



Full wwPDB X-ray Structure Validation Report ⓘ

Mar 8, 2026 – 11:21 AM UTC

PDB ID : 6A2A / pdb_00006a2a
Title : Crystal structure of a synthase 2 from santalum album
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Deposited on : 2018-06-09
Resolution : 1.77 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

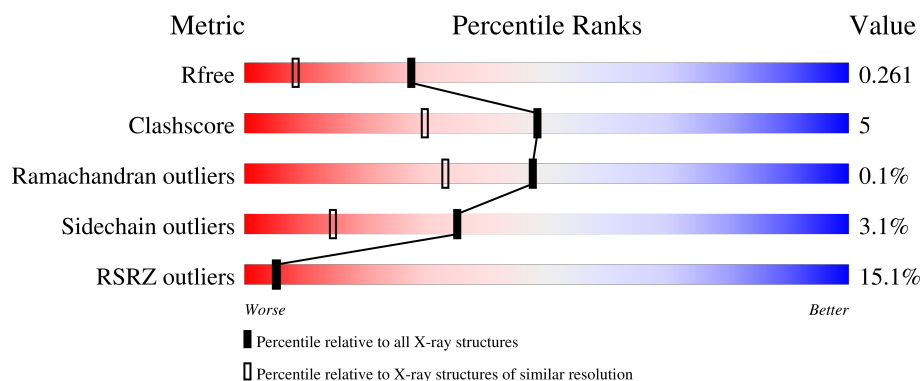
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 1.77 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	1365 (1.78-1.78)
Clashscore	190562	1395 (1.78-1.78)
Ramachandran outliers	187476	1382 (1.78-1.78)
Sidechain outliers	187428	1382 (1.78-1.78)
RSRZ outliers	180081	1365 (1.78-1.78)

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	566	4% 83% 10% 7%
1	B	566	24% 75% 16% 8%

2 Entry composition

There are 2 unique types of molecules in this entry. The entry contains 9723 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 Sesquisabinene B synthase 2.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	528	Total	C	N	O	S	0	0	0
			4329	2786	717	805	21			
1	B	520	Total	C	N	O	S	0	0	0
			4261	2749	703	789	20			

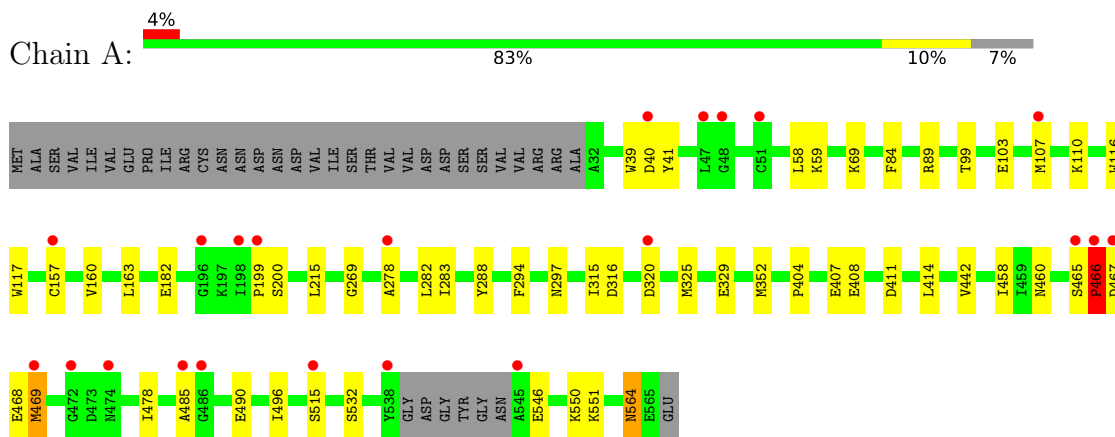
- Molecule 2 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
2	A	705	Total	O	0	0
			705	705		
2	B	428	Total	O	0	0
			428	428		

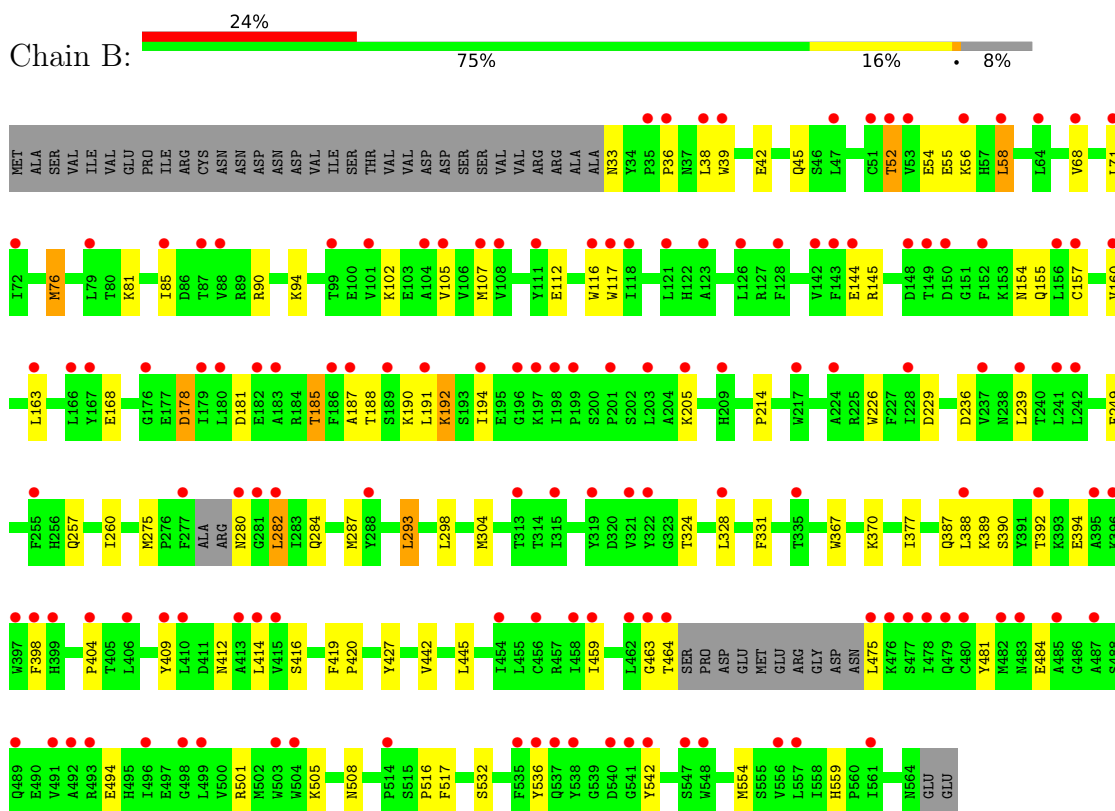
3 Residue-property plots

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: Sesquisabinene B synthase 2



• Molecule 1: Sesquisabinene B synthase 2



4 Data and refinement statistics

Property	Value	Source
Space group	P 43 21 2	Depositor
Cell constants a, b, c, α , β , γ	133.01Å 133.01Å 142.60Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	24.94 – 1.77 24.94 – 1.77	Depositor EDS
% Data completeness (in resolution range)	99.9 (24.94-1.77) 99.9 (24.94-1.77)	Depositor EDS
R_{merge}	0.05	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	1.82 (at 1.77Å)	Xtriage
Refinement program	REFMAC 5.8.0222	Depositor
R, R_{free}	0.207 , 0.251 0.217 , 0.261	Depositor DCC
R_{free} test set	6235 reflections (5.02%)	wwPDB-VP
Wilson B-factor (Å ²)	29.1	Xtriage
Anisotropy	0.020	Xtriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.33 , 46.0	EDS
L-test for twinning ²	$\langle L \rangle = 0.51$, $\langle L^2 \rangle = 0.35$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o, F_c correlation	0.95	EDS
Total number of atoms	9723	wwPDB-VP
Average B, all atoms (Å ²)	40.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 3.72% 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	1.18	13/4436 (0.3%)	1.11	9/6007 (0.1%)
1	B	0.97	4/4367 (0.1%)	1.08	6/5913 (0.1%)
All	All	1.08	17/8803 (0.2%)	1.09	15/11920 (0.1%)

All (17) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	B	168	GLU	N-CA	7.46	1.55	1.46
1	B	214	PRO	C-O	-6.44	1.16	1.23
1	A	278	ALA	C-O	6.36	1.31	1.23
1	B	293	LEU	N-CA	6.11	1.53	1.46
1	A	478	ILE	C-O	-5.99	1.17	1.24
1	B	282	LEU	C-O	-5.76	1.17	1.24
1	A	39	TRP	C-O	-5.74	1.16	1.23
1	A	316	ASP	C-O	-5.66	1.17	1.24
1	A	84	PHE	N-CA	-5.55	1.39	1.46
1	A	107	MET	N-CA	5.33	1.52	1.46
1	A	352	MET	N-CA	5.25	1.51	1.46
1	A	215	LEU	N-CA	-5.24	1.40	1.46
1	A	315	ILE	C-O	-5.24	1.17	1.24
1	A	160	VAL	C-O	5.21	1.30	1.24
1	A	460	ASN	C-O	-5.13	1.18	1.24
1	A	283	ILE	C-O	-5.11	1.18	1.24
1	A	442	VAL	C-O	-5.09	1.18	1.24

All (15) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	465	SER	CA-C-N	9.92	132.24	119.84
1	A	465	SER	C-N-CA	9.92	132.24	119.84
1	A	467	ASP	N-CA-C	-8.88	101.68	111.36
1	B	178	ASP	N-CA-C	6.74	119.64	111.82
1	A	41	TYR	N-CA-C	6.02	118.63	111.71

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	466	PRO	CA-C-N	5.81	128.54	120.29
1	A	466	PRO	C-N-CA	5.81	128.54	120.29
1	B	185	THR	CB-CA-C	5.64	121.51	110.67
1	A	200	SER	CA-C-N	5.61	125.07	119.24
1	A	200	SER	C-N-CA	5.61	125.07	119.24
1	B	377	ILE	CA-C-N	-5.56	112.88	119.05
1	B	377	ILE	C-N-CA	-5.56	112.88	119.05
1	A	69	LYS	CB-CA-C	-5.54	102.19	110.88
1	B	331	PHE	CA-CB-CG	5.17	118.97	113.80
1	B	508	ASN	CA-CB-CG	5.15	117.75	112.60

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts ⓘ

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	4329	0	4264	25	0
1	B	4261	0	4199	69	0
2	A	705	0	0	6	0
2	B	428	0	0	18	0
All	All	9723	0	8463	93	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 (93) 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:287:MET:SD	2:B:949:HOH:O	2.21	0.97
1:A:466:PRO:HA	1:A:469:MET:HB2	1.50	0.93
1:B:459:ILE:HG22	1:B:536:TYR:HD2	1.34	0.90
1:B:532:SER:HB3	1:B:536:TYR:CE2	2.06	0.89
1:B:160:VAL:HG22	1:B:194:ILE:CD1	2.07	0.85
1:A:297:ASN:HB2	2:A:1085:HOH:O	1.80	0.81

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:275:MET:HA	1:B:275:MET:HE2	1.64	0.78
1:B:387:GLN:O	1:B:390:SER:HB3	1.83	0.78
1:B:144:GLU:HG3	2:B:770:HOH:O	1.85	0.77
1:A:411:ASP:HB3	2:A:1087:HOH:O	1.89	0.73
1:B:257:GLN:O	1:B:260:ILE:HG22	1.91	0.70
1:B:52:THR:HA	2:B:868:HOH:O	1.93	0.67
1:B:160:VAL:HG22	1:B:194:ILE:HD12	1.76	0.67
1:B:144:GLU:CG	2:B:770:HOH:O	2.42	0.66
1:B:282:LEU:C	1:B:282:LEU:HD13	2.21	0.65
1:B:229:ASP:HB2	2:B:613:HOH:O	1.97	0.64
1:B:532:SER:CB	1:B:536:TYR:CE2	2.81	0.62
1:A:325:MET:O	1:A:329:GLU:HG3	1.99	0.62
1:B:459:ILE:HG22	1:B:536:TYR:CD2	2.26	0.61
1:A:485:ALA:HB2	2:A:1090:HOH:O	2.00	0.60
1:B:389:LYS:HA	1:B:392:THR:HG22	1.82	0.60
1:B:532:SER:HB3	1:B:536:TYR:HE2	1.65	0.60
1:A:550:LYS:HE3	2:A:740:HOH:O	2.00	0.59
1:A:458:ILE:HG23	1:A:496:ILE:CG2	2.34	0.58
1:B:157:CYS:HB2	1:B:190:LYS:HD2	1.84	0.58
1:A:182:GLU:CD	2:A:628:HOH:O	2.47	0.57
1:B:481:TYR:HA	1:B:484:GLU:HG3	1.85	0.57
1:A:404:PRO:HB2	1:A:408:GLU:HG3	1.87	0.57
1:B:55:GLU:HA	1:B:58:LEU:HD23	1.86	0.56
1:B:459:ILE:CG2	1:B:536:TYR:HD2	2.14	0.55
1:B:501:ARG:O	1:B:505:LYS:HG3	2.06	0.55
1:B:257:GLN:HA	1:B:260:ILE:HG22	1.87	0.55
1:A:490:GLU:H	1:A:490:GLU:CD	2.16	0.54
1:B:192:LYS:HE3	2:B:837:HOH:O	2.07	0.54
1:B:389:LYS:O	1:B:392:THR:HG22	2.09	0.53
1:B:398:PHE:HD1	1:B:475:LEU:HD11	1.73	0.52
1:B:388:LEU:C	2:B:619:HOH:O	2.53	0.52
1:B:427:TYR:CD2	1:B:442:VAL:HG21	2.45	0.52
1:B:36:PRO:HD3	2:B:839:HOH:O	2.10	0.51
1:B:394:GLU:CG	1:B:412:ASN:HD22	2.22	0.51
1:B:85:ILE:HD12	1:B:105:VAL:HG23	1.93	0.51
1:B:390:SER:OG	1:B:416:SER:HB3	2.11	0.51
1:B:554:MET:HE3	1:B:559:HIS:NE2	2.26	0.51
1:B:90:ARG:HD2	2:B:630:HOH:O	2.11	0.51
1:B:414:LEU:C	1:B:414:LEU:HD12	2.37	0.50
1:B:257:GLN:O	1:B:260:ILE:CG2	2.58	0.50
1:B:54:GLU:HB3	1:B:56:LYS:HG2	1.92	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:269:GLY:O	1:B:370:LYS:HE2	2.12	0.49
1:B:178:ASP:OD1	2:B:601:HOH:O	2.20	0.49
1:B:404:PRO:HG2	1:B:409:TYR:HB2	1.95	0.49
1:A:404:PRO:HB2	1:A:408:GLU:CG	2.43	0.49
1:B:116:TRP:CE2	1:B:117:TRP:HD1	2.31	0.48
1:A:414:LEU:C	1:A:414:LEU:HD12	2.38	0.48
1:B:160:VAL:CG2	1:B:194:ILE:HD12	2.42	0.48
1:A:468:GLU:O	1:A:468:GLU:HG3	2.12	0.48
1:B:324:THR:O	1:B:328:LEU:HG	2.13	0.48
1:B:187:ALA:O	1:B:191:LEU:HG	2.14	0.48
1:A:404:PRO:CB	1:A:408:GLU:HG3	2.44	0.47
1:B:160:VAL:HG22	1:B:194:ILE:HD13	1.92	0.47
1:B:463:GLY:O	1:B:464:THR:C	2.57	0.47
1:B:76:MET:HE1	2:B:981:HOH:O	2.14	0.47
1:A:288:TYR:HH	1:A:532:SER:HG	1.62	0.47
1:A:157:CYS:HA	1:A:163:LEU:HD11	1.97	0.47
1:B:394:GLU:CG	1:B:412:ASN:ND2	2.78	0.47
1:B:68:VAL:HA	1:B:71:LEU:HD12	1.96	0.46
1:A:551:LYS:HE3	2:A:792:HOH:O	2.15	0.46
1:B:188:THR:O	1:B:192:LYS:HG3	2.16	0.46
1:B:257:GLN:C	1:B:260:ILE:HG22	2.40	0.46
1:B:304:MET:HE1	1:B:367:TRP:CD2	2.52	0.45
1:B:205:LYS:NZ	2:B:613:HOH:O	2.50	0.45
1:A:564:ASN:O	1:A:564:ASN:CG	2.61	0.44
1:B:94:LYS:HE2	2:B:906:HOH:O	2.18	0.44
1:A:116:TRP:CE2	1:A:117:TRP:HD1	2.35	0.44
1:B:236:ASP:OD1	1:B:236:ASP:N	2.51	0.44
1:B:445:LEU:HB2	2:B:603:HOH:O	2.17	0.44
1:B:249:PHE:C	1:B:249:PHE:CD1	2.96	0.43
1:B:505:LYS:NZ	2:B:618:HOH:O	2.47	0.43
1:B:45:GLN:OE1	2:B:602:HOH:O	2.21	0.43
1:A:99:THR:O	1:A:103:GLU:HG3	2.19	0.43
1:B:39:TRP:HB3	1:B:280:ASN:OD1	2.19	0.42
1:B:163:LEU:CB	1:B:191:LEU:HD21	2.49	0.42
1:A:282:LEU:C	1:A:282:LEU:HD13	2.44	0.42
1:B:442:VAL:HG22	1:B:517:PHE:HE1	1.84	0.42
1:B:38:LEU:HD23	1:B:39:TRP:CZ3	2.55	0.42
1:B:516:PRO:HD2	2:B:864:HOH:O	2.20	0.42
1:B:205:LYS:HE2	1:B:226:TRP:CZ2	2.55	0.42
1:B:542:TYR:CD1	1:B:542:TYR:C	2.98	0.42
1:A:490:GLU:CD	1:A:490:GLU:N	2.78	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:419:PHE:N	1:B:420:PRO:CD	2.83	0.41
1:B:293:LEU:HD12	1:B:298:LEU:HB3	2.02	0.41
1:A:294:PHE:CD1	1:A:294:PHE:C	2.99	0.41
1:B:76:MET:CE	2:B:981:HOH:O	2.69	0.40
1:A:89:ARG:HD3	1:A:89:ARG:C	2.45	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	524/566 (93%)	508 (97%)	15 (3%)	1 (0%)	43	29
1	B	514/566 (91%)	495 (96%)	19 (4%)	0	100	100
All	All	1038/1132 (92%)	1003 (97%)	34 (3%)	1 (0%)	48	33

All (1) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	466	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.

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	A	474/507 (94%)	463 (98%)	11 (2%)	44	25
1	B	466/507 (92%)	448 (96%)	18 (4%)	28	8
All	All	940/1014 (93%)	911 (97%)	29 (3%)	35	14

All (29) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	40	ASP
1	A	58	LEU
1	A	59	LYS
1	A	110	LYS
1	A	199	PRO
1	A	320	ASP
1	A	407	GLU
1	A	469	MET
1	A	515	SER
1	A	546	GLU
1	A	564	ASN
1	B	33	ASN
1	B	42	GLU
1	B	52	THR
1	B	58	LEU
1	B	76	MET
1	B	81	LYS
1	B	102	LYS
1	B	107	MET
1	B	112	GLU
1	B	145	ARG
1	B	154	ASN
1	B	155	GLN
1	B	181	ASP
1	B	185	THR
1	B	192	LYS
1	B	239	LEU
1	B	284	GLN
1	B	494	GLU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (5) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	479	GLN
1	B	74	GLN
1	B	113	ASN
1	B	412	ASN
1	B	460	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

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	528/566 (93%)	0.23	22 (4%) 40 47	15, 27, 53, 94	0
1	B	520/566 (91%)	1.48	136 (26%) 1 1	20, 44, 82, 108	0
All	All	1048/1132 (92%)	0.85	158 (15%) 5 5	15, 35, 74, 108	0

All (158) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	A	466	PRO	6.5
1	A	472	GLY	6.0
1	B	475	LEU	5.5
1	A	538	TYR	5.0
1	B	186	PHE	5.0
1	A	196	GLY	4.8
1	B	406	LEU	4.7
1	B	51	CYS	4.5
1	B	277	PHE	4.4
1	B	156	LEU	4.3
1	B	462	LEU	4.3
1	B	478	ILE	4.3
1	B	536	TYR	4.2
1	B	464	THR	4.2
1	B	191	LEU	4.2
1	B	410	LEU	4.1
1	B	176	GLY	3.9
1	B	228	ILE	3.9
1	A	199	PRO	3.8
1	B	398	PHE	3.8
1	B	458	ILE	3.7
1	B	480	CYS	3.7
1	B	538	TYR	3.7
1	B	88	VAL	3.7

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Mol	Chain	Res	Type	RSRZ
1	B	395	ALA	3.7
1	B	237	VAL	3.5
1	B	415	VAL	3.5
1	B	485	ALA	3.5
1	B	198	ILE	3.5
1	A	48	GLY	3.4
1	B	143	PHE	3.4
1	B	149	THR	3.4
1	A	51	CYS	3.3
1	B	108	VAL	3.3
1	B	116	TRP	3.2
1	B	79	LEU	3.2
1	B	476	LYS	3.2
1	B	180	LEU	3.2
1	B	53	VAL	3.2
1	B	499	LEU	3.1
1	B	199	PRO	3.1
1	B	71	LEU	3.1
1	B	255	PHE	3.1
1	B	160	VAL	3.1
1	B	196	GLY	3.1
1	B	118	ILE	3.1
1	B	459	ILE	3.1
1	A	485	ALA	3.0
1	B	99	THR	3.0
1	B	36	PRO	3.0
1	B	514	PRO	3.0
1	B	397	TRP	3.0
1	A	545	ALA	3.0
1	B	556	VAL	2.9
1	A	469	MET	2.9
1	A	198	ILE	2.9
1	B	148	ASP	2.9
1	B	144	GLU	2.9
1	B	321	VAL	2.9
1	B	187	ALA	2.9
1	B	52	THR	2.9
1	B	491	VAL	2.9
1	B	288	TYR	2.9
1	B	281	GLY	2.9
1	B	392	THR	2.8
1	B	68	VAL	2.8

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Mol	Chain	Res	Type	RSRZ
1	A	465	SER	2.8
1	B	492	ALA	2.8
1	B	117	TRP	2.8
1	B	541	GLY	2.8
1	B	64	LEU	2.8
1	B	121	LEU	2.8
1	B	456	CYS	2.8
1	B	105	VAL	2.7
1	B	142	VAL	2.7
1	A	47	LEU	2.7
1	B	413	ALA	2.7
1	B	487	ALA	2.7
1	B	404	PRO	2.7
1	B	166	LEU	2.7
1	B	496	ILE	2.7
1	B	535	PHE	2.7
1	B	157	CYS	2.7
1	B	163	LEU	2.7
1	B	47	LEU	2.6
1	B	242	LEU	2.6
1	B	58	LEU	2.6
1	B	409	TYR	2.6
1	B	189	SER	2.6
1	B	540	ASP	2.5
1	B	152	PHE	2.5
1	B	280	ASN	2.5
1	B	542	TYR	2.5
1	B	224	ALA	2.5
1	B	39	TRP	2.5
1	B	399	HIS	2.5
1	B	537	GLN	2.5
1	B	72	ILE	2.5
1	B	56	LYS	2.5
1	B	503	TRP	2.5
1	B	282	LEU	2.5
1	B	388	LEU	2.5
1	B	123	ALA	2.5
1	B	85	ILE	2.5
1	A	467	ASP	2.4
1	B	38	LEU	2.4
1	B	111	TYR	2.4
1	B	396	LYS	2.4

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Mol	Chain	Res	Type	RSRZ
1	B	463	GLY	2.4
1	B	414	LEU	2.4
1	B	548	TRP	2.4
1	B	315	ILE	2.4
1	A	320	ASP	2.3
1	B	205	LYS	2.3
1	B	322	TYR	2.3
1	B	182	GLU	2.3
1	B	150	ASP	2.3
1	B	126	LEU	2.3
1	B	328	LEU	2.3
1	B	504	TRP	2.3
1	B	201	PRO	2.3
1	B	479	GLN	2.3
1	B	128	PHE	2.3
1	B	217	TRP	2.2
1	A	474	ASN	2.2
1	B	319	TYR	2.2
1	B	179	ILE	2.2
1	B	493	ARG	2.2
1	A	157	CYS	2.2
1	A	515	SER	2.2
1	B	557	LEU	2.2
1	B	194	ILE	2.2
1	B	561	ILE	2.2
1	B	101	VAL	2.2
1	B	241	LEU	2.2
1	B	547	SER	2.2
1	B	482	MET	2.1
1	B	183	ALA	2.1
1	B	239	LEU	2.1
1	A	107	MET	2.1
1	B	107	MET	2.1
1	B	35	PRO	2.1
1	B	335	THR	2.1
1	B	167	TYR	2.1
1	B	454	ILE	2.1
1	A	278	ALA	2.1
1	B	209	HIS	2.1
1	B	104	ALA	2.1
1	B	489	GLN	2.1
1	B	203	LEU	2.1

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Mol	Chain	Res	Type	RSRZ
1	B	313	THR	2.1
1	B	197	LYS	2.1
1	B	498	GLY	2.0
1	B	483	ASN	2.0
1	A	40	ASP	2.0
1	B	87	THR	2.0
1	A	486	GLY	2.0
1	B	477	SER	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.