



Full wwPDB X-ray Structure Validation Report ⓘ

May 16, 2020 – 10:11 pm BST

PDB ID : 5B86
Title : Crystal structure of M-Sec
Authors : Yamashita, M.; Sato, Y.; Yamagata, A.; Fukai, S.
Deposited on : 2016-06-12
Resolution : 3.02 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 following versions of software and data (see [references ⓘ](#)) were used in the production of this report:

MolProbity : 4.02b-467
Mogul : 1.8.5 (274361), CSD as541be (2020)
Xtriage (Phenix) : 1.13
EDS : 2.11
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) : 2.11

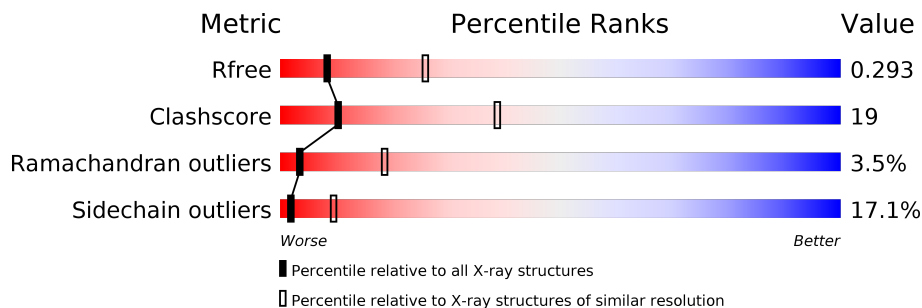
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 3.02 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	2399 (3.04-3.00)
Clashscore	141614	2734 (3.04-3.00)
Ramachandran outliers	138981	2640 (3.04-3.00)
Sidechain outliers	138945	2643 (3.04-3.00)

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 on 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 $\leq 5\%$.

Mol	Chain	Length	Quality of chain
1	A	600	
1	B	600	

2 Entry composition

There are 2 unique types of molecules in this entry. The entry contains 9312 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 Tumor necrosis factor alpha-induced protein 2.

Mol	Chain	Residues	Atoms						ZeroOcc	AltConf	Trace
			Total	C	N	O	S	Se			
1	A	579	4638	2948	814	859	8	9	0	0	0
1	B	578	4628	2942	811	858	8	9	0	0	0

There are 4 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	51	GLY	-	expression tag	UNP Q61333
A	52	PRO	-	expression tag	UNP Q61333
B	51	GLY	-	expression tag	UNP Q61333
B	52	PRO	-	expression tag	UNP Q61333

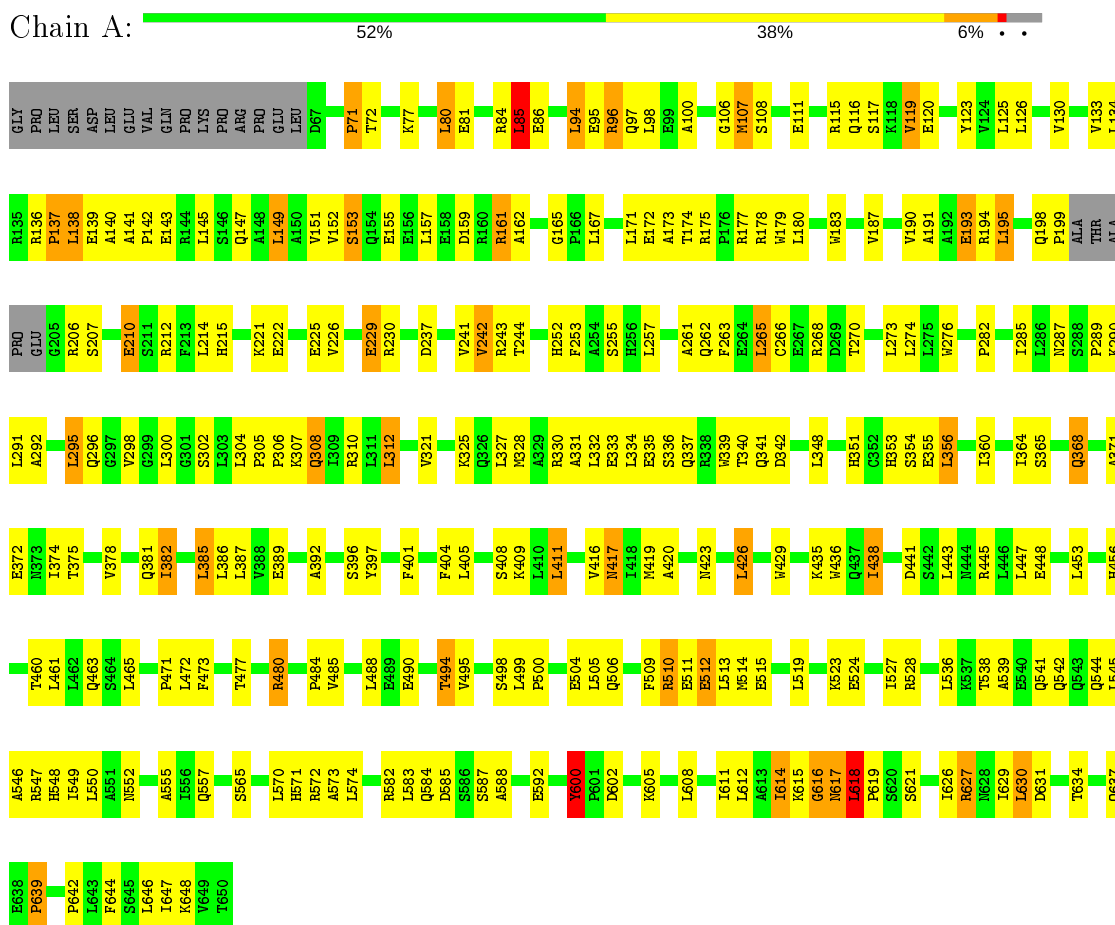
- Molecule 2 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
2	A	16	Total	O	0	0
			16	16		
2	B	30	Total	O	0	0
			30	30		

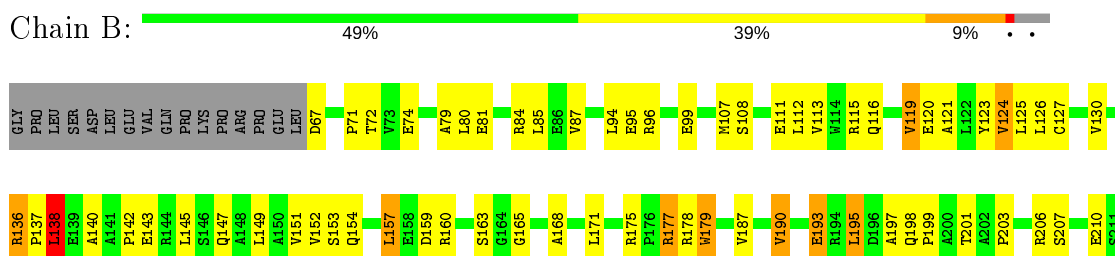
3 Residue-property plots

These plots are drawn for all protein, RNA and DNA 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: Tumor necrosis factor alpha-induced protein 2



- Molecule 1: Tumor necrosis factor alpha-induced protein 2



N617	R212	P282	R559	L446	K523	I360	R589	L446	L446	K523	N617
L618	F213	M283	I360	L447	E524	I361	I360	L447	L447	E524	L618
P619	H214	D284	I361	E448	P449	I362	I361	E448	E448	P449	P619
S620	H215	I285	Q362	L450	L450	I363	I362	L450	L450	L450	S620
S621	M216	M287	I363	L453	R528	I364	I363	L453	L453	R528	S621
V623	G217	S288	I364	K454	L529	Q366	I364	K454	L453	L529	V623
R624	R218	P289	Q366	F458	R533	Q368	Q366	F458	K454	R533	R624
S625	T219	K290	Q368	L461	L534	E372	Q368	L461	F458	L534	S625
R627	M220	L291	E372	L462	V535	N373	E372	L462	L461	V535	R627
N628	K221	E294	N373	L463	L536	I374	N373	L463	L462	L536	N628
L630	L224	L303	I374	Q463	K537	T375	I374	Q463	L463	K537	L630
D631	V227	L304	T375	S464	T538	S376	T375	S464	Q463	T538	D631
I1E	V228	L304	S376	L465	A539	D377	S376	L465	S464	A539	I1E
ASN	V229	L305	D377	F466	E540	V378	D377	F466	L465	E540	ASN
THR	R230	P306	V378	L467	Q541	L381	V378	L467	F466	Q541	THR
GLY	L231	R307	L381	D468	Q542	I382	L381	D468	L467	Q542	GLY
VAL	L234	Q308	I382	L469	Q543	K383	I382	L469	D468	Q543	VAL
GLN	F235	R309	K383	K470	Q544	Q384	K383	K470	L469	Q544	GLN
E638	P236	R310	Q384	L471	L550	L385	Q384	L471	K470	L550	E638
P639	D237	L311	L385	L472	A551	L386	L385	L472	L471	A551	P639
P642	E238	E313	L386	F473	N552	L387	L386	F473	L472	N552	P642
L643	F239	F316	L387	K474	Q557	L388	L387	K474	F473	Q557	L643
F644	M240	L317	L388	K475	G558	L394	L388	K475	F476	G558	F644
S645	V241	S318	L394	F476	P559	R395	L394	F476	K475	P559	S645
L646	V242	N319	R395	L477	Q478	L411	R395	L477	F476	Q478	L646
I647	R243	R320	Q398	L478	E562	L415	Q398	L478	L477	E562	I647
K648	T244	V321	S408	L479	A567	V416	V321	L479	L478	A567	K648
V649	E247	T322	K409	R480	T568	V416	T322	R480	L479	T568	V649
T650	Y251	S323	L410	W481	M576	V416	S323	W481	R480	M576	T650
	H252	V324	L411	T487	E579	E490	V324	T487	R480	E579	
	F253	K325	L411	L468	I580	E491	K325	L468	T487	I580	
	A254	Q326	R415	E489	I581	L492	Q326	E489	L468	I581	
	S255	L327	V416	L491	R582	T493	L327	L491	E490	R582	
	H256	M328	M419	T492	L583	V494	M328	T492	L491	L583	
	L257	A329	A420	T493	L583	V495	A329	T493	T492	L583	
	C258	R330	A420	V494	A588	S496	R330	V494	T493	A588	
	A259	L334	M423	S496	K590	E501	A259	S496	V495	E501	
	L260	E335	M424	E501	F502	F503	L260	E501	S496	F502	
	F263	W339	C425	F502	S503	F504	F263	F502	E501	S503	
	E264	D342	L426	S503	F504	L505	E264	S503	F502	F504	
	L265	V343	F427	F504	L505	L506	L265	F504	S503	L505	
	C266	A344	F428	L505	L506	D507	C266	L505	F504	L506	
	D269	P345	W429	L506	D507	C508	D269	L506	L506	D507	
	L272	G350	W436	D507	C508	F509	L272	D507	L506	C508	
	L273	H351	Q437	C508	F509	R510	L273	C508	F509	R510	
	L274	C352	I438	F509	R510	L513	L274	I438	R510	L513	
	L275	H353	S439	R510	L513	W514	L275	S439	L513	W514	
	W276	S354	H440	L513	W514	E515	W276	H440	L513	E515	
	N279	E355	D441	W514	E515	K615	N279	D441	W514	K615	
	L280	L356	S442	E515	K615	G616	L280	S442	E515	K615	
	L280	A357	L443	K615	G616		L280	A357	L443	G616	
	Y281	I358	R445	L519			Y281	I358	R445	L519	

4 Data and refinement statistics

Property	Value	Source
Space group	P 21 21 21	Depositor
Cell constants a, b, c, α , β , γ	91.41Å 107.83Å 229.58Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	46.44 – 3.02 46.44 – 3.02	Depositor EDS
% Data completeness (in resolution range)	86.1 (46.44-3.02) 87.3 (46.44-3.02)	Depositor EDS
R_{merge}	(Not available)	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	1.31 (at 3.01Å)	Xtrriage
Refinement program	PHENIX 1.8.2_1309	Depositor
R, R_{free}	0.229 , 0.292 0.230 , 0.293	Depositor DCC
R_{free} test set	1981 reflections (4.99%)	wwPDB-VP
Wilson B-factor (Å ²)	48.3	Xtrriage
Anisotropy	0.178	Xtrriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.29 , 64.7	EDS
L-test for twinning ²	$\langle L \rangle = 0.43$, $\langle L^2 \rangle = 0.26$	Xtrriage
Estimated twinning fraction	No twinning to report.	Xtrriage
F_o, F_c correlation	0.87	EDS
Total number of atoms	9312	wwPDB-VP
Average B, all atoms (Å ²)	79.0	wwPDB-VP

Xtrriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 3.21% of the height of the origin peak. No significant pseudotranslation is detected.*

¹Intensities estimated from amplitudes.

²Theoretical values of $\langle |L| \rangle$, $\langle L^2 \rangle$ for acentric reflections are 0.5, 0.333 respectively for untwinned datasets, and 0.375, 0.2 for perfectly twinned datasets.

5 Model quality [i](#)

5.1 Standard geometry [i](#)

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	0.50	0/4717	0.71	2/6380 (0.0%)
1	B	0.46	0/4708	0.69	2/6369 (0.0%)
All	All	0.48	0/9425	0.70	4/12749 (0.0%)

There are no bond length outliers.

All (4) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	B	138	LEU	CA-CB-CG	7.45	132.44	115.30
1	B	265	LEU	CA-CB-CG	6.26	129.70	115.30
1	A	618	LEU	CA-CB-CG	6.03	129.17	115.30
1	A	85	LEU	CA-CB-CG	5.41	127.74	115.30

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	4638	0	4693	166	1
1	B	4628	0	4679	183	1
2	A	16	0	0	3	0
2	B	30	0	0	9	0
All	All	9312	0	9372	349	1

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including

hydrogen atoms). The all-atom clashscore for this structure is 19.

All (349) 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:B:605:LYS:HE3	1:B:630:LEU:HB2	1.52	0.92
1:B:179:TRP:NE1	2:B:701:HOH:O	2.00	0.91
1:A:608:LEU:HD23	1:A:626:ILE:HG12	1.51	0.91
1:A:328:MSE:HE2	1:A:360:ILE:HG23	1.53	0.90
1:B:615:LYS:HB3	1:B:618:LEU:HD21	1.55	0.89
1:B:157:LEU:HD11	1:B:177:ARG:HB2	1.53	0.88
1:B:353:HIS:HB2	1:B:420:ALA:HB1	1.55	0.86
1:B:157:LEU:HD21	1:B:178:ARG:H	1.41	0.85
1:A:157:LEU:HD21	1:A:178:ARG:H	1.42	0.84
1:A:291:LEU:HB3	1:A:295:LEU:HD11	1.60	0.84
1:B:538:THR:HB	1:B:541:GLN:HG2	1.58	0.82
1:B:503:SER:HA	1:B:510:ARG:HH21	1.44	0.81
1:B:197:ALA:O	1:B:212:ARG:NH2	2.17	0.77
1:B:335:GLU:OE1	1:B:353:HIS:NE2	2.18	0.76
1:B:351:HIS:HD2	1:B:419:MSE:HB2	1.50	0.75
1:A:472:LEU:HD13	1:A:490:GLU:HG2	1.68	0.74
1:A:130:VAL:HG21	1:A:149:LEU:HD11	1.69	0.73
1:A:642:PRO:HB3	1:A:646:LEU:HD21	1.71	0.72
1:B:195:LEU:HG	1:B:216:MSE:HG2	1.70	0.72
1:B:536:LEU:HD23	1:B:542:GLN:HA	1.71	0.72
1:B:426:LEU:HB2	1:B:509:PHE:HE1	1.55	0.71
1:A:328:MSE:HG2	1:A:360:ILE:HD12	1.73	0.70
1:B:317:LEU:HB3	1:B:382:ILE:HD11	1.71	0.70
1:A:335:GLU:HG3	1:A:356:LEU:HG	1.72	0.70
1:B:215:HIS:O	1:B:219:THR:OG1	2.09	0.70
1:A:130:VAL:HG22	1:A:149:LEU:HD21	1.72	0.70
1:A:544:GLN:OE1	1:A:547:ARG:NH2	2.25	0.70
1:A:615:LYS:O	1:A:617:ASN:N	2.24	0.69
1:B:442:SER:HA	1:B:445:ARG:HE	1.58	0.69
1:B:328:MSE:HE2	1:B:360:ILE:HG23	1.74	0.69
1:B:335:GLU:HG3	1:B:356:LEU:HD23	1.74	0.69
1:A:484:PRO:HB3	1:A:552:ASN:HD21	1.58	0.69
1:B:474:LYS:HG2	1:B:528:ARG:NH2	2.08	0.69
1:B:318:SER:O	1:B:322:THR:OG1	2.11	0.68
1:A:465:LEU:HD21	1:A:495:VAL:HG23	1.74	0.67
1:A:157:LEU:HD11	1:A:177:ARG:HB2	1.77	0.67
1:B:216:MSE:HE1	1:B:256:HIS:CD2	2.30	0.67
1:A:335:GLU:HB3	1:A:353:HIS:CE1	2.31	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:456:HIS:O	1:A:460:THR:OG1	2.12	0.66
1:B:274:LEU:HD11	1:B:313:GLU:HA	1.75	0.66
1:A:157:LEU:HD21	1:A:178:ARG:N	2.10	0.66
1:B:489:GLU:O	1:B:493:THR:OG1	2.13	0.65
1:B:289:PRO:HA	2:B:706:HOH:O	1.96	0.65
1:A:408:SER:HB3	1:A:411:LEU:HG	1.79	0.65
1:A:557:GLN:HG3	1:A:571:HIS:CE1	2.31	0.65
1:B:642:PRO:HB2	1:B:646:LEU:HD21	1.77	0.65
1:A:335:GLU:HB3	1:A:353:HIS:NE2	2.12	0.65
1:B:602:ASP:OD2	1:B:644:PHE:N	2.30	0.64
1:A:371:ALA:HB1	1:A:378:VAL:HG12	1.80	0.64
1:A:321:VAL:HG21	1:A:385:LEU:HD22	1.80	0.64
1:B:96:ARG:NH1	1:B:159:ASP:OD1	2.30	0.64
1:B:364:ILE:HG23	1:B:386:LEU:HD13	1.81	0.63
1:B:168:ALA:HB3	1:B:171:LEU:HG	1.80	0.62
1:A:108:SER:HB3	1:A:111:GLU:HB2	1.81	0.62
1:A:426:LEU:HD13	1:A:506:GLN:HG2	1.80	0.62
1:B:153:SER:O	1:B:157:LEU:HD13	2.00	0.62
1:B:142:PRO:HA	1:B:145:LEU:HD12	1.80	0.62
1:B:615:LYS:HD2	1:B:618:LEU:HD11	1.81	0.61
1:B:207:SER:HB3	1:B:210:GLU:H	1.65	0.60
1:B:67:ASP:N	1:B:67:ASP:OD2	2.34	0.60
1:B:375:THR:HB	1:B:378:VAL:H	1.66	0.60
1:A:126:LEU:O	1:A:130:VAL:HG23	2.02	0.60
1:A:302:SER:OG	1:A:304:LEU:O	2.09	0.60
1:A:140:ALA:HB3	1:A:142:PRO:HD3	1.82	0.60
1:A:510:ARG:HH12	1:A:514:MSE:HE3	1.67	0.60
1:B:538:THR:HG22	1:B:540:GLU:H	1.66	0.59
1:B:72:THR:HG22	1:B:74:GLU:H	1.67	0.59
1:A:157:LEU:HD11	1:A:177:ARG:H	1.66	0.59
1:A:356:LEU:HD22	1:A:360:ILE:HG12	1.84	0.59
1:B:429:TRP:HZ3	1:B:443:LEU:HD13	1.67	0.59
1:A:307:LYS:HA	1:A:310:ARG:HH11	1.68	0.58
1:B:475:LYS:HA	1:B:478:GLN:HB2	1.85	0.58
1:B:510:ARG:NH1	2:B:702:HOH:O	2.16	0.58
1:B:276:TRP:HZ3	1:B:285:ILE:HD11	1.69	0.58
1:A:602:ASP:OD1	1:A:644:PHE:N	2.33	0.57
1:B:321:VAL:HG21	1:B:385:LEU:HD13	1.86	0.57
1:A:527:ILE:HG12	1:A:647:ILE:HG23	1.86	0.57
1:B:157:LEU:HD21	1:B:178:ARG:N	2.17	0.57
1:A:300:LEU:HD12	1:A:300:LEU:H	1.69	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:523:LYS:HG3	1:A:647:ILE:HG12	1.85	0.57
1:B:288:SER:OG	1:B:289:PRO:HD3	2.05	0.57
1:B:121:ALA:O	1:B:124:VAL:HG13	2.05	0.57
1:B:335:GLU:CD	1:B:353:HIS:HE2	2.07	0.57
1:A:605:LYS:HE2	1:A:630:LEU:HA	1.87	0.56
1:A:538:THR:O	1:A:541:GLN:HG2	2.05	0.56
1:A:265:LEU:HD22	1:A:265:LEU:H	1.70	0.56
1:A:147:GLN:O	1:A:151:VAL:HG23	2.04	0.56
1:A:351:HIS:CE1	1:A:416:VAL:HG13	2.41	0.56
1:B:203:PRO:HD2	1:B:206:ARG:NE	2.20	0.56
1:B:289:PRO:HD2	1:B:291:LEU:HB2	1.88	0.56
1:A:546:ALA:CB	1:A:582:ARG:HB2	2.37	0.55
1:A:332:LEU:HD11	1:A:397:TYR:HA	1.88	0.55
1:B:207:SER:HB3	1:B:210:GLU:HB2	1.88	0.55
1:B:147:GLN:O	1:B:151:VAL:HG23	2.06	0.55
1:B:408:SER:HB3	1:B:411:LEU:HD12	1.88	0.55
1:A:342:ASP:HB2	1:A:411:LEU:HD13	1.89	0.55
1:B:465:LEU:HD11	1:B:495:VAL:HA	1.88	0.55
1:A:484:PRO:HG2	1:A:548:HIS:CG	2.42	0.54
1:B:177:ARG:HG2	1:B:179:TRP:CZ3	2.42	0.54
1:B:625:SER:O	1:B:628:ASN:HB2	2.07	0.54
1:A:401:PHE:O	1:A:404:PHE:HB3	2.08	0.54
1:B:615:LYS:HD2	1:B:618:LEU:HD21	1.89	0.54
1:A:420:ALA:O	1:A:423:ASN:HB2	2.08	0.54
1:B:175:ARG:O	1:B:177:ARG:N	2.41	0.54
1:B:534:LEU:O	1:B:614:ILE:HG22	2.08	0.53
1:B:157:LEU:HG	1:B:177:ARG:H	1.73	0.53
1:B:419:MSE:O	1:B:423:ASN:ND2	2.41	0.53
1:B:426:LEU:HB2	1:B:509:PHE:CE1	2.41	0.53
1:A:542:GLN:OE1	1:A:584:GLN:NE2	2.41	0.53
1:B:274:LEU:HD13	1:B:374:ILE:HD13	1.89	0.53
1:A:473:PHE:CE2	1:A:524:GLU:HB3	2.44	0.53
1:B:617:ASN:H	1:B:618:LEU:HD22	1.74	0.53
1:A:96:ARG:NE	2:A:702:HOH:O	2.42	0.53
1:A:167:LEU:HD22	1:A:173:ALA:HA	1.90	0.52
1:B:108:SER:HB2	1:B:111:GLU:HB2	1.91	0.52
1:B:608:LEU:O	1:B:612:LEU:HG	2.09	0.52
1:B:615:LYS:HB3	1:B:618:LEU:CD2	2.35	0.52
1:B:115:ARG:O	1:B:119:VAL:HG12	2.09	0.52
1:A:583:LEU:HD22	1:A:588:ALA:HB1	1.90	0.52
1:B:462:LEU:HD21	1:B:513:LEU:HD11	1.91	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:133:VAL:HG12	1:A:134:LEU:HD23	1.90	0.52
1:B:157:LEU:HD11	1:B:177:ARG:CB	2.35	0.52
1:B:583:LEU:HD13	1:B:588:ALA:HB1	1.91	0.52
1:B:353:HIS:O	1:B:355:GLU:N	2.42	0.52
1:A:95:GLU:OE2	1:A:175:ARG:NH1	2.43	0.52
1:B:81:GLU:HG3	1:B:125:LEU:HD21	1.91	0.52
1:B:95:GLU:OE1	1:B:175:ARG:NH1	2.43	0.52
1:A:261:ALA:HB2	1:A:304:LEU:HD11	1.92	0.51
1:B:263:PHE:O	1:B:265:LEU:HD22	2.10	0.51
1:A:96:ARG:NH1	1:A:159:ASP:OD2	2.42	0.51
1:A:337:GLN:HA	1:A:340:THR:HB	1.92	0.51
1:A:546:ALA:HB2	1:A:582:ARG:HB2	1.93	0.51
1:A:84:ARG:CD	1:A:86:GLU:H	2.23	0.51
1:B:354:SER:O	1:B:358:ILE:HG12	2.10	0.51
1:B:515:GLU:HG2	1:B:567:ALA:HB2	1.93	0.51
1:B:126:LEU:O	1:B:130:VAL:HG23	2.10	0.51
1:B:224:LEU:O	1:B:228:VAL:HG23	2.11	0.51
1:A:222:GLU:O	1:A:226:VAL:HG23	2.11	0.51
1:A:509:PHE:HA	1:A:512:GLU:HB2	1.92	0.51
1:B:154:GLN:HA	1:B:157:LEU:HD22	1.91	0.51
1:A:339:TRP:HA	1:A:417:ASN:OD1	2.10	0.51
1:B:542:GLN:NE2	1:B:615:LYS:O	2.44	0.51
1:B:187:VAL:HG11	1:B:244:THR:HG22	1.92	0.50
1:B:607:HIS:HE2	1:B:647:ILE:HG22	1.76	0.50
1:A:96:ARG:NH2	1:A:159:ASP:OD2	2.44	0.50
1:B:523:LYS:O	1:B:527:ILE:HG13	2.11	0.50
1:A:295:LEU:HA	1:A:298:VAL:HG23	1.93	0.50
1:B:519:LEU:O	1:B:523:LYS:HB2	2.12	0.50
1:A:605:LYS:NZ	1:A:630:LEU:HD13	2.26	0.50
1:A:221:LYS:HE3	1:A:225:GLU:OE2	2.11	0.49
1:B:120:GLU:O	1:B:124:VAL:HG12	2.12	0.49
1:B:429:TRP:NE1	2:B:703:HOH:O	2.34	0.49
1:A:153:SER:O	1:A:157:LEU:HD13	2.12	0.49
1:B:279:ASN:O	1:B:283:ASN:HB2	2.12	0.49
1:A:180:LEU:O	1:A:183:TRP:HB3	2.12	0.49
1:B:351:HIS:CD2	1:B:419:MSE:HB2	2.40	0.49
1:A:365:SER:HB3	1:A:435:LYS:NZ	2.27	0.49
1:A:573:ALA:HA	1:A:600:TYR:CE1	2.48	0.49
1:B:136:ARG:HH11	1:B:136:ARG:HB2	1.78	0.49
1:B:190:VAL:HA	1:B:193:GLU:HG2	1.95	0.49
1:B:214:LEU:HD22	1:B:276:TRP:HZ2	1.76	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:228:VAL:HG11	1:B:294:GLU:HG3	1.95	0.49
1:B:543:GLN:HG3	1:B:582:ARG:HG2	1.95	0.49
1:A:193:GLU:HG3	1:A:194:ARG:N	2.29	0.48
1:A:536:LEU:O	1:A:616:GLY:HA3	2.13	0.48
1:B:126:LEU:HD23	2:B:701:HOH:O	2.14	0.48
1:B:328:MSE:HB3	1:B:393:LEU:HD13	1.94	0.48
1:A:206:ARG:HD2	1:A:206:ARG:H	1.78	0.48
1:A:229:GLU:HB3	1:A:230:ARG:HG3	1.96	0.48
1:A:356:LEU:HD23	1:A:356:LEU:HA	1.65	0.48
1:B:623:VAL:HA	1:B:626:ILE:HB	1.96	0.48
1:A:524:GLU:HA	1:A:527:ILE:HD12	1.96	0.48
1:A:133:VAL:HA	1:A:139:GLU:OE1	2.14	0.48
1:B:257:LEU:HB3	1:B:304:LEU:HD21	1.96	0.48
1:A:107:MSE:HE1	1:A:115:ARG:CZ	2.44	0.48
1:A:519:LEU:HD13	1:A:570:LEU:HD21	1.96	0.47
1:B:281:TYR:CE1	1:B:286:LEU:HD13	2.48	0.47
1:A:207:SER:HB3	1:A:210:GLU:H	1.79	0.47
1:A:488:LEU:HD21	1:A:555:ALA:HB3	1.96	0.47
1:B:354:SER:HA	1:B:424:ASN:OD1	2.14	0.47
1:B:199:PRO:HB3	1:B:215:HIS:HB2	1.96	0.47
1:B:351:HIS:NE2	1:B:416:VAL:HG12	2.28	0.47
1:A:331:ALA:O	1:A:335:GLU:HG2	2.13	0.47
1:B:476:PHE:CE2	1:B:487:THR:HB	2.49	0.47
1:A:85:LEU:HD12	1:A:145:LEU:HB2	1.97	0.47
1:A:270:THR:O	1:A:274:LEU:HB2	2.15	0.47
1:A:514:MSE:HG3	1:A:565:SER:HB2	1.96	0.47
1:B:528:ARG:HA	1:B:528:ARG:HD3	1.60	0.47
1:A:419:MSE:HG2	1:A:505:LEU:HD13	1.96	0.47
1:A:353:HIS:C	1:A:355:GLU:N	2.68	0.47
1:B:454:LYS:HD3	1:B:509:PHE:HE2	1.79	0.47
1:A:225:GLU:N	1:A:291:LEU:HD21	2.30	0.46
1:B:236:PRO:HG2	1:B:239:PHE:CD2	2.50	0.46
1:B:618:LEU:HD22	1:B:618:LEU:N	2.31	0.46
1:A:545:LEU:O	1:A:548:HIS:HB2	2.16	0.46
1:A:195:LEU:HD23	1:A:252:HIS:HB3	1.98	0.46
1:A:257:LEU:HB3	1:A:304:LEU:CD2	2.45	0.46
1:B:605:LYS:HE2	1:B:626:ILE:HG22	1.97	0.46
1:B:618:LEU:HD22	1:B:618:LEU:H	1.81	0.46
1:B:606:GLY:HA3	1:B:649:VAL:HG11	1.96	0.46
1:A:214:LEU:HA	1:A:214:LEU:HD23	1.65	0.46
1:B:221:LYS:HB3	1:B:221:LYS:HE2	1.78	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:321:VAL:HG21	1:B:385:LEU:HD22	1.98	0.46
1:B:342:ASP:HB3	1:B:411:LEU:HD13	1.98	0.46
1:B:619:PRO:HG2	1:B:621:SER:HB2	1.98	0.46
1:A:149:LEU:CD1	1:A:179:TRP:HZ3	2.29	0.46
1:B:269:ASP:HA	1:B:272:LEU:HG	1.98	0.46
1:A:195:LEU:HA	1:A:195:LEU:HD12	1.81	0.45
1:A:510:ARG:NH1	1:A:514:MSE:HE3	2.30	0.45
1:A:282:PRO:O	1:A:287:ASN:HB2	2.15	0.45
1:B:343:VAL:O	1:B:345:PRO:HD3	2.16	0.45
1:B:345:PRO:HB2	1:B:351:HIS:CE1	2.51	0.45
1:B:429:TRP:CD2	1:B:447:LEU:HD12	2.51	0.45
1:A:276:TRP:HZ3	1:A:285:ILE:HD11	1.81	0.45
1:A:490:GLU:O	1:A:494:THR:OG1	2.34	0.45
1:A:506:GLN:HB3	1:A:509:PHE:HD1	1.82	0.45
1:B:438:ILE:HG22	1:B:439:SER:H	1.81	0.45
1:B:450:LEU:HA	1:B:450:LEU:HD23	1.77	0.45
1:B:473:PHE:CE1	1:B:491:ILE:HD13	2.52	0.45
1:B:507:ASP:HA	1:B:510:ARG:HG2	1.96	0.45
1:B:470:LYS:HB2	1:B:471:PRO:HD3	1.99	0.45
1:B:590:LYS:HZ3	1:B:624:ARG:HB3	1.81	0.45
1:A:142:PRO:HB2	1:A:145:LEU:HD12	1.99	0.45
1:A:167:LEU:HD13	1:A:173:ALA:HB2	1.99	0.45
1:B:203:PRO:HD2	1:B:206:ARG:HE	1.81	0.45
1:B:280:LEU:O	1:B:284:ASP:HB2	2.16	0.45
1:B:289:PRO:HB2	1:B:290:LYS:H	1.58	0.45
1:B:607:HIS:NE2	1:B:647:ILE:HG22	2.32	0.45
1:B:605:LYS:HG2	1:B:626:ILE:HG23	1.99	0.45
1:A:137:PRO:HB3	1:A:143:GLU:OE1	2.16	0.45
1:A:263:PHE:O	1:A:265:LEU:HD13	2.16	0.45
1:B:272:LEU:HA	1:B:275:LEU:HB3	1.99	0.45
1:A:140:ALA:HB3	1:A:142:PRO:CD	2.47	0.45
1:A:353:HIS:HB2	1:A:420:ALA:HB1	1.98	0.45
1:B:231:LEU:HD22	1:B:231:LEU:HA	1.77	0.44
1:A:221:LYS:HB2	1:A:285:ILE:HG23	1.99	0.44
1:A:165:GLY:O	1:A:167:LEU:HD12	2.17	0.44
1:B:627:ARG:HA	1:B:627:ARG:HD3	1.64	0.44
1:A:84:ARG:HD3	1:A:86:GLU:H	1.82	0.44
1:B:136:ARG:NH1	1:B:136:ARG:HB2	2.32	0.44
1:B:163:SER:C	1:B:165:GLY:H	2.20	0.44
1:B:488:LEU:HD22	1:B:552:ASN:HB3	2.00	0.44
1:A:536:LEU:HD23	1:A:542:GLN:HA	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:572:ARG:HA	1:A:572:ARG:HD3	1.64	0.44
1:A:583:LEU:HD11	1:A:592:GLU:HG3	1.99	0.44
1:B:442:SER:HA	1:B:445:ARG:NE	2.29	0.44
1:A:330:ARG:NH1	1:A:333:GLU:OE1	2.51	0.44
1:A:401:PHE:CD2	1:A:453:LEU:HG	2.53	0.44
1:B:398:GLN:NE2	2:B:707:HOH:O	2.41	0.44
1:B:79:ALA:O	1:B:84:ARG:HG3	2.16	0.44
1:A:305:PRO:HG2	1:A:308:GLN:HB2	1.98	0.44
1:A:98:LEU:HD21	1:A:171:LEU:HD21	1.99	0.44
1:B:127:CYS:HA	2:B:701:HOH:O	2.18	0.44
1:B:136:ARG:HH11	1:B:138:LEU:HD22	1.83	0.44
1:B:175:ARG:CZ	1:B:177:ARG:HD2	2.48	0.44
1:B:481:TRP:CZ2	1:B:529:LEU:HD12	2.53	0.44
1:A:438:ILE:H	1:A:438:ILE:HG13	1.58	0.44
1:A:488:LEU:HD22	1:A:552:ASN:OD1	2.18	0.44
1:A:190:VAL:HA	1:A:193:GLU:HG2	1.98	0.43
1:B:157:LEU:CD2	1:B:178:ARG:H	2.22	0.43
1:A:375:THR:HB	1:A:378:VAL:HG23	2.00	0.43
1:B:415:ARG:HD3	1:B:501:GLU:OE2	2.17	0.43
1:A:242:VAL:HG23	1:A:243:ARG:H	1.83	0.43
1:A:389:GLU:O	1:A:392:ALA:HB3	2.19	0.43
1:A:648:LYS:HA	1:A:648:LYS:HD3	1.56	0.43
1:A:151:VAL:O	1:A:155:GLU:HG2	2.19	0.43
1:A:557:GLN:HG3	1:A:571:HIS:ND1	2.33	0.43
1:A:136:ARG:HB3	1:A:138:LEU:HD23	2.01	0.43
1:A:545:LEU:O	1:A:549:ILE:HG12	2.17	0.43
1:A:81:GLU:HG2	1:A:125:LEU:HD21	2.01	0.43
1:B:458:PHE:HA	1:B:461:LEU:HD11	2.01	0.43
1:B:623:VAL:O	1:B:627:ARG:HG2	2.19	0.43
1:B:468:ASP:O	1:B:472:LEU:HG	2.18	0.43
1:B:473:PHE:CE2	1:B:524:GLU:HB3	2.54	0.43
1:A:199:PRO:HB3	1:A:215:HIS:HB2	2.00	0.42
1:B:227:VAL:O	1:B:231:LEU:HB2	2.19	0.42
1:A:387:LEU:HD23	1:A:387:LEU:HA	1.71	0.42
1:A:637:GLN:C	1:A:639:PRO:HD3	2.40	0.42
1:B:237:ASP:N	1:B:237:ASP:OD2	2.50	0.42
1:B:398:GLN:HA	1:B:453:LEU:HD12	2.01	0.42
1:B:467:LEU:HA	1:B:470:LYS:HG3	2.00	0.42
1:B:480:ARG:NH2	2:B:704:HOH:O	2.37	0.42
1:B:212:ARG:HD2	2:B:729:HOH:O	2.19	0.42
1:A:351:HIS:CE1	1:A:504:GLU:HB3	2.55	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:157:LEU:HD12	1:B:175:ARG:HE	1.85	0.42
1:B:357:ALA:HA	1:B:428:PHE:CE1	2.54	0.42
1:B:559:PHE:HA	1:B:562:GLU:OE2	2.20	0.42
1:B:602:ASP:N	1:B:602:ASP:OD1	2.39	0.42
1:B:615:LYS:O	1:B:617:ASN:N	2.53	0.42
1:A:157:LEU:CD1	1:A:177:ARG:H	2.29	0.42
1:B:254:ALA:O	1:B:258:CYS:HB2	2.20	0.42
1:B:281:TYR:CE1	1:B:303:LEU:HD21	2.55	0.42
1:A:405:LEU:HA	1:A:405:LEU:HD23	1.88	0.42
1:B:140:ALA:H	1:B:142:PRO:HD2	1.84	0.42
1:A:71:PRO:HD3	2:A:704:HOH:O	2.20	0.42
1:B:247:GLU:HB3	1:B:251:TYR:CE2	2.54	0.42
1:A:328:MSE:HE3	1:A:364:ILE:HG13	2.02	0.42
1:A:97:GLN:O	1:A:100:ALA:HB3	2.19	0.41
1:A:515:GLU:HB2	2:A:710:HOH:O	2.19	0.41
1:A:574:LEU:HD23	1:A:574:LEU:HA	1.78	0.41
1:B:330:ARG:O	1:B:334:LEU:HB2	2.20	0.41
1:A:611:ILE:O	1:A:614:ILE:HG12	2.20	0.41
1:B:527:ILE:HG12	1:B:647:ILE:HG12	2.02	0.41
1:A:274:LEU:HD11	1:A:312:LEU:HB3	2.03	0.41
1:A:523:LYS:HG2	1:A:527:ILE:HD11	2.02	0.41
1:B:160:ARG:HB2	1:B:175:ARG:HG2	2.01	0.41
1:B:420:ALA:HA	1:B:423:ASN:HD22	1.85	0.41
1:A:187:VAL:HG11	1:A:244:THR:HG22	2.03	0.41
1:A:416:VAL:H	1:A:416:VAL:HG23	1.64	0.41
1:A:441:ASP:O	1:A:445:ARG:HB2	2.20	0.41
1:A:506:GLN:HB3	1:A:509:PHE:CD1	2.55	0.41
1:B:168:ALA:O	1:B:171:LEU:HB2	2.21	0.41
1:A:191:ALA:O	1:A:195:LEU:HB2	2.21	0.41
1:A:353:HIS:CB	1:A:420:ALA:HB1	2.51	0.41
1:A:360:ILE:HD13	1:A:360:ILE:HA	1.76	0.41
1:A:84:ARG:HD3	1:A:85:LEU:N	2.36	0.41
1:A:94:LEU:HD12	1:A:94:LEU:HA	1.84	0.41
1:B:441:ASP:O	1:B:445:ARG:HG3	2.21	0.41
1:B:618:LEU:HA	1:B:619:PRO:HD2	1.73	0.41
1:A:368:GLN:O	1:A:372:GLU:HB2	2.20	0.41
1:A:435:LYS:HB3	1:A:436:TRP:CE3	2.56	0.41
1:B:252:HIS:O	1:B:255:SER:HB3	2.20	0.41
1:B:353:HIS:C	1:B:355:GLU:N	2.74	0.41
1:B:381:GLN:O	1:B:385:LEU:HB2	2.21	0.41
1:A:119:VAL:HG12	1:A:120:GLU:N	2.36	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:161:ARG:HB3	1:A:162:ALA:H	1.74	0.41
1:A:617:ASN:O	1:A:618:LEU:HD23	2.21	0.41
1:A:583:LEU:CD1	1:A:592:GLU:HG3	2.51	0.41
1:B:576:MSE:O	1:B:580:ILE:HG13	2.20	0.41
1:B:501:GLU:HG2	1:B:502:PHE:CD1	2.56	0.40
1:A:602:ASP:N	1:A:602:ASP:OD2	2.46	0.40
1:A:612:LEU:O	1:A:615:LYS:HB2	2.21	0.40
1:A:84:ARG:HD2	1:A:86:GLU:H	1.84	0.40
1:B:358:ILE:O	1:B:362:GLN:HB2	2.21	0.40
1:A:327:LEU:HD23	1:A:327:LEU:HA	1.93	0.40
1:A:80:LEU:HD12	1:A:80:LEU:HA	1.77	0.40
1:A:77:LYS:O	1:A:81:GLU:HG3	2.20	0.40
1:B:305:PRO:HG2	1:B:308:GLN:HB2	2.03	0.40
1:B:316:PHE:O	1:B:319:ASN:HB2	2.21	0.40
1:B:324:VAL:HG21	1:B:386:LEU:CD2	2.51	0.40
1:B:387:LEU:HD23	1:B:387:LEU:HA	1.67	0.40
1:B:358:ILE:HG22	1:B:427:PHE:CZ	2.56	0.40
1:A:157:LEU:HD12	1:A:175:ARG:HE	1.86	0.40
1:A:381:GLN:O	1:A:385:LEU:HB2	2.22	0.40
1:A:382:ILE:O	1:A:386:LEU:HG	2.21	0.40
1:A:471:PRO:O	1:A:473:PHE:N	2.54	0.40
1:B:228:VAL:CG1	1:B:294:GLU:HG3	2.51	0.40
1:B:393:LEU:HG	1:B:393:LEU:O	2.14	0.40
1:B:85:LEU:HD23	1:B:145:LEU:HB2	2.04	0.40

All (1) symmetry-related close contacts are listed below. The label for Atom-2 includes the symmetry operator and encoded unit-cell translations to be applied.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:480:ARG:NH1	1:B:264:GLU:OE2[4_455]	2.17	0.03

5.3 Torsion angles [i](#)

5.3.1 Protein backbone [i](#)

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

The Analysed column shows the number of residues for which the backbone conformation was

analysed, and the total number of residues.

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	A	575/600 (96%)	483 (84%)	67 (12%)	25 (4%)	2	14
1	B	574/600 (96%)	496 (86%)	63 (11%)	15 (3%)	5	26
All	All	1149/1200 (96%)	979 (85%)	130 (11%)	40 (4%)	3	18

All (40) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	71	PRO
1	A	463	GLN
1	A	639	PRO
1	B	286	LEU
1	B	616	GLY
1	B	619	PRO
1	A	292	ALA
1	A	480	ARG
1	A	500	PRO
1	A	616	GLY
1	A	627	ARG
1	A	629	ILE
1	B	113	VAL
1	B	201	THR
1	B	288	SER
1	B	289	PRO
1	A	161	ARG
1	A	172	GLU
1	A	306	PRO
1	A	409	LYS
1	A	619	PRO
1	A	630	LEU
1	A	634	THR
1	B	112	LEU
1	B	639	PRO
1	A	106	GLY
1	A	289	PRO
1	A	618	LEU
1	A	137	PRO
1	A	539	ALA
1	B	71	PRO
1	B	306	PRO
1	B	137	PRO
1	B	350	GLY

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Mol	Chain	Res	Type
1	B	354	SER
1	A	141	ALA
1	B	374	ILE
1	A	374	ILE
1	A	600	TYR
1	A	614	ILE

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	504/513 (98%)	429 (85%)	75 (15%)	3 13
1	B	502/513 (98%)	405 (81%)	97 (19%)	1 7
All	All	1006/1026 (98%)	834 (83%)	172 (17%)	2 9

All (172) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	72	THR
1	A	80	LEU
1	A	85	LEU
1	A	94	LEU
1	A	96	ARG
1	A	107	MSE
1	A	116	GLN
1	A	117	SER
1	A	119	VAL
1	A	123	TYR
1	A	138	LEU
1	A	149	LEU
1	A	152	VAL
1	A	153	SER
1	A	174	THR
1	A	193	GLU
1	A	195	LEU

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Mol	Chain	Res	Type
1	A	198	GLN
1	A	210	GLU
1	A	212	ARG
1	A	229	GLU
1	A	237	ASP
1	A	241	VAL
1	A	242	VAL
1	A	253	PHE
1	A	255	SER
1	A	262	GLN
1	A	265	LEU
1	A	266	CYS
1	A	268	ARG
1	A	273	LEU
1	A	290	LYS
1	A	295	LEU
1	A	296	GLN
1	A	308	GLN
1	A	312	LEU
1	A	325	LYS
1	A	334	LEU
1	A	336	SER
1	A	341	GLN
1	A	348	LEU
1	A	354	SER
1	A	356	LEU
1	A	368	GLN
1	A	382	ILE
1	A	385	LEU
1	A	396	SER
1	A	411	LEU
1	A	417	ASN
1	A	426	LEU
1	A	429	TRP
1	A	438	ILE
1	A	443	LEU
1	A	447	LEU
1	A	448	GLU
1	A	461	LEU
1	A	477	THR
1	A	485	VAL
1	A	494	THR

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Mol	Chain	Res	Type
1	A	498	SER
1	A	499	LEU
1	A	510	ARG
1	A	511	GLU
1	A	512	GLU
1	A	513	LEU
1	A	528	ARG
1	A	550	LEU
1	A	585	ASP
1	A	587	SER
1	A	600	TYR
1	A	617	ASN
1	A	618	LEU
1	A	621	SER
1	A	627	ARG
1	A	631	ASP
1	B	80	LEU
1	B	87	VAL
1	B	94	LEU
1	B	99	GLU
1	B	107	MSE
1	B	116	GLN
1	B	119	VAL
1	B	123	TYR
1	B	124	VAL
1	B	136	ARG
1	B	138	LEU
1	B	143	GLU
1	B	149	LEU
1	B	152	VAL
1	B	157	LEU
1	B	177	ARG
1	B	179	TRP
1	B	190	VAL
1	B	193	GLU
1	B	195	LEU
1	B	198	GLN
1	B	212	ARG
1	B	218	ARG
1	B	219	THR
1	B	229	GLU
1	B	231	LEU

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Mol	Chain	Res	Type
1	B	234	LEU
1	B	241	VAL
1	B	242	VAL
1	B	253	PHE
1	B	257	LEU
1	B	258	CYS
1	B	260	LEU
1	B	264	GLU
1	B	265	LEU
1	B	266	CYS
1	B	274	LEU
1	B	284	ASP
1	B	290	LYS
1	B	308	GLN
1	B	309	ILE
1	B	311	LEU
1	B	312	LEU
1	B	316	PHE
1	B	322	THR
1	B	323	SER
1	B	326	GLN
1	B	339	TRP
1	B	342	ASP
1	B	351	HIS
1	B	354	SER
1	B	361	LEU
1	B	368	GLN
1	B	372	GLU
1	B	375	THR
1	B	376	SER
1	B	383	LYS
1	B	385	LEU
1	B	394	LEU
1	B	395	ARG
1	B	398	GLN
1	B	409	LYS
1	B	410	LEU
1	B	415	ARG
1	B	416	VAL
1	B	436	TRP
1	B	443	LEU
1	B	447	LEU

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Mol	Chain	Res	Type
1	B	448	GLU
1	B	453	LEU
1	B	461	LEU
1	B	462	LEU
1	B	463	GLN
1	B	464	SER
1	B	465	LEU
1	B	489	GLU
1	B	493	THR
1	B	495	VAL
1	B	496	SER
1	B	505	LEU
1	B	510	ARG
1	B	533	ARG
1	B	536	LEU
1	B	543	GLN
1	B	544	GLN
1	B	550	LEU
1	B	557	GLN
1	B	568	THR
1	B	579	GLU
1	B	593	VAL
1	B	605	LYS
1	B	614	ILE
1	B	615	LYS
1	B	618	LEU
1	B	621	SER
1	B	623	VAL
1	B	646	LEU

Some sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (8) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	413	ASN
1	A	417	ASN
1	A	520	HIS
1	A	552	ASN
1	B	250	HIS
1	B	256	HIS
1	B	518	HIS
1	B	541	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 carbohydrates in this entry.

5.6 Ligand geometry [i](#)

There are no ligands in this entry.

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

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.