



Full wwPDB X-ray Structure Validation Report ⓘ

Aug 28, 2023 – 10:38 PM EDT

PDB ID : 3O5B
Title : Crystal structure of dimeric KIHxk1 in crystal form VII with glucose bound (open state)
Authors : Kuettner, E.B.; Kettner, K.; Keim, A.; Kriegel, T.M.; Strater, N.
Deposited on : 2010-07-28
Resolution : 1.97 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 : 1.8.5 (274361), CSD as541be (2020)
Xtriage (Phenix) : 1.13
EDS : 2.35
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) : 2.35

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
2	BGC	B	486	-	-	-	X

2 Entry composition [i](#)

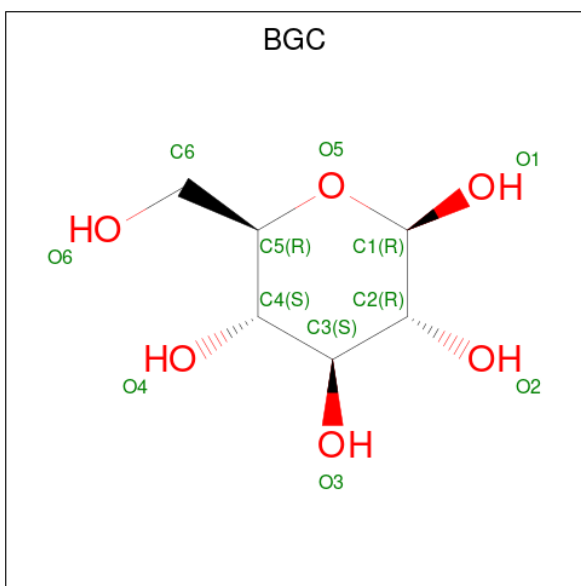
There are 4 unique types of molecules in this entry. The entry contains 7851 atoms, of which 0 are hydrogens and 0 are deuteriums.

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 Hexokinase.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
1	A	479	Total 3736	C 2377	N 618	O 725	S 16	0	2	0
1	B	478	Total 3723	C 2368	N 616	O 723	S 16	0	2	0

- Molecule 2 is beta-D-glucopyranose (three-letter code: BGC) (formula: C₆H₁₂O₆).



Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
			Total	C	O		
2	A	1	Total 12	C 6	O 6	0	0
2	B	1	Total 12	C 6	O 6	0	0

- Molecule 3 is SULFATE ION (three-letter code: SO4) (formula: O₄S).



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

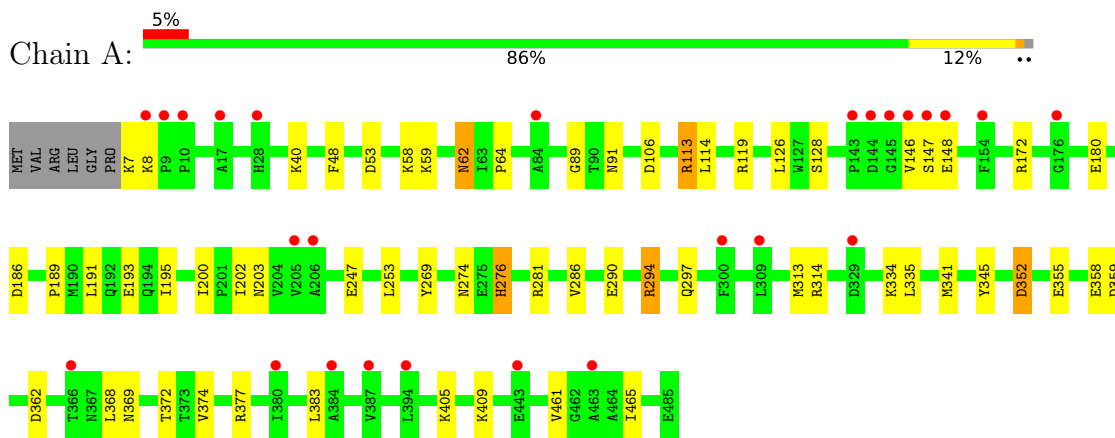
- Molecule 4 is water.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
4	A	211	Total O 211 211	0	0
4	B	142	Total O 142 142	0	0

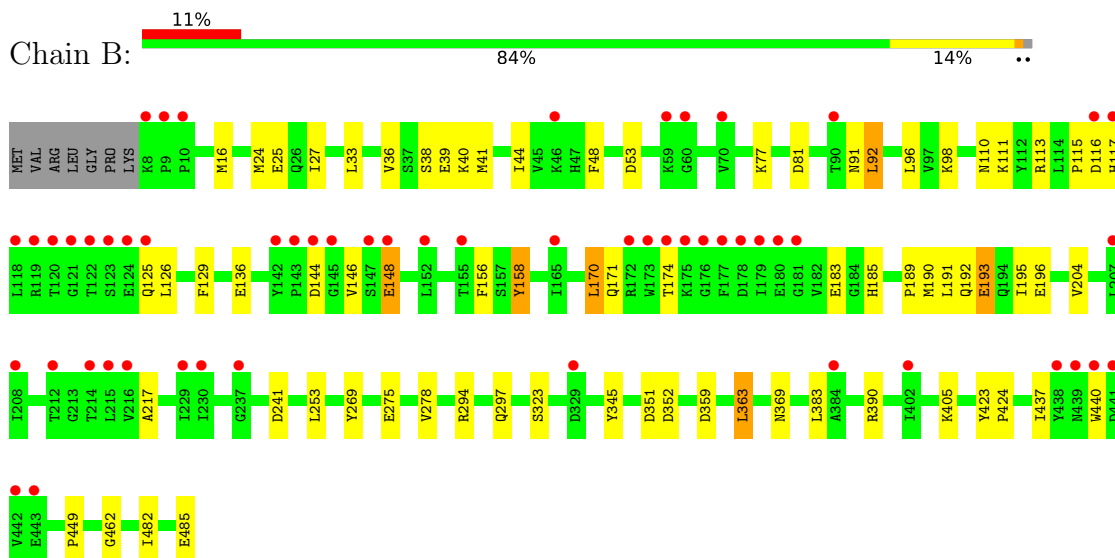
3 Residue-property plots [i](#)

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: Hexokinase



- Molecule 1: Hexokinase



4 Data and refinement statistics

Property	Value	Source
Space group	P 21 21 2	Depositor
Cell constants a, b, c, α , β , γ	98.14Å 122.20Å 92.30Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	29.90 – 1.97 29.68 – 1.97	Depositor EDS
% Data completeness (in resolution range)	99.6 (29.90-1.97) 99.6 (29.68-1.97)	Depositor EDS
R_{merge}	(Not available)	Depositor
R_{sym}	0.04	Depositor
$\langle I/\sigma(I) \rangle$ ¹	3.11 (at 1.96Å)	Xtrriage
Refinement program	REFMAC 5.5.0109	Depositor
R, R_{free}	0.204 , 0.255 0.225 , 0.272	Depositor DCC
R_{free} test set	1153 reflections (1.46%)	wwPDB-VP
Wilson B-factor (Å ²)	30.3	Xtrriage
Anisotropy	0.619	Xtrriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.33 , 36.1	EDS
L-test for twinning ²	$\langle L \rangle = 0.49$, $\langle L^2 \rangle = 0.32$	Xtrriage
Estimated twinning fraction	No twinning to report.	Xtrriage
F_o, F_c correlation	0.95	EDS
Total number of atoms	7851	wwPDB-VP
Average B, all atoms (Å ²)	39.0	wwPDB-VP

Xtrriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 3.39% of the height of the origin peak. No significant pseudotranslation is detected.*

¹Intensities estimated from amplitudes.

²Theoretical values of $\langle |L| \rangle$, $\langle L^2 \rangle$ for acentric reflections are 0.5, 0.333 respectively for untwinned datasets, and 0.375, 0.2 for perfectly twinned datasets.

5 Model quality [i](#)

5.1 Standard geometry [i](#)

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

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	0.83	0/3817	0.83	2/5167 (0.0%)
1	B	0.72	2/3809 (0.1%)	0.79	0/5156
All	All	0.78	2/7626 (0.0%)	0.81	2/10323 (0.0%)

All (2) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	B	39	GLU	CD-OE2	6.59	1.32	1.25
1	B	39	GLU	CG-CD	6.25	1.61	1.51

All (2) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	186	ASP	CB-CG-OD1	5.56	123.31	118.30
1	A	352	ASP	CB-CG-OD1	5.01	122.81	118.30

There are no chirality outliers.

There are no planarity outliers.

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	3736	0	3732	34	0
1	B	3723	0	3710	42	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
2	A	12	0	9	0	0
2	B	12	0	12	0	0
3	A	10	0	0	1	0
3	B	5	0	0	0	0
4	A	211	0	0	4	0
4	B	142	0	0	1	0
All	All	7851	0	7463	74	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 5.

All (74) 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:191:LEU:HD12	1:B:204:VAL:HG21	1.43	0.96
1:B:345:TYR:CE2	1:B:363:LEU:HD21	2.13	0.83
1:A:313:MET:HG2	1:A:383:LEU:HD22	1.63	0.81
1:B:191:LEU:CD1	1:B:204:VAL:HG21	2.15	0.77
1:A:355:GLU:HB2	1:B:110:ASN:HD21	1.47	0.77
1:A:58:LYS:HG3	1:A:247:GLU:HG2	1.71	0.71
1:A:59:LYS:HG3	4:A:584:HOH:O	1.91	0.70
1:A:313:MET:HG2	1:A:383:LEU:CD2	2.23	0.68
1:B:185:HIS:HB2	1:B:190:MET:CE	2.23	0.68
1:B:91:ASN:HD22	1:B:113:ARG:HA	1.59	0.66
1:A:358:GLU:HG3	1:B:111:LYS:O	1.98	0.64
1:A:7:LYS:HA	4:A:626:HOH:O	1.98	0.64
1:B:294:ARG:HB3	1:B:297:GLN:HG3	1.82	0.62
1:A:189:PRO:O	1:A:193:GLU:HG2	2.00	0.62
1:B:345:TYR:CE2	1:B:363:LEU:CD2	2.84	0.60
1:B:41:MET:HE2	1:B:437:ILE:HD11	1.83	0.59
1:A:146:VAL:HG13	1:A:148:GLU:O	2.03	0.58
1:B:192:GLN:O	1:B:196:GLU:HG2	2.04	0.58
1:A:62:ASN:HD21	1:A:274:ASN:ND2	2.02	0.57
1:A:53:ASP:OD1	1:A:405:LYS:HE2	2.05	0.57
1:A:374:VAL:HG23	4:A:619:HOH:O	2.04	0.57
1:B:53:ASP:OD1	1:B:405:LYS:HE2	2.06	0.55
1:A:286:VAL:O	1:A:290:GLU:HG3	2.06	0.55
3:A:487:SO4:O3	3:A:488:SO4:O2	2.23	0.55
1:A:146:VAL:CG1	1:A:148:GLU:O	2.54	0.55
1:B:91:ASN:ND2	1:B:113:ARG:HA	2.22	0.54
1:B:185:HIS:HB2	1:B:190:MET:HE1	1.88	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:36:VAL:CG2	1:B:390:ARG:HG3	2.39	0.53
1:B:217:ALA:HB2	1:B:462:GLY:HA2	1.92	0.51
1:A:355:GLU:HB2	1:B:110:ASN:ND2	2.22	0.51
1:B:81:ASP:OD1	1:B:98:LYS:HG2	2.10	0.51
1:B:92:LEU:C	1:B:92:LEU:HD12	2.31	0.51
1:A:383:LEU:HD23	1:A:383:LEU:O	2.11	0.50
1:B:170:LEU:CD1	1:B:183:GLU:HG2	2.42	0.49
1:B:217:ALA:HB2	1:B:462:GLY:CA	2.42	0.49
1:A:383:LEU:HD23	1:A:383:LEU:C	2.33	0.49
1:A:91:ASN:HD22	1:A:113:ARG:HA	1.78	0.49
1:B:352:ASP:CG	1:B:359:ASP:HB2	2.33	0.48
1:A:276:HIS:HB3	1:A:281:ARG:HD3	1.94	0.48
1:A:341:MET:HG2	1:A:345:TYR:CD2	2.49	0.48
1:A:274:ASN:O	1:A:276:HIS:CE1	2.67	0.47
1:B:96:LEU:HD21	1:B:98:LYS:HE3	1.97	0.47
1:A:314:ARG:HD2	1:A:335:LEU:O	2.15	0.47
1:B:191:LEU:C	1:B:191:LEU:HD13	2.35	0.47
1:A:409:LYS:HB3	1:A:409:LYS:HE3	1.57	0.47
1:B:189:PRO:O	1:B:193:GLU:HG3	2.16	0.46
1:A:195:ILE:HG23	1:A:200:ILE:HB	1.98	0.46
1:A:200:ILE:HG21	1:A:202:ILE:HD12	1.98	0.46
1:A:294:ARG:NH1	1:A:297:GLN:HG3	2.31	0.46
1:A:352:ASP:CG	1:A:359:ASP:HB2	2.37	0.45
1:B:36:VAL:HG23	1:B:390:ARG:HG3	1.98	0.45
1:B:38:SER:HB2	4:B:567:HOH:O	2.16	0.45
1:B:146:VAL:HG13	1:B:148:GLU:O	2.16	0.45
1:B:423:TYR:HA	1:B:424:PRO:HD3	1.85	0.44
1:B:482:ILE:HG13	1:B:485:GLU:HG2	2.00	0.44
1:A:89:GLY:O	1:A:119:ARG:HD3	2.18	0.44
1:B:440:TRP:CD2	1:B:449:PRO:HD2	2.53	0.44
1:A:91:ASN:HD21	1:A:113:ARG:HG2	1.83	0.44
1:B:115:PRO:HB2	1:B:117:HIS:CE1	2.53	0.43
1:A:334:LYS:HD2	1:A:368:LEU:HA	2.01	0.43
1:B:191:LEU:HD11	1:B:195:ILE:HD11	2.00	0.43
1:B:185:HIS:HB2	1:B:190:MET:HE3	2.00	0.43
1:A:334:LYS:HB2	1:A:334:LYS:HE3	1.65	0.42
1:A:372:THR:OG1	1:A:377:ARG:HD3	2.20	0.42
1:B:36:VAL:HG12	1:B:41:MET:HG3	2.02	0.42
1:B:40:LYS:O	1:B:44:ILE:HG13	2.20	0.42
1:B:156:PHE:HE2	1:B:170:LEU:HD23	1.85	0.41
1:B:44:ILE:HG12	1:B:278:VAL:HG12	2.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:16:MET:CE	1:B:27:ILE:HD13	2.51	0.41
1:A:203:ASN:HB2	4:A:566:HOH:O	2.20	0.41
1:B:115:PRO:HD3	1:B:129:PHE:CE1	2.56	0.41
1:B:241:ASP:OD2	1:B:405:LYS:NZ	2.39	0.41
1:A:461:VAL:O	1:A:465:ILE:HG13	2.20	0.40
1:B:158:TYR:CD1	1:B:158:TYR:N	2.88	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	479/485 (99%)	461 (96%)	18 (4%)	0	100	100
1	B	478/485 (99%)	459 (96%)	19 (4%)	0	100	100
All	All	957/970 (99%)	920 (96%)	37 (4%)	0	100	100

There are no Ramachandran outliers to report.

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	409/412 (99%)	389 (95%)	20 (5%)	25	12
1	B	408/412 (99%)	383 (94%)	25 (6%)	18	8

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
All	All	817/824 (99%)	772 (94%)	45 (6%)	21	10

All (45) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	8	LYS
1	A	40	LYS
1	A	48	PHE
1	A	62	ASN
1	A	64	PRO
1	A	106	ASP
1	A	113	ARG
1	A	114	LEU
1	A	126	LEU
1	A	128	SER
1	A	147	SER
1	A	172	ARG
1	A	180	GLU
1	A	191	LEU
1	A	253	LEU
1	A	269	TYR
1	A	276	HIS
1	A	294	ARG
1	A	362	ASP
1	A	369	ASN
1	B	24	MET
1	B	25	GLU
1	B	33	LEU
1	B	48	PHE
1	B	77	LYS
1	B	92	LEU
1	B	116	ASP
1	B	125	GLN
1	B	126	LEU
1	B	136	GLU
1	B	144	ASP
1	B	148	GLU
1	B	158	TYR
1	B	170	LEU
1	B	171	GLN
1	B	174	THR
1	B	193	GLU

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Mol	Chain	Res	Type
1	B	253	LEU
1	B	269	TYR
1	B	275	GLU
1	B	323	SER
1	B	351	ASP
1	B	363	LEU
1	B	369	ASN
1	B	383	LEU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (7) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	62	ASN
1	A	91	ASN
1	A	369	ASN
1	B	91	ASN
1	B	110	ASN
1	B	117	HIS
1	B	471	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 monosaccharides in this entry.

5.6 Ligand geometry [i](#)

5 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	487	-	4,4,4	0.07	0	6,6,6	0.69	0
3	SO4	A	488	-	4,4,4	0.16	0	6,6,6	0.41	0
2	BGC	A	486	-	12,12,12	0.57	0	17,17,17	2.59	8 (47%)
3	SO4	B	487	-	4,4,4	0.35	0	6,6,6	0.80	0
2	BGC	B	486	-	12,12,12	0.62	0	17,17,17	2.53	7 (41%)

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	BGC	B	486	-	-	2/2/22/22	0/1/1/1
2	BGC	A	486	-	-	2/2/22/22	0/1/1/1

There are no bond length outliers.

All (15) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	A	486	BGC	C1-O5-C5	6.26	125.47	113.66
2	B	486	BGC	C1-O5-C5	5.79	124.60	113.66
2	B	486	BGC	C4-C3-C2	-4.92	102.23	110.82
2	A	486	BGC	C1-C2-C3	-3.84	102.36	110.31
2	A	486	BGC	C4-C3-C2	-3.82	104.15	110.82
2	B	486	BGC	O4-C4-C3	3.73	118.97	110.35
2	A	486	BGC	O2-C2-C1	3.20	116.59	109.16
2	B	486	BGC	C1-C2-C3	-3.00	104.09	110.31
2	B	486	BGC	O5-C5-C4	2.98	115.11	109.69
2	A	486	BGC	O3-C3-C4	2.70	116.59	110.35
2	A	486	BGC	C6-C5-C4	-2.24	107.75	113.00
2	B	486	BGC	O3-C3-C4	2.22	115.49	110.35
2	B	486	BGC	O2-C2-C1	2.21	114.29	109.16
2	A	486	BGC	O3-C3-C2	2.18	115.39	110.35
2	A	486	BGC	O1-C1-C2	2.18	115.16	109.03

There are no chirality outliers.

All (4) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
2	B	486	BGC	O5-C5-C6-O6
2	B	486	BGC	C4-C5-C6-O6
2	A	486	BGC	C4-C5-C6-O6
2	A	486	BGC	O5-C5-C6-O6

There are no ring outliers.

2 monomers are involved in 1 short contact:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
3	A	487	SO4	1	0
3	A	488	SO4	1	0

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, 95th 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	479/485 (98%)	0.60	26 (5%) 25 28	18, 33, 65, 85	0
1	B	478/485 (98%)	0.79	55 (11%) 4 5	23, 40, 73, 103	0
All	All	957/970 (98%)	0.69	81 (8%) 10 12	18, 36, 69, 103	0

All (81) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	B	177	PHE	5.7
1	A	144	ASP	5.2
1	B	143	PRO	4.9
1	B	174	THR	4.8
1	B	144	ASP	4.8
1	B	8	LYS	4.8
1	A	8	LYS	4.6
1	B	147	SER	4.5
1	B	60	GLY	4.4
1	B	208	ILE	4.2
1	A	9	PRO	3.9
1	B	441	ASP	3.9
1	B	179	ILE	3.8
1	B	116	ASP	3.8
1	B	120	THR	3.7
1	B	181	GLY	3.7
1	A	10	PRO	3.6
1	B	148	GLU	3.6
1	A	146	VAL	3.6
1	B	9	PRO	3.6
1	B	180	GLU	3.6
1	B	59	LYS	3.5
1	B	442	VAL	3.3
1	B	443	GLU	3.3

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Mol	Chain	Res	Type	RSRZ
1	B	176	GLY	3.2
1	B	119	ARG	3.2
1	A	176	GLY	3.1
1	A	145	GLY	3.1
1	B	215	LEU	3.1
1	B	229	ILE	3.0
1	A	309	LEU	3.0
1	A	148	GLU	3.0
1	B	46	LYS	2.9
1	B	230	ILE	2.9
1	B	178	ASP	2.9
1	B	440	TRP	2.9
1	A	366	THR	2.8
1	B	124	GLU	2.8
1	A	17	ALA	2.7
1	B	90	THR	2.7
1	B	118	LEU	2.7
1	A	147	SER	2.7
1	B	212	THR	2.7
1	B	125	GLN	2.7
1	B	207	LEU	2.7
1	B	172	ARG	2.6
1	A	84	ALA	2.6
1	B	237	GLY	2.6
1	A	443	GLU	2.5
1	B	10	PRO	2.5
1	A	329	ASP	2.4
1	A	143	PRO	2.4
1	B	329	ASP	2.4
1	A	300	PHE	2.4
1	B	123	SER	2.4
1	B	122	THR	2.3
1	B	145	GLY	2.3
1	A	28	HIS	2.3
1	A	394	LEU	2.3
1	B	152	LEU	2.3
1	B	175	LYS	2.3
1	B	216	VAL	2.3
1	B	155	THR	2.3
1	B	142	TYR	2.2
1	A	154	PHE	2.2
1	A	384	ALA	2.2

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Mol	Chain	Res	Type	RSRZ
1	B	70	VAL	2.2
1	B	438	TYR	2.2
1	B	214	THR	2.2
1	A	380	ILE	2.2
1	A	387	VAL	2.2
1	B	165	ILE	2.2
1	B	117	HIS	2.2
1	A	463	ALA	2.1
1	B	121	GLY	2.1
1	A	205	VAL	2.1
1	B	384	ALA	2.1
1	B	439	ASN	2.1
1	B	402	ILE	2.1
1	A	206	ALA	2.0
1	B	173	TRP	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, 95th 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
2	BGC	B	486	12/12	0.73	0.40	27,37,42,46	12
2	BGC	A	486	12/12	0.76	0.26	26,33,40,42	12
3	SO4	A	488	5/5	0.78	0.30	25,29,33,41	5
3	SO4	A	487	5/5	0.90	0.16	22,31,37,37	5
3	SO4	B	487	5/5	0.90	0.17	22,26,37,39	5

6.5 Other polymers [i](#)

There are no such residues in this entry.