



Full wwPDB X-ray Structure Validation Report ⓘ

Mar 10, 2026 – 01:21 PM UTC

PDB ID : 4OMT / pdb_00004omt
Title : Crystal structure of human muscle phosphofructokinase (dissociated homodimer)
Authors : Kloos, M.; Straeter, N.
Deposited on : 2014-01-27
Resolution : 6.00 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	:	4-5-2 with Phenix2.0
Xtriage (Phenix)	:	2.0
EDS	:	3.0
Percentile statistics	:	20250101.v01 (using entries in the PDB archive January 1st 2025)
CCP4	:	9.0.010 (Gargrove)
Density-Fitness	:	1.0.12
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.49

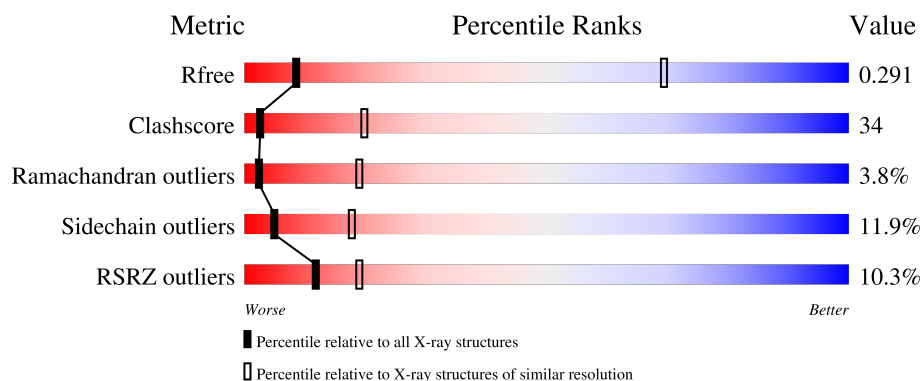
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 6.00 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))
R_{free}	180053	1143 (8.00-4.00)
Clashscore	190562	1210 (8.00-4.00)
Ramachandran outliers	187476	1034 (8.00-4.00)
Sidechain outliers	187428	1000 (8.00-4.00)
RSRZ outliers	180081	1136 (8.00-4.00)

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 $\leq 5\%$. 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	780	10% 46% 42% 7% ••

2 Entry composition

There is only 1 type of molecule in this entry. The entry contains 5715 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.

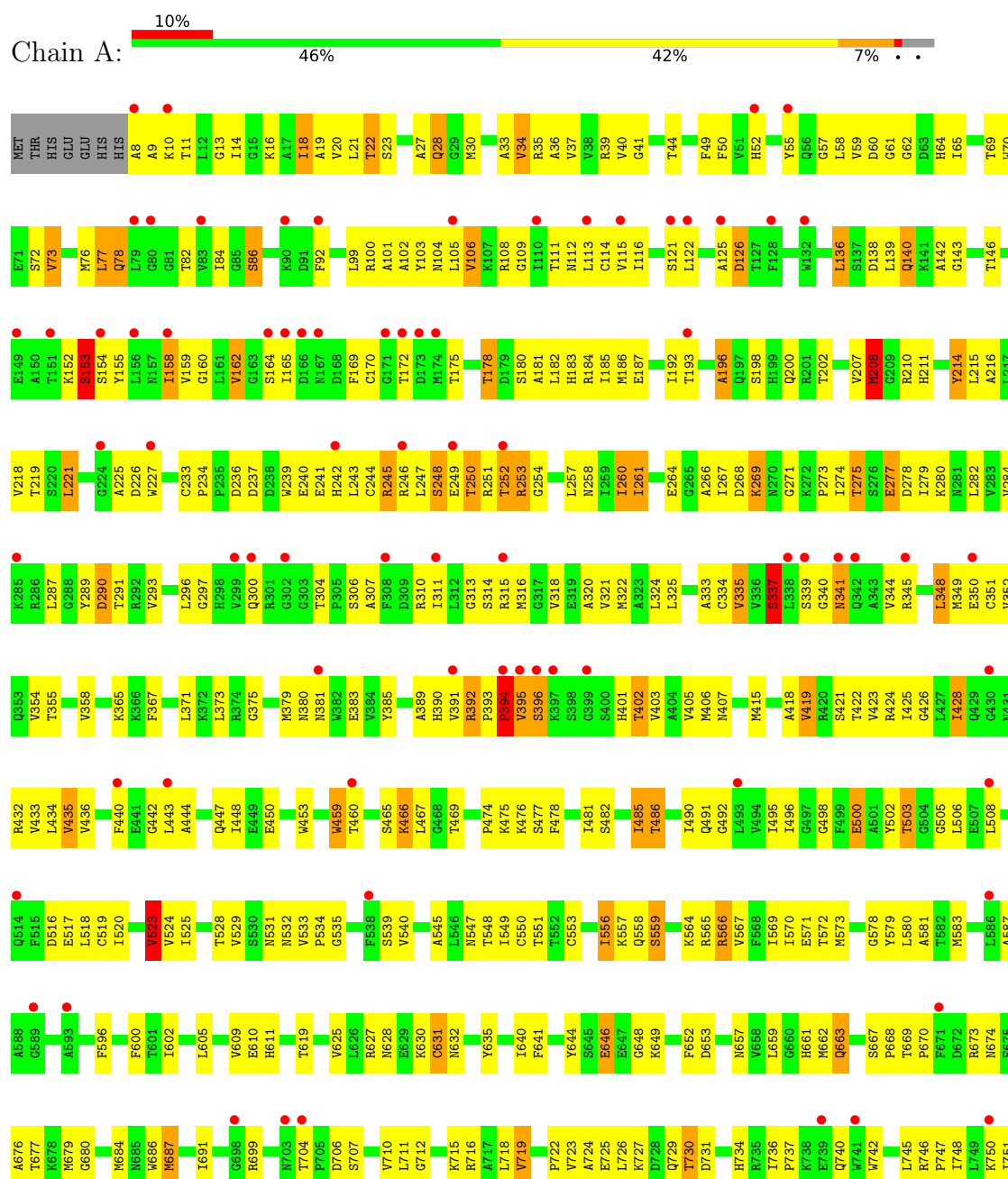
- Molecule 1 is a protein called 6-phosphofructokinase, muscle type.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
1	A	748	5715	3590	1018	1070	37	0	0	0

3 Residue-property plots

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: 6-phosphofructokinase, muscle type



L752

A753

K754

Y755

GLU

ILE

ASP

LEU

ASP

THR

SER

ASP

HIS

ALA

HIS

LEU

GLU

HIS

ILE

THR

ARG

LYS

ARG

SER

GLY

GLU

ALA

ALA

VAL

4 Data and refinement statistics

Property	Value	Source
Space group	P 62 2 2	Depositor
Cell constants a, b, c, α , β , γ	229.70Å 229.70Å 133.00Å 90.00° 90.00° 120.00°	Depositor
Resolution (Å)	46.95 – 6.00 46.95 – 6.00	Depositor EDS
% Data completeness (in resolution range)	99.7 (46.95-6.00) 99.6 (46.95-6.00)	Depositor EDS
R_{merge}	0.11	Depositor
R_{sym}	0.12	Depositor
$\langle I/\sigma(I) \rangle$ ¹	4.55 (at 6.15Å)	Xtriage
Refinement program	PHENIX 1.8.2_1309, REFMAC 5.7.0029	Depositor
R, R_{free}	0.238 , 0.274 0.263 , 0.291	Depositor DCC
R_{free} test set	529 reflections (9.54%)	wwPDB-VP
Wilson B-factor (Å ²)	268.6	Xtriage
Anisotropy	0.508	Xtriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.30 , 225.9	EDS
L-test for twinning ²	$\langle L \rangle = 0.49$, $\langle L^2 \rangle = 0.32$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o, F_c correlation	0.81	EDS
Total number of atoms	5715	wwPDB-VP
Average B, all atoms (Å ²)	194.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 3.61% 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

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	A	0.82	3/5813 (0.1%)	1.03	12/7846 (0.2%)

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	A	0	1

All (3) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	394	PRO	C-N	8.81	1.59	1.33
1	A	252	THR	CA-CB	8.45	1.66	1.53
1	A	252	THR	N-CA	5.96	1.53	1.46

All (12) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	396	SER	N-CA-C	6.81	119.84	108.73
1	A	234	PRO	CA-C-N	6.29	127.70	119.84
1	A	234	PRO	C-N-CA	6.29	127.70	119.84
1	A	719	VAL	N-CA-C	6.10	117.08	108.17
1	A	523	VAL	CB-CA-C	-5.94	101.66	110.33
1	A	459	TRP	N-CA-C	-5.74	106.92	114.04
1	A	337	SER	N-CA-C	5.64	116.98	108.46
1	A	252	THR	N-CA-CB	5.24	117.78	109.82
1	A	667	SER	CA-C-N	5.22	125.14	119.76
1	A	667	SER	C-N-CA	5.22	125.14	119.76
1	A	395	VAL	CA-C-N	5.14	129.61	122.77
1	A	395	VAL	C-N-CA	5.14	129.61	122.77

There are no chirality outliers.

All (1) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	A	394	PRO	Mainchain

5.2 Too-close contacts ⓘ

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	5715	0	5754	392	1
All	All	5715	0	5754	392	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 34.

All (392) 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:A:407:ASN:CB	1:A:469:THR:HG22	1.42	1.45
1:A:407:ASN:HB3	1:A:469:THR:CG2	1.54	1.35
1:A:275:THR:CG2	1:A:278:ASP:OD2	1.75	1.35
1:A:275:THR:HG21	1:A:278:ASP:OD2	1.24	1.31
1:A:109:GLY:HA2	1:A:152:LYS:NZ	1.42	1.29
1:A:275:THR:CG2	1:A:278:ASP:CG	2.07	1.26
1:A:246:ARG:O	1:A:250:THR:HG22	1.34	1.26
1:A:275:THR:HG23	1:A:278:ASP:CB	1.67	1.25
1:A:186:MET:CE	1:A:673:ARG:NH1	2.03	1.22
1:A:236:ASP:HA	1:A:269:LYS:CG	1.53	1.19
1:A:407:ASN:HB2	1:A:469:THR:HG22	1.33	1.09
1:A:186:MET:HE1	1:A:673:ARG:NH1	1.65	1.09
1:A:275:THR:HG21	1:A:278:ASP:CG	1.73	1.08
1:A:275:THR:HG23	1:A:278:ASP:HB2	1.17	1.07
1:A:99:LEU:O	1:A:103:TYR:CD2	2.08	1.05
1:A:186:MET:HE1	1:A:673:ARG:HH11	1.13	1.03
1:A:280:LYS:HE3	1:A:284:VAL:HG21	1.42	1.02
1:A:35:ARG:HH12	1:A:752:LEU:HD13	1.22	1.01
1:A:236:ASP:CA	1:A:269:LYS:HG2	1.90	1.01

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:236:ASP:HA	1:A:269:LYS:HG2	1.02	1.01
1:A:44:THR:HG21	1:A:325:LEU:HD11	1.41	1.00
1:A:175:THR:O	1:A:178:THR:HG22	1.63	0.98
1:A:233:CYS:HB2	1:A:371:LEU:HD21	1.45	0.97
1:A:247:LEU:O	1:A:250:THR:HG23	1.63	0.97
1:A:245:ARG:O	1:A:249:GLU:HG3	1.65	0.96
1:A:569:ILE:HD12	1:A:641:PHE:HA	1.48	0.96
1:A:275:THR:HG23	1:A:278:ASP:CG	1.78	0.96
1:A:407:ASN:CB	1:A:469:THR:CG2	2.25	0.95
1:A:109:GLY:HA2	1:A:152:LYS:HZ1	1.27	0.95
1:A:109:GLY:HA2	1:A:152:LYS:HZ3	1.13	0.94
1:A:407:ASN:HB3	1:A:469:THR:HG22	0.97	0.94
1:A:392:ARG:HB3	1:A:393:PRO:CA	1.97	0.94
1:A:335:VAL:HG23	1:A:348:LEU:HG	1.51	0.92
1:A:340:GLY:HA2	1:A:716:ARG:HA	1.49	0.92
1:A:99:LEU:HB2	1:A:103:TYR:HE2	1.36	0.91
1:A:233:CYS:SG	1:A:371:LEU:HD11	2.12	0.90
1:A:745:LEU:O	1:A:748:ILE:HG12	1.71	0.90
1:A:407:ASN:HB3	1:A:469:THR:HG21	1.54	0.88
1:A:109:GLY:CA	1:A:152:LYS:NZ	2.35	0.88
1:A:275:THR:CG2	1:A:278:ASP:CB	2.48	0.88
1:A:506:LEU:HD22	1:A:727:LYS:HE2	1.56	0.88
1:A:8:ALA:N	1:A:9:ALA:HA	1.89	0.87
1:A:275:THR:CG2	1:A:278:ASP:HB2	2.04	0.87
1:A:99:LEU:O	1:A:103:TYR:HD2	1.55	0.86
1:A:225:ALA:HB2	1:A:261:ILE:HD13	1.57	0.86
1:A:609:VAL:C	1:A:611:HIS:H	1.82	0.86
1:A:99:LEU:C	1:A:103:TYR:CD2	2.54	0.85
1:A:236:ASP:CA	1:A:269:LYS:CG	2.49	0.84
1:A:392:ARG:HB3	1:A:393:PRO:HA	1.57	0.84
1:A:403:VAL:HG21	1:A:684:MET:HE1	1.59	0.83
1:A:186:MET:HE3	1:A:673:ARG:NH1	1.93	0.83
1:A:241:GLU:O	1:A:245:ARG:HB3	1.81	0.80
1:A:609:VAL:O	1:A:611:HIS:N	2.14	0.80
1:A:33:ALA:O	1:A:37:VAL:HG23	1.82	0.80
1:A:392:ARG:CB	1:A:393:PRO:HA	2.10	0.80
1:A:28:GLN:H	1:A:28:GLN:HE21	1.27	0.80
1:A:524:VAL:HB	1:A:710:VAL:HG22	1.64	0.80
1:A:186:MET:CE	1:A:673:ARG:HH11	1.77	0.80
1:A:82:THR:HG21	1:A:86:SER:HB2	1.64	0.79
1:A:99:LEU:HB2	1:A:103:TYR:CE2	2.19	0.78

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:275:THR:HG22	1:A:278:ASP:OD2	1.81	0.78
1:A:247:LEU:HA	1:A:250:THR:CG2	2.13	0.77
1:A:726:LEU:O	1:A:730:THR:HG22	1.84	0.77
1:A:182:LEU:O	1:A:186:MET:HG2	1.85	0.77
1:A:109:GLY:CA	1:A:152:LYS:HZ1	1.98	0.76
1:A:99:LEU:C	1:A:103:TYR:HD2	1.90	0.76
1:A:236:ASP:HA	1:A:269:LYS:HG3	1.62	0.76
1:A:340:GLY:CA	1:A:716:ARG:HA	2.15	0.76
1:A:100:ARG:HA	1:A:103:TYR:HD2	1.52	0.75
1:A:106:VAL:HG13	1:A:152:LYS:HD2	1.67	0.75
1:A:100:ARG:HA	1:A:103:TYR:CD2	2.22	0.74
1:A:202:THR:HG23	1:A:258:ASN:HB2	1.66	0.74
1:A:39:ARG:HD2	1:A:70:TRP:CE2	2.23	0.73
1:A:440:PHE:C	1:A:442:GLY:H	1.96	0.72
1:A:218:VAL:HG13	1:A:674:ASN:HD21	1.55	0.72
1:A:393:PRO:HG3	1:A:453:TRP:HB2	1.71	0.72
1:A:237:ASP:OD1	1:A:269:LYS:NZ	2.14	0.72
1:A:393:PRO:HB3	1:A:453:TRP:CE3	2.24	0.71
1:A:287:LEU:HB3	1:A:289:TYR:CE1	2.26	0.71
1:A:244:CYS:HB3	1:A:287:LEU:HD23	1.72	0.71
1:A:280:LYS:HE3	1:A:284:VAL:CG2	2.19	0.71
1:A:459:TRP:CH2	1:A:466:LYS:HB3	2.25	0.71
1:A:73:VAL:HA	1:A:76:MET:SD	2.31	0.71
1:A:280:LYS:CE	1:A:284:VAL:HG21	2.20	0.71
1:A:335:VAL:HG12	1:A:335:VAL:O	1.90	0.70
1:A:500:GLU:HA	1:A:503:THR:HB	1.73	0.70
1:A:646:GLU:HA	1:A:649:LYS:HD3	1.73	0.70
1:A:9:ALA:O	1:A:11:THR:HG22	1.92	0.70
1:A:247:LEU:C	1:A:250:THR:HG23	2.17	0.70
1:A:11:THR:HA	1:A:14:ILE:HD12	1.73	0.69
1:A:392:ARG:HB3	1:A:393:PRO:C	2.16	0.69
1:A:175:THR:O	1:A:178:THR:CG2	2.40	0.69
1:A:243:LEU:O	1:A:247:LEU:HG	1.92	0.69
1:A:252:THR:C	1:A:254:GLY:N	2.49	0.69
1:A:106:VAL:CG1	1:A:152:LYS:HD2	2.21	0.69
1:A:280:LYS:O	1:A:284:VAL:HG23	1.92	0.69
1:A:267:ILE:HA	1:A:273:PRO:HA	1.74	0.69
1:A:392:ARG:CB	1:A:393:PRO:CA	2.68	0.69
1:A:528:THR:HG21	1:A:532:ASN:OD1	1.93	0.69
1:A:33:ALA:HA	1:A:313:GLY:O	1.93	0.68
1:A:112:ASN:HB3	1:A:324:LEU:HD22	1.74	0.68

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:215:LEU:HD12	1:A:215:LEU:H	1.57	0.68
1:A:531:ASN:HA	1:A:539:SER:OG	1.94	0.68
1:A:573:MET:HE3	1:A:661:HIS:HD2	1.59	0.68
1:A:609:VAL:C	1:A:611:HIS:N	2.50	0.68
1:A:106:VAL:HG13	1:A:152:LYS:CD	2.23	0.67
1:A:485:ILE:HG12	1:A:517:GLU:HB3	1.78	0.66
1:A:55:TYR:OH	1:A:125:ALA:HB2	1.95	0.66
1:A:252:THR:C	1:A:254:GLY:H	2.01	0.66
1:A:268:ASP:HB3	1:A:274:ILE:HD11	1.77	0.66
1:A:82:THR:CG2	1:A:86:SER:HB2	2.26	0.65
1:A:280:LYS:HD3	1:A:280:LYS:C	2.21	0.65
1:A:566:ARG:HD2	1:A:653:ASP:HB3	1.78	0.65
1:A:18:ILE:HG22	1:A:112:ASN:HB2	1.77	0.65
1:A:109:GLY:CA	1:A:152:LYS:HZ3	2.00	0.65
1:A:20:VAL:HG23	1:A:114:CYS:HB3	1.80	0.64
1:A:113:LEU:HB3	1:A:158:ILE:HG22	1.81	0.63
1:A:602:ILE:HD12	1:A:605:LEU:HB3	1.81	0.63
1:A:423:VAL:HG22	1:A:433:VAL:HG11	1.80	0.63
1:A:40:VAL:HB	1:A:321:VAL:HG21	1.80	0.63
1:A:252:THR:O	1:A:254:GLY:N	2.32	0.63
1:A:100:ARG:CA	1:A:103:TYR:HD2	2.12	0.62
1:A:244:CYS:HB3	1:A:287:LEU:CD2	2.28	0.62
1:A:415:MET:SD	1:A:469:THR:HG21	2.40	0.62
1:A:311:ILE:HD13	1:A:583:MET:HE3	1.81	0.62
1:A:392:ARG:NH1	1:A:394:PRO:HG3	2.15	0.62
1:A:418:ALA:HA	1:A:676:ALA:O	2.00	0.62
1:A:36:ALA:O	1:A:40:VAL:HG23	2.00	0.61
1:A:340:GLY:O	1:A:715:LYS:C	2.43	0.61
1:A:506:LEU:HD22	1:A:727:LYS:CE	2.30	0.61
1:A:440:PHE:C	1:A:442:GLY:N	2.58	0.61
1:A:35:ARG:NH1	1:A:752:LEU:HD13	2.05	0.61
1:A:242:HIS:HA	1:A:245:ARG:HD2	1.82	0.61
1:A:525:ILE:HG23	1:A:679:MET:SD	2.41	0.61
1:A:69:THR:O	1:A:72:SER:OG	2.16	0.60
1:A:630:LYS:O	1:A:632:ASN:N	2.34	0.60
1:A:225:ALA:HB2	1:A:261:ILE:CD1	2.29	0.60
1:A:340:GLY:O	1:A:715:LYS:O	2.20	0.60
1:A:465:SER:OG	1:A:469:THR:HG23	2.01	0.60
1:A:316:MET:HE1	1:A:337:SER:HA	1.83	0.59
1:A:556:ILE:HG21	1:A:570:ILE:HD11	1.84	0.59
1:A:103:TYR:CD2	1:A:139:LEU:CD1	2.86	0.59

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:99:LEU:C	1:A:103:TYR:CE2	2.80	0.59
1:A:337:SER:O	1:A:344:VAL:HG22	2.02	0.59
1:A:52:HIS:HA	1:A:84:ILE:O	2.03	0.59
1:A:186:MET:CE	1:A:673:ARG:HH12	2.08	0.58
1:A:58:LEU:HG	1:A:101:ALA:HB1	1.85	0.58
1:A:99:LEU:CB	1:A:103:TYR:HE2	2.12	0.58
1:A:426:GLY:CA	1:A:684:MET:HE2	2.33	0.58
1:A:39:ARG:HD2	1:A:70:TRP:CZ2	2.39	0.58
1:A:35:ARG:HH12	1:A:752:LEU:CD1	2.07	0.58
1:A:481:ILE:O	1:A:485:ILE:HG23	2.04	0.58
1:A:367:PHE:O	1:A:371:LEU:HG	2.03	0.57
1:A:426:GLY:HA3	1:A:684:MET:HE2	1.85	0.57
1:A:475:LYS:HA	1:A:478:PHE:CE2	2.40	0.57
1:A:722:PRO:HG2	1:A:725:GLU:HB2	1.87	0.57
1:A:247:LEU:CA	1:A:250:THR:CG2	2.83	0.57
1:A:296:LEU:CD1	1:A:296:LEU:H	2.17	0.57
1:A:630:LYS:C	1:A:632:ASN:H	2.13	0.56
1:A:11:THR:HA	1:A:14:ILE:CD1	2.35	0.56
1:A:401:HIS:ND1	1:A:491:GLN:NE2	2.53	0.56
1:A:502:TYR:OH	1:A:730:THR:HG21	2.06	0.56
1:A:27:ALA:O	1:A:30:MET:HG3	2.05	0.56
1:A:218:VAL:HG13	1:A:674:ASN:ND2	2.21	0.56
1:A:290:ASP:CG	1:A:290:ASP:O	2.49	0.56
1:A:475:LYS:C	1:A:477:SER:H	2.14	0.56
1:A:418:ALA:O	1:A:419:VAL:C	2.49	0.56
1:A:426:GLY:HA2	1:A:684:MET:CE	2.36	0.55
1:A:153:SER:C	1:A:155:TYR:H	2.14	0.55
1:A:605:LEU:O	1:A:609:VAL:HG23	2.06	0.55
1:A:271:GLY:O	1:A:273:PRO:HD3	2.06	0.55
1:A:432:ARG:HD2	1:A:450:GLU:OE2	2.06	0.55
1:A:481:ILE:O	1:A:485:ILE:CG2	2.54	0.55
1:A:111:THR:HG23	1:A:112:ASN:ND2	2.21	0.55
1:A:516:ASP:HA	1:A:519:CYS:SG	2.46	0.55
1:A:628:ASN:HB3	1:A:631:CYS:HB3	1.87	0.55
1:A:252:THR:HG23	1:A:253:ARG:N	2.22	0.54
1:A:432:ARG:HD2	1:A:450:GLU:CD	2.32	0.54
1:A:182:LEU:HA	1:A:185:ILE:HD12	1.88	0.54
1:A:296:LEU:H	1:A:296:LEU:HD12	1.71	0.54
1:A:569:ILE:CD1	1:A:641:PHE:HA	2.29	0.54
1:A:102:ALA:HA	1:A:105:LEU:HD12	1.89	0.54
1:A:186:MET:HE3	1:A:673:ARG:HH12	1.69	0.54

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:239:TRP:CD1	1:A:239:TRP:C	2.86	0.54
1:A:28:GLN:H	1:A:28:GLN:NE2	2.01	0.54
1:A:39:ARG:NH1	1:A:752:LEU:O	2.40	0.54
1:A:540:VAL:HG11	1:A:676:ALA:HB2	1.90	0.54
1:A:443:LEU:HA	1:A:448:ILE:HD11	1.89	0.54
1:A:99:LEU:O	1:A:139:LEU:HD11	2.07	0.53
1:A:158:ILE:HD13	1:A:158:ILE:H	1.74	0.53
1:A:245:ARG:O	1:A:249:GLU:CG	2.50	0.53
1:A:251:ARG:HG3	1:A:289:TYR:HE2	1.72	0.53
1:A:402:THR:HB	1:A:432:ARG:HE	1.73	0.53
1:A:13:GLY:CA	1:A:325:LEU:HD22	2.39	0.53
1:A:16:LYS:HD2	1:A:112:ASN:HD21	1.73	0.53
1:A:532:ASN:O	1:A:737:PRO:HD3	2.08	0.53
1:A:23:SER:HB3	1:A:121:SER:HB3	1.90	0.53
1:A:316:MET:SD	1:A:337:SER:HA	2.49	0.53
1:A:268:ASP:HB3	1:A:274:ILE:CD1	2.38	0.53
1:A:277:GLU:O	1:A:280:LYS:HB3	2.08	0.53
1:A:523:VAL:HG22	1:A:686:TRP:CZ3	2.44	0.53
1:A:44:THR:CG2	1:A:325:LEU:HD11	2.27	0.53
1:A:33:ALA:HB3	1:A:116:ILE:HD13	1.90	0.52
1:A:475:LYS:HA	1:A:478:PHE:CZ	2.43	0.52
1:A:73:VAL:HG12	1:A:76:MET:SD	2.49	0.52
1:A:403:VAL:CG2	1:A:684:MET:HE1	2.36	0.52
1:A:69:THR:HG22	1:A:72:SER:HB3	1.92	0.52
1:A:40:VAL:HG21	1:A:318:VAL:HG22	1.91	0.52
1:A:350:GLU:O	1:A:354:VAL:HG23	2.10	0.51
1:A:424:ARG:O	1:A:425:ILE:C	2.52	0.51
1:A:495:ILE:HB	1:A:524:VAL:HG22	1.92	0.51
1:A:348:LEU:O	1:A:352:VAL:HG23	2.11	0.51
1:A:443:LEU:HD22	1:A:490:ILE:HD13	1.92	0.51
1:A:518:LEU:C	1:A:520:ILE:H	2.18	0.51
1:A:21:LEU:HD11	1:A:55:TYR:HA	1.92	0.51
1:A:44:THR:HG21	1:A:325:LEU:CD1	2.28	0.51
1:A:335:VAL:O	1:A:335:VAL:CG1	2.58	0.51
1:A:579:TYR:HD1	1:A:742:TRP:CD1	2.29	0.51
1:A:246:ARG:NH2	1:A:389:ALA:O	2.44	0.51
1:A:545:ALA:O	1:A:548:THR:HB	2.11	0.51
1:A:136:LEU:O	1:A:140:GLN:HB2	2.11	0.51
1:A:287:LEU:HB3	1:A:289:TYR:CD1	2.45	0.51
1:A:275:THR:OG1	1:A:277:GLU:HG2	2.11	0.50
1:A:422:THR:HA	1:A:680:GLY:O	2.11	0.50

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:244:CYS:O	1:A:248:SER:OG	2.29	0.50
1:A:723:VAL:HG23	1:A:724:ALA:H	1.76	0.50
1:A:112:ASN:HB3	1:A:324:LEU:HD13	1.93	0.50
1:A:240:GLU:HB3	1:A:282:LEU:HD11	1.93	0.50
1:A:103:TYR:CD2	1:A:139:LEU:HD11	2.43	0.50
1:A:314:SER:O	1:A:318:VAL:HG23	2.12	0.50
1:A:529:VAL:HG13	1:A:545:ALA:CB	2.42	0.50
1:A:162:VAL:CG1	1:A:175:THR:HG22	2.42	0.49
1:A:482:SER:HA	1:A:485:ILE:HG23	1.94	0.49
1:A:104:ASN:O	1:A:108:ARG:HG2	2.11	0.49
1:A:311:ILE:O	1:A:315:ARG:HG3	2.12	0.49
1:A:668:PRO:HG2	1:A:673:ARG:HE	1.78	0.49
1:A:8:ALA:N	1:A:9:ALA:CA	2.69	0.49
1:A:436:VAL:HG13	1:A:442:GLY:HA3	1.95	0.49
1:A:13:GLY:HA3	1:A:325:LEU:HD22	1.95	0.49
1:A:69:THR:CG2	1:A:72:SER:HB3	2.43	0.49
1:A:34:VAL:O	1:A:35:ARG:C	2.56	0.48
1:A:435:VAL:HG13	1:A:467:LEU:HD13	1.95	0.48
1:A:264:GLU:C	1:A:266:ALA:H	2.19	0.48
1:A:210:ARG:HG3	1:A:211:HIS:H	1.78	0.48
1:A:558:GLN:O	1:A:559:SER:O	2.32	0.48
1:A:475:LYS:C	1:A:477:SER:N	2.71	0.48
1:A:711:LEU:HD11	1:A:718:LEU:HG	1.95	0.48
1:A:475:LYS:HG3	1:A:478:PHE:CE1	2.49	0.48
1:A:580:LEU:O	1:A:581:ALA:C	2.57	0.48
1:A:602:ILE:HB	1:A:635:TYR:OH	2.14	0.48
1:A:392:ARG:HB2	1:A:393:PRO:HA	1.92	0.47
1:A:35:ARG:HG3	1:A:73:VAL:HB	1.96	0.47
1:A:648:GLY:HA3	1:A:652:PHE:CZ	2.49	0.47
1:A:18:ILE:O	1:A:18:ILE:HG13	2.14	0.47
1:A:41:GLY:O	1:A:44:THR:HG22	2.13	0.47
1:A:746:ARG:N	1:A:747:PRO:HD2	2.29	0.47
1:A:268:ASP:O	1:A:269:LYS:C	2.57	0.47
1:A:35:ARG:HD3	1:A:77:LEU:HD13	1.95	0.47
1:A:159:VAL:HG11	1:A:320:ALA:HA	1.96	0.47
1:A:61:GLY:HA2	1:A:65:ILE:HD11	1.96	0.47
1:A:723:VAL:HG23	1:A:724:ALA:N	2.30	0.47
1:A:395:VAL:HG12	1:A:396:SER:N	2.30	0.47
1:A:475:LYS:O	1:A:477:SER:N	2.48	0.47
1:A:57:GLY:CA	1:A:64:HIS:HB3	2.45	0.47
1:A:126:ASP:HB2	1:A:348:LEU:HD22	1.96	0.47

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:316:MET:CE	1:A:337:SER:HA	2.45	0.47
1:A:630:LYS:C	1:A:632:ASN:N	2.72	0.47
1:A:40:VAL:O	1:A:44:THR:HG22	2.15	0.46
1:A:225:ALA:CB	1:A:261:ILE:HD13	2.38	0.46
1:A:459:TRP:CH2	1:A:466:LYS:CB	2.97	0.46
1:A:659:LEU:HB3	1:A:662:MET:HE3	1.98	0.46
1:A:734:HIS:O	1:A:736:ILE:HG23	2.16	0.46
1:A:36:ALA:O	1:A:37:VAL:C	2.58	0.46
1:A:103:TYR:CD1	1:A:139:LEU:HD13	2.51	0.46
1:A:492:GLY:HA3	1:A:691:ILE:HD11	1.98	0.46
1:A:52:HIS:O	1:A:57:GLY:HA3	2.15	0.46
1:A:55:TYR:O	1:A:58:LEU:HB3	2.15	0.46
1:A:340:GLY:O	1:A:341:ASN:CB	2.63	0.46
1:A:306:SER:O	1:A:307:ALA:C	2.59	0.46
1:A:425:ILE:O	1:A:428:ILE:HG22	2.15	0.46
1:A:679:MET:HE2	1:A:711:LEU:HG	1.97	0.46
1:A:247:LEU:C	1:A:250:THR:CG2	2.87	0.46
1:A:214:TYR:O	1:A:215:LEU:C	2.57	0.45
1:A:573:MET:HE3	1:A:661:HIS:CD2	2.45	0.45
1:A:126:ASP:OD1	1:A:349:MET:HG2	2.16	0.45
1:A:669:THR:HB	1:A:670:PRO:HD2	1.98	0.45
1:A:13:GLY:O	1:A:16:LYS:HB2	2.16	0.45
1:A:436:VAL:HG22	1:A:448:ILE:HG12	1.98	0.45
1:A:280:LYS:HA	1:A:291:THR:HG21	1.98	0.45
1:A:242:HIS:HA	1:A:245:ARG:CD	2.46	0.45
1:A:535:GLY:O	1:A:712:GLY:HA3	2.16	0.45
1:A:78:GLN:OE1	1:A:78:GLN:N	2.46	0.45
1:A:159:VAL:HG22	1:A:334:CYS:HB3	1.99	0.45
1:A:549:ILE:O	1:A:553:CYS:SG	2.72	0.45
1:A:280:LYS:HB2	1:A:293:VAL:HG23	1.98	0.45
1:A:724:ALA:HA	1:A:727:LYS:HE3	1.99	0.45
1:A:183:HIS:O	1:A:187:GLU:HG3	2.16	0.45
1:A:247:LEU:HA	1:A:250:THR:HG23	1.98	0.45
1:A:340:GLY:CA	1:A:716:ARG:CA	2.93	0.45
1:A:311:ILE:HD13	1:A:583:MET:CE	2.46	0.44
1:A:403:VAL:HG13	1:A:687:MET:CE	2.47	0.44
1:A:553:CYS:O	1:A:557:LYS:HG2	2.17	0.44
1:A:322:MET:HB3	1:A:345:ARG:HH21	1.81	0.44
1:A:407:ASN:HB2	1:A:469:THR:CG2	2.20	0.44
1:A:602:ILE:HA	1:A:605:LEU:HB3	1.99	0.44
1:A:498:GLY:HA2	1:A:528:THR:HB	2.00	0.44

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:160:GLY:HA3	1:A:335:VAL:HG22	1.98	0.44
1:A:529:VAL:HG13	1:A:545:ALA:HB2	1.99	0.44
1:A:742:TRP:C	1:A:742:TRP:CE3	2.96	0.44
1:A:122:LEU:HD22	1:A:160:GLY:HA3	1.99	0.44
1:A:138:ASP:C	1:A:140:GLN:H	2.24	0.44
1:A:196:ALA:HB3	1:A:257:LEU:HD22	2.00	0.44
1:A:216:ALA:O	1:A:219:THR:HG22	2.18	0.44
1:A:578:GLY:O	1:A:579:TYR:C	2.61	0.44
1:A:662:MET:O	1:A:663:GLN:C	2.60	0.44
1:A:172:THR:CB	1:A:337:SER:HB2	2.48	0.44
1:A:246:ARG:O	1:A:250:THR:CG2	2.30	0.44
1:A:500:GLU:CD	1:A:500:GLU:H	2.24	0.44
1:A:279:ILE:O	1:A:280:LYS:C	2.61	0.44
1:A:252:THR:CG2	1:A:253:ARG:N	2.80	0.43
1:A:506:LEU:CD2	1:A:727:LYS:CE	2.96	0.43
1:A:569:ILE:HG12	1:A:625:VAL:HB	2.01	0.43
1:A:55:TYR:OH	1:A:115:VAL:HG11	2.18	0.43
1:A:221:LEU:HD13	1:A:385:TYR:HA	2.00	0.43
1:A:481:ILE:HG13	1:A:482:SER:N	2.34	0.43
1:A:40:VAL:HG12	1:A:321:VAL:HG11	2.00	0.43
1:A:22:THR:HG21	1:A:82:THR:OG1	2.18	0.43
1:A:169:PHE:CZ	1:A:351:CYS:HB3	2.53	0.43
1:A:391:VAL:O	1:A:391:VAL:HG12	2.18	0.43
1:A:422:THR:O	1:A:684:MET:HG2	2.19	0.43
1:A:443:LEU:CD2	1:A:490:ILE:HD13	2.48	0.43
1:A:227:TRP:HB3	1:A:260:ILE:HG23	2.00	0.43
1:A:247:LEU:HA	1:A:247:LEU:HD23	1.78	0.43
1:A:284:VAL:HG22	1:A:291:THR:OG1	2.19	0.43
1:A:58:LEU:HD23	1:A:92:PHE:CE1	2.54	0.43
1:A:236:ASP:CB	1:A:269:LYS:HG2	2.48	0.43
1:A:379:MET:O	1:A:383:GLU:HG2	2.19	0.43
1:A:403:VAL:O	1:A:434:LEU:N	2.36	0.43
1:A:406:MET:SD	1:A:495:ILE:HG12	2.59	0.43
1:A:50:PHE:CZ	1:A:84:ILE:HD11	2.54	0.42
1:A:352:VAL:HA	1:A:355:THR:HG22	2.00	0.42
1:A:19:ALA:HA	1:A:49:PHE:O	2.19	0.42
1:A:426:GLY:HA2	1:A:684:MET:HE3	2.01	0.42
1:A:184:ARG:O	1:A:185:ILE:C	2.61	0.42
1:A:485:ILE:HG13	1:A:486:THR:N	2.23	0.42
1:A:505:GLY:O	1:A:508:LEU:HB2	2.20	0.42
1:A:61:GLY:HA2	1:A:65:ILE:CD1	2.49	0.42

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:567:VAL:N	1:A:653:ASP:O	2.48	0.42
1:A:55:TYR:HH	1:A:125:ALA:HB2	1.83	0.42
1:A:181:ALA:O	1:A:185:ILE:HG13	2.19	0.42
1:A:600:PHE:CD1	1:A:600:PHE:N	2.87	0.42
1:A:402:THR:HB	1:A:432:ARG:HB3	2.00	0.42
1:A:436:VAL:CG1	1:A:442:GLY:HA3	2.49	0.42
1:A:103:TYR:CG	1:A:139:LEU:HD13	2.55	0.42
1:A:180:SER:O	1:A:183:HIS:HB2	2.20	0.42
1:A:247:LEU:CA	1:A:250:THR:HG23	2.49	0.42
1:A:251:ARG:HG3	1:A:289:TYR:CE2	2.54	0.42
1:A:423:VAL:O	1:A:424:ARG:C	2.63	0.42
1:A:100:ARG:N	1:A:103:TYR:HD2	2.15	0.42
1:A:208:MET:HB2	1:A:300:GLN:OE1	2.20	0.42
1:A:310:ARG:HD2	1:A:587:ALA:O	2.19	0.42
1:A:403:VAL:HG13	1:A:687:MET:HE2	2.01	0.42
1:A:485:ILE:HA	1:A:490:ILE:HD12	2.01	0.42
1:A:572:THR:HG21	1:A:581:ALA:HA	2.01	0.42
1:A:571:GLU:HA	1:A:627:ARG:O	2.19	0.42
1:A:55:TYR:O	1:A:59:VAL:HG23	2.20	0.42
1:A:358:VAL:HG22	1:A:373:LEU:HB3	2.01	0.41
1:A:724:ALA:HA	1:A:727:LYS:HG3	2.02	0.41
1:A:103:TYR:OH	1:A:139:LEU:HA	2.20	0.41
1:A:380:ASN:O	1:A:381:ASN:C	2.63	0.41
1:A:609:VAL:HG22	1:A:644:TYR:CZ	2.55	0.41
1:A:140:GLN:OE1	1:A:146:THR:HB	2.20	0.41
1:A:333:ALA:HB1	1:A:348:LEU:HD13	2.01	0.41
1:A:747:PRO:O	1:A:750:LYS:HB2	2.21	0.41
1:A:20:VAL:HG22	1:A:21:LEU:N	2.36	0.41
1:A:159:VAL:HA	1:A:334:CYS:O	2.20	0.41
1:A:296:LEU:HD12	1:A:296:LEU:N	2.34	0.41
1:A:385:TYR:O	1:A:389:ALA:N	2.54	0.41
1:A:557:LYS:NZ	1:A:557:LYS:HB3	2.32	0.41
1:A:207:VAL:HG12	1:A:296:LEU:HD22	2.02	0.41
1:A:287:LEU:HB3	1:A:289:TYR:HE1	1.79	0.41
1:A:440:PHE:CD1	1:A:474:PRO:HD3	2.55	0.41
1:A:533:VAL:HA	1:A:534:PRO:HD3	1.96	0.41
1:A:646:GLU:O	1:A:649:LYS:HB2	2.21	0.41
1:A:172:THR:HB	1:A:337:SER:CB	2.51	0.40
1:A:726:LEU:HD23	1:A:729:GLN:OE1	2.22	0.40
1:A:122:LEU:HD22	1:A:160:GLY:CA	2.52	0.40
1:A:596:PHE:CD2	1:A:596:PHE:C	2.98	0.40

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:106:VAL:HG13	1:A:152:LYS:HD3	2.00	0.40
1:A:375:GLY:HA2	1:A:379:MET:HE3	2.02	0.40
1:A:9:ALA:O	1:A:11:THR:CG2	2.64	0.40
1:A:340:GLY:O	1:A:715:LYS:HA	2.20	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:396:SER:CB	1:A:396:SER:CB[4_665]	2.11	0.09

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	746/780 (96%)	619 (83%)	99 (13%)	28 (4%)	2	19

All (28) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	10	LYS
1	A	153	SER
1	A	392	ARG
1	A	444	ALA
1	A	559	SER
1	A	610	GLU
1	A	631	CYS
1	A	34	VAL
1	A	143	GLY
1	A	198	SER
1	A	208	MET
1	A	297	GLY

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	A	390	HIS
1	A	663	GLN
1	A	142	ALA
1	A	196	ALA
1	A	565	ARG
1	A	754	LYS
1	A	60	ASP
1	A	154	SER
1	A	214	TYR
1	A	476	LYS
1	A	62	GLY
1	A	253	ARG
1	A	269	LYS
1	A	341	ASN
1	A	365	LYS
1	A	419	VAL

5.3.2 Protein sidechains ⓘ

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	607/635 (96%)	535 (88%)	72 (12%)	5 18

All (72) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	18	ILE
1	A	22	THR
1	A	28	GLN
1	A	73	VAL
1	A	77	LEU
1	A	78	GLN
1	A	86	SER
1	A	106	VAL
1	A	126	ASP
1	A	136	LEU

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	A	140	GLN
1	A	153	SER
1	A	158	ILE
1	A	162	VAL
1	A	164	SER
1	A	165	ILE
1	A	170	CYS
1	A	178	THR
1	A	192	ILE
1	A	193	THR
1	A	200	GLN
1	A	208	MET
1	A	221	LEU
1	A	226	ASP
1	A	245	ARG
1	A	248	SER
1	A	250	THR
1	A	260	ILE
1	A	261	ILE
1	A	275	THR
1	A	277	GLU
1	A	290	ASP
1	A	304	THR
1	A	335	VAL
1	A	337	SER
1	A	339	SER
1	A	348	LEU
1	A	402	THR
1	A	405	VAL
1	A	421	SER
1	A	428	ILE
1	A	435	VAL
1	A	447	GLN
1	A	460	THR
1	A	466	LYS
1	A	485	ILE
1	A	486	THR
1	A	496	ILE
1	A	500	GLU
1	A	503	THR
1	A	523	VAL
1	A	547	ASN

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	A	550	CYS
1	A	551	THR
1	A	556	ILE
1	A	564	LYS
1	A	566	ARG
1	A	619	THR
1	A	640	ILE
1	A	646	GLU
1	A	657	ASN
1	A	677	THR
1	A	687	MET
1	A	699	ARG
1	A	704	THR
1	A	706	ASP
1	A	707	SER
1	A	719	VAL
1	A	730	THR
1	A	731	ASP
1	A	740	GLN
1	A	751	ILE

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (15) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	28	GLN
1	A	64	HIS
1	A	112	ASN
1	A	183	HIS
1	A	480	GLN
1	A	484	ASN
1	A	491	GLN
1	A	531	ASN
1	A	642	ASN
1	A	657	ASN
1	A	661	HIS
1	A	674	ASN
1	A	721	GLN
1	A	734	HIS
1	A	740	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](#)

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 ⓘ

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	748/780 (95%)	0.55	77 (10%)	12 19	60, 177, 357, 550	0

All (77) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	A	242	HIS	6.5
1	A	165	ILE	5.7
1	A	249	GLU	5.4
1	A	83	VAL	5.3
1	A	430	GLY	4.9
1	A	125	ALA	4.9
1	A	252	THR	4.8
1	A	171	GLY	4.7
1	A	8	ALA	4.6
1	A	128	PHE	4.5
1	A	538	PHE	4.5
1	A	394	PRO	4.4
1	A	315	ARG	4.4
1	A	395	VAL	4.1
1	A	156	LEU	4.1
1	A	341	ASN	3.9
1	A	158	ILE	3.7
1	A	338	LEU	3.6
1	A	246	ARG	3.6
1	A	399	GLY	3.5
1	A	167	ASN	3.5
1	A	122	LEU	3.4
1	A	227	TRP	3.4
1	A	381	ASN	3.3
1	A	493	LEU	3.3
1	A	55	TYR	3.3
1	A	79	LEU	3.2

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	RSRZ
1	A	193	THR	3.2
1	A	121	SER	3.1
1	A	311	ILE	3.1
1	A	589	GLY	3.0
1	A	132	TRP	2.9
1	A	113	LEU	2.9
1	A	750	LYS	2.9
1	A	739	GLU	2.8
1	A	397	LYS	2.8
1	A	350	GLU	2.8
1	A	299	VAL	2.7
1	A	173	ASP	2.7
1	A	166	ASP	2.7
1	A	285	LYS	2.7
1	A	396	SER	2.7
1	A	224	GLY	2.7
1	A	593	ALA	2.6
1	A	345	ARG	2.6
1	A	339	SER	2.6
1	A	105	LEU	2.6
1	A	671	PHE	2.5
1	A	172	THR	2.5
1	A	754	LYS	2.5
1	A	741	TRP	2.5
1	A	308	PHE	2.5
1	A	300	GLN	2.4
1	A	80	GLY	2.4
1	A	508	LEU	2.4
1	A	154	SER	2.4
1	A	110	ILE	2.4
1	A	115	VAL	2.4
1	A	460	THR	2.3
1	A	391	VAL	2.3
1	A	703	ASN	2.3
1	A	149	GLU	2.3
1	A	164	SER	2.3
1	A	302	GLY	2.2
1	A	443	LEU	2.2
1	A	52	HIS	2.2
1	A	10	LYS	2.2
1	A	586	LEU	2.2
1	A	514	GLN	2.1

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	RSRZ
1	A	698	GLY	2.1
1	A	440	PHE	2.1
1	A	151	THR	2.1
1	A	90	LYS	2.1
1	A	174	MET	2.1
1	A	342	GLN	2.1
1	A	92	PHE	2.1
1	A	704	THR	2.0

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 oligosaccharides in this entry.

6.4 Ligands [i](#)

There are no ligands in this entry.

6.5 Other polymers [i](#)

There are no such residues in this entry.