



Full wwPDB X-ray Structure Validation Report ⓘ

May 29, 2020 – 03:22 am BST

PDB ID : 3ORG
Title : Crystal Structure of a eukaryotic CLC transporter
Authors : Feng, L.; MacKinnon, R.
Deposited on : 2010-09-07
Resolution : 3.50 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
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

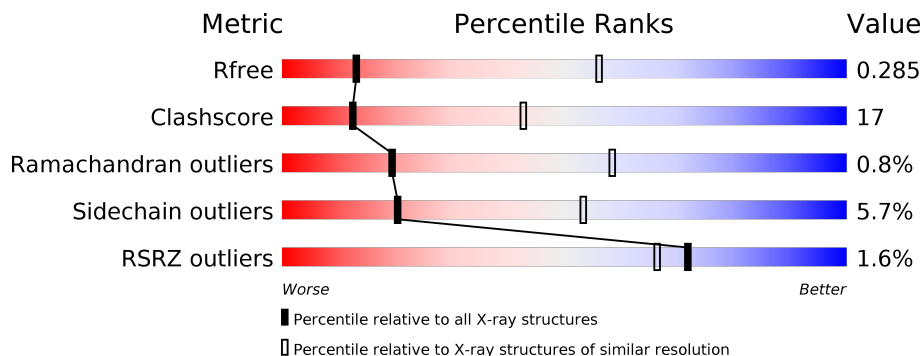
1 Overall quality at a glance i

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 3.50 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	1659 (3.60-3.40)
Clashscore	141614	1036 (3.58-3.42)
Ramachandran outliers	138981	1005 (3.58-3.42)
Sidechain outliers	138945	1006 (3.58-3.42)
RSRZ outliers	127900	1559 (3.60-3.40)

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 $\leq 5\%$. 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	632	<div style="display: flex; align-items: center;"> <div style="width: 2%; height: 10px; background-color: red; margin-right: 2px;"></div> <div style="width: 54%; height: 10px; background-color: green; margin-right: 2px;"></div> <div style="width: 28%; height: 10px; background-color: yellow; margin-right: 2px;"></div> <div style="width: 16%; height: 10px; background-color: grey; margin-right: 2px;"></div> </div> <p style="font-size: small; margin-top: 5px;">% 54% 28% • 16%</p>
1	B	632	<div style="display: flex; align-items: center;"> <div style="width: 2%; height: 10px; background-color: red; margin-right: 2px;"></div> <div style="width: 56%; height: 10px; background-color: green; margin-right: 2px;"></div> <div style="width: 27%; height: 10px; background-color: yellow; margin-right: 2px;"></div> <div style="width: 16%; height: 10px; background-color: grey; margin-right: 2px;"></div> </div> <p style="font-size: small; margin-top: 5px;">2% 56% 27% • 16%</p>
1	C	632	<div style="display: flex; align-items: center;"> <div style="width: 2%; height: 10px; background-color: red; margin-right: 2px;"></div> <div style="width: 51%; height: 10px; background-color: green; margin-right: 2px;"></div> <div style="width: 31%; height: 10px; background-color: yellow; margin-right: 2px;"></div> <div style="width: 16%; height: 10px; background-color: grey; margin-right: 2px;"></div> </div> <p style="font-size: small; margin-top: 5px;">% 51% 31% • 16%</p>
1	D	632	<div style="display: flex; align-items: center;"> <div style="width: 2%; height: 10px; background-color: red; margin-right: 2px;"></div> <div style="width: 53%; height: 10px; background-color: green; margin-right: 2px;"></div> <div style="width: 30%; height: 10px; background-color: yellow; margin-right: 2px;"></div> <div style="width: 16%; height: 10px; background-color: grey; margin-right: 2px;"></div> </div> <p style="font-size: small; margin-top: 5px;">% 53% 30% • 16%</p>

2 Entry composition

There are 2 unique types of molecules in this entry. The entry contains 16236 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 CmCLC.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
1	A	534	4057	2669	675	688	25	0	0	0
1	B	534	4057	2669	675	688	25	0	0	0
1	C	534	4057	2669	675	688	25	0	0	0
1	D	534	4057	2669	675	688	25	0	0	0

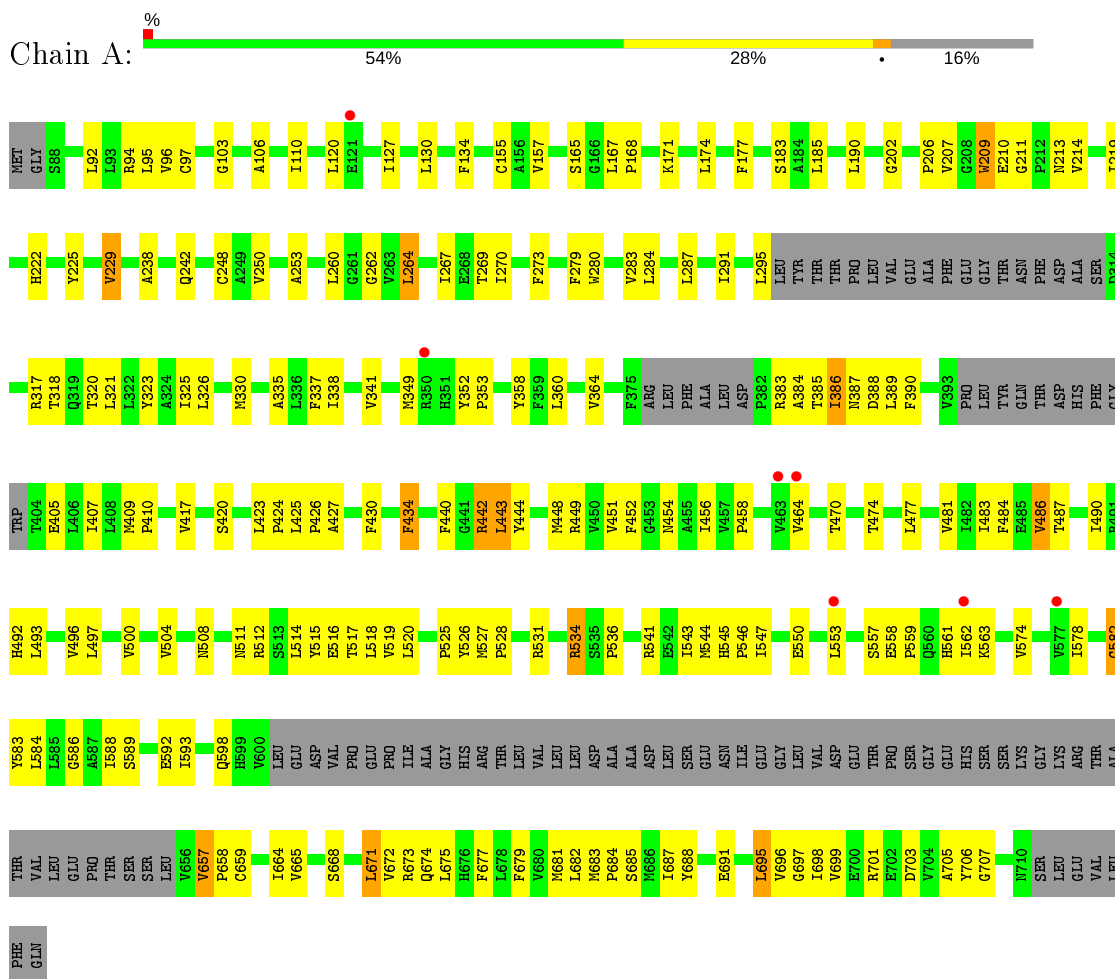
- Molecule 2 is CHLORIDE ION (three-letter code: CL) (formula: Cl).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
2	B	2	Total	Cl	0	0
			2	2		
2	A	2	Total	Cl	0	0
			2	2		
2	D	2	Total	Cl	0	0
			2	2		
2	C	2	Total	Cl	0	0
			2	2		

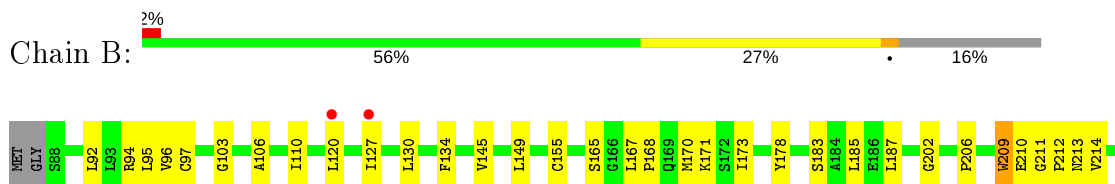
3 Residue-property plots

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 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.

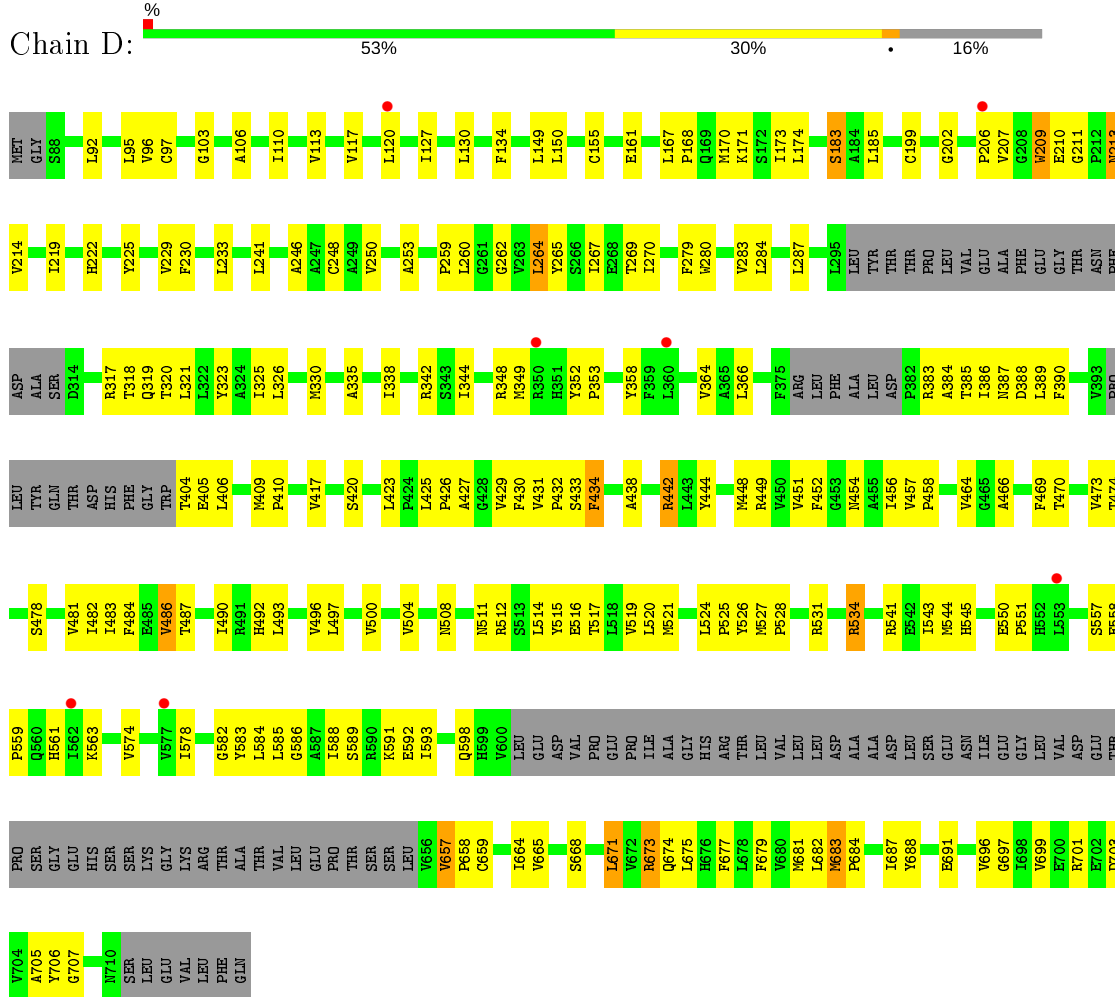
• Molecule 1: CmCLC



• Molecule 1: CmCLC



● Molecule 1: CmCLC



4 Data and refinement statistics

Property	Value	Source
Space group	C 1 2 1	Depositor
Cell constants a, b, c, α , β , γ	229.63Å 178.27Å 145.13Å 90.00° 129.21° 90.00°	Depositor
Resolution (Å)	29.66 – 3.50 28.88 – 3.50	Depositor EDS
% Data completeness (in resolution range)	97.5 (29.66-3.50) 97.1 (28.88-3.50)	Depositor EDS
R_{merge}	0.09	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	3.33 (at 3.47Å)	Xtriage
Refinement program	REFMAC 5.5.0109	Depositor
R, R_{free}	0.259 , 0.284 0.259 , 0.285	Depositor DCC
R_{free} test set	2774 reflections (5.00%)	wwPDB-VP
Wilson B-factor (Å ²)	111.1	Xtriage
Anisotropy	0.015	Xtriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.30 , 78.4	EDS
L-test for twinning ²	$\langle L \rangle = 0.49$, $\langle L^2 \rangle = 0.32$	Xtriage
Estimated twinning fraction	0.429 for -k+1,-h-1,-l 0.418 for k+1,h+1,-l 0.428 for -h-2*1,-k,l	Xtriage
F_o, F_c correlation	0.90	EDS
Total number of atoms	16236	wwPDB-VP
Average B, all atoms (Å ²)	123.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 4.83% of the height of the origin peak. No significant pseudotranslation is detected.*

¹ Intensities estimated from amplitudes.

² Theoretical 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](#)

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

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	0/4142	0.60	2/5626 (0.0%)
1	B	0.43	0/4142	0.61	2/5626 (0.0%)
1	C	0.43	0/4142	0.60	1/5626 (0.0%)
1	D	0.43	0/4142	0.60	1/5626 (0.0%)
All	All	0.43	0/16568	0.60	6/22504 (0.0%)

There are no bond length outliers.

All (6) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	95	LEU	CA-CB-CG	5.99	129.07	115.30
1	C	95	LEU	CA-CB-CG	5.44	127.81	115.30
1	D	95	LEU	CA-CB-CG	5.18	127.21	115.30
1	B	366	LEU	CA-CB-CG	5.09	127.02	115.30
1	B	95	LEU	CA-CB-CG	5.05	126.91	115.30
1	A	582	GLY	N-CA-C	5.00	125.61	113.10

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	4057	0	4215	146	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	B	4057	0	4215	136	0
1	C	4057	0	4215	151	0
1	D	4057	0	4215	146	0
2	A	2	0	0	1	0
2	B	2	0	0	1	0
2	C	2	0	0	1	0
2	D	2	0	0	0	0
All	All	16236	0	16860	556	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 17.

All (556) 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:664:ILE:HD11	1:B:684:PRO:HG3	1.29	1.08
1:A:664:ILE:HD11	1:A:684:PRO:HG3	1.35	1.08
1:A:317:ARG:HD3	1:A:318:THR:H	1.17	1.07
1:D:664:ILE:HD11	1:D:684:PRO:HG3	1.37	1.07
1:D:317:ARG:HD3	1:D:318:THR:H	1.22	1.02
1:B:317:ARG:HD3	1:B:318:THR:H	1.20	1.02
1:C:664:ILE:HD11	1:C:684:PRO:HG3	1.40	0.99
1:C:317:ARG:HD3	1:C:318:THR:H	1.24	0.98
1:C:504:VAL:O	1:C:508:ASN:HB2	1.64	0.97
1:A:504:VAL:O	1:A:508:ASN:HB2	1.66	0.96
1:B:504:VAL:O	1:B:508:ASN:HB2	1.66	0.95
1:A:317:ARG:HD3	1:A:318:THR:N	1.84	0.91
1:D:317:ARG:HD3	1:D:318:THR:N	1.87	0.90
1:A:671:LEU:CD1	1:A:673:ARG:HG2	2.01	0.90
1:B:671:LEU:CD1	1:B:673:ARG:HG2	2.03	0.89
1:B:317:ARG:HD3	1:B:318:THR:N	1.87	0.88
1:A:383:ARG:HA	1:A:386:ILE:HD12	1.56	0.88
1:C:317:ARG:HD3	1:C:318:THR:N	1.88	0.86
1:B:664:ILE:CD1	1:B:684:PRO:HG3	2.07	0.84
1:D:504:VAL:O	1:D:508:ASN:HB2	1.78	0.84
1:D:671:LEU:CD1	1:D:673:ARG:HG2	2.11	0.81
1:A:338:ILE:HB	1:A:511:ASN:ND2	1.96	0.81
1:B:541:ARG:HG3	1:B:668:SER:HB2	1.63	0.81
1:A:349:MET:O	1:A:353:PRO:HB3	1.82	0.80
1:C:588:ILE:HG12	1:C:589:SER:N	1.95	0.79
1:A:588:ILE:HG12	1:A:589:SER:N	1.98	0.78

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:338:ILE:HB	1:D:511:ASN:ND2	1.97	0.78
1:D:349:MET:O	1:D:353:PRO:HB3	1.83	0.78
1:C:671:LEU:HD12	1:C:673:ARG:HG2	1.64	0.78
1:C:338:ILE:HB	1:C:511:ASN:ND2	1.99	0.77
1:A:671:LEU:HD12	1:A:673:ARG:HG2	1.65	0.76
1:D:541:ARG:HG3	1:D:668:SER:HB2	1.66	0.76
1:B:383:ARG:HA	1:B:386:ILE:HD12	1.67	0.75
1:A:665:VAL:HG23	1:D:665:VAL:HG23	1.68	0.75
1:A:525:PRO:HA	1:A:707:GLY:HA2	1.69	0.75
1:C:527:MET:CE	1:C:705:ALA:HB2	2.18	0.74
1:C:349:MET:O	1:C:353:PRO:HB3	1.87	0.74
1:C:383:ARG:HA	1:C:386:ILE:HD12	1.70	0.74
1:C:209:TRP:O	1:C:213:ASN:HB2	1.87	0.74
1:D:671:LEU:HD12	1:D:673:ARG:HG2	1.69	0.73
1:B:338:ILE:HB	1:B:511:ASN:ND2	2.03	0.72
1:D:657:VAL:HG22	1:D:658:PRO:HA	1.69	0.72
1:A:451:VAL:HG23	1:A:452:PHE:HD2	1.55	0.72
1:C:541:ARG:HG3	1:C:668:SER:HB2	1.72	0.72
1:B:209:TRP:O	1:B:213:ASN:HB2	1.90	0.71
1:A:209:TRP:O	1:A:213:ASN:HB2	1.90	0.71
1:B:484:PHE:HB3	1:B:490:ILE:HG13	1.71	0.71
1:B:664:ILE:HD11	1:B:684:PRO:CG	2.15	0.71
1:C:589:SER:O	1:C:593:ILE:HB	1.91	0.71
1:A:657:VAL:HG22	1:A:658:PRO:HA	1.72	0.71
1:D:484:PHE:HB3	1:D:490:ILE:HG13	1.71	0.71
1:D:209:TRP:O	1:D:213:ASN:HB2	1.91	0.70
1:A:541:ARG:HG3	1:A:668:SER:HB2	1.71	0.70
1:C:484:PHE:HB3	1:C:490:ILE:HG13	1.73	0.70
1:B:588:ILE:HG12	1:B:589:SER:N	2.07	0.70
1:B:525:PRO:HA	1:B:707:GLY:HA2	1.72	0.70
1:D:588:ILE:HG12	1:D:589:SER:N	2.06	0.70
1:A:664:ILE:CD1	1:A:684:PRO:HG3	2.17	0.69
1:B:671:LEU:HD12	1:B:673:ARG:HG2	1.74	0.69
1:C:671:LEU:O	1:C:674:GLN:HG2	1.91	0.69
1:A:527:MET:CE	1:A:705:ALA:HB2	2.22	0.69
1:C:657:VAL:HG22	1:C:658:PRO:HA	1.72	0.69
1:A:110:ILE:HG23	1:A:213:ASN:HD21	1.57	0.69
1:B:349:MET:O	1:B:353:PRO:HB3	1.93	0.69
1:C:110:ILE:HG23	1:C:213:ASN:HD21	1.57	0.69
1:D:531:ARG:HB2	1:D:534:ARG:HG3	1.75	0.69
1:C:671:LEU:CD1	1:C:673:ARG:HG2	2.22	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:449:ARG:NH1	1:A:454:ASN:HA	2.08	0.68
1:D:527:MET:HE2	1:D:705:ALA:HB2	1.76	0.68
1:B:451:VAL:HG23	1:B:452:PHE:HD2	1.57	0.68
1:A:665:VAL:HG23	1:D:665:VAL:CG2	2.24	0.68
1:A:484:PHE:HB3	1:A:490:ILE:HG13	1.74	0.67
1:D:525:PRO:HA	1:D:707:GLY:HA2	1.77	0.67
1:A:665:VAL:HG12	1:A:688:TYR:HB2	1.76	0.67
1:D:664:ILE:CD1	1:D:684:PRO:HG3	2.19	0.67
1:A:171:LYS:HE2	1:A:526:TYR:OH	1.94	0.67
1:B:210:GLU:HG2	1:B:430:PHE:HB2	1.75	0.67
1:D:390:PHE:HE2	1:D:483:ILE:HD11	1.59	0.67
1:C:525:PRO:HA	1:C:707:GLY:HA2	1.77	0.66
1:D:171:LYS:HE2	1:D:526:TYR:OH	1.95	0.66
1:A:665:VAL:CG2	1:D:665:VAL:HG23	2.25	0.66
1:A:588:ILE:HG12	1:A:589:SER:H	1.60	0.66
1:C:665:VAL:HG12	1:C:688:TYR:HB2	1.78	0.66
1:B:449:ARG:NH1	1:B:454:ASN:HA	2.11	0.66
1:C:588:ILE:HG12	1:C:589:SER:H	1.61	0.65
1:D:383:ARG:HA	1:D:386:ILE:HD12	1.76	0.65
1:C:527:MET:HE2	1:C:705:ALA:HB2	1.76	0.65
1:A:486:VAL:HG23	1:A:487:THR:H	1.61	0.65
1:C:448:MET:HA	1:C:451:VAL:HG22	1.78	0.65
1:B:206:PRO:HB2	1:B:417:VAL:HG22	1.79	0.65
1:D:588:ILE:CG2	1:D:592:GLU:HB2	2.26	0.65
1:D:589:SER:O	1:D:593:ILE:HB	1.96	0.65
1:D:434:PHE:CZ	1:D:483:ILE:HD13	2.31	0.65
1:A:589:SER:O	1:A:593:ILE:HB	1.97	0.65
1:B:586:GLY:O	1:B:659:CYS:HB3	1.96	0.65
1:B:287:LEU:HD21	1:C:497:LEU:HD23	1.78	0.65
1:D:665:VAL:HG12	1:D:688:TYR:HB2	1.78	0.65
1:D:527:MET:CE	1:D:701:ARG:HG3	2.28	0.64
1:B:657:VAL:HG22	1:B:658:PRO:HA	1.80	0.64
1:C:434:PHE:CZ	1:C:483:ILE:HD13	2.32	0.64
1:A:664:ILE:O	1:A:687:ILE:HG23	1.98	0.64
1:A:434:PHE:CZ	1:A:483:ILE:HD13	2.33	0.63
1:A:338:ILE:HB	1:A:511:ASN:HD22	1.61	0.63
1:D:527:MET:CE	1:D:705:ALA:HB2	2.28	0.63
1:A:484:PHE:HB3	1:A:490:ILE:CG1	2.28	0.63
1:C:451:VAL:HG23	1:C:452:PHE:HD2	1.64	0.63
1:D:174:LEU:HD22	1:D:270:ILE:HG22	1.81	0.63
1:B:110:ILE:HG23	1:B:213:ASN:HD21	1.64	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:264:LEU:HD11	1:C:264:LEU:HD21	1.80	0.63
1:C:167:LEU:HB3	1:C:168:PRO:HD3	1.81	0.62
1:C:434:PHE:HZ	1:C:483:ILE:HD13	1.63	0.62
1:A:527:MET:HE3	1:A:705:ALA:HB2	1.82	0.62
1:A:103:GLY:HA2	1:A:250:VAL:HG21	1.81	0.62
1:B:589:SER:O	1:B:593:ILE:HB	1.99	0.62
1:B:588:ILE:CG2	1:B:592:GLU:HB2	2.30	0.62
1:D:321:LEU:O	1:D:325:ILE:HG12	2.00	0.62
1:A:264:LEU:HD21	1:D:264:LEU:HD11	1.82	0.61
1:D:110:ILE:HG23	1:D:213:ASN:HD21	1.62	0.61
1:B:531:ARG:HB2	1:B:534:ARG:HG3	1.82	0.61
1:A:448:MET:HA	1:A:451:VAL:HG22	1.82	0.61
1:C:155:CYS:SG	1:C:426:PRO:HD3	2.40	0.61
1:D:434:PHE:HZ	1:D:483:ILE:HD13	1.65	0.61
1:D:484:PHE:HB3	1:D:490:ILE:CG1	2.31	0.61
1:C:390:PHE:HE2	1:C:483:ILE:HD11	1.66	0.61
1:D:103:GLY:HA2	1:D:250:VAL:HG21	1.83	0.61
1:D:586:GLY:O	1:D:659:CYS:HB3	2.01	0.60
1:B:484:PHE:HB3	1:B:490:ILE:CG1	2.32	0.60
1:D:449:ARG:NH1	1:D:454:ASN:HA	2.16	0.60
1:B:103:GLY:HA2	1:B:250:VAL:HG21	1.83	0.60
1:B:527:MET:CE	1:B:705:ALA:HB2	2.31	0.60
1:D:210:GLU:HG2	1:D:430:PHE:HB2	1.84	0.60
1:C:588:ILE:CG2	1:C:592:GLU:HB2	2.32	0.59
1:B:665:VAL:CG2	1:C:665:VAL:HG23	2.32	0.59
1:B:496:VAL:O	1:B:500:VAL:HG23	2.02	0.59
1:B:706:TYR:CD2	1:B:706:TYR:O	2.55	0.59
1:C:676:HIS:O	1:C:680:VAL:HG23	2.03	0.59
1:D:338:ILE:HB	1:D:511:ASN:HD22	1.65	0.59
1:C:484:PHE:HB3	1:C:490:ILE:CG1	2.33	0.58
1:D:469:PHE:O	1:D:473:VAL:HG12	2.03	0.58
1:A:586:GLY:O	1:A:659:CYS:HB3	2.03	0.58
1:B:155:CYS:SG	1:B:426:PRO:HD3	2.43	0.58
1:D:409:MET:HB3	1:D:410:PRO:HD3	1.84	0.58
1:B:171:LYS:HE2	1:B:526:TYR:OH	2.04	0.58
1:B:92:LEU:O	1:B:96:VAL:HG23	2.02	0.58
1:A:434:PHE:HZ	1:A:483:ILE:HD13	1.67	0.58
1:B:214:VAL:HG23	1:B:248:CYS:HA	1.86	0.58
1:B:682:LEU:HD11	1:C:682:LEU:HD11	1.84	0.57
1:C:531:ARG:HB2	1:C:534:ARG:HG3	1.86	0.57
1:A:206:PRO:HB2	1:A:417:VAL:HG22	1.85	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:497:LEU:HD23	1:D:287:LEU:HD21	1.86	0.57
1:B:469:PHE:O	1:B:473:VAL:HG12	2.05	0.57
1:A:671:LEU:O	1:A:674:GLN:HG2	2.04	0.57
1:B:390:PHE:HE2	1:B:483:ILE:HD11	1.69	0.57
1:C:664:ILE:CD1	1:C:684:PRO:HG3	2.25	0.57
1:D:206:PRO:HB2	1:D:417:VAL:HG22	1.86	0.57
1:A:210:GLU:HG2	1:A:430:PHE:HB2	1.87	0.57
1:A:531:ARG:HB2	1:A:534:ARG:HG3	1.86	0.57
1:B:664:ILE:HG21	1:B:682:LEU:HD13	1.86	0.57
1:A:706:TYR:CD2	1:A:706:TYR:O	2.58	0.57
1:A:588:ILE:CG2	1:A:592:GLU:HB2	2.35	0.57
1:C:449:ARG:NH1	1:C:454:ASN:HA	2.20	0.57
1:A:390:PHE:HE2	1:A:483:ILE:HD11	1.70	0.57
1:D:677:PHE:CZ	1:D:681:MET:HG3	2.39	0.57
1:C:409:MET:HB3	1:C:410:PRO:HD3	1.87	0.56
1:B:665:VAL:HG12	1:B:688:TYR:HB2	1.86	0.56
1:D:92:LEU:O	1:D:96:VAL:HG23	2.05	0.56
1:C:210:GLU:HG2	1:C:430:PHE:HB2	1.86	0.56
1:A:264:LEU:HD11	1:D:264:LEU:HD21	1.87	0.56
1:D:706:TYR:CD2	1:D:706:TYR:O	2.59	0.56
1:D:174:LEU:HD22	1:D:270:ILE:CG2	2.36	0.56
1:A:167:LEU:HB3	1:A:168:PRO:HD3	1.87	0.56
1:A:358:TYR:CD2	1:A:358:TYR:N	2.74	0.55
1:A:682:LEU:HD11	1:D:682:LEU:HD11	1.88	0.55
1:B:434:PHE:CZ	1:B:483:ILE:HD13	2.40	0.55
1:C:527:MET:HE3	1:C:705:ALA:HB2	1.88	0.55
1:C:543:ILE:HD11	1:C:675:LEU:HD12	1.88	0.55
1:D:448:MET:HA	1:D:451:VAL:HG22	1.87	0.55
1:A:326:LEU:HD22	1:A:464:VAL:HG12	1.88	0.55
1:D:451:VAL:HG23	1:D:452:PHE:HD2	1.72	0.55
1:B:321:LEU:O	1:B:325:ILE:HG12	2.07	0.55
1:C:206:PRO:HB2	1:C:417:VAL:HG22	1.89	0.55
1:C:335:ALA:O	1:C:511:ASN:ND2	2.39	0.55
1:C:586:GLY:O	1:C:659:CYS:HB3	2.06	0.55
1:B:320:THR:HA	1:B:323:TYR:HD2	1.73	0.54
1:B:486:VAL:HG23	1:B:487:THR:H	1.71	0.54
1:C:664:ILE:HG21	1:C:682:LEU:HD13	1.88	0.54
1:D:155:CYS:SG	1:D:426:PRO:HD3	2.46	0.54
1:B:442:ARG:NH1	1:B:458:PRO:HB2	2.22	0.54
1:B:671:LEU:O	1:B:674:GLN:HG2	2.07	0.54
1:A:222:HIS:HA	1:A:225:TYR:CD1	2.42	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:222:HIS:O	1:C:225:TYR:HB2	2.06	0.54
1:C:321:LEU:O	1:C:325:ILE:HG12	2.07	0.54
1:A:321:LEU:O	1:A:325:ILE:HG12	2.08	0.54
1:B:578:ILE:HD12	1:B:582:GLY:HA3	1.89	0.54
1:C:326:LEU:HD22	1:C:464:VAL:HG12	1.90	0.54
1:C:484:PHE:CZ	1:C:493:LEU:HA	2.43	0.54
1:B:364:VAL:HG21	1:B:423:LEU:HD11	1.90	0.54
1:A:691:GLU:HB3	1:A:696:VAL:HG21	1.89	0.54
1:D:671:LEU:O	1:D:674:GLN:HG2	2.07	0.54
1:A:449:ARG:HD3	1:A:458:PRO:HG3	1.89	0.54
1:A:364:VAL:HG21	1:A:423:LEU:HD11	1.91	0.53
1:A:545:HIS:O	1:A:697:GLY:HA2	2.08	0.53
1:C:103:GLY:HA2	1:C:250:VAL:HG21	1.89	0.53
1:A:214:VAL:HG23	1:A:248:CYS:HA	1.90	0.53
1:A:174:LEU:HD22	1:A:270:ILE:HG22	1.89	0.53
1:D:484:PHE:CZ	1:D:493:LEU:HA	2.43	0.53
1:C:161:GLU:OE1	1:C:183:SER:HB2	2.08	0.53
1:C:486:VAL:HG23	1:C:487:THR:H	1.74	0.53
1:D:211:GLY:O	1:D:214:VAL:HG12	2.08	0.53
1:D:512:ARG:HD3	1:D:516:GLU:HB3	1.90	0.53
1:D:527:MET:HE1	1:D:701:ARG:HG3	1.89	0.53
1:C:211:GLY:O	1:C:214:VAL:HG12	2.09	0.53
1:B:480:ALA:HB2	1:B:500:VAL:HG21	1.91	0.53
1:B:664:ILE:O	1:B:687:ILE:HG23	2.08	0.53
1:B:518:LEU:HD22	2:B:801:CL:CL	2.46	0.53
1:C:171:LYS:HE2	1:C:526:TYR:OH	2.09	0.53
1:B:665:VAL:HG23	1:C:665:VAL:CG2	2.39	0.53
1:C:92:LEU:O	1:C:96:VAL:HG23	2.08	0.53
1:B:527:MET:CE	1:B:701:ARG:HG3	2.39	0.53
1:C:222:HIS:HA	1:C:225:TYR:CD1	2.43	0.53
1:C:174:LEU:HD22	1:C:270:ILE:HG22	1.91	0.53
1:C:320:THR:HA	1:C:323:TYR:HD2	1.74	0.53
1:C:691:GLU:HB3	1:C:696:VAL:HG21	1.90	0.53
1:A:484:PHE:CZ	1:A:493:LEU:HA	2.44	0.53
1:B:481:VAL:CG2	1:C:260:LEU:HD21	2.39	0.53
1:C:364:VAL:HG21	1:C:423:LEU:HD11	1.90	0.53
1:D:486:VAL:HG23	1:D:487:THR:H	1.74	0.53
1:B:448:MET:HA	1:B:451:VAL:HG22	1.91	0.52
1:B:550:GLU:OE2	1:B:550:GLU:HA	2.09	0.52
1:A:664:ILE:HG21	1:A:682:LEU:HD13	1.90	0.52
1:D:167:LEU:HB3	1:D:168:PRO:HD3	1.90	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:264:LEU:HD21	1:C:264:LEU:HD11	1.92	0.52
1:C:677:PHE:CZ	1:C:681:MET:HG3	2.45	0.52
1:D:664:ILE:HG21	1:D:682:LEU:HD13	1.91	0.52
1:D:326:LEU:O	1:D:330:MET:HB2	2.10	0.52
1:A:385:THR:O	1:A:389:LEU:HD12	2.10	0.52
1:A:527:MET:HE2	1:A:705:ALA:HB2	1.90	0.52
1:B:338:ILE:HB	1:B:511:ASN:HD22	1.74	0.52
1:B:534:ARG:HD2	1:B:703:ASP:O	2.10	0.52
1:D:588:ILE:HG12	1:D:589:SER:H	1.75	0.52
1:B:260:LEU:HD21	1:C:481:VAL:CG2	2.40	0.52
1:C:578:ILE:HD12	1:C:582:GLY:HA3	1.91	0.52
1:D:326:LEU:HD12	1:D:444:TYR:CD2	2.45	0.51
1:A:442:ARG:NH1	1:A:458:PRO:HB2	2.25	0.51
1:A:222:HIS:O	1:A:225:TYR:HB2	2.11	0.51
1:D:222:HIS:HA	1:D:225:TYR:CD1	2.45	0.51
1:D:279:PHE:O	1:D:283:VAL:HG23	2.10	0.51
1:C:526:TYR:CD2	1:C:528:PRO:HD2	2.46	0.51
1:C:534:ARG:HD2	1:C:703:ASP:O	2.11	0.51
1:A:335:ALA:O	1:A:511:ASN:ND2	2.44	0.51
1:B:434:PHE:HZ	1:B:483:ILE:HD13	1.76	0.51
1:D:588:ILE:CG1	1:D:589:SER:N	2.72	0.51
1:D:691:GLU:HB3	1:D:696:VAL:HG21	1.92	0.51
1:D:326:LEU:HD22	1:D:464:VAL:HG12	1.92	0.51
1:D:364:VAL:HG21	1:D:423:LEU:HD11	1.93	0.51
1:B:588:ILE:HG12	1:B:589:SER:H	1.76	0.51
1:B:385:THR:O	1:B:389:LEU:HD12	2.11	0.51
1:A:409:MET:HB3	1:A:410:PRO:HD3	1.93	0.50
1:A:512:ARG:HD3	1:A:516:GLU:HB3	1.93	0.50
1:B:165:SER:HB3	1:B:168:PRO:HD2	1.93	0.50
1:B:512:ARG:HD3	1:B:516:GLU:HB3	1.93	0.50
1:C:358:TYR:N	1:C:358:TYR:CD2	2.77	0.50
1:B:167:LEU:HB3	1:B:168:PRO:HD3	1.93	0.50
1:B:409:MET:HB3	1:B:410:PRO:HD3	1.93	0.50
1:D:588:ILE:HD13	1:D:591:LYS:HB2	1.94	0.50
1:B:558:GLU:HB3	1:B:559:PRO:HD2	1.94	0.50
1:C:120:LEU:HD23	1:C:202:GLY:HA3	1.92	0.50
1:A:677:PHE:CZ	1:A:681:MET:HG3	2.47	0.50
1:A:534:ARG:HD2	1:A:703:ASP:O	2.12	0.50
1:B:407:ILE:HG23	1:B:443:LEU:HD11	1.94	0.50
1:B:452:PHE:HB2	1:B:456:ILE:HD12	1.94	0.50
1:A:174:LEU:HD22	1:A:270:ILE:CG2	2.41	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:470:THR:O	1:A:474:THR:HB	2.11	0.50
1:A:493:LEU:H	1:A:493:LEU:HD12	1.77	0.50
1:C:545:HIS:O	1:C:697:GLY:HA2	2.11	0.50
1:D:385:THR:O	1:D:389:LEU:HD12	2.12	0.50
1:D:496:VAL:O	1:D:500:VAL:HG23	2.12	0.50
1:A:155:CYS:SG	1:A:426:PRO:HD3	2.52	0.50
1:A:578:ILE:HD12	1:A:582:GLY:HA3	1.94	0.50
1:B:484:PHE:CZ	1:B:493:LEU:HA	2.47	0.50
1:A:120:LEU:HD23	1:A:202:GLY:HA3	1.94	0.49
1:B:545:HIS:O	1:B:697:GLY:HA2	2.12	0.49
1:D:442:ARG:NH1	1:D:458:PRO:HB2	2.27	0.49
1:B:358:TYR:CD2	1:B:358:TYR:N	2.77	0.49
1:B:558:GLU:HB3	1:B:559:PRO:CD	2.42	0.49
1:B:279:PHE:O	1:B:283:VAL:HG23	2.13	0.49
1:C:706:TYR:CD2	1:C:706:TYR:O	2.66	0.49
1:A:326:LEU:O	1:A:330:MET:HB2	2.13	0.49
1:A:190:LEU:HB2	1:A:219:ILE:HG21	1.94	0.49
1:A:519:VAL:HG11	1:A:526:TYR:HB2	1.94	0.49
1:B:222:HIS:O	1:B:225:TYR:HB2	2.13	0.49
1:A:287:LEU:HD21	1:D:497:LEU:HD23	1.95	0.49
1:B:515:TYR:O	1:B:519:VAL:HG23	2.13	0.49
1:C:252:LEU:HD13	1:C:265:TYR:HD2	1.76	0.49
1:C:326:LEU:HD12	1:C:444:TYR:CD2	2.47	0.49
1:D:320:THR:HA	1:D:323:TYR:HD2	1.78	0.49
1:B:420:SER:HA	1:B:423:LEU:HD13	1.95	0.49
1:C:565:ILE:HG23	1:C:569:PHE:HD1	1.77	0.49
1:A:106:ALA:O	1:A:110:ILE:HG12	2.12	0.49
1:A:110:ILE:HG13	1:A:213:ASN:OD1	2.13	0.49
1:B:120:LEU:HD23	1:B:202:GLY:HA3	1.95	0.49
1:B:526:TYR:CD2	1:B:528:PRO:HD2	2.47	0.48
1:B:701:ARG:HB3	1:B:701:ARG:HE	1.48	0.48
1:B:665:VAL:HG23	1:C:665:VAL:HG23	1.95	0.48
1:B:326:LEU:O	1:B:330:MET:HB2	2.13	0.48
1:D:214:VAL:HG23	1:D:248:CYS:HA	1.94	0.48
1:D:517:THR:O	1:D:521:MET:HB2	2.13	0.48
1:A:320:THR:HA	1:A:323:TYR:HD2	1.78	0.48
1:B:527:MET:HE3	1:B:705:ALA:HB2	1.94	0.48
1:C:679:PHE:HA	1:C:684:PRO:HD2	1.96	0.48
1:A:260:LEU:HD21	1:D:481:VAL:CG2	2.43	0.48
1:B:449:ARG:HD3	1:B:458:PRO:HG3	1.95	0.48
1:B:527:MET:HE2	1:B:705:ALA:HB2	1.94	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:263:VAL:O	1:C:266:SER:HB3	2.14	0.48
1:D:578:ILE:HD12	1:D:582:GLY:HA3	1.96	0.48
1:A:584:LEU:HD21	1:A:695:LEU:HG	1.95	0.48
1:B:280:TRP:HZ3	1:B:284:LEU:HD22	1.78	0.48
1:A:384:ALA:O	1:A:387:ASN:ND2	2.47	0.48
1:B:149:LEU:HD22	1:B:358:TYR:HB3	1.95	0.48
1:C:544:MET:HE1	1:C:696:VAL:HG12	1.96	0.48
1:D:120:LEU:HD23	1:D:202:GLY:HA3	1.95	0.48
1:D:404:THR:C	1:D:406:LEU:H	2.17	0.48
1:D:519:VAL:HG11	1:D:526:TYR:HB2	1.95	0.48
1:A:526:TYR:CD2	1:A:528:PRO:HD2	2.49	0.48
1:A:527:MET:CE	1:A:701:ARG:HG3	2.44	0.48
1:A:550:GLU:HG2	1:A:698:ILE:HG13	1.96	0.48
1:B:553:LEU:HD11	1:B:562:ILE:HG22	1.96	0.48
1:B:588:ILE:CG1	1:B:589:SER:N	2.77	0.48
1:C:170:MET:SD	1:C:173:ILE:HD12	2.53	0.48
1:D:335:ALA:O	1:D:511:ASN:ND2	2.47	0.48
1:A:92:LEU:O	1:A:96:VAL:HG23	2.13	0.47
1:B:222:HIS:HA	1:B:225:TYR:CD1	2.49	0.47
1:B:470:THR:O	1:B:474:THR:HB	2.14	0.47
1:B:94:ARG:HD2	1:B:229:VAL:HB	1.96	0.47
1:C:470:THR:O	1:C:474:THR:HB	2.14	0.47
1:D:149:LEU:HD22	1:D:358:TYR:HB3	1.96	0.47
1:A:452:PHE:HB2	1:A:456:ILE:HD12	1.95	0.47
1:B:691:GLU:HB3	1:B:696:VAL:HG21	1.96	0.47
1:D:545:HIS:O	1:D:697:GLY:HA2	2.14	0.47
1:A:410:PRO:HB2	1:A:440:PHE:CE2	2.49	0.47
1:C:550:GLU:HG2	1:C:698:ILE:HG13	1.95	0.47
1:B:519:VAL:HG13	1:B:524:LEU:HB2	1.96	0.47
1:C:352:TYR:N	1:C:353:PRO:HD3	2.29	0.47
1:D:352:TYR:N	1:D:353:PRO:HD3	2.30	0.47
1:B:541:ARG:HA	1:B:544:MET:HG2	1.95	0.47
1:C:99:LEU:HB2	1:C:284:LEU:HD23	1.96	0.47
1:D:541:ARG:HA	1:D:544:MET:SD	2.55	0.47
1:A:326:LEU:HD12	1:A:444:TYR:CD2	2.50	0.47
1:B:543:ILE:HD11	1:B:675:LEU:HD12	1.96	0.47
1:B:677:PHE:CZ	1:B:681:MET:HG3	2.50	0.47
1:C:113:VAL:O	1:C:117:VAL:HG23	2.15	0.47
1:D:358:TYR:N	1:D:358:TYR:CD2	2.82	0.47
1:C:385:THR:O	1:C:389:LEU:HD12	2.15	0.47
1:C:442:ARG:NH1	1:C:458:PRO:HB2	2.30	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:211:GLY:O	1:A:214:VAL:HG12	2.15	0.47
1:A:536:PRO:HB2	1:A:673:ARG:HB3	1.96	0.47
1:A:543:ILE:HD11	1:A:675:LEU:HD12	1.96	0.47
1:C:265:TYR:CE1	1:C:474:THR:HG21	2.50	0.47
1:C:451:VAL:HG23	1:C:452:PHE:CD2	2.48	0.47
1:D:344:ILE:HG22	1:D:348:ARG:HH12	1.80	0.47
1:D:449:ARG:HD3	1:D:458:PRO:HG3	1.97	0.47
1:D:342:ARG:HH12	1:D:520:LEU:HD13	1.80	0.46
1:D:534:ARG:HD2	1:D:703:ASP:O	2.15	0.46
1:B:335:ALA:O	1:B:511:ASN:ND2	2.48	0.46
1:A:519:VAL:HG11	1:A:526:TYR:CB	2.45	0.46
1:C:207:VAL:CG1	1:C:427:ALA:HA	2.44	0.46
1:C:558:GLU:HB3	1:C:559:PRO:HD2	1.98	0.46
1:A:165:SER:HB3	1:A:168:PRO:HD2	1.97	0.46
1:A:407:ILE:HG23	1:A:443:LEU:HD11	1.97	0.46
1:A:691:GLU:HB3	1:A:696:VAL:CG2	2.45	0.46
1:C:557:SER:HB2	1:C:561:HIS:CG	2.51	0.46
1:C:588:ILE:CG1	1:C:589:SER:N	2.70	0.46
1:D:280:TRP:HZ3	1:D:284:LEU:HD22	1.80	0.46
1:D:550:GLU:HG3	1:D:551:PRO:HD2	1.98	0.46
1:C:185:LEU:HA	1:C:219:ILE:HG12	1.98	0.46
1:C:94:ARG:HD2	1:C:229:VAL:HB	1.96	0.46
1:D:230:PHE:O	1:D:233:LEU:HB2	2.15	0.46
1:B:544:MET:HE1	1:B:696:VAL:HG12	1.98	0.46
1:C:344:ILE:HG22	1:C:348:ARG:HH12	1.79	0.46
1:C:210:GLU:HG2	1:C:430:PHE:CB	2.46	0.46
1:D:515:TYR:O	1:D:519:VAL:HG23	2.16	0.46
1:D:520:LEU:HA	1:D:706:TYR:CE2	2.51	0.45
1:B:527:MET:HE1	1:B:701:ARG:HG3	1.98	0.45
1:C:520:LEU:HA	1:C:706:TYR:CE2	2.52	0.45
1:D:170:MET:SD	1:D:173:ILE:HD12	2.57	0.45
1:D:544:MET:HE1	1:D:696:VAL:HG12	1.98	0.45
1:C:279:PHE:O	1:C:283:VAL:HG23	2.16	0.45
1:A:583:TYR:CE2	1:D:583:TYR:CE2	3.05	0.45
1:D:687:ILE:HB	1:D:699:VAL:CG1	2.47	0.45
1:D:482:ILE:O	1:D:486:VAL:HG22	2.17	0.45
1:D:543:ILE:HD11	1:D:675:LEU:HD12	1.98	0.45
1:B:185:LEU:HA	1:B:219:ILE:HG12	1.99	0.45
1:C:149:LEU:HD22	1:C:358:TYR:HB3	1.99	0.45
1:C:683:MET:N	1:C:684:PRO:HD3	2.32	0.45
1:D:161:GLU:OE1	1:D:183:SER:HB2	2.16	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:210:GLU:HG2	1:D:430:PHE:CB	2.45	0.45
1:B:211:GLY:O	1:B:212:PRO:C	2.55	0.45
1:C:352:TYR:N	1:C:353:PRO:CD	2.80	0.45
1:C:518:LEU:HD22	2:C:801:CL:CL	2.54	0.45
1:D:519:VAL:HG11	1:D:526:TYR:CB	2.46	0.45
1:A:520:LEU:HA	1:A:706:TYR:CE2	2.51	0.45
1:B:583:TYR:CE2	1:C:583:TYR:CE2	3.05	0.45
1:A:679:PHE:HA	1:A:684:PRO:HD2	1.98	0.44
1:B:541:ARG:HA	1:B:544:MET:SD	2.57	0.44
1:C:512:ARG:HD3	1:C:516:GLU:HB3	1.98	0.44
1:C:547:ILE:HD12	1:C:695:LEU:HB3	1.99	0.44
1:A:496:VAL:O	1:A:500:VAL:HG23	2.17	0.44
1:A:550:GLU:OE2	1:A:550:GLU:HA	2.17	0.44
1:D:691:GLU:HB3	1:D:696:VAL:CG2	2.46	0.44
1:A:337:PHE:O	1:A:341:VAL:HG23	2.17	0.44
1:B:497:LEU:HD23	1:C:287:LEU:HD21	1.99	0.44
1:C:207:VAL:HG13	1:C:427:ALA:HA	1.99	0.44
1:C:210:GLU:HG2	1:C:430:PHE:H	1.83	0.44
1:A:515:TYR:O	1:A:519:VAL:HG23	2.17	0.44
1:A:588:ILE:CG1	1:A:589:SER:N	2.76	0.44
1:B:238:ALA:O	1:B:242:GLN:HG3	2.17	0.44
1:C:420:SER:HA	1:C:423:LEU:HD13	1.99	0.44
1:C:493:LEU:H	1:C:493:LEU:HD12	1.82	0.44
1:A:94:ARG:HD2	1:A:229:VAL:HB	2.00	0.44
1:A:671:LEU:HD11	1:A:673:ARG:HG2	1.91	0.44
1:B:519:VAL:HG11	1:B:526:TYR:CB	2.47	0.44
1:B:691:GLU:HB3	1:B:696:VAL:CG2	2.47	0.44
1:C:173:ILE:HG12	1:C:181:MET:HB2	1.99	0.44
1:C:452:PHE:HB2	1:C:456:ILE:HD12	1.99	0.44
1:C:691:GLU:HB3	1:C:696:VAL:CG2	2.47	0.44
1:B:519:VAL:HG11	1:B:526:TYR:HB2	1.99	0.44
1:A:687:ILE:HB	1:A:699:VAL:CG1	2.48	0.44
1:B:145:VAL:O	1:B:149:LEU:HG	2.18	0.44
1:D:526:TYR:CD2	1:D:528:PRO:HD2	2.53	0.44
1:C:469:PHE:O	1:C:473:VAL:HG12	2.18	0.43
1:D:433:SER:HB2	1:D:470:THR:HG22	2.00	0.43
1:A:185:LEU:HA	1:A:219:ILE:HG12	1.99	0.43
1:A:177:PHE:CE2	1:A:701:ARG:HD2	2.53	0.43
1:A:280:TRP:HZ3	1:A:284:LEU:HD22	1.83	0.43
1:A:683:MET:N	1:A:684:PRO:HD3	2.32	0.43
1:B:106:ALA:O	1:B:110:ILE:HG12	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:352:TYR:N	1:A:353:PRO:HD3	2.32	0.43
1:C:683:MET:N	1:C:684:PRO:CD	2.81	0.43
1:A:291:ILE:O	1:A:295:LEU:HD13	2.19	0.43
1:B:520:LEU:HA	1:B:706:TYR:CE2	2.54	0.43
1:C:211:GLY:O	1:C:214:VAL:CG1	2.66	0.43
1:D:420:SER:HA	1:D:423:LEU:HD13	2.00	0.43
1:D:557:SER:HB2	1:D:561:HIS:CG	2.54	0.43
1:A:701:ARG:HB3	1:A:701:ARG:HE	1.49	0.43
1:A:557:SER:HB2	1:A:561:HIS:CG	2.53	0.43
1:B:683:MET:N	1:B:684:PRO:HD3	2.33	0.43
1:D:106:ALA:O	1:D:110:ILE:HG12	2.18	0.43
1:D:431:VAL:N	1:D:432:PRO:CD	2.82	0.43
1:B:547:ILE:HD12	1:B:695:LEU:HB3	2.01	0.43
1:C:173:ILE:HG23	1:C:178:TYR:HA	2.01	0.43
1:C:558:GLU:HB3	1:C:559:PRO:CD	2.48	0.43
1:A:253:ALA:HA	1:A:262:GLY:HA3	2.01	0.43
1:C:423:LEU:HA	1:C:424:PRO:HD3	1.91	0.43
1:A:420:SER:HA	1:A:423:LEU:HD13	2.01	0.42
1:B:263:VAL:O	1:B:266:SER:HB3	2.19	0.42
1:B:597:LEU:C	1:B:599:HIS:H	2.23	0.42
1:D:541:ARG:HA	1:D:544:MET:HG2	2.01	0.42
1:A:547:ILE:HB	1:A:697:GLY:H	1.84	0.42
1:C:167:LEU:HB3	1:C:168:PRO:CD	2.47	0.42
1:C:326:LEU:O	1:C:330:MET:HB2	2.19	0.42
1:C:457:VAL:HA	1:C:458:PRO:HD3	1.91	0.42
1:D:404:THR:O	1:D:406:LEU:N	2.52	0.42
1:D:457:VAL:HA	1:D:458:PRO:HD3	1.92	0.42
1:B:352:TYR:N	1:B:353:PRO:CD	2.82	0.42
1:B:390:PHE:CD2	1:B:463:VAL:HG22	2.55	0.42
1:C:280:TRP:HZ3	1:C:284:LEU:HD22	1.85	0.42
1:C:384:ALA:O	1:C:387:ASN:ND2	2.52	0.42
1:A:273:PHE:HE2	1:A:681:MET:HA	1.84	0.42
1:A:481:VAL:HG21	1:D:260:LEU:HD21	2.00	0.42
1:A:517:THR:HA	1:A:520:LEU:HD12	2.01	0.42
1:B:167:LEU:HD12	1:B:214:VAL:HG11	2.01	0.42
1:C:174:LEU:HD22	1:C:270:ILE:CG2	2.50	0.42
1:D:185:LEU:HA	1:D:219:ILE:HG12	2.01	0.42
1:D:584:LEU:O	1:D:585:LEU:HG	2.19	0.42
1:C:664:ILE:O	1:C:687:ILE:HG23	2.19	0.42
1:C:544:MET:CE	1:C:696:VAL:HG12	2.50	0.42
1:C:162:ALA:HB2	1:C:189:VAL:HG13	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:390:PHE:CE2	1:D:483:ILE:HD11	2.48	0.42
1:A:451:VAL:HG23	1:A:452:PHE:CD2	2.45	0.42
1:A:545:HIS:HA	1:A:546:PRO:HD3	1.89	0.42
1:A:558:GLU:HB3	1:A:559:PRO:CD	2.50	0.42
1:A:563:LYS:HA	1:A:563:LYS:HD2	1.83	0.42
1:A:518:LEU:HD22	2:A:801:CL:CL	2.57	0.42
1:C:404:THR:C	1:C:406:LEU:H	2.23	0.42
1:C:688:TYR:CD2	1:C:688:TYR:N	2.88	0.42
1:D:150:LEU:HD23	1:D:199:CYS:SG	2.60	0.42
1:B:211:GLY:O	1:B:214:VAL:HG12	2.19	0.42
1:C:338:ILE:HB	1:C:511:ASN:HD22	1.77	0.42
1:D:438:ALA:HB2	1:D:466:ALA:HB2	2.01	0.42
1:A:423:LEU:HA	1:A:424:PRO:HD3	1.91	0.41
1:B:210:GLU:HG2	1:B:430:PHE:CB	2.46	0.41
1:C:588:ILE:CD1	1:C:591:LYS:HB2	2.50	0.41
1:D:110:ILE:HG13	1:D:213:ASN:OD1	2.20	0.41
1:D:246:ALA:O	1:D:250:VAL:HG12	2.19	0.41
1:B:170:MET:SD	1:B:173:ILE:HD12	2.60	0.41
1:B:588:ILE:HD13	1:B:591:LYS:HB2	2.03	0.41
1:C:187:LEU:HD12	1:C:223:GLN:NE2	2.35	0.41
1:D:167:LEU:HB3	1:D:168:PRO:CD	2.50	0.41
1:D:265:TYR:CE1	1:D:474:THR:HG21	2.55	0.41
1:B:294:GLU:O	1:B:295:LEU:HD12	2.19	0.41
1:C:588:ILE:HD13	1:C:591:LYS:HB2	2.01	0.41
1:D:384:ALA:O	1:D:387:ASN:ND2	2.53	0.41
1:D:207:VAL:HG13	1:D:427:ALA:HA	2.02	0.41
1:D:558:GLU:HB3	1:D:559:PRO:HD2	2.01	0.41
1:A:238:ALA:O	1:A:242:GLN:HG3	2.19	0.41
1:A:683:MET:N	1:A:684:PRO:CD	2.83	0.41
1:B:352:TYR:N	1:B:353:PRO:HD3	2.34	0.41
1:C:545:HIS:HA	1:C:546:PRO:HD3	1.90	0.41
1:C:584:LEU:HD13	1:C:665:VAL:HG11	2.01	0.41
1:A:207:VAL:HG13	1:A:427:ALA:HA	2.03	0.41
1:A:352:TYR:N	1:A:353:PRO:CD	2.83	0.41
1:A:541:ARG:HA	1:A:544:MET:HG2	2.02	0.41
1:A:553:LEU:HD11	1:A:562:ILE:HG22	2.02	0.41
1:B:557:SER:HB2	1:B:561:HIS:CG	2.55	0.41
1:C:150:LEU:HD23	1:C:199:CYS:SG	2.60	0.41
1:D:352:TYR:N	1:D:353:PRO:CD	2.83	0.41
1:B:687:ILE:HB	1:B:699:VAL:CG1	2.50	0.41
1:C:553:LEU:HD11	1:C:562:ILE:HG22	2.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:210:GLU:HG2	1:A:430:PHE:CB	2.50	0.41
1:A:706:TYR:CG	1:A:706:TYR:O	2.73	0.41
1:B:171:LYS:HE3	1:B:269:THR:O	2.20	0.41
1:D:671:LEU:HD11	1:D:673:ARG:HG2	1.98	0.41
1:D:688:TYR:N	1:D:688:TYR:CD2	2.88	0.41
1:A:279:PHE:O	1:A:283:VAL:HG23	2.21	0.41
1:B:178:TYR:OH	1:B:222:HIS:HE1	2.03	0.41
1:C:438:ALA:HB2	1:C:466:ALA:HB2	2.02	0.41
1:C:519:VAL:HG11	1:C:526:TYR:CB	2.50	0.41
1:D:253:ALA:HB2	1:D:262:GLY:HA3	2.03	0.41
1:D:478:SER:O	1:D:481:VAL:N	2.54	0.41
1:C:701:ARG:HE	1:C:701:ARG:HB3	1.58	0.41
1:D:253:ALA:HB1	1:D:259:PRO:HA	2.03	0.41
1:D:679:PHE:HA	1:D:684:PRO:HD2	2.03	0.41
1:B:550:GLU:HG2	1:B:698:ILE:HG13	2.03	0.41
1:C:165:SER:HB3	1:C:168:PRO:HD2	2.03	0.41
1:C:688:TYR:HD2	1:C:688:TYR:N	2.19	0.41
1:D:113:VAL:O	1:D:117:VAL:HG23	2.21	0.41
1:C:431:VAL:N	1:C:432:PRO:CD	2.83	0.41
1:D:519:VAL:HG13	1:D:524:LEU:HB2	2.03	0.41
1:D:701:ARG:HE	1:D:701:ARG:HB3	1.56	0.41
1:A:558:GLU:HB3	1:A:559:PRO:HD2	2.04	0.40
1:A:664:ILE:HD11	1:A:684:PRO:CG	2.26	0.40
1:A:672:VAL:C	1:A:674:GLN:N	2.75	0.40
1:B:706:TYR:CG	1:B:706:TYR:O	2.74	0.40
1:C:541:ARG:HA	1:C:544:MET:HG2	2.03	0.40
1:D:452:PHE:HB2	1:D:456:ILE:HD12	2.03	0.40
1:A:360:LEU:O	1:A:364:VAL:HG23	2.22	0.40
1:A:541:ARG:HA	1:A:544:MET:SD	2.62	0.40
1:B:360:LEU:O	1:B:364:VAL:HG23	2.21	0.40
1:D:683:MET:N	1:D:684:PRO:HD3	2.36	0.40
1:D:520:LEU:HD23	1:D:706:TYR:CE2	2.56	0.40
1:C:479:CYS:HA	1:C:482:ILE:HD12	2.02	0.40
1:A:477:LEU:HD13	1:D:283:VAL:HG21	2.03	0.40
1:C:674:GLN:HE21	1:C:674:GLN:HB3	1.62	0.40
1:D:664:ILE:CD1	1:D:687:ILE:HG12	2.52	0.40
1:C:420:SER:O	1:C:423:LEU:HB2	2.21	0.40
1:D:563:LYS:HD2	1:D:563:LYS:HA	1.90	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	524/632 (83%)	484 (92%)	36 (7%)	4 (1%)	19	58
1	B	524/632 (83%)	483 (92%)	38 (7%)	3 (1%)	25	64
1	C	524/632 (83%)	481 (92%)	37 (7%)	6 (1%)	14	52
1	D	524/632 (83%)	484 (92%)	36 (7%)	4 (1%)	19	58
All	All	2096/2528 (83%)	1932 (92%)	147 (7%)	17 (1%)	19	58

All (17) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	486	VAL
1	B	405	GLU
1	D	405	GLU
1	B	598	GLN
1	D	319	GLN
1	C	182	ARG
1	C	486	VAL
1	C	709	SER
1	D	486	VAL
1	A	405	GLU
1	A	598	GLN
1	B	486	VAL
1	C	405	GLU
1	C	598	GLN
1	C	706	TYR
1	D	598	GLN
1	A	386	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	426/522 (82%)	402 (94%)	24 (6%)	21	54
1	B	426/522 (82%)	404 (95%)	22 (5%)	23	56
1	C	426/522 (82%)	401 (94%)	25 (6%)	19	53
1	D	426/522 (82%)	400 (94%)	26 (6%)	18	51
All	All	1704/2088 (82%)	1607 (94%)	97 (6%)	20	53

All (97) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	97	CYS
1	A	127	ILE
1	A	130	LEU
1	A	134	PHE
1	A	157	VAL
1	A	183	SER
1	A	209	TRP
1	A	229	VAL
1	A	264	LEU
1	A	267	ILE
1	A	269	THR
1	A	388	ASP
1	A	425	LEU
1	A	434	PHE
1	A	442	ARG
1	A	443	LEU
1	A	492	HIS
1	A	514	LEU
1	A	534	ARG
1	A	574	VAL
1	A	657	VAL
1	A	671	LEU
1	A	685	SER
1	A	695	LEU
1	B	97	CYS
1	B	127	ILE
1	B	130	LEU
1	B	134	PHE

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Mol	Chain	Res	Type
1	B	183	SER
1	B	187	LEU
1	B	209	TRP
1	B	229	VAL
1	B	264	LEU
1	B	267	ILE
1	B	269	THR
1	B	366	LEU
1	B	425	LEU
1	B	429	VAL
1	B	434	PHE
1	B	442	ARG
1	B	492	HIS
1	B	514	LEU
1	B	534	ARG
1	B	657	VAL
1	B	671	LEU
1	B	673	ARG
1	C	97	CYS
1	C	127	ILE
1	C	130	LEU
1	C	134	PHE
1	C	180	LYS
1	C	183	SER
1	C	209	TRP
1	C	229	VAL
1	C	264	LEU
1	C	267	ILE
1	C	269	THR
1	C	285	SER
1	C	366	LEU
1	C	388	ASP
1	C	425	LEU
1	C	429	VAL
1	C	434	PHE
1	C	442	ARG
1	C	492	HIS
1	C	514	LEU
1	C	534	ARG
1	C	574	VAL
1	C	657	VAL
1	C	671	LEU

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Mol	Chain	Res	Type
1	C	685	SER
1	D	97	CYS
1	D	127	ILE
1	D	130	LEU
1	D	134	PHE
1	D	183	SER
1	D	209	TRP
1	D	213	ASN
1	D	229	VAL
1	D	241	LEU
1	D	264	LEU
1	D	267	ILE
1	D	269	THR
1	D	366	LEU
1	D	388	ASP
1	D	425	LEU
1	D	429	VAL
1	D	434	PHE
1	D	442	ARG
1	D	492	HIS
1	D	514	LEU
1	D	534	ARG
1	D	574	VAL
1	D	657	VAL
1	D	671	LEU
1	D	673	ARG
1	D	683	MET

Some sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (19) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	215	HIS
1	A	222	HIS
1	A	223	GLN
1	A	319	GLN
1	A	387	ASN
1	B	215	HIS
1	B	222	HIS
1	B	319	GLN
1	B	511	ASN
1	C	215	HIS
1	C	222	HIS

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Mol	Chain	Res	Type
1	C	223	GLN
1	C	319	GLN
1	C	387	ASN
1	C	545	HIS
1	D	215	HIS
1	D	222	HIS
1	D	223	GLN
1	D	319	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](#)

Of 8 ligands modelled in this entry, 8 are monoatomic - leaving 0 for Mogul analysis.

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

No monomer is involved in short contacts.

5.7 Other polymers [i](#)

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 [i](#)

6.1 Protein, DNA and RNA chains [i](#)

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

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å ²)	Q<0.9
1	A	534/632 (84%)	0.08	7 (1%) 77 71	79, 118, 182, 225	1 (0%)
1	B	534/632 (84%)	0.09	11 (2%) 63 58	81, 117, 178, 221	1 (0%)
1	C	534/632 (84%)	0.07	9 (1%) 70 64	81, 117, 178, 221	1 (0%)
1	D	534/632 (84%)	0.09	7 (1%) 77 71	80, 117, 178, 220	1 (0%)
All	All	2136/2528 (84%)	0.08	34 (1%) 72 66	79, 117, 179, 225	4 (0%)

All (34) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	A	577	VAL	3.8
1	A	350	ARG	3.4
1	A	553	LEU	3.3
1	D	577	VAL	3.3
1	A	562	ILE	3.0
1	B	585	LEU	2.9
1	D	350	ARG	2.8
1	B	553	LEU	2.7
1	D	553	LEU	2.7
1	D	206	PRO	2.7
1	B	464	VAL	2.6
1	C	577	VAL	2.6
1	C	120	LEU	2.6
1	C	374	PRO	2.5
1	B	584	LEU	2.5
1	A	121	GLU	2.5
1	D	360	LEU	2.4
1	B	577	VAL	2.4
1	C	464	VAL	2.3
1	C	560	GLN	2.3
1	D	562	ILE	2.3

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Mol	Chain	Res	Type	RSRZ
1	B	560	GLN	2.2
1	B	562	ILE	2.2
1	C	584	LEU	2.2
1	C	140	TYR	2.1
1	B	120	LEU	2.1
1	B	127	ILE	2.1
1	C	562	ILE	2.1
1	B	390	PHE	2.1
1	A	464	VAL	2.0
1	C	553	LEU	2.0
1	A	463	VAL	2.0
1	B	578	ILE	2.0
1	D	120	LEU	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 carbohydrates in this entry.

6.4 Ligands [i](#)

In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 95th percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9' lists the number of atoms with occupancy less than 0.9.

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å ²)	Q<0.9
2	CL	C	801	1/1	0.67	0.12	102,102,102,102	0
2	CL	D	801	1/1	0.75	0.15	97,97,97,97	0
2	CL	B	801	1/1	0.80	0.13	102,102,102,102	0
2	CL	B	802	1/1	0.89	0.17	99,99,99,99	0
2	CL	A	801	1/1	0.92	0.20	99,99,99,99	0
2	CL	C	802	1/1	0.94	0.37	95,95,95,95	0
2	CL	D	802	1/1	0.98	0.28	97,97,97,97	0
2	CL	A	802	1/1	0.98	0.42	101,101,101,101	0

6.5 Other polymers

There are no such residues in this entry.