLN	2.8
1	B	602	ASP	2.8
1	F	719	ALA	2.8
1	B	582	LEU	2.8
1	E	783	LEU	2.8
1	A	380	LEU	2.8
1	B	561	PRO	2.7
1	A	517	LEU	2.7
1	B	568	SER	2.7
1	D	591	ASP	2.7
1	C	131	GLN	2.7
1	B	428	ALA	2.7
1	C	565	THR	2.7
1	A	566	PHE	2.7
1	D	328	ASN	2.7
1	A	586	LEU	2.7
1	D	572	LEU	2.7
1	F	751	SER	2.7
1	A	570	TYR	2.7
1	D	544	GLN	2.7
1	E	708	LEU	2.7
1	E	749	LEU	2.7
1	F	752	THR	2.7

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Mol	Chain	Res	Type	RSRZ
1	A	609	TRP	2.7
1	D	507	ALA	2.7
1	A	512	THR	2.7
1	C	619	ASP	2.7
1	C	653	GLN	2.7
1	B	615	GLY	2.7
1	D	540	GLN	2.6
1	C	608	ALA	2.6
1	D	606	GLU	2.6
1	A	594	TYR	2.6
1	F	774	PRO	2.6
1	A	132	LEU	2.6
1	A	636	LEU	2.6
1	B	525	LEU	2.6
1	C	615	GLY	2.6
1	B	326	ALA	2.6
1	F	733	ILE	2.6
1	F	747	SER	2.6
1	C	573	ILE	2.6
1	B	612	LEU	2.6
1	C	528	LEU	2.6
1	E	782	TYR	2.6
1	E	741	PHE	2.6
1	A	567	ILE	2.6
1	D	567	ILE	2.5
1	B	129	LEU	2.5
1	E	735	ASP	2.5
1	E	710	SER	2.5
1	B	554	ALA	2.5
1	C	515	TRP	2.5
1	B	131	GLN	2.5
1	B	616	GLN	2.5
1	B	132	LEU	2.5
1	A	599	LEU	2.4
1	D	516	ARG	2.4
1	B	696	ARG	2.4
1	B	618	PHE	2.4
1	E	716	ASP	2.4
1	C	437	VAL	2.4
1	B	160	CYS	2.4
1	B	522	VAL	2.4
1	D	695	VAL	2.4

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Mol	Chain	Res	Type	RSRZ
1	A	549	PHE	2.4
1	A	546	LEU	2.4
1	F	724	ILE	2.4
1	D	223	ALA	2.3
1	C	327	PRO	2.3
1	E	773	ASP	2.3
1	C	695	VAL	2.3
1	D	635	MET	2.3
1	B	539	SER	2.3
1	C	519	HIS	2.3
1	D	521	PHE	2.3
1	C	550	PRO	2.3
1	D	52	LEU	2.3
1	B	508	THR	2.3
1	E	707	ASN	2.3
1	F	728	THR	2.3
1	D	548	HIS	2.3
1	B	573	ILE	2.3
1	B	635	MET	2.3
1	D	639	ALA	2.3
1	E	769	ALA	2.3
1	B	570	TYR	2.2
1	B	376	PRO	2.2
1	B	599	LEU	2.2
1	C	328	ASN	2.2
1	B	545	LEU	2.2
1	C	572	LEU	2.2
1	B	594	TYR	2.2
1	C	552	GLU	2.2
1	C	643	ALA	2.2
1	B	565	THR	2.2
1	E	751	SER	2.2
1	C	431	GLN	2.2
1	F	715	SER	2.2
1	D	489	ALA	2.2
1	D	512	THR	2.2
1	A	382	ASP	2.1
1	B	521	PHE	2.1
1	C	669	ALA	2.1
1	C	634	LEU	2.1
1	B	583	ASN	2.1
1	C	494	GLN	2.1

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Mol	Chain	Res	Type	RSRZ
1	E	722	THR	2.1
1	C	378	LEU	2.1
1	C	511	CYS	2.1
1	E	738	ALA	2.1
1	B	633	SER	2.1
1	D	556	LEU	2.1
1	B	597	ALA	2.1
1	B	426	PRO	2.1
1	B	431	GLN	2.1
1	A	160	CYS	2.1
1	E	756	ASP	2.1
1	D	571	ALA	2.1
1	B	598	VAL	2.1
1	A	391	LEU	2.1
1	D	525	LEU	2.1
1	A	507	ALA	2.1
1	A	550	PRO	2.1
1	D	41	VAL	2.1
1	A	378	LEU	2.1
1	D	221	PHE	2.1
1	D	612	LEU	2.1
1	A	329	ALA	2.1
1	D	543	GLY	2.1
1	E	745	GLY	2.1
1	E	762	GLY	2.1
1	A	547	GLU	2.1
1	A	591	ASP	2.0
1	D	640	ALA	2.0
1	B	544	GLN	2.0
1	D	569	GLN	2.0
1	B	552	GLU	2.0
1	C	122	LEU	2.0
1	D	428	ALA	2.0
1	D	568	SER	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 monosaccharides 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.