



Full wwPDB X-ray Structure Validation Report ⓘ

Mar 9, 2026 – 02:24 PM UTC

PDB ID : 3BXJ / pdb_00003bxj
Title : Crystal Structure of the C2-GAP Fragment of synGAP
Authors : Pena, V.; Hothorn, M.; Eberth, A.; Kaschau, N.; Parret, A.; Gremer, L.;
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Deposited on : 2008-01-14
Resolution : 3.00 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	:	4-5-2 with Phenix2.0
Xtriage (Phenix)	:	2.0
EDS	:	3.0
Percentile statistics	:	20250101.v01 (using entries in the PDB archive January 1st 2025)
CCP4	:	9.0.010 (Gargrove)
Density-Fitness	:	1.0.12
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.49

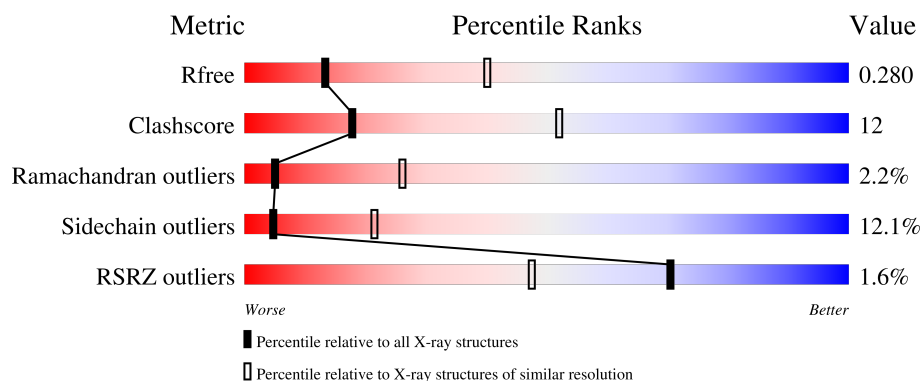
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 3.00 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}	180053	2672 (3.00-3.00)
Clashscore	190562	2977 (3.00-3.00)
Ramachandran outliers	187476	2877 (3.00-3.00)
Sidechain outliers	187428	2880 (3.00-3.00)
RSRZ outliers	180081	2671 (3.00-3.00)

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	A	483	53% 15% . . 28%
1	B	483	54% 15% . . 26%

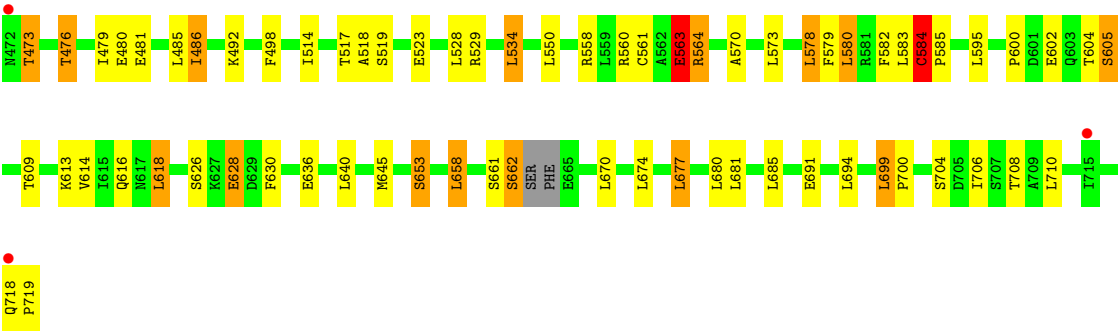
2 Entry composition

There is only 1 type of molecule in this entry. The entry contains 5491 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 Ras GTPase-activating protein SynGAP.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	348	Total	C	N	O	S	0	0	0
			2695	1711	458	505	21			
1	B	358	Total	C	N	O	S	0	0	0
			2796	1774	474	527	21			



4 Data and refinement statistics

Property	Value	Source
Space group	P 61	Depositor
Cell constants a, b, c, α , β , γ	113.32Å 113.32Å 166.09Å 90.00° 90.00° 120.00°	Depositor
Resolution (Å)	19.97 – 3.00 19.97 – 3.00	Depositor EDS
% Data completeness (in resolution range)	100.0 (19.97-3.00) 99.6 (19.97-3.00)	Depositor EDS
R_{merge}	0.07	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	1.89 (at 2.71Å)	Xtriage
Refinement program	REFMAC	Depositor
R, R_{free}	0.244 , 0.289 0.233 , 0.280	Depositor DCC
R_{free} test set	1644 reflections (5.00%)	wwPDB-VP
Wilson B-factor (Å ²)	56.4	Xtriage
Anisotropy	0.023	Xtriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.29 , 36.4	EDS
L-test for twinning ²	$\langle L \rangle = 0.48$, $\langle L^2 \rangle = 0.31$	Xtriage
Estimated twinning fraction	0.058 for h,-h-k,-l	Xtriage
F_o, F_c correlation	0.90	EDS
Total number of atoms	5491	wwPDB-VP
Average B, all atoms (Å ²)	46.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 8.14% 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](#)

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	0.88	1/2738 (0.0%)	1.00	5/3693 (0.1%)
1	B	0.94	2/2842 (0.1%)	1.06	4/3832 (0.1%)
All	All	0.91	3/5580 (0.1%)	1.03	9/7525 (0.1%)

All (3) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	B	426	VAL	CA-CB	7.33	1.64	1.54
1	A	614	VAL	CA-CB	5.79	1.61	1.54
1	B	486	ILE	CA-CB	5.73	1.61	1.54

All (9) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	B	461	PHE	N-CA-C	7.81	121.89	107.60
1	B	563	GLU	N-CA-C	-7.42	99.30	110.28
1	B	719	PRO	N-CA-CB	7.28	111.01	103.00
1	B	237	PRO	N-CA-CB	6.73	110.41	103.00
1	A	448	ASP	N-CA-C	-6.45	104.17	111.07
1	A	465	GLU	N-CA-C	6.43	118.36	111.36
1	A	514	ILE	N-CA-CB	5.91	117.46	110.55
1	A	447	LYS	N-CA-C	-5.63	98.80	110.80
1	A	411	ASN	N-CA-C	5.47	119.67	112.89

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	2695	0	2604	75	0
1	B	2796	0	2714	61	0
All	All	5491	0	5318	133	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 12.

All (133) 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:470:ARG:O	1:B:476:THR:HG21	1.62	1.00
1:A:470:ARG:O	1:A:476:THR:HG21	1.65	0.95
1:A:462:MET:HA	1:A:462:MET:HE2	1.56	0.86
1:A:462:MET:HA	1:A:462:MET:CE	2.10	0.82
1:B:563:GLU:O	1:B:564:ARG:HB2	1.81	0.80
1:A:580:LEU:HA	1:A:616:GLN:NE2	1.98	0.78
1:A:486:ILE:HD11	1:A:550:LEU:HD12	1.63	0.77
1:B:605:SER:O	1:B:609:THR:HG23	1.83	0.76
1:A:473:THR:HB	1:A:476:THR:HG23	1.69	0.73
1:A:645:MET:HE2	1:A:649:LEU:HG	1.69	0.72
1:A:580:LEU:CA	1:A:616:GLN:HE22	2.01	0.72
1:A:408:TYR:O	1:A:409:VAL:HB	1.89	0.72
1:A:445:LYS:O	1:A:446:ALA:HB3	1.90	0.71
1:B:397:LEU:HD11	1:B:706:ILE:HG23	1.73	0.70
1:B:498:PHE:CD1	1:B:534:LEU:HD13	2.27	0.70
1:B:517:THR:HG22	1:B:519:SER:H	1.57	0.70
1:B:425:ASN:HD22	1:B:426:VAL:HG23	1.57	0.69
1:B:613:LYS:HD3	1:B:628:GLU:OE1	1.94	0.68
1:A:580:LEU:HA	1:A:616:GLN:HE22	1.55	0.68
1:B:582:PHE:O	1:B:583:LEU:HB3	1.94	0.65
1:B:579:PHE:O	1:B:584:CYS:HB2	1.97	0.65
1:B:473:THR:HG22	1:B:476:THR:H	1.62	0.65
1:A:479:ILE:HG22	1:A:483:MET:HE2	1.79	0.64
1:A:408:TYR:O	1:A:409:VAL:CB	2.45	0.63
1:B:486:ILE:C	1:B:486:ILE:HD12	2.25	0.62
1:B:473:THR:HB	1:B:476:THR:HG23	1.81	0.61
1:A:405:PHE:O	1:A:408:TYR:O	2.17	0.61
1:A:470:ARG:O	1:A:476:THR:CG2	2.43	0.61
1:A:512:ASP:OD2	1:A:514:ILE:HG12	2.01	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:445:LYS:O	1:A:446:ALA:CB	2.50	0.60
1:B:704:SER:O	1:B:708:THR:HG23	2.02	0.60
1:A:441:GLN:CA	1:A:441:GLN:HE21	2.16	0.59
1:A:415:MET:HE2	1:A:419:VAL:HG23	1.86	0.58
1:A:491:LEU:HD22	1:A:582:PHE:CZ	2.39	0.57
1:B:584:CYS:CB	1:B:585:PRO:HD3	2.35	0.57
1:A:706:ILE:HG22	1:A:710:LEU:HD12	1.87	0.57
1:A:677:LEU:HD22	1:A:681:LEU:CD1	2.35	0.56
1:A:473:THR:CG2	1:A:475:ALA:HB3	2.35	0.56
1:A:441:GLN:HE21	1:A:441:GLN:HA	1.70	0.56
1:A:473:THR:HG22	1:A:475:ALA:H	1.71	0.56
1:B:584:CYS:HB3	1:B:585:PRO:HD3	1.87	0.56
1:A:483:MET:HE1	1:A:577:SER:O	2.07	0.55
1:A:486:ILE:HD11	1:A:550:LEU:CD1	2.33	0.55
1:B:425:ASN:O	1:B:427:LYS:N	2.40	0.54
1:B:449:PHE:O	1:B:450:LEU:HG	2.06	0.54
1:B:580:LEU:HA	1:B:616:GLN:HE22	1.73	0.54
1:A:473:THR:HG22	1:A:475:ALA:N	2.22	0.54
1:B:409:VAL:HG12	1:B:440:LEU:HD21	1.90	0.54
1:A:439:ILE:CD1	1:A:677:LEU:HD12	2.38	0.54
1:B:434:SER:O	1:B:438:HIS:HD2	1.92	0.53
1:A:446:ALA:O	1:A:447:LYS:HB2	2.08	0.53
1:A:534:LEU:HD22	1:A:534:LEU:O	2.08	0.53
1:A:701:ARG:HA	1:A:704:SER:OG	2.08	0.53
1:B:248:VAL:HA	1:B:387:LEU:HD22	1.90	0.53
1:A:532:CYS:SG	1:A:614:VAL:HG21	2.49	0.52
1:B:558:ARG:HD2	1:B:653:SER:OG	2.10	0.52
1:B:434:SER:HA	1:B:481:GLU:HG2	1.91	0.52
1:B:600:PRO:HB3	1:B:604:THR:HB	1.93	0.51
1:A:449:PHE:O	1:A:450:LEU:HB2	2.11	0.51
1:A:597:GLN:HE21	1:A:597:GLN:HA	1.75	0.51
1:A:677:LEU:HD22	1:A:681:LEU:HD11	1.92	0.51
1:A:530:MET:HE2	1:A:530:MET:HA	1.92	0.51
1:B:498:PHE:HD1	1:B:534:LEU:HD13	1.74	0.50
1:A:399:MET:O	1:A:399:MET:HE3	2.11	0.50
1:A:699:LEU:HD13	1:A:703:LEU:HD11	1.92	0.50
1:A:443:THR:HG23	1:A:443:THR:O	2.10	0.50
1:B:677:LEU:HD22	1:B:681:LEU:HG	1.94	0.49
1:A:441:GLN:HE21	1:A:441:GLN:C	2.20	0.49
1:A:669:ASP:OD2	1:A:672:ARG:HB2	2.11	0.49
1:A:441:GLN:HA	1:A:441:GLN:NE2	2.28	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:495:ILE:HG23	1:A:499:ILE:HG13	1.94	0.49
1:B:449:PHE:O	1:B:450:LEU:CB	2.61	0.48
1:A:495:ILE:HD11	1:A:539:VAL:CG2	2.43	0.48
1:B:397:LEU:CD1	1:B:706:ILE:HG23	2.40	0.48
1:B:578:LEU:O	1:B:582:PHE:O	2.31	0.48
1:A:455:MET:HG3	1:A:560:ARG:HD2	1.95	0.48
1:A:486:ILE:HD12	1:A:486:ILE:O	2.14	0.48
1:B:582:PHE:O	1:B:583:LEU:CB	2.61	0.48
1:B:602:GLU:H	1:B:602:GLU:CD	2.22	0.47
1:B:402:TYR:HB3	1:B:674:LEU:HD13	1.96	0.47
1:A:471:GLU:O	1:A:473:THR:N	2.47	0.47
1:B:584:CYS:CB	1:B:585:PRO:CD	2.93	0.47
1:B:416:LEU:HD22	1:B:420:LEU:CD1	2.44	0.47
1:A:580:LEU:N	1:A:616:GLN:HE22	2.13	0.46
1:B:640:LEU:HD23	1:B:640:LEU:O	2.14	0.46
1:A:473:THR:HG21	1:A:475:ALA:HB3	1.97	0.46
1:A:495:ILE:HD11	1:A:539:VAL:HG23	1.98	0.46
1:A:439:ILE:HD13	1:A:677:LEU:HD12	1.98	0.45
1:A:449:PHE:O	1:A:450:LEU:CB	2.65	0.45
1:A:446:ALA:O	1:A:447:LYS:CB	2.65	0.45
1:B:580:LEU:HA	1:B:616:GLN:NE2	2.31	0.45
1:A:514:ILE:H	1:A:514:ILE:HD13	1.82	0.45
1:B:699:LEU:N	1:B:700:PRO:HD2	2.32	0.45
1:B:561:CYS:SG	1:B:570:ALA:HB2	2.57	0.44
1:A:415:MET:HE2	1:A:419:VAL:CG2	2.47	0.44
1:B:476:THR:HA	1:B:479:ILE:HD12	1.99	0.44
1:A:471:GLU:HG2	1:A:581:ARG:HH21	1.82	0.44
1:A:486:ILE:HD11	1:A:550:LEU:CG	2.47	0.44
1:B:455:MET:HE1	1:B:573:LEU:HD12	1.98	0.44
1:A:471:GLU:HG3	1:B:560:ARG:CD	2.47	0.44
1:B:467:LEU:O	1:B:470:ARG:HD3	2.18	0.44
1:B:492:LYS:HG2	1:B:595:LEU:HD23	1.99	0.44
1:B:449:PHE:O	1:B:450:LEU:CG	2.66	0.44
1:A:473:THR:HG22	1:A:475:ALA:HB3	1.99	0.43
1:B:613:LYS:CD	1:B:628:GLU:OE1	2.65	0.43
1:B:403:LYS:O	1:B:406:ALA:HB3	2.19	0.43
1:A:471:GLU:HG3	1:B:560:ARG:HD2	1.99	0.43
1:B:514:ILE:O	1:B:514:ILE:HG22	2.18	0.43
1:A:344:THR:CB	1:A:388:LYS:HE3	2.49	0.43
1:B:517:THR:O	1:B:518:ALA:C	2.59	0.43
1:A:660:ASN:O	1:A:661:SER:C	2.62	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:580:LEU:CA	1:B:616:GLN:HE22	2.31	0.42
1:B:471:GLU:OE2	1:B:480:GLU:OE2	2.37	0.42
1:B:486:ILE:C	1:B:486:ILE:CD1	2.92	0.42
1:A:402:TYR:HB3	1:A:674:LEU:HD13	2.02	0.42
1:A:441:GLN:CA	1:A:441:GLN:NE2	2.79	0.42
1:B:434:SER:O	1:B:438:HIS:CD2	2.72	0.42
1:A:550:LEU:HD22	1:A:554:PHE:CZ	2.54	0.42
1:A:442:SER:OG	1:A:670:LEU:HD22	2.21	0.41
1:B:420:LEU:O	1:B:421:GLU:C	2.62	0.41
1:A:434:SER:HA	1:A:481:GLU:HG3	2.03	0.41
1:A:447:LYS:HA	1:A:553:VAL:HG22	2.03	0.41
1:B:449:PHE:O	1:B:449:PHE:CD2	2.73	0.41
1:B:413:TYR:CE1	1:B:449:PHE:HB2	2.56	0.41
1:A:560:ARG:O	1:A:564:ARG:HG2	2.21	0.41
1:A:680:LEU:CD2	1:B:658:LEU:HD21	2.51	0.41
1:B:618:LEU:HD13	1:B:645:MET:HE2	2.02	0.41
1:B:661:SER:C	1:B:662:SER:OG	2.62	0.41
1:A:473:THR:O	1:A:474:LEU:C	2.64	0.41
1:A:415:MET:HA	1:A:415:MET:HE3	2.03	0.40
1:A:529:ARG:NH1	1:A:637:PHE:HB2	2.36	0.40
1:B:408:TYR:CD2	1:B:408:TYR:C	3.00	0.40
1:A:680:LEU:O	1:A:684:VAL:HG23	2.22	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	338/483 (70%)	308 (91%)	22 (6%)	8 (2%)	4	24
1	B	348/483 (72%)	318 (91%)	23 (7%)	7 (2%)	6	28
All	All	686/966 (71%)	626 (91%)	45 (7%)	15 (2%)	5	26

All (15) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	409	VAL
1	A	447	LYS
1	A	494	ALA
1	B	295	GLU
1	B	450	LEU
1	B	453	MET
1	B	584	CYS
1	B	718	GLN
1	A	450	LEU
1	B	426	VAL
1	A	296	HIS
1	A	466	HIS
1	A	626	SER
1	B	564	ARG
1	A	446	ALA

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	278/413 (67%)	245 (88%)	33 (12%)	5	22
1	B	294/413 (71%)	258 (88%)	36 (12%)	5	21
All	All	572/826 (69%)	503 (88%)	69 (12%)	5	21

All (69) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	298	GLU
1	A	393	THR
1	A	407	GLU
1	A	426	VAL
1	A	441	GLN
1	A	443	THR
1	A	447	LYS
1	A	462	MET

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Mol	Chain	Res	Type
1	A	463	GLU
1	A	465	GLU
1	A	476	THR
1	A	486	ILE
1	A	495	ILE
1	A	514	ILE
1	A	534	LEU
1	A	544	CYS
1	A	550	LEU
1	A	577	SER
1	A	578	LEU
1	A	580	LEU
1	A	591	SER
1	A	597	GLN
1	A	614	VAL
1	A	622	SER
1	A	626	SER
1	A	628	GLU
1	A	636	GLU
1	A	644	SER
1	A	654	ASN
1	A	656	ASP
1	A	677	LEU
1	A	699	LEU
1	A	710	LEU
1	B	387	LEU
1	B	416	LEU
1	B	421	GLU
1	B	425	ASN
1	B	426	VAL
1	B	442	SER
1	B	473	THR
1	B	476	THR
1	B	485	LEU
1	B	523	GLU
1	B	528	LEU
1	B	529	ARG
1	B	534	LEU
1	B	550	LEU
1	B	563	GLU
1	B	578	LEU
1	B	580	LEU

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Mol	Chain	Res	Type
1	B	584	CYS
1	B	605	SER
1	B	614	VAL
1	B	618	LEU
1	B	626	SER
1	B	628	GLU
1	B	630	PHE
1	B	636	GLU
1	B	653	SER
1	B	658	LEU
1	B	662	SER
1	B	670	LEU
1	B	677	LEU
1	B	680	LEU
1	B	685	LEU
1	B	691	GLU
1	B	694	LEU
1	B	699	LEU
1	B	710	LEU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (16) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	392	GLN
1	A	488	GLN
1	A	597	GLN
1	A	616	GLN
1	B	296	HIS
1	B	300	ASN
1	B	425	ASN
1	B	438	HIS
1	B	472	ASN
1	B	541	ASN
1	B	543	HIS
1	B	597	GLN
1	B	603	GLN
1	B	616	GLN
1	B	646	GLN
1	B	654	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 oligosaccharides in this entry.

5.6 Ligand geometry [i](#)

There are no ligands in this entry.

5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

6 Fit of model and data [i](#)

6.1 Protein, DNA and RNA chains [i](#)

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	348/483 (72%)	-0.06	4 (1%) 78 57	35, 46, 60, 66	0
1	B	358/483 (74%)	-0.03	7 (1%) 65 41	36, 46, 55, 65	0
All	All	706/966 (73%)	-0.04	11 (1%) 70 47	35, 46, 58, 66	0

All (11) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	B	294	GLY	3.4
1	B	472	ASN	2.6
1	A	506	GLU	2.6
1	B	342	HIS	2.5
1	A	656	ASP	2.4
1	A	467	LEU	2.4
1	B	426	VAL	2.3
1	A	466	HIS	2.2
1	B	451	SER	2.1
1	B	718	GLN	2.0
1	B	715	ILE	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 oligosaccharides in this entry.

6.4 Ligands [i](#)

There are no ligands in this entry.

6.5 Other polymers [i](#)

There are no such residues in this entry.