



Full wwPDB X-ray Structure Validation Report ⓘ

Feb 1, 2016 – 02:49 PM GMT

PDB ID : 4ANV
Title : Complexes of PI3Kgamma with isoform selective inhibitors.
Authors : Foster, P.G.; Lougheed, J.C.
Deposited on : 2012-03-22
Resolution : 2.13 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) : 1.9-1692
EDS : rb-20026688
Percentile statistics : 20151230.v01 (using entries in the PDB archive December 30th 2015)
Refmac : 5.8.0135
CCP4 : 6.5.0
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : trunk26865

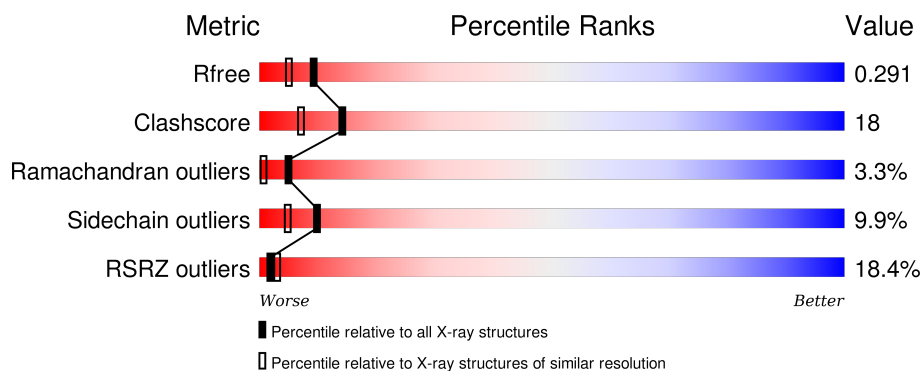
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 2.13 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}	91344	1693 (2.16-2.12)
Clashscore	102246	1824 (2.16-2.12)
Ramachandran outliers	100387	1798 (2.16-2.12)
Sidechain outliers	100360	1798 (2.16-2.12)
RSRZ outliers	91569	1699 (2.16-2.12)

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 $\leq 5\%$. 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	980	

2 Entry composition

There are 4 unique types of molecules in this entry. The entry contains 7111 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 PHOSPHATIDYLINOSITOL-4,5-BISPHOSPHATE 3-KINASE CATALYTIC SUBUNIT GAMMA ISOFORM.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	848	Total	C	N	O	S	0	4	0
			6893	4426	1179	1252	36			

There are 21 discrepancies between the modelled and reference sequences:

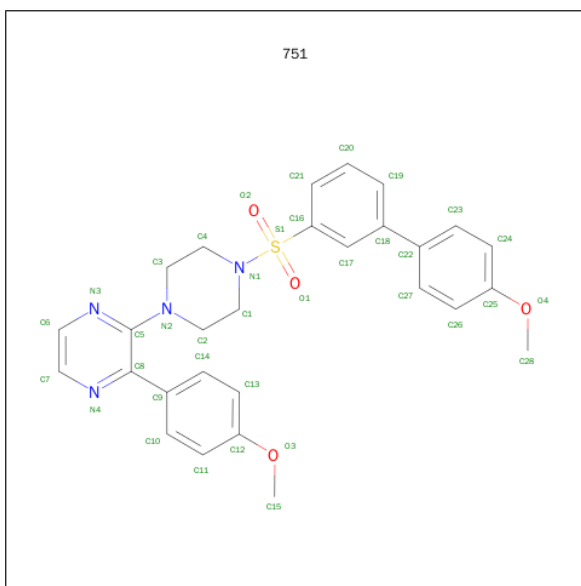
Chain	Residue	Modelled	Actual	Comment	Reference
A	139	MET	-	EXPRESSION TAG	UNP P48736
A	140	LEU	-	EXPRESSION TAG	UNP P48736
A	141	LEU	-	EXPRESSION TAG	UNP P48736
A	142	GLY	-	EXPRESSION TAG	UNP P48736
A	143	SER	-	EXPRESSION TAG	UNP P48736
A	1103	GLU	-	EXPRESSION TAG	UNP P48736
A	1104	PHE	-	EXPRESSION TAG	UNP P48736
A	1105	GLY	-	EXPRESSION TAG	UNP P48736
A	1106	LEU	-	EXPRESSION TAG	UNP P48736
A	1107	VAL	-	EXPRESSION TAG	UNP P48736
A	1108	PRO	-	EXPRESSION TAG	UNP P48736
A	1109	ARG	-	EXPRESSION TAG	UNP P48736
A	1110	GLY	-	EXPRESSION TAG	UNP P48736
A	1111	SER	-	EXPRESSION TAG	UNP P48736
A	1112	GLY	-	EXPRESSION TAG	UNP P48736
A	1113	HIS	-	EXPRESSION TAG	UNP P48736
A	1114	HIS	-	EXPRESSION TAG	UNP P48736
A	1115	HIS	-	EXPRESSION TAG	UNP P48736
A	1116	HIS	-	EXPRESSION TAG	UNP P48736
A	1117	HIS	-	EXPRESSION TAG	UNP P48736
A	1118	HIS	-	EXPRESSION TAG	UNP P48736

- Molecule 2 is SULFATE ION (three-letter code: SO4) (formula: O₄S).



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

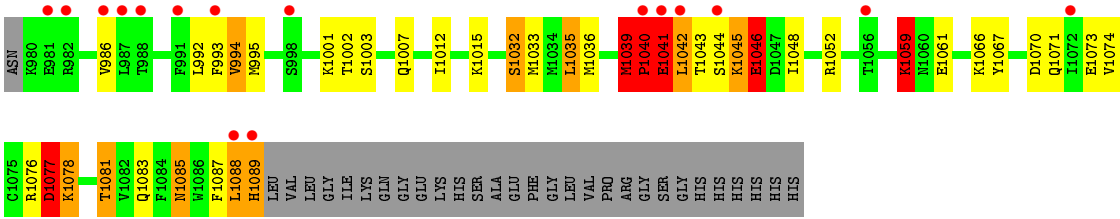
- Molecule 3 is 2-{4-[(4'-METHOXYBIPHENYL-3-YL)SULFONYL]PIPERAZIN-1-YL}-3-(4-METHOXYPHENYL)PYRAZINE (three-letter code: 751) (formula: C₂₈H₂₈N₄O₄S).



Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
3	A	1	Total	C	N	O	0	0
			37	28	4	4		

- Molecule 4 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
4	A	176	Total 176	O 176	0	0



4 Data and refinement statistics

Property	Value	Source
Space group	C 1 2 1	Depositor
Cell constants a, b, c, α , β , γ	144.34Å 68.73Å 106.77Å 90.00° 94.91° 90.00°	Depositor
Resolution (Å)	106.60 – 2.13 31.28 – 2.13	Depositor EDS
% Data completeness (in resolution range)	94.9 (106.60-2.13) 94.9 (31.28-2.13)	Depositor EDS
R_{merge}	0.09	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	1.38 (at 2.14Å)	Xtriage
Refinement program	REFMAC 5.2.0019	Depositor
R, R_{free}	0.240 , 0.297 0.236 , 0.291	Depositor DCC
R_{free} test set	2804 reflections (5.31%)	DCC
Wilson B-factor (Å ²)	48.0	Xtriage
Anisotropy	0.108	Xtriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.36 , 47.2	EDS
Estimated twinning fraction	No twinning to report.	Xtriage
L-test for twinning ²	$\langle L \rangle = 0.48$, $\langle L^2 \rangle = 0.31$	Xtriage
Outliers	0 of 55568 reflections	Xtriage
F_o, F_c correlation	0.94	EDS
Total number of atoms	7111	wwPDB-VP
Average B, all atoms (Å ²)	51.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 4.20% 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, 0.375 respectively for untwinned datasets, and 0.333, 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: 751, 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	0.92	8/7045 (0.1%)	0.97	17/9529 (0.2%)

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	13

All (8) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	395	CYS	CB-SG	-11.77	1.62	1.82
1	A	1040	PRO	C-N	-7.39	1.17	1.34
1	A	659	TYR	CD1-CE1	-6.06	1.30	1.39
1	A	1046	GLU	C-N	-5.92	1.20	1.34
1	A	322	GLU	CB-CG	5.79	1.63	1.52
1	A	846	GLN	CD-NE2	5.71	1.47	1.32
1	A	900	GLY	C-N	-5.48	1.21	1.34
1	A	1089	HIS	C-O	5.10	1.33	1.23

All (17) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	237	PRO	O-C-N	-11.54	104.24	122.70
1	A	359	ARG	NE-CZ-NH1	6.87	123.73	120.30
1	A	434	TYR	O-C-N	6.85	133.67	122.70
1	A	684	ARG	NE-CZ-NH1	6.52	123.56	120.30
1	A	210	TYR	C-N-CA	6.46	137.84	121.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	210	TYR	N-CA-C	6.26	127.90	111.00
1	A	796	LEU	CA-CB-CG	6.13	129.40	115.30
1	A	467	LEU	CA-CB-CG	5.96	129.00	115.30
1	A	434	TYR	CA-C-N	-5.93	104.15	117.20
1	A	947	ARG	NE-CZ-NH1	5.67	123.14	120.30
1	A	712	ARG	NE-CZ-NH2	-5.66	117.47	120.30
1	A	237	PRO	CA-C-N	5.59	129.51	117.20
1	A	947	ARG	NE-CZ-NH2	-5.54	117.53	120.30
1	A	1077	ASP	C-N-CA	5.41	135.22	121.70
1	A	210	TYR	CA-C-N	5.36	129.00	117.20
1	A	777	SER	C-N-CA	5.32	134.99	121.70
1	A	575	LEU	CA-CB-CG	5.09	127.00	115.30

There are no chirality outliers.

All (13) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	A	1039	MET	Peptide
1	A	1040	PRO	Mainchain,Peptide
1	A	1041	GLU	Peptide
1	A	1042	LEU	Peptide
1	A	1088	LEU	Peptide
1	A	209	GLU	Peptide
1	A	237	PRO	Mainchain
1	A	411	ASN	Peptide
1	A	528	ALA	Peptide
1	A	898	ASN	Peptide
1	A	901	ALA	Peptide
1	A	966	GLY	Peptide

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	6893	0	6903	249	0
2	A	5	0	0	1	0
3	A	37	0	28	7	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
4	A	176	0	0	25	0
All	All	7111	0	6931	253	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 18.

All (253) 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:814:GLU:OE1	1:A:827:THR:HG21	1.45	1.17
1:A:898:ASN:HB3	1:A:899:THR:HA	1.24	1.13
1:A:895:THR:HA	1:A:896:VAL:HB	1.23	1.12
1:A:693:HIS:O	4:A:2127:HOH:O	1.67	1.11
1:A:497:PHE:HB3	1:A:1043:THR:O	1.49	1.11
1:A:899:THR:N	1:A:900:GLY:HA3	1.63	1.09
1:A:1040:PRO:HA	1:A:1041:GLU:C	1.69	1.09
1:A:742:LEU:O	1:A:746:THR:HG23	1.55	1.07
1:A:1036:MET:HE1	4:A:2172:HOH:O	1.65	0.97
1:A:696:PHE:HB3	4:A:2127:HOH:O	1.69	0.92
1:A:947:ARG:NH2	1:A:963:ILE:O	2.04	0.91
1:A:967:HIS:C	1:A:968:ILE:N	2.24	0.91
1:A:673:HIS:HD2	1:A:712:ARG:HE	1.19	0.89
1:A:219:CYS:SG	1:A:234:LYS:HG3	2.12	0.89
1:A:895:THR:CA	1:A:896:VAL:HB	2.03	0.89
1:A:651:LEU:HD22	1:A:655:ASP:HB3	1.55	0.89
1:A:846:GLN:NE2	4:A:2113:HOH:O	1.87	0.86
1:A:899:THR:H	1:A:900:GLY:HA3	1.42	0.83
1:A:898:ASN:CB	1:A:899:THR:HA	2.08	0.83
1:A:777:SER:HB3	1:A:778:GLN:HB3	1.62	0.80
1:A:895:THR:HA	1:A:896:VAL:CB	2.10	0.79
1:A:890:LYS:NZ	4:A:2151:HOH:O	2.05	0.78
1:A:613:ARG:NH1	4:A:2086:HOH:O	2.17	0.78
1:A:240:THR:HG22	1:A:242:GLY:H	1.48	0.77
1:A:558:ILE:O	1:A:561:THR:HG22	1.85	0.76
1:A:428:LEU:HD22	1:A:465:ASN:HB3	1.65	0.75
1:A:746:THR:HG22	1:A:811:LEU:HD11	1.66	0.75
1:A:662:GLN:CG	4:A:2114:HOH:O	2.33	0.75
1:A:429:LEU:HB2	1:A:468:LEU:HD21	1.68	0.75
1:A:901:ALA:HB1	1:A:902:PHE:HD2	1.52	0.75
1:A:1040:PRO:HA	1:A:1041:GLU:O	1.87	0.75
1:A:240:THR:HG22	1:A:242:GLY:N	2.02	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:745:VAL:O	1:A:749:ILE:HD13	1.88	0.74
1:A:611:LEU:O	1:A:614:ARG:HG3	1.88	0.74
1:A:433:ILE:HD12	1:A:484:MET:CE	2.18	0.74
1:A:662:GLN:HG3	4:A:2114:HOH:O	1.86	0.74
1:A:433:ILE:HD12	1:A:484:MET:SD	2.28	0.73
1:A:901:ALA:HB1	1:A:902:PHE:CD2	2.24	0.73
1:A:233:ILE:HG22	1:A:235:VAL:HG23	1.69	0.73
1:A:316:ASP:O	4:A:2018:HOH:O	2.08	0.72
1:A:299:ASN:ND2	4:A:2038:HOH:O	2.22	0.71
1:A:435:CYS:HB3	1:A:459:GLN:HG3	1.72	0.71
1:A:148:GLN:O	1:A:152:ARG:HG3	1.91	0.71
1:A:775:GLN:HE22	1:A:798:ILE:HG13	1.56	0.71
1:A:777:SER:HB3	1:A:778:GLN:CB	2.21	0.70
1:A:814:GLU:OE1	1:A:827:THR:CG2	2.32	0.70
1:A:435:CYS:HB3	1:A:459:GLN:CG	2.21	0.70
1:A:748:ASP:O	1:A:752:LEU:HD13	1.93	0.69
1:A:860:LEU:HD21	1:A:1015:LYS:HD3	1.73	0.69
1:A:548:PRO:HG2	1:A:551:LEU:HD12	1.74	0.68
1:A:207:LEU:HD21	1:A:211:LEU:HB3	1.76	0.68
1:A:379:LEU:HD12	1:A:380:THR:H	1.59	0.67
1:A:1036:MET:CE	4:A:2172:HOH:O	2.30	0.67
1:A:215:ILE:HG23	1:A:219:CYS:O	1.95	0.67
1:A:742:LEU:O	1:A:746:THR:CG2	2.39	0.66
1:A:806:SER:O	1:A:809:LYS:HD3	1.97	0.64
1:A:1044:SER:O	1:A:1045:LYS:C	2.35	0.64
1:A:746:THR:HG22	1:A:811:LEU:CD1	2.27	0.63
3:A:1201:751:H31C	3:A:1201:751:C9	2.29	0.63
1:A:846:GLN:CD	4:A:2115:HOH:O	2.36	0.62
1:A:207:LEU:CD2	1:A:211:LEU:HB3	2.30	0.62
1:A:207:LEU:HD23	1:A:207:LEU:C	2.20	0.62
1:A:779:LEU:HD22	1:A:780:PRO:HD2	1.82	0.62
1:A:410:TRP:HB3	1:A:412:VAL:HG22	1.82	0.62
1:A:1045:LYS:O	1:A:1046:GLU:CB	2.47	0.62
1:A:316:ASP:OD1	1:A:689:LYS:NZ	2.26	0.61
1:A:387:ILE:HD12	1:A:468:LEU:HD11	1.82	0.61
1:A:208:PRO:HG2	1:A:211:LEU:HD22	1.80	0.61
1:A:775:GLN:HB3	1:A:776:ASN:HB2	1.83	0.61
1:A:1032:SER:O	1:A:1036:MET:HG3	1.99	0.61
1:A:827:THR:HG22	1:A:883:LYS:NZ	2.15	0.61
1:A:905:GLU:O	1:A:906:VAL:CB	2.47	0.61
1:A:949:ASN:HD22	1:A:949:ASN:C	2.04	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:219:CYS:SG	1:A:234:LYS:CG	2.88	0.60
1:A:1074:VAL:O	1:A:1078:LYS:HG3	2.01	0.60
1:A:891:ILE:HG22	1:A:906:VAL:HG12	1.84	0.59
1:A:184:ARG:O	1:A:188:VAL:HG23	2.02	0.59
1:A:901:ALA:CB	1:A:902:PHE:CD2	2.85	0.59
1:A:673:HIS:CD2	1:A:712:ARG:HE	2.10	0.59
1:A:561:THR:CG2	1:A:591:LYS:HE2	2.32	0.59
1:A:905:GLU:O	1:A:906:VAL:HB	2.02	0.59
1:A:905:GLU:O	1:A:906:VAL:HG23	2.03	0.59
1:A:651:LEU:HD22	1:A:655:ASP:CB	2.31	0.59
1:A:701:SER:HB3	4:A:2129:HOH:O	2.02	0.58
1:A:561:THR:HG22	1:A:591:LYS:HE2	1.84	0.58
1:A:949:ASN:H	1:A:1083:GLN:HE22	1.51	0.57
1:A:925:VAL:O	1:A:929:VAL:HG23	2.04	0.57
1:A:741:MET:HB3	1:A:774:LEU:HD21	1.86	0.57
1:A:898:ASN:HB3	1:A:899:THR:CA	2.16	0.57
3:A:1201:751:H31C	3:A:1201:751:C14	2.35	0.57
1:A:429:LEU:HB2	1:A:468:LEU:CD2	2.35	0.57
1:A:948:HIS:CD2	1:A:1083:GLN:NE2	2.72	0.56
1:A:1077:ASP:N	1:A:1078:LYS:HB2	2.20	0.56
1:A:145:GLU:HA	1:A:146:GLU:O	2.05	0.56
1:A:899:THR:N	1:A:900:GLY:CA	2.48	0.56
1:A:411:ASN:O	1:A:411:ASN:CG	2.43	0.56
1:A:561:THR:HG21	1:A:565:ASN:HD22	1.70	0.56
1:A:893:GLN:C	1:A:895:THR:H	2.09	0.56
1:A:207:LEU:HD23	1:A:208:PRO:N	2.21	0.55
1:A:837:ASP:OD1	1:A:839:ARG:HD3	2.06	0.55
1:A:240:THR:CG2	1:A:242:GLY:H	2.19	0.55
1:A:583:LEU:HD22	1:A:589:TYR:OH	2.07	0.55
1:A:288:LYS:NZ	2:A:1200:SO4:O4	2.36	0.55
1:A:893:GLN:C	1:A:895:THR:N	2.60	0.55
1:A:944:ILE:O	4:A:2159:HOH:O	2.18	0.54
1:A:435:CYS:HB3	1:A:459:GLN:HG2	1.90	0.54
1:A:354:LEU:HB2	1:A:529:LEU:H	1.72	0.54
1:A:1044:SER:O	1:A:1046:GLU:N	2.41	0.54
1:A:986:VAL:HA	4:A:2166:HOH:O	2.08	0.54
1:A:888:ILE:HD11	1:A:960:LEU:HD11	1.89	0.53
1:A:304:HIS:CD2	1:A:823:LEU:HD23	2.44	0.53
1:A:497:PHE:CB	1:A:1043:THR:O	2.41	0.53
1:A:739:ILE:HG13	1:A:878:MET:HE1	1.91	0.53
1:A:222:ILE:HD12	1:A:235:VAL:HG21	1.89	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:799:GLU:H	1:A:799:GLU:CD	2.12	0.53
1:A:993:PHE:O	1:A:994:VAL:HB	2.09	0.53
1:A:742:LEU:HD22	1:A:813:LEU:HD11	1.90	0.53
1:A:1059:LYS:H	1:A:1059:LYS:HD2	1.73	0.53
1:A:1087:PHE:O	1:A:1089:HIS:HA	2.09	0.53
1:A:506:THR:OG1	4:A:2006:HOH:O	2.19	0.52
1:A:1067:TYR:O	1:A:1070:ASP:HB2	2.09	0.52
1:A:673:HIS:HD2	1:A:712:ARG:NE	1.99	0.52
1:A:898:ASN:C	1:A:900:GLY:HA3	2.26	0.52
1:A:379:LEU:CD1	1:A:380:THR:H	2.21	0.52
1:A:735:GLN:O	1:A:739:ILE:HD13	2.10	0.52
1:A:193:PRO:HD2	4:A:2019:HOH:O	2.09	0.52
1:A:772:GLU:O	1:A:776:ASN:HB3	2.10	0.52
1:A:796:LEU:HD13	1:A:815:PHE:CE2	2.45	0.51
1:A:236:SER:OG	1:A:237:PRO:HD2	2.10	0.51
1:A:993:PHE:O	1:A:994:VAL:CB	2.59	0.51
1:A:564:LEU:HD12	1:A:1052:ARG:HD2	1.93	0.51
1:A:777:SER:CB	1:A:778:GLN:CB	2.88	0.51
1:A:1087:PHE:O	1:A:1089:HIS:CA	2.59	0.51
1:A:233:ILE:HD11	1:A:248:PHE:HA	1.93	0.51
1:A:523:TYR:O	1:A:525:HIS:N	2.44	0.51
1:A:433:ILE:HD12	1:A:484:MET:HE1	1.92	0.50
1:A:1035:LEU:HA	1:A:1039:MET:HB2	1.93	0.50
1:A:520:LEU:O	1:A:522:ASN:N	2.44	0.50
1:A:853:SER:O	1:A:857:THR:HG23	2.12	0.50
1:A:899:THR:O	1:A:899:THR:OG1	2.28	0.50
1:A:891:ILE:HG13	4:A:2149:HOH:O	2.11	0.50
3:A:1201:751:C9	3:A:1201:751:C3	2.89	0.50
1:A:1081:THR:O	1:A:1085:ASN:N	2.38	0.50
1:A:151:GLN:HA	1:A:154:LEU:HD12	1.94	0.49
1:A:905:GLU:O	1:A:906:VAL:CG2	2.60	0.49
1:A:952:ILE:HD11	1:A:986:VAL:HG21	1.94	0.49
1:A:802[B]:LYS:NZ	4:A:2138:HOH:O	2.21	0.49
1:A:614:ARG:HA	4:A:2088:HOH:O	2.12	0.49
1:A:795:ALA:HB3	1:A:816:LYS:HD2	1.94	0.49
1:A:749:ILE:O	1:A:753:SER:OG	2.30	0.49
1:A:597:LYS:HD3	1:A:600:GLN:NE2	2.28	0.49
1:A:862:LEU:HD12	1:A:934:GLY:HA2	1.95	0.48
1:A:373:LEU:N	1:A:374:PRO:HD2	2.28	0.48
1:A:198:MET:SD	1:A:271:VAL:HG11	2.53	0.48
1:A:233:ILE:CG2	1:A:234:LYS:N	2.76	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:893:GLN:HA	1:A:895:THR:HG23	1.95	0.48
1:A:583:LEU:HD22	1:A:589:TYR:CZ	2.49	0.48
1:A:967:HIS:CA	1:A:968:ILE:N	2.76	0.47
1:A:862:LEU:HD12	1:A:934:GLY:CA	2.44	0.47
1:A:1073:GLU:OE1	1:A:1076:ARG:HD3	2.14	0.47
1:A:1077:ASP:CA	1:A:1078:LYS:HB2	2.44	0.47
1:A:549:ASN:HD21	1:A:553:LYS:NZ	2.13	0.47
1:A:165:VAL:O	1:A:165:VAL:HG12	2.15	0.47
1:A:829:GLY:CA	1:A:881:ILE:HD12	2.44	0.47
1:A:163:THR:O	1:A:165:VAL:HG23	2.15	0.47
1:A:847:ILE:HG21	1:A:942:LEU:HD21	1.97	0.47
1:A:706:SER:O	1:A:710:GLN:HB3	2.15	0.47
1:A:775:GLN:HE22	1:A:798:ILE:CG1	2.23	0.47
1:A:1071:GLN:HA	1:A:1071:GLN:NE2	2.30	0.47
1:A:893:GLN:HA	1:A:895:THR:CG2	2.45	0.47
1:A:368:ILE:HG21	1:A:433:ILE:HD11	1.97	0.47
1:A:895:THR:HG21	1:A:898:ASN:ND2	2.31	0.46
1:A:632:ASP:HB3	1:A:1033:MET:HE2	1.97	0.46
1:A:182:THR:HB	1:A:183:PRO:CD	2.45	0.46
1:A:933:ALA:O	1:A:937:VAL:HG23	2.15	0.46
1:A:359:ARG:HH11	1:A:359:ARG:HG3	1.80	0.46
1:A:608:TYR:OH	1:A:637:ASP:OD1	2.29	0.46
1:A:564:LEU:HD11	1:A:1048:ILE:HG22	1.96	0.46
1:A:483:HIS:CD2	1:A:510:LYS:HD3	2.51	0.46
1:A:930:TYR:CE1	1:A:1012:ILE:HD13	2.50	0.46
1:A:433:ILE:CD1	1:A:484:MET:SD	3.00	0.46
1:A:302:GLU:HB2	1:A:304:HIS:CE1	2.50	0.46
1:A:886:THR:CB	4:A:2149:HOH:O	2.64	0.45
1:A:827:THR:HG22	1:A:883:LYS:HZ3	1.81	0.45
1:A:287:ILE:HG13	1:A:293:VAL:HG21	1.96	0.45
1:A:622:LEU:HD21	1:A:651:LEU:HG	1.98	0.45
1:A:591:LYS:NZ	4:A:2089:HOH:O	2.46	0.45
1:A:662:GLN:HB3	1:A:662:GLN:HE21	1.56	0.45
1:A:405:THR:HG22	1:A:406:GLU:H	1.81	0.45
1:A:738:VAL:HG21	1:A:783:PHE:CD1	2.51	0.45
1:A:661:LEU:O	1:A:665:GLN:HG2	2.16	0.45
1:A:745:VAL:HG12	1:A:745:VAL:O	2.16	0.45
1:A:771:LEU:HB2	1:A:798:ILE:HD13	1.99	0.45
1:A:497:PHE:N	1:A:501[A]:LYS:HZ3	2.15	0.44
1:A:881:ILE:HG23	3:A:1201:751:H282	2.00	0.44
1:A:735:GLN:O	1:A:739:ILE:CD1	2.66	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:561:THR:CG2	1:A:565:ASN:HD22	2.30	0.44
1:A:862:LEU:CD2	1:A:862:LEU:N	2.81	0.44
1:A:207:LEU:C	1:A:207:LEU:CD2	2.85	0.44
1:A:949:ASN:H	1:A:1083:GLN:NE2	2.14	0.44
1:A:463:TYR:CE2	1:A:501[B]:LYS:HA	2.53	0.43
1:A:236:SER:OG	1:A:237:PRO:CD	2.66	0.43
1:A:1044:SER:O	1:A:1046:GLU:CB	2.66	0.43
1:A:158:ILE:HG23	1:A:703:ILE:HD13	2.00	0.43
1:A:1036:MET:HE2	1:A:1036:MET:HB2	1.76	0.43
1:A:523:TYR:C	1:A:525:HIS:H	2.22	0.43
1:A:827:THR:HG22	1:A:883:LYS:HZ1	1.82	0.43
1:A:701:SER:CB	4:A:2129:HOH:O	2.64	0.43
1:A:830:ILE:CG2	1:A:878:MET:HB2	2.49	0.43
1:A:702:GLU:O	1:A:706:SER:HB3	2.19	0.43
1:A:608:TYR:N	1:A:608:TYR:CD1	2.86	0.43
1:A:701:SER:OG	1:A:871:SER:HB3	2.18	0.43
1:A:898:ASN:CB	1:A:899:THR:CA	2.88	0.43
1:A:829:GLY:HA3	1:A:881:ILE:HD12	2.02	0.42
1:A:949:ASN:ND2	1:A:949:ASN:C	2.72	0.42
1:A:302:GLU:HB2	1:A:304:HIS:HE1	1.84	0.42
1:A:669:PHE:CE1	1:A:1036:MET:HE3	2.54	0.42
1:A:901:ALA:HA	1:A:902:PHE:CD2	2.54	0.42
1:A:904:ASP:OD1	1:A:904:ASP:N	2.53	0.42
1:A:834:HIS:CG	1:A:835:GLY:N	2.88	0.42
1:A:205:LYS:NZ	1:A:654:ASP:OD2	2.40	0.42
1:A:767:LEU:HD22	1:A:803:VAL:CG2	2.49	0.42
1:A:891:ILE:HD11	4:A:2149:HOH:O	2.20	0.42
1:A:435:CYS:N	1:A:459:GLN:O	2.52	0.41
1:A:354:LEU:HD11	1:A:475:LEU:HD23	2.02	0.41
1:A:908:ASN:HD22	1:A:994:VAL:HG22	1.85	0.41
1:A:191:ARG:HD2	1:A:686:LEU:O	2.20	0.41
1:A:1071:GLN:HA	1:A:1071:GLN:HE21	1.84	0.41
1:A:739:ILE:HG13	1:A:878:MET:CE	2.49	0.41
1:A:810:PRO:HG2	3:A:1201:751:H42C	2.02	0.41
1:A:881:ILE:HG23	3:A:1201:751:C28	2.49	0.41
1:A:762:GLN:HA	1:A:765:SER:HB3	2.03	0.41
1:A:225:HIS:CE1	1:A:304:HIS:HD2	2.38	0.41
1:A:471:HIS:H	1:A:471:HIS:CD2	2.39	0.41
1:A:462:TYR:CE2	1:A:486:GLN:HG3	2.56	0.41
1:A:395:CYS:SG	1:A:418:ILE:HG22	2.60	0.41
1:A:1087:PHE:O	1:A:1089:HIS:N	2.53	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:992:LEU:O	1:A:995:MET:HB2	2.20	0.41
1:A:1003:SER:O	1:A:1007:GLN:HG3	2.20	0.41
1:A:968:ILE:C	1:A:968:ILE:CD1	2.90	0.41
1:A:224:ILE:HD12	1:A:248:PHE:CD1	2.55	0.41
1:A:930:TYR:CD1	1:A:1012:ILE:HD13	2.56	0.41
1:A:405:THR:HG22	1:A:406:GLU:N	2.36	0.41
1:A:273:ARG:HG3	1:A:280:TYR:CE1	2.55	0.41
1:A:245:LEU:HA	1:A:245:LEU:HD13	1.94	0.40
1:A:1087:PHE:O	1:A:1088:LEU:C	2.59	0.40
1:A:883:LYS:HD3	4:A:2142:HOH:O	2.21	0.40
1:A:1032:SER:HB2	1:A:1048:ILE:HG23	2.02	0.40
1:A:655:ASP:O	1:A:659:TYR:HD2	2.05	0.40
3:A:1201:751:H283	3:A:1201:751:H24	1.82	0.40
1:A:862:LEU:HD12	1:A:934:GLY:N	2.37	0.40
1:A:661:LEU:HD21	1:A:842:MET:HB3	2.03	0.40
1:A:145:GLU:CA	1:A:146:GLU:O	2.69	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	833/980 (85%)	751 (90%)	55 (7%)	27 (3%)	5 1

All (27) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	374	PRO
1	A	521	ASP
1	A	761	SER
1	A	776	ASN
1	A	778	GLN

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Mol	Chain	Res	Type
1	A	896	VAL
1	A	898	ASN
1	A	906	VAL
1	A	994	VAL
1	A	1042	LEU
1	A	1059	LYS
1	A	1078	LYS
1	A	146	GLU
1	A	213	LYS
1	A	268	GLN
1	A	1045	LYS
1	A	1046	GLU
1	A	1040	PRO
1	A	209	GLU
1	A	532	HIS
1	A	916	PRO
1	A	211	LEU
1	A	894	SER
1	A	1077	ASP
1	A	524	CYS
1	A	310	PRO
1	A	529	LEU

5.3.2 Protein sidechains ⓘ

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	761/874 (87%)	686 (90%)	75 (10%)	10 5

All (75) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	153	GLN
1	A	195	LEU
1	A	245	LEU
1	A	268	GLN

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Mol	Chain	Res	Type
1	A	269	ASP
1	A	272	LEU
1	A	273	ARG
1	A	281	LEU
1	A	306	VAL
1	A	310	PRO
1	A	319	ARG
1	A	320	LYS
1	A	351	THR
1	A	359	ARG
1	A	379	LEU
1	A	391	GLN
1	A	395	CYS
1	A	410	TRP
1	A	433	ILE
1	A	467	LEU
1	A	475	LEU
1	A	477	ARG
1	A	522	ASN
1	A	525	HIS
1	A	544	ARG
1	A	546	GLU
1	A	549	ASN
1	A	561	THR
1	A	575	LEU
1	A	583	LEU
1	A	603	ILE
1	A	628	MET
1	A	643	ILE
1	A	646	GLN
1	A	662	GLN
1	A	705	GLN
1	A	707	ARG
1	A	721	LEU
1	A	729	LEU
1	A	746	THR
1	A	747	LEU
1	A	753	SER
1	A	761	SER
1	A	766	GLN
1	A	796	LEU
1	A	798	ILE

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Mol	Chain	Res	Type
1	A	807	LYS
1	A	823	LEU
1	A	826	GLU
1	A	827	THR
1	A	841	ASP
1	A	845	LEU
1	A	862	LEU
1	A	870	ILE
1	A	886	THR
1	A	890	LYS
1	A	894	SER
1	A	905	GLU
1	A	911	LEU
1	A	949	ASN
1	A	959	ASN
1	A	967	HIS
1	A	968	ILE
1	A	1001	LYS
1	A	1002	THR
1	A	1032	SER
1	A	1035	LEU
1	A	1039	MET
1	A	1040	PRO
1	A	1041	GLU
1	A	1059	LYS
1	A	1061	GLU
1	A	1066	LYS
1	A	1081	THR
1	A	1085	ASN

Some sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (28) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	167	ASN
1	A	218	ASN
1	A	299	ASN
1	A	304	HIS
1	A	388	GLN
1	A	389	HIS
1	A	532	HIS
1	A	549	ASN
1	A	565	ASN

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Mol	Chain	Res	Type
1	A	600	GLN
1	A	619	GLN
1	A	646	GLN
1	A	662	GLN
1	A	673	HIS
1	A	705	GLN
1	A	766	GLN
1	A	775	GLN
1	A	776	ASN
1	A	840	GLN
1	A	893	GLN
1	A	898	ASN
1	A	908	ASN
1	A	922	GLN
1	A	949	ASN
1	A	951	ASN
1	A	1071	GLN
1	A	1083	GLN
1	A	1085	ASN

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 carbohydrates in this entry.

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	$\# Z > 2$
2	SO4	A	1200	-	4,4,4	0.33	0	6,6,6	1.17	0
3	751	A	1201	-	40,41,41	2.20	8 (20%)	54,58,58	2.31	17 (31%)

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	SO4	A	1200	-	-	0/0/0/0	0/0/0/0
3	751	A	1201	-	-	0/28/38/38	0/5/5/5

All (8) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	A	1201	751	C9-C8	-6.33	1.42	1.49
3	A	1201	751	C18-C22	-3.17	1.40	1.49
3	A	1201	751	C4-N1	-2.09	1.45	1.47
3	A	1201	751	O1-S1	2.19	1.46	1.43
3	A	1201	751	C5-N2	2.36	1.42	1.36
3	A	1201	751	S1-N1	2.84	1.67	1.63
3	A	1201	751	O2-S1	5.00	1.49	1.43
3	A	1201	751	C16-S1	8.59	1.89	1.76

All (17) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	A	1201	751	C16-S1-N1	-7.08	98.59	107.32
3	A	1201	751	C1-N1-S1	-4.57	108.33	117.12
3	A	1201	751	C21-C16-C17	-3.19	116.83	120.52
3	A	1201	751	C8-C5-N3	-2.99	119.49	121.97
3	A	1201	751	C28-O4-C25	-2.69	111.23	117.51
3	A	1201	751	C6-C7-N4	-2.34	119.35	122.25
3	A	1201	751	C7-C6-N3	-2.33	119.36	122.25
3	A	1201	751	C15-O3-C12	2.35	123.02	117.51
3	A	1201	751	C4-C3-N2	2.52	115.62	110.63
3	A	1201	751	C20-C21-C16	2.86	122.05	118.95
3	A	1201	751	O2-S1-C16	2.89	111.76	108.00
3	A	1201	751	C7-N4-C8	2.93	122.30	116.64

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	A	1201	751	C6-N3-C5	2.95	121.67	115.14
3	A	1201	751	C1-N1-C4	3.54	116.50	112.20
3	A	1201	751	C21-C16-S1	4.04	124.25	119.79
3	A	1201	751	O1-S1-N1	6.14	112.76	106.69
3	A	1201	751	C2-N2-C3	6.59	125.43	111.59

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

2 monomers are involved in 8 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
2	A	1200	SO4	1	0
3	A	1201	751	7	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	848/980 (86%)	1.02	156 (18%) 2 3	27, 50, 80, 91	0

All (156) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	A	896	VAL	7.5
1	A	376	ASN	7.4
1	A	489	GLY	7.1
1	A	147	SER	6.3
1	A	228	THR	6.2
1	A	268	GLN	5.6
1	A	763	VAL	5.5
1	A	215	ILE	5.2
1	A	544	ARG	5.1
1	A	229	THR	5.0
1	A	859	SER	4.9
1	A	753	SER	4.9
1	A	779	LEU	4.9
1	A	952	ILE	4.7
1	A	1044	SER	4.7
1	A	488	SER	4.5
1	A	776	ASN	4.4
1	A	823	LEU	4.4
1	A	249	PHE	4.4
1	A	754	ALA	4.4
1	A	774	LEU	4.3
1	A	216	ALA	4.3
1	A	227	SER	4.2
1	A	250	THR	4.1
1	A	1088	LEU	4.1
1	A	991	PHE	4.1
1	A	759	VAL	4.0

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Mol	Chain	Res	Type	RSRZ
1	A	960	LEU	3.9
1	A	986	VAL	3.9
1	A	870	ILE	3.9
1	A	374	PRO	3.9
1	A	636	SER	3.9
1	A	270	PHE	3.9
1	A	213	LYS	3.7
1	A	897	GLY	3.7
1	A	524	CYS	3.7
1	A	998	SER	3.6
1	A	226	ARG	3.6
1	A	993	PHE	3.6
1	A	211	LEU	3.5
1	A	775	GLN	3.5
1	A	1041	GLU	3.5
1	A	869	CYS	3.5
1	A	936	CYS	3.4
1	A	1042	LEU	3.4
1	A	755	GLU	3.4
1	A	778	GLN	3.3
1	A	150	PHE	3.3
1	A	570	GLU	3.3
1	A	664	VAL	3.3
1	A	830	ILE	3.2
1	A	427	ALA	3.2
1	A	252	MET	3.2
1	A	895	THR	3.2
1	A	987	LEU	3.2
1	A	777	SER	3.2
1	A	961	PHE	3.1
1	A	898	ASN	3.1
1	A	511	GLU	3.1
1	A	867	TYR	3.1
1	A	807	LYS	3.1
1	A	935	TYR	3.0
1	A	592	LEU	3.0
1	A	667	VAL	3.0
1	A	525	HIS	3.0
1	A	967	HIS	3.0
1	A	932	CYS	3.0
1	A	251	LYS	3.0
1	A	865	LEU	3.0

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Mol	Chain	Res	Type	RSRZ
1	A	146	GLU	3.0
1	A	248	PHE	3.0
1	A	145	GLU	2.9
1	A	613	ARG	2.9
1	A	749	ILE	2.9
1	A	546	GLU	2.9
1	A	981	GLU	2.9
1	A	532	HIS	2.9
1	A	962[A]	HIS	2.9
1	A	963	ILE	2.9
1	A	267	GLU	2.9
1	A	152	ARG	2.9
1	A	695	LEU	2.9
1	A	210	TYR	2.9
1	A	523	TYR	2.8
1	A	906	VAL	2.8
1	A	1089	HIS	2.8
1	A	717	LEU	2.8
1	A	1056	THR	2.7
1	A	671	PRO	2.7
1	A	787	TYR	2.7
1	A	428	LEU	2.7
1	A	429	LEU	2.7
1	A	320	LYS	2.7
1	A	831	ILE	2.7
1	A	868	GLY	2.7
1	A	545	ALA	2.6
1	A	217	ASN	2.6
1	A	752	LEU	2.6
1	A	212	TRP	2.6
1	A	982	ARG	2.6
1	A	633	CYS	2.6
1	A	230	SER	2.6
1	A	231	GLN	2.5
1	A	965	PHE	2.5
1	A	502	LEU	2.5
1	A	808	LYS	2.5
1	A	953	MET	2.5
1	A	1040	PRO	2.5
1	A	615	GLU	2.4
1	A	909	HIS	2.4
1	A	351	THR	2.4

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Mol	Chain	Res	Type	RSRZ
1	A	699	LEU	2.4
1	A	692	GLY	2.4
1	A	844	ILE	2.4
1	A	373	LEU	2.4
1	A	631	LEU	2.4
1	A	716	ILE	2.4
1	A	593	PHE	2.4
1	A	661	LEU	2.4
1	A	414	LEU	2.3
1	A	937	VAL	2.3
1	A	663	LEU	2.3
1	A	635	PHE	2.3
1	A	785	VAL	2.3
1	A	781	GLU	2.3
1	A	426	GLY	2.3
1	A	913	GLU	2.3
1	A	681	LEU	2.3
1	A	246	GLN	2.3
1	A	381	VAL	2.2
1	A	916	PRO	2.2
1	A	773	ASN	2.2
1	A	194	LYS	2.2
1	A	669	PHE	2.2
1	A	988	THR	2.2
1	A	209	GLU	2.2
1	A	269	ASP	2.1
1	A	297	LEU	2.1
1	A	888	ILE	2.1
1	A	274	VAL	2.1
1	A	380	THR	2.1
1	A	938	ALA	2.1
1	A	467	LEU	2.1
1	A	845	LEU	2.1
1	A	397[A]	ARG	2.1
1	A	522	ASN	2.1
1	A	899	THR	2.0
1	A	760	SER	2.0
1	A	352	VAL	2.0
1	A	866	PRO	2.0
1	A	527	ILE	2.0
1	A	691	ILE	2.0
1	A	1072	ILE	2.0

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Mol	Chain	Res	Type	RSRZ
1	A	550	GLN	2.0
1	A	780	PRO	2.0
1	A	214	LYS	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 carbohydrates 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. LLDF column lists the quality of electron density of the group with respect to its neighbouring residues in protein, DNA or RNA chains. 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	LLDF	B-factors(Å ²)	Q<0.9
2	SO4	A	1200	5/5	0.98	0.07	-1.17	56,56,57,60	0
3	751	A	1201	37/37	0.96	0.11	-1.24	35,42,47,48	0

6.5 Other polymers [i](#)

There are no such residues in this entry.