



Full wwPDB X-ray Structure Validation Report ⓘ

Feb 28, 2023 – 12:21 pm GMT

PDB ID : 8BCB
Title : Human Brr2 Helicase Region in complex with C-tail deleted Jab1 and compound 34
Authors : Vester, K.; Loll, B.; Wahl, M.C.
Deposited on : 2022-10-15
Resolution : 2.38 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 : 1.8.4, CSD as541be (2020)
Xtriage (Phenix) : 1.13
EDS : 2.32.1
buster-report : 1.1.7 (2018)
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) : 2.32.1

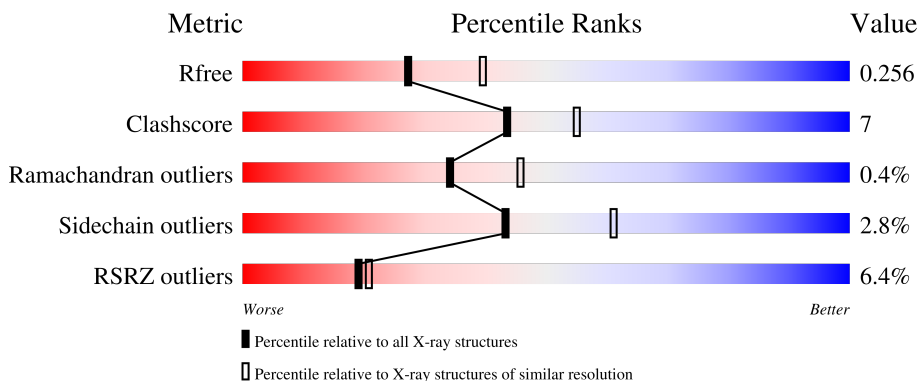
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 2.38 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	5509 (2.40-2.36)
Clashscore	141614	6082 (2.40-2.36)
Ramachandran outliers	138981	5973 (2.40-2.36)
Sidechain outliers	138945	5975 (2.40-2.36)
RSRZ outliers	127900	5397 (2.40-2.36)

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 $\leq 5\%$. 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	B	1747	 6% 79% 19% ..
2	J	263	 8% 82% 17% .

2 Entry composition [i](#)

There are 5 unique types of molecules in this entry. The entry contains 16261 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 U5 small nuclear ribonucleoprotein 200 kDa helicase.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
1	B	1721	13838	8845	2368	2553	72	0	0	0

There are 4 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
B	390	GLY	-	expression tag	UNP O75643
B	391	ALA	-	expression tag	UNP O75643
B	392	GLU	-	expression tag	UNP O75643
B	393	PHE	-	expression tag	UNP O75643

- Molecule 2 is a protein called Pre-mRNA-processing-splicing factor 8.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
2	J	263	2123	1358	365	388	12	0	0	0

There are 6 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
J	2058	GLY	-	expression tag	UNP Q6P2Q9
J	2059	PRO	-	expression tag	UNP Q6P2Q9
J	2060	LEU	-	expression tag	UNP Q6P2Q9
J	2061	GLY	-	expression tag	UNP Q6P2Q9
J	2062	SER	-	expression tag	UNP Q6P2Q9
J	2063	MET	-	expression tag	UNP Q6P2Q9

- Molecule 3 is 1,2-ETHANEDIOL (three-letter code: EDO) (formula: C₂H₆O₂).



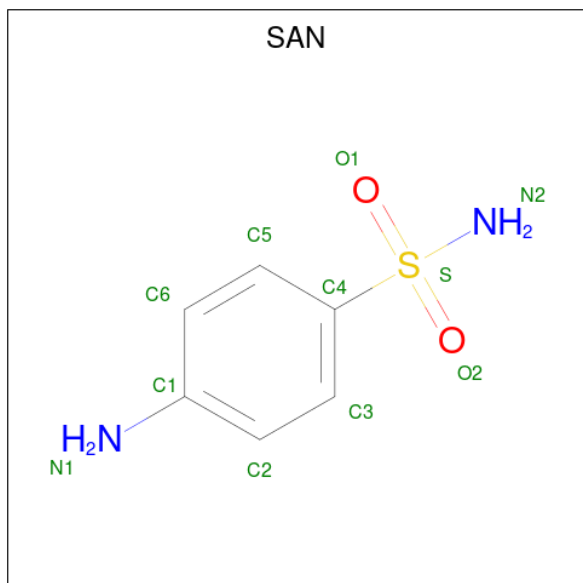
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
3	B	1	Total C O 4 2 2	0	0
3	B	1	Total C O 4 2 2	0	0
3	B	1	Total C O 4 2 2	0	0
3	B	1	Total C O 4 2 2	0	0
3	B	1	Total C O 4 2 2	0	0
3	B	1	Total C O 4 2 2	0	0
3	B	1	Total C O 4 2 2	0	0
3	B	1	Total C O 4 2 2	0	0
3	B	1	Total C O 4 2 2	0	0
3	B	1	Total C O 4 2 2	0	0
3	B	1	Total C O 4 2 2	0	0
3	B	1	Total C O 4 2 2	0	0
3	B	1	Total C O 4 2 2	0	0
3	B	1	Total C O 4 2 2	0	0

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Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
3	B	1	Total C O 4 2 2	0	0
3	J	1	Total C O 4 2 2	0	0

- Molecule 4 is SULFANILAMIDE (three-letter code: SAN) (formula: C₆H₈N₂O₂S) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
4	B	1	Total C N O S 11 6 2 2 1	0	0
4	B	1	Total C N O S 11 6 2 2 1	0	0

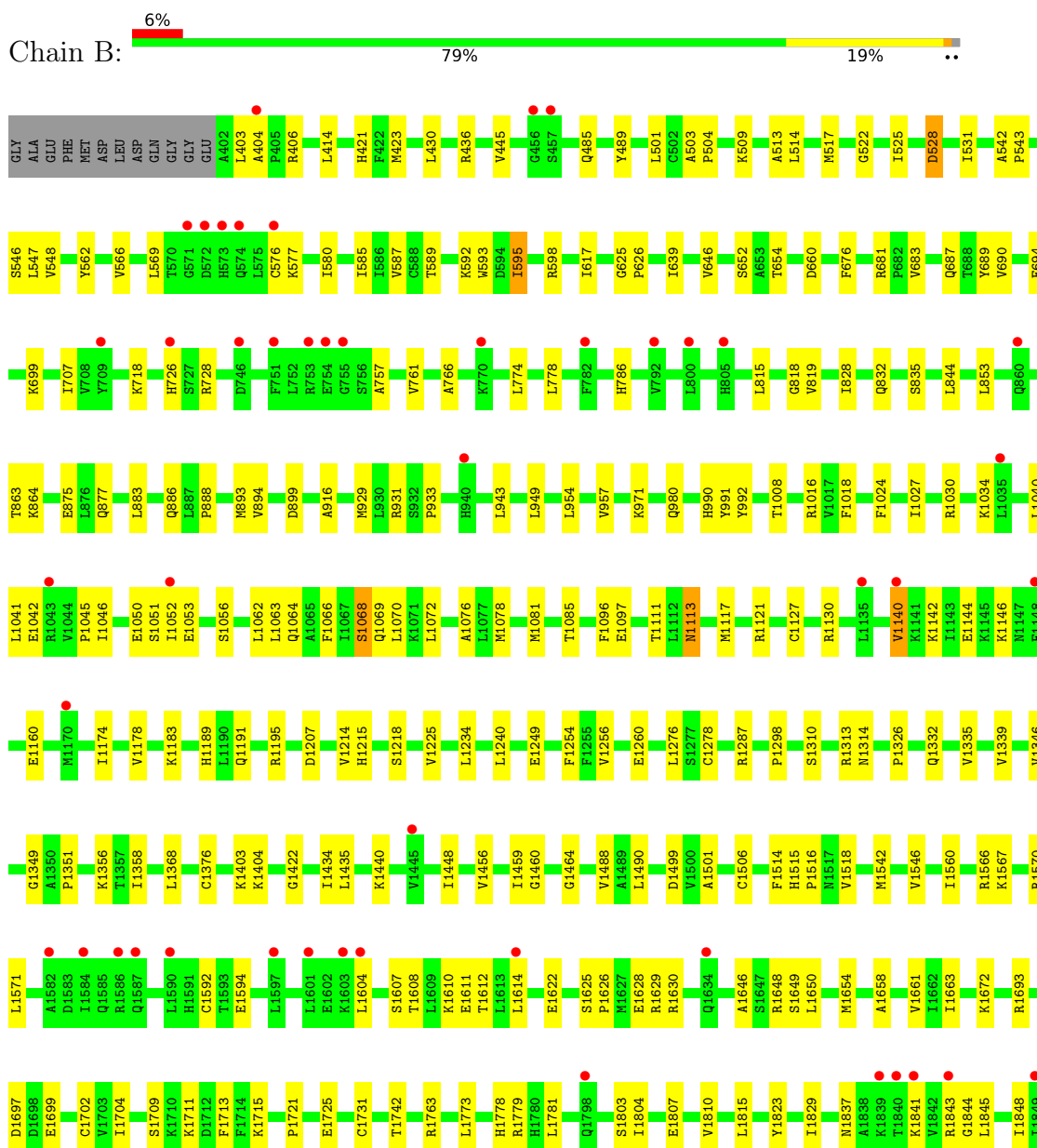
- Molecule 5 is water.

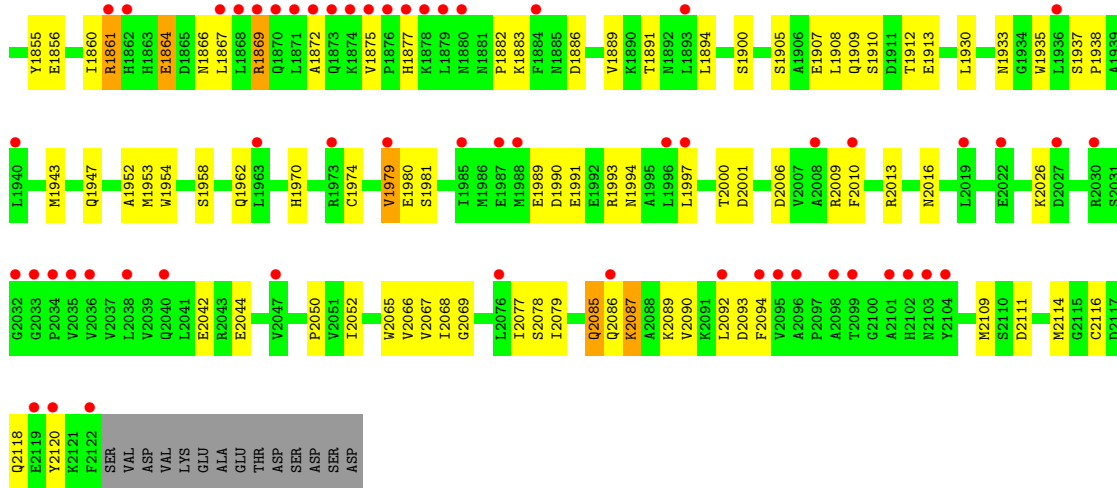
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
5	B	190	Total O 190 190	0	0
5	J	24	Total O 24 24	0	0

3 Residue-property plots

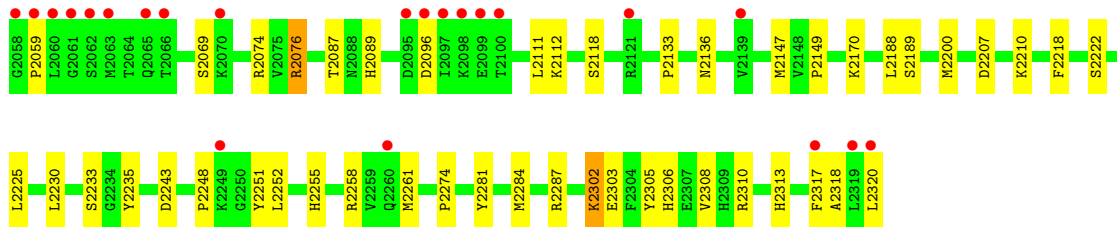
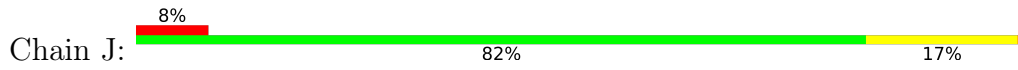
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and electron density. 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: U5 small nuclear ribonucleoprotein 200 kDa helicase





● Molecule 2: Pre-mRNA-processing-splicing factor 8



4 Data and refinement statistics

Property	Value	Source
Space group	P 21 21 21	Depositor
Cell constants a, b, c, α , β , γ	100.20Å 119.23Å 186.73Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	48.39 – 2.38 48.39 – 2.38	Depositor EDS
% Data completeness (in resolution range)	98.7 (48.39-2.38) 98.7 (48.39-2.38)	Depositor EDS
R_{merge}	(Not available)	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	0.98 (at 2.37Å)	Xtrriage
Refinement program	PHENIX 1.20_4459	Depositor
R, R_{free}	0.205 , 0.258 0.205 , 0.256	Depositor DCC
R_{free} test set	2100 reflections (2.35%)	wwPDB-VP
Wilson B-factor (Å ²)	53.2	Xtrriage
Anisotropy	0.088	Xtrriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.30 , 38.1	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	16261	wwPDB-VP
Average B, all atoms (Å ²)	70.0	wwPDB-VP

Xtrriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 2.87% 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: SAN, EDO

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	B	0.48	1/14132 (0.0%)	0.66	1/19148 (0.0%)
2	J	0.54	1/2190 (0.0%)	0.66	0/2981
All	All	0.49	2/16322 (0.0%)	0.66	1/22129 (0.0%)

All (2) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	J	2218	PHE	C-N	-5.70	1.21	1.34
1	B	1278	CYS	CB-SG	-5.02	1.73	1.81

All (1) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	B	1276	LEU	CA-CB-CG	6.06	129.24	115.30

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	B	13838	0	13983	192	1
2	J	2123	0	2062	28	0
3	B	60	0	90	5	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
3	J	4	0	6	2	0
4	B	22	0	16	3	0
5	B	190	0	0	1	0
5	J	24	0	0	1	0
All	All	16261	0	16157	216	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 7.

All (216) 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)
2:J:2284:MET:HB3	2:J:2287:ARG:HD3	1.57	0.83
1:B:1872:ALA:HA	1:B:1875:VAL:HB	1.63	0.78
1:B:598:ARG:HH22	3:B:2202:EDO:H11	1.50	0.76
1:B:1024:PHE:HB3	1:B:1027:ILE:HD12	1.70	0.74
1:B:1434:ILE:HD13	1:B:1823:TYR:HB2	1.70	0.74
1:B:1672:LYS:HB2	1:B:1860:ILE:HG21	1.68	0.74
1:B:406:ARG:HD3	1:B:954:LEU:HG	1.71	0.73
1:B:2068:ILE:HD13	1:B:2078:SER:HB2	1.70	0.72
1:B:2042:GLU:HG3	1:B:2087:LYS:HD2	1.72	0.71
1:B:1515:HIS:CE1	1:B:1721:PRO:HG3	2.26	0.71
1:B:1693:ARG:HD3	1:B:1697:ASP:OD2	1.90	0.70
1:B:1907:GLU:HB3	3:B:2214:EDO:H12	1.73	0.69
1:B:991:TYR:OH	1:B:1097:GLU:OE1	2.09	0.69
1:B:1298:PRO:HB3	1:B:1515:HIS:CG	2.28	0.68
1:B:1604:LEU:HD23	1:B:1628:GLU:HG2	1.77	0.67
1:B:1514:PHE:HB3	1:B:1518:VAL:HG21	1.77	0.67
1:B:1607:SER:HA	1:B:1610:LYS:HE3	1.78	0.65
1:B:1626:PRO:O	1:B:1630:ARG:HG2	1.97	0.65
1:B:436:ARG:HG2	1:B:445:VAL:HG22	1.79	0.64
1:B:1189:HIS:CE1	1:B:1191:GLN:HE21	2.16	0.64
1:B:2068:ILE:HD11	1:B:2092:LEU:HD13	1.79	0.64
1:B:1943:MET:HG2	1:B:2065:TRP:CE3	2.33	0.63
1:B:654:THR:HG21	1:B:676:PHE:O	2.00	0.62
1:B:1041:LEU:HD22	1:B:1052:ILE:HG23	1.82	0.62
1:B:1287:ARG:HH21	3:B:2208:EDO:H11	1.65	0.61
1:B:1713:PHE:HB2	3:B:2203:EDO:H12	1.81	0.61
1:B:1499:ASP:OD2	1:B:1763:ARG:NH1	2.32	0.60
1:B:687:GLN:OE1	1:B:689:TYR:OH	2.15	0.60
1:B:1993:ARG:O	1:B:1997:LEU:HG	2.02	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:1127:CYS:HB2	1:B:1144:GLU:HG2	1.84	0.59
1:B:595:ILE:HD11	1:B:990:HIS:O	2.03	0.58
1:B:1016:ARG:HD2	1:B:1050:GLU:OE2	2.03	0.58
1:B:1607:SER:O	1:B:1611:GLU:HG2	2.04	0.58
1:B:1351:PRO:HG3	1:B:1516:PRO:HA	1.86	0.57
1:B:899:ASP:HB3	3:B:2202:EDO:H12	1.87	0.56
1:B:1042:GLU:HG3	2:J:2069:SER:O	2.05	0.56
1:B:1249:GLU:OE1	5:B:2301:HOH:O	2.17	0.56
1:B:528:ASP:OD1	1:B:528:ASP:N	2.38	0.56
1:B:577:LYS:HA	1:B:580:ILE:HB	1.88	0.56
1:B:726:HIS:CE1	1:B:844:LEU:HD11	2.41	0.56
1:B:2013:ARG:HD2	1:B:2052:ILE:HG12	1.88	0.55
1:B:1864:GLU:HG2	1:B:1867:LEU:HD12	1.87	0.55
1:B:1404:LYS:HB3	1:B:1422:GLY:HA2	1.87	0.55
1:B:1066:PHE:O	1:B:1121:ARG:NH1	2.38	0.55
1:B:1062:LEU:HD22	1:B:1081:MET:HB2	1.88	0.54
1:B:1886:ASP:O	1:B:1889:VAL:HG22	2.08	0.54
2:J:2087:THR:HB	2:J:2112:LYS:HD3	1.88	0.54
1:B:1140:VAL:O	1:B:1144:GLU:HG3	2.07	0.54
1:B:1974:CYS:HB3	1:B:1979:VAL:HG22	1.88	0.54
1:B:728:ARG:HG2	1:B:786:HIS:ND1	2.22	0.54
2:J:2147:MET:O	2:J:2274:PRO:HD3	2.08	0.54
1:B:1910:SER:HA	1:B:1913:GLU:OE1	2.09	0.54
1:B:1886:ASP:HB3	1:B:1889:VAL:HG13	1.91	0.53
2:J:2313:HIS:HA	3:J:2401:EDO:H11	1.91	0.53
1:B:1608:THR:O	1:B:1612:THR:HG23	2.09	0.53
1:B:404:ALA:O	1:B:406:ARG:N	2.42	0.53
1:B:1346:VAL:HB	1:B:1488:VAL:HG22	1.91	0.53
1:B:1908:LEU:O	1:B:1912:THR:HG23	2.09	0.53
1:B:566:VAL:HG13	1:B:585:ILE:HB	1.90	0.52
1:B:1844:GLY:O	1:B:1848:ILE:HG12	2.09	0.52
1:B:639:ILE:HD11	1:B:646:VAL:HB	1.91	0.52
1:B:690:VAL:HG11	1:B:707:ILE:HD13	1.91	0.51
1:B:2118:GLN:HB3	1:B:2120:TYR:HE1	1.75	0.51
2:J:2074:ARG:NH2	3:J:2401:EDO:O2	2.43	0.51
2:J:2076:ARG:HB3	2:J:2305:TYR:OH	2.11	0.51
1:B:1456:VAL:HG12	1:B:1490:LEU:O	2.11	0.51
1:B:1648:ARG:HG3	1:B:1649:SER:N	2.26	0.51
1:B:1040:LEU:HD11	1:B:1072:LEU:HD21	1.92	0.51
1:B:689:TYR:HE2	1:B:883:LEU:HD12	1.75	0.51
2:J:2096:ASP:HB2	2:J:2258:ARG:HB2	1.92	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:1045:PRO:HD3	2:J:2317:PHE:CD2	2.46	0.50
1:B:531:ILE:HD13	1:B:562:TYR:O	2.12	0.50
1:B:757:ALA:O	1:B:761:VAL:HG23	2.12	0.50
1:B:513:ALA:O	1:B:517:MET:HG3	2.11	0.50
1:B:1440:LYS:NZ	1:B:1742:THR:O	2.41	0.50
1:B:2077:ILE:HG23	1:B:2094:PHE:CD1	2.46	0.50
1:B:1567:LYS:O	1:B:1571:LEU:HG	2.12	0.49
1:B:933:PRO:HG3	1:B:943:LEU:HD22	1.94	0.49
1:B:1855:TYR:HB3	1:B:1891:THR:HG21	1.93	0.49
1:B:2066:VAL:O	1:B:2079:ILE:HA	2.12	0.49
1:B:1629:ARG:NH1	1:B:1650:LEU:HD22	2.27	0.49
1:B:1773:LEU:HD21	1:B:1781:LEU:HD12	1.94	0.49
1:B:617:ILE:HG22	1:B:652:SER:HB2	1.95	0.49
1:B:1113:ASN:O	1:B:1117:MET:HG3	2.13	0.49
1:B:1195:ARG:HD3	1:B:1260:GLU:OE2	2.12	0.49
2:J:2111:LEU:HD21	2:J:2225:LEU:HD11	1.95	0.49
1:B:1142:LYS:O	1:B:1146:LYS:HG2	2.13	0.48
1:B:1943:MET:CE	1:B:2065:TRP:HB2	2.42	0.48
1:B:1894:LEU:HB3	1:B:1912:THR:HG22	1.95	0.48
1:B:694:GLU:HG2	1:B:699:LYS:HB3	1.95	0.48
2:J:2303:GLU:OE1	2:J:2303:GLU:N	2.40	0.48
1:B:421:HIS:NE2	1:B:875:GLU:OE1	2.33	0.48
1:B:1218:SER:HB2	1:B:1240:LEU:HD11	1.95	0.48
1:B:1174:ILE:O	1:B:1178:VAL:HG23	2.13	0.48
2:J:2243:ASP:OD2	2:J:2248:PRO:HA	2.14	0.48
2:J:2200:MET:HE3	2:J:2235:TYR:CD1	2.49	0.48
2:J:2306:HIS:ND1	2:J:2308:VAL:HG22	2.29	0.47
1:B:1069:GLN:HA	1:B:1121:ARG:NH1	2.28	0.47
1:B:774:LEU:O	1:B:778:LEU:HB2	2.14	0.47
1:B:2078:SER:OG	1:B:2093:ASP:O	2.25	0.47
1:B:828:ILE:HD11	1:B:853:LEU:HG	1.96	0.47
1:B:2013:ARG:HD3	1:B:2050:PRO:O	2.14	0.47
1:B:593:TRP:HZ2	4:B:2217:SAN:HN21	1.61	0.47
1:B:1979:VAL:O	1:B:1981:SER:N	2.47	0.47
2:J:2170:LYS:HA	2:J:2170:LYS:HD3	1.69	0.47
1:B:1560:ILE:HG13	1:B:1658:ALA:HB2	1.95	0.47
1:B:1864:GLU:HG2	1:B:1867:LEU:HB2	1.95	0.47
1:B:1869:ARG:NH1	1:B:1883:LYS:O	2.48	0.47
1:B:2067:VAL:HG12	1:B:2069:GLY:H	1.80	0.47
1:B:1459:ILE:O	1:B:1464:GLY:HA3	2.15	0.46
1:B:2000:THR:HG22	1:B:2001:ASP:N	2.30	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:971:LYS:HB2	1:B:980:GLN:HB3	1.96	0.46
1:B:1841:LYS:O	1:B:1845:LEU:HG	2.15	0.46
2:J:2200:MET:HE1	2:J:2230:LEU:HD22	1.97	0.46
1:B:886:GLN:O	1:B:888:PRO:HD3	2.14	0.46
1:B:403:LEU:H	1:B:954:LEU:HD21	1.79	0.46
1:B:766:ALA:HB2	1:B:778:LEU:HB3	1.97	0.46
1:B:1990:ASP:O	1:B:1994:ASN:ND2	2.49	0.46
1:B:2016:ASN:ND2	1:B:2044:GLU:OE1	2.48	0.46
1:B:1460:GLY:HA2	1:B:1725:GLU:O	2.16	0.46
1:B:593:TRP:HZ2	4:B:2217:SAN:N2	2.14	0.46
1:B:1815:LEU:HD22	1:B:1829:ILE:HG22	1.98	0.46
1:B:1368:LEU:HD22	1:B:1403:LYS:HE3	1.98	0.46
1:B:1930:LEU:HD22	1:B:1938:PRO:HB2	1.96	0.46
1:B:1943:MET:HE2	1:B:2109:MET:HB2	1.98	0.46
1:B:1953:MET:HE1	1:B:1962:GLN:HG3	1.98	0.46
1:B:1943:MET:HE3	1:B:2065:TRP:HB2	1.98	0.46
1:B:403:LEU:O	1:B:406:ARG:NH1	2.49	0.45
1:B:916:ALA:HB3	1:B:957:VAL:HG11	1.97	0.45
1:B:1448:ILE:HD13	1:B:1448:ILE:HA	1.74	0.45
2:J:2149:PRO:HB3	2:J:2281:TYR:CE1	2.51	0.45
2:J:2207:ASP:HB3	2:J:2210:LYS:HB2	1.98	0.45
1:B:1068:SER:HB3	2:J:2318:ALA:HA	1.97	0.45
1:B:1869:ARG:O	1:B:1872:ALA:HB3	2.16	0.45
1:B:1900:SER:HG	1:B:1954:TRP:HE1	1.63	0.45
1:B:1515:HIS:O	1:B:1518:VAL:HG22	2.15	0.45
1:B:1335:VAL:O	1:B:1339:VAL:HG23	2.16	0.45
1:B:1070:LEU:HD13	2:J:2320:LEU:HD22	1.98	0.45
1:B:1130:ARG:HD2	1:B:1144:GLU:OE2	2.17	0.45
2:J:2133:PRO:HG2	2:J:2136:ASN:HB3	1.98	0.45
2:J:2302:LYS:N	2:J:2302:LYS:HD2	2.30	0.45
1:B:681:ARG:NH1	1:B:683:VAL:O	2.39	0.45
1:B:1843:ARG:HG3	1:B:1844:GLY:N	2.32	0.45
1:B:1804:ILE:HG22	1:B:1807:GLU:HA	1.99	0.44
1:B:1214:VAL:HG12	1:B:1215:HIS:CD2	2.51	0.44
1:B:1622:GLU:H	1:B:1622:GLU:CD	2.20	0.44
2:J:2188:LEU:O	2:J:2251:TYR:OH	2.36	0.44
1:B:1183:LYS:NZ	1:B:1207:ASP:OD2	2.46	0.44
1:B:1225:VAL:HG21	1:B:1254:PHE:CE1	2.51	0.44
1:B:1661:VAL:O	1:B:1702:CYS:HA	2.17	0.44
1:B:1435:LEU:HA	1:B:1435:LEU:HD23	1.64	0.44
2:J:2149:PRO:HD3	2:J:2274:PRO:HG3	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:1066:PHE:CG	1:B:1085:THR:HG21	2.52	0.44
1:B:1542:MET:O	1:B:1546:VAL:HG23	2.18	0.44
2:J:2089:HIS:O	2:J:2222:SER:HB2	2.18	0.44
1:B:1225:VAL:HG11	1:B:1256:VAL:HG11	1.99	0.44
1:B:542:ALA:O	1:B:589:THR:HA	2.18	0.43
1:B:2009:ARG:HG3	1:B:2010:PHE:N	2.33	0.43
1:B:1349:GLY:O	1:B:1514:PHE:HB2	2.18	0.43
1:B:1947:GLN:HB3	1:B:2114:MET:HG2	2.00	0.43
1:B:2000:THR:HG22	1:B:2001:ASP:H	1.84	0.43
1:B:414:LEU:HB2	1:B:894:VAL:HG11	2.00	0.43
1:B:592:LYS:O	1:B:595:ILE:HG22	2.18	0.43
1:B:1030:ARG:HH21	1:B:1076:ALA:HB1	1.83	0.43
1:B:1069:GLN:HA	1:B:1121:ARG:HH12	1.84	0.43
1:B:1803:SER:O	1:B:1810:VAL:HA	2.18	0.43
1:B:1225:VAL:O	1:B:1234:LEU:N	2.52	0.43
1:B:1594:GLU:HG3	1:B:1614:LEU:HD22	1.99	0.43
1:B:1709:SER:H	4:B:2216:SAN:HN22	1.67	0.43
1:B:929:MET:HE3	1:B:949:LEU:HD13	2.00	0.43
1:B:543:PRO:HD2	1:B:547:LEU:HD23	2.00	0.43
1:B:1298:PRO:HB3	1:B:1515:HIS:CD2	2.53	0.43
1:B:815:LEU:HD12	1:B:819:VAL:HB	2.01	0.43
1:B:1096:PHE:HB2	1:B:1111:THR:HG22	2.01	0.43
1:B:1018:PHE:CE2	1:B:1063:LEU:HD22	2.54	0.42
1:B:2026:LYS:HE2	1:B:2026:LYS:HB3	1.81	0.42
1:B:2068:ILE:HG22	1:B:2068:ILE:O	2.19	0.42
1:B:2085:GLN:HB3	1:B:2086:GLN:H	1.61	0.42
1:B:1160:GLU:H	1:B:1160:GLU:HG3	1.69	0.42
1:B:1663:ILE:HD12	1:B:1704:ILE:HG12	2.01	0.42
1:B:1843:ARG:HB3	1:B:1877:HIS:HB3	2.01	0.42
1:B:517:MET:HB2	1:B:517:MET:HE3	1.69	0.42
1:B:546:SER:HB2	1:B:818:GLY:HA3	2.02	0.42
2:J:2310:ARG:HD2	2:J:2313:HIS:ND1	2.35	0.42
1:B:1046:ILE:HB	1:B:1064:GLN:NE2	2.35	0.42
1:B:1711:LYS:O	1:B:1715:LYS:HG3	2.20	0.42
1:B:1933:ASN:HB3	1:B:1935:TRP:CE2	2.55	0.42
1:B:2006:ASP:HA	1:B:2009:ARG:HG2	2.02	0.41
1:B:1646:ALA:HB1	1:B:1654:MET:HE1	2.02	0.41
1:B:501:LEU:HD23	1:B:509:LYS:HG2	2.01	0.41
1:B:1332:GLN:NE2	1:B:1358:ILE:HD12	2.35	0.41
1:B:1658:ALA:C	1:B:1693:ARG:HD2	2.40	0.41
2:J:2118:SER:HB2	5:J:2501:HOH:O	2.19	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:514:LEU:HD12	1:B:517:MET:CE	2.51	0.41
1:B:430:LEU:HD23	1:B:430:LEU:HA	1.75	0.41
1:B:501:LEU:CD2	1:B:509:LYS:HG2	2.51	0.41
1:B:625:GLY:N	1:B:626:PRO:CD	2.83	0.41
1:B:718:LYS:HB3	1:B:718:LYS:HE2	1.81	0.41
1:B:1779:ARG:CZ	1:B:1779:ARG:HB3	2.49	0.41
1:B:423:MET:SD	1:B:877:GLN:HG2	2.61	0.41
1:B:1501:ALA:HB1	1:B:1506:CYS:HB2	2.03	0.41
1:B:1937:SER:HB3	1:B:1938:PRO:HD3	2.03	0.41
1:B:1991:GLU:HA	1:B:1994:ASN:HD22	1.85	0.41
1:B:1034:LYS:NZ	1:B:1053:GLU:HG2	2.36	0.40
1:B:1843:ARG:HB3	1:B:1877:HIS:ND1	2.36	0.40
2:J:2252:LEU:HB2	2:J:2255:HIS:CE1	2.56	0.40
1:B:503:ALA:HB1	1:B:504:PRO:HD2	2.03	0.40
1:B:1356:LYS:HB2	1:B:1356:LYS:HE2	1.82	0.40
1:B:1614:LEU:HD23	1:B:1614:LEU:HA	1.90	0.40
1:B:548:VAL:HG22	1:B:587:VAL:HG12	2.04	0.40
1:B:1040:LEU:HD11	1:B:1072:LEU:CD2	2.52	0.40
1:B:2065:TRP:CZ3	1:B:2111:ASP:HB3	2.57	0.40
1:B:595:ILE:HD12	1:B:595:ILE:HA	1.87	0.40
1:B:660:ASP:OD1	1:B:931:ARG:HG3	2.21	0.40
1:B:1570:ARG:HD2	1:B:1608:THR:HG21	2.03	0.40
1:B:2068:ILE:HD12	1:B:2068:ILE:N	2.36	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:B:522:GLY:O	1:B:1313:ARG:NH2[3_544]	2.15	0.05

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	B	1719/1747 (98%)	1652 (96%)	61 (4%)	6 (0%)	41	53
2	J	261/263 (99%)	251 (96%)	9 (3%)	1 (0%)	34	46
All	All	1980/2010 (98%)	1903 (96%)	70 (4%)	7 (0%)	34	46

All (7) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	B	1980	GLU
1	B	1861	ARG
2	J	2059	PRO
1	B	1314	ASN
1	B	1882	PRO
1	B	1952	ALA
1	B	1326	PRO

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	B	1539/1560 (99%)	1494 (97%)	45 (3%)	42	60
2	J	236/236 (100%)	231 (98%)	5 (2%)	53	70
All	All	1775/1796 (99%)	1725 (97%)	50 (3%)	43	61

All (50) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	B	485	GLN
1	B	489	TYR
1	B	525	ILE
1	B	528	ASP
1	B	569	LEU
1	B	576	CYS
1	B	595	ILE
1	B	832	GLN
1	B	835	SER

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Mol	Chain	Res	Type
1	B	863	THR
1	B	864	LYS
1	B	893	MET
1	B	992	TYR
1	B	1008	THR
1	B	1051	SER
1	B	1056	SER
1	B	1068	SER
1	B	1078	MET
1	B	1113	ASN
1	B	1140	VAL
1	B	1310	SER
1	B	1376	CYS
1	B	1566	ARG
1	B	1592	CYS
1	B	1625	SER
1	B	1699	GLU
1	B	1731	CYS
1	B	1778	HIS
1	B	1837	ASN
1	B	1856	GLU
1	B	1861	ARG
1	B	1864	GLU
1	B	1866	ASN
1	B	1869	ARG
1	B	1905	SER
1	B	1909	GLN
1	B	1958	SER
1	B	1970	HIS
1	B	1979	VAL
1	B	1989	GLU
1	B	2085	GLN
1	B	2087	LYS
1	B	2089	LYS
1	B	2090	VAL
1	B	2116	CYS
2	J	2076	ARG
2	J	2189	SER
2	J	2233	SER
2	J	2261	MET
2	J	2302	LYS

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (2) such

sidechains are listed below:

Mol	Chain	Res	Type
1	B	1837	ASN
1	B	1994	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 monosaccharides in this entry.

5.6 Ligand geometry [i](#)

18 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	EDO	B	2210	-	3,3,3	0.44	0	2,2,2	0.23	0
3	EDO	B	2213	-	3,3,3	0.59	0	2,2,2	0.32	0
3	EDO	B	2211	-	3,3,3	0.38	0	2,2,2	0.45	0
3	EDO	B	2214	-	3,3,3	0.51	0	2,2,2	0.06	0
3	EDO	B	2207	-	3,3,3	0.66	0	2,2,2	0.36	0
3	EDO	B	2204	-	3,3,3	0.55	0	2,2,2	0.16	0
3	EDO	B	2208	-	3,3,3	0.50	0	2,2,2	0.55	0
3	EDO	B	2201	-	3,3,3	0.22	0	2,2,2	1.23	0
3	EDO	B	2212	-	3,3,3	0.51	0	2,2,2	0.38	0
3	EDO	B	2209	-	3,3,3	0.49	0	2,2,2	0.29	0
3	EDO	J	2401	-	3,3,3	0.30	0	2,2,2	1.03	0

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
4	SAN	B	2217	-	11,11,11	2.22	4 (36%)	16,16,16	3.38	4 (25%)
4	SAN	B	2216	-	11,11,11	2.00	2 (18%)	16,16,16	3.74	6 (37%)
3	EDO	B	2202	-	3,3,3	0.56	0	2,2,2	1.12	0
3	EDO	B	2203	-	3,3,3	0.33	0	2,2,2	1.52	0
3	EDO	B	2215	-	3,3,3	0.38	0	2,2,2	0.66	0
3	EDO	B	2206	-	3,3,3	0.90	0	2,2,2	0.38	0
3	EDO	B	2205	-	3,3,3	0.60	0	2,2,2	0.51	0

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
3	EDO	B	2210	-	-	0/1/1/1	-
3	EDO	B	2213	-	-	0/1/1/1	-
3	EDO	B	2211	-	-	0/1/1/1	-
3	EDO	B	2214	-	-	0/1/1/1	-
3	EDO	B	2207	-	-	1/1/1/1	-
3	EDO	B	2204	-	-	0/1/1/1	-
3	EDO	B	2208	-	-	1/1/1/1	-
3	EDO	B	2201	-	-	1/1/1/1	-
3	EDO	B	2212	-	-	0/1/1/1	-
3	EDO	B	2209	-	-	0/1/1/1	-
3	EDO	J	2401	-	-	1/1/1/1	-
4	SAN	B	2217	-	-	2/6/6/6	0/1/1/1
4	SAN	B	2216	-	-	4/6/6/6	0/1/1/1
3	EDO	B	2202	-	-	1/1/1/1	-
3	EDO	B	2203	-	-	1/1/1/1	-
3	EDO	B	2215	-	-	1/1/1/1	-
3	EDO	B	2206	-	-	1/1/1/1	-
3	EDO	B	2205	-	-	1/1/1/1	-

All (6) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
4	B	2217	SAN	S-N2	5.42	1.71	1.60
4	B	2216	SAN	S-N2	4.45	1.69	1.60
4	B	2217	SAN	C4-S	3.59	1.82	1.77
4	B	2216	SAN	C4-S	3.25	1.82	1.77
4	B	2217	SAN	C1-N1	2.14	1.45	1.38

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
4	B	2217	SAN	O1-S	2.12	1.47	1.43

All (10) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
4	B	2216	SAN	O2-S-O1	-12.02	99.00	118.76
4	B	2217	SAN	O2-S-O1	-11.33	100.14	118.76
4	B	2216	SAN	O2-S-C4	5.30	113.26	107.35
4	B	2216	SAN	O1-S-N2	5.19	115.05	107.36
4	B	2217	SAN	O1-S-N2	4.81	114.49	107.36
4	B	2217	SAN	C4-S-N2	4.08	114.16	108.38
4	B	2216	SAN	O1-S-C4	2.67	110.33	107.35
4	B	2217	SAN	O2-S-C4	2.55	110.19	107.35
4	B	2216	SAN	O2-S-N2	2.49	111.05	107.36
4	B	2216	SAN	C6-C1-C2	2.16	121.51	118.15

There are no chirality outliers.

All (15) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
3	B	2205	EDO	O1-C1-C2-O2
3	B	2206	EDO	O1-C1-C2-O2
4	B	2216	SAN	C3-C4-S-N2
4	B	2216	SAN	C5-C4-S-N2
4	B	2216	SAN	C3-C4-S-O2
4	B	2216	SAN	C5-C4-S-O2
3	B	2203	EDO	O1-C1-C2-O2
4	B	2217	SAN	C5-C4-S-O1
4	B	2217	SAN	C3-C4-S-O1
3	B	2201	EDO	O1-C1-C2-O2
3	B	2202	EDO	O1-C1-C2-O2
3	B	2215	EDO	O1-C1-C2-O2
3	J	2401	EDO	O1-C1-C2-O2
3	B	2207	EDO	O1-C1-C2-O2
3	B	2208	EDO	O1-C1-C2-O2

There are no ring outliers.

7 monomers are involved in 10 short contacts:

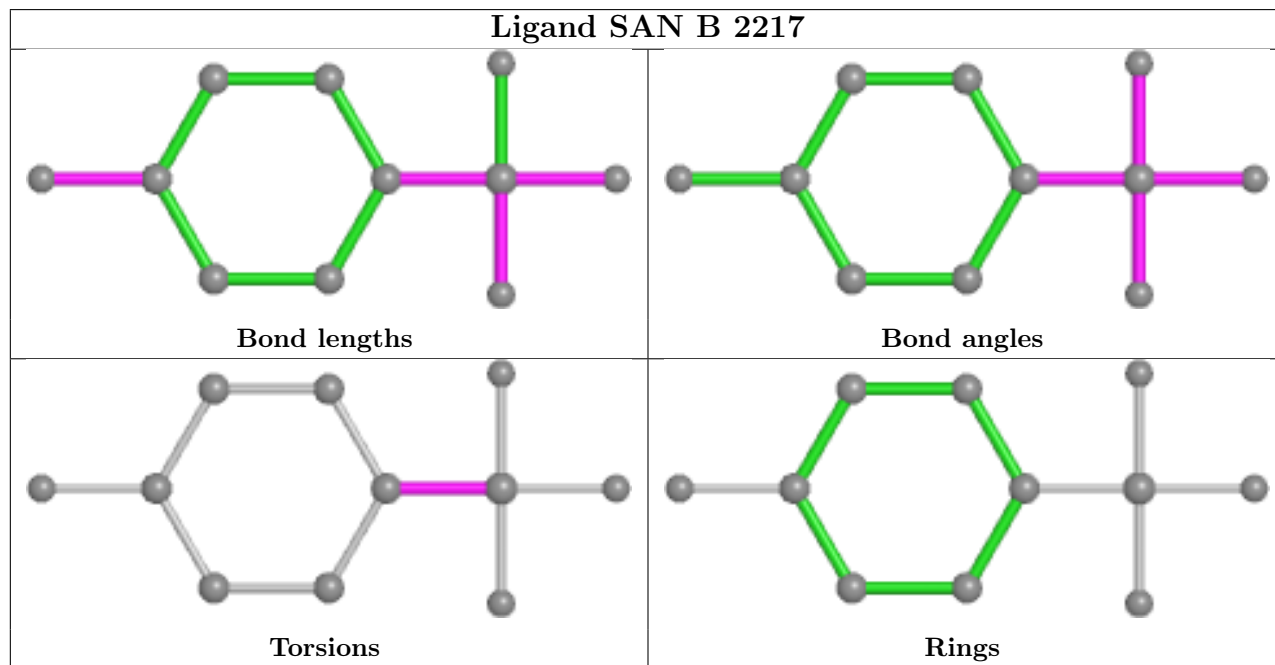
Mol	Chain	Res	Type	Clashes	Symm-Clashes
3	B	2214	EDO	1	0

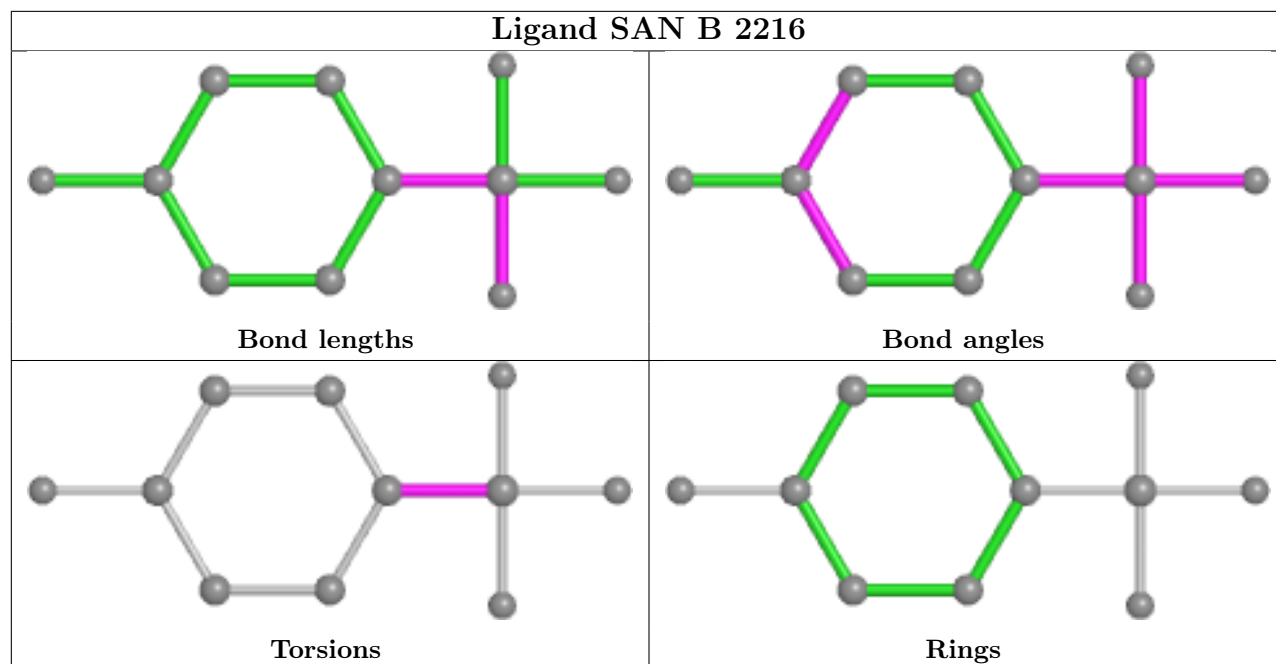
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Mol	Chain	Res	Type	Clashes	Symm-Clashes
3	B	2208	EDO	1	0
3	J	2401	EDO	2	0
4	B	2217	SAN	2	0
4	B	2216	SAN	1	0
3	B	2202	EDO	2	0
3	B	2203	EDO	1	0

The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included. For torsion angles, if less than 5% of the Mogul distribution of torsion angles is within 10 degrees of the torsion angle in question, then that torsion angle is considered an outlier. Any bond that is central to one or more torsion angles identified as an outlier by Mogul will be highlighted in the graph. For rings, the root-mean-square deviation (RMSD) between the ring in question and similar rings identified by Mogul is calculated over all ring torsion angles. If the average RMSD is greater than 60 degrees and the minimal RMSD between the ring in question and any Mogul-identified rings is also greater than 60 degrees, then that ring is considered an outlier. The outliers are highlighted in purple. The color gray indicates Mogul did not find sufficient equivalents in the CSD to analyse the geometry.





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	B	1721/1747 (98%)	0.30	104 (6%) 21 24	35, 64, 129, 230	0
2	J	263/263 (100%)	0.23	22 (8%) 11 12	37, 60, 129, 191	0
All	All	1984/2010 (98%)	0.29	126 (6%) 19 21	35, 63, 129, 230	0

All (126) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
2	J	2058	GLY	10.1
1	B	1870	GLN	8.5
1	B	1601	LEU	8.2
2	J	2060	LEU	8.2
2	J	2062	SER	7.9
1	B	1862	HIS	7.3
1	B	755	GLY	7.3
2	J	2097	ILE	7.3
1	B	1873	GLN	7.2
1	B	1879	LEU	7.2
1	B	1996	LEU	6.8
1	B	1872	ALA	6.6
2	J	2320	LEU	6.4
1	B	404	ALA	6.0
2	J	2319	LEU	6.0
1	B	1584	ILE	5.8
1	B	2095	VAL	5.5
1	B	1874	LYS	5.4
1	B	1936	LEU	5.3
1	B	860	GLN	5.3
1	B	754	GLU	5.3
2	J	2099	GLU	5.3
1	B	2104	TYR	5.2
1	B	1876	PRO	5.2

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Mol	Chain	Res	Type	RSRZ
1	B	1877	HIS	5.0
1	B	1868	LEU	5.0
1	B	2098	ALA	5.0
1	B	1869	ARG	4.9
1	B	753	ARG	4.8
1	B	457	SER	4.8
1	B	1880	ASN	4.8
1	B	456	GLY	4.6
1	B	2033	GLY	4.6
1	B	1586	ARG	4.6
1	B	2027	ASP	4.5
2	J	2061	GLY	4.5
2	J	2063	MET	4.4
1	B	1603	LYS	4.3
1	B	572	ASP	4.3
2	J	2100	THR	4.0
2	J	2098	LYS	3.9
1	B	1839	LYS	3.8
2	J	2059	PRO	3.8
1	B	2022	GLU	3.8
2	J	2121	ARG	3.7
1	B	574	GLN	3.6
1	B	1043	ARG	3.6
1	B	1604	LEU	3.6
1	B	1884	PHE	3.5
1	B	1997	LEU	3.4
1	B	2036	VAL	3.3
1	B	1867	LEU	3.3
1	B	1148	PHE	3.3
1	B	2030	ARG	3.1
1	B	2101	ALA	3.1
1	B	1614	LEU	3.1
1	B	1963	LEU	3.1
1	B	1140	VAL	3.0
1	B	1170	MET	3.0
1	B	2096	ALA	3.0
1	B	2047	VAL	3.0
1	B	1841	LYS	3.0
1	B	2119	GLU	3.0
1	B	1861	ARG	3.0
1	B	1582	ALA	2.9
1	B	1987	GLU	2.9

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Mol	Chain	Res	Type	RSRZ
1	B	2102	HIS	2.9
1	B	751	PHE	2.9
1	B	2034	PRO	2.9
1	B	746	ASP	2.8
1	B	1052	ILE	2.8
1	B	2120	TYR	2.8
1	B	1940	LEU	2.8
1	B	1973	ARG	2.8
1	B	2122	PHE	2.7
1	B	2035	VAL	2.7
1	B	726	HIS	2.7
1	B	2038	LEU	2.7
2	J	2249	LYS	2.7
1	B	2019	LEU	2.7
1	B	573	HIS	2.6
2	J	2065	GLN	2.6
1	B	1843	ARG	2.6
1	B	782	PHE	2.6
2	J	2139	VAL	2.6
1	B	2008	ALA	2.6
1	B	2103	ASN	2.6
1	B	1985	ILE	2.5
1	B	2092	LEU	2.5
1	B	1798	GLN	2.5
1	B	1587	GLN	2.5
1	B	2032	GLY	2.5
1	B	2094	PHE	2.5
2	J	2317	PHE	2.5
1	B	1871	LEU	2.5
1	B	2076	LEU	2.5
1	B	1979	VAL	2.4
1	B	805	HIS	2.4
1	B	1878	LYS	2.4
2	J	2070	LYS	2.4
1	B	576	CYS	2.4
1	B	1988	MET	2.4
1	B	1840	THR	2.4
1	B	1893	LEU	2.4
1	B	2040	GLN	2.3
1	B	770	LYS	2.3
1	B	1849	ILE	2.3
2	J	2095	ASP	2.3

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Mol	Chain	Res	Type	RSRZ
1	B	1597	LEU	2.3
2	J	2260	GLN	2.3
1	B	2010	PHE	2.2
1	B	792	VAL	2.2
1	B	940	HIS	2.2
1	B	1035	LEU	2.2
1	B	1445	VAL	2.2
1	B	1875	VAL	2.2
1	B	2099	THR	2.2
1	B	2086	GLN	2.2
1	B	1590	LEU	2.2
2	J	2096	ASP	2.1
1	B	1135	LEU	2.1
1	B	571	GLY	2.1
1	B	709	TYR	2.1
2	J	2066	THR	2.1
1	B	1634	GLN	2.0
1	B	800	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, 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.

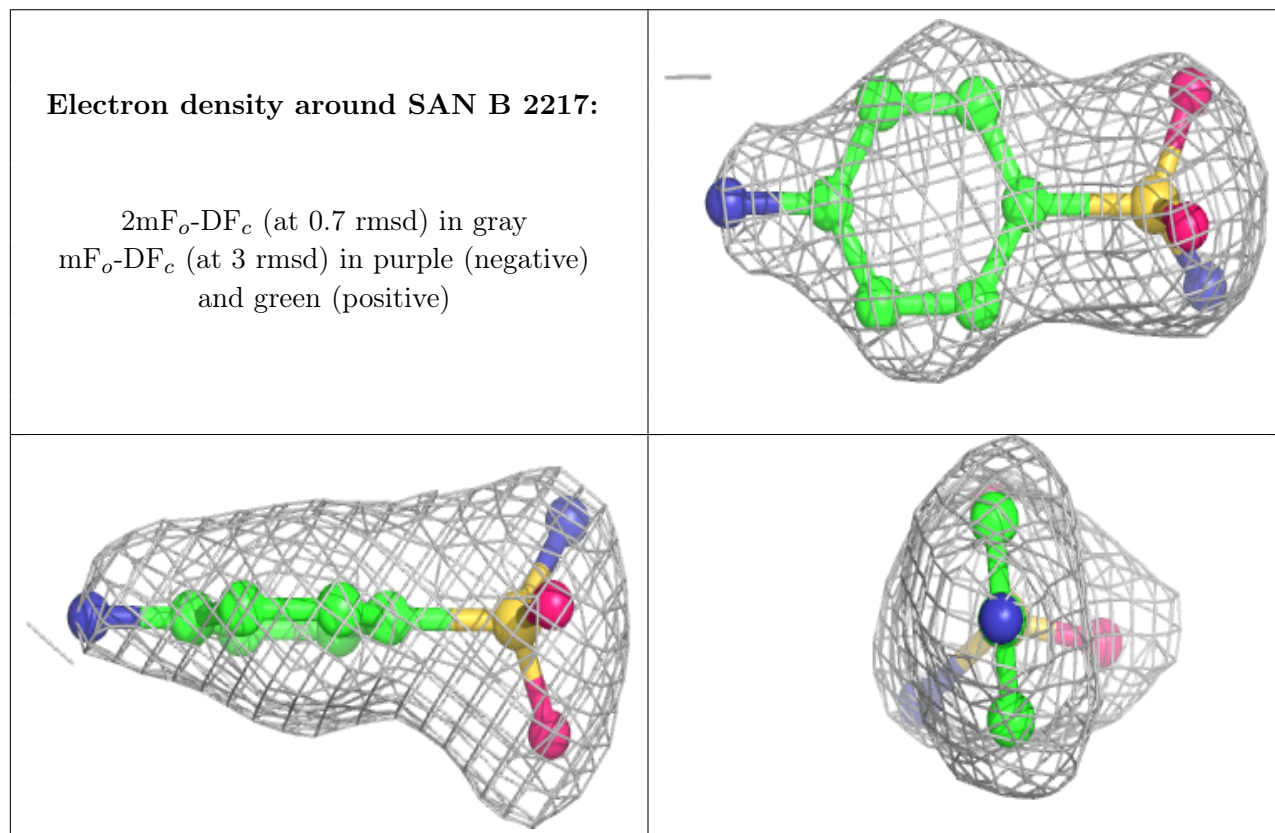
Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(\AA^2)	Q<0.9
3	EDO	B	2214	4/4	0.60	0.27	87,99,106,114	0
3	EDO	B	2206	4/4	0.79	0.33	53,53,58,58	0
3	EDO	B	2209	4/4	0.84	0.23	65,67,68,71	0
3	EDO	B	2207	4/4	0.88	0.17	54,59,60,67	0
3	EDO	B	2213	4/4	0.89	0.17	53,56,59,61	0

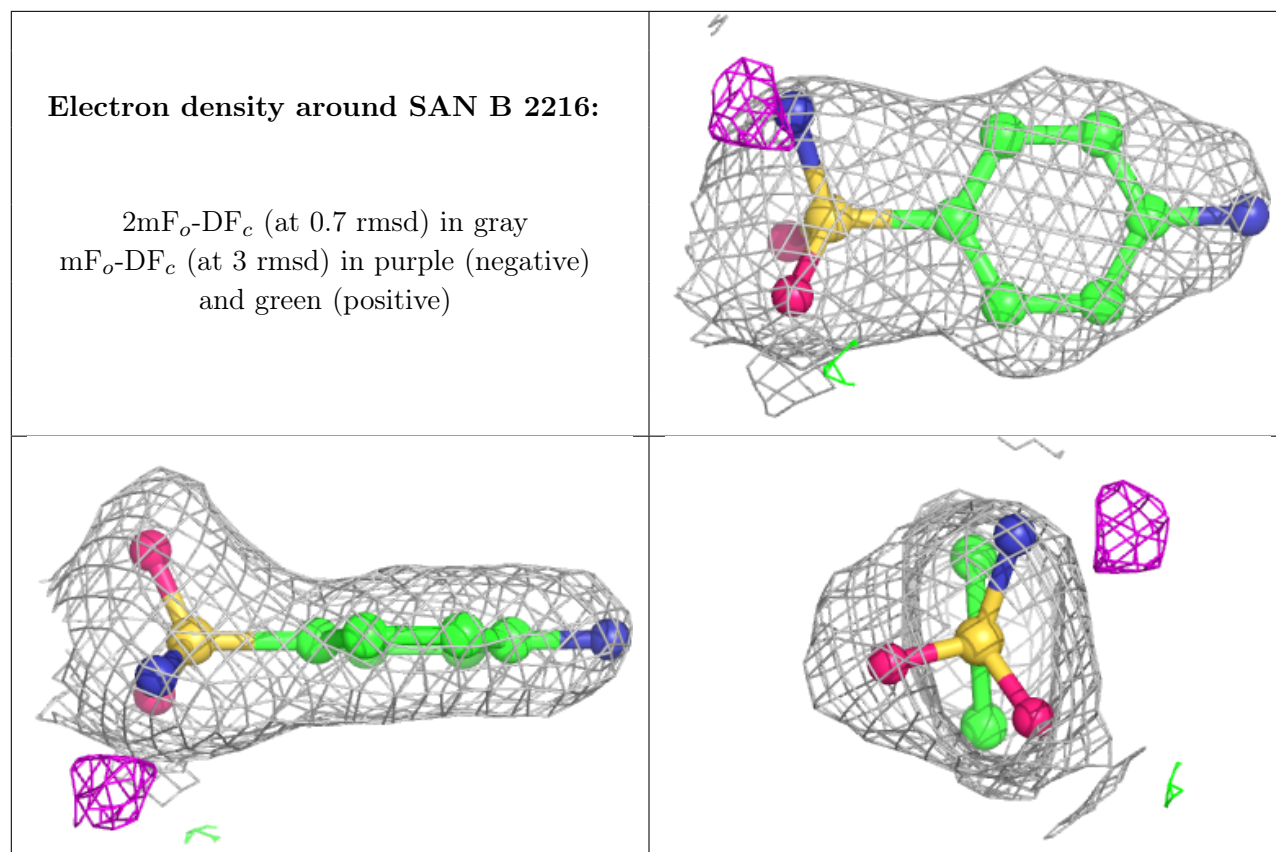
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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(\AA^2)	Q<0.9
3	EDO	B	2202	4/4	0.89	0.17	39,42,43,45	0
3	EDO	B	2205	4/4	0.90	0.19	40,43,49,51	0
3	EDO	B	2204	4/4	0.90	0.12	55,58,58,62	0
3	EDO	B	2211	4/4	0.91	0.15	87,88,90,95	0
3	EDO	J	2401	4/4	0.91	0.18	72,75,77,84	0
3	EDO	B	2212	4/4	0.93	0.17	74,78,79,85	0
3	EDO	B	2210	4/4	0.93	0.17	87,90,91,92	0
3	EDO	B	2215	4/4	0.94	0.10	73,76,83,86	0
3	EDO	B	2208	4/4	0.94	0.17	59,61,61,63	0
4	SAN	B	2217	11/11	0.96	0.14	54,57,64,65	0
3	EDO	B	2201	4/4	0.97	0.18	49,50,52,56	0
4	SAN	B	2216	11/11	0.98	0.12	46,50,53,55	0
3	EDO	B	2203	4/4	0.98	0.14	51,52,52,54	0

The following is a graphical depiction of the model fit to experimental electron density of all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the geometry validation Tables will also be included. Each fit is shown from different orientation to approximate a three-dimensional view.





6.5 Other polymers [i](#)

There are no such residues in this entry.