Full wwPDB X-ray Structure Validation Report ⓘ

Oct 14, 2024 – 05:28 pm BST

PDB ID	:	8QTM
Title	:	Arabidopsis thaliana Phosphoenolpyruvate carboxylase PPC1 G678S mutant with bound malate
Authors	:	Loris, R.; Haesaerts, S.; Larsen, P.B.
Deposited on	:	2023-10-12
Resolution	:	3.09 Å(reported)

This is a Full wwPDB X-ray Structure Validation Report for a publicly released PDB entry.

We welcome your comments at *validation@mail.wwpdb.org*
A user guide is available at
https://www.wwpdb.org/validation/2017/XrayValidationReportHelp
with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at
http://www.wwpdb.org/validation/2017/FAQs#types.

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

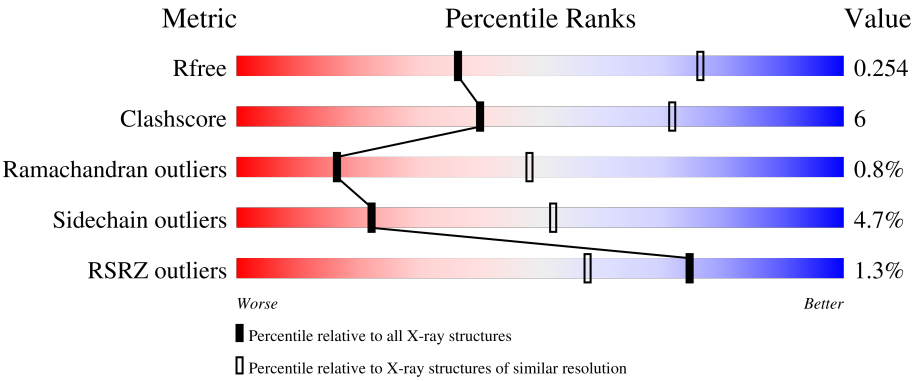
MolProbity	:	4.02b-467
Mogul	:	1.8.4, CSD as541be (2020)
Xtriage (Phenix)	:	1.13
EDS	:	3.0
Percentile statistics	:	20231227.v01 (using entries in the PDB archive December 27th 2023)
CCP4	:	9.0.003 (Gargrove)
Density-Fitness	:	1.0.11
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.39

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 3.09 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}	164625	1351 (3.10-3.10)
Clashscore	180529	1454 (3.10-3.10)
Ramachandran outliers	177936	1391 (3.10-3.10)
Sidechain outliers	177891	1391 (3.10-3.10)
RSRZ outliers	164620	1351 (3.10-3.10)

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	974	2% 79% 15%
1	B	974	2% 80% 14%
1	C	974	% 79% 16%

2 Entry composition (i)

There are 5 unique types of molecules in this entry. The entry contains 22576 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 Phosphoenolpyruvate carboxylase 1.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	935	Total	C	N	O	S	0	3	0
			7351	4670	1272	1379	30			
1	B	944	Total	C	N	O	S	0	5	0
			7425	4724	1272	1399	30			
1	C	950	Total	C	N	O	S	0	5	0
			7573	4810	1307	1426	30			

There are 24 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	-6	MET	-	initiating methionine	UNP Q9MAH0
A	-5	HIS	-	expression tag	UNP Q9MAH0
A	-4	HIS	-	expression tag	UNP Q9MAH0
A	-3	HIS	-	expression tag	UNP Q9MAH0
A	-2	HIS	-	expression tag	UNP Q9MAH0
A	-1	HIS	-	expression tag	UNP Q9MAH0
A	0	HIS	-	expression tag	UNP Q9MAH0
A	678	SER	GLY	engineered mutation	UNP Q9MAH0
B	-6	MET	-	initiating methionine	UNP Q9MAH0
B	-5	HIS	-	expression tag	UNP Q9MAH0
B	-4	HIS	-	expression tag	UNP Q9MAH0
B	-3	HIS	-	expression tag	UNP Q9MAH0
B	-2	HIS	-	expression tag	UNP Q9MAH0
B	-1	HIS	-	expression tag	UNP Q9MAH0
B	0	HIS	-	expression tag	UNP Q9MAH0
B	678	SER	GLY	engineered mutation	UNP Q9MAH0
C	-6	MET	-	initiating methionine	UNP Q9MAH0
C	-5	HIS	-	expression tag	UNP Q9MAH0
C	-4	HIS	-	expression tag	UNP Q9MAH0
C	-3	HIS	-	expression tag	UNP Q9MAH0
C	-2	HIS	-	expression tag	UNP Q9MAH0
C	-1	HIS	-	expression tag	UNP Q9MAH0
C	0	HIS	-	expression tag	UNP Q9MAH0

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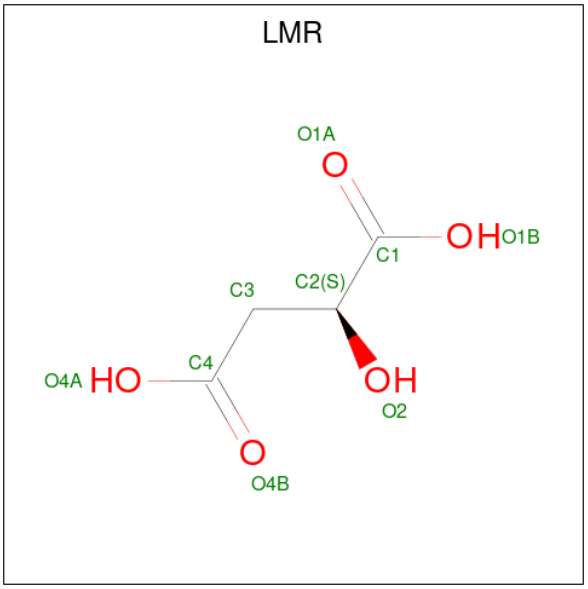
Chain	Residue	Modelled	Actual	Comment	Reference
C	678	SER	GLY	engineered mutation	UNP Q9MAH0

- Molecule 2 is (2S)-2-hydroxybutanedioic acid (three-letter code: LMR) (formula: $C_4H_6O_5$).

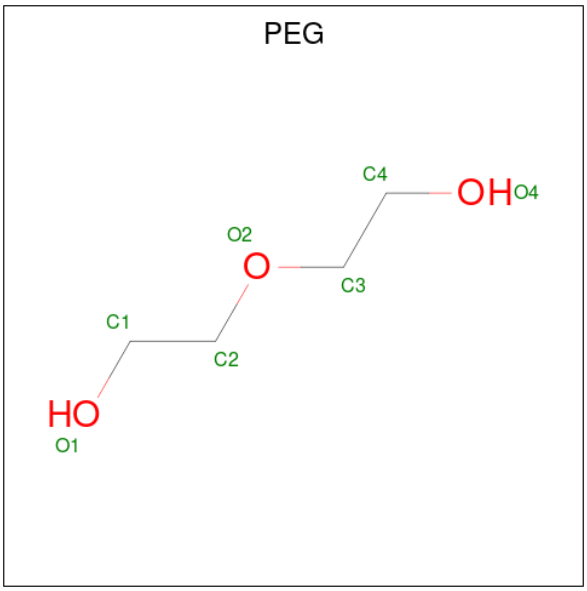


Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
2	A	1	Total C O 9 4 5	0	0
2	B	1	Total C O 9 4 5	0	0
2	C	1	Total C O 9 4 5	0	0

- Molecule 3 is CHLORIDE ION (three-letter code: CL) (formula: Cl).

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
3	A	1	Total Cl 1 1	0	0
3	B	1	Total Cl 1 1	0	0
3	C	4	Total Cl 4 4	0	0

- Molecule 4 is DI(HYDROXYETHYL)ETHER (three-letter code: PEG) (formula: $C_4H_{10}O_3$).



Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
4	A	1	Total C O 6 4 2	0	0
4	A	1	Total C O 7 4 3	0	0
4	B	1	Total C O 7 4 3	0	0
4	B	1	Total C 2 2	0	0
4	B	1	Total C O 7 4 3	0	0
4	C	1	Total C O 7 4 3	0	0
4	C	1	Total C 2 2	0	0
4	C	1	Total C O 7 4 3	0	0
4	C	1	Total C O 6 4 2	0	0
4	C	1	Total C O 7 4 3	0	0
4	C	1	Total C O 7 4 3	0	0
4	C	1	Total C 2 2	0	0

- Molecule 5 is water.

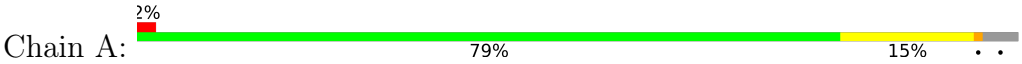
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
5	A	39	Total O 39 39	0	0
5	B	23	Total O 23 23	0	0
5	C	65	Total O 65 65	0	0

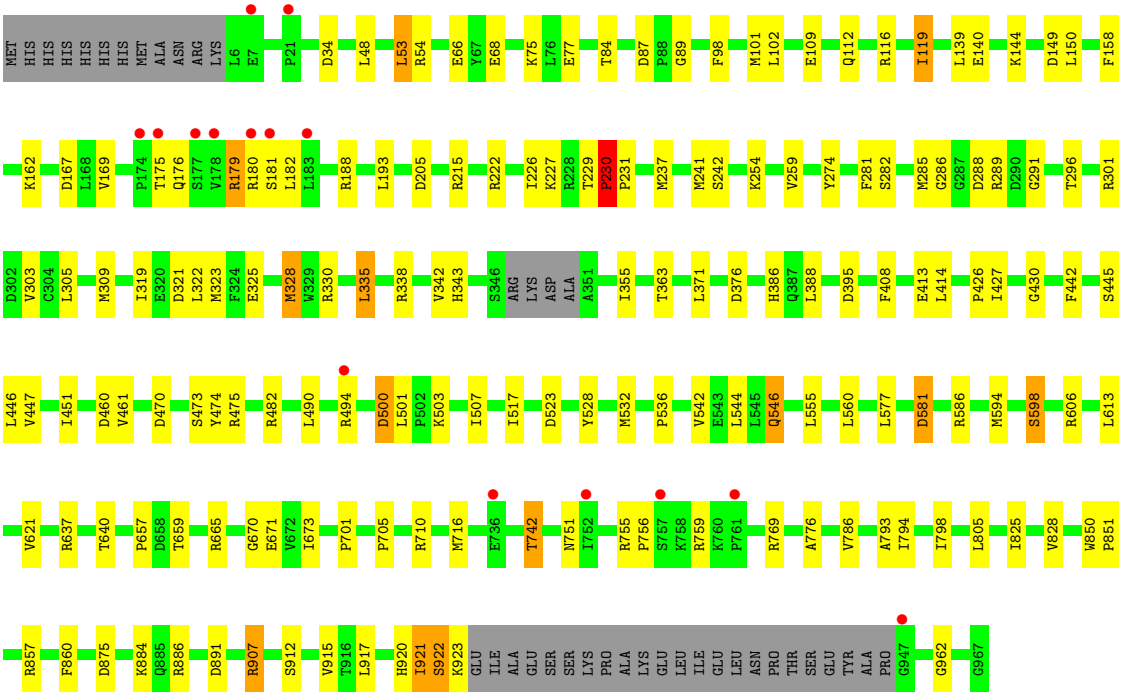
3 Residue-property plots (i)

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: Phosphoenolpyruvate carboxylase 1

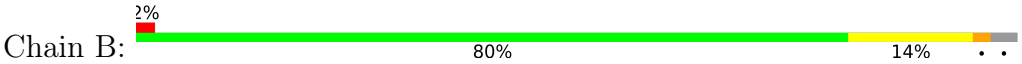
Chain A:

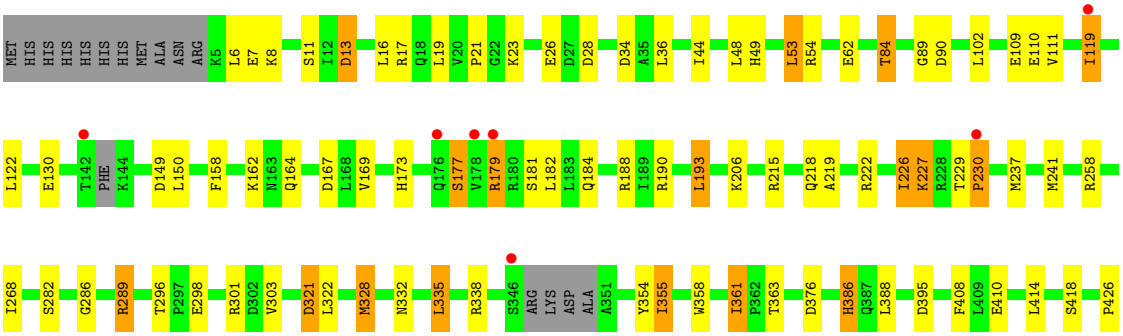


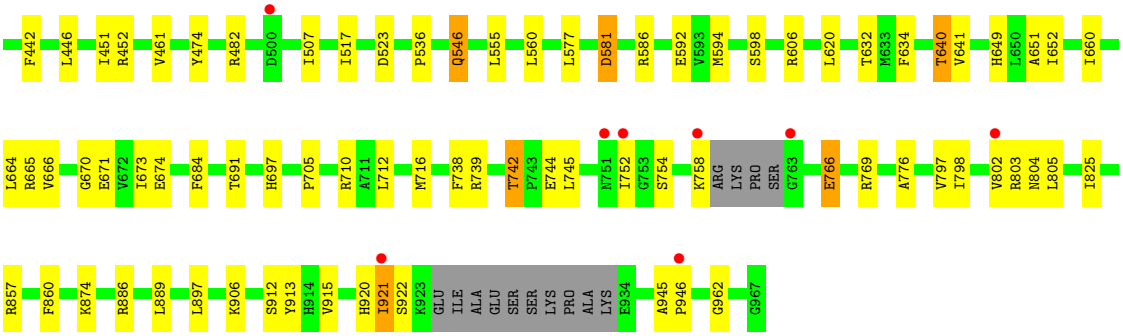


• Molecule 1: Phosphoenolpyruvate carboxylase 1

Chain B:

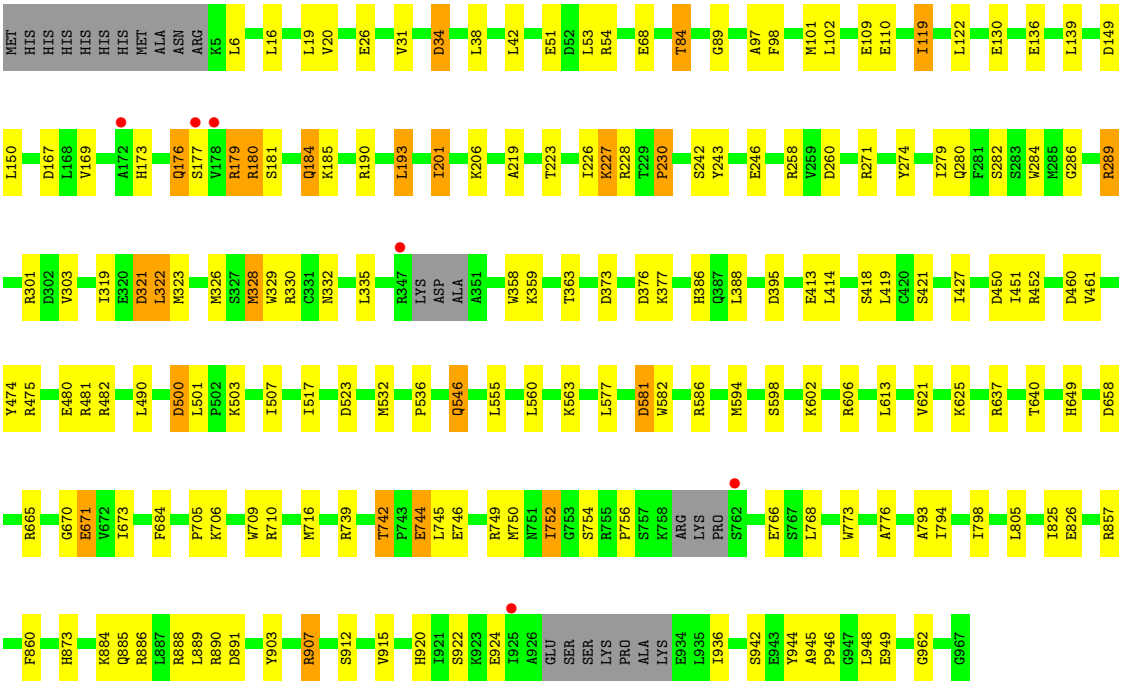






• Molecule 1: Phosphoenolpyruvate carboxylase 1

Chain C:



4 Data and refinement statistics (i)

Property	Value	Source
Space group	I 41 2 2	Depositor
Cell constants a, b, c, α, β, γ	242.87Å 242.87Å 396.11Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	49.56 – 3.09 49.56 – 3.09	Depositor EDS
% Data completeness (in resolution range)	93.1 (49.56-3.09) 93.2 (49.56-3.09)	Depositor EDS
R_{merge}	0.28	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	0.99 (at 3.07Å)	Xtriage
Refinement program	PHENIX 1.11.1_2575	Depositor
R, R_{free}	0.203 , 0.253 0.203 , 0.254	Depositor DCC
R_{free} test set	105422 reflections (2.00%)	wwPDB-VP
Wilson B-factor (Å^2)	78.5	Xtriage
Anisotropy	0.014	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.33 , 80.8	EDS
L-test for twinning[2]	$< \|L\| > = 0.45$, $< L^2 > = 0.28$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o,F_c correlation	0.96	EDS
Total number of atoms	22576	wwPDB-VP
Average B, all atoms (Å^2)	78.0	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 61.38 % 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 1.3223e-05. 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

5.1 Standard geometry

Bond lengths and bond angles in the following residue types are not validated in this section: LMR, CL, PEG

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	0.43	0/7520	0.60	0/10212
1	B	0.42	0/7598	0.61	1/10318 (0.0%)
1	C	0.58	0/7749	0.70	0/10503
All	All	0.48	0/22867	0.64	1/31033 (0.0%)

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
1	B	0	1
1	C	0	1
All	All	0	3

There are no bond length outliers.

All (1) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	B	36	LEU	CB-CG-CD2	-5.56	101.55	111.00

There are no chirality outliers.

All (3) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	A	230	PRO	Peptide
1	B	230	PRO	Peptide
1	C	230	PRO	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	A	7351	0	7142	93	0
1	B	7425	0	7217	101	0
1	C	7573	0	7445	105	0
2	A	9	0	4	0	0
2	B	9	0	4	0	0
2	C	9	0	4	1	0
3	A	1	0	0	0	0
3	B	1	0	0	0	0
3	C	4	0	0	1	0
4	A	13	0	17	0	0
4	B	16	0	19	2	0
4	C	38	0	44	3	0
5	A	39	0	0	1	0
5	B	23	0	0	0	0
5	C	65	0	0	4	0
All	All	22576	0	21896	287	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 6.

All (287) 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:C:749:ARG:NH1	1:C:944:TYR:OH	2.10	0.85
1:B:119:ILE:HD12	1:B:122:LEU:HD22	1.62	0.80
1:B:461:VAL:HG22	1:B:507:ILE:HG23	1.63	0.79
1:C:461:VAL:HG22	1:C:507:ILE:HG23	1.65	0.79
1:B:338:ARG:NH2	1:B:410:GLU:OE1	2.19	0.73
1:C:119:ILE:HD12	1:C:122:LEU:HD22	1.71	0.72
1:B:149:ASP:HB2	1:B:150:LEU:HD22	1.72	0.71
1:B:53:LEU:HD23	1:B:921:ILE:HG13	1.73	0.70
1:A:188:ARG:NH2	1:B:321[B]:ASP:OD2	2.24	0.70
1:A:460:ASP:OD1	1:A:475:ARG:NH2	2.25	0.70
1:B:798:ILE:HD11	1:B:805:LEU:HD13	1.73	0.69
1:B:258:ARG:HG2	1:B:684:PHE:HZ	1.57	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:206:LYS:HE3	4:B:1005:PEG:H31	1.75	0.67
1:A:325:GLU:HG2	1:B:184:GLN:HE22	1.59	0.67
1:B:298:GLU:OE2	1:B:301:ARG:NH1	2.30	0.65
1:B:53:LEU:HB2	1:B:921:ILE:HG21	1.79	0.65
1:B:335:LEU:HD12	1:B:414:LEU:HG	1.79	0.64
1:C:480:GLU:HG3	4:C:1010:PEG:H21	1.80	0.64
1:B:11:SER:OG	1:B:62:GLU:OE2	2.09	0.64
1:C:460:ASP:OD1	1:C:475:ARG:NH2	2.31	0.63
1:B:536:PRO:HB3	1:B:577:LEU:HG	1.81	0.62
1:A:66:GLU:OE1	1:A:75:LYS:NZ	2.21	0.62
1:B:328:MET:SD	1:B:328:MET:N	2.72	0.62
1:B:451:ILE:HG13	1:B:517:ILE:HD11	1.81	0.61
1:B:49:HIS:O	1:B:922:SER:HB3	2.01	0.61
1:A:68:GLU:HG3	1:A:891:ASP:HB3	1.83	0.61
1:B:7[A]:GLU:OE1	1:B:7[A]:GLU:HA	2.00	0.61
1:A:149:ASP:HB2	1:A:150:LEU:HD22	1.82	0.60
1:C:98:PHE:HA	1:C:101:MET:HE3	1.82	0.60
1:C:581:ASP:OD1	1:C:581:ASP:N	2.33	0.60
1:A:426:PRO:O	1:B:215:ARG:HD3	2.02	0.60
1:C:206:LYS:HE2	4:C:1009:PEG:H32	1.83	0.60
1:B:758:LYS:HE3	1:B:769:ARG:HD2	1.83	0.59
1:C:169:VAL:HG22	1:C:282:SER:HB2	1.83	0.59
1:A:301:ARG:NH2	1:A:388:LEU:O	2.33	0.59
1:A:474:TYR:CZ	1:A:482:ARG:HD3	2.38	0.59
1:B:282:SER:OG	1:B:665:ARG:NH2	2.36	0.59
1:B:361:ILE:HD12	1:B:361:ILE:H	1.68	0.59
1:C:546:GLN:OE1	1:C:555:LEU:N	2.36	0.59
1:A:922:SER:OG	1:A:923:LYS:N	2.36	0.58
1:B:301:ARG:NH2	1:B:388:LEU:O	2.36	0.58
1:A:328:MET:HE1	1:A:427:ILE:HG21	1.84	0.58
1:C:884:LYS:HE2	1:C:888[B]:ARG:NH2	2.19	0.58
1:A:87:ASP:HB3	1:A:917:LEU:HD13	1.86	0.58
1:A:215:ARG:HD3	1:B:426:PRO:O	2.02	0.58
1:C:329:TRP:CZ3	1:C:330:ARG:HG3	2.38	0.58
1:A:116:ARG:NH1	5:A:1102:HOH:O	2.37	0.58
1:B:442:PHE:HB3	1:B:446:LEU:HD23	1.85	0.57
1:B:110:GLU:OE1	1:B:190:ARG:NH1	2.36	0.57
1:C:301:ARG:NH2	1:C:388:LEU:O	2.32	0.57
1:C:658:ASP:HA	3:C:1004:CL:CL	2.42	0.57
1:C:149:ASP:HB2	1:C:150:LEU:HD22	1.87	0.57
1:B:164:GLN:HE22	1:B:691:THR:HG23	1.68	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:289:ARG:HG3	1:C:452:ARG:O	2.04	0.57
1:B:332:ASN:HB2	1:B:418:SER:CB	2.34	0.57
1:C:110:GLU:OE1	1:C:190:ARG:NH1	2.38	0.56
1:A:109:GLU:HG2	1:A:886:ARG:HD2	1.86	0.56
1:C:637[A]:ARG:NH2	1:C:671:GLU:OE2	2.35	0.56
1:C:451:ILE:HG13	1:C:517:ILE:HD11	1.88	0.56
1:A:169:VAL:HG22	1:A:282:SER:HB2	1.88	0.56
1:B:13:ASP:OD2	1:B:17:ARG:NH2	2.37	0.56
1:B:286:GLY:HA3	1:B:303:VAL:HG21	1.87	0.56
1:A:461:VAL:HG22	1:A:507:ILE:HG23	1.88	0.55
1:A:907:ARG:HH21	1:A:915:VAL:HG21	1.71	0.55
1:C:746:GLU:O	1:C:750:MET:HG2	2.06	0.55
1:B:797:VAL:O	1:B:804:ASN:ND2	2.36	0.55
1:A:798:ILE:HD11	1:A:805:LEU:HD13	1.89	0.55
1:A:335:LEU:HD12	1:A:414:LEU:HG	1.88	0.55
1:B:354:TYR:OH	1:B:361:ILE:HD11	2.06	0.55
1:C:34:ASP:OD2	1:C:889:LEU:HD11	2.06	0.54
1:A:546:GLN:OE1	1:A:555:LEU:N	2.40	0.54
1:B:766:GLU:H	1:B:766:GLU:CD	2.10	0.54
1:A:875:ASP:HB3	1:A:884:LYS:NZ	2.23	0.54
1:B:705:PRO:HG2	1:B:710:ARG:NH1	2.23	0.54
1:B:546:GLN:OE1	1:B:555:LEU:N	2.37	0.54
1:A:179:ARG:NH1	1:A:181:SER:HB3	2.24	0.53
1:C:501:LEU:O	1:C:503:LYS:HG3	2.08	0.53
1:C:670:GLY:O	1:C:673:ILE:HG22	2.09	0.53
1:C:328:MET:SD	1:C:328:MET:N	2.81	0.53
1:C:279:ILE:O	1:C:280:GLN:NE2	2.41	0.53
1:C:130:GLU:O	1:C:649:HIS:HB3	2.09	0.52
1:A:581:ASP:N	1:A:581:ASP:OD1	2.42	0.52
1:C:97:ALA:O	1:C:101:MET:HG3	2.09	0.52
1:A:427:ILE:HG12	1:B:219:ALA:HB2	1.92	0.52
1:C:798:ILE:HD11	1:C:805:LEU:HD13	1.92	0.52
1:A:355:ILE:HD13	1:B:386:HIS:CE1	2.44	0.52
1:C:332:ASN:HB2	1:C:418:SER:CB	2.40	0.52
1:C:912:SER:O	1:C:912:SER:OG	2.26	0.52
1:C:716:MET:HB3	1:C:793:ALA:HB1	1.92	0.51
1:C:335:LEU:HD12	1:C:414:LEU:HG	1.92	0.51
1:A:282:SER:OG	1:A:665:ARG:NH2	2.44	0.51
1:A:430:GLY:HA3	1:B:215:ARG:HD2	1.92	0.51
1:C:319:ILE:O	1:C:323:MET:HG3	2.10	0.51
1:C:888[A]:ARG:NH1	5:C:1101:HOH:O	2.43	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:857:ARG:O	1:A:860:PHE:HB3	2.10	0.51
1:A:230:PRO:HG3	1:A:751:ASN:HB3	1.93	0.50
1:C:602:LYS:HG3	1:C:773:TRP:CD1	2.46	0.50
1:A:430:GLY:CA	1:B:215:ARG:HD2	2.41	0.50
1:B:258:ARG:HG2	1:B:684:PHE:CZ	2.43	0.50
1:A:48:LEU:HD13	1:A:222:ARG:HD3	1.92	0.50
1:C:109:GLU:HG2	1:C:886:ARG:HD2	1.93	0.50
1:C:739:ARG:HB3	1:C:745:LEU:HD11	1.93	0.50
1:A:274:TYR:OH	1:A:413:GLU:HG2	2.12	0.50
1:A:451:ILE:HG13	1:A:517:ILE:HD11	1.94	0.50
1:A:536:PRO:HB3	1:A:577:LEU:HG	1.92	0.50
1:B:742:THR:CG2	1:B:776:ALA:HB1	2.42	0.49
1:B:289:ARG:HG3	1:B:452:ARG:O	2.12	0.49
1:C:219:ALA:O	1:C:223:THR:HG23	2.12	0.49
1:C:206:LYS:HE3	4:C:1008:PEG:H32	1.94	0.49
1:A:53:LEU:HD23	1:A:921:ILE:HB	1.94	0.49
1:C:286:GLY:HA3	1:C:303:VAL:HG21	1.95	0.49
1:A:175:THR:OG1	1:A:176:GLN:N	2.45	0.49
1:C:945:ALA:HB1	1:C:946:PRO:HD2	1.94	0.49
1:A:229:THR:HG23	1:A:231:PRO:HA	1.95	0.49
1:A:330:ARG:HD3	1:B:222:ARG:NH2	2.26	0.49
1:B:84:THR:HG22	1:B:915:VAL:HG11	1.95	0.49
1:B:109:GLU:HG2	1:B:886:ARG:CD	2.43	0.49
1:C:749:ARG:HH12	1:C:944:TYR:HH	1.50	0.49
1:B:758:LYS:HE3	1:B:769:ARG:CD	2.43	0.48
1:A:501:LEU:O	1:A:503:LYS:HG3	2.13	0.48
1:A:716:MET:HB3	1:A:793:ALA:HB1	1.95	0.48
1:A:769:ARG:HE	1:A:769:ARG:HB3	1.46	0.48
1:C:536:PRO:HB3	1:C:577:LEU:HG	1.95	0.48
1:B:167:ASP:HB3	1:B:665:ARG:HG3	1.94	0.48
1:C:373:ASP:OD2	1:C:377:LYS:NZ	2.46	0.48
1:A:321[B]:ASP:OD2	1:B:188:ARG:NH2	2.46	0.48
1:B:226:ILE:HD12	1:B:227:LYS:H	1.78	0.48
1:C:826:GLU:OE1	1:C:873:HIS:ND1	2.43	0.48
1:A:500:ASP:OD1	1:A:500:ASP:N	2.45	0.48
1:A:532:MET:HG3	1:A:759:ARG:HH12	1.79	0.48
1:B:173:HIS:HB2	1:B:177:SER:HB3	1.96	0.48
1:A:598:SER:OG	1:A:637[B]:ARG:NH2	2.46	0.48
1:B:442:PHE:HB3	1:B:446:LEU:HA	1.95	0.48
1:C:258:ARG:HG2	1:C:684:PHE:HZ	1.78	0.48
1:C:284:TRP:CD1	1:C:450:ASP:HB2	2.49	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:102:LEU:HD21	1:A:962:GLY:CA	2.45	0.47
1:A:637[A]:ARG:NH2	1:A:671:GLU:OE2	2.40	0.47
1:B:102:LEU:HD21	1:B:962:GLY:CA	2.44	0.47
1:C:328:MET:HE2	1:C:427:ILE:HD13	1.95	0.47
1:C:260:ASP:OD2	1:C:271:ARG:HD3	2.14	0.47
1:C:84:THR:HG23	1:C:903:TYR:CD1	2.49	0.47
1:A:139:LEU:HD21	1:A:259:VAL:HG22	1.95	0.47
1:C:328:MET:HE1	1:C:427:ILE:HG21	1.96	0.47
1:C:500:ASP:OD1	1:C:500:ASP:N	2.47	0.47
1:A:68:GLU:CG	1:A:891:ASP:HB3	2.45	0.47
1:A:912:SER:O	1:A:912:SER:OG	2.30	0.47
1:B:111:VAL:HG23	1:B:190:ARG:HG2	1.95	0.47
1:C:560:LEU:HD13	1:C:594:MET:HG2	1.97	0.47
1:B:179[B]:ARG:HD2	1:B:181:SER:OG	2.15	0.47
1:B:130:GLU:O	1:B:649:HIS:HB3	2.14	0.46
1:C:38:LEU:HD12	1:C:38:LEU:HA	1.75	0.46
1:A:98:PHE:HA	1:A:101:MET:HE3	1.97	0.46
1:A:286:GLY:HA3	1:A:303:VAL:HG21	1.98	0.46
1:A:560:LEU:HD13	1:A:594:MET:HG2	1.97	0.46
1:B:89:GLY:HA3	1:B:920:HIS:HE1	1.80	0.46
1:C:193:LEU:HD23	1:C:193:LEU:HA	1.62	0.46
1:B:182:LEU:HD12	1:B:182:LEU:HA	1.71	0.46
1:B:581:ASP:OD1	1:B:581:ASP:N	2.49	0.46
1:B:712:LEU:O	1:B:716:MET:HG3	2.16	0.46
1:B:738:PHE:CE1	1:B:742:THR:HG21	2.50	0.46
1:B:945:ALA:HB1	1:B:946:PRO:HD2	1.98	0.46
1:B:857:ARG:O	1:B:860:PHE:HB3	2.15	0.46
1:C:532:MET:HE1	1:C:563:LYS:HD2	1.98	0.46
1:B:641:VAL:HG12	1:B:652:ILE:HG13	1.98	0.46
1:B:158:PHE:CE1	1:B:162:LYS:HD2	2.51	0.46
1:B:897:LEU:HD23	1:B:897:LEU:HA	1.79	0.46
1:B:90:ASP:CG	1:B:921:ILE:HG12	2.36	0.45
1:C:19:LEU:HD12	1:C:19:LEU:HA	1.84	0.45
1:B:237:MET:O	1:B:241:MET:HG2	2.17	0.45
1:C:606:ARG:NH1	5:C:1102:HOH:O	2.49	0.45
1:C:857:ARG:O	1:C:860:PHE:HB3	2.16	0.45
1:A:442:PHE:HB3	1:A:446:LEU:HD23	1.99	0.45
1:B:169:VAL:HA	1:B:282:SER:O	2.16	0.45
1:C:890:ARG:NH2	2:C:1001:LMR:O4B	2.50	0.45
1:A:180:ARG:HD2	1:A:242:SER:OG	2.16	0.45
1:A:532:MET:CG	1:A:759:ARG:HH12	2.29	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:20:VAL:HG11	1:C:885:GLN:OE1	2.17	0.45
1:B:664:LEU:HG	1:B:666:VAL:HG23	1.99	0.45
1:C:742:THR:CG2	1:C:776:ALA:HB1	2.46	0.45
1:A:328:MET:SD	1:A:328:MET:N	2.89	0.45
1:A:205:ASP:OD1	1:B:258:ARG:NH2	2.47	0.45
1:A:343:HIS:ND1	1:A:363:THR:HG23	2.32	0.44
1:C:180:ARG:HG3	1:C:180:ARG:HH11	1.81	0.44
1:C:705:PRO:O	1:C:710[B]:ARG:NH1	2.50	0.44
1:C:89:GLY:HA3	1:C:920:HIS:HE1	1.82	0.44
1:A:119:ILE:H	1:A:119:ILE:HG12	1.54	0.44
1:B:802:VAL:HG23	1:B:803:ARG:HG3	1.99	0.44
1:B:19:LEU:HD12	1:B:19:LEU:HA	1.77	0.44
1:C:167:ASP:HB3	1:C:665:ARG:HG3	1.99	0.44
1:B:906:LYS:HE3	1:B:913:TYR:CD1	2.52	0.44
1:A:140:GLU:O	1:A:144:LYS:HG3	2.17	0.44
1:B:742:THR:HG23	1:B:776:ALA:HB1	2.00	0.44
1:C:102:LEU:HD21	1:C:962:GLY:CA	2.48	0.44
1:C:227:LYS:HB3	1:C:228:ARG:H	1.68	0.44
1:C:606:ARG:HD3	1:C:825:ILE:HD11	2.00	0.44
1:B:769:ARG:HE	1:B:769:ARG:HB3	1.33	0.44
1:C:20:VAL:HG21	1:C:885:GLN:HG3	2.00	0.44
1:C:139:LEU:HA	1:C:139:LEU:HD12	1.73	0.44
1:A:742:THR:CG2	1:A:776:ALA:HB1	2.48	0.44
1:B:912:SER:O	1:B:912:SER:OG	2.27	0.44
1:C:68:GLU:CD	1:C:891:ASP:HB3	2.38	0.43
1:A:309:MET:HE1	1:B:355:ILE:HD13	1.99	0.43
1:B:16:LEU:HD23	1:B:16:LEU:HA	1.88	0.43
1:C:176:GLN:H	1:C:176:GLN:HG3	1.53	0.43
1:C:201:ILE:HD12	1:C:201:ILE:HA	1.55	0.43
1:A:490:LEU:HD23	1:A:544:LEU:HD13	2.00	0.43
1:C:752:ILE:H	1:C:752:ILE:HG12	1.43	0.43
1:C:20:VAL:HG13	5:C:1155:HOH:O	2.18	0.43
1:C:42:LEU:HD23	1:C:42:LEU:HA	1.74	0.43
1:C:706:LYS:O	1:C:709:TRP:HB2	2.19	0.43
1:B:739:ARG:HB3	1:B:745:LEU:HD11	2.01	0.43
1:C:419:LEU:HD23	1:C:419:LEU:HA	1.62	0.43
1:A:371:LEU:HA	1:A:371:LEU:HD23	1.83	0.43
1:B:620:LEU:HD23	1:B:620:LEU:HA	1.77	0.43
1:A:319:ILE:O	1:A:323:MET:HG3	2.19	0.43
1:B:158:PHE:CD2	1:B:268:ILE:HG21	2.54	0.43
1:C:184:GLN:HG3	1:C:185:LYS:N	2.34	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:501:LEU:HB3	1:C:503:LYS:NZ	2.34	0.43
1:C:907:ARG:HH21	1:C:915:VAL:HG21	1.84	0.43
1:A:169:VAL:HA	1:A:282:SER:O	2.18	0.42
1:A:606:ARG:HD3	1:A:825:ILE:HD11	2.01	0.42
1:A:657:PRO:HG3	1:A:701:PRO:HB2	2.00	0.42
1:B:560:LEU:HD13	1:B:594:MET:HG2	2.00	0.42
1:A:89:GLY:HA3	1:A:920:HIS:NE2	2.35	0.42
1:A:288:ASP:OD2	1:A:755:ARG:NH2	2.50	0.42
1:A:621:VAL:HG21	1:A:659:THR:HG22	2.01	0.42
1:C:474:TYR:CZ	1:C:482:ARG:HD3	2.55	0.42
1:B:158:PHE:HE1	1:B:162:LYS:HD2	1.84	0.42
1:C:180:ARG:HD2	1:C:242:SER:OG	2.20	0.42
1:A:179:ARG:HH12	1:A:181:SER:HB3	1.83	0.42
1:A:68:GLU:CD	1:A:891:ASP:HB3	2.40	0.42
1:C:756:PRO:O	1:C:768:LEU:HD12	2.19	0.42
1:A:291:GLY:O	1:A:756:PRO:HD2	2.19	0.42
1:B:44:ILE:HD13	1:B:218:GLN:HB2	2.02	0.42
1:C:274:TYR:CE1	1:C:413:GLU:HG2	2.54	0.42
1:C:742:THR:HG22	1:C:744:GLU:H	1.84	0.42
1:A:705:PRO:HG2	1:A:710:ARG:NH1	2.34	0.42
1:A:794:ILE:O	1:A:798:ILE:HG13	2.19	0.42
1:C:274:TYR:OH	1:C:413:GLU:HG2	2.19	0.42
1:A:48:LEU:HD22	1:A:222:ARG:NH1	2.35	0.42
1:C:173:HIS:HB2	1:C:177:SER:HB3	2.00	0.42
1:A:237:MET:O	1:A:241:MET:HG2	2.20	0.42
1:B:592:GLU:HA	1:B:632:THR:O	2.19	0.42
1:B:660:ILE:HD12	1:B:697:HIS:CG	2.55	0.42
1:C:16:LEU:HB3	1:C:31:VAL:HG13	2.02	0.42
1:C:948:LEU:HA	1:C:948:LEU:HD23	1.71	0.42
1:A:167:ASP:HB3	1:A:665:ARG:HG3	2.02	0.41
1:A:281:PHE:O	1:A:447:VAL:HA	2.20	0.41
1:A:528:TYR:CD1	1:A:542:VAL:HG11	2.55	0.41
1:A:670:GLY:O	1:A:673:ILE:HG22	2.19	0.41
1:A:786:VAL:HG11	1:A:828:VAL:HG21	2.01	0.41
1:B:206:LYS:HE3	4:B:1005:PEG:H21	2.02	0.41
1:C:613:LEU:HD23	1:C:613:LEU:HA	1.84	0.41
1:B:23:LYS:HD3	1:B:28:ASP:HB3	2.01	0.41
1:B:474:TYR:CZ	1:B:482:ARG:HD3	2.55	0.41
1:B:640:THR:HB	1:B:651:ALA:HB1	2.02	0.41
1:C:490:LEU:HD13	1:C:582:TRP:CE3	2.55	0.41
1:C:621:VAL:HG12	1:C:625:LYS:HE3	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:119:ILE:HB	1:C:122:LEU:HB2	2.02	0.41
1:C:322:LEU:HD22	1:C:326:MET:CG	2.51	0.41
1:C:481:ARG:NH1	5:C:1103:HOH:O	2.53	0.41
1:A:305:LEU:O	1:A:309:MET:HG3	2.20	0.41
1:A:338:ARG:O	1:A:342:VAL:HG23	2.21	0.41
1:B:48:LEU:HD13	1:B:222:ARG:HD3	2.03	0.41
1:C:884:LYS:HE2	1:C:888[B]:ARG:HH21	1.86	0.41
1:A:285:MET:HE3	1:A:285:MET:HB2	1.90	0.41
1:B:215:ARG:HD3	1:B:215:ARG:HH11	1.75	0.41
1:C:136:GLU:HB2	1:C:649:HIS:CD2	2.56	0.41
1:C:258:ARG:HG2	1:C:684:PHE:CZ	2.55	0.41
1:C:794:ILE:O	1:C:798:ILE:HG13	2.21	0.41
1:A:182:LEU:HD12	1:A:182:LEU:HA	1.64	0.41
1:B:577:LEU:HA	1:B:577:LEU:HD23	1.60	0.41
1:B:606:ARG:HD3	1:B:825:ILE:HD11	2.02	0.41
1:B:162:LYS:HB3	1:B:162:LYS:HE2	1.90	0.40
1:C:179:ARG:C	1:C:181:SER:N	2.74	0.40
1:B:193:LEU:HD23	1:B:193:LEU:HA	1.76	0.40
1:B:874:LYS:HD3	1:B:874:LYS:HA	1.84	0.40
1:C:243:TYR:HA	1:C:246:GLU:HB2	2.03	0.40
1:C:705:PRO:HG2	1:C:710[B]:ARG:CZ	2.51	0.40
1:A:613:LEU:HA	1:A:613:LEU:HD23	1.89	0.40
1:A:158:PHE:O	1:A:162:LYS:HG3	2.21	0.40
1:B:90:ASP:OD1	1:B:921:ILE:HG12	2.21	0.40
1:B:670:GLY:O	1:B:673:ILE:HG22	2.21	0.40
1:A:850:TRP:N	1:A:851:PRO:HD2	2.36	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	932/974 (96%)	885 (95%)	41 (4%)	6 (1%)	22 53
1	B	939/974 (96%)	886 (94%)	46 (5%)	7 (1%)	19 51
1	C	947/974 (97%)	892 (94%)	46 (5%)	9 (1%)	13 42
All	All	2818/2922 (96%)	2663 (94%)	133 (5%)	22 (1%)	16 48

All (22) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	C	227	LYS
1	A	226	ILE
1	B	227	LYS
1	B	921	ILE
1	A	227	LYS
1	A	395	ASP
1	A	922	SER
1	C	180	ARG
1	C	226	ILE
1	C	754	SER
1	B	226	ILE
1	B	395	ASP
1	C	230	PRO
1	C	395	ASP
1	C	922	SER
1	A	230	PRO
1	A	500	ASP
1	B	754	SER
1	C	500	ASP
1	C	924	GLU
1	B	230	PRO
1	B	21	PRO

5.3.2 Protein sidechains (i)

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
1	A	770/850 (91%)	739 (96%)	31 (4%)	27 58

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
1	B	778/850 (92%)	736 (95%)	42 (5%)	18 47
1	C	807/850 (95%)	768 (95%)	39 (5%)	21 51
All	All	2355/2550 (92%)	2243 (95%)	112 (5%)	22 51

All (112) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	34	ASP
1	A	53	LEU
1	A	54	ARG
1	A	77	GLU
1	A	84	THR
1	A	112	GLN
1	A	119	ILE
1	A	179	ARG
1	A	193	LEU
1	A	254	LYS
1	A	289	ARG
1	A	296	THR
1	A	322	LEU
1	A	328	MET
1	A	335	LEU
1	A	376	ASP
1	A	386	HIS
1	A	408	PHE
1	A	445	SER
1	A	470	ASP
1	A	473	SER
1	A	494	ARG
1	A	523	ASP
1	A	546	GLN
1	A	581	ASP
1	A	586	ARG
1	A	598	SER
1	A	640	THR
1	A	742	THR
1	A	907	ARG
1	A	921	ILE
1	B	6	LEU
1	B	8	LYS
1	B	13	ASP

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Mol	Chain	Res	Type
1	B	26	GLU
1	B	34	ASP
1	B	53	LEU
1	B	54	ARG
1	B	84	THR
1	B	119	ILE
1	B	177	SER
1	B	179[A]	ARG
1	B	179[B]	ARG
1	B	193	LEU
1	B	229	THR
1	B	289	ARG
1	B	296	THR
1	B	321[A]	ASP
1	B	321[B]	ASP
1	B	322	LEU
1	B	328	MET
1	B	335	LEU
1	B	355	ILE
1	B	358	TRP
1	B	361	ILE
1	B	363	THR
1	B	376	ASP
1	B	386	HIS
1	B	408	PHE
1	B	523	ASP
1	B	546	GLN
1	B	581	ASP
1	B	586	ARG
1	B	598	SER
1	B	634	PHE
1	B	640	THR
1	B	671	GLU
1	B	674	GLU
1	B	742	THR
1	B	744	GLU
1	B	752	ILE
1	B	766	GLU
1	B	889	LEU
1	C	6	LEU
1	C	26	GLU
1	C	34	ASP

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Mol	Chain	Res	Type
1	C	51	GLU
1	C	53	LEU
1	C	54	ARG
1	C	84	THR
1	C	119	ILE
1	C	176	GLN
1	C	179	ARG
1	C	184	GLN
1	C	193	LEU
1	C	201	ILE
1	C	289	ARG
1	C	321[A]	ASP
1	C	321[B]	ASP
1	C	322	LEU
1	C	328	MET
1	C	358	TRP
1	C	359	LYS
1	C	363	THR
1	C	376	ASP
1	C	386	HIS
1	C	421	SER
1	C	523	ASP
1	C	546	GLN
1	C	581	ASP
1	C	586	ARG
1	C	598	SER
1	C	640	THR
1	C	671	GLU
1	C	742	THR
1	C	744	GLU
1	C	752	ILE
1	C	766	GLU
1	C	907	ARG
1	C	936	ILE
1	C	942	SER
1	C	949	GLU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (1) such sidechains are listed below:

Mol	Chain	Res	Type
1	C	164	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 oligosaccharides in this entry.

5.6 Ligand geometry (i)

Of 21 ligands modelled in this entry, 6 are monoatomic - leaving 15 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	$\#\|Z\| > 2$
4	PEG	C	1011	4	6,6,6	0.48	0	5,5,5	0.33	0
4	PEG	B	1003	4	6,6,6	0.52	0	5,5,5	0.54	0
2	LMR	C	1001	-	8,8,8	1.44	1 (12%)	10,10,10	1.58	2 (20%)
2	LMR	B	1001	-	8,8,8	1.25	1 (12%)	10,10,10	1.92	3 (30%)
2	LMR	A	1001	-	8,8,8	1.36	1 (12%)	10,10,10	1.32	1 (10%)
4	PEG	C	1007	4	1,1,6	0.74	0	-		
4	PEG	C	1012	4	1,1,6	0.63	0	-		
4	PEG	B	1004	4	1,1,6	0.86	0	-		
4	PEG	C	1010	-	6,6,6	0.53	0	5,5,5	0.58	0
4	PEG	A	1003	-	5,5,6	0.60	0	4,4,5	0.84	0
4	PEG	A	1004	-	6,6,6	0.48	0	5,5,5	0.38	0
4	PEG	B	1005	-	6,6,6	0.54	0	5,5,5	0.43	0
4	PEG	C	1009	4	5,5,6	0.56	0	4,4,5	0.51	0
4	PEG	C	1008	4	6,6,6	0.54	0	5,5,5	0.31	0
4	PEG	C	1006	4	6,6,6	0.55	0	5,5,5	0.76	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
4	PEG	C	1011	4	-	2/4/4/4	-
4	PEG	B	1003	4	-	1/4/4/4	-
2	LMR	C	1001	-	-	0/8/8/8	-
2	LMR	B	1001	-	-	5/8/8/8	-
2	LMR	A	1001	-	-	0/8/8/8	-
4	PEG	C	1010	-	-	2/4/4/4	-
4	PEG	A	1003	-	-	1/3/3/4	-
4	PEG	A	1004	-	-	1/4/4/4	-
4	PEG	B	1005	-	-	3/4/4/4	-
4	PEG	C	1009	4	-	2/3/3/4	-
4	PEG	C	1008	4	-	1/4/4/4	-
4	PEG	C	1006	4	-	3/4/4/4	-

All (3) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	C	1001	LMR	C2-C1	-3.16	1.47	1.52
2	B	1001	LMR	C2-C1	-2.48	1.48	1.52
2	A	1001	LMR	C2-C1	-2.43	1.48	1.52

All (6) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	B	1001	LMR	O1B-C1-C2	3.50	120.41	112.72
2	C	1001	LMR	O1B-C1-C2	3.18	119.71	112.72
2	A	1001	LMR	O1B-C1-C2	2.94	119.18	112.72
2	B	1001	LMR	C2-C3-C4	-2.65	105.58	112.13
2	B	1001	LMR	O4A-C4-C3	2.60	122.40	114.07
2	C	1001	LMR	O1A-C1-C2	-2.37	117.92	122.54

There are no chirality outliers.

All (21) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
2	B	1001	LMR	O1A-C1-C2-O2
2	B	1001	LMR	O1B-C1-C2-O2
4	C	1006	PEG	O2-C3-C4-O4

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Mol	Chain	Res	Type	Atoms
4	A	1004	PEG	O1-C1-C2-O2
4	C	1011	PEG	O2-C3-C4-O4
4	B	1005	PEG	O2-C3-C4-O4
4	C	1006	PEG	O1-C1-C2-O2
4	A	1003	PEG	O1-C1-C2-O2
4	C	1010	PEG	O2-C3-C4-O4
4	C	1011	PEG	O1-C1-C2-O2
2	B	1001	LMR	O1A-C1-C2-C3
2	B	1001	LMR	O1B-C1-C2-C3
4	C	1009	PEG	C1-C2-O2-C3
4	C	1008	PEG	C1-C2-O2-C3
4	B	1005	PEG	C1-C2-O2-C3
4	C	1010	PEG	C4-C3-O2-C2
4	B	1003	PEG	O1-C1-C2-O2
4	C	1009	PEG	C4-C3-O2-C2
4	C	1006	PEG	C1-C2-O2-C3
4	B	1005	PEG	O1-C1-C2-O2
2	B	1001	LMR	C1-C2-C3-C4

There are no ring outliers.

5 monomers are involved in 6 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
2	C	1001	LMR	1	0
4	C	1010	PEG	1	0
4	B	1005	PEG	2	0
4	C	1009	PEG	1	0
4	C	1008	PEG	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	935/974 (95%)	-0.51	15 (1%)	70	52	35, 82, 140, 221	3 (0%)
1	B	944/974 (96%)	-0.49	15 (1%)	70	52	36, 86, 136, 206	5 (0%)
1	C	950/974 (97%)	-0.71	6 (0%)	85	72	25, 56, 111, 221	5 (0%)
All	All	2829/2922 (96%)	-0.57	36 (1%)	74	58	25, 75, 131, 221	13 (0%)

All (36) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	A	752	ILE	4.6
1	B	179[A]	ARG	4.2
1	A	177	SER	4.0
1	C	177	SER	3.9
1	A	178	VAL	3.8
1	B	751	ASN	3.8
1	B	763	GLY	3.3
1	A	175	THR	3.2
1	A	736	GLU	3.2
1	A	181	SER	3.2
1	B	921	ILE	3.2
1	B	178	VAL	3.2
1	B	500	ASP	3.2
1	B	176	GLN	3.0
1	C	347	ARG	3.0
1	B	119	ILE	3.0
1	B	758	LYS	2.7
1	A	757	SER	2.7
1	C	762	SER	2.7
1	B	230	PRO	2.7
1	A	174	PRO	2.6
1	B	346	SER	2.5
1	C	925	ILE	2.5

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Mol	Chain	Res	Type	RSRZ
1	A	947	GLY	2.5
1	A	180	ARG	2.4
1	B	752	ILE	2.4
1	A	7	GLU	2.3
1	C	172	ALA	2.3
1	A	183	LEU	2.3
1	A	21	PRO	2.3
1	B	946	PRO	2.2
1	A	761	PRO	2.2
1	B	802	VAL	2.2
1	A	494	ARG	2.1
1	B	142	THR	2.1
1	C	178	VAL	2.1

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^2)	Q<0.9
4	PEG	C	1007	2/7	0.72	0.23	29,29,29,50	0
4	PEG	C	1009	6/7	0.72	0.16	93,105,122,127	0
4	PEG	B	1004	2/7	0.74	0.18	37,37,37,59	0
4	PEG	C	1012	2/7	0.79	0.36	50,50,50,58	0
4	PEG	C	1010	7/7	0.83	0.12	82,91,99,101	0
4	PEG	A	1003	6/7	0.90	0.18	40,53,55,69	0
3	CL	C	1002	1/1	0.91	0.10	63,63,63,63	0
4	PEG	A	1004	7/7	0.93	0.10	67,76,88,90	0
3	CL	A	1002	1/1	0.94	0.14	69,69,69,69	0
4	PEG	C	1006	7/7	0.94	0.11	57,61,68,72	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
2	LMR	B	1001	9/9	0.94	0.08	56,63,81,84	0
4	PEG	B	1003	7/7	0.95	0.10	51,65,86,87	0
4	PEG	B	1005	7/7	0.95	0.09	53,56,72,75	0
4	PEG	C	1011	7/7	0.95	0.12	28,44,55,61	0
4	PEG	C	1008	7/7	0.95	0.10	46,54,68,98	0
3	CL	B	1002	1/1	0.96	0.09	78,78,78,78	0
2	LMR	A	1001	9/9	0.96	0.10	62,75,83,86	0
3	CL	C	1004	1/1	0.96	0.19	75,75,75,75	0
3	CL	C	1005	1/1	0.96	0.23	58,58,58,58	0
3	CL	C	1003	1/1	0.97	0.07	57,57,57,57	0
2	LMR	C	1001	9/9	0.98	0.07	27,48,57,61	0

6.5 Other polymers (i)

There are no such residues in this entry.