Full wwPDB X-ray Structure Validation Report ⓘ

Aug 2, 2023 – 02:17 AM EDT

PDB ID	:	1C5M
Title	:	STRUCTURAL BASIS FOR SELECTIVITY OF A SMALL MOLECULE, S1-BINDING, SUB-MICROMOLAR INHIBITOR OF UROKINASE TYPE PLASMINOGEN ACTIVATOR
Authors	:	Katz, B.A.; Mackman, R.; Luong, C.; Radika, K.; Martelli, A.; Sprengeler, P.A.; Wang, J.; Chan, H.; Wong, L.
Deposited on	:	1999-12-22
Resolution	:	1.95 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:

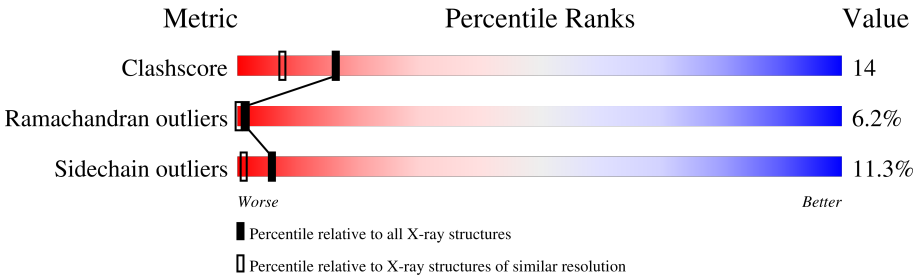
MolProbity	:	4.02b-467
Xtriage (Phenix)	:	1.13
EDS	:	2.34
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac	:	5.8.0158
CCP4	:	7.0.044 (Gargrove)
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.34

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 1.95 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	2705 (1.96-1.96)
Ramachandran outliers	138981	2678 (1.96-1.96)
Sidechain outliers	138945	2678 (1.96-1.96)

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%

Mol	Chain	Length	Quality of chain
1	D	255	60% 27% 5% • 5%
2	F	96	32% 14% 7% • 46%

2 Entry composition (i)

There are 3 unique types of molecules in this entry. The entry contains 5896 atoms, of which 3142 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 PROTEIN (COAGULATION FACTOR X).

Mol	Chain	Residues	Atoms						ZeroOcc	AltConf	Trace
1	D	241	Total	C	H	N	O	S	68	1	0
			3786	1201	1879	335	357	14			

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
D	257	VAL	-	insertion	UNP P00742

- Molecule 2 is a protein called PROTEIN (COAGULATION FACTOR X).

Mol	Chain	Residues	Atoms						ZeroOcc	AltConf	Trace
2	F	52	Total	C	H	N	O	S	26	1	0
			748	235	355	70	81	7			

- Molecule 3 is water.

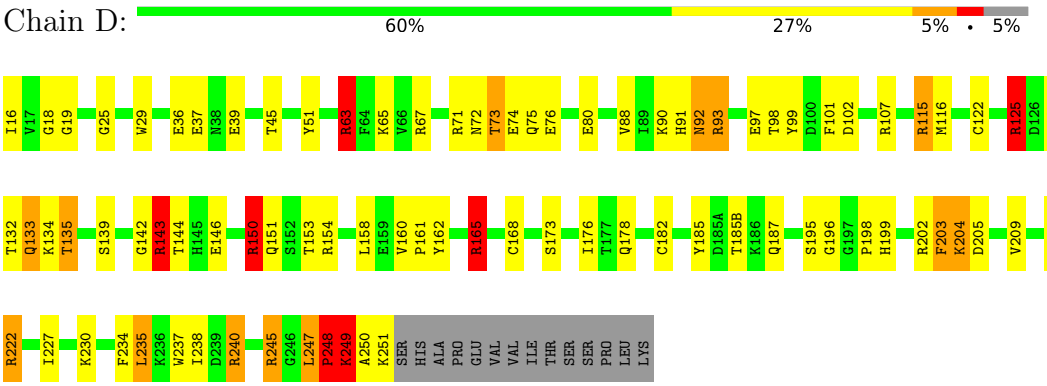
Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
3	D	354	Total	H	O	0	9
			1062	708	354		
3	F	100	Total	H	O	0	1
			300	200	100		

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. 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. 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.

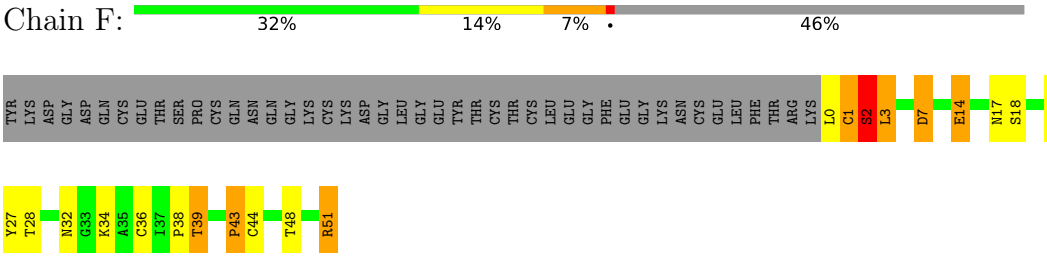
- Molecule 1: PROTEIN (COAGULATION FACTOR X)

Chain D:



- Molecule 2: PROTEIN (COAGULATION FACTOR X)

Chain F:



4 Data and refinement statistics (i)

Property	Value	Source
Space group	P 31 2 1	Depositor
Cell constants a, b, c, α, β, γ	81.82Å 81.82Å 108.79Å 90.00° 90.00° 120.00°	Depositor
Resolution (Å)	7.50 – 1.95 33.69 – 1.64	Depositor EDS
% Data completeness (in resolution range)	60.4 (7.50-1.95) 41.6 (33.69-1.64)	Depositor EDS
R_{merge}	0.07	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	1.53 (at 1.64Å)	Xtriage
Refinement program	X-PLOR 3.1	Depositor
R, R_{free}	0.218 , 0.307 0.269 , (Not available)	Depositor DCC
R_{free} test set	No test flags present.	wwPDB-VP
Wilson B-factor (Å^2)	13.2	Xtriage
Anisotropy	0.047	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.28 , 64.5	EDS
L-test for twinning[2]	$< \|L\| > = 0.48$, $< L^2 > = 0.31$	Xtriage
Estimated twinning fraction	0.045 for -h,-k,l	Xtriage
F_o,F_c correlation	0.88	EDS
Total number of atoms	5896	wwPDB-VP
Average B, all atoms (Å^2)	40.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 4.37% 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

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	D	1.42	7/1950 (0.4%)	1.68	38/2625 (1.4%)
2	F	1.36	0/404	1.52	1/545 (0.2%)
All	All	1.41	7/2354 (0.3%)	1.65	39/3170 (1.2%)

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	D	0	14
2	F	0	2
All	All	0	16

All (7) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	D	196	GLY	C-N	-6.38	1.21	1.33
1	D	76	GLU	CD-OE2	6.20	1.32	1.25
1	D	76	GLU	CG-CD	5.72	1.60	1.51
1	D	76	GLU	CD-OE1	-5.43	1.19	1.25
1	D	237	TRP	CG-CD2	-5.39	1.34	1.43
1	D	127	TRP	CG-CD2	-5.09	1.34	1.43
1	D	29	TRP	CG-CD2	-5.03	1.35	1.43

All (39) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	D	76	GLU	OE1-CD-OE2	17.68	144.52	123.30
1	D	215	TRP	CD1-NE1-CE2	10.29	118.27	109.00
1	D	127	TRP	CD1-NE1-CE2	9.72	117.75	109.00
1	D	237	TRP	CD1-NE1-CE2	9.27	117.34	109.00
1	D	115	ARG	NE-CZ-NH2	-8.99	115.81	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	D	215	TRP	NE1-CE2-CZ2	8.55	139.80	130.40
1	D	237	TRP	CG-CD1-NE1	-8.14	101.96	110.10
1	D	29	TRP	CD1-NE1-CE2	8.06	116.25	109.00
1	D	237	TRP	NE1-CE2-CZ2	7.97	139.17	130.40
1	D	29	TRP	NE1-CE2-CZ2	7.58	138.74	130.40
1	D	127	TRP	CG-CD1-NE1	-7.54	102.56	110.10
1	D	215	TRP	CG-CD1-NE1	-6.98	103.12	110.10
1	D	76	GLU	CG-CD-OE1	-6.95	104.40	118.30
1	D	99	TYR	CB-CG-CD2	-6.91	116.85	121.00
1	D	215	TRP	NE1-CE2-CD2	-6.85	100.45	107.30
1	D	127	TRP	NE1-CE2-CZ2	6.67	137.74	130.40
1	D	199	HIS	N-CA-C	-6.56	93.28	111.00
1	D	107	ARG	NE-CZ-NH2	-6.28	117.16	120.30
1	D	29	TRP	CG-CD1-NE1	-6.20	103.90	110.10
1	D	248	PRO	N-CA-C	6.10	127.95	112.10
1	D	127	TRP	NE1-CE2-CD2	-5.95	101.36	107.30
1	D	19	GLY	N-CA-C	-5.89	98.39	113.10
1	D	237	TRP	NE1-CE2-CD2	-5.79	101.52	107.30
1	D	29	TRP	NE1-CE2-CD2	-5.58	101.72	107.30
1	D	185	TYR	CB-CG-CD1	-5.53	117.68	121.00
1	D	176	ILE	N-CA-C	-5.49	96.17	111.00
1	D	102	ASP	CB-CG-OD2	-5.46	113.38	118.30
1	D	135	THR	N-CA-CB	-5.41	100.03	110.30
2	F	14	GLU	N-CA-C	-5.34	96.59	111.00
1	D	39	GLU	N-CA-C	-5.31	96.66	111.00
1	D	107	ARG	N-CA-C	-5.28	96.73	111.00
1	D	203	PHE	N-CA-C	-5.24	96.85	111.00
1	D	71	ARG	NE-CZ-NH2	-5.23	117.68	120.30
1	D	222	ARG	N-CA-C	-5.22	96.90	111.00
1	D	115	ARG	NE-CZ-NH1	5.16	122.88	120.30
1	D	212	ILE	N-CA-C	-5.12	97.18	111.00
1	D	63	ARG	NE-CZ-NH2	-5.05	117.78	120.30
1	D	199	HIS	CA-CB-CG	-5.03	105.05	113.60
1	D	168	CYS	CA-CB-SG	5.02	123.04	114.00

There are no chirality outliers.

All (16) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	D	115	ARG	Sidechain
1	D	125	ARG	Sidechain
1	D	143	ARG	Sidechain

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Mol	Chain	Res	Type	Group
1	D	150	ARG	Sidechain
1	D	154	ARG	Sidechain
1	D	165	ARG	Sidechain
1	D	202	ARG	Sidechain
1	D	222	ARG	Sidechain
1	D	240	ARG	Sidechain
1	D	245	ARG	Sidechain
1	D	247	LEU	Peptide
1	D	63	ARG	Sidechain
1	D	67	ARG	Sidechain
1	D	93	ARG	Sidechain
2	F	25	ARG	Sidechain
2	F	51	ARG	Sidechain

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	D	1907	1879	1874	46	4
2	F	393	355	355	20	12
3	D	354	708	0	11	45
3	F	100	200	0	14	21
All	All	2754	3142	2229	64	49

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 14.

All (64) 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:F:7:ASP:HA	3:F:71:HOH:O	1.13	1.26
1:D:187:GLN:HG2	3:D:427:HOH:O	1.07	1.21
2:F:0:LEU:HG	3:F:77:HOH:O	0.97	1.14
1:D:93:ARG:HG2	3:D:602:HOH:O	0.91	1.07
1:D:92:ASN:ND2	3:D:602:HOH:O	1.97	0.97
1:D:90:LYS:NZ	3:D:300:HOH:O	1.57	0.96

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:F:1:CYS:O	3:F:76:HOH:O	1.84	0.93
2:F:7:ASP:CB	3:F:71:HOH:O	2.13	0.89
1:D:92:ASN:O	3:D:601:HOH:O	1.98	0.81
2:F:7:ASP:CG	3:F:71:HOH:O	2.18	0.81
1:D:93:ARG:CG	3:D:602:HOH:O	1.65	0.80
2:F:14:GLU:OE1	3:F:92:HOH:O	2.11	0.69
2:F:3:LEU:HD23	3:F:107:HOH:O	1.93	0.69
1:D:91:HIS:CE1	3:D:602:HOH:O	2.47	0.67
1:D:131(B):MET:HE2	1:D:162:TYR:CE1	2.35	0.62
2:F:7:ASP:CA	3:F:71:HOH:O	1.86	0.61
1:D:215:TRP:CE2	1:D:227:ILE:HG12	2.37	0.59
1:D:247:LEU:HG	1:D:248:PRO:HD3	1.84	0.59
2:F:0:LEU:N	3:F:77:HOH:O	2.28	0.57
1:D:92:ASN:HD21	1:D:250:ALA:HB2	1.71	0.56
1:D:92:ASN:N	1:D:92:ASN:HD22	2.03	0.56
1:D:16:ILE:N	1:D:142:GLY:O	2.39	0.56
1:D:93:ARG:HD2	3:D:601:HOH:O	2.06	0.54
1:D:93:ARG:CD	3:D:601:HOH:O	2.55	0.53
1:D:125:ARG:H	1:D:235:LEU:HD23	1.74	0.53
2:F:0:LEU:CG	3:F:77:HOH:O	1.84	0.52
1:D:93:ARG:N	3:D:602:HOH:O	2.44	0.51
1:D:131(B):MET:HE2	1:D:162:TYR:CZ	2.46	0.50
1:D:131(B):MET:CE	1:D:162:TYR:CE1	2.95	0.50
2:F:14:GLU:CG	3:F:74:HOH:O	0.81	0.49
1:D:247:LEU:HG	1:D:248:PRO:CD	2.44	0.48
1:D:240:ARG:NH2	1:D:251:LYS:HB3	2.28	0.48
2:F:38:PRO:HB3	2:F:43:PRO:HG3	1.97	0.47
2:F:14:GLU:HG3	3:F:74:HOH:O	0.61	0.47
1:D:45:THR:OG1	1:D:198:PRO:HB3	2.15	0.47
1:D:247:LEU:HB3	1:D:248:PRO:HD2	1.97	0.46
1:D:215:TRP:NE1	1:D:227:ILE:HD11	2.31	0.45
1:D:45:THR:HG21	1:D:209:VAL:HG11	1.98	0.44
1:D:25:GLY:HA2	2:F:48:THR:OG1	2.18	0.43
1:D:51:TYR:CD2	1:D:51:TYR:N	2.86	0.43
1:D:234:PHE:O	1:D:238:ILE:HG13	2.18	0.43
1:D:240:ARG:HH22	1:D:251:LYS:HB3	1.82	0.43
2:F:32:ASN:ND2	2:F:34:LYS:HB2	2.33	0.43
1:D:72:ASN:HD22	1:D:75:GLN:CB	2.31	0.43
1:D:158:LEU:HD13	1:D:160:VAL:HG13	2.01	0.43
1:D:93:ARG:CB	3:D:602:HOH:O	2.32	0.43
1:D:125:ARG:N	1:D:235:LEU:HD23	2.33	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:203:PHE:O	1:D:204:LYS:C	2.57	0.43
2:F:3:LEU:CD2	3:F:107:HOH:O	2.62	0.43
1:D:16:ILE:N	1:D:143:ARG:O	2.51	0.43
2:F:1:CYS:O	2:F:2:SER:C	2.58	0.43
1:D:247:LEU:CB	1:D:248:PRO:HD2	2.49	0.42
1:D:72:ASN:HA	1:D:153:THR:O	2.20	0.42
1:D:90:LYS:O	1:D:248:PRO:HA	2.20	0.41
1:D:131(A):LEU:O	1:D:133:GLN:HB2	2.20	0.41
1:D:248:PRO:O	1:D:249:LYS:HG2	2.20	0.41
1:D:122:CYS:SG	2:F:44:CYS:O	2.78	0.41
1:D:150:ARG:NH1	1:D:150:ARG:CG	2.84	0.41
1:D:135:THR:HA	1:D:161:PRO:HA	2.02	0.41
1:D:165:ARG:HH22	1:D:230:LYS:NZ	2.19	0.41
2:F:3:LEU:CG	3:F:107:HOH:O	2.68	0.41
2:F:27:TYR:HB3	2:F:36:CYS:HB3	2.04	0.40
1:D:165:ARG:HH21	1:D:178:GLN:HA	1.87	0.40
1:D:91:HIS:CE1	1:D:101:PHE:CD2	3.10	0.40

All (49) 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)
3:F:119[C]:HOH:O	3:F:119[C]:HOH:O[5_675]	0.42	1.78
3:D:302:HOH:H1	3:D:500:HOH:H2[4_566]	0.44	1.16
3:D:482:HOH:O	3:F:67:HOH:O[5_675]	1.04	1.16
3:D:482:HOH:H1	3:F:67:HOH:O[5_675]	0.51	1.09
3:D:482:HOH:O	3:F:67:HOH:H2[5_675]	0.55	1.05
3:D:375:HOH:O	3:F:140:HOH:O[2_665]	1.19	1.01
2:F:0:LEU:HD13	3:D:305:HOH:H2[4_456]	0.69	0.91
3:F:119[C]:HOH:H1	3:F:119[C]:HOH:H1[5_675]	0.71	0.89
3:D:439:HOH:H1	3:F:151:HOH:H1[4_556]	0.80	0.80
3:D:302:HOH:H2	3:D:500:HOH:H1[4_566]	0.81	0.79
3:D:584:HOH:H2	3:D:604:HOH:H2[4_556]	0.82	0.78
3:D:482:HOH:H2	3:F:67:HOH:H2[5_675]	0.88	0.72
3:F:119[C]:HOH:O	3:F:119[C]:HOH:H1[5_675]	0.88	0.72
3:D:375:HOH:H1	3:F:140:HOH:O[2_665]	0.91	0.69
2:F:18:SER:OG	3:D:514:HOH:O[5_675]	1.53	0.67
3:D:302:HOH:O	3:D:500:HOH:H2[4_566]	0.97	0.63
3:D:302:HOH:O	3:D:500:HOH:O[4_566]	1.57	0.63
3:D:439:HOH:O	3:F:151:HOH:H1[4_556]	0.97	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:134:LYS:HB2	3:D:360:HOH:H2[4_456]	1.05	0.55
3:D:482:HOH:H1	3:F:67:HOH:H2[5_675]	1.07	0.53
3:D:439:HOH:H1	3:F:151:HOH:O[4_556]	1.09	0.51
2:F:0:LEU:HD13	3:D:305:HOH:O[4_456]	1.11	0.49
3:D:375:HOH:H2	3:F:140:HOH:O[2_665]	1.11	0.49
3:D:375:HOH:H2	3:F:140:HOH:H1[2_665]	1.12	0.48
3:D:584:HOH:H2	3:D:604:HOH:O[4_556]	1.12	0.48
1:D:134:LYS:HB2	3:D:360:HOH:O[4_456]	1.13	0.47
2:F:0:LEU:HD12	3:D:305:HOH:H1[4_456]	1.14	0.46
3:D:340:HOH:H2	3:D:516:HOH:H1[4_556]	1.15	0.45
2:F:18:SER:OG	3:D:514:HOH:H2[5_675]	1.16	0.44
3:D:388:HOH:O	3:F:114:HOH:H2[5_675]	1.18	0.42
3:D:439:HOH:O	3:F:151:HOH:O[4_556]	1.79	0.41
3:D:302:HOH:H2	3:D:500:HOH:O[4_566]	1.20	0.40
3:D:302:HOH:H2	3:D:500:HOH:H2[4_566]	1.23	0.37
2:F:0:LEU:CD1	3:D:305:HOH:O[4_456]	1.83	0.37
3:D:388:HOH:O	3:F:114:HOH:O[5_675]	1.87	0.33
1:D:65:LYS:HZ2	3:D:375:HOH:O[4_566]	1.29	0.31
3:D:482:HOH:H2	3:F:67:HOH:O[5_675]	1.30	0.30
2:F:0:LEU:HD12	3:D:286:HOH:O[4_456]	1.38	0.22
3:F:119[C]:HOH:O	3:F:119[C]:HOH:H2[5_675]	1.38	0.22
3:D:302:HOH:H1	3:D:500:HOH:O[4_566]	1.40	0.20
2:F:0:LEU:CD1	3:D:305:HOH:H2[4_456]	1.43	0.17
3:D:584:HOH:O	3:D:604:HOH:O[4_556]	2.03	0.17
1:D:65:LYS:NZ	3:D:375:HOH:O[4_566]	2.06	0.14
2:F:39:THR:O	3:D:387:HOH:H2[5_675]	1.48	0.12
3:D:302:HOH:O	3:D:500:HOH:H1[4_566]	1.50	0.10
2:F:0:LEU:H	3:D:504:HOH:O[4_456]	1.51	0.09
2:F:18:SER:OG	3:D:514:HOH:H1[5_675]	1.51	0.09
3:D:375:HOH:O	3:F:140:HOH:H1[2_665]	1.55	0.05
2:F:0:LEU:N	3:D:504:HOH:O[4_456]	2.18	0.02

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	D	240/255 (94%)	202 (84%)	25 (10%)	13 (5%)	2 0
2	F	51/96 (53%)	38 (74%)	8 (16%)	5 (10%)	0 0
All	All	291/351 (83%)	240 (82%)	33 (11%)	18 (6%)	1 0

All (18) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	D	36	GLU
1	D	125	ARG
2	F	7	ASP
1	D	18	GLY
1	D	73	THR
1	D	80	GLU
1	D	143	ARG
1	D	151	GLN
1	D	204	LYS
1	D	205	ASP
1	D	249	LYS
2	F	3	LEU
1	D	248	PRO
2	F	2	SER
1	D	182	CYS
2	F	1	CYS
1	D	146	GLU
2	F	43	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	D	205/217 (94%)	182 (89%)	23 (11%)	6 1
2	F	45/82 (55%)	39 (87%)	6 (13%)	4 0
All	All	250/299 (84%)	221 (88%)	29 (12%)	6 1

All (29) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	D	37	GLU
1	D	63	ARG
1	D	73	THR
1	D	74	GLU
1	D	88	VAL
1	D	92	ASN
1	D	97	GLU
1	D	98	THR
1	D	116	MET
1	D	125	ARG
1	D	132	THR
1	D	133	GLN
1	D	139	SER
1	D	144	THR
1	D	150	ARG
1	D	165	ARG
1	D	173	SER
1	D	185(B)	THR
1	D	195[A]	SER
1	D	195[B]	SER
1	D	235	LEU
1	D	245	ARG
1	D	249	LYS
2	F	2	SER
2	F	17	ASN
2	F	22	SER
2	F	28	THR
2	F	39	THR
2	F	51	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	D	30	GLN
1	D	38	ASN
1	D	92	ASN

5.3.3 RNA (i)

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates

There are no monosaccharides in this entry.

5.6 Ligand geometry

There are no ligands in this entry.

5.7 Other polymers

There are no such residues in this entry.

5.8 Polymer linkage issues

There are no chain breaks in this entry.

6 Fit of model and data

6.1 Protein, DNA and RNA chains

Unable to reproduce the depositors R factor - this section is therefore empty.

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

Unable to reproduce the depositors R factor - this section is therefore empty.

6.3 Carbohydrates

Unable to reproduce the depositors R factor - this section is therefore empty.

6.4 Ligands

Unable to reproduce the depositors R factor - this section is therefore empty.

6.5 Other polymers

Unable to reproduce the depositors R factor - this section is therefore empty.