



Full wwPDB X-ray Structure Validation Report ⓘ

Mar 9, 2018 – 03:54 am GMT

PDB ID : 4C0P
Title : Unliganded Transportin 3
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Deposited on : 2013-08-06
Resolution : 2.95 Å(reported)

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

We welcome your comments at validation@mail.wwpdb.org

A user guide is available at

<https://www.wwpdb.org/validation/2017/XrayValidationReportHelp>

with specific help available everywhere you see the ⓘ symbol.

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

MolProbity : 4.02b-467
Mogul : 1.7.3 (157068), CSD as539be (2018)
Xtrriage (Phenix) : 1.13
EDS : trunk30967
Percentile statistics : 20171227.v01 (using entries in the PDB archive December 27th 2017)
Refmac : 5.8.0158
CCP4 : 7.0 (Gargrove)
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : trunk30967

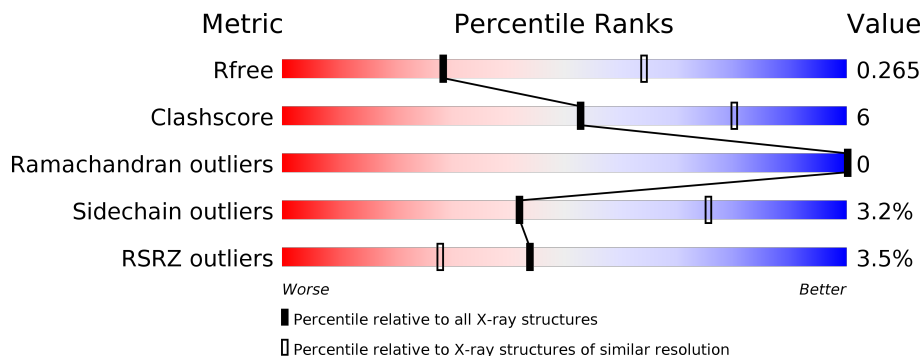
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 2.95 Å.

Percentile scores (ranging between 0-100) for global validation metrics of the entry are shown in the following graphic. The table shows the number of entries on which the scores are based.



Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R_{free}	111664	2641 (3.00-2.92)
Clashscore	122126	2988 (3.00-2.92)
Ramachandran outliers	120053	2892 (3.00-2.92)
Sidechain outliers	120020	2895 (3.00-2.92)
RSRZ outliers	108989	2527 (3.00-2.92)

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. 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	923	 4% 79% 16% . .
1	B	923	 3% 79% 16% . .
1	C	923	 4% 80% 16% . .
1	D	923	 3% 79% 16% . .

2 Entry composition

There are 2 unique types of molecules in this entry. The entry contains 28293 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.

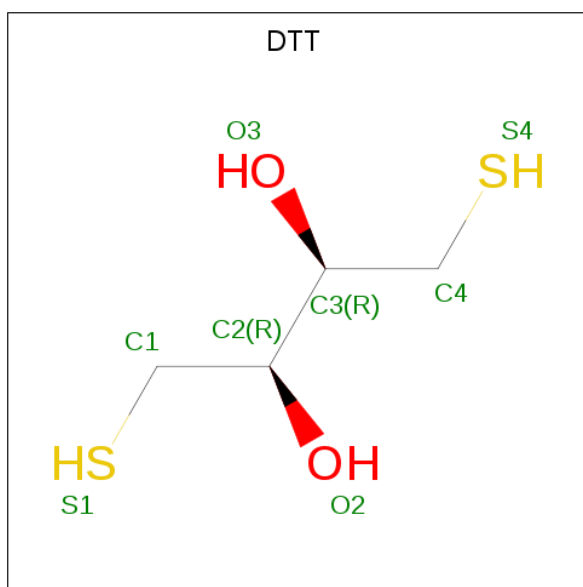
- Molecule 1 is a protein called TRANSPORTIN-3.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
1	A	889	7063	4508	1201	1301	53	0	0	0
1	B	889	7063	4508	1201	1301	53	0	0	0
1	C	889	7063	4508	1201	1301	53	0	0	0
1	D	890	7072	4514	1203	1302	53	0	0	0

There are 4 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	511	ALA	CYS	engineered mutation	UNP Q9Y5L0
B	511	ALA	CYS	engineered mutation	UNP Q9Y5L0
C	511	ALA	CYS	engineered mutation	UNP Q9Y5L0
D	511	ALA	CYS	engineered mutation	UNP Q9Y5L0

- Molecule 2 is 2,3-DIHYDROXY-1,4-DITHIOBUTANE (three-letter code: DTT) (formula: C₄H₁₀O₂S₂).



Mol	Chain	Residues	Atoms			ZeroOcc	AltConf	
			Total	C	O			S
2	A	1	8	4	2	2	0	0
2	B	1	8	4	2	2	0	0
2	C	1	8	4	2	2	0	0
2	D	1	8	4	2	2	0	0

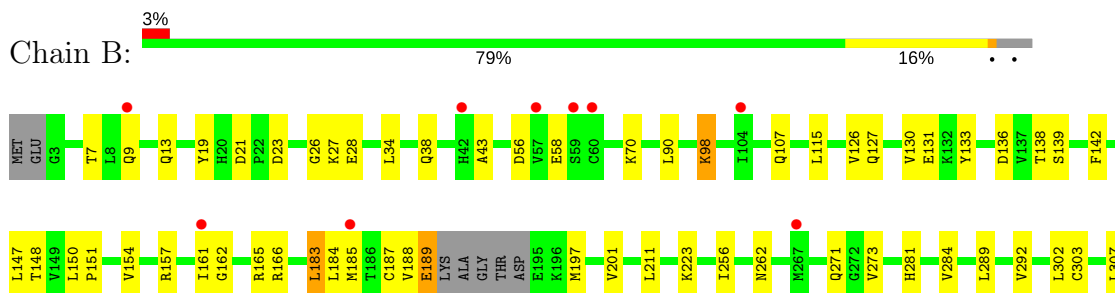
3 Residue-property plots [i](#)

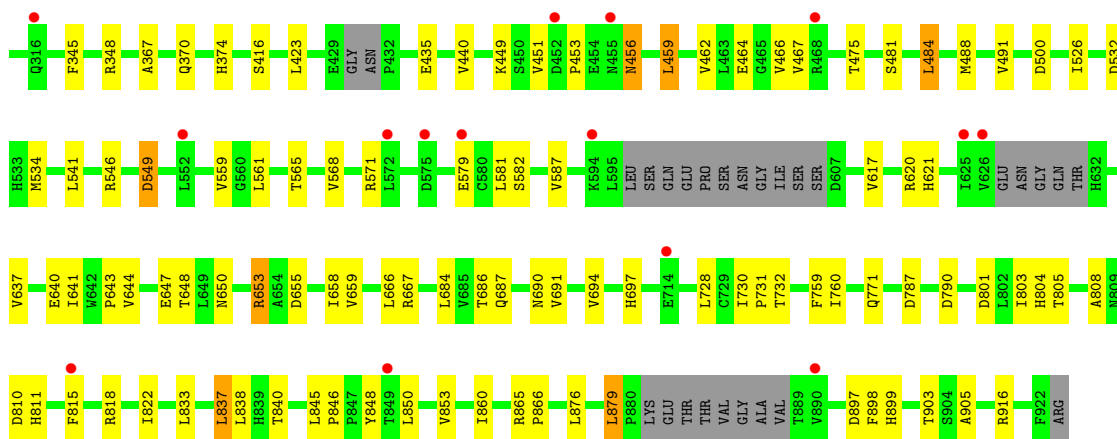
These plots are drawn for all protein, RNA and DNA chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and electron density. Residues are 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: TRANSPORTIN-3

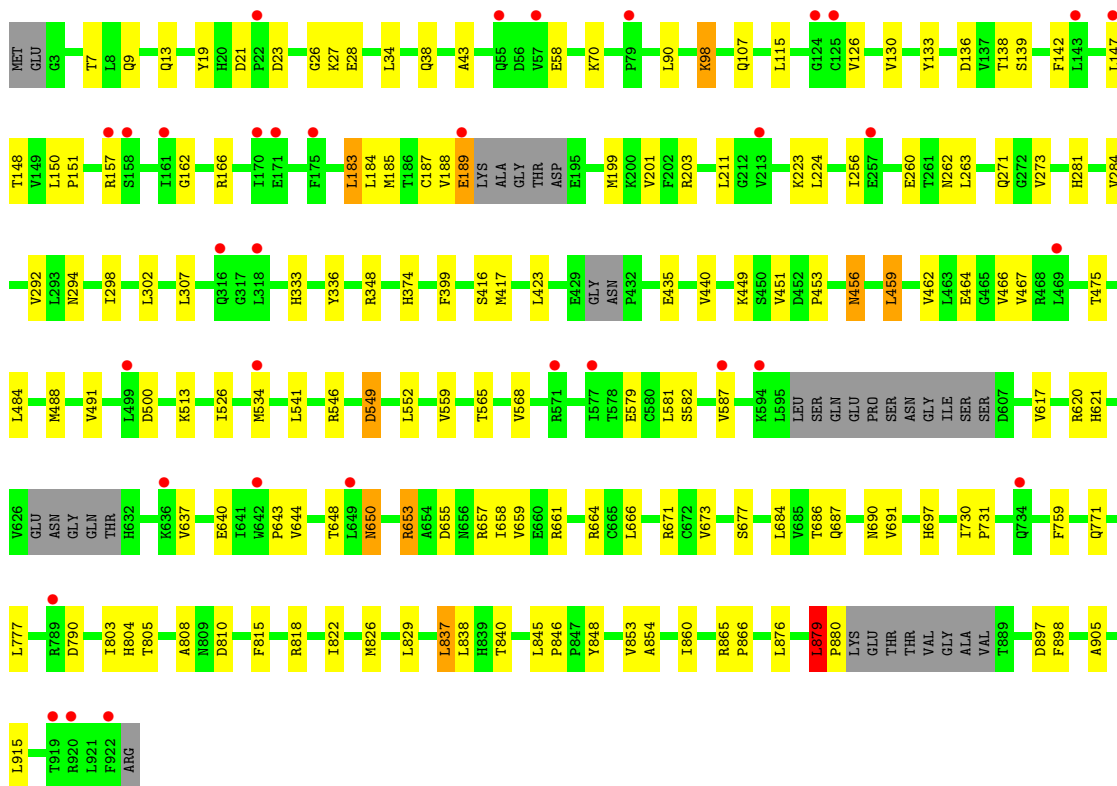
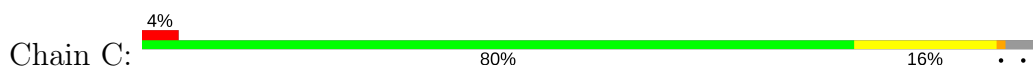


• Molecule 1: TRANSPORTIN-3

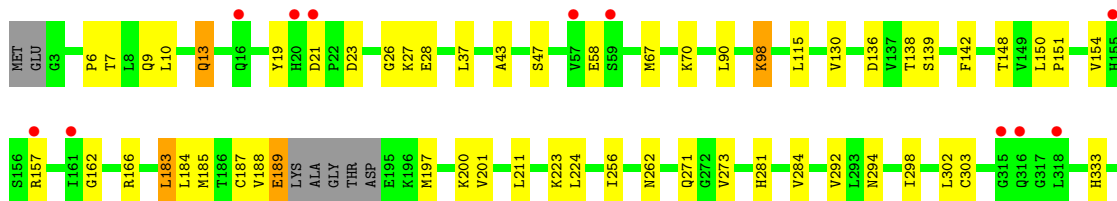
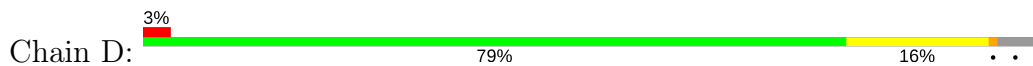


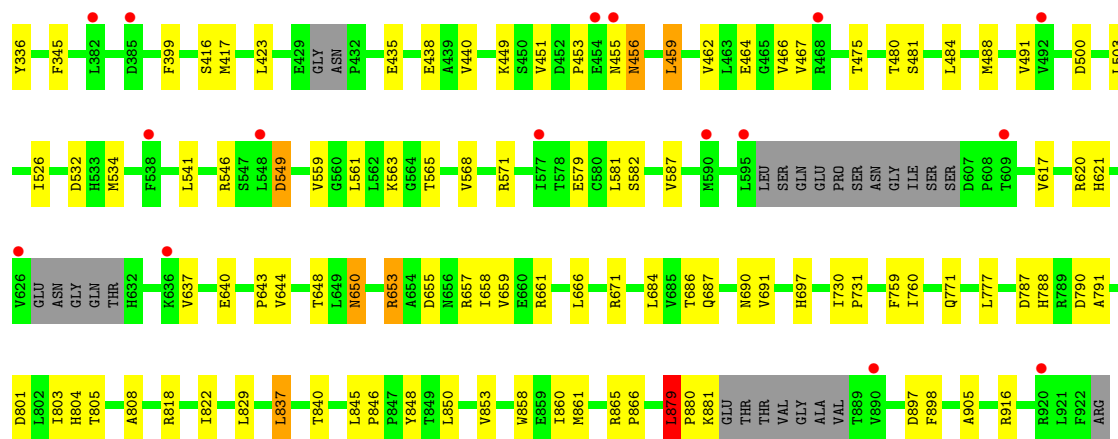


• Molecule 1: TRANSPORTIN-3



• Molecule 1: TRANSPORTIN-3





4 Data and refinement statistics

Property	Value	Source
Space group	P 1	Depositor
Cell constants a, b, c, α , β , γ	96.20Å 104.02Å 124.89Å 90.64° 97.88° 104.48°	Depositor
Resolution (Å)	38.17 – 2.95 39.80 – 2.95	Depositor EDS
% Data completeness (in resolution range)	98.1 (38.17-2.95) 98.5 (39.80-2.95)	Depositor EDS
R_{merge}	0.14	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	1.75 (at 2.95Å)	Xtrriage
Refinement program	PHENIX (PHENIX.REFINE)	Depositor
R, R_{free}	0.236 , 0.266 0.236 , 0.265	Depositor DCC
R_{free} test set	4853 reflections (5.04%)	wwPDB-VP
Wilson B-factor (Å ²)	79.9	Xtrriage
Anisotropy	0.349	Xtrriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.31 , 56.9	EDS
L-test for twinning ²	$\langle L \rangle = 0.47$, $\langle L^2 \rangle = 0.30$	Xtrriage
Estimated twinning fraction	No twinning to report.	Xtrriage
F_o, F_c correlation	0.93	EDS
Total number of atoms	28293	wwPDB-VP
Average B, all atoms (Å ²)	90.0	wwPDB-VP

Xtrriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 10.28% 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](#)

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

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	0.23	0/7203	0.42	1/9779 (0.0%)
1	B	0.23	0/7203	0.42	1/9779 (0.0%)
1	C	0.23	0/7203	0.42	1/9779 (0.0%)
1	D	0.23	0/7212	0.42	1/9790 (0.0%)
All	All	0.23	0/28821	0.42	4/39127 (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	A	879	LEU	CA-CB-CG	5.27	127.42	115.30
1	D	879	LEU	CA-CB-CG	5.25	127.39	115.30
1	C	879	LEU	CA-CB-CG	5.16	127.16	115.30
1	B	879	LEU	CA-CB-CG	5.13	127.10	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	7063	0	7102	86	0
1	B	7063	0	7102	85	0
1	C	7063	0	7102	80	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	D	7072	0	7115	87	0
2	A	8	0	10	3	0
2	B	8	0	10	1	0
2	C	8	0	10	1	0
2	D	8	0	10	0	0
All	All	28293	0	28461	336	0

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 6.

All (336) 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:D:21:ASP:O	1:D:27:LYS:NZ	2.09	0.85
1:B:21:ASP:O	1:B:27:LYS:NZ	2.10	0.83
1:A:21:ASP:O	1:A:27:LYS:NZ	2.10	0.82
1:C:21:ASP:O	1:C:27:LYS:NZ	2.12	0.81
1:B:151:PRO:HB3	1:B:211:LEU:HD23	1.64	0.80
1:D:184:LEU:HG	1:D:201:VAL:HG13	1.71	0.73
1:A:184:LEU:HG	1:A:201:VAL:HG13	1.71	0.72
1:D:541:LEU:HB3	1:D:565:THR:HG22	1.71	0.72
1:C:151:PRO:HB3	1:C:211:LEU:HD23	1.72	0.72
1:C:541:LEU:HB3	1:C:565:THR:HG22	1.71	0.72
1:D:151:PRO:HB3	1:D:211:LEU:HD23	1.72	0.71
1:B:541:LEU:HB3	1:B:565:THR:HG22	1.73	0.71
1:A:541:LEU:HB3	1:A:565:THR:HG22	1.72	0.69
1:B:184:LEU:HG	1:B:201:VAL:HG13	1.75	0.68
1:D:459:LEU:HB2	1:D:491:VAL:HG21	1.76	0.68
1:A:151:PRO:HB3	1:A:211:LEU:HD23	1.76	0.67
1:A:281:HIS:HA	1:A:284:VAL:HG12	1.78	0.66
1:B:273:VAL:HG11	1:B:302:LEU:HD13	1.78	0.66
1:B:459:LEU:HB2	1:B:491:VAL:HG21	1.78	0.66
1:C:184:LEU:HG	1:C:201:VAL:HG13	1.77	0.65
1:A:459:LEU:HB2	1:A:491:VAL:HG21	1.77	0.65
1:D:865:ARG:NH2	1:D:905:ALA:O	2.29	0.65
1:B:549:ASP:N	1:B:549:ASP:OD1	2.29	0.64
1:D:281:HIS:HA	1:D:284:VAL:HG12	1.80	0.63
1:B:23:ASP:OD1	1:B:26:GLY:N	2.25	0.63
1:C:273:VAL:HG11	1:C:302:LEU:HD13	1.82	0.62
1:A:664:ARG:HH11	2:A:1923:DTT:H42	1.64	0.62
1:A:865:ARG:NH2	1:A:905:ALA:O	2.33	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:281:HIS:HA	1:C:284:VAL:HG12	1.81	0.62
1:B:256:ILE:HG23	1:B:262:ASN:HD22	1.65	0.61
1:C:549:ASP:N	1:C:549:ASP:OD1	2.33	0.61
1:D:549:ASP:N	1:D:549:ASP:OD1	2.32	0.61
1:C:256:ILE:HG23	1:C:262:ASN:HD22	1.64	0.61
1:D:23:ASP:OD1	1:D:26:GLY:N	2.27	0.61
1:A:23:ASP:OD1	1:A:26:GLY:N	2.27	0.61
1:B:281:HIS:HA	1:B:284:VAL:HG12	1.82	0.61
1:B:686:THR:O	1:B:690:ASN:ND2	2.34	0.61
1:A:400:ARG:NH2	1:A:438:GLU:OE2	2.33	0.60
1:C:865:ARG:NH2	1:C:905:ALA:O	2.34	0.60
1:D:273:VAL:HG11	1:D:302:LEU:HD13	1.82	0.60
1:C:459:LEU:HB2	1:C:491:VAL:HG21	1.82	0.60
1:C:43:ALA:HB3	1:C:70:LYS:HD2	1.83	0.60
1:B:581:LEU:HG	1:B:637:VAL:HG11	1.84	0.60
1:C:837:LEU:HG	1:C:853:VAL:HG13	1.83	0.60
1:A:805:THR:HB	1:A:822:ILE:HD11	1.84	0.60
1:B:865:ARG:NH2	1:B:905:ALA:O	2.35	0.60
1:A:273:VAL:HG11	1:A:302:LEU:HD13	1.84	0.59
1:A:453:PRO:HB2	1:A:456:ASN:HD21	1.67	0.59
1:A:549:ASP:OD1	1:A:549:ASP:N	2.35	0.59
1:C:453:PRO:HB2	1:C:456:ASN:HD21	1.67	0.59
1:D:43:ALA:HB3	1:D:70:LYS:HD2	1.85	0.58
1:B:43:ALA:HB3	1:B:70:LYS:HD2	1.85	0.58
1:D:453:PRO:HB2	1:D:456:ASN:HD21	1.68	0.58
1:D:686:THR:O	1:D:690:ASN:ND2	2.37	0.58
1:C:23:ASP:OD1	1:C:26:GLY:N	2.26	0.57
1:A:256:ILE:HG23	1:A:262:ASN:HD22	1.70	0.57
1:C:189:GLU:OE2	1:C:223:LYS:NZ	2.38	0.57
1:D:532:ASP:OD1	1:D:571:ARG:NH1	2.38	0.57
1:D:526:ILE:HG22	1:D:534:MET:HE3	1.85	0.56
1:C:19:TYR:HD2	1:C:58:GLU:HG2	1.70	0.56
1:D:19:TYR:HD2	1:D:58:GLU:HG2	1.69	0.56
1:A:526:ILE:HG22	1:A:534:MET:HE3	1.86	0.56
1:B:453:PRO:HB2	1:B:456:ASN:HD21	1.69	0.56
1:D:256:ILE:HG23	1:D:262:ASN:HD22	1.69	0.56
1:A:687:GLN:O	1:A:691:VAL:HG12	2.06	0.56
1:D:534:MET:HG2	1:D:568:VAL:HG11	1.87	0.56
1:A:130:VAL:HG23	1:A:183:LEU:HD13	1.88	0.55
1:A:686:THR:O	1:A:690:ASN:ND2	2.39	0.55
1:B:687:GLN:O	1:B:691:VAL:HG12	2.06	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:19:TYR:HD2	1:B:58:GLU:HG2	1.72	0.55
1:D:189:GLU:OE2	1:D:223:LYS:NZ	2.38	0.55
1:A:19:TYR:HD2	1:A:58:GLU:HG2	1.72	0.55
1:C:644:VAL:O	1:C:648:THR:OG1	2.22	0.55
1:C:686:THR:O	1:C:690:ASN:ND2	2.39	0.55
1:D:659:VAL:HG11	1:D:697:HIS:CD2	2.42	0.54
1:C:687:GLN:O	1:C:691:VAL:HG12	2.08	0.54
1:B:423:LEU:HB3	1:B:440:VAL:HG13	1.89	0.54
1:A:532:ASP:OD1	1:A:571:ARG:NH1	2.40	0.54
1:C:534:MET:HG2	1:C:568:VAL:HG11	1.89	0.54
1:B:136:ASP:O	1:B:138:THR:N	2.39	0.54
1:A:90:LEU:HD12	1:A:115:LEU:HD22	1.89	0.54
1:B:659:VAL:HG11	1:B:697:HIS:CD2	2.43	0.54
1:C:659:VAL:HG11	1:C:697:HIS:CD2	2.43	0.54
1:C:90:LEU:HD12	1:C:115:LEU:HD22	1.89	0.53
1:C:664:ARG:HH11	2:C:1923:DTT:H41	1.72	0.53
1:B:526:ILE:HG22	1:B:534:MET:HE3	1.90	0.53
1:A:659:VAL:HG11	1:A:697:HIS:CD2	2.44	0.53
1:C:136:ASP:O	1:C:138:THR:N	2.39	0.53
1:B:189:GLU:OE2	1:B:223:LYS:NZ	2.40	0.52
1:B:534:MET:HG2	1:B:568:VAL:HG11	1.90	0.52
1:A:43:ALA:HB3	1:A:70:LYS:HD2	1.91	0.52
1:D:130:VAL:HG23	1:D:183:LEU:HD13	1.92	0.52
1:D:620:ARG:HD3	1:D:621:HIS:CE1	2.45	0.51
1:B:897:ASP:OD1	1:B:898:PHE:N	2.44	0.51
1:D:897:ASP:OD1	1:D:898:PHE:N	2.44	0.51
1:A:897:ASP:OD1	1:A:898:PHE:N	2.44	0.51
1:D:162:GLY:O	1:D:166:ARG:NH1	2.43	0.51
1:D:687:GLN:O	1:D:691:VAL:HG12	2.10	0.51
1:C:126:VAL:HG13	1:C:147:LEU:HD11	1.93	0.51
1:C:897:ASP:OD1	1:C:898:PHE:N	2.43	0.51
1:C:526:ILE:HG22	1:C:534:MET:HE3	1.92	0.51
1:A:423:LEU:HB3	1:A:440:VAL:HG13	1.93	0.51
1:A:650:ASN:O	1:A:653:ARG:HD2	2.11	0.51
1:A:664:ARG:NH1	2:A:1923:DTT:H42	2.26	0.51
1:C:7:THR:HG22	1:C:9:GLN:H	1.74	0.51
1:A:136:ASP:O	1:A:138:THR:N	2.40	0.51
1:B:532:ASP:OD1	1:B:571:ARG:NH1	2.44	0.50
1:C:666:LEU:HD22	1:C:684:LEU:HD13	1.93	0.50
1:D:90:LEU:HD12	1:D:115:LEU:HD22	1.93	0.50
1:B:162:GLY:O	1:B:166:ARG:NH1	2.44	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:803:ILE:HD11	1:B:833:LEU:HD21	1.93	0.50
1:B:98:LYS:HG3	1:B:142:PHE:HD2	1.77	0.50
1:B:130:VAL:HG23	1:B:183:LEU:HD13	1.93	0.50
1:C:579:GLU:O	1:C:582:SER:OG	2.26	0.50
1:C:650:ASN:O	1:C:653:ARG:HD2	2.11	0.50
1:B:653:ARG:HB2	1:B:691:VAL:HG23	1.94	0.49
1:C:620:ARG:HD3	1:C:621:HIS:CE1	2.46	0.49
1:B:620:ARG:HD3	1:B:621:HIS:CE1	2.47	0.49
1:D:771:GLN:OE1	1:D:771:GLN:N	2.45	0.49
1:B:559:VAL:HG13	1:B:617:VAL:HG21	1.95	0.49
1:C:294:ASN:O	1:C:298:ILE:HG13	2.13	0.49
1:C:653:ARG:HB2	1:C:691:VAL:HG23	1.94	0.49
1:C:777:LEU:HD23	1:C:829:LEU:HD12	1.94	0.49
1:A:760:ILE:HG21	1:A:801:ASP:HB3	1.95	0.49
1:A:559:VAL:HG13	1:A:617:VAL:HG21	1.94	0.49
1:B:666:LEU:HD22	1:B:684:LEU:HD13	1.93	0.49
1:A:292:VAL:HG21	1:A:333:HIS:CD2	2.48	0.49
1:D:666:LEU:HD22	1:D:684:LEU:HD13	1.94	0.49
1:A:98:LYS:HG3	1:A:142:PHE:HD2	1.78	0.48
1:B:805:THR:HB	1:B:822:ILE:HD11	1.94	0.48
1:A:579:GLU:O	1:A:582:SER:OG	2.30	0.48
1:C:581:LEU:HG	1:C:637:VAL:HG11	1.94	0.48
1:A:7:THR:HG22	1:A:9:GLN:H	1.78	0.48
1:D:292:VAL:HG21	1:D:333:HIS:CD2	2.49	0.48
1:D:804:HIS:NE2	1:D:808:ALA:HB2	2.28	0.48
1:A:846:PRO:HB2	1:A:848:TYR:CD1	2.48	0.48
1:D:650:ASN:O	1:D:653:ARG:HD2	2.14	0.48
1:C:98:LYS:HG3	1:C:142:PHE:HD2	1.79	0.48
1:D:136:ASP:O	1:D:138:THR:N	2.40	0.48
1:B:771:GLN:N	1:B:771:GLN:OE1	2.45	0.48
1:B:837:LEU:HG	1:B:853:VAL:HG13	1.95	0.48
1:B:804:HIS:NE2	1:B:808:ALA:HB2	2.29	0.48
1:A:534:MET:HG2	1:A:568:VAL:HG11	1.96	0.47
1:B:148:THR:O	1:B:151:PRO:HD2	2.14	0.47
1:B:307:LEU:HD13	1:B:348:ARG:NH1	2.30	0.47
1:A:150:LEU:HB3	1:A:151:PRO:HD3	1.96	0.47
1:A:804:HIS:NE2	1:A:808:ALA:HB2	2.29	0.47
1:D:150:LEU:HB3	1:D:151:PRO:HD3	1.96	0.47
1:D:423:LEU:HB3	1:D:440:VAL:HG13	1.95	0.47
1:D:416:SER:HB2	1:D:451:VAL:HG22	1.95	0.47
1:D:657:ARG:O	1:D:661:ARG:HG2	2.14	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:197:MET:HG3	1:D:197:MET:O	2.15	0.47
1:C:846:PRO:HB2	1:C:848:TYR:CD1	2.50	0.47
1:D:438:GLU:OE2	1:D:480:THR:HG21	2.15	0.47
1:B:805:THR:O	1:B:818:ARG:NH1	2.45	0.47
1:A:771:GLN:OE1	1:A:771:GLN:N	2.44	0.47
1:B:579:GLU:O	1:B:582:SER:OG	2.30	0.47
1:B:846:PRO:HB2	1:B:848:TYR:CD1	2.50	0.47
1:B:367:ALA:HA	1:B:370:GLN:HE21	1.79	0.47
1:C:513:LYS:HD2	1:C:552:LEU:HG	1.98	0.46
1:C:130:VAL:HG23	1:C:183:LEU:HD13	1.97	0.46
1:B:803:ILE:HD13	1:B:860:ILE:HG12	1.97	0.46
1:C:148:THR:O	1:C:151:PRO:HD2	2.15	0.46
1:C:771:GLN:OE1	1:C:771:GLN:N	2.44	0.46
1:B:197:MET:O	1:B:197:MET:HG3	2.15	0.46
1:D:805:THR:HB	1:D:822:ILE:HD11	1.97	0.46
1:D:803:ILE:HD13	1:D:860:ILE:HG12	1.96	0.46
1:A:803:ILE:HD11	1:A:833:LEU:HD21	1.97	0.46
1:A:899:HIS:CE1	1:A:903:THR:HG21	2.51	0.46
1:B:7:THR:HG22	1:B:9:GLN:H	1.79	0.46
1:C:423:LEU:HB3	1:C:440:VAL:HG13	1.97	0.46
1:C:730:ILE:HB	1:C:731:PRO:HD3	1.98	0.46
1:C:805:THR:HG22	1:C:818:ARG:HD2	1.98	0.46
1:D:148:THR:O	1:D:151:PRO:HD2	2.15	0.46
1:D:805:THR:HG22	1:D:818:ARG:HD2	1.97	0.46
1:B:126:VAL:HG13	1:B:147:LEU:HD11	1.97	0.46
1:C:673:VAL:HB	1:C:677:SER:HB3	1.98	0.46
1:B:150:LEU:HB3	1:B:151:PRO:HD3	1.97	0.46
1:A:811:HIS:HB3	1:D:671:ARG:NH2	2.31	0.46
1:D:846:PRO:HB2	1:D:848:TYR:CD1	2.50	0.46
1:C:803:ILE:HD13	1:C:860:ILE:HG12	1.97	0.46
1:A:126:VAL:HG13	1:A:147:LEU:HD11	1.98	0.46
1:B:289:LEU:HA	1:B:292:VAL:HG12	1.98	0.46
1:A:777:LEU:HD23	1:A:829:LEU:HD12	1.98	0.45
1:C:810:ASP:HA	1:C:815:PHE:CG	2.51	0.45
1:D:640:GLU:O	1:D:643:PRO:HD2	2.16	0.45
1:B:728:LEU:O	1:B:732:THR:OG1	2.26	0.45
1:A:185:MET:O	1:A:188:VAL:HG22	2.17	0.45
1:B:466:VAL:HG13	1:B:481:SER:HB2	1.97	0.45
1:C:488:MET:O	1:C:491:VAL:HG12	2.16	0.45
1:D:10:LEU:HA	1:D:13:GLN:HB2	1.97	0.45
1:D:185:MET:O	1:D:188:VAL:HG22	2.16	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:837:LEU:HD12	1:D:837:LEU:HA	1.84	0.45
1:A:162:GLY:O	1:A:166:ARG:NH1	2.49	0.45
1:A:728:LEU:O	1:A:732:THR:OG1	2.22	0.45
1:B:151:PRO:O	1:B:154:VAL:HG12	2.17	0.45
1:B:464:GLU:HA	1:B:467:VAL:HG22	1.99	0.45
1:C:464:GLU:HA	1:C:467:VAL:HG22	1.97	0.45
1:C:559:VAL:HG13	1:C:617:VAL:HG21	1.99	0.45
1:D:559:VAL:HG13	1:D:617:VAL:HG21	1.99	0.45
1:D:730:ILE:HB	1:D:731:PRO:HD3	1.99	0.45
1:C:150:LEU:HB3	1:C:151:PRO:HD3	1.97	0.45
1:C:336:TYR:HB2	1:C:399:PHE:CZ	2.51	0.45
1:D:464:GLU:HA	1:D:467:VAL:HG22	1.99	0.45
1:D:840:THR:HG23	1:D:845:LEU:HG	1.99	0.45
1:A:803:ILE:HD13	1:A:860:ILE:HG12	1.99	0.45
1:A:464:GLU:HA	1:A:467:VAL:HG22	1.99	0.45
1:B:484:LEU:O	1:B:488:MET:HG3	2.17	0.45
1:D:47:SER:HB3	1:D:67:MET:HG2	1.99	0.45
1:A:703:LEU:HB2	2:A:1923:DTT:S1	2.57	0.44
1:A:644:VAL:O	1:A:648:THR:OG1	2.28	0.44
1:C:805:THR:O	1:C:818:ARG:NH1	2.48	0.44
1:B:90:LEU:HD12	1:B:115:LEU:HD22	1.99	0.44
1:B:462:VAL:O	1:B:466:VAL:HG23	2.17	0.44
1:A:336:TYR:HB2	1:A:399:PHE:CZ	2.52	0.44
1:A:148:THR:O	1:A:151:PRO:HD2	2.17	0.44
1:C:34:LEU:O	1:C:38:GLN:HG3	2.18	0.44
1:A:303:CYS:HB3	1:A:345:PHE:CE1	2.53	0.44
1:B:655:ASP:OD1	1:B:658:ILE:HG12	2.18	0.44
1:D:294:ASN:O	1:D:298:ILE:HG13	2.18	0.44
1:A:488:MET:O	1:A:491:VAL:HG12	2.17	0.44
1:A:620:ARG:HD3	1:A:621:HIS:CE1	2.53	0.44
1:A:726:GLN:HG2	1:A:772:VAL:HB	2.00	0.44
1:D:760:ILE:HG21	1:D:801:ASP:HB3	2.00	0.44
1:C:185:MET:O	1:C:188:VAL:HG22	2.18	0.44
1:C:804:HIS:NE2	1:C:808:ALA:HB2	2.33	0.44
1:D:655:ASP:OD1	1:D:658:ILE:HG12	2.18	0.44
1:C:838:LEU:HD21	1:C:876:LEU:HD23	2.00	0.43
1:C:879:LEU:HA	1:C:880:PRO:HD3	1.87	0.43
1:B:787:ASP:HA	1:B:845:LEU:HD22	2.00	0.43
1:C:224:LEU:HD12	1:C:224:LEU:HA	1.78	0.43
1:C:417:MET:HE3	1:C:456:ASN:HB2	2.01	0.43
1:D:644:VAL:O	1:D:648:THR:OG1	2.29	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:484:LEU:O	1:A:488:MET:HG3	2.18	0.43
1:B:488:MET:O	1:B:491:VAL:HG12	2.18	0.43
1:B:640:GLU:O	1:B:643:PRO:HD2	2.18	0.43
1:A:459:LEU:H	1:A:459:LEU:HG	1.62	0.43
1:A:657:ARG:O	1:A:661:ARG:HG2	2.18	0.43
1:B:811:HIS:HB3	1:C:671:ARG:NH2	2.33	0.43
1:D:777:LEU:HD23	1:D:829:LEU:HD12	1.99	0.43
1:D:837:LEU:HG	1:D:853:VAL:HG13	2.00	0.43
1:D:858:TRP:HA	1:D:861:MET:HE3	2.00	0.43
1:B:837:LEU:HA	1:B:837:LEU:HD12	1.89	0.43
1:A:837:LEU:HD12	1:A:837:LEU:HA	1.87	0.43
1:C:655:ASP:OD1	1:C:658:ILE:HG12	2.19	0.43
1:D:7:THR:HG22	1:D:9:GLN:H	1.83	0.43
1:D:879:LEU:HA	1:D:880:PRO:HD3	1.87	0.43
1:A:10:LEU:HA	1:A:13:GLN:HB2	2.00	0.43
1:C:854:ALA:HB2	1:C:915:LEU:HD12	2.00	0.43
1:D:98:LYS:HG3	1:D:142:PHE:HD2	1.84	0.43
1:D:336:TYR:HB2	1:D:399:PHE:CZ	2.54	0.43
1:A:655:ASP:OD1	1:A:658:ILE:HG12	2.18	0.43
1:B:730:ILE:HB	1:B:731:PRO:HD3	2.00	0.43
1:B:850:LEU:HD13	1:B:916:ARG:HA	2.00	0.43
1:A:151:PRO:O	1:A:154:VAL:HG12	2.19	0.43
1:A:466:VAL:HG13	1:A:481:SER:HB2	2.01	0.43
1:A:56:ASP:HB3	1:A:58:GLU:OE1	2.19	0.42
1:B:810:ASP:HA	1:B:815:PHE:CG	2.54	0.42
1:C:162:GLY:O	1:C:166:ARG:NH1	2.52	0.42
1:D:563:LYS:HE3	1:D:621:HIS:NE2	2.34	0.42
1:A:462:VAL:O	1:A:466:VAL:HG23	2.20	0.42
1:B:459:LEU:H	1:B:459:LEU:HG	1.67	0.42
1:B:56:ASP:HB3	1:B:58:GLU:OE1	2.19	0.42
1:C:133:TYR:O	1:C:139:SER:OG	2.37	0.42
1:C:416:SER:HB2	1:C:451:VAL:HG22	2.01	0.42
1:A:854:ALA:HB2	1:A:915:LEU:HD12	2.00	0.42
1:B:185:MET:O	1:B:188:VAL:HG22	2.20	0.42
1:C:462:VAL:O	1:C:466:VAL:HG23	2.20	0.42
1:A:561:LEU:O	1:A:565:THR:HG23	2.20	0.42
1:A:730:ILE:HB	1:A:731:PRO:HD3	2.01	0.42
1:B:760:ILE:HG21	1:B:801:ASP:HB3	2.02	0.42
1:C:307:LEU:HD13	1:C:348:ARG:NH1	2.35	0.42
1:D:488:MET:O	1:D:491:VAL:HG12	2.19	0.42
1:A:810:ASP:HA	1:A:815:PHE:CG	2.55	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:657:ARG:O	1:C:661:ARG:HG2	2.20	0.42
1:D:303:CYS:HB3	1:D:345:PHE:CE1	2.55	0.42
1:A:481:SER:O	1:A:485:VAL:HG23	2.20	0.41
1:B:637:VAL:O	1:B:641:ILE:HG13	2.20	0.41
1:B:840:THR:HG23	1:B:845:LEU:HG	2.02	0.41
1:D:787:ASP:HA	1:D:845:LEU:HD22	2.01	0.41
1:D:200:LYS:HA	1:D:200:LYS:HD3	1.82	0.41
1:D:653:ARG:HB2	1:D:691:VAL:HG23	2.02	0.41
1:A:637:VAL:O	1:A:641:ILE:HG13	2.20	0.41
1:B:416:SER:HB2	1:B:451:VAL:HG22	2.01	0.41
1:B:653:ARG:NH2	1:B:694:VAL:HG11	2.35	0.41
1:A:256:ILE:HD11	1:A:269:LEU:HD12	2.02	0.41
1:A:294:ASN:O	1:A:298:ILE:HG13	2.20	0.41
1:A:709:ASP:HB2	1:A:758:ARG:HG3	2.01	0.41
1:B:133:TYR:O	1:B:139:SER:OG	2.38	0.41
1:C:260:GLU:HA	1:C:263:LEU:HG	2.02	0.41
1:D:804:HIS:CD2	1:D:808:ALA:HB2	2.56	0.41
1:D:865:ARG:N	1:D:866:PRO:HD2	2.36	0.41
1:D:151:PRO:O	1:D:154:VAL:HG12	2.21	0.41
1:D:563:LYS:HE3	1:D:621:HIS:CD2	2.56	0.41
1:C:846:PRO:HB2	1:C:848:TYR:HD1	1.85	0.41
1:C:292:VAL:HG21	1:C:333:HIS:CD2	2.56	0.41
1:C:810:ASP:HA	1:C:815:PHE:CD1	2.56	0.41
1:D:417:MET:HE3	1:D:456:ASN:HB2	2.03	0.41
1:D:455:ASN:N	1:D:455:ASN:OD1	2.54	0.41
1:C:199:MET:O	1:C:203:ARG:HG3	2.21	0.41
1:C:822:ILE:HG23	1:C:826:MET:HG3	2.02	0.41
1:B:899:HIS:CE1	1:B:903:THR:HG21	2.55	0.41
1:D:579:GLU:O	1:D:582:SER:OG	2.36	0.41
1:A:569:LEU:HD22	1:A:584:LEU:HD13	2.03	0.41
1:D:224:LEU:HA	1:D:224:LEU:HD12	1.83	0.41
1:D:503:LEU:HD11	1:D:534:MET:SD	2.61	0.41
1:D:788:HIS:HB3	1:D:791:ALA:HB3	2.02	0.41
1:A:788:HIS:HB3	1:A:791:ALA:HB3	2.01	0.41
1:B:667:ARG:HG2	2:B:1923:DTT:H41	2.03	0.41
1:B:838:LEU:HD21	1:B:876:LEU:HD23	2.02	0.41
1:A:197:MET:O	1:A:197:MET:HG3	2.19	0.40
1:D:850:LEU:HD13	1:D:916:ARG:HA	2.02	0.40
1:B:303:CYS:HB3	1:B:345:PHE:CZ	2.57	0.40
1:B:644:VAL:O	1:B:648:THR:OG1	2.24	0.40
1:C:840:THR:HG23	1:C:845:LEU:HG	2.04	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:119:MET:SD	1:A:122:TRP:HB2	2.62	0.40
1:A:294:ASN:OD1	1:A:297:ARG:NH1	2.54	0.40
1:A:787:ASP:HA	1:A:845:LEU:HD22	2.04	0.40
1:B:161:ILE:HG13	1:B:165:ARG:HG2	2.04	0.40
1:B:561:LEU:HD12	1:B:561:LEU:HA	1.82	0.40
1:D:466:VAL:HG13	1:D:481:SER:HB2	2.02	0.40
1:D:561:LEU:O	1:D:565:THR:HG23	2.20	0.40
1:A:640:GLU:O	1:A:643:PRO:HD2	2.22	0.40
1:A:760:ILE:HD13	1:A:760:ILE:HA	1.89	0.40
1:B:34:LEU:O	1:B:38:GLN:HG3	2.21	0.40
1:C:640:GLU:O	1:C:643:PRO:HD2	2.22	0.40
1:D:6:PRO:HG2	1:D:37:LEU:HD13	2.02	0.40
1:D:462:VAL:O	1:D:466:VAL:HG23	2.21	0.40
1:A:438:GLU:OE2	1:A:480:THR:HG21	2.22	0.40
1:B:127:GLN:O	1:B:131:GLU:HG2	2.21	0.40
1:B:303:CYS:HB3	1:B:345:PHE:CE1	2.56	0.40
1:B:865:ARG:N	1:B:866:PRO:HD2	2.36	0.40
1:C:804:HIS:CD2	1:C:808:ALA:HB2	2.57	0.40
1:C:865:ARG:N	1:C:866:PRO:HD2	2.37	0.40
1:D:136:ASP:HB3	1:D:139:SER:OG	2.21	0.40
1:D:581:LEU:HG	1:D:637:VAL:HG11	2.02	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	877/923 (95%)	847 (97%)	30 (3%)	0	100	100
1	B	877/923 (95%)	847 (97%)	30 (3%)	0	100	100
1	C	877/923 (95%)	848 (97%)	29 (3%)	0	100	100
1	D	878/923 (95%)	847 (96%)	31 (4%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
All	All	3509/3692 (95%)	3389 (97%)	120 (3%)	0	100	100

There are no Ramachandran outliers to report.

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	793/820 (97%)	768 (97%)	25 (3%)	42	75
1	B	793/820 (97%)	766 (97%)	27 (3%)	40	74
1	C	793/820 (97%)	767 (97%)	26 (3%)	41	75
1	D	794/820 (97%)	769 (97%)	25 (3%)	43	76
All	All	3173/3280 (97%)	3070 (97%)	103 (3%)	42	75

All (103) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	13	GLN
1	A	25	SER
1	A	28	GLU
1	A	98	LYS
1	A	107	GLN
1	A	157	ARG
1	A	183	LEU
1	A	187	CYS
1	A	271	GLN
1	A	435	GLU
1	A	449	LYS
1	A	456	ASN
1	A	459	LEU
1	A	475	THR
1	A	484	LEU
1	A	500	ASP
1	A	546	ARG

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Mol	Chain	Res	Type
1	A	549	ASP
1	A	587	VAL
1	A	650	ASN
1	A	653	ARG
1	A	759	PHE
1	A	790	ASP
1	A	837	LEU
1	A	879	LEU
1	B	13	GLN
1	B	28	GLU
1	B	98	LYS
1	B	107	GLN
1	B	157	ARG
1	B	183	LEU
1	B	187	CYS
1	B	189	GLU
1	B	271	GLN
1	B	374	HIS
1	B	435	GLU
1	B	449	LYS
1	B	456	ASN
1	B	459	LEU
1	B	475	THR
1	B	484	LEU
1	B	500	ASP
1	B	546	ARG
1	B	549	ASP
1	B	587	VAL
1	B	647	GLU
1	B	650	ASN
1	B	653	ARG
1	B	759	PHE
1	B	790	ASP
1	B	837	LEU
1	B	879	LEU
1	C	13	GLN
1	C	28	GLU
1	C	98	LYS
1	C	107	GLN
1	C	157	ARG
1	C	183	LEU
1	C	187	CYS

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Mol	Chain	Res	Type
1	C	189	GLU
1	C	271	GLN
1	C	374	HIS
1	C	435	GLU
1	C	449	LYS
1	C	456	ASN
1	C	459	LEU
1	C	475	THR
1	C	484	LEU
1	C	500	ASP
1	C	546	ARG
1	C	549	ASP
1	C	587	VAL
1	C	650	ASN
1	C	653	ARG
1	C	759	PHE
1	C	790	ASP
1	C	837	LEU
1	C	879	LEU
1	D	13	GLN
1	D	28	GLU
1	D	98	LYS
1	D	157	ARG
1	D	183	LEU
1	D	187	CYS
1	D	189	GLU
1	D	271	GLN
1	D	435	GLU
1	D	449	LYS
1	D	456	ASN
1	D	459	LEU
1	D	475	THR
1	D	484	LEU
1	D	500	ASP
1	D	546	ARG
1	D	549	ASP
1	D	587	VAL
1	D	650	ASN
1	D	653	ARG
1	D	759	PHE
1	D	790	ASP
1	D	837	LEU

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Mol	Chain	Res	Type
1	D	879	LEU
1	D	881	LYS

Some sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (7) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	456	ASN
1	A	738	GLN
1	B	456	ASN
1	B	738	GLN
1	C	456	ASN
1	D	456	ASN
1	D	738	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](#)

4 ligands are modelled in this entry.

In the following table, the Counts columns list the number of bonds (or angles) for which Mogul statistics could be retrieved, the number of bonds (or angles) that are observed in the model and the number of bonds (or angles) that are defined in the Chemical Component Dictionary. The Link column lists molecule types, if any, to which the group is linked. The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with $|Z| > 2$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
2	DTT	A	1923	-	7,7,7	0.54	0	4,8,8	0.68	0
2	DTT	B	1923	-	7,7,7	0.54	0	4,8,8	0.51	0
2	DTT	C	1923	-	7,7,7	0.54	0	4,8,8	0.52	0
2	DTT	D	1923	-	7,7,7	0.54	0	4,8,8	0.30	0

In the following table, the Chirals column lists the number of chiral outliers, the number of chiral centers analysed, the number of these observed in the model and the number defined in the Chemical Component Dictionary. Similar counts are reported in the Torsion and Rings columns. '-' means no outliers of that kind were identified.

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
2	DTT	A	1923	-	-	0/8/8/8	0/0/0/0
2	DTT	B	1923	-	-	0/8/8/8	0/0/0/0
2	DTT	C	1923	-	-	0/8/8/8	0/0/0/0
2	DTT	D	1923	-	-	0/8/8/8	0/0/0/0

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.

3 monomers are involved in 5 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
2	A	1923	DTT	3	0
2	B	1923	DTT	1	0
2	C	1923	DTT	1	0

5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

6 Fit of model and data

6.1 Protein, DNA and RNA chains

In the following table, the column labelled ‘#RSRZ > 2’ contains the number (and percentage) of RSRZ outliers, followed by percent RSRZ outliers for the chain as percentile scores relative to all X-ray entries and entries of similar resolution. The OWAB column contains the minimum, median, 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	889/923 (96%)	0.34	41 (4%) 32 20	53, 88, 126, 162	0
1	B	889/923 (96%)	0.31	24 (2%) 54 36	54, 88, 125, 163	0
1	C	889/923 (96%)	0.37	34 (3%) 40 25	54, 88, 124, 163	0
1	D	890/923 (96%)	0.30	27 (3%) 50 32	53, 88, 125, 162	0
All	All	3557/3692 (96%)	0.33	126 (3%) 44 28	53, 88, 125, 163	0

All (126) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	D	57	VAL	5.3
1	A	452	ASP	4.7
1	B	468	ARG	4.4
1	B	594	LYS	4.2
1	B	626	VAL	4.1
1	D	548	LEU	4.0
1	C	22	PRO	4.0
1	B	42	HIS	3.9
1	A	849	THR	3.7
1	C	171	GLU	3.6
1	A	795	VAL	3.6
1	A	636	LYS	3.6
1	D	455	ASN	3.5
1	A	221	ASN	3.5
1	B	161	ILE	3.5
1	D	626	VAL	3.5
1	B	714	GLU	3.4
1	A	171	GLU	3.4
1	B	455	ASN	3.3
1	B	849	THR	3.3
1	C	161	ILE	3.3

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Mol	Chain	Res	Type	RSRZ
1	A	196	LYS	3.2
1	C	147	LEU	3.2
1	D	492	VAL	3.1
1	D	636	LYS	3.1
1	C	499	LEU	3.1
1	D	59	SER	3.0
1	A	260	GLU	3.0
1	B	59	SER	3.0
1	C	158	SER	2.9
1	D	385	ASP	2.9
1	D	577	ILE	2.9
1	B	890	VAL	2.9
1	B	575	ASP	2.9
1	A	625	ILE	2.8
1	D	590	MET	2.8
1	C	157	ARG	2.8
1	C	175	PHE	2.8
1	A	79	PRO	2.8
1	D	468	ARG	2.8
1	A	848	TYR	2.8
1	C	316	GLN	2.8
1	C	189	GLU	2.8
1	C	257	GLU	2.8
1	A	8	LEU	2.8
1	B	185	MET	2.7
1	D	382	LEU	2.7
1	C	534	MET	2.7
1	B	57	VAL	2.7
1	B	579	GLU	2.7
1	A	161	ILE	2.6
1	A	845	LEU	2.6
1	C	55	GLN	2.6
1	C	571	ARG	2.6
1	C	920	ARG	2.6
1	A	920	ARG	2.6
1	A	577	ILE	2.6
1	A	469	LEU	2.6
1	A	574	LEU	2.6
1	D	21	ASP	2.6
1	C	79	PRO	2.6
1	A	420	PHE	2.6
1	C	642	TRP	2.6

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Mol	Chain	Res	Type	RSRZ
1	B	552	LEU	2.5
1	A	57	VAL	2.5
1	A	180	VAL	2.5
1	D	16	GLN	2.5
1	C	170	ILE	2.5
1	D	595	LEU	2.4
1	B	625	ILE	2.4
1	A	611	PHE	2.4
1	B	267	MET	2.4
1	C	789	ARG	2.4
1	C	125	CYS	2.4
1	B	815	PHE	2.3
1	A	60	CYS	2.3
1	A	48	ASP	2.3
1	D	315	GLY	2.3
1	A	117	LEU	2.3
1	A	299	PHE	2.3
1	D	20	HIS	2.3
1	D	161	ILE	2.3
1	A	20	HIS	2.2
1	B	452	ASP	2.2
1	B	572	LEU	2.2
1	C	919	THR	2.2
1	A	125	CYS	2.2
1	A	492	VAL	2.2
1	C	57	VAL	2.2
1	D	920	ARG	2.2
1	C	213	VAL	2.2
1	D	609	THR	2.2
1	C	636	LYS	2.2
1	A	429	GLU	2.2
1	B	104	ILE	2.2
1	B	9	GLN	2.2
1	A	572	LEU	2.2
1	C	318	LEU	2.2
1	C	649	LEU	2.2
1	C	577	ILE	2.2
1	B	60	CYS	2.2
1	D	890	VAL	2.2
1	C	143	LEU	2.1
1	B	316	GLN	2.1
1	D	316	GLN	2.1

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Mol	Chain	Res	Type	RSRZ
1	C	594	LYS	2.1
1	D	318	LEU	2.1
1	A	316	GLN	2.1
1	A	175	PHE	2.1
1	C	922	PHE	2.1
1	C	587	VAL	2.1
1	D	157	ARG	2.1
1	C	124	GLY	2.1
1	A	491	VAL	2.1
1	D	538	PHE	2.1
1	A	144	LEU	2.1
1	C	469	LEU	2.1
1	A	146	ILE	2.1
1	A	123	LYS	2.1
1	A	841	CYS	2.0
1	A	154	VAL	2.0
1	A	552	LEU	2.0
1	C	734	GLN	2.0
1	D	155	HIS	2.0
1	A	632	HIS	2.0
1	D	454	GLU	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(\AA^2)	Q<0.9
2	DTT	C	1923	8/8	0.77	0.33	85,111,121,143	0
2	DTT	A	1923	8/8	0.84	0.28	72,99,109,126	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(\AA^2)	Q<0.9
2	DTT	D	1923	8/8	0.87	0.24	79,94,108,114	0
2	DTT	B	1923	8/8	0.88	0.23	92,104,134,144	0

6.5 Other polymers [i](#)

There are no such residues in this entry.