Full wwPDB X-ray Structure Validation Report

Oct 21, 2024 – 09:32 PM EDT

PDB ID	:	2Q1F
Title	:	Crystal structure of chondroitin sulfate lyase abc from bacteroides thetaiotaomicron wal2926
Authors	:	Shaya, D.; Cygler, M.
Deposited on	:	2007-05-24
Resolution	:	2.85 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:

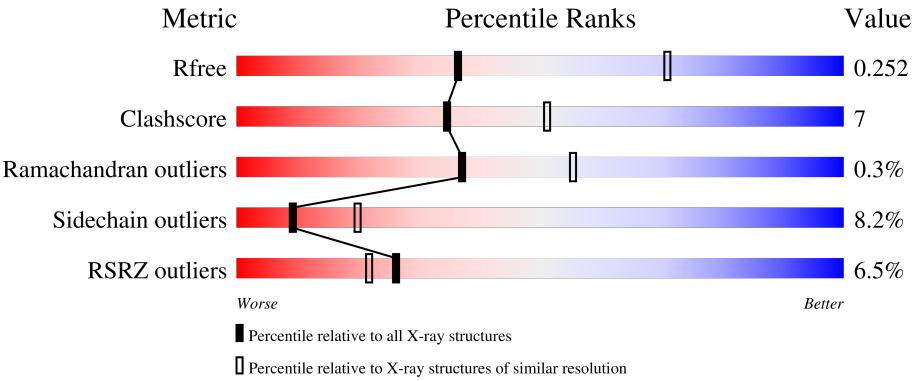
MolProbity	:	4.02b-467
Mogul	:	2022.3.0, CSD as543be (2022)
Xtriage (Phenix)	:	1.20.1
EDS	:	3.0
Percentile statistics	:	20231227.v01 (using entries in the PDB archive December 27th 2023)
CCP4	:	9.0.003 (Gargrove)
Density-Fitness	:	1.0.11
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.39

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 2.85 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}	164625	1268 (2.88-2.84)
Clashscore	180529	1351 (2.88-2.84)
Ramachandran outliers	177936	1318 (2.88-2.84)
Sidechain outliers	177891	1319 (2.88-2.84)
RSRZ outliers	164620	1269 (2.88-2.84)

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	1022	11% 76% 18%
1	B	1022	% 79% 16%

2 Entry composition (i)

There are 4 unique types of molecules in this entry. The entry contains 15973 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.

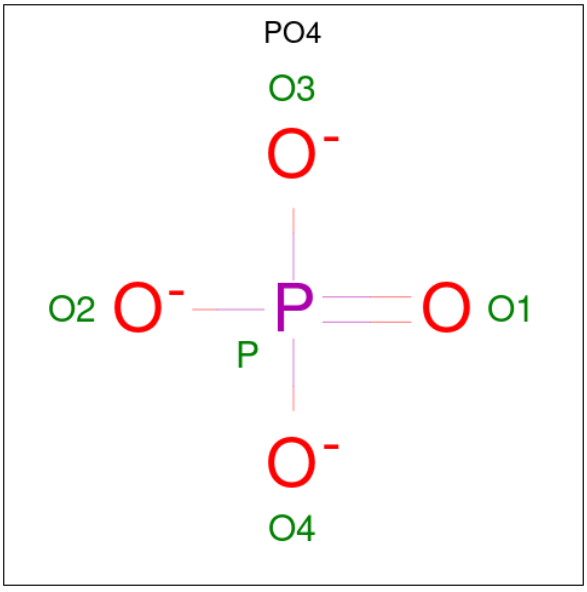
- Molecule 1 is a protein called Chondroitinase.

Mol	Chain	Residues	Atoms						ZeroOcc	AltConf	Trace
1	A	991	Total	C	N	O	S	Se	0	0	0
			7912	5024	1371	1471	11	35			
1	B	991	Total	C	N	O	S	Se	0	0	0
			7912	5024	1371	1471	11	35			

- Molecule 2 is CALCIUM ION (three-letter code: CA) (formula: Ca).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
2	A	1	Total	Ca	0	0
			1	1		
2	B	1	Total	Ca	0	0
			1	1		

- Molecule 3 is PHOSPHATE ION (three-letter code: PO4) (formula: O_4P).



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

- Molecule 4 is water.

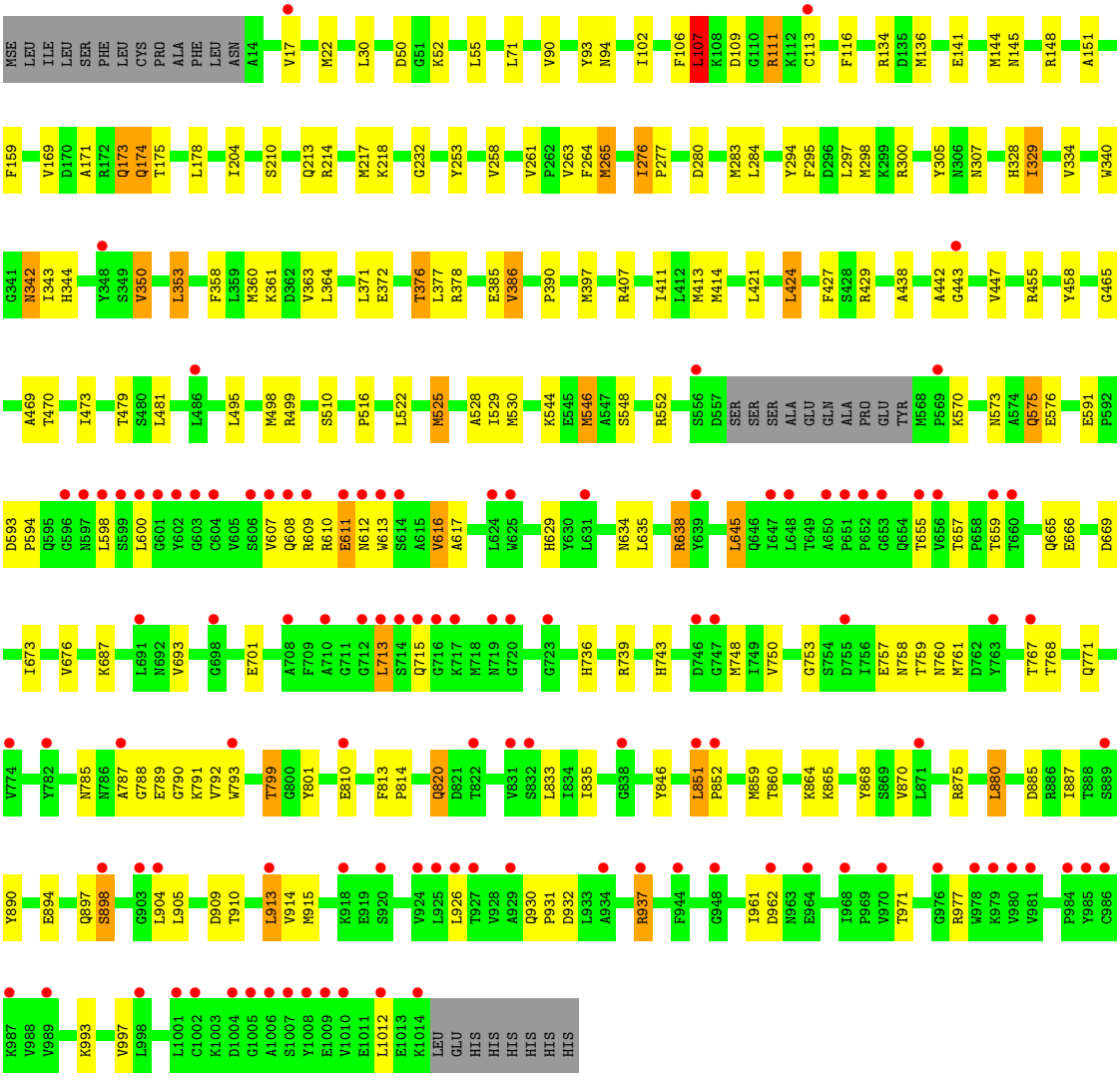
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
4	A	42	Total O 42 42	0	0
4	B	25	Total O 25 25	0	0

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.

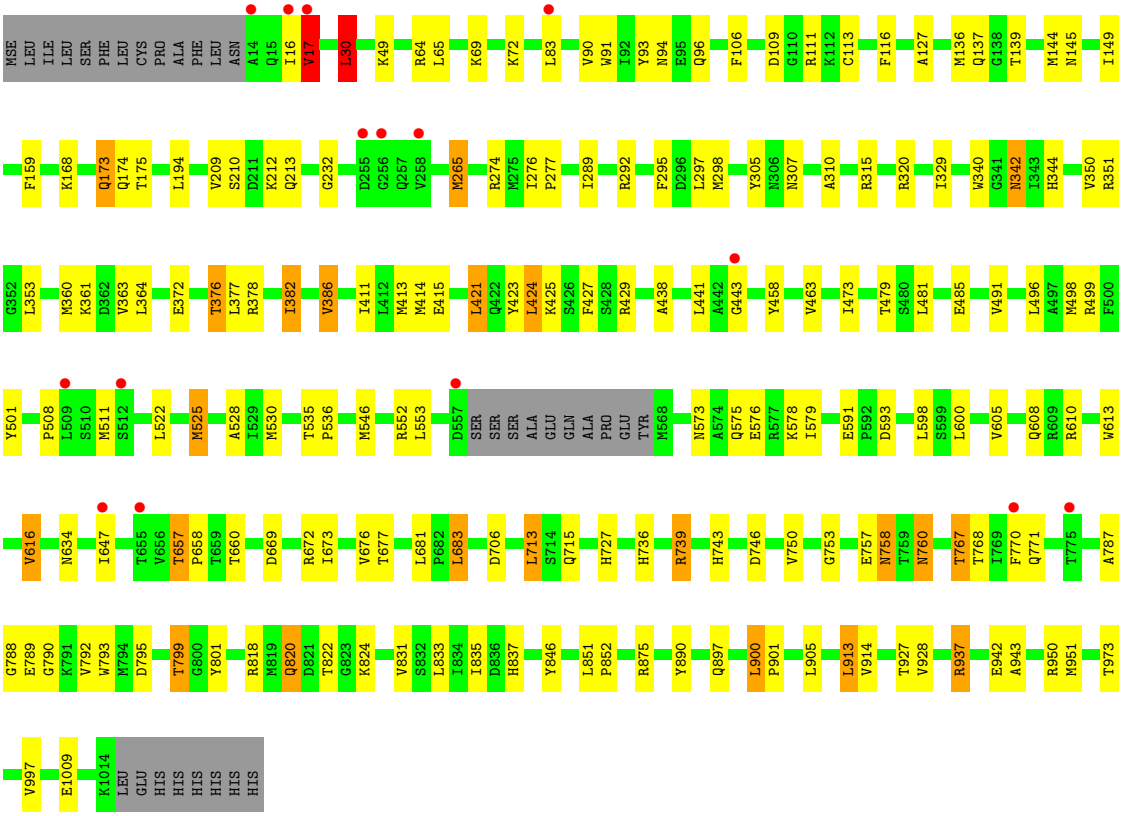
• Molecule 1: Chondroitinase

Chain A:



• Molecule 1: Chondroitinase

Chain B:


MSE LEU ILE LEU SER PHE LEU CYS PRO ALA PHE LEU ASN A14 Q15 I16 V17 L30 K49 R64 L65 K69 K72 L83 V90 W91 I92 Y93 N94 E95 Q96 F106 D109 G110 R111 K112 C113 F116 A127 M136 Q137 G138 T139 M144 N145 I149
F159 K168 Q173 Q174 T175 L194 V209 S210 D211 K212 Q213 G232 D255 G256 Q257 V258 M266 R274 M276 I276 P277 I289 R292 F295 D296 L297 M298 Y305 N306 N307 A310 R315 R320 I329 W340 G341 N342 I343 H344 V350 R351
G352 L353 M360 K361 D362 V363 L364 E372 T376 L377 R378 I382 V386 I411 L412 M413 M414 E415 L421 Q422 Y423 L424 K425 S426 F427 S428 R429 A438 L441 A442 G443 Y458 V463 I473 T479 S480 L481 E485 V491 L496 A497 M498 R499 P500
Y501 P508 L509 S510 M511 S512 L522 M525 A528 I529 M530 T535 P536 M546 R552 L553 D557 SER SER SER ALA GLU GLN ALA PRO GLU TYR M568 N573 A574 Q575 E576 R577 K578 I579 E591 P592 D593 L598 S599 L600 V605 Q608 R609 R610 W613
V616 N634 I647 T655 V656 T657 P658 T659 T660 D669 R672 I673 V676 T677 L681 P682 L683 D706 L713 S714 Q715 H727 H736 R739 H743 D746 V750 G753 E757 N758 T759 N760 T767 T768 I769 F770 Q771 T775 A787
G788 E789 G790 K791 V792 W793 M794 D795 T799 Q800 Y801 R818 M819 Q820 D821 T822 G823 K824 V831 S832 L833 I834 I835 D836 H837 Y846 L851 P852 R875 Y890 Q897 L900 P901 L905 L913 V914 T927 V928 R937 E942 A943 R950 M951 T973
V997 E1009 K1014 LEU GLU HIS HIS HIS HIS HIS HIS

4 Data and refinement statistics (i)

Property	Value	Source
Space group	P 63	Depositor
Cell constants a, b, c, α, β, γ	223.36Å 223.36Å 112.64Å 90.00° 90.00° 120.00°	Depositor
Resolution (Å)	50.00 – 2.85 50.00 – 2.85	Depositor EDS
% Data completeness (in resolution range)	94.8 (50.00-2.85) 94.9 (50.00-2.85)	Depositor EDS
R_{merge}	0.06	Depositor
R_{sym}	0.05	Depositor
$< I/\sigma(I) >$ [1]	1.75 (at 2.86Å)	Xtriage
Refinement program	REFMAC 5.2.0019	Depositor
R, R_{free}	0.220 , 0.262 0.211 , 0.252	Depositor DCC
R_{free} test set	3594 reflections (5.06%)	wwPDB-VP
Wilson B-factor (Å^2)	65.6	Xtriage
Anisotropy	0.032	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.29 , 57.8	EDS
L-test for twinning[2]	$< \|L\| > = 0.50$, $< L^2 > = 0.33$	Xtriage
Estimated twinning fraction	0.022 for h,-h-k,-l	Xtriage
F_o,F_c correlation	0.90	EDS
Total number of atoms	15973	wwPDB-VP
Average B, all atoms (Å^2)	59.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 1.86% 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

Bond lengths and bond angles in the following residue types are not validated in this section: PO4, CA

The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with $|Z| > 5$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	$\#\|Z\| > 5$	RMSZ	$\#\|Z\| > 5$
1	A	0.38	2/8072 (0.0%)	0.53	2/10852 (0.0%)
1	B	0.32	0/8072	0.52	1/10852 (0.0%)
All	All	0.35	2/16144 (0.0%)	0.53	3/21704 (0.0%)

All (2) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	810	GLU	CD-OE1	11.60	1.38	1.25
1	A	810	GLU	CD-OE2	11.28	1.38	1.25

All (3) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	713	LEU	CA-CB-CG	5.51	127.98	115.30
1	A	107	LEU	CA-CB-CG	5.20	127.25	115.30
1	B	30	LEU	CA-CB-CG	5.11	127.05	115.30

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	7912	0	7770	125	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	B	7912	0	7770	107	0
2	A	1	0	0	0	0
2	B	1	0	0	0	0
3	A	40	0	0	0	0
3	B	40	0	0	0	0
4	A	42	0	0	0	0
4	B	25	0	0	0	0
All	All	15973	0	15540	232	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 7.

All (232) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:767:THR:HG23	1:B:837:HIS:HE1	1.14	1.13
1:B:789:GLU:CB	1:B:790:GLY:HA3	1.76	1.13
1:A:789:GLU:CB	1:A:790:GLY:HA3	1.74	1.13
1:B:789:GLU:HB3	1:B:790:GLY:CA	1.89	1.02
1:A:411:ILE:HA	1:A:414:MSE:HE3	1.36	1.02
1:A:789:GLU:HB3	1:A:790:GLY:CA	1.90	1.01
1:B:767:THR:CG2	1:B:837:HIS:HE1	1.75	0.99
1:B:767:THR:HG23	1:B:837:HIS:CE1	1.96	0.99
1:B:789:GLU:HB3	1:B:790:GLY:HA3	1.00	0.99
1:A:789:GLU:HB3	1:A:790:GLY:HA3	0.99	0.98
1:A:638:ARG:HG3	1:A:638:ARG:HH11	1.29	0.94
1:A:479:THR:HG22	1:A:481:LEU:H	1.35	0.89
1:B:479:THR:HG22	1:B:481:LEU:H	1.42	0.85
1:B:411:ILE:HA	1:B:414:MSE:HE3	1.59	0.82
1:B:413:MSE:HE2	1:B:413:MSE:HA	1.61	0.81
1:A:469:ALA:O	1:A:473:ILE:HG12	1.81	0.81
1:A:377:LEU:HD12	1:A:413:MSE:HG3	1.64	0.79
1:A:525:MSE:HE2	1:A:528:ALA:HB3	1.65	0.78
1:A:573:ASN:HD21	1:A:575:GLN:HG2	1.49	0.78
1:B:937:ARG:HG2	1:B:937:ARG:HH11	1.49	0.78
1:B:113:CYS:HB2	1:B:144:MSE:HE1	1.66	0.75
1:A:789:GLU:CB	1:A:790:GLY:CA	2.58	0.74
1:A:210:SER:H	1:A:213:GLN:HE21	1.36	0.73
1:A:525:MSE:HE3	1:A:525:MSE:HA	1.71	0.72
1:A:106:PHE:CD1	1:A:136:MSE:HE1	2.24	0.72
1:A:295:PHE:CD2	1:A:298:MSE:HE2	2.25	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:669:ASP:H	1:B:771:GLN:HE22	1.38	0.71
1:A:669:ASP:H	1:A:771:GLN:HE22	1.37	0.71
1:B:473:ILE:CD1	1:B:491:VAL:HG11	2.21	0.70
1:A:525:MSE:CE	1:A:528:ALA:HB3	2.22	0.70
1:B:378:ARG:HD3	1:B:414:MSE:HE2	1.71	0.70
1:A:173:GLN:HA	1:A:173:GLN:HE21	1.57	0.69
1:A:799:THR:HB	1:A:852:PRO:HA	1.75	0.69
1:B:93:TYR:HB3	1:B:159:PHE:HB2	1.75	0.68
1:A:342:ASN:HD21	1:A:344:HIS:HD2	1.39	0.68
1:A:743:HIS:HB2	1:A:750:VAL:HG13	1.74	0.68
1:A:573:ASN:HD22	1:A:576:GLU:H	1.42	0.67
1:B:706:ASP:OD2	1:B:727:HIS:HD2	1.78	0.67
1:B:265:MSE:HE1	1:B:344:HIS:O	1.94	0.66
1:B:116:PHE:HD2	1:B:136:MSE:HE3	1.61	0.66
1:B:210:SER:H	1:B:213:GLN:HE21	1.43	0.65
1:A:638:ARG:HH11	1:A:638:ARG:CG	2.08	0.65
1:B:789:GLU:CB	1:B:790:GLY:CA	2.61	0.65
1:A:378:ARG:HD3	1:A:414:MSE:HE2	1.79	0.64
1:B:361:LYS:HB2	1:B:413:MSE:HE1	1.79	0.64
1:B:683:LEU:HD23	1:B:818:ARG:HG3	1.78	0.64
1:A:411:ILE:HG21	1:A:424:LEU:HD13	1.81	0.63
1:B:937:ARG:HH11	1:B:937:ARG:CG	2.11	0.63
1:B:295:PHE:CD2	1:B:298:MSE:HE3	2.34	0.62
1:B:799:THR:HB	1:B:852:PRO:HA	1.81	0.62
1:A:930:GLN:HE21	1:A:932:ASP:H	1.48	0.61
1:A:93:TYR:HB3	1:A:159:PHE:HB2	1.81	0.61
1:B:106:PHE:CD1	1:B:136:MSE:HE1	2.36	0.60
1:A:913:LEU:HD22	1:A:931:PRO:HG3	1.82	0.60
1:B:295:PHE:CE2	1:B:353:LEU:HD13	2.36	0.60
1:A:358:PHE:HA	1:A:413:MSE:CE	2.31	0.60
1:B:522:LEU:HD11	1:B:553:LEU:HD22	1.84	0.60
1:A:887:ILE:HG21	1:A:915:MSE:HE3	1.84	0.59
1:A:525:MSE:HA	1:A:525:MSE:CE	2.32	0.59
1:B:414:MSE:HE1	1:B:423:TYR:CD1	2.38	0.59
1:A:265:MSE:HE1	1:A:344:HIS:O	2.03	0.59
1:B:508:PRO:HB3	1:B:616:VAL:HG11	1.84	0.59
1:B:232:GLY:H	1:B:307:ASN:ND2	2.01	0.58
1:B:498:MSE:HE3	1:B:522:LEU:HB2	1.84	0.58
1:B:342:ASN:C	1:B:342:ASN:HD22	2.06	0.58
1:A:860:THR:O	1:A:864:LYS:HG2	2.03	0.58
1:B:342:ASN:HD21	1:B:344:HIS:HD2	1.49	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:767:THR:CG2	1:B:837:HIS:CE1	2.67	0.58
1:B:657:THR:HG22	1:B:658:PRO:HD2	1.85	0.57
1:A:361:LYS:HB2	1:A:413:MSE:HE1	1.85	0.57
1:A:885:ASP:HB3	1:A:887:ILE:HD12	1.86	0.57
1:A:887:ILE:CG2	1:A:915:MSE:HE3	2.34	0.57
1:A:657:THR:HG22	1:A:659:THR:H	1.69	0.56
1:A:71:LEU:HD12	1:A:144:MSE:HG3	1.87	0.56
1:A:607:VAL:HG22	1:A:616:VAL:HB	1.87	0.56
1:B:30:LEU:HD13	1:B:30:LEU:H	1.71	0.56
1:B:525:MSE:HE2	1:B:528:ALA:HB3	1.87	0.56
1:A:204:ILE:HG13	1:A:429:ARG:NH2	2.21	0.56
1:B:377:LEU:HD12	1:B:413:MSE:HG3	1.88	0.56
1:B:743:HIS:HB2	1:B:750:VAL:CG1	2.36	0.55
1:B:610:ARG:HB2	1:B:613:TRP:CZ2	2.42	0.55
1:B:835:ILE:HD13	1:B:846:TYR:HB2	1.87	0.55
1:A:378:ARG:HD3	1:A:414:MSE:CE	2.36	0.55
1:A:358:PHE:CD1	1:A:413:MSE:HE3	2.42	0.55
1:B:673:ILE:O	1:B:676:VAL:HG22	2.07	0.55
1:A:386:VAL:HG21	1:A:427:PHE:HA	1.89	0.54
1:A:438:ALA:CB	1:A:443:GLY:HA3	2.38	0.54
1:A:629:HIS:HB2	1:A:701:GLU:HB3	1.88	0.54
1:A:753:GLY:HA3	1:A:846:TYR:CE2	2.43	0.54
1:A:113:CYS:HB2	1:A:144:MSE:HE1	1.89	0.53
1:B:473:ILE:HD13	1:B:491:VAL:HG11	1.89	0.53
1:A:280:ASP:H	1:A:283:MSE:HE3	1.74	0.53
1:A:909:ASP:HB2	1:A:971:THR:H	1.74	0.52
1:A:573:ASN:ND2	1:A:576:GLU:H	2.06	0.52
1:A:386:VAL:CG2	1:A:427:PHE:HA	2.40	0.52
1:B:647:ILE:HD13	1:B:799:THR:HG21	1.91	0.52
1:A:106:PHE:CE1	1:A:136:MSE:HE1	2.45	0.51
1:A:173:GLN:HE21	1:A:173:GLN:CA	2.21	0.51
1:B:305:TYR:CG	1:B:360:MSE:HE1	2.45	0.51
1:B:943:ALA:HB1	1:B:951:MSE:HE3	1.91	0.51
1:A:342:ASN:HD22	1:A:343:ILE:N	2.08	0.51
1:A:516:PRO:HD2	1:A:820:GLN:NE2	2.25	0.51
1:B:113:CYS:HB2	1:B:144:MSE:CE	2.40	0.51
1:B:530:MSE:HB2	1:B:546:MSE:HG2	1.92	0.51
1:B:795:ASP:OD2	1:B:799:THR:HG23	2.10	0.51
1:A:107:LEU:HD11	1:A:148:ARG:HH11	1.76	0.51
1:A:397:MSE:SE	1:A:465:GLY:HA3	2.61	0.51
1:B:672:ARG:HA	1:B:768:THR:HG21	1.92	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:295:PHE:HD2	1:A:298:MSE:HE2	1.70	0.50
1:A:897:GLN:O	1:A:898:SER:HB2	2.12	0.49
1:A:413:MSE:HA	1:A:413:MSE:HE2	1.93	0.49
1:B:525:MSE:HE1	1:B:579:ILE:HD12	1.94	0.49
1:A:739:ARG:NH1	1:A:875:ARG:O	2.46	0.49
1:A:498:MSE:HE3	1:A:522:LEU:HB2	1.94	0.49
1:B:753:GLY:HA3	1:B:846:TYR:CE2	2.48	0.49
1:A:295:PHE:HD2	1:A:298:MSE:CE	2.25	0.49
1:A:530:MSE:CB	1:A:546:MSE:HG2	2.43	0.49
1:A:792:VAL:HG21	1:A:859:MSE:HB3	1.95	0.49
1:A:116:PHE:HD2	1:A:136:MSE:HE3	1.77	0.49
1:A:390:PRO:HD2	1:A:429:ARG:HD3	1.95	0.49
1:B:350:VAL:HG12	1:B:350:VAL:O	2.13	0.49
1:A:295:PHE:CD2	1:A:298:MSE:CE	2.95	0.48
1:A:787:ALA:N	1:A:788:GLY:HA2	2.29	0.48
1:B:91:TRP:CE2	1:B:127:ALA:HB2	2.48	0.48
1:B:525:MSE:CE	1:B:528:ALA:HB3	2.42	0.48
1:A:214:ARG:HA	1:A:217:MSE:HE2	1.94	0.48
1:A:305:TYR:CG	1:A:360:MSE:HE1	2.48	0.48
1:A:358:PHE:HD1	1:A:413:MSE:HE3	1.77	0.48
1:B:372:GLU:O	1:B:376:THR:HG23	2.13	0.48
1:B:438:ALA:CB	1:B:443:GLY:HA3	2.43	0.48
1:B:713:LEU:HD23	1:B:913:LEU:HB3	1.96	0.48
1:B:676:VAL:O	1:B:767:THR:HA	2.14	0.48
1:A:329:ILE:HG23	1:A:334:VAL:HB	1.95	0.48
1:B:386:VAL:CG2	1:B:427:PHE:HA	2.44	0.47
1:B:421:LEU:HD22	1:B:425:LYS:HE3	1.96	0.47
1:B:535:THR:HG22	1:B:536:PRO:HD2	1.96	0.47
1:A:793:TRP:HB2	1:A:801:TYR:HB2	1.94	0.47
1:A:342:ASN:HD22	1:A:342:ASN:C	2.16	0.47
1:A:759:THR:O	1:A:761:MSE:HE3	2.13	0.47
1:B:350:VAL:O	1:B:350:VAL:CG1	2.63	0.47
1:A:758:ASN:HD22	1:A:760:ASN:H	1.62	0.47
1:B:173:GLN:HA	1:B:173:GLN:HE21	1.80	0.47
1:B:386:VAL:HG21	1:B:427:PHE:HA	1.96	0.47
1:B:573:ASN:HD21	1:B:575:GLN:HG2	1.79	0.47
1:B:787:ALA:N	1:B:788:GLY:HA2	2.30	0.46
1:A:111:ARG:NH1	1:A:141:GLU:OE2	2.48	0.46
1:A:378:ARG:CD	1:A:414:MSE:HE2	2.45	0.46
1:A:835:ILE:HD13	1:A:846:TYR:HB2	1.96	0.46
1:B:647:ILE:O	1:B:647:ILE:HD12	2.16	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:134:ARG:HH22	1:A:174:GLN:HG2	1.81	0.46
1:B:413:MSE:HA	1:B:413:MSE:CE	2.39	0.46
1:A:634:ASN:H	1:A:820:GLN:NE2	2.13	0.46
1:B:822:THR:HG23	1:B:824:LYS:H	1.80	0.46
1:B:927:THR:HB	1:B:1009:GLU:HB3	1.98	0.46
1:A:890:TYR:HB2	1:A:914:VAL:HB	1.98	0.46
1:B:508:PRO:HG2	1:B:511:MSE:SE	2.66	0.46
1:B:973:THR:HA	1:B:997:VAL:HG12	1.98	0.45
1:A:358:PHE:HA	1:A:413:MSE:HE3	1.96	0.45
1:B:342:ASN:HD21	1:B:344:HIS:CD2	2.32	0.45
1:B:793:TRP:HB2	1:B:801:TYR:HB2	1.99	0.45
1:A:552:ARG:NH1	1:A:593:ASP:OD1	2.49	0.45
1:B:525:MSE:HE3	1:B:576:GLU:HG3	1.99	0.45
1:A:638:ARG:HG3	1:A:638:ARG:NH1	2.09	0.45
1:B:511:MSE:HE3	1:B:605:VAL:HG21	1.99	0.45
1:B:310:ALA:HA	1:B:315:ARG:HD3	1.98	0.45
1:A:748:MSE:HE1	1:A:868:TYR:HB3	1.99	0.45
1:A:455:ARG:CZ	1:A:961:ILE:HD12	2.47	0.44
1:A:276:ILE:HA	1:A:277:PRO:HD3	1.80	0.44
1:A:294:TYR:CE2	1:A:329:ILE:HG12	2.53	0.44
1:A:676:VAL:O	1:A:767:THR:HA	2.16	0.44
1:B:937:ARG:CG	1:B:937:ARG:NH1	2.75	0.44
1:A:610:ARG:HB2	1:A:613:TRP:CZ2	2.52	0.44
1:A:748:MSE:HB2	1:A:851:LEU:HD22	1.99	0.44
1:A:750:VAL:HG11	1:A:880:LEU:HD11	1.98	0.44
1:B:634:ASN:H	1:B:820:GLN:NE2	2.16	0.44
1:B:276:ILE:HA	1:B:277:PRO:HD3	1.89	0.44
1:B:113:CYS:HB3	1:B:139:THR:O	2.17	0.44
1:A:350:VAL:HG22	1:A:353:LEU:HD12	2.00	0.44
1:A:594:PRO:O	1:A:609:ARG:HD3	2.18	0.44
1:A:736:HIS:HA	1:A:757:GLU:O	2.18	0.44
1:A:635:LEU:HD22	1:A:687:LYS:HE3	1.99	0.44
1:A:499:ARG:NH1	1:A:591:GLU:OE2	2.51	0.43
1:A:102:ILE:HD13	1:A:151:ALA:HA	2.00	0.43
1:B:770:PHE:HE1	1:B:831:VAL:HG12	1.82	0.43
1:B:890:TYR:HB2	1:B:914:VAL:HB	2.00	0.43
1:A:611:GLU:HB3	1:A:612:ASN:H	1.61	0.43
1:A:673:ILE:O	1:A:676:VAL:HG22	2.18	0.43
1:B:942:GLU:HG2	1:B:950:ARG:HG2	2.00	0.43
1:B:499:ARG:NH1	1:B:591:GLU:OE2	2.51	0.43
1:B:767:THR:HG21	1:B:846:TYR:CD2	2.53	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:261:VAL:O	1:A:328:HIS:HE1	2.00	0.43
1:A:30:LEU:HD21	1:A:55:LEU:HD13	2.01	0.42
1:B:411:ILE:HG21	1:B:424:LEU:HD13	2.00	0.42
1:B:65:LEU:HD22	1:B:149:ILE:HD12	2.00	0.42
1:A:977:ARG:HH21	1:A:993:LYS:HG2	1.85	0.42
1:B:758:ASN:HD22	1:B:760:ASN:H	1.68	0.42
1:A:171:ALA:HA	1:A:174:GLN:OE1	2.19	0.42
1:A:264:PHE:HB2	1:A:284:LEU:HD13	2.01	0.42
1:A:638:ARG:CG	1:A:638:ARG:NH1	2.74	0.42
1:A:232:GLY:H	1:A:307:ASN:ND2	2.18	0.42
1:B:900:LEU:HA	1:B:901:PRO:HD3	1.94	0.42
1:B:16:ILE:O	1:B:17:VAL:HG12	2.20	0.42
1:B:49:LYS:HG2	1:B:91:TRP:CG	2.55	0.42
1:A:442:ALA:HB2	1:A:962:ASP:OD2	2.20	0.42
1:A:530:MSE:HG3	1:A:546:MSE:HE3	2.00	0.42
1:A:136:MSE:HE2	1:A:136:MSE:HB3	1.99	0.42
1:A:813:PHE:HA	1:A:814:PRO:HA	1.88	0.41
1:A:385:GLU:OE1	1:A:407:ARG:NH2	2.53	0.41
1:B:168:LYS:HB2	1:B:274:ARG:HG3	2.02	0.41
1:B:552:ARG:NH1	1:B:593:ASP:OD1	2.53	0.41
1:B:914:VAL:HG22	1:B:928:VAL:HG22	2.02	0.41
1:A:937:ARG:HA	1:A:937:ARG:HD3	1.93	0.41
1:B:209:VAL:HG22	1:B:421:LEU:HD12	2.03	0.41
1:B:736:HIS:HA	1:B:757:GLU:O	2.21	0.41
1:A:263:VAL:HG21	1:A:294:TYR:CD1	2.55	0.41
1:B:194:LEU:HD22	1:B:382:ILE:HG12	2.03	0.41
1:A:111:ARG:H	1:A:111:ARG:HG3	1.64	0.41
1:A:372:GLU:O	1:A:376:THR:HG23	2.21	0.41
1:A:617:ALA:HB2	1:A:645:LEU:HD23	2.02	0.41
1:B:677:THR:HG23	1:B:767:THR:HG22	2.03	0.41
1:B:736:HIS:HA	1:B:758:ASN:HB3	2.03	0.41
1:B:739:ARG:NH1	1:B:875:ARG:O	2.54	0.41
1:A:495:LEU:HD13	1:A:546:MSE:HE3	2.03	0.41
1:A:897:GLN:O	1:A:898:SER:CB	2.69	0.41
1:A:253:TYR:CE2	1:A:258:VAL:HG22	2.56	0.40
1:A:210:SER:H	1:A:213:GLN:NE2	2.10	0.40
1:A:767:THR:OG1	1:A:835:ILE:HB	2.21	0.40
1:B:683:LEU:HD12	1:B:683:LEU:HA	1.89	0.40
1:B:578:LYS:HE2	1:B:578:LYS:HB3	1.97	0.40
1:B:743:HIS:HB2	1:B:750:VAL:HG12	2.03	0.40
1:A:715:GLN:OE1	1:A:915:MSE:HE2	2.21	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:715:GLN:HG3	1:B:927:THR:HG21	2.03	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	987/1022 (97%)	949 (96%)	35 (4%)	3 (0%)	37	55
1	B	987/1022 (97%)	949 (96%)	36 (4%)	2 (0%)	44	63
All	All	1974/2044 (97%)	1898 (96%)	71 (4%)	5 (0%)	37	55

All (5) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	898	SER
1	A	109	ASP
1	B	109	ASP
1	B	17	VAL
1	A	17	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.

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
1	A	840/832 (101%)	768 (91%)	72 (9%)	8 18
1	B	840/832 (101%)	775 (92%)	65 (8%)	10 22
All	All	1680/1664 (101%)	1543 (92%)	137 (8%)	9 20

All (137) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	22	MSE
1	A	50	ASP
1	A	52	LYS
1	A	90	VAL
1	A	94	ASN
1	A	107	LEU
1	A	111	ARG
1	A	145	ASN
1	A	169	VAL
1	A	173	GLN
1	A	174	GLN
1	A	175	THR
1	A	178	LEU
1	A	218	LYS
1	A	265	MSE
1	A	276	ILE
1	A	297	LEU
1	A	300	ARG
1	A	329	ILE
1	A	340	TRP
1	A	342	ASN
1	A	350	VAL
1	A	353	LEU
1	A	363	VAL
1	A	364	LEU
1	A	371	LEU
1	A	376	THR
1	A	386	VAL
1	A	421	LEU
1	A	424	LEU
1	A	447	VAL
1	A	458	TYR

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Mol	Chain	Res	Type
1	A	470	THR
1	A	510	SER
1	A	525	MSE
1	A	529	ILE
1	A	544	LYS
1	A	546	MSE
1	A	548	SER
1	A	570	LYS
1	A	575	GLN
1	A	598	LEU
1	A	600	LEU
1	A	608	GLN
1	A	611	GLU
1	A	616	VAL
1	A	638	ARG
1	A	645	LEU
1	A	655	THR
1	A	665	GLN
1	A	666	GLU
1	A	693	VAL
1	A	713	LEU
1	A	768	THR
1	A	785	ASN
1	A	791	LYS
1	A	799	THR
1	A	820	GLN
1	A	833	LEU
1	A	851	LEU
1	A	865	LYS
1	A	870	VAL
1	A	880	LEU
1	A	894	GLU
1	A	904	LEU
1	A	905	LEU
1	A	910	THR
1	A	913	LEU
1	A	926	LEU
1	A	937	ARG
1	A	997	VAL
1	A	1012	LEU
1	B	17	VAL
1	B	30	LEU

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Mol	Chain	Res	Type
1	B	64	ARG
1	B	69	LYS
1	B	72	LYS
1	B	83	LEU
1	B	90	VAL
1	B	94	ASN
1	B	96	GLN
1	B	111	ARG
1	B	137	GLN
1	B	145	ASN
1	B	173	GLN
1	B	174	GLN
1	B	175	THR
1	B	212	LYS
1	B	265	MSE
1	B	289	ILE
1	B	292	ARG
1	B	297	LEU
1	B	320	ARG
1	B	329	ILE
1	B	340	TRP
1	B	342	ASN
1	B	351	ARG
1	B	363	VAL
1	B	364	LEU
1	B	376	THR
1	B	382	ILE
1	B	386	VAL
1	B	415	GLU
1	B	421	LEU
1	B	424	LEU
1	B	429	ARG
1	B	441	LEU
1	B	458	TYR
1	B	463	VAL
1	B	485	GLU
1	B	496	LEU
1	B	501	TYR
1	B	525	MSE
1	B	598	LEU
1	B	600	LEU
1	B	608	GLN

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Mol	Chain	Res	Type
1	B	616	VAL
1	B	657	THR
1	B	660	THR
1	B	681	LEU
1	B	683	LEU
1	B	713	LEU
1	B	739	ARG
1	B	746	ASP
1	B	758	ASN
1	B	760	ASN
1	B	767	THR
1	B	792	VAL
1	B	799	THR
1	B	820	GLN
1	B	833	LEU
1	B	851	LEU
1	B	897	GLN
1	B	900	LEU
1	B	905	LEU
1	B	913	LEU
1	B	937	ARG

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (61) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	94	ASN
1	A	145	ASN
1	A	162	HIS
1	A	173	GLN
1	A	197	HIS
1	A	213	GLN
1	A	257	GLN
1	A	307	ASN
1	A	328	HIS
1	A	332	GLN
1	A	342	ASN
1	A	393	ASN
1	A	403	GLN
1	A	573	ASN
1	A	575	GLN
1	A	597	ASN
1	A	608	GLN

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Mol	Chain	Res	Type
1	A	642	HIS
1	A	733	ASN
1	A	736	HIS
1	A	758	ASN
1	A	771	GLN
1	A	785	ASN
1	A	812	ASN
1	A	815	GLN
1	A	820	GLN
1	A	837	HIS
1	A	873	GLN
1	A	930	GLN
1	A	995	GLN
1	B	15	GLN
1	B	29	GLN
1	B	94	ASN
1	B	98	GLN
1	B	145	ASN
1	B	162	HIS
1	B	173	GLN
1	B	213	GLN
1	B	257	GLN
1	B	307	ASN
1	B	328	HIS
1	B	332	GLN
1	B	342	ASN
1	B	393	ASN
1	B	403	GLN
1	B	573	ASN
1	B	586	ASN
1	B	597	ASN
1	B	608	GLN
1	B	633	HIS
1	B	727	HIS
1	B	733	ASN
1	B	736	HIS
1	B	758	ASN
1	B	760	ASN
1	B	771	GLN
1	B	812	ASN
1	B	815	GLN
1	B	820	GLN

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Mol	Chain	Res	Type
1	B	837	HIS
1	B	873	GLN

5.3.3 RNA (i)

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates (i)

There are no oligosaccharides in this entry.

5.6 Ligand geometry (i)

Of 18 ligands modelled in this entry, 2 are monoatomic - leaving 16 for Mogul analysis.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\| > 2$	Counts	RMSZ	$\#\|Z\| > 2$
3	PO4	A	2002	-	4,4,4	0.95	0	6,6,6	0.51	0
3	PO4	A	2006	-	4,4,4	0.94	0	6,6,6	0.43	0
3	PO4	A	2007	-	4,4,4	0.87	0	6,6,6	0.45	0
3	PO4	A	2004	-	4,4,4	0.94	0	6,6,6	0.41	0
3	PO4	B	2008	-	4,4,4	0.96	0	6,6,6	0.43	0
3	PO4	A	2005	-	4,4,4	0.96	0	6,6,6	0.49	0
3	PO4	B	2005	-	4,4,4	0.94	0	6,6,6	0.44	0
3	PO4	B	2004	-	4,4,4	0.95	0	6,6,6	0.50	0
3	PO4	B	2007	-	4,4,4	0.74	0	6,6,6	0.50	0
3	PO4	A	2008	-	4,4,4	0.95	0	6,6,6	0.44	0
3	PO4	B	2009	-	4,4,4	0.91	0	6,6,6	0.46	0
3	PO4	A	2009	-	4,4,4	0.93	0	6,6,6	0.44	0

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\| > 2$	Counts	RMSZ	$\#\|Z\| > 2$
3	PO4	B	2003	-	4,4,4	0.95	0	6,6,6	0.51	0
3	PO4	B	2006	-	4,4,4	0.95	0	6,6,6	0.49	0
3	PO4	B	2010	-	4,4,4	0.93	0	6,6,6	0.51	0
3	PO4	A	2003	-	4,4,4	0.96	0	6,6,6	0.46	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 (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	956/1022 (93%)	0.76	110 (11%) 11 10	49, 59, 64, 76	0
1	B	956/1022 (93%)	0.38	15 (1%) 70 67	50, 59, 63, 76	0
All	All	1912/2044 (93%)	0.57	125 (6%) 26 22	49, 59, 64, 76	0

All (125) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	B	16	ILE	4.6
1	A	1007	SER	3.9
1	B	443	GLY	3.8
1	A	597	ASN	3.8
1	A	655	THR	3.7
1	A	716	GLY	3.6
1	A	1008	TYR	3.6
1	A	712	GLY	3.5
1	A	831	VAL	3.4
1	A	1009	GLU	3.3
1	A	1004	ASP	3.2
1	A	614	SER	3.1
1	A	611	GLU	3.1
1	B	255	ASP	3.1
1	A	1012	LEU	3.1
1	A	556	SER	3.0
1	A	601	GLY	3.0
1	A	989	VAL	3.0
1	A	720	GLY	3.0
1	A	609	ARG	2.9
1	A	650	ALA	2.9
1	A	604	CYS	2.9
1	A	656	VAL	2.8
1	A	838	GLY	2.8

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Mol	Chain	Res	Type	RSRZ
1	A	1005	GLY	2.8
1	A	1014	LYS	2.8
1	A	603	GLY	2.8
1	A	612	ASN	2.8
1	A	348	TYR	2.8
1	A	926	LEU	2.8
1	A	1001	LEU	2.8
1	A	607	VAL	2.7
1	A	602	TYR	2.7
1	A	631	LEU	2.7
1	A	903	GLY	2.7
1	A	755	ASP	2.7
1	A	1002	CYS	2.7
1	A	569	PRO	2.7
1	A	978	TRP	2.7
1	B	83	LEU	2.7
1	A	660	THR	2.7
1	A	985	TYR	2.7
1	A	723	GLY	2.7
1	B	258	VAL	2.6
1	A	715	GLN	2.6
1	A	927	THR	2.6
1	A	937	ARG	2.6
1	B	655	THR	2.6
1	B	647	ILE	2.6
1	A	717	LYS	2.6
1	A	598	LEU	2.6
1	A	832	SER	2.6
1	A	596	GLY	2.5
1	A	17	VAL	2.5
1	A	767	THR	2.5
1	B	17	VAL	2.5
1	A	599	SER	2.5
1	A	968	ILE	2.5
1	A	443	GLY	2.5
1	A	659	THR	2.5
1	A	851	LEU	2.5
1	A	639	TYR	2.5
1	A	979	LYS	2.5
1	A	987	LYS	2.5
1	A	984	PRO	2.5
1	A	719	ASN	2.5

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Mol	Chain	Res	Type	RSRZ
1	A	934	ALA	2.5
1	A	1006	ALA	2.5
1	A	948	GLY	2.4
1	A	976	GLY	2.4
1	A	981	VAL	2.4
1	A	782	TYR	2.4
1	A	653	GLY	2.4
1	B	512	SER	2.4
1	A	1010	VAL	2.4
1	A	774	VAL	2.3
1	A	625	TRP	2.3
1	A	962	ASP	2.3
1	A	787	ALA	2.3
1	A	980	VAL	2.3
1	A	986	CYS	2.3
1	A	698	GLY	2.3
1	A	929	ALA	2.3
1	A	647	ILE	2.2
1	A	810	GLU	2.2
1	A	648	LEU	2.2
1	A	871	LEU	2.2
1	A	904	LEU	2.2
1	A	913	LEU	2.2
1	A	925	LEU	2.2
1	B	557	ASP	2.2
1	A	651	PRO	2.2
1	A	486	LEU	2.2
1	A	714	SER	2.2
1	A	763	TYR	2.2
1	A	746	ASP	2.2
1	A	793	TRP	2.2
1	A	691	LEU	2.1
1	A	713	LEU	2.1
1	A	998	LEU	2.1
1	A	822	THR	2.1
1	B	775	THR	2.1
1	A	944	PHE	2.1
1	A	964	GLU	2.1
1	A	652	PRO	2.1
1	A	852	PRO	2.1
1	A	889	SER	2.1
1	B	509	LEU	2.1

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Mol	Chain	Res	Type	RSRZ
1	A	708	ALA	2.1
1	A	924	VAL	2.1
1	B	256	GLY	2.1
1	A	918	LYS	2.1
1	A	606	SER	2.1
1	A	710	ALA	2.1
1	A	613	TRP	2.1
1	A	113	CYS	2.1
1	A	624	LEU	2.0
1	A	608	GLN	2.0
1	A	920	SER	2.0
1	A	970	VAL	2.0
1	A	747	GLY	2.0
1	B	770	PHE	2.0
1	B	14	ALA	2.0
1	A	898	SER	2.0
1	A	600	LEU	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)

In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 95^{th} percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9' lists the number of atoms with occupancy less than 0.9.

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
3	PO4	B	2007	5/5	0.63	0.23	92,92,93,93	0
3	PO4	A	2003	5/5	0.68	0.31	75,75,75,75	0
3	PO4	A	2005	5/5	0.72	0.37	78,78,78,79	0
3	PO4	B	2010	5/5	0.73	0.27	70,70,70,70	0
3	PO4	A	2009	5/5	0.75	0.28	92,92,93,93	0
3	PO4	A	2008	5/5	0.78	0.26	94,94,95,95	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
3	PO4	A	2007	5/5	0.78	0.35	78,78,78,79	0
3	PO4	B	2004	5/5	0.79	0.29	69,70,70,70	0
3	PO4	A	2006	5/5	0.80	0.29	86,86,86,86	0
3	PO4	B	2006	5/5	0.82	0.27	73,73,74,74	0
3	PO4	B	2008	5/5	0.83	0.26	74,75,75,76	0
3	PO4	B	2009	5/5	0.85	0.33	72,72,73,73	0
3	PO4	B	2005	5/5	0.86	0.29	61,61,61,61	0
3	PO4	B	2003	5/5	0.90	0.23	57,57,57,58	0
3	PO4	A	2004	5/5	0.91	0.27	41,43,43,43	0
2	CA	B	2002	1/1	0.93	0.16	69,69,69,69	0
3	PO4	A	2002	5/5	0.94	0.24	46,47,47,47	0
2	CA	A	2001	1/1	0.99	0.06	54,54,54,54	0

6.5 Other polymers (i)

There are no such residues in this entry.