wwPDB X-ray Structure Validation Summary Report (i)

Jun 16, 2024 – 12:05 PM EDT

PDB ID	:	2WJ6
Title	:	CRYSTAL STRUCTURE OF THE COFACTOR-DEVOID 1-H-3-HYDROXY-4- OXOQUINALDINE 2,4-DIOXYGENASE (HOD) FROM ARTHROBACTER NITROGUAJACOLICUS RU61A COMPLEXED WITH ITS NATURAL PRODUCT N- ACETYLANTHRANILATE
Authors	:	Steiner, R.A.
Deposited on	:	2009-05-22
Resolution	:	2.00 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 (i)) were used in the production of this report:

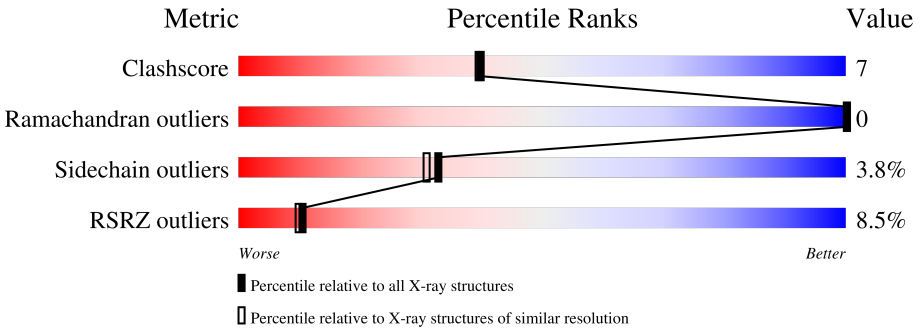
MolProbity	:	4.02b-467
Mogul	:	2022.3.0, CSD as543be (2022)
Xtriage (Phenix)	:	1.20.1
EDS	:	2.37.1
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac	:	5.8.0158
CCP4	:	7.0.044 (Gargrove)
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.37.1

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 2.00 Å.

Percentile scores (ranging between 0-100) for global validation metrics of the entry are shown in the following graphic. The table shows the number of entries on which the scores are based.



Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
Clashscore	141614	9178 (2.00-2.00)
Ramachandran outliers	138981	9054 (2.00-2.00)
Sidechain outliers	138945	9053 (2.00-2.00)
RSRZ outliers	127900	7900 (2.00-2.00)

The table below summarises the geometric issues observed across the polymeric chains and their fit to the electron density. The red, orange, yellow and green segments of the lower bar indicate the fraction of residues that contain outliers for >=3, 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions <=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	276	9% 88% 10% ••
1	B	276	6% 91% 7% ••
1	C	276	8% 84% 14% ••
1	D	276	11% 84% 13% ••

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 crite-

ria:

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
2	GOL	A	1278	-	-	X	-
2	GOL	A	1279	-	-	X	-
2	GOL	A	1280	-	-	X	-
2	GOL	A	1281	-	-	X	-
2	GOL	B	1277	-	-	X	-
2	GOL	B	1278	-	-	X	-
2	GOL	B	1279	-	-	X	-
2	GOL	B	1280	-	-	X	-
2	GOL	C	1277	-	-	X	-
2	GOL	D	1276	-	-	X	-
5	SRT	C	1281	-	X	-	-
5	SRT	D	1279	-	X	-	-

2 Entry composition (i)

There are 6 unique types of molecules in this entry. The entry contains 9896 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.

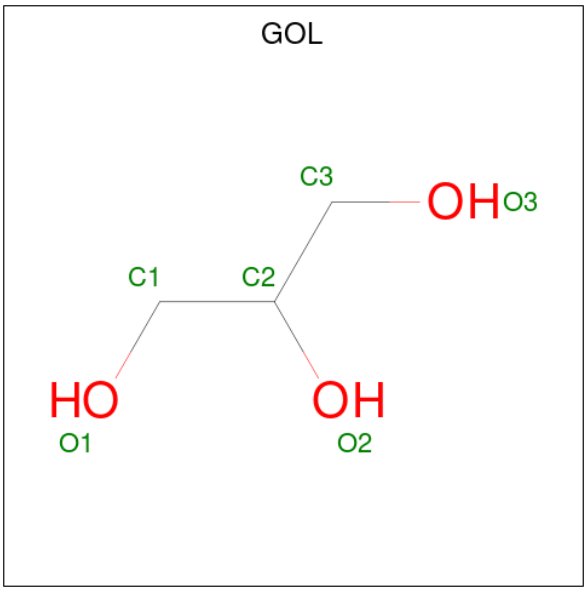
- Molecule 1 is a protein called 1H-3-HYDROXY-4-OXOQUINALDINE 2,4-DIOXYGENASE.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
1	A	274	2234	1426	391	409	8	0	0	0
1	B	274	2234	1426	391	409	8	0	0	0
1	C	273	2236	1428	391	409	8	0	1	0
1	D	273	2242	1432	390	412	8	0	2	0

There are 4 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	69	SER	CYS	engineered mutation	UNP A4V8M9
B	69	SER	CYS	engineered mutation	UNP A4V8M9
C	69	SER	CYS	engineered mutation	UNP A4V8M9
D	69	SER	CYS	engineered mutation	UNP A4V8M9

- Molecule 2 is GLYCEROL (three-letter code: GOL) (formula: $C_3H_8O_3$).



Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
			Total	C	O		
2	A	1	6	3	3	0	0
2	A	1	6	3	3	0	0
2	A	1	6	3	3	0	0
2	A	1	6	3	3	0	0
2	A	1	6	3	3	0	0
2	A	1	6	3	3	0	0
2	B	1	6	3	3	0	0
2	B	1	6	3	3	0	0
2	B	1	6	3	3	0	0
2	B	1	6	3	3	0	0
2	B	1	6	3	3	0	0
2	C	1	6	3	3	0	0
2	C	1	6	3	3	0	0
2	C	1	6	3	3	0	0

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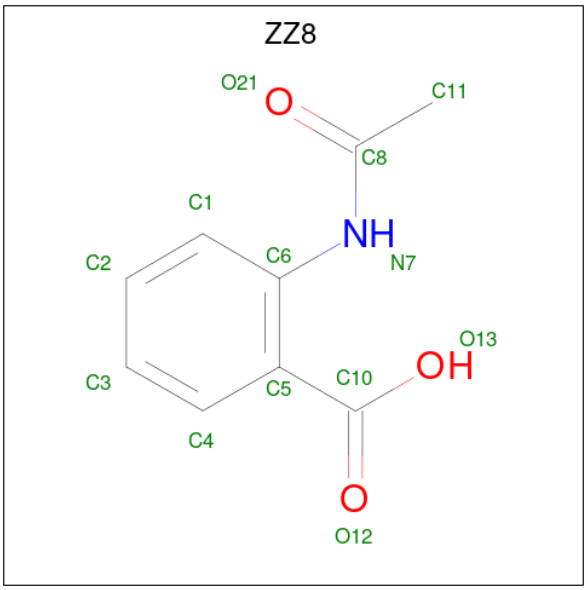
Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
			Total	C	O			
2	C	1	6	3	3		0	0
			Total	C	O			
2	D	1	6	3	3		0	0
			Total	C	O			
2	D	1	6	3	3		0	0

- Molecule 3 is POTASSIUM ION (three-letter code: K) (formula: K).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
			Total	K		
3	A	2	2	2	0	0
			Total	K		
3	B	1	1	1	0	0
			Total	K		
3	C	1	1	1	0	0
			Total	K		
3	D	1	1	1	0	0

- Molecule 4 is 2-(ACETYLAMINO)BENZOIC ACID (three-letter code: ZZ8) (formula: $C_9H_9NO_3$).



Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
			Total	C	N	O		
4	A	1	13	9	1	3	0	0
			Total	C	N	O		
4	B	1	13	9	1	3	0	0

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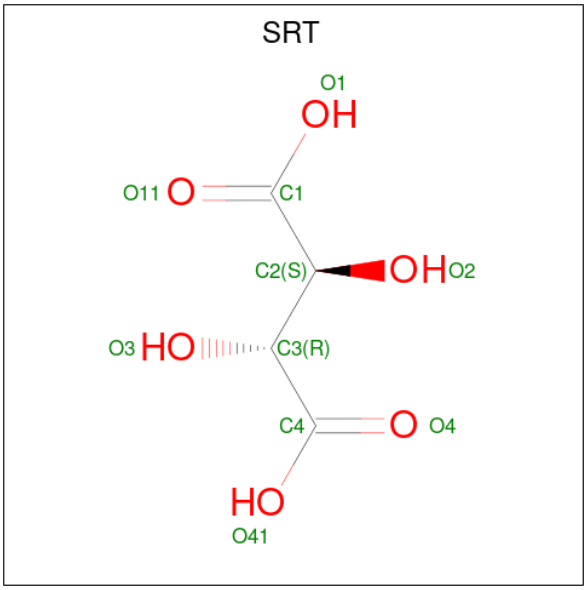
Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
			Total	C	N	O		
4	C	1	13	9	1	3	0	0
4	D	1	13	9	1	3	0	0

- Molecule 5 is S,R MESO-TARTARIC ACID (three-letter code: SRT) (formula: $C_4H_6O_6$).



Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
			Total	C	O		
5	A	1	10	4	6	0	0
5	A	1	10	4	6	0	0
5	B	1	10	4	6	0	0
5	C	1	10	4	6	0	0
5	D	1	10	4	6	0	0

- Molecule 6 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
			Total	O		
6	A	179	179	179	0	0
6	B	190	190	190	0	0

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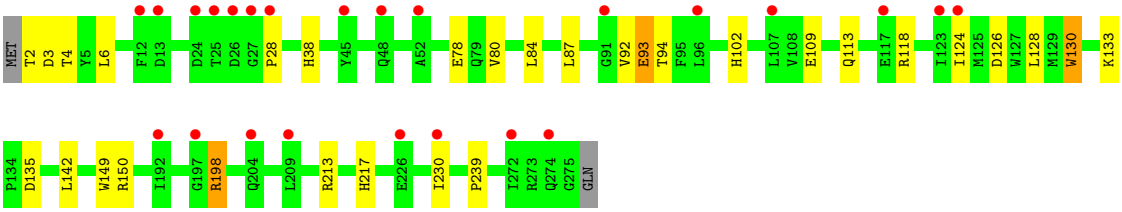
Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
			Total	O		
6	C	216	216	216	0	0
			Total	O		
6	D	156	156	156	0	0

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.

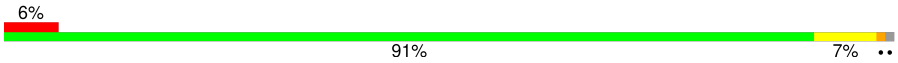
• Molecule 1: 1H-3-HYDROXY-4-OXOQUINALDINE 2,4-DIOXYGENASE

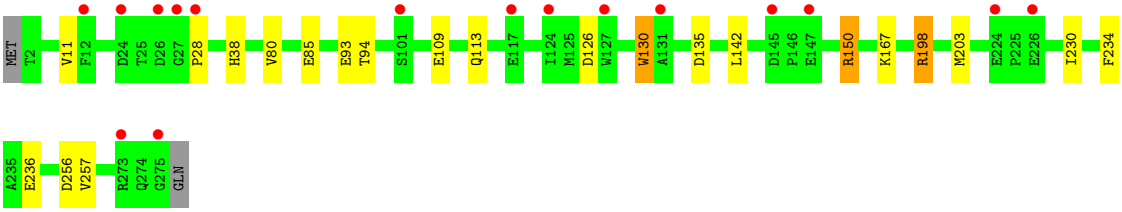
Chain A:



• Molecule 1: 1H-3-HYDROXY-4-OXOQUINALDINE 2,4-DIOXYGENASE

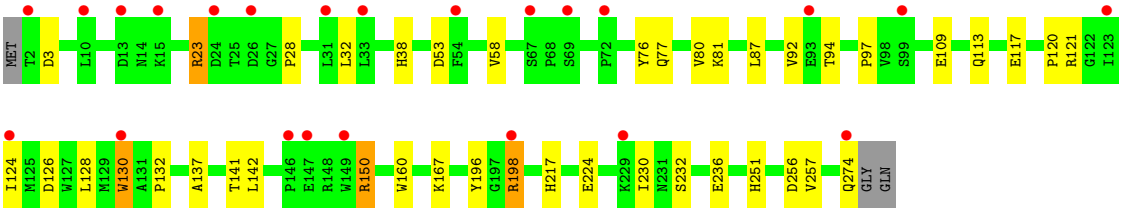
Chain B:





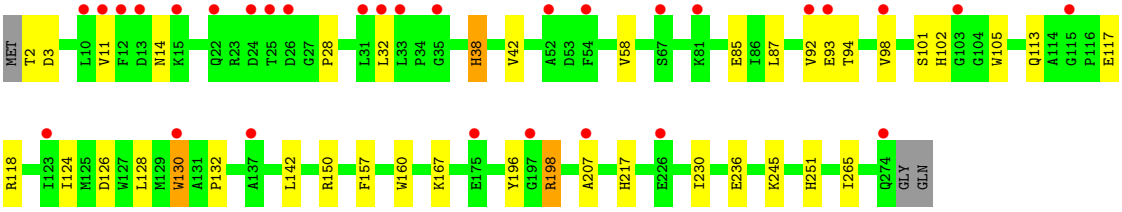
• Molecule 1: 1H-3-HYDROXY-4-OXOQUINALDINE 2,4-DIOXYGENASE

Chain C:



• Molecule 1: 1H-3-HYDROXY-4-OXOQUINALDINE 2,4-DIOXYGENASE

Chain D:


MET T2 D3 L10 V11 F12 D13 N14 K15 Q22 R23 D24 T25 D26 G27 P28 L31 L32 L33 P34 G35 H38 V42 A52 D53 F54 V58 S67 K81 E85 I86 L87 V92 E93 T94 V98 S101 H102 G103 G104 W105 Q113 A114 G115 P116 E117
R118 I123 I124 M125 D126 W127 L128 M129 W130 A131 P132 A137 L142 R150 F157 W160 K167 E175 Y196 G197 R198 A207 H217 E226 I230 E236 K245 H251 I265 Q274 GLY GLN

4 Data and refinement statistics (i)

Property	Value	Source
Space group	P 21 21 21	Depositor
Cell constants a, b, c, α, β, γ	44.94Å 167.09Å 167.23Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	38.52 – 2.00 28.74 – 2.00	Depositor EDS
% Data completeness (in resolution range)	99.8 (38.52-2.00) 94.1 (28.74-2.00)	Depositor EDS
R_{merge}	0.05	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	3.15 (at 2.00Å)	Xtriage
Refinement program	REFMAC 5.5.0070	Depositor
R, R_{free}	0.179 , 0.216 0.209 , (Not available)	Depositor DCC
R_{free} test set	No test flags present.	wwPDB-VP
Wilson B-factor (Å^2)	21.5	Xtriage
Anisotropy	0.130	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.38 , 58.6	EDS
L-test for twinning[2]	$< \|L\| > = 0.53$, $< L^2 > = 0.37$	Xtriage
Estimated twinning fraction	0.137 for -h,l,k	Xtriage
Reported twinning fraction	0.486 for H, K, L 0.514 for -H, L, K	Depositor
Outliers	6 of 81829 reflections (0.007%)	Xtriage
F_o,F_c correlation	0.93	EDS
Total number of atoms	9896	wwPDB-VP
Average B, all atoms (Å^2)	20.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The analyses of the Patterson function reveals a significant off-origin peak that is 29.58 % of the origin peak, indicating pseudo-translational symmetry. The chance of finding a peak of this or larger height randomly in a structure without pseudo-translational symmetry is equal to 1.5134e-03. The detected translational NCS is most likely also responsible for the elevated intensity ratio.*

[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 (i)

5.1 Standard geometry (i)

Bond lengths and bond angles in the following residue types are not validated in this section: K, SRT, GOL, ZZ8

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	0.71	0/2305	0.72	0/3137
1	B	0.70	1/2305 (0.0%)	0.70	0/3137
1	C	0.75	1/2310 (0.0%)	0.71	0/3144
1	D	0.71	1/2319 (0.0%)	0.71	0/3157
All	All	0.72	3/9239 (0.0%)	0.71	0/12575

All (3) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	B	167	LYS	CB-CG	-7.12	1.33	1.52
1	D	167	LYS	CB-CG	-5.21	1.38	1.52
1	C	167	LYS	CD-CE	-5.05	1.38	1.51

There are no bond angle outliers.

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts (i)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	2234	0	2125	34	0
1	B	2234	0	2125	17	0
1	C	2236	0	2130	31	0
1	D	2242	0	2134	28	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
2	A	36	0	47	20	0
2	B	30	0	40	10	0
2	C	24	0	32	12	0
2	D	12	0	16	9	0
3	A	2	0	0	0	0
3	B	1	0	0	0	0
3	C	1	0	0	0	0
3	D	1	0	0	0	0
4	A	13	0	8	0	0
4	B	13	0	8	1	0
4	C	13	0	8	0	0
4	D	13	0	8	1	0
5	A	20	0	8	0	0
5	B	10	0	4	0	0
5	C	10	0	4	0	0
5	D	10	0	4	0	0
6	A	179	0	0	9	0
6	B	190	0	0	6	0
6	C	216	0	0	9	0
6	D	156	0	0	2	0
All	All	9896	0	8701	130	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 7.

The worst 5 of 130 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)
2:B:1277:GOL:O1	2:B:1280:GOL:H12	1.43	1.19
2:B:1277:GOL:O2	2:B:1280:GOL:H32	1.54	1.06
1:A:128:LEU:HD13	2:A:1278:GOL:H32	1.05	1.03
1:A:128:LEU:HD13	2:A:1278:GOL:C3	1.88	1.02
1:A:128:LEU:CD1	2:A:1278:GOL:H32	1.96	0.95

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	272/276 (99%)	265 (97%)	7 (3%)	0	100	100
1	B	272/276 (99%)	265 (97%)	7 (3%)	0	100	100
1	C	272/276 (99%)	266 (98%)	6 (2%)	0	100	100
1	D	273/276 (99%)	267 (98%)	6 (2%)	0	100	100
All	All	1089/1104 (99%)	1063 (98%)	26 (2%)	0	100	100

There are no Ramachandran outliers to report.

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	236/238 (99%)	228 (97%)	8 (3%)	37	36
1	B	236/238 (99%)	229 (97%)	7 (3%)	41	41
1	C	237/238 (100%)	227 (96%)	10 (4%)	30	27
1	D	238/238 (100%)	226 (95%)	12 (5%)	24	20
All	All	947/952 (100%)	910 (96%)	37 (4%)	33	30

5 of 37 residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	D	113	GLN
1	D	236[A]	GLU
1	D	117	GLU

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Mol	Chain	Res	Type
1	D	142	LEU
1	B	142	LEU

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

Mol	Chain	Res	Type
1	B	208	ASN
1	C	7	HIS
1	C	22	GLN
1	D	14	ASN
1	D	113	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 31 ligands modelled in this entry, 5 are monoatomic - leaving 26 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	$\#\|Z\| > 2$
2	GOL	A	1277	-	5,5,5	0.42	0	5,5,5	0.48	0
2	GOL	C	1276	3	5,5,5	0.38	0	5,5,5	0.62	0

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\| > 2$	Counts	RMSZ	$\#\|Z\| > 2$
2	GOL	B	1276	-	5,5,5	0.49	0	5,5,5	0.31	0
2	GOL	A	1280	-	5,5,5	0.61	0	5,5,5	1.18	0
2	GOL	A	1279	-	5,5,5	0.60	0	5,5,5	1.04	0
2	GOL	C	1277	-	5,5,5	1.04	0	5,5,5	1.06	0
4	ZZ8	D	1278	-	13,13,13	1.91	2 (15%)	17,17,17	1.92	4 (23%)
4	ZZ8	A	1284	-	13,13,13	1.69	2 (15%)	17,17,17	2.07	5 (29%)
2	GOL	A	1281	-	5,5,5	0.81	0	5,5,5	1.40	0
2	GOL	B	1277	-	5,5,5	0.41	0	5,5,5	1.23	0
2	GOL	C	1278	-	5,5,5	0.95	0	5,5,5	1.20	0
5	SRT	A	1286	3	9,9,9	2.10	3 (33%)	12,12,12	2.87	4 (33%)
2	GOL	B	1278	-	5,5,5	0.81	0	5,5,5	2.28	2 (40%)
2	GOL	C	1275	-	5,5,5	0.37	0	5,5,5	0.34	0
2	GOL	D	1276	-	5,5,5	0.83	0	5,5,5	0.86	0
2	GOL	B	1279	-	5,5,5	0.58	0	5,5,5	1.58	1 (20%)
5	SRT	D	1279	-	9,9,9	1.20	1 (11%)	12,12,12	2.57	7 (58%)
2	GOL	A	1278	-	5,5,5	0.74	0	5,5,5	1.26	1 (20%)
5	SRT	A	1285	-	9,9,9	1.59	2 (22%)	12,12,12	1.93	4 (33%)
4	ZZ8	C	1280	-	13,13,13	2.32	2 (15%)	17,17,17	2.22	5 (29%)
5	SRT	B	1283	-	9,9,9	1.26	0	12,12,12	1.63	3 (25%)
4	ZZ8	B	1282	-	13,13,13	2.16	3 (23%)	17,17,17	1.71	4 (23%)
2	GOL	A	1276	3	5,5,5	0.58	0	5,5,5	1.27	1 (20%)
2	GOL	D	1275	-	5,5,5	0.43	0	5,5,5	0.72	0
2	GOL	B	1280	-	5,5,5	0.67	0	5,5,5	0.92	0
5	SRT	C	1281	-	9,9,9	1.46	2 (22%)	12,12,12	2.32	3 (25%)

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	GOL	A	1277	-	-	2/4/4/4	-
2	GOL	C	1276	3	-	2/4/4/4	-
2	GOL	B	1276	-	-	1/4/4/4	-
2	GOL	A	1280	-	-	0/4/4/4	-
2	GOL	A	1279	-	-	0/4/4/4	-
2	GOL	C	1277	-	-	3/4/4/4	-
4	ZZ8	D	1278	-	-	6/8/8/8	0/1/1/1
4	ZZ8	A	1284	-	-	6/8/8/8	0/1/1/1

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
2	GOL	A	1281	-	-	3/4/4/4	-
2	GOL	B	1277	-	-	2/4/4/4	-
2	GOL	C	1278	-	-	4/4/4/4	-
5	SRT	A	1286	3	-	2/12/12/12	-
2	GOL	B	1278	-	-	2/4/4/4	-
2	GOL	C	1275	-	-	2/4/4/4	-
2	GOL	D	1276	-	-	3/4/4/4	-
2	GOL	B	1279	-	-	2/4/4/4	-
5	SRT	D	1279	-	-	11/12/12/12	-
2	GOL	A	1278	-	-	2/4/4/4	-
5	SRT	A	1285	-	-	3/12/12/12	-
4	ZZ8	C	1280	-	-	6/8/8/8	0/1/1/1
5	SRT	B	1283	-	-	3/12/12/12	-
4	ZZ8	B	1282	-	-	6/8/8/8	0/1/1/1
2	GOL	A	1276	3	-	2/4/4/4	-
2	GOL	D	1275	-	-	2/4/4/4	-
2	GOL	B	1280	-	-	3/4/4/4	-
5	SRT	C	1281	-	-	10/12/12/12	-

The worst 5 of 17 bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
4	C	1280	ZZ8	C5-C6	7.42	1.52	1.41
4	B	1282	ZZ8	C5-C6	5.96	1.50	1.41
4	D	1278	ZZ8	C5-C6	5.06	1.49	1.41
4	A	1284	ZZ8	C5-C6	4.93	1.48	1.41
5	A	1286	SRT	C2-C1	-4.67	1.46	1.52

The worst 5 of 44 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
5	A	1286	SRT	O2-C2-C1	-6.82	96.12	110.69
5	C	1281	SRT	O3-C3-C2	-6.54	96.85	110.17
4	C	1280	ZZ8	C5-C6-N7	5.04	127.78	118.70
5	A	1286	SRT	O2-C2-C3	4.98	120.30	110.17
4	A	1284	ZZ8	C5-C6-N7	4.97	127.65	118.70

There are no chirality outliers.

5 of 88 torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
2	A	1276	GOL	O1-C1-C2-O2
2	A	1276	GOL	O1-C1-C2-C3
2	A	1281	GOL	C1-C2-C3-O3
2	B	1278	GOL	C1-C2-C3-O3
2	B	1280	GOL	C1-C2-C3-O3

There are no ring outliers.

16 monomers are involved in 53 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
2	A	1277	GOL	1	0
2	A	1280	GOL	5	0
2	A	1279	GOL	7	0
2	C	1277	GOL	9	0
4	D	1278	ZZ8	1	0
2	A	1281	GOL	5	0
2	B	1277	GOL	4	0
2	C	1278	GOL	2	0
2	B	1278	GOL	6	0
2	C	1275	GOL	1	0
2	D	1276	GOL	8	0
2	B	1279	GOL	5	0
2	A	1278	GOL	7	0
4	B	1282	ZZ8	1	0
2	D	1275	GOL	1	0
2	B	1280	GOL	4	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 (i)

6.1 Protein, DNA and RNA chains (i)

In the following table, the column labelled '#RSRZ> 2' contains the number (and percentage) of RSRZ outliers, followed by percent RSRZ outliers for the chain as percentile scores relative to all X-ray entries and entries of similar resolution. The OWAB column contains the minimum, median, 95th percentile and maximum values of the occupancy-weighted average B-factor per residue. The column labelled 'Q< 0.9' lists the number of (and percentage) of residues with an average occupancy less than 0.9.

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2			OWAB(Å^2)	Q<0.9
1	A	274/276 (99%)	0.72	24 (8%)	10	9	12, 20, 29, 34	0
1	B	274/276 (99%)	0.66	16 (5%)	23	22	12, 20, 29, 34	0
1	C	273/276 (98%)	0.82	23 (8%)	11	10	12, 20, 29, 36	0
1	D	273/276 (98%)	0.78	30 (10%)	5	5	12, 20, 29, 36	0
All	All	1094/1104 (99%)	0.74	93 (8%)	10	10	12, 20, 29, 36	0

The worst 5 of 93 RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	A	26	ASP	6.1
1	B	24	ASP	6.1
1	B	26	ASP	6.0
1	A	13	ASP	5.5
1	D	54	PHE	5.2

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, 95th 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	GOL	B	1280	6/6	0.51	0.27	19,20,20,22	0
2	GOL	A	1277	6/6	0.76	0.20	34,39,40,42	0
2	GOL	C	1275	6/6	0.78	0.21	40,40,41,41	0
2	GOL	B	1276	6/6	0.80	0.23	32,36,38,38	0
5	SRT	A	1286	10/10	0.84	0.18	15,20,23,25	0
5	SRT	D	1279	10/10	0.85	0.20	16,24,30,34	0
2	GOL	C	1278	6/6	0.88	0.19	20,22,23,24	0
2	GOL	A	1278	6/6	0.88	0.31	24,28,30,33	0
2	GOL	B	1279	6/6	0.88	0.19	14,20,21,26	0
2	GOL	B	1278	6/6	0.89	0.15	8,15,18,19	0
2	GOL	A	1280	6/6	0.90	0.15	18,19,21,22	0
5	SRT	A	1285	10/10	0.90	0.19	14,18,22,24	0
2	GOL	B	1277	6/6	0.90	0.18	23,26,30,35	0
5	SRT	B	1283	10/10	0.90	0.17	19,24,27,27	0
2	GOL	A	1281	6/6	0.90	0.15	4,16,16,19	0
2	GOL	D	1275	6/6	0.91	0.16	30,31,32,32	0
5	SRT	C	1281	10/10	0.92	0.13	13,23,26,26	0
2	GOL	D	1276	6/6	0.92	0.15	17,20,22,24	0
2	GOL	A	1279	6/6	0.93	0.18	19,22,24,26	0
4	ZZ8	D	1278	13/13	0.94	0.15	2,12,16,16	0
2	GOL	C	1276	6/6	0.94	0.12	19,21,24,26	0
2	GOL	A	1276	6/6	0.94	0.14	15,20,22,26	0
4	ZZ8	B	1282	13/13	0.95	0.19	8,11,13,14	0
4	ZZ8	C	1280	13/13	0.95	0.16	9,12,14,14	0
2	GOL	C	1277	6/6	0.95	0.20	16,19,21,22	0
4	ZZ8	A	1284	13/13	0.95	0.16	8,12,15,18	0
3	K	A	1283	1/1	0.97	0.06	21,21,21,21	0
3	K	D	1277	1/1	0.98	0.07	27,27,27,27	0
3	K	B	1281	1/1	0.99	0.06	18,18,18,18	0
3	K	C	1279	1/1	0.99	0.04	22,22,22,22	0
3	K	A	1282	1/1	0.99	0.06	19,19,19,19	0

6.5 Other polymers (i)

There are no such residues in this entry.