

# Full wwPDB X-ray Structure Validation Report (i)

#### Aug 26, 2021 – 04:16 PM EDT

PDB ID	:	7LPP
Title	:	Crystal structure of Cryptococcus neoformans sterylglucosidase 1 with hit 1
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Deposited on	:	2021-02-12
Resolution	:	2.85  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 (i) symbol.

The following versions of software and data (see references (1)) were used in the production of this report:

MolProbity	:	4.02b-467
Mogul	:	1.8.5 (274361), CSD as541be (2020)
Xtriage (Phenix)	:	1.13
EDS	:	2.23.1
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)	:	2.23.1

# 1 Overall quality at a glance (i)

The following experimental techniques were used to determine the structure:  $X\text{-}RAY \, DIFFRACTION$ 

The reported resolution of this entry is 2.85 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	$egin{array}{c} { m Whole \ archive} \ (\#{ m Entries}) \end{array}$	${f Similar\ resolution}\ (\#{ m Entries,\ resolution\ range}({ m \AA}))$		
$R_{free}$	130704	3168 (2.90-2.82)		
Clashscore	141614	3438 (2.90-2.82)		
Ramachandran outliers	138981	3348 (2.90-2.82)		
Sidechain outliers	138945	3351 (2.90-2.82)		
RSRZ outliers	127900	3103 (2.90-2.82)		

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 <=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	А	797	<sup>2%</sup> 82%	10%	• 8%
1	В	797	.% <b>7</b> 9%	12%	9%
1	С	797	.% <b>82</b> %	10%	9%
1	D	797	6% 70% 209	6.	10%



# 2 Entry composition (i)

There are 5 unique types of molecules in this entry. The entry contains 23935 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.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace	
1	Δ	739	Total	С	Ν	Ο	$\mathbf{S}$	0	1	0
1	Л	152	5815	3727	993	1072	23	0	1	0
1	В	797	Total	С	Ν	Ο	S	0	1	0
1	D	121	5782	3703	991	1065	23	0		
1	C	700	Total	С	Ν	Ο	S	0	1	0
	129	5795	3712	993	1067	23	0		U	
1	1 D	710	Total	С	Ν	Ο	S	0	1	0
	(19	5716	3663	976	1054	23	0	1	0	

• Molecule 1 is a protein called Cytoplasmic protein.

There are 4 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
А	0	SER	-	expression tag	UNP J9W473
В	0	SER	-	expression tag	UNP J9W473
С	0	SER	-	expression tag	UNP J9W473
D	0	SER	-	expression tag	UNP J9W473

• Molecule 2 is 4-(hydroxymethyl)-1-[[2-(3-methoxyphenyl)-1,3-thiazol-5-yl]methyl]piperidin -4-ol (three-letter code: YAG) (formula: C<sub>17</sub>H<sub>22</sub>N<sub>2</sub>O<sub>3</sub>S) (labeled as "Ligand of Interest" by depositor).







Mol	Chain	Residues	Atoms					ZeroOcc	AltConf
2	Λ	1	Total	С	Ν	0	$\mathbf{S}$	0	0
	Л	I	23	17	2	3	1	0	0
2	В	1	Total	С	Ν	0	$\mathbf{S}$	0	0
		1	23	17	2	3	1	0	0
0	С	1	Total	С	Ν	Ο	S	0	0
	U	L	23	17	2	3	1	0	0
9	Л	1	Total	С	Ν	0	S	0	0
			23	17	2	3	1	0	





Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
3	А	1	$\begin{array}{ccc} \text{Total}  \text{C}  \text{O} \\ 6  3  3 \end{array}$	0	0
3	В	1	$\begin{array}{ccc} \text{Total} & \text{C} & \text{O} \\ 6 & 3 & 3 \end{array}$	0	0
3	В	1	$\begin{array}{ccc} \text{Total} & \text{C} & \text{O} \\ 6 & 3 & 3 \end{array}$	0	0
3	D	1	$\begin{array}{ccc} \text{Total} & \text{C} & \text{O} \\ 6 & 3 & 3 \end{array}$	0	0

• Molecule 4 is MAGNESIUM ION (three-letter code: MG) (formula: Mg).

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
4	В	1	Total Mg 1 1	0	0

• Molecule 5 is water.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
5	А	214	Total         O           214         214	0	0
5	В	177	Total O 177 177	0	0
5	С	197	Total O 197 197	0	0
5	D	122	Total O 122 122	0	0



# 3 Residue-property plots (i)

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: Cytoplasmic protein



#### VAL GLN GLN GLN GLN ASN PHE LEU ASP VAL CYS PRO GLU CYS TLE ALA

• Molecule 1: Cytoplasmic protein





# 4 Data and refinement statistics (i)

Property	Value	Source
Space group	P 1 21 1	Depositor
Cell constants	98.10Å 133.16Å 129.59Å	Donositon
a, b, c, $\alpha$ , $\beta$ , $\gamma$	$90.00^{\circ}$ $94.46^{\circ}$ $90.00^{\circ}$	Depositor
Bosolution (Å)	58.12 - 2.85	Depositor
Resolution (A)	65.49 - 2.85	EDS
% Data completeness	96.6 (58.12-2.85)	Depositor
(in resolution range)	96.4 (65.49-2.85)	EDS
$R_{merge}$	0.33	Depositor
R <sub>sym</sub>	(Not available)	Depositor
$< I/\sigma(I) > 1$	$1.95 (at 2.86 \text{\AA})$	Xtriage
Refinement program	PHENIX 1.17.1-3660	Depositor
B B.	0.191 , $0.242$	Depositor
$\mathbf{n}, \mathbf{n}_{free}$	0.191 , $0.241$	DCC
$R_{free}$ test set	3413 reflections $(4.42%)$	wwPDB-VP
Wilson B-factor $(Å^2)$	35.1	Xtriage
Anisotropy	1.119	Xtriage
Bulk solvent $k_{sol}(e/A^3), B_{sol}(A^2)$	0.35 , $61.0$	EDS
L-test for $twinning^2$	$ < L >=0.49, < L^2>=0.32$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
$F_o, F_c$ correlation	0.93	EDS
Total number of atoms	23935	wwPDB-VP
Average B, all atoms $(Å^2)$	41.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: The largest off-origin peak in the Patterson function is 3.56% of the height of the origin peak. No significant pseudotranslation is detected.

<sup>&</sup>lt;sup>2</sup>Theoretical 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.



<sup>&</sup>lt;sup>1</sup>Intensities estimated from amplitudes.

# 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: MG, YAG, GOL

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).

Mal	Chain	Bond	lengths	Bond angles		
IVIOI	Chain	RMSZ	# Z  > 5	RMSZ	# Z  > 5	
1	А	0.25	0/6001	0.42	0/8182	
1	В	0.25	0/5965	0.43	0/8130	
1	С	0.30	0/5978	0.44	0/8149	
1	D	0.29	0/5896	0.43	0/8035	
All	All	0.28	0/23840	0.43	0/32496	

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	С	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	С	311	ASP	Peptide

## 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	А	5815	0	5551	46	1
1	В	5782	0	5531	53	0
1	С	5795	0	5546	44	0
1	D	5716	0	5461	93	0
2	А	23	0	0	0	0
2	В	23	0	0	1	0
2	С	23	0	0	1	0
2	D	23	0	0	0	0
3	А	6	0	8	0	0
3	В	12	0	16	1	0
3	D	6	0	8	1	0
4	В	1	0	0	0	0
5	А	214	0	0	2	0
5	В	177	0	0	2	0
5	C	197	0	0	2	0
5	D	122	0	0	1	0
All	All	23935	0	22121	235	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 5.

All (235) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

A 4 a ma 1	Adams 9	Interatomic	Clash
Atom-1	Atom-2	distance $(\text{\AA})$	overlap (Å)
1:A:288:GLN:O	1:A:291:LYS:NZ	1.77	1.16
1:B:687:LYS:HG2	1:B:823:GLN:HG3	1.51	0.91
1:D:103:THR:HG23	1:D:106:SER:H	1.42	0.84
1:D:24:THR:HG22	1:D:26:HIS:H	1.45	0.82
1:D:128:ARG:HG2	1:D:257:LEU:HD21	1.63	0.81
1:A:43:SER:HB3	1:A:75:PRO:HB3	1.64	0.76
1:D:341:LYS:HG3	1:D:362:LEU:HB2	1.68	0.75
1:B:651:PRO:HG3	1:B:784:LEU:HD11	1.69	0.74
1:D:76:LEU:O	1:D:122:TYR:OH	2.04	0.74
1:D:480:SER:HB3	1:D:482:VAL:HG12	1.74	0.70
1:D:576:ASN:ND2	1:D:582:ASP:OD1	2.27	0.68
1:A:311:ASP:O	1:A:327:ARG:NH1	2.27	0.68
1:D:374:GLU:HB2	1:D:381:LEU:HD11	1.79	0.64
1:B:716:ALA:O	1:B:824:ARG:NH1	2.31	0.64
1:C:299:ILE:HD13	1:C:380:LEU:HD13	1.80	0.63
1:B:229:LYS:NZ	5:B:1003:HOH:O	2.32	0.62
1:D:121:ASP:HA	1:D:124:ILE:HD12	1.80	0.62
1:D:695:ARG:HG2	1:D:815:GLU:HG2	1.81	0.61



		Interatomic	Clash		
Atom-1	Atom-2	distance $(\text{\AA})$	overlap (Å)		
1:D:43:SER:HB3	1:D:75:PRO:HB3	1.83	0.61		
1:B:576:ASN:ND2	1:B:582:ASP:OD1	2.33	0.61		
1:C:638:ARG:NH1	1:D:252:GLU:OE2	2.33	0.61		
1:D:117:TYR:HD1	1:D:249:ARG:HE	1.46	0.61		
1:D:10:VAL:HG12	1:D:443:LYS:HB3	1.81	0.61		
1:D:76:LEU:HD22	1:D:83:ALA:HA	1.82	0.60		
1:C:436:LYS:NZ	5:C:1004:HOH:O	2.33	0.60		
1:D:38:ARG:HG3	1:D:668:TYR:CE2	2.37	0.60		
1:B:685:SER:HB2	1:B:687:LYS:HG3	1.83	0.58		
1:D:268:ILE:HG23	1:D:271:PRO:HG3	1.85	0.58		
1:C:521:ILE:HD11	1:C:555:SER:HB3	1.85	0.58		
1:D:513:ASN:HB2	3:D:902:GOL:H12	1.85	0.58		
1:A:22:SER:OG	1:A:446:ALA:O	2.21	0.58		
1:C:269:ASN:HA	1:C:427:GLN:HE22	1.69	0.57		
1:B:53:PRO:HG2	1:B:56:ILE:HG13	1.85	0.57		
1:C:587:GLU:OE2	2:C:901:YAG:O23	2.22	0.57		
1:D:59:GLY:O	1:D:63:THR:OG1	2.19	0.57		
1:B:717:ALA:HA	1:B:824:ARG:HH12	1.69	0.57		
1:D:113:LYS:NZ	5:D:1004:HOH:O	2.37	0.56		
1:B:430:VAL:HG12	1:B:431:LEU:HG	1.85	0.56		
1:D:281:LEU:HD12	1:D:383:PRO:HA	1.86	0.56		
1:A:180:CYS:SG	1:A:181:GLU:HG3	2.46	0.56		
1:B:122:TYR:O	1:B:126:VAL:HG23	2.07	0.56		
1:D:103:THR:HG23	1:D:106:SER:N	2.18	0.56		
1:B:559:CYS:HB3	1:B:565:LEU:HB2	1.88	0.55		
1:D:717:ALA:O	1:D:824:ARG:NH2	2.38	0.55		
1:C:59:GLY:O	1:C:63:THR:HG23	2.05	0.55		
1:D:222:PRO:HD2	1:D:370:HIS:CD2	2.41	0.55		
1:D:356:ARG:HD2	1:D:362:LEU:HD21	1.86	0.55		
1:D:799:ILE:HA	1:D:804:LEU:HA	1.89	0.55		
1:C:530:LYS:NZ	5:C:1006:HOH:O	2.38	0.55		
1:C:673:VAL:HG11	1:C:700:ALA:HB2	1.90	0.54		
1:A:52:GLN:NE2	1:A:58:GLU:O	2.41	0.54		
1:C:655:LEU:HD11	1:C:719:LEU:HD13	1.89	0.54		
1:D:789:THR:OG1	1:D:825:ASN:OD1	2.22	0.54		
1:B:113:LYS:NZ	5:B:1005:HOH:O	2.37	0.53		
1:C:42:LEU:HD12	1:C:43:SER:HB2	1.90	0.53		
1:A:248:LYS:NZ	5:A:1006:HOH:O	2.41	0.53		
1:A:42:LEU:HD12	1:A:43:SER:HB2	1.91	0.53		
1:B:22:SER:OG	1:B:446:ALA:O	2.26	0.53		
1:A:448:SER:HB3	1:A:516:THR:HG23	1.90	0.52		



Interatomic Clash					
Atom-1	Atom-2	distance (Å)	overlap (Å)		
1:A:480:SER:OG	1:A:482:VAL:HG22	2.09	0.52		
1:B:10:VAL:HA	1:B:443:LYS:HD2	1.91	0.52		
1:A:576:ASN:ND2	1:A:582:ASP:OD1	2.42	0.52		
1:D:531:LYS:NZ	1:D:537:ASP:OD2	2.42	0.52		
1:B:208:GLN:O	1:B:212:THR:OG1	2.22	0.51		
1:C:356:ARG:HD2	1:C:362:LEU:HD11	1.92	0.51		
1:C:313:GLN:NE2	1:C:327:ARG:HG2	2.26	0.51		
1:D:241:ASP:OD1	1:D:414:ARG:NH1	2.42	0.51		
1:D:377:THR:HB	1:D:379:THR:OG1	2.11	0.51		
1:A:789:THR:OG1	1:A:825:ASN:OD1	2.22	0.51		
1:D:643:VAL:HG23	1:D:648:ASP:HB3	1.93	0.51		
1:B:462[B]:HIS:ND1	1:B:528:ASP:OD1	2.42	0.50		
1:B:669:PRO:HG3	1:B:690:TYR:CZ	2.46	0.50		
1:C:307:GLY:HA2	1:C:332:PRO:HB2	1.93	0.50		
1:D:507:THR:HG21	1:D:516:THR:OG1	2.11	0.50		
1:D:578:HIS:NE2	1:D:596:ASP:OD1	2.43	0.50		
1:B:349:SER:HB3	1:B:354:TRP:O	2.11	0.50		
1:D:145:VAL:HG11	1:D:201:ASN:HB2	1.93	0.50		
1:B:797:VAL:HG12	1:B:806:TRP:CD1	2.46	0.50		
1:C:303:ARG:HB2	1:C:310:GLN:HG3	1.94	0.49		
1:B:15:VAL:HB	1:B:19:TYR:CG	2.46	0.49		
1:A:505:GLN:HA	1:A:508:ILE:HG22	1.94	0.49		
1:C:338:TRP:HZ2	1:C:365:CYS:HG	1.60	0.49		
1:C:145:VAL:O	1:C:150:THR:OG1	2.29	0.49		
1:D:667:PRO:HB3	1:D:710:LEU:HD23	1.93	0.49		
1:A:338:TRP:CE2	1:A:365:CYS:HA	2.48	0.49		
1:D:22:SER:OG	1:D:446:ALA:O	2.30	0.49		
1:D:281:LEU:HB2	1:D:380:LEU:HD21	1.94	0.49		
1:A:442:LEU:HD22	1:A:446:ALA:HB2	1.95	0.48		
1:B:229:LYS:HE2	1:B:234:PHE:HA	1.94	0.48		
1:D:368:ALA:CB	1:D:375:ILE:HD11	2.43	0.48		
1:D:795:GLY:HA3	1:D:808:TYR:HA	1.95	0.48		
1:B:388:THR:HB	1:B:393:PRO:HA	1.95	0.48		
1:D:339:LEU:O	1:D:363:GLY:N	2.46	0.48		
1:A:500:LEU:HD23	1:A:558:ALA:HB1	1.96	0.48		
1:D:476:LYS:N	1:D:476:LYS:HD2	2.28	0.48		
1:B:68:LYS:N	1:B:68:LYS:HD2	2.29	0.48		
1:B:505:GLN:HG3	1:B:509:ASP:OD1	2.14	0.48		
1:C:576:ASN:ND2	1:C:582:ASP:OD1	2.46	0.48		
1:A:695:ARG:HG2	1:A:815:GLU:HB3	1.95	0.48		
1:A:129:LYS:O	1:A:133:TRP:HD1	1.97	0.48		



		Interatomic	Clash	
Atom-1	Atom-2	distance (Å)	overlap (Å)	
1:B:587:GLU:OE2	2:B:901:YAG:O23	2.32	0.48	
1:C:222:PRO:HD2	1:C:370:HIS:CD2	2.49	0.48	
1:C:22:SER:OG	1:C:446:ALA:O	2.31	0.47	
1:B:145:VAL:HG11	1:B:201:ASN:HB2	1.96	0.47	
1:B:341:LYS:HG2	1:B:362:LEU:HB2	1.95	0.47	
1:B:42:LEU:HD12	1:B:43:SER:HB2	1.96	0.47	
1:C:311:ASP:OD1	1:C:329:THR:HA	2.15	0.47	
1:C:42:LEU:HD21	1:C:76:LEU:HD11	1.97	0.47	
1:B:713:VAL:O	1:B:831:ARG:NH1	2.48	0.47	
1:D:50:ASN:ND2	1:D:72:ILE:O	2.40	0.47	
1:B:384:ASP:HB2	1:B:387:SER:OG	2.15	0.47	
1:D:556:MET:HB3	1:D:666:ARG:HD2	1.96	0.47	
1:D:570:TRP:HD1	1:D:589:LEU:HD22	1.80	0.47	
1:D:419:HIS:CG	1:D:422:SER:HB2	2.50	0.47	
1:B:163:CYS:HB3	1:B:213:PHE:CE2	2.48	0.46	
1:D:388:THR:OG1	1:D:389:LEU:N	2.47	0.46	
1:C:313:GLN:OE1	1:C:325:GLY:N	2.48	0.46	
1:D:24:THR:HG22	1:D:26:HIS:N	2.23	0.46	
1:D:493:ARG:HG2	1:D:554:CYS:HB2	1.96	0.46	
1:D:222:PRO:HD2	1:D:370:HIS:HD2	1.81	0.46	
1:B:658:SER:HB2	1:B:661:VAL:HB	1.98	0.46	
1:D:790:ILE:HG23	1:D:822:VAL:HG22	1.97	0.46	
1:B:419:HIS:CG	1:B:422:SER:HB2	2.51	0.46	
1:D:239:PHE:O	1:D:243:VAL:HG22	2.16	0.46	
1:A:669:PRO:HG3	1:A:690:TYR:CZ	2.51	0.46	
1:D:296:PRO:HB3	1:D:312:VAL:HG11	1.98	0.46	
1:B:341:LYS:HE2	1:B:362:LEU:H	1.81	0.45	
1:D:462[B]:HIS:ND1	1:D:528:ASP:OD1	2.48	0.45	
1:D:525:TYR:O	1:D:548:GLN:NE2	2.45	0.45	
1:A:800:GLN:HG2	1:A:805:ARG:HH12	1.81	0.45	
1:B:797:VAL:HB	1:B:804:LEU:HD11	1.98	0.45	
1:C:103:THR:HG22	1:C:142:HIS:O	2.16	0.45	
1:A:65:GLU:OE1	1:A:351:LYS:NZ	2.49	0.45	
1:A:86:HIS:ND1	1:A:572:TYR:OH	2.36	0.45	
1:A:311:ASP:OD2	1:A:329:THR:OG1	2.34	0.45	
1:A:531:LYS:HA	1:A:536:VAL:HG22	1.99	0.45	
1:D:38:ARG:HD3	1:D:567:TYR:CZ	2.52	0.45	
1:A:570:TRP:HA	1:A:571:ASN:HA	1.80	0.45	
1:D:467:ASN:HB2	1:D:492:ILE:HD13	1.99	0.45	
1:D:496:ILE:O	1:D:500:LEU:HD12	2.17	0.45	
1:D:42:LEU:HB2	1:D:98:LEU:HD22	1.99	0.45	



		Interatomic	Clash	
Atom-1	Atom-2	distance (Å)	overlap (Å)	
1:C:145:VAL:HG11	1:C:201:ASN:HB2	1.98	0.44	
1:C:4:PRO:HG2	1:C:32:GLY:HA2	1.99	0.44	
1:A:303:ARG:HD3	1:A:378:SER:HB3	1.99	0.44	
1:B:42:LEU:HA	1:B:43:SER:HB2	2.00	0.44	
1:B:59:GLY:O	1:B:63:THR:HG23	2.17	0.44	
1:B:194:PRO:HB2	1:B:197:ILE:HB	2.00	0.44	
1:C:39:GLY:HA3	1:C:97:LEU:O	2.18	0.44	
1:D:10:VAL:HG12	1:D:443:LYS:CB	2.48	0.44	
1:D:41:ASN:OD1	1:D:99:ARG:HD3	2.18	0.44	
1:C:374:GLU:HB2	1:C:381:LEU:HD11	2.00	0.43	
1:A:590:SER:O	1:A:659:ARG:NH2	2.48	0.43	
1:B:556:MET:HB3	1:B:666:ARG:HD2	2.00	0.43	
1:B:373:TRP:HA	1:B:381:LEU:HG	2.00	0.43	
1:D:91:LYS:HD2	1:D:91:LYS:HA	1.83	0.43	
1:D:173:THR:HG21	1:D:337:LEU:HB2	2.01	0.43	
1:D:145:VAL:HB	1:D:207:ASN:ND2	2.33	0.43	
1:D:797:VAL:HG12	1:D:806:TRP:CD1	2.52	0.43	
1:C:66:ALA:HB3	1:C:68:LYS:HG2	2.00	0.43	
1:C:338:TRP:CE2	1:C:365:CYS:HA	2.54	0.43	
1:C:42:LEU:HA	1:C:43:SER:HB2	2.00	0.43	
1:D:78:LEU:HD11	1:D:126:VAL:HG22	2.01	0.43	
1:D:115:TYR:HB3	1:D:120:MET:HE1	2.00	0.43	
1:C:339:LEU:O	1:C:362:LEU:HB3	2.18	0.43	
1:D:121:ASP:OD2	1:D:249:ARG:NH1	2.52	0.43	
1:D:449:SER:HA	1:D:517:LEU:O	2.18	0.43	
1:D:692:VAL:O	1:D:817:VAL:HA	2.18	0.43	
1:D:412:SER:HB2	1:D:424:HIS:NE2	2.33	0.43	
1:B:338:TRP:NE1	1:B:365:CYS:HA	2.33	0.42	
1:C:419:HIS:CG	1:C:422:SER:HB2	2.54	0.42	
1:A:145:VAL:HG11	1:A:201:ASN:HB2	2.00	0.42	
1:A:222:PRO:HD2	1:A:370:HIS:CD2	2.53	0.42	
1:A:281:LEU:HD21	1:A:386:PHE:HD2	1.83	0.42	
1:C:94:GLY:O	1:C:668:TYR:OH	2.28	0.42	
1:D:786:LEU:HD12	1:D:799:ILE:HD13	2.00	0.42	
1:C:161:TYR:HD1	1:C:339:LEU:HD11	1.85	0.42	
1:C:478:TYR:HB3	1:C:480:SER:O	2.19	0.42	
1:B:451:HIS:CG	1:B:520:GLU:HB2	2.55	0.42	
1:B:577:VAL:O	1:B:581:GLY:N	2.49	0.42	
1:C:115:TYR:CE2	1:C:245:GLU:HG3	2.54	0.42	
1:A:229:LYS:NZ	5:A:1011:HOH:O	2.52	0.42	
1:A:462[B]:HIS:HA	1:A:527:MET:HE3	2.02	0.42	



		Interatomic	Clash	
Atom-1	Atom-2	distance (Å)	overlap (Å)	
1:B:640:SER:O	1:B:643:VAL:HG22	2.20	0.42	
1:B:661:VAL:HA	1:B:664:PHE:CE2	2.55	0.42	
1:C:661:VAL:HA	1:C:664:PHE:CE2	2.54	0.42	
1:D:116:ASP:O	1:D:120:MET:HG3	2.20	0.42	
1:D:649:PHE:O	1:D:784:LEU:HD22	2.20	0.42	
1:A:85:LEU:HD12	1:A:85:LEU:HA	1.91	0.42	
1:D:289:GLN:HG3	1:D:431:LEU:HD13	2.02	0.42	
1:D:450:PRO:HG2	1:D:503:LEU:HD23	2.01	0.42	
1:A:702:GLU:HA	1:A:807:TRP:CD1	2.55	0.42	
1:D:273:GLU:HG2	1:D:399:PHE:CE2	2.55	0.42	
1:D:333:LYS:HB2	1:D:333:LYS:HE3	1.72	0.42	
1:D:368:ALA:HB2	1:D:373:TRP:CD1	2.55	0.42	
1:D:667:PRO:HG3	1:D:715:TYR:OH	2.19	0.42	
1:C:388:THR:OG1	1:C:395:HIS:O	2.22	0.42	
1:B:94:GLY:HA3	1:B:709:TYR:CE2	2.55	0.41	
1:A:419:HIS:ND1	1:A:422:SER:HB2	2.35	0.41	
1:B:830:ARG:HD3	1:B:830:ARG:HA	1.78	0.41	
1:C:47:LYS:HE2	1:C:142:HIS:NE2	2.35	0.41	
1:D:119:TYR:CE2	1:D:123:ILE:HD11	2.55	0.41	
1:B:299:ILE:HD12	1:B:299:ILE:HA	1.88	0.41	
1:D:338:TRP:CE2	1:D:365:CYS:HA	2.56	0.41	
1:B:690:TYR:CE2	1:B:692:VAL:HG22	2.55	0.41	
1:B:513:ASN:H	3:B:903:GOL:H12	1.86	0.41	
1:C:288:GLN:O	1:C:291:LYS:HE3	2.20	0.41	
1:B:449:SER:HA	1:B:517:LEU:O	2.20	0.41	
1:D:439:GLU:OE1	1:D:444:GLY:N	2.53	0.41	
1:B:467:ASN:O	1:B:485:VAL:HA	2.21	0.41	
1:D:577:VAL:HG23	1:D:580:TRP:H	1.84	0.41	
1:D:591:LEU:HB3	1:D:664:PHE:CE2	2.56	0.41	
1:A:710:LEU:HD22	1:A:822:VAL:HG11	2.02	0.41	
1:B:573:VAL:H	1:B:590:SER:HB2	1.85	0.41	
1:A:281:LEU:HD21	1:A:386:PHE:CD2	2.55	0.41	
1:A:303:ARG:NH1	1:A:378:SER:O	2.54	0.41	
1:A:527:MET:CE	1:A:547:SER:HB3	2.51	0.41	
1:A:563:ASN:HB3	1:A:565:LEU:HG	2.03	0.41	
1:A:800:GLN:HG3	1:A:803:THR:HB	2.03	0.41	
1:C:374:GLU:O	1:C:378:SER:N	2.52	0.41	
1:C:431:LEU:HD22	1:C:474:ILE:HD12	2.01	0.41	
1:D:103:THR:HG1	1:D:105:GLU:H	1.69	0.41	
1:D:406:LEU:HA	1:D:409:LEU:HD12	2.03	0.41	
1:D:650:SER:OG	1:D:652:THR:HG23	2.21	0.41	



Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:442:LEU:HD22	1:A:446:ALA:CB	2.51	0.41
1:D:368:ALA:HB2	1:D:373:TRP:NE1	2.36	0.41
1:A:287:GLU:O	1:A:289:GLN:NE2	2.54	0.40
1:D:205:LEU:HD22	1:D:301:GLY:O	2.21	0.40
1:D:340:SER:HG	1:D:343:ASP:H	1.59	0.40
1:A:220:TYR:CE1	1:A:386:PHE:HA	2.57	0.40
1:C:43:SER:HB3	1:C:75:PRO:HB3	2.03	0.40
1:D:690:TYR:CZ	1:D:692:VAL:HG22	2.56	0.40
1:D:493:ARG:HA	1:D:554:CYS:SG	2.62	0.40
1:A:384:ASP:HB2	1:A:387:SER:OG	2.20	0.40
1:A:416:ARG:HA	1:A:419:HIS:O	2.21	0.40
1:D:120:MET:O	1:D:124:ILE:HG13	2.21	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:A:324:ARG:NH1	$1:A:783:GLN:OE1[2_546]$	2.17	0.03

### 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	Perce	entiles
1	А	729/797~(92%)	699 (96%)	28 (4%)	2(0%)	41	68
1	В	722/797~(91%)	691 (96%)	29~(4%)	2(0%)	41	68
1	С	724/797~(91%)	692 (96%)	32~(4%)	0	100	100
1	D	712/797~(89%)	677~(95%)	31 (4%)	4 (1%)	25	53
All	All	2887/3188~(91%)	2759 (96%)	120 (4%)	8 (0%)	41	68

All (8) Ramachandran outliers are listed below:



Mol	Chain	Res	Type
1	D	800	GLN
1	А	454	ASP
1	D	454	ASP
1	D	799	ILE
1	В	560	ASP
1	D	801	GLY
1	А	69	GLY
1	В	69	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	Perce	ntiles
1	А	610/670~(91%)	605~(99%)	5 (1%)	81	93
1	В	608/670~(91%)	601~(99%)	7 (1%)	71	89
1	С	609/670~(91%)	602~(99%)	7 (1%)	73	90
1	D	601/670~(90%)	590~(98%)	11 (2%)	59	82
All	All	2428/2680 (91%)	2398~(99%)	30 (1%)	71	89

All (30) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	А	8	SER
1	А	291	LYS
1	А	422	SER
1	А	547	SER
1	А	659	ARG
1	В	191	GLN
1	В	422	SER
1	В	432	ARG
1	В	448	SER
1	В	640	SER
1	В	659	ARG
1	В	695	ARG
1	С	8	SER
1	С	267	SER



Mol	Chain	Res	Type
1	С	467	ASN
1	С	637	LEU
1	С	650	SER
1	С	659	ARG
1	С	830	ARG
1	D	8	SER
1	D	38	ARG
1	D	91	LYS
1	D	260	GLU
1	D	311	ASP
1	D	346	LYS
1	D	517	LEU
1	D	540	ARG
1	D	640	SER
1	D	645	ASP
1	D	659	ARG

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (3) such sidechains are listed below:

Mol	Chain	Res	Type
1	В	31	ASN
1	С	396	GLN
1	D	328	GLN

#### 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)

Of 9 ligands modelled in this entry, 1 is monoatomic - leaving 8 for Mogul analysis.



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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).

Mal	Turne	Chain	Dec	Tink	Bo	ond leng	ths	В	ond ang	gles
IVIOI	туре	Unam	nes		Counts	RMSZ	# Z >2	Counts	RMSZ	# Z  > 2
2	YAG	В	901	-	23,25,25	4.87	8 (34%)	19,35,35	2.68	6 (31%)
3	GOL	В	903	-	$5,\!5,\!5$	0.93	0	5,5,5	0.96	0
3	GOL	D	902	-	$5,\!5,\!5$	0.90	0	$5,\!5,\!5$	1.03	0
2	YAG	А	901	-	23,25,25	4.83	8 (34%)	19,35,35	1.55	5 (26%)
2	YAG	С	901	-	23,25,25	4.82	8 (34%)	19,35,35	1.66	5 (26%)
3	GOL	В	902	-	$5,\!5,\!5$	0.87	0	$5,\!5,\!5$	0.96	0
3	GOL	А	902	-	$5,\!5,\!5$	0.96	0	$5,\!5,\!5$	0.97	0
2	YAG	D	901	-	23,25,25	4.89	8 (34%)	19,35,35	2.72	6 (31%)

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
2	YAG	В	901	-	-	2/12/25/25	0/3/3/3
3	GOL	В	903	-	-	3/4/4/4	-
3	GOL	D	902	-	-	0/4/4/4	-
2	YAG	А	901	-	-	2/12/25/25	1/3/3/3
2	YAG	С	901	-	-	2/12/25/25	1/3/3/3
3	GOL	В	902	-	-	2/4/4/4	-
3	GOL	А	902	-	-	0/4/4/4	-
2	YAG	D	901	-	-	1/12/25/25	0/3/3/3

All (32) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	С	901	YAG	C14-N15	-14.08	1.20	1.47
2	А	901	YAG	C14-N15	-14.06	1.20	1.47
2	D	901	YAG	C14-N15	-13.98	1.20	1.47
2	В	901	YAG	C14-N15	-13.90	1.20	1.47
2	В	901	YAG	C19-C18	-9.38	1.43	1.52
2	D	901	YAG	C19-C18	-9.04	1.44	1.52



Mol	Chain	Res	Type	Atoms	$\mathbf{Z}$	Observed(Å)	Ideal(Å)
2	А	901	YAG	C19-C18	-8.56	1.44	1.52
2	С	901	YAG	C19-C18	-8.40	1.44	1.52
2	D	901	YAG	C12-N13	8.26	1.48	1.36
2	А	901	YAG	C12-N13	8.20	1.48	1.36
2	С	901	YAG	C12-N13	8.20	1.48	1.36
2	D	901	YAG	C01-S10	-8.10	1.62	1.73
2	В	901	YAG	C12-N13	8.10	1.48	1.36
2	А	901	YAG	C01-S10	-8.00	1.62	1.73
2	С	901	YAG	C01-S10	-7.97	1.62	1.73
2	В	901	YAG	C01-S10	-7.78	1.62	1.73
2	D	901	YAG	C11-S10	-6.66	1.59	1.73
2	С	901	YAG	C11-S10	-6.60	1.60	1.73
2	А	901	YAG	C11-S10	-6.56	1.60	1.73
2	В	901	YAG	C11-S10	-6.52	1.60	1.73
2	В	901	YAG	C17-C18	-6.34	1.46	1.52
2	D	901	YAG	C17-C18	-6.21	1.46	1.52
2	С	901	YAG	C17-C18	-6.12	1.47	1.52
2	А	901	YAG	C17-C18	-5.94	1.47	1.52
2	В	901	YAG	C01-N13	5.91	1.40	1.31
2	А	901	YAG	C01-N13	5.90	1.40	1.31
2	D	901	YAG	C01-N13	5.86	1.39	1.31
2	С	901	YAG	C01-N13	5.82	1.39	1.31
2	D	901	YAG	O23-C18	3.30	1.50	1.44
2	А	901	YAG	O23-C18	3.10	1.49	1.44
2	В	901	YAG	O23-C18	3.09	1.49	1.44
2	С	901	YAG	O23-C18	2.93	1.49	1.44

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All (22) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	$Observed(^{o})$	$Ideal(^{o})$
2	D	901	YAG	C19-C18-C17	7.82	118.99	109.85
2	В	901	YAG	C19-C18-C17	7.40	118.50	109.85
2	В	901	YAG	O23-C18-C17	5.58	121.48	108.19
2	D	901	YAG	O23-C18-C17	5.31	120.85	108.19
2	D	901	YAG	O23-C18-C19	4.77	119.57	108.19
2	В	901	YAG	O23-C18-C19	4.76	119.53	108.19
2	С	901	YAG	C19-C20-N15	3.85	115.03	111.23
2	С	901	YAG	C19-C18-C17	3.57	114.03	109.85
2	А	901	YAG	C19-C20-N15	3.57	114.76	111.23
2	А	901	YAG	C19-C18-C17	3.51	113.96	109.85
2	C	901	YAG	C12-C11-S10	-2.69	109.33	112.00
2	В	901	YAG	C19-C20-N15	2.67	113.87	111.23



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$\mathbf{Mol}$	Chain	$\mathbf{Res}$	Type	Atoms	Z	$Observed(^{o})$	$Ideal(^{o})$	
2	D	901	YAG	C19-C20-N15	2.64	113.84	111.23	
2	В	901	YAG	C17-C16-N15	2.45	113.65	111.23	
2	А	901	YAG	C12-C11-S10	-2.44	109.58	112.00	
2	С	901	YAG	C16-N15-C20	2.43	114.31	108.83	
2	С	901	YAG	C17-C16-N15	2.37	113.57	111.23	
2	D	901	YAG	C12-C11-S10	-2.32	109.70	112.00	
2	А	901	YAG	C17-C16-N15	2.27	113.47	111.23	
2	D	901	YAG	C17-C16-N15	2.13	113.34	111.23	
2	В	901	YAG	C12-C11-S10	-2.04	109.97	112.00	
2	А	901	YAG	C16-N15-C20	2.03	113.39	108.83	

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There are no chirality outliers.

All (12) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
2	D	901	YAG	C17-C18-C21-O22
3	В	902	GOL	O1-C1-C2-C3
3	В	903	GOL	O1-C1-C2-C3
3	В	902	GOL	O1-C1-C2-O2
2	В	901	YAG	C09-C06-O07-C08
2	В	901	YAG	C05-C06-O07-C08
2	С	901	YAG	C09-C06-O07-C08
2	С	901	YAG	C05-C06-O07-C08
3	В	903	GOL	O2-C2-C3-O3
2	А	901	YAG	C09-C06-O07-C08
2	А	901	YAG	C05-C06-O07-C08
3	В	903	GOL	C1-C2-C3-O3

All (2) ring outliers are listed below:

Mol	Chain	Res	Type	Atoms
2	С	901	YAG	C16-C17-C18-C19-C20-N15
2	А	901	YAG	C16-C17-C18-C19-C20-N15

4 monomers are involved in 4 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
2	В	901	YAG	1	0
3	В	903	GOL	1	0
3	D	902	GOL	1	0
2	С	901	YAG	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 then 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 sufficient 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 (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,  $95^{th}$  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	< <b>RSRZ</b> >	#RSRZ>2	$OWAB(Å^2)$	Q < 0.9
1	А	732/797~(91%)	-0.05	19 (2%) 56 52	14, 36, 68, 127	0
1	В	727/797~(91%)	-0.10	7 (0%) 82 81	12, 36, 69, 110	0
1	С	729/797~(91%)	-0.22	6 (0%) 86 85	14, 35, 67, 114	0
1	D	719/797~(90%)	0.31	48 (6%) 17 13	20, 49, 82, 116	0
All	All	2907/3188~(91%)	-0.02	80 (2%) 53 48	12, 39, 73, 127	0

All (80) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	D	719	LEU	4.2
1	D	820	ILE	3.8
1	D	784	LEU	3.7
1	D	822	VAL	3.5
1	А	778	TYR	3.4
1	D	790	ILE	3.4
1	А	779	SER	3.3
1	А	830	ARG	3.3
1	D	381	LEU	3.2
1	D	378	SER	3.1
1	D	788	VAL	3.1
1	D	306	MET	3.1
1	D	718	SER	3.1
1	D	697	ASP	3.1
1	D	257	LEU	3.0
1	D	379	THR	2.9
1	D	695	ARG	2.9
1	А	821	GLU	2.8
1	D	716	ALA	2.8
1	D	361	ALA	2.8
1	D	369	HIS	2.8



7LPP	
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Mol	Chain	Res	Type	RSRZ
1	D	376	ALA	2.8
1	А	829	LEU	2.8
1	D	380	LEU	2.7
1	D	826	GLY	2.7
1	D	385	TYR	2.7
1	D	787	ASP	2.7
1	D	365	CYS	2.7
1	В	721	ALA	2.6
1	С	395	HIS	2.6
1	В	5	PRO	2.6
1	В	830	ARG	2.6
1	А	696	ALA	2.5
1	В	599	GLN	2.5
1	D	688	PHE	2.5
1	А	820	ILE	2.5
1	D	801	GLY	2.5
1	D	371	GLY	2.5
1	А	797	VAL	2.5
1	D	377	THR	2.5
1	А	688	PHE	2.4
1	D	375	ILE	2.4
1	С	637	LEU	2.4
1	А	694	VAL	2.4
1	С	4	PRO	2.4
1	D	649	PHE	2.4
1	А	708	ILE	2.4
1	D	220	TYR	2.4
1	D	712	PHE	2.3
1	А	376	ALA	2.3
1	D	281	LEU	2.3
1	А	647	GLY	2.3
1	С	813	THR	2.3
1	D	785	SER	2.3
1	В	389	LEU	2.3
1	С	539	GLY	2.2
1	D	813	THR	2.2
1	D	653	LEU	2.2
1	А	685	SER	2.2
1	А	722	SER	2.2
1	D	341	LYS	2.2
1	D	299	ILE	2.1
1	D	708	ILE	2.1



Mol	Chain	Res	Type	RSRZ
1	D	680	ASP	2.1
1	D	17	PRO	2.1
1	А	818	TYR	2.1
1	D	643	VAL	2.1
1	В	813	THR	2.1
1	D	648	ASP	2.1
1	А	717	ALA	2.1
1	D	364	THR	2.1
1	D	373	TRP	2.0
1	D	362	LEU	2.0
1	D	389	LEU	2.0
1	D	794	HIS	2.0
1	А	5	PRO	2.0
1	В	717	ALA	2.0
1	А	719	LEU	2.0
1	С	5	PRO	2.0
1	D	701	ASN	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,  $95^{th}$  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.

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å <sup>2</sup> )	Q<0.9
3	GOL	В	902	6/6	0.88	0.28	$50,\!51,\!53,\!54$	0
2	YAG	D	901	23/23	0.90	0.21	$63,\!67,\!73,\!77$	0
2	YAG	С	901	23/23	0.90	0.27	36,62,67,68	0
3	GOL	А	902	6/6	0.91	0.27	46,52,55,60	0
2	YAG	В	901	23/23	0.93	0.20	37,47,50,54	0
3	GOL	D	902	6/6	0.93	0.19	45,48,53,58	0



Mol	Type	Chain	Res	Atoms	RSCC	RSR	${f B}$ -factors( ${f A}^2$ )	Q < 0.9
2	YAG	А	901	23/23	0.94	0.22	$34,\!57,\!60,\!60$	0
3	GOL	В	903	6/6	0.95	0.17	32,54,57,61	0
4	MG	В	904	1/1	0.95	0.15	31,31,31,31	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.

