Full wwPDB X-ray Structure Validation Report ⓘ

May 29, 2020 – 04:27 am BST

PDB ID	:	4B8B
Title	:	N-Terminal domain of the yeast Not1
Authors	:	Basquin, J.; Conti, E.
Deposited on	:	2012-08-26
Resolution	:	2.80 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 following versions of software and data (see references ⓘ) were used in the production of this report:

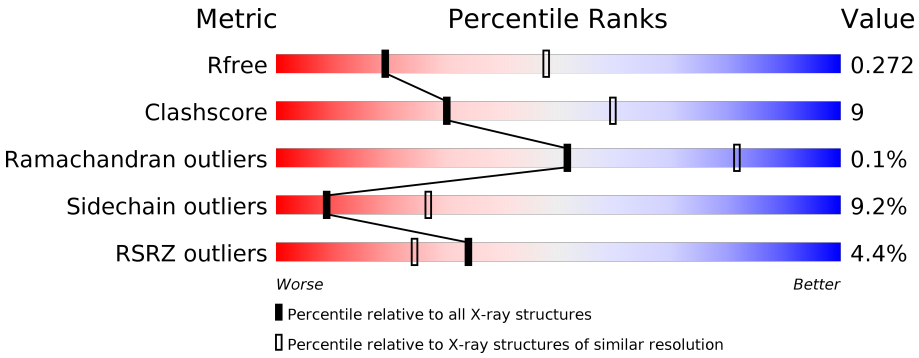
MolProbity	:	4.02b-467
Xtriage (Phenix)	:	1.13
EDS	:	2.11
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac	:	5.8.0158
CCP4	:	7.0.044 (Gargrove)
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.11

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 2.80 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	3140 (2.80-2.80)
Clashscore	141614	3569 (2.80-2.80)
Ramachandran outliers	138981	3498 (2.80-2.80)
Sidechain outliers	138945	3500 (2.80-2.80)
RSRZ outliers	127900	3078 (2.80-2.80)

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 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 <=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	603	3% 63% 23% • 12%
1	B	603	4% 63% 23% • 12%

The following table lists non-polymeric compounds, carbohydrate monomers and non-standard residues in protein, DNA, RNA chains that are outliers for geometric or electron-density-fit criteria:

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
2	AU	A	1750	-	-	-	X
2	AU	B	1751	-	-	-	X
2	AU	B	1800	-	-	-	X

2 Entry composition

There are 2 unique types of molecules in this entry. The entry contains 8410 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 GENERAL NEGATIVE REGULATOR OF TRANSCRIPTION SUBUNIT 1.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	528	Total	C	N	O	S	0	0	0
			4179	2705	680	776	18			
1	B	529	Total	C	N	O	S	0	0	0
			4202	2716	687	781	18			

- Molecule 2 is GOLD ION (three-letter code: AU) (formula: Au).

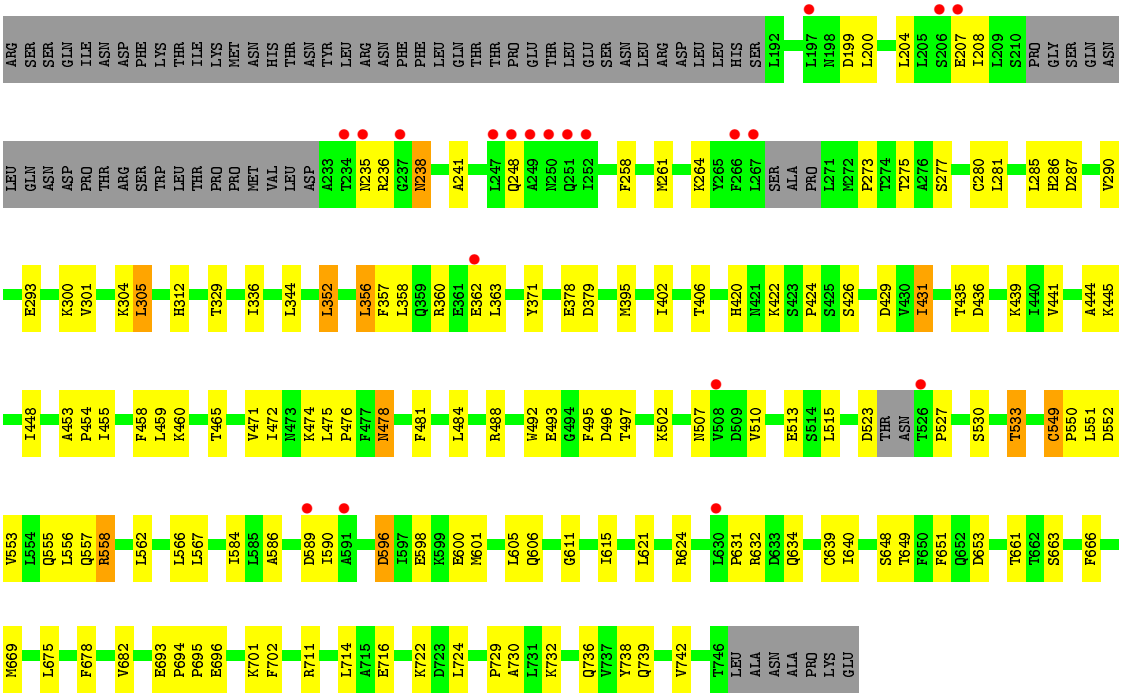
Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
2	B	14	Total	Au	0	0
			14	14		
2	A	15	Total	Au	0	0
			15	15		

3 Residue-property plots (i)

These plots are drawn for all protein, RNA and DNA 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.

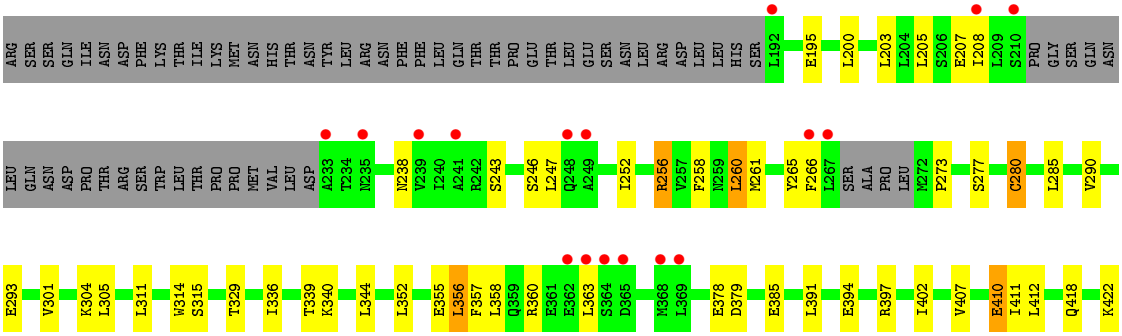
• Molecule 1: GENERAL NEGATIVE REGULATOR OF TRANSCRIPTION SUBUNIT 1

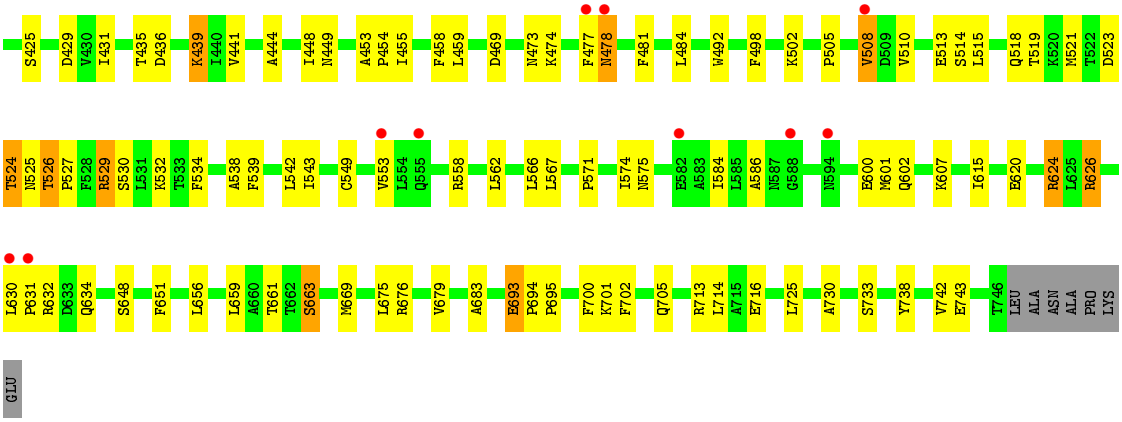
Chain A:



• Molecule 1: GENERAL NEGATIVE REGULATOR OF TRANSCRIPTION SUBUNIT 1

Chain B:




S425 D429 V430 I431 T435 D436 K439 I440 V441 A444 I448 N449 A453 P454 I455 F458 L459 D469 N473 K474 F477 N478 F481 L484 W492 F498 K502 P505 V508 D509 V510 E513 S514 L515 Q518 T519 K520 M521 T522 D523
T524 N525 T526 P527 F528 R529 S530 L531 K532 T533 F534 A538 F539 L542 I543 C549 V553 L554 Q555 R558 L562 L566 L567 P571 I574 N575 E582 A583 I584 L585 A586 N587 G588 N594 E600 M601 Q602 K607 I615 E620 R624 L625 R626
L630 P631 R632 D633 Q634 S648 F651 L656 L659 A660 T661 T662 S663 M669 L675 R676 V679 A683 E693 P694 P695 F700 K701 F702 Q705 R713 L714 A715 E716 L725 A730 S733 Y738 V742 E743 T746 LEU ALA ASN ALA PRO LYS
GLU

4 Data and refinement statistics (i)

Property	Value	Source
Space group	P 1 21 1	Depositor
Cell constants a, b, c, α, β, γ	55.10Å 164.51Å 86.14Å 90.00° 100.05° 90.00°	Depositor
Resolution (Å)	46.05 – 2.80 46.05 – 2.80	Depositor EDS
% Data completeness (in resolution range)	99.7 (46.05-2.80) 99.8 (46.05-2.80)	Depositor EDS
R_{merge}	0.05	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	3.36 (at 2.81Å)	Xtriage
Refinement program	PHENIX (PHENIX.REFINE)	Depositor
R, R_{free}	0.238 , 0.276 0.235 , 0.272	Depositor DCC
R_{free} test set	1855 reflections (5.01%)	wwPDB-VP
Wilson B-factor (Å^2)	61.4	Xtriage
Anisotropy	0.607	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.37 , 64.4	EDS
L-test for twinning[2]	$< \|L\| > = 0.48$, $< L^2 > = 0.31$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o,F_c correlation	0.93	EDS
Total number of atoms	8410	wwPDB-VP
Average B, all atoms (Å^2)	59.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 4.52% of the height of the origin peak. No significant pseudotranslation is detected.*

[1] Intensities estimated from amplitudes.

[2] Theoretical values of $< |L| >$, $< L^2 >$ for acentric reflections are 0.5, 0.333 respectively for untwinned datasets, and 0.375, 0.2 for perfectly twinned datasets.

5 Model quality

5.1 Standard geometry

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

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	0.47	0/4257	0.64	0/5768
1	B	0.45	0/4281	0.63	0/5800
All	All	0.46	0/8538	0.64	0/11568

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	1

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

All (1) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	A	264	LYS	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	4179	0	4197	75	0
1	B	4202	0	4235	85	0
2	A	15	0	0	0	0
2	B	14	0	0	0	0
All	All	8410	0	8432	157	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 9.

All (157) 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:575:ASN:ND2	1:B:634:GLN:OE1	2.10	0.83
1:A:533:THR:HG21	1:A:590:ILE:HD13	1.60	0.83
1:A:455:ILE:HG23	1:A:458:PHE:HB3	1.66	0.76
1:B:478:ASN:HB2	1:B:510:VAL:HG11	1.71	0.71
1:B:336:ILE:HD11	1:B:429:ASP:HB3	1.73	0.70
1:A:357:PHE:O	1:A:360:ARG:HG3	1.93	0.69
1:A:208:ILE:HG23	1:A:273:PRO:HG3	1.77	0.65
1:A:600:GLU:OE1	1:A:632:ARG:NH2	2.29	0.65
1:B:205:LEU:HD11	1:B:266:PHE:HA	1.78	0.65
1:B:626:ARG:HG3	1:B:676:ARG:HH21	1.62	0.65
1:A:286:HIS:ND1	1:A:287:ASP:OD1	2.29	0.65
1:B:357:PHE:O	1:B:360:ARG:HG3	1.96	0.64
1:A:693:GLU:HG3	1:A:694:PRO:HD2	1.80	0.63
1:A:562:LEU:O	1:A:566:LEU:HB2	1.98	0.62
1:B:513:GLU:HG2	1:B:558:ARG:HH22	1.63	0.62
1:B:455:ILE:HG23	1:B:458:PHE:HB3	1.82	0.62
1:B:304:LYS:NZ	1:B:355:GLU:OE2	2.33	0.61
1:B:701:LYS:O	1:B:705:GLN:HG3	2.00	0.61
1:B:258:PHE:HA	1:B:261:MET:HE3	1.83	0.60
1:B:669:MET:HB3	1:B:675:LEU:HD13	1.82	0.60
1:B:410:GLU:HG3	1:B:411:ILE:HD13	1.83	0.60
1:A:357:PHE:CE1	1:A:360:ARG:HD3	2.37	0.59
1:B:444:ALA:O	1:B:448:ILE:HG12	2.02	0.59
1:A:527:PRO:HB2	1:B:524:THR:HA	1.83	0.59
1:A:653:ASP:HA	1:B:378:GLU:HG2	1.85	0.58
1:A:513:GLU:HG2	1:A:558:ARG:HH22	1.69	0.58
1:B:693:GLU:HG3	1:B:694:PRO:HD2	1.85	0.58
1:A:441:VAL:HG22	1:A:471:VAL:HG22	1.85	0.57
1:A:472:ILE:HD13	1:A:492:TRP:CE2	2.39	0.57
1:A:475:LEU:HD23	1:A:476:PRO:HD2	1.87	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:344:LEU:HD11	1:B:379:ASP:HB3	1.87	0.56
1:B:586:ALA:HB3	1:B:631:PRO:HB3	1.88	0.56
1:A:621:LEU:HA	1:A:624:ARG:HH21	1.70	0.55
1:A:336:ILE:HD11	1:A:429:ASP:HB3	1.89	0.55
1:B:394:GLU:OE1	1:B:397:ARG:HD3	2.06	0.54
1:B:562:LEU:O	1:B:566:LEU:HB2	2.08	0.54
1:A:204:LEU:HD12	1:A:261:MET:HE1	1.88	0.54
1:A:305:LEU:HD13	1:A:356:LEU:HG	1.89	0.54
1:B:247:LEU:HD13	1:B:252:ILE:HD11	1.90	0.54
1:B:659:LEU:HD23	1:B:701:LYS:HZ2	1.73	0.54
1:B:340:LYS:NZ	1:B:385:GLU:OE2	2.32	0.52
1:B:441:VAL:HG21	1:B:474:LYS:HE3	1.91	0.52
1:B:675:LEU:HD23	1:B:683:ALA:HB2	1.91	0.52
1:B:256:ARG:HD2	1:B:260:LEU:HD22	1.92	0.52
1:B:243:SER:O	1:B:246:SER:HB3	2.10	0.52
1:B:626:ARG:HG3	1:B:676:ARG:NH2	2.23	0.52
1:B:527:PRO:HG2	1:B:532:LYS:NZ	2.25	0.52
1:B:481:PHE:HA	1:B:484:LEU:HG	1.93	0.51
1:B:394:GLU:OE1	1:B:397:ARG:NH1	2.44	0.51
1:A:358:LEU:HB3	1:A:402:ILE:HD11	1.94	0.50
1:A:584:ILE:HG12	1:A:634:GLN:HG2	1.93	0.50
1:A:553:VAL:O	1:A:557:GLN:HG2	2.11	0.50
1:B:663:SER:HA	1:B:702:PHE:CE1	2.45	0.50
1:A:453:ALA:HB1	1:A:454:PRO:HA	1.93	0.50
1:A:472:ILE:HG21	1:A:492:TRP:CZ2	2.47	0.50
1:B:407:VAL:O	1:B:411:ILE:HG12	2.11	0.50
1:A:484:LEU:HD22	1:A:492:TRP:CZ3	2.47	0.49
1:A:444:ALA:O	1:A:448:ILE:HG12	2.12	0.49
1:A:481:PHE:HA	1:A:484:LEU:HG	1.93	0.49
1:B:208:ILE:HG23	1:B:273:PRO:HG3	1.93	0.49
1:B:521:MET:HG2	1:B:526:THR:HG21	1.94	0.49
1:A:533:THR:CG2	1:A:590:ILE:HD13	2.38	0.49
1:A:584:ILE:HG12	1:A:634:GLN:CG	2.42	0.49
1:A:601:MET:HG3	1:A:639:CYS:SG	2.53	0.48
1:B:484:LEU:HD22	1:B:492:TRP:CZ3	2.49	0.48
1:B:469:ASP:O	1:B:473:ASN:ND2	2.45	0.48
1:B:534:PHE:HB3	1:B:538:ALA:HB3	1.96	0.48
1:A:460:LYS:HB2	1:A:460:LYS:HE3	1.69	0.47
1:B:738:TYR:O	1:B:742:VAL:HG13	2.14	0.47
1:B:305:LEU:HD13	1:B:356:LEU:HG	1.97	0.47
1:B:567:LEU:CD1	1:B:574:ILE:HG12	2.45	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:238:ASN:HA	1:A:241:ALA:HB3	1.96	0.47
1:A:615:ILE:HD11	1:A:661:THR:HG23	1.96	0.47
1:B:453:ALA:HB1	1:B:454:PRO:HA	1.96	0.47
1:A:488:ARG:HH11	1:A:495:PHE:HB3	1.79	0.47
1:B:527:PRO:HG2	1:B:532:LYS:HZ1	1.79	0.47
1:A:441:VAL:HG21	1:A:474:LYS:HE3	1.97	0.46
1:A:358:LEU:HD13	1:A:402:ILE:HD11	1.96	0.46
1:B:515:LEU:O	1:B:519:THR:HG23	2.16	0.46
1:A:301:VAL:HG11	1:A:363:LEU:HD22	1.98	0.46
1:B:513:GLU:HG2	1:B:558:ARG:NH2	2.30	0.46
1:A:663:SER:HA	1:A:702:PHE:CE1	2.51	0.46
1:A:711:ARG:HA	1:A:714:LEU:HG	1.98	0.46
1:B:412:LEU:HD23	1:B:439:LYS:HG2	1.97	0.46
1:B:529:ARG:HA	1:B:532:LYS:HB2	1.98	0.46
1:A:598:GLU:HA	1:A:601:MET:HE2	1.98	0.46
1:A:502:LYS:O	1:A:507:ASN:ND2	2.41	0.46
1:B:648:SER:HA	1:B:651:PHE:CZ	2.51	0.45
1:B:391:LEU:HD23	1:B:412:LEU:HD13	1.98	0.45
1:B:607:LYS:HE2	1:B:607:LYS:HB2	1.61	0.45
1:B:571:PRO:O	1:B:574:ILE:HG13	2.17	0.45
1:B:620:GLU:O	1:B:624:ARG:HD3	2.16	0.45
1:B:418:GLN:HE22	1:B:422:LYS:HE3	1.81	0.44
1:A:431:ILE:HG22	1:A:465:THR:HG21	1.99	0.44
1:A:344:LEU:HD11	1:A:379:ASP:HB3	2.00	0.44
1:A:527:PRO:CB	1:B:524:THR:HA	2.48	0.44
1:A:208:ILE:HD11	1:A:281:LEU:HD13	1.99	0.44
1:B:600:GLU:OE1	1:B:632:ARG:NH2	2.45	0.44
1:A:436:ASP:HB3	1:A:439:LYS:HD2	2.00	0.44
1:A:478:ASN:HB2	1:A:510:VAL:HG21	2.00	0.44
1:B:477:PHE:O	1:B:478:ASN:HB3	2.18	0.44
1:B:615:ILE:HD11	1:B:661:THR:HG23	2.00	0.44
1:B:505:PRO:HA	1:B:508:VAL:HG22	2.00	0.43
1:A:207:GLU:O	1:A:277:SER:HB2	2.18	0.43
1:A:552:ASP:HB3	1:A:555:GLN:HG3	2.00	0.43
1:A:551:LEU:HD22	1:A:555:GLN:HB3	2.01	0.43
1:B:203:LEU:O	1:B:207:GLU:HB2	2.19	0.43
1:B:695:PRO:HA	1:B:700:PHE:CG	2.52	0.43
1:A:695:PRO:HG3	1:A:730:ALA:HB1	2.00	0.43
1:A:695:PRO:O	1:A:696:GLU:HB3	2.18	0.43
1:B:301:VAL:HG11	1:B:363:LEU:HD22	1.99	0.43
1:B:584:ILE:HG12	1:B:634:GLN:CG	2.49	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:666:PHE:O	1:A:669:MET:HB2	2.19	0.43
1:B:256:ARG:O	1:B:260:LEU:HB2	2.18	0.43
1:B:656:LEU:HD22	1:B:701:LYS:HE3	2.01	0.43
1:A:596:ASP:N	1:A:596:ASP:OD1	2.41	0.43
1:B:502:LYS:HD3	1:B:502:LYS:HA	1.89	0.43
1:B:207:GLU:OE1	1:B:280:CYS:HB3	2.19	0.43
1:A:420:HIS:O	1:A:424:PRO:HG3	2.19	0.42
1:A:738:TYR:O	1:A:742:VAL:HG13	2.19	0.42
1:B:436:ASP:OD2	1:B:439:LYS:HD3	2.19	0.42
1:B:311:LEU:O	1:B:314:TRP:HB2	2.19	0.42
1:A:549:CYS:HA	1:A:550:PRO:HD3	1.90	0.42
1:A:258:PHE:CE2	1:A:293:GLU:HG3	2.54	0.42
1:B:567:LEU:HD11	1:B:574:ILE:HG12	2.01	0.42
1:A:648:SER:HA	1:A:651:PHE:CE2	2.54	0.42
1:A:290:VAL:O	1:A:293:GLU:HB3	2.19	0.42
1:A:678:PHE:O	1:A:682:VAL:HG23	2.19	0.42
1:B:205:LEU:HD21	1:B:265:TYR:O	2.20	0.42
1:A:312:HIS:NE2	1:A:378:GLU:OE1	2.37	0.42
1:A:648:SER:HA	1:A:651:PHE:CZ	2.55	0.42
1:B:584:ILE:HG12	1:B:634:GLN:HG2	2.00	0.42
1:B:714:LEU:HA	1:B:714:LEU:HD23	1.93	0.42
1:B:515:LEU:HD21	1:B:542:LEU:HD13	2.02	0.41
1:B:620:GLU:OE2	1:B:624:ARG:NH2	2.44	0.41
1:A:515:LEU:HA	1:A:515:LEU:HD23	1.81	0.41
1:B:285:LEU:HG	1:B:290:VAL:HG12	2.03	0.41
1:B:195:GLU:OE2	1:B:256:ARG:NE	2.50	0.41
1:B:514:SER:O	1:B:518:GLN:HG3	2.20	0.41
1:A:601:MET:HG2	1:A:640:ILE:HG13	2.01	0.41
1:A:724:LEU:HD23	1:A:724:LEU:HA	1.91	0.41
1:A:352:LEU:HD22	1:A:356:LEU:HD22	2.01	0.41
1:B:539:PHE:O	1:B:543:ILE:HG13	2.21	0.41
1:B:695:PRO:HG3	1:B:730:ALA:CB	2.51	0.41
1:B:358:LEU:HB3	1:B:402:ILE:HD11	2.03	0.41
1:A:621:LEU:HA	1:A:624:ARG:NH2	2.36	0.41
1:B:498:PHE:O	1:B:502:LYS:HB2	2.20	0.41
1:A:729:PRO:HA	1:A:732:LYS:HE3	2.03	0.41
1:A:732:LYS:HG2	1:A:738:TYR:CE1	2.56	0.40
1:B:713:ARG:HD2	1:B:716:GLU:OE1	2.22	0.40
1:A:696:GLU:HA	1:A:701:LYS:HE3	2.02	0.40
1:B:648:SER:HA	1:B:651:PHE:CE2	2.56	0.40
1:B:574:ILE:HA	1:B:679:VAL:HG21	2.04	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:478:ASN:HB2	1:A:510:VAL:HG11	2.04	0.40
1:A:586:ALA:HB3	1:A:631:PRO:HB3	2.03	0.40
1:A:694:PRO:HA	1:A:695:PRO:HD3	1.99	0.40
1:A:488:ARG:HH11	1:A:495:PHE:CB	2.35	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	520/603 (86%)	500 (96%)	19 (4%)	1 (0%)	47 78
1	B	523/603 (87%)	501 (96%)	22 (4%)	0	100 100
All	All	1043/1206 (86%)	1001 (96%)	41 (4%)	1 (0%)	51 81

All (1) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	611	GLY

5.3.2 Protein sidechains (i)

In the following table, the Percentiles column shows the percent sidechain outliers of the chain as a percentile score with respect to all X-ray entries followed by that with respect to entries of similar resolution.

The Analysed column shows the number of residues for which the sidechain conformation was analysed, and the total number of residues.

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
1	A	461/544 (85%)	415 (90%)	46 (10%)	7 22

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
1	B	466/544 (86%)	427 (92%)	39 (8%)	11 31
All	All	927/1088 (85%)	842 (91%)	85 (9%)	9 27

All (85) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	199	ASP
1	A	200	LEU
1	A	235	ASN
1	A	236	ARG
1	A	238	ASN
1	A	248	GLN
1	A	275	THR
1	A	280	CYS
1	A	285	LEU
1	A	300	LYS
1	A	304	LYS
1	A	305	LEU
1	A	329	THR
1	A	352	LEU
1	A	356	LEU
1	A	362	GLU
1	A	371	TYR
1	A	395	MET
1	A	406	THR
1	A	422	LYS
1	A	426	SER
1	A	431	ILE
1	A	435	THR
1	A	445	LYS
1	A	459	LEU
1	A	478	ASN
1	A	493	GLU
1	A	496	ASP
1	A	497	THR
1	A	523	ASP
1	A	530	SER
1	A	533	THR
1	A	549	CYS
1	A	556	LEU
1	A	558	ARG
1	A	567	LEU

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Mol	Chain	Res	Type
1	A	589	ASP
1	A	596	ASP
1	A	605	LEU
1	A	606	GLN
1	A	649	THR
1	A	675	LEU
1	A	716	GLU
1	A	722	LYS
1	A	736	GLN
1	A	739	GLN
1	B	200	LEU
1	B	238	ASN
1	B	256	ARG
1	B	260	LEU
1	B	277	SER
1	B	280	CYS
1	B	293	GLU
1	B	315	SER
1	B	329	THR
1	B	339	THR
1	B	352	LEU
1	B	356	LEU
1	B	410	GLU
1	B	425	SER
1	B	431	ILE
1	B	435	THR
1	B	439	LYS
1	B	449	ASN
1	B	459	LEU
1	B	478	ASN
1	B	508	VAL
1	B	523	ASP
1	B	524	THR
1	B	525	ASN
1	B	526	THR
1	B	529	ARG
1	B	530	SER
1	B	549	CYS
1	B	553	VAL
1	B	601	MET
1	B	602	GLN
1	B	624	ARG

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Mol	Chain	Res	Type
1	B	626	ARG
1	B	630	LEU
1	B	663	SER
1	B	693	GLU
1	B	725	LEU
1	B	733	SER
1	B	743	GLU

Some sidechains can be flipped to improve hydrogen bonding and reduce clashes. There are no such sidechains identified.

5.3.3 RNA

There are no RNA molecules in this entry.

5.4 Non-standard residues in protein, DNA, RNA chains

There are no non-standard protein/DNA/RNA residues in this entry.

5.5 Carbohydrates

There are no carbohydrates in this entry.

5.6 Ligand geometry

Of 29 ligands modelled in this entry, 29 are monoatomic - leaving 0 for Mogul analysis.

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

No monomer is involved in short contacts.

5.7 Other polymers

There are no such residues in this entry.

5.8 Polymer linkage issues

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, 95^{th} 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	528/603 (87%)	0.19	20 (3%)	40	30	28, 54, 98, 145	0
1	B	529/603 (87%)	0.24	27 (5%)	28	19	35, 54, 102, 169	0
All	All	1057/1206 (87%)	0.21	47 (4%)	34	24	28, 54, 101, 169	0

All (47) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	B	266	PHE	5.4
1	B	553	VAL	4.8
1	A	267	LEU	4.3
1	A	248	GLN	4.3
1	B	362	GLU	3.9
1	A	591	ALA	3.8
1	A	251	GLN	3.6
1	A	247	LEU	3.6
1	A	362	GLU	3.5
1	A	266	PHE	3.4
1	A	234	THR	3.2
1	B	631	PRO	3.2
1	B	364	SER	3.2
1	B	363	LEU	3.1
1	B	630	LEU	3.1
1	B	235	ASN	3.1
1	B	594	ASN	3.0
1	B	208	ILE	3.0
1	A	197	LEU	3.0
1	A	235	ASN	2.9
1	B	233	ALA	2.9
1	A	630	LEU	2.9
1	B	210	SER	2.8
1	A	237	GLY	2.8

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Mol	Chain	Res	Type	RSRZ
1	A	207	GLU	2.8
1	B	267	LEU	2.8
1	B	248	GLN	2.7
1	B	508	VAL	2.6
1	A	589	ASP	2.6
1	B	365	ASP	2.5
1	A	508	VAL	2.5
1	B	555	GLN	2.4
1	B	478	ASN	2.3
1	A	249	ALA	2.3
1	B	249	ALA	2.3
1	A	252	ILE	2.3
1	B	588	GLY	2.2
1	A	250	ASN	2.2
1	A	206	SER	2.2
1	A	526	THR	2.2
1	B	369	LEU	2.1
1	B	582	GLU	2.1
1	B	239	VAL	2.1
1	B	477	PHE	2.1
1	B	241	ALA	2.1
1	B	192	LEU	2.1
1	B	368	MET	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. The B-factors column lists the minimum, median, 95^{th} 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.

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
2	AU	B	1800	1/1	0.15	0.73	543,543,543,543	0
2	AU	B	1756	1/1	0.27	0.28	154,154,154,154	1
2	AU	A	1802	1/1	0.31	0.22	147,147,147,147	1
2	AU	B	1750	1/1	0.56	0.20	127,127,127,127	1
2	AU	A	1750	1/1	0.63	0.49	100,100,100,100	1
2	AU	A	1803	1/1	0.65	0.11	138,138,138,138	1
2	AU	A	1751	1/1	0.67	0.38	217,217,217,217	1
2	AU	B	1801	1/1	0.73	0.28	180,180,180,180	1
2	AU	A	1757	1/1	0.74	0.20	120,120,120,120	1
2	AU	B	1803	1/1	0.76	0.21	118,118,118,118	1
2	AU	B	1751	1/1	0.79	0.49	156,156,156,156	1
2	AU	B	1754	1/1	0.80	0.25	120,120,120,120	1
2	AU	B	1748	1/1	0.81	0.08	67,67,67,67	1
2	AU	A	1756	1/1	0.83	0.27	115,115,115,115	1
2	AU	A	1755	1/1	0.83	0.26	103,103,103,103	1
2	AU	B	1753	1/1	0.85	0.18	93,93,93,93	1
2	AU	A	1754	1/1	0.90	0.08	101,101,101,101	1
2	AU	A	1801	1/1	0.91	0.07	127,127,127,127	1
2	AU	A	1753	1/1	0.93	0.14	71,71,71,71	1
2	AU	A	1748	1/1	0.93	0.06	77,77,77,77	1
2	AU	B	1802	1/1	0.93	0.10	82,82,82,82	1
2	AU	A	1747	1/1	0.93	0.11	66,66,66,66	1
2	AU	A	1800	1/1	0.95	0.04	76,76,76,76	0
2	AU	A	1749	1/1	0.95	0.12	5,5,5,5	1
2	AU	A	1752	1/1	0.96	0.20	71,71,71,71	1
2	AU	B	1755	1/1	0.97	0.13	139,139,139,139	1
2	AU	B	1747	1/1	0.98	0.12	63,63,63,63	1
2	AU	B	1752	1/1	0.99	0.90	38,38,38,38	1
2	AU	B	1749	1/1	0.99	0.14	1,1,1,1	1

6.5 Other polymers (i)

There are no such residues in this entry.