wwPDB X-ray Structure Validation Summary Report (i)

Jan 20, 2024 – 01:31 pm GMT

PDB ID	:	7NIT
Title	:	X-ray structure of a multidomain BbgIII from Bifidobacterium bifidum
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Deposited on	:	2021-02-14
Resolution	:	2.89 Å(reported)

This is a wwPDB X-ray Structure Validation Summary 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 types of validation reports are described at
http://www.wwpdb.org/validation/2017/FAQs#types.

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

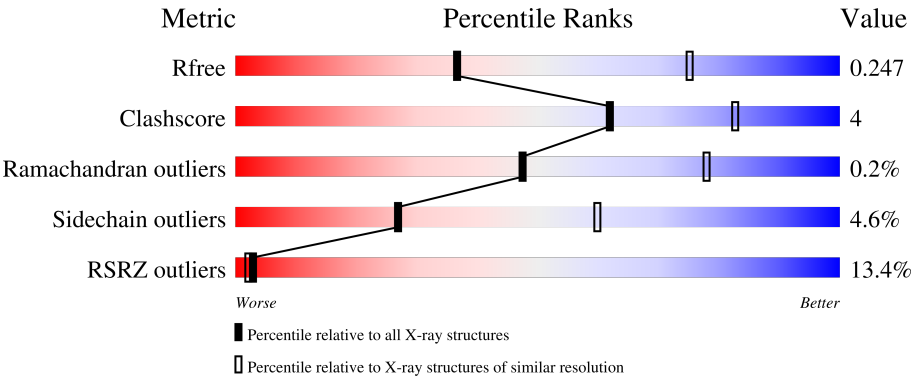
MolProbity	:	4.02b-467
Mogul	:	1.8.4, CSD as541be (2020)
Xtriage (Phenix)	:	1.13
EDS	:	2.36
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac	:	5.8.0158
CCP4	:	7.0.044 (Gargrove)
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.36

1 Overall quality at a glance (i)

The following experimental techniques were used to determine the structure:
X-RAY DIFFRACTION

The reported resolution of this entry is 2.89 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	1957 (2.90-2.90)
Clashscore	141614	2172 (2.90-2.90)
Ramachandran outliers	138981	2115 (2.90-2.90)
Sidechain outliers	138945	2117 (2.90-2.90)
RSRZ outliers	127900	1906 (2.90-2.90)

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	A	1304	6% 84% 10% • 5%
1	B	1304	7% 82% 12% • 5%
1	C	1304	9% 83% 11% • 5%
1	D	1304	8% 84% 11% • •
1	E	1304	20% 83% 11% • 5%

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Mol	Chain	Length	Quality of chain
1	F	1304	

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
3	GOL	B	2302	-	-	X	-
3	GOL	F	2302	-	-	X	-

2 Entry composition (i)

There are 5 unique types of molecules in this entry. The entry contains 55867 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.

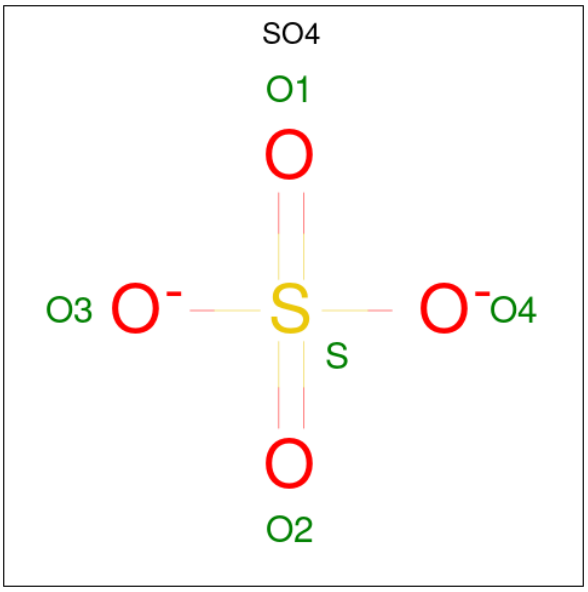
- Molecule 1 is a protein called Beta-galactosidase.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	1239	Total	C	N	O	S	0	0	0
			9306	5807	1585	1897	17			
1	B	1235	Total	C	N	O	S	0	0	0
			9246	5768	1574	1888	16			
1	C	1243	Total	C	N	O	S	0	0	0
			9326	5818	1585	1906	17			
1	D	1253	Total	C	N	O	S	0	0	0
			9390	5856	1601	1916	17			
1	E	1235	Total	C	N	O	S	0	0	0
			9195	5733	1567	1879	16			
1	F	1244	Total	C	N	O	S	0	0	0
			9324	5816	1586	1905	17			

There are 6 discrepancies between the modelled and reference sequences:

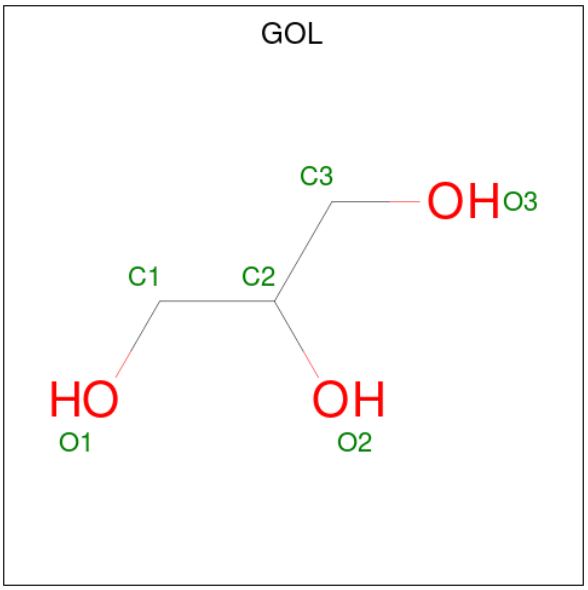
Chain	Residue	Modelled	Actual	Comment	Reference
A	1165	GLU	ASP	conflict	UNP A0A415C3Q2
B	1165	GLU	ASP	conflict	UNP A0A415C3Q2
C	1165	GLU	ASP	conflict	UNP A0A415C3Q2
D	1165	GLU	ASP	conflict	UNP A0A415C3Q2
E	1165	GLU	ASP	conflict	UNP A0A415C3Q2
F	1165	GLU	ASP	conflict	UNP A0A415C3Q2

- Molecule 2 is SULFATE ION (three-letter code: SO4) (formula: O_4S).



Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
2	A	1	Total O S 5 4 1	0	0
2	C	1	Total O S 5 4 1	0	0
2	D	1	Total O S 5 4 1	0	0
2	F	1	Total O S 5 4 1	0	0

- Molecule 3 is GLYCEROL (three-letter code: GOL) (formula: $C_3H_8O_3$).



Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
3	A	1	Total C O 6 3 3	0	0
3	A	1	Total C O 6 3 3	0	0
3	B	1	Total C O 6 3 3	0	0
3	C	1	Total C O 6 3 3	0	0
3	D	1	Total C O 6 3 3	0	0
3	D	1	Total C O 6 3 3	0	0
3	E	1	Total C O 6 3 3	0	0
3	F	1	Total C O 6 3 3	0	0

- Molecule 4 is CALCIUM ION (three-letter code: CA) (formula: Ca).

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
4	A	1	Total Ca 1 1	0	0
4	B	1	Total Ca 1 1	0	0
4	C	1	Total Ca 1 1	0	0
4	D	1	Total Ca 1 1	0	0
4	E	1	Total Ca 1 1	0	0
4	F	1	Total Ca 1 1	0	0

- Molecule 5 is water.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
5	A	1	Total O 1 1	0	0
5	B	1	Total O 1 1	0	0
5	C	1	Total O 1 1	0	0
5	D	1	Total O 1 1	0	0

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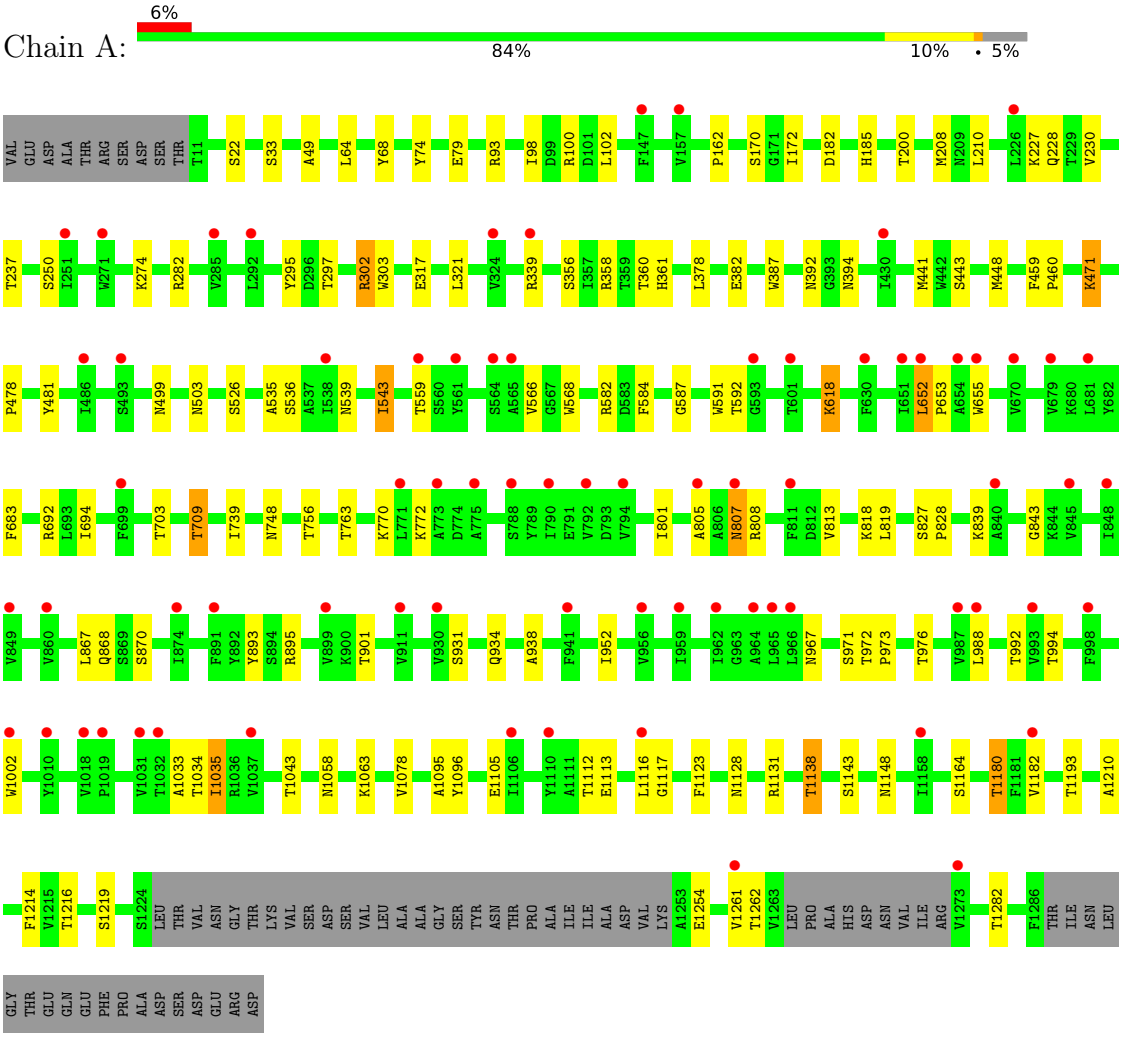
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
5	E	1	Total O 1 1	0	0
5	F	1	Total O 1 1	0	0

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.

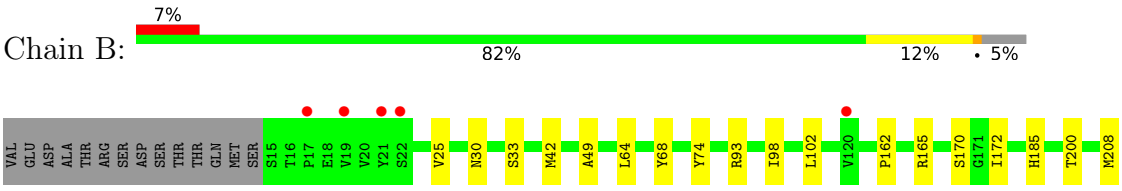
• Molecule 1: Beta-galactosidase

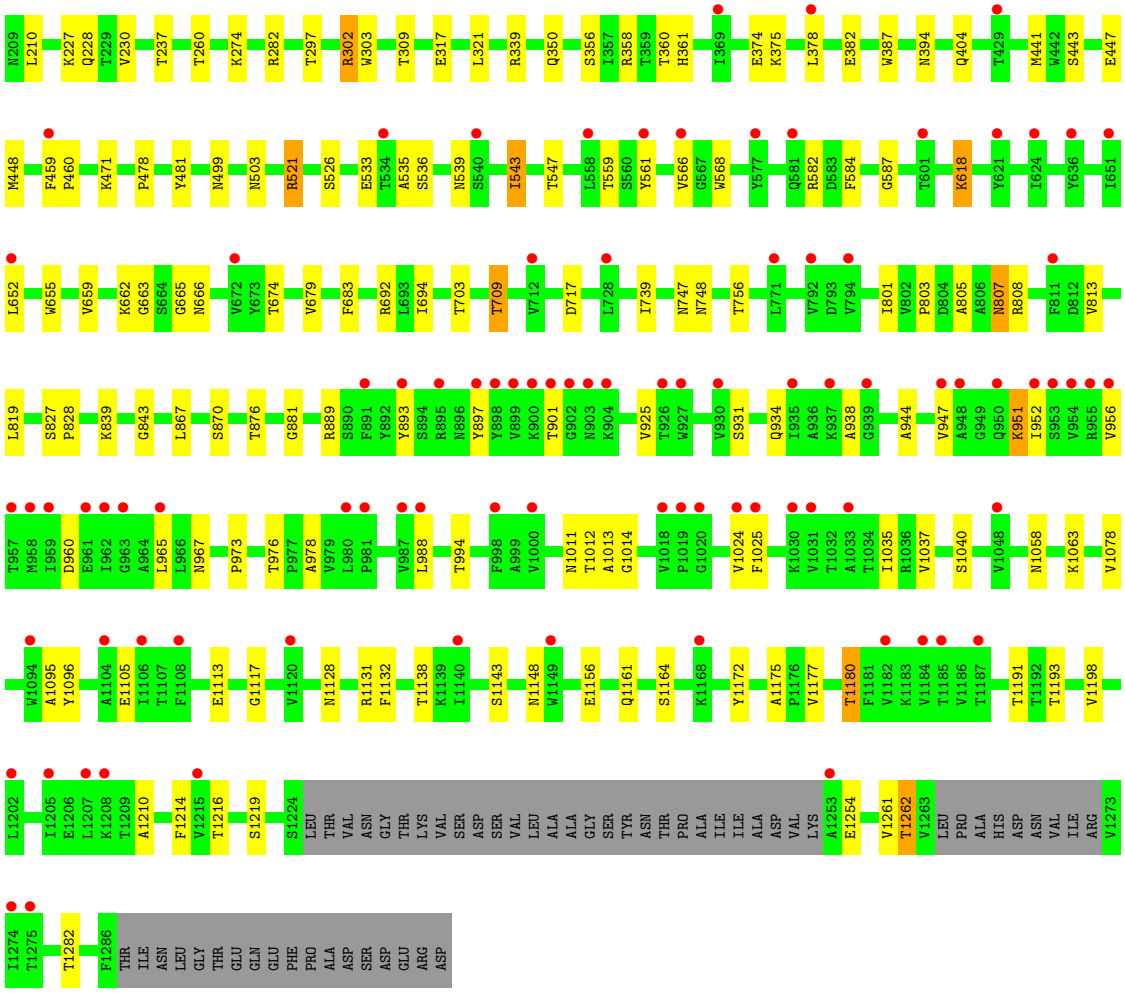
Chain A:



• Molecule 1: Beta-galactosidase

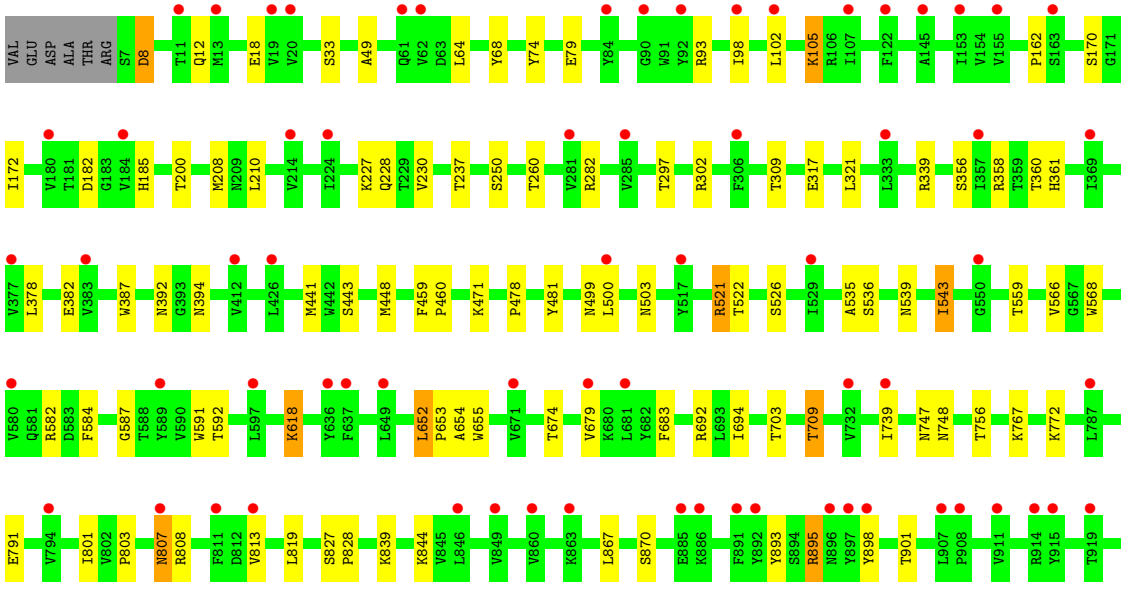
Chain B:

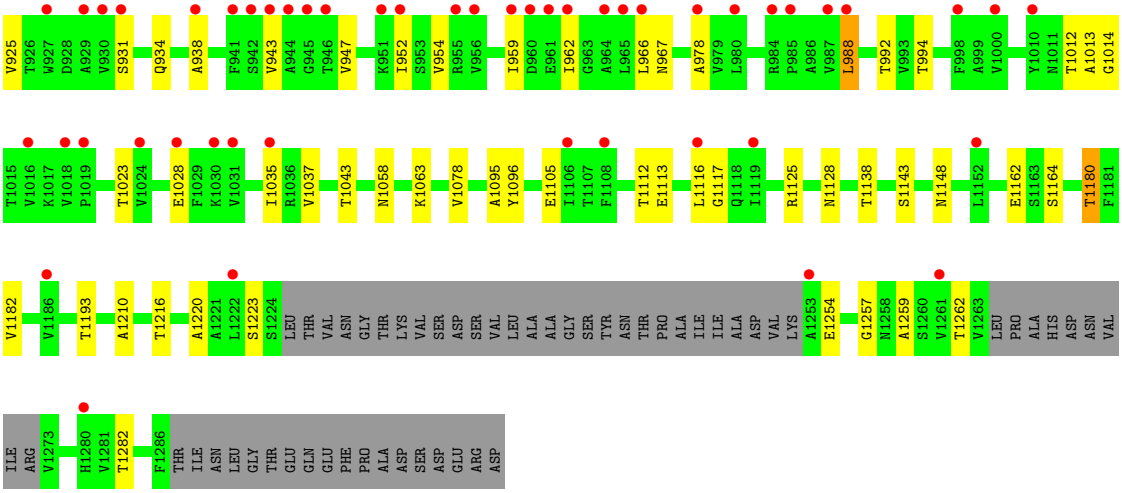




• Molecule 1: Beta-galactosidase

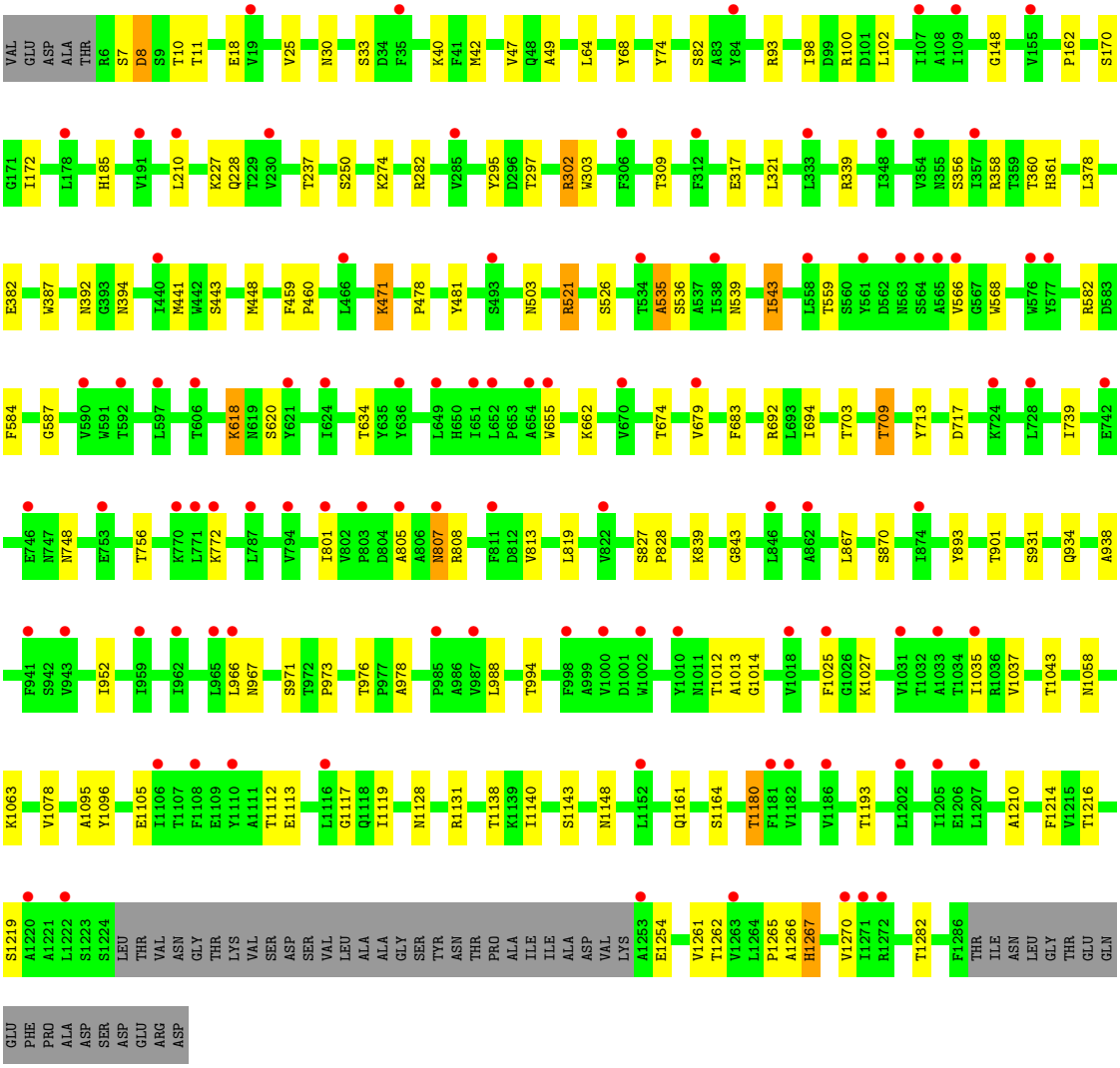
Chain C:





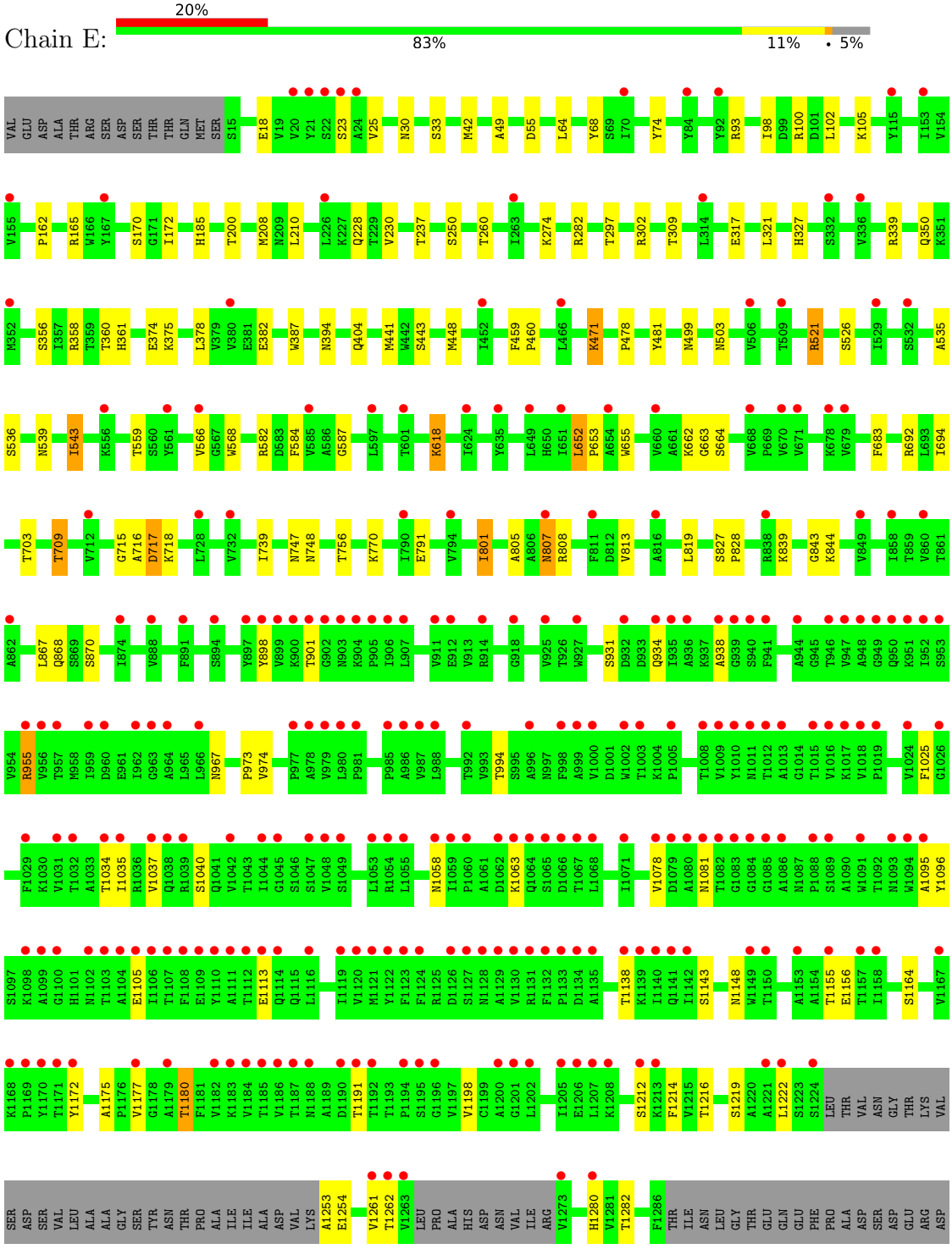
• Molecule 1: Beta-galactosidase

Chain D:



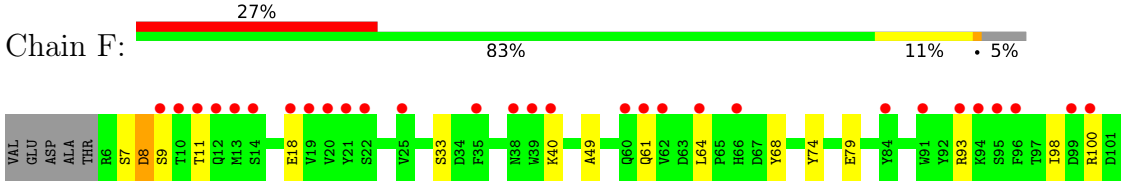
• Molecule 1: Beta-galactosidase

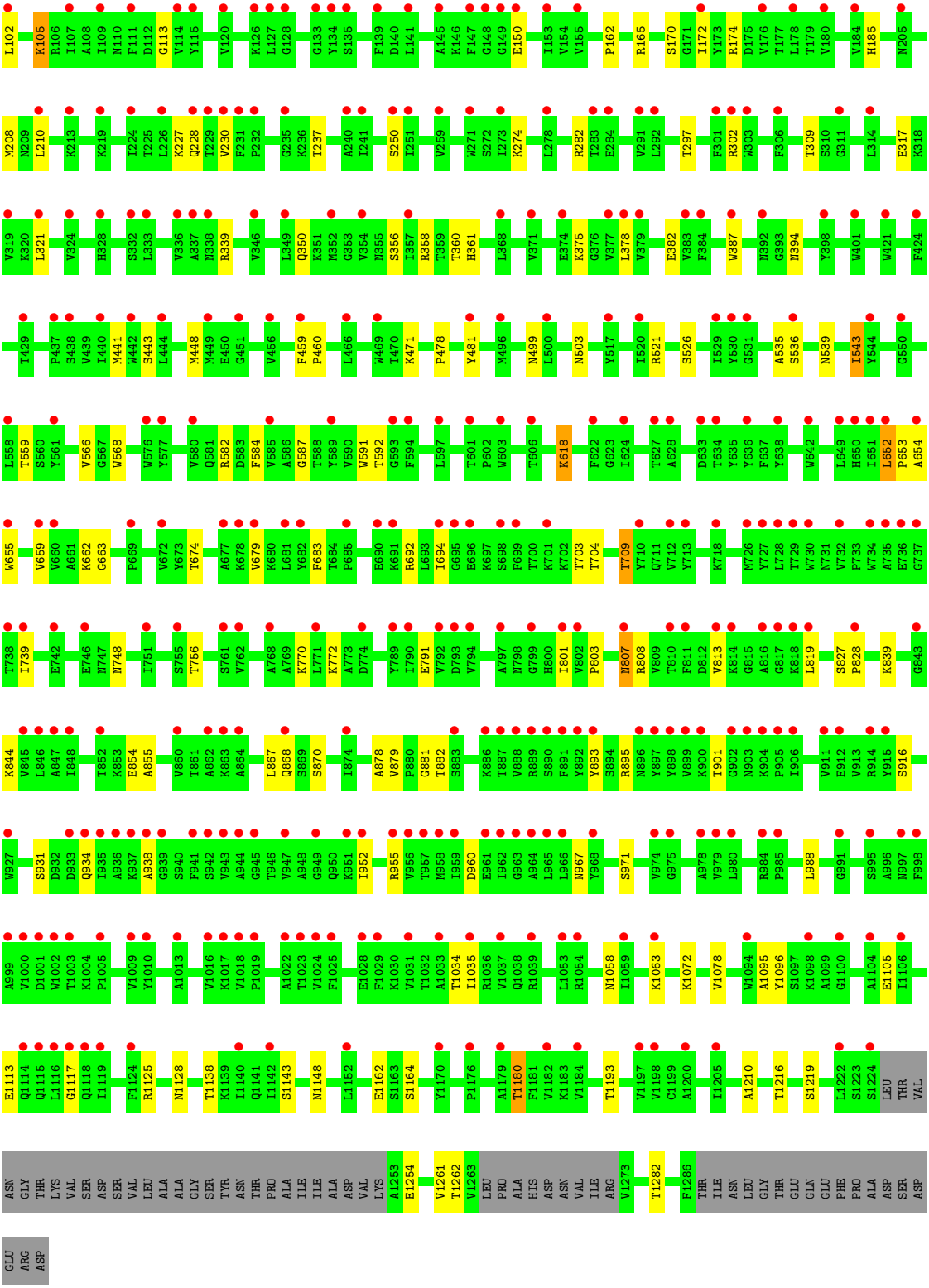
Chain E:



• Molecule 1: Beta-galactosidase

Chain F:




L102 K105 R106 I107 A108 I109 N110 F111 D112 G113 V114 Y115 V120 K126 L127 G128 G133 Y134 S135 F139 D140 L141 A145 K146 F147 G148 G149 E150 I153 V154 V155 P162 R165 S170 G171 I172 Y173 R174 D175 V176 T177 L178 T179 V180 V184 H185 N205
M208 N209 L210 K213 K219 I224 T225 L226 K227 Q228 T229 V230 F231 P232 G235 K236 T237 A240 I241 S250 I251 V259 W271 S272 I273 K274 L278 R282 T283 E284 V291 L292 T297 F301 R302 W303 F306 T309 S310 G311 L314 E317 K318
V319 K320 L321 V324 H328 S332 L333 V336 A337 N338 R339 V346 L349 Q350 K351 M352 G353 V354 N355 S356 I357 R358 T359 T360 H361 L368 V371 E374 K375 G376 V377 L378 V379 E382 V383 F384 W387 N392 G393 N394 Y398 W401 W421 F424
T429 P437 S438 V439 I440 M441 W442 S443 L444 N448 M449 E450 G451 V456 F459 P460 L466 W469 T470 K471 P478 Y481 M496 N499 L500 N503 Y517 I520 R521 S526 I529 Y530 G531 A535 S536 N539 I543 Y544 G550
L558 T559 S560 Y561 V566 G567 W568 W576 Y577 V580 Q581 R582 D583 F584 V585 A586 G587 T588 Y589 V590 W591 T592 G593 F594 L597 T601 P602 W603 T606 K618 F622 G623 I624 T627 A628 D633 T634 Y635 Y636 F637 Y638 W642 L649 H650 I651 L652 P653 A654
W655 V659 V660 A661 K662 G663 P669 V672 Y673 T674 A677 K678 V679 K680 L681 Y682 F683 T684 P685 E690 K691 R692 L693 I694 G695 E696 K697 S698 F699 T700 K701 K702 T703 T704 T709 Y710 Q711 V712 Y713 K718 M726 Y727 L728 T729 W730 M731 V732 P733 W734 A735 E736 G737
T738 I739 E742 E746 N747 N748 I751 S755 T756 S761 V762 A768 A769 K770 L771 K772 A773 D774 Y789 I790 E791 V792 D793 V794 A797 N798 G799 H800 I801 V802 P803 N807 R808 V809 T810 F811 D812 V813 K814 G815 A816 G817 K818 L819 S827 P828 K839 G843
K844 V845 L846 A847 I848 T852 K853 E854 A855 V860 T861 A862 K863 A864 L867 Q868 S869 S870 I874 A878 V879 P880 G881 T882 S883 K886 T887 V888 R889 S890 F891 Y892 Y893 S894 R895 N896 Y897 Y898 V899 K900 T901 G902 N903 K904 P905 I906 V911 E912 V913 R914 Y915 S916
W927 S931 D932 D933 Q934 I935 A936 K937 A938 G939 S940 F941 S942 V943 A944 G945 T946 V947 A948 G949 Q950 K951 I952 R955 V956 T957 M958 I959 D960 E961 I962 G963 A964 L965 L966 N967 Y968 S971 V974 G975 A978 V979 L980 R984 P985 L988 G991 S995 A996 N997 F998
A999 V1000 D1001 W1002 T1003 K1004 P1005 V1009 Y1010 A1013 V1016 K1017 V1018 P1019 A1022 T1023 V1024 F1025 E1028 F1029 K1030 V1031 T1032 A1033 T1034 I1035 R1036 V1037 Q1038 R1039 L1053 R1054 N1058 I1059 K1063 K1072 V1078 W1094 A1095 Y1096 S1097 K1098 A1099 G1100 A1104 E1105 I1106
E1113 Q1114 Q1115 L1116 G1117 Q1118 I1119 F1124 R1125 N1128 T1138 K1139 I1140 Q1141 I1142 S1143 N1148 L1152 E1162 S1163 S1164 Y1170 P1176 A1179 T1180 F1181 V1182 K1183 V1184 T1193 V1197 V1198 C1199 A1200 I1205 A1210 T1216 S1219 L1222 S1223 S1224 LEU THR VAL
ASN GLY THR LYS VAL SER ASP SER VAL LEU ALA ALA GLY SER TYR ASN THR PRO ALA ILE ILE ALA ASP VAL LYS A1253 E1254 V1261 T1262 V1263 LEU PRO ALA HIS ASP ASN VAL ILE ARG V1273 T1282 F1286 THR ILE ASN LEU GLY THR GLU GLN GLU PHE PRO ALA ASP SER ASP
GLU ARG ASP

4 Data and refinement statistics (i)

Property	Value	Source
Space group	P 1	Depositor
Cell constants a, b, c, α, β, γ	116.95Å 130.04Å 200.58Å 86.99° 84.83° 83.79°	Depositor
Resolution (Å)	199.58 – 2.89 199.58 – 2.89	Depositor EDS
% Data completeness (in resolution range)	96.2 (199.58-2.89) 96.2 (199.58-2.89)	Depositor EDS
R_{merge}	0.09	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	1.13 (at 2.91Å)	Xtriage
Refinement program	REFMAC 5.8.0267	Depositor
R, R_{free}	0.214 , 0.247 0.214 , 0.247	Depositor DCC
R_{free} test set	12571 reflections (4.98%)	wwPDB-VP
Wilson B-factor (Å^2)	88.8	Xtriage
Anisotropy	0.320	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.32 , 69.6	EDS
L-test for twinning[2]	$< \|L\| > = 0.51$, $< L^2 > = 0.34$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o,F_c correlation	0.94	EDS
Total number of atoms	55867	wwPDB-VP
Average B, all atoms (Å^2)	114.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 4.81% 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: GOL, SO4, CA

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	0.36	0/9503	0.71	0/12962
1	B	0.39	0/9443	0.73	0/12889
1	C	0.37	0/9523	0.71	0/12990
1	D	0.36	0/9589	0.71	0/13082
1	E	0.36	0/9390	0.70	0/12825
1	F	0.33	0/9521	0.68	0/12990
All	All	0.36	0/56969	0.70	0/77738

There are no bond length outliers.

There are no bond angle outliers.

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	9306	0	8880	70	0
1	B	9246	0	8784	92	0
1	C	9326	0	8895	93	0
1	D	9390	0	8946	82	0
1	E	9195	0	8696	73	0
1	F	9324	0	8877	74	0
2	A	5	0	0	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
2	C	5	0	0	0	0
2	D	5	0	0	0	0
2	F	5	0	0	0	0
3	A	12	0	16	0	0
3	B	6	0	8	5	0
3	C	6	0	8	0	0
3	D	12	0	16	0	0
3	E	6	0	8	1	0
3	F	6	0	8	9	0
4	A	1	0	0	0	0
4	B	1	0	0	0	0
4	C	1	0	0	0	0
4	D	1	0	0	0	0
4	E	1	0	0	0	0
4	F	1	0	0	0	0
5	A	1	0	0	0	0
5	B	1	0	0	0	0
5	C	1	0	0	0	0
5	D	1	0	0	0	0
5	E	1	0	0	0	0
5	F	1	0	0	0	0
All	All	55867	0	53142	474	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 4.

The worst 5 of 474 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:F:879:VAL:HB	1:F:882:THR:HG23	1.33	1.06
1:C:1023:THR:HG22	1:C:1028:GLU:HG3	1.52	0.91
1:C:959:ILE:HG21	1:C:962:ILE:HD11	1.59	0.85
1:B:1014:GLY:O	1:B:1037:VAL:HG22	1.79	0.82
1:E:1155:THR:HG22	1:F:704:THR:HA	1.65	0.79

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	1233/1304 (95%)	1180 (96%)	52 (4%)	1 (0%)	51 82
1	B	1229/1304 (94%)	1180 (96%)	47 (4%)	2 (0%)	47 78
1	C	1237/1304 (95%)	1186 (96%)	50 (4%)	1 (0%)	51 82
1	D	1249/1304 (96%)	1193 (96%)	53 (4%)	3 (0%)	47 78
1	E	1229/1304 (94%)	1179 (96%)	46 (4%)	4 (0%)	41 71
1	F	1238/1304 (95%)	1186 (96%)	49 (4%)	3 (0%)	47 78
All	All	7415/7824 (95%)	7104 (96%)	297 (4%)	14 (0%)	47 78

5 of 14 Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	D	1267	HIS
1	F	9	SER
1	B	663	GLY
1	D	1270	VAL
1	E	663	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	982/1056 (93%)	938 (96%)	44 (4%)	27 61
1	B	972/1056 (92%)	927 (95%)	45 (5%)	27 60
1	C	986/1056 (93%)	943 (96%)	43 (4%)	28 61

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
1	D	989/1056 (94%)	944 (95%)	45 (5%)	27 60
1	E	960/1056 (91%)	911 (95%)	49 (5%)	24 56
1	F	983/1056 (93%)	936 (95%)	47 (5%)	25 58
All	All	5872/6336 (93%)	5599 (95%)	273 (5%)	27 60

5 of 273 residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	F	100	ARG
1	F	297	THR
1	F	971	SER
1	C	237	THR
1	C	185	HIS

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (4) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	896	ASN
1	C	896	ASN
1	E	327	HIS
1	E	711	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 18 ligands modelled in this entry, 6 are monoatomic - leaving 12 for Mogul analysis.

In the following table, the Counts columns list the number of bonds (or angles) for which Mogul statistics could be retrieved, the number of bonds (or angles) that are observed in the model and the number of bonds (or angles) that are defined in the Chemical Component Dictionary. The Link column lists molecule types, if any, to which the group is linked. The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with $|Z| > 2$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\| > 2$	Counts	RMSZ	$\#\|Z\| > 2$
3	GOL	F	2302	-	5,5,5	0.08	0	5,5,5	0.43	0
3	GOL	A	2303	-	5,5,5	0.20	0	5,5,5	0.61	0
3	GOL	B	2302	-	5,5,5	0.17	0	5,5,5	0.53	0
2	SO4	C	2301	-	4,4,4	0.35	0	6,6,6	0.13	0
3	GOL	E	2302	-	5,5,5	0.23	0	5,5,5	0.38	0
3	GOL	D	2303	-	5,5,5	0.16	0	5,5,5	0.60	0
2	SO4	A	2301	-	4,4,4	0.17	0	6,6,6	0.31	0
3	GOL	C	2302	-	5,5,5	0.16	0	5,5,5	0.46	0
3	GOL	D	2302	-	5,5,5	0.15	0	5,5,5	0.48	0
2	SO4	F	2301	-	4,4,4	0.32	0	6,6,6	0.07	0
2	SO4	D	2301	-	4,4,4	0.33	0	6,6,6	0.23	0
3	GOL	A	2302	-	5,5,5	0.18	0	5,5,5	0.59	0

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
3	GOL	F	2302	-	-	0/4/4/4	-
3	GOL	A	2303	-	-	2/4/4/4	-
3	GOL	B	2302	-	-	0/4/4/4	-
3	GOL	E	2302	-	-	2/4/4/4	-
3	GOL	D	2303	-	-	0/4/4/4	-
3	GOL	C	2302	-	-	2/4/4/4	-
3	GOL	D	2302	-	-	0/4/4/4	-
3	GOL	A	2302	-	-	4/4/4/4	-

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

5 of 10 torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
3	A	2302	GOL	C1-C2-C3-O3
3	A	2303	GOL	C1-C2-C3-O3
3	A	2303	GOL	O2-C2-C3-O3
3	A	2302	GOL	O1-C1-C2-C3
3	C	2302	GOL	O1-C1-C2-C3

There are no ring outliers.

3 monomers are involved in 15 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
3	F	2302	GOL	9	0
3	B	2302	GOL	5	0
3	E	2302	GOL	1	0

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, 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	1239/1304 (95%)	0.67	73 (5%) 22 18	55, 88, 167, 221	0
1	B	1235/1304 (94%)	0.80	96 (7%) 13 10	48, 84, 169, 243	0
1	C	1243/1304 (95%)	0.79	117 (9%) 8 6	59, 96, 188, 248	0
1	D	1253/1304 (96%)	0.68	98 (7%) 13 10	57, 98, 155, 227	0
1	E	1235/1304 (94%)	1.31	257 (20%) 1 0	59, 106, 248, 332	0
1	F	1244/1304 (95%)	1.43	356 (28%) 0 0	80, 148, 219, 297	0
All	All	7449/7824 (95%)	0.95	997 (13%) 3 2	48, 102, 203, 332	0

The worst 5 of 997 RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	E	1191	THR	12.6
1	F	1029	PHE	12.3
1	F	998	PHE	12.2
1	F	1024	VAL	12.0
1	E	1094	TRP	11.9

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

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

6.3 Carbohydrates

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^2)	Q<0.9
2	SO4	F	2301	5/5	0.71	0.25	174,178,185,188	0
3	GOL	A	2303	6/6	0.78	0.26	76,103,120,133	0
4	CA	E	2304	1/1	0.83	0.10	279,279,279,279	0
3	GOL	D	2303	6/6	0.85	0.20	92,111,124,130	0
3	GOL	F	2302	6/6	0.86	0.27	106,134,150,151	0
4	CA	F	2304	1/1	0.87	0.09	216,216,216,216	0
3	GOL	E	2302	6/6	0.88	0.40	77,100,124,196	0
4	CA	A	2304	1/1	0.91	0.08	116,116,116,116	0
3	GOL	A	2302	6/6	0.92	0.38	48,76,85,93	0
4	CA	B	2304	1/1	0.92	0.10	140,140,140,140	0
3	GOL	B	2302	6/6	0.92	0.19	71,72,77,89	0
3	GOL	D	2302	6/6	0.92	0.37	86,92,100,104	0
4	CA	D	2304	1/1	0.94	0.06	146,146,146,146	0
3	GOL	C	2302	6/6	0.95	0.29	63,76,85,99	0
2	SO4	D	2301	5/5	0.97	0.21	78,107,131,132	0
2	SO4	C	2301	5/5	0.98	0.22	81,93,105,108	0
2	SO4	A	2301	5/5	0.98	0.25	54,72,83,111	0
4	CA	C	2304	1/1	0.99	0.04	138,138,138,138	0

6.5 Other polymers (i)

There are no such residues in this entry.