Full wwPDB X-ray Structure Validation Report (i)

Oct 9, 2023 – 04:57 PM EDT

PDB ID	:	5CDC
Title	:	Crystal Structure of Israel acute Paralysis Virus
Authors	:	Mullapudi, E.; Plevka, P.
Deposited on	:	2015-07-03
Resolution	:	4.00 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 (i) 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 (1)) were used in the production of this report:

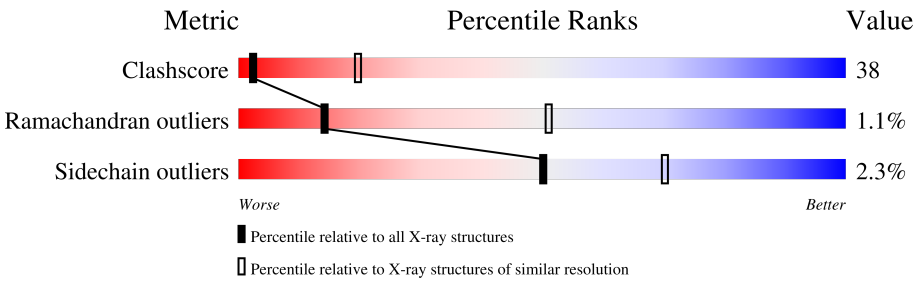
MolProbity	:	4.02b-467
Xtriage (Phenix)	:	1.13
EDS	:	2.35.1
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac	:	5.8.0158
CCP4	:	7.0.044 (Gargrove)
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.35.1

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 4.00 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))
Clashscore	141614	1148 (4.30-3.70)
Ramachandran outliers	138981	1108 (4.30-3.70)
Sidechain outliers	138945	1099 (4.30-3.70)

The table below summarises the geometric issues observed across the polymeric chains and their fit to the electron density. The red, orange, yellow and green segments of the lower bar indicate the fraction of residues that contain outliers for >=3, 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions <=5%

Mol	Chain	Length	Quality of chain
1	A	203	55% 42% •
2	B	300	58% 41% •
3	C	243	35% 59% 5% •
4	D	45	67% 33%

2 Entry composition (i)

There are 4 unique types of molecules in this entry. The entry contains 6120 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 VP1, Structural polyprotein.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
1	A	203	1646	1043	279	317	7	0	0	0

- Molecule 2 is a protein called VP2, Structural polyprotein.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
2	B	300	2339	1497	385	444	13	0	0	0

- Molecule 3 is a protein called VP3, Structural polyprotein.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
3	C	243	1910	1206	314	383	7	0	0	0

- Molecule 4 is a protein called VP4.

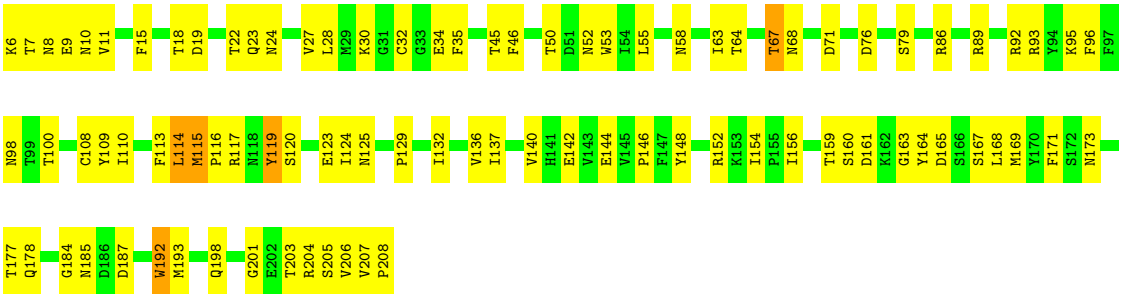
Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
			Total	C	N	O			
4	D	45	225	135	45	45	0	0	0

3 Residue-property plots (i)

These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry. Residues are color-coded according to the number of geometric quality criteria for which they contain at least one outlier: green = 0, yellow = 1, orange = 2 and red = 3 or more. Stretches of 2 or more consecutive residues without any outlier are shown as a green connector. Residues present in the sample, but not in the model, are shown in grey.

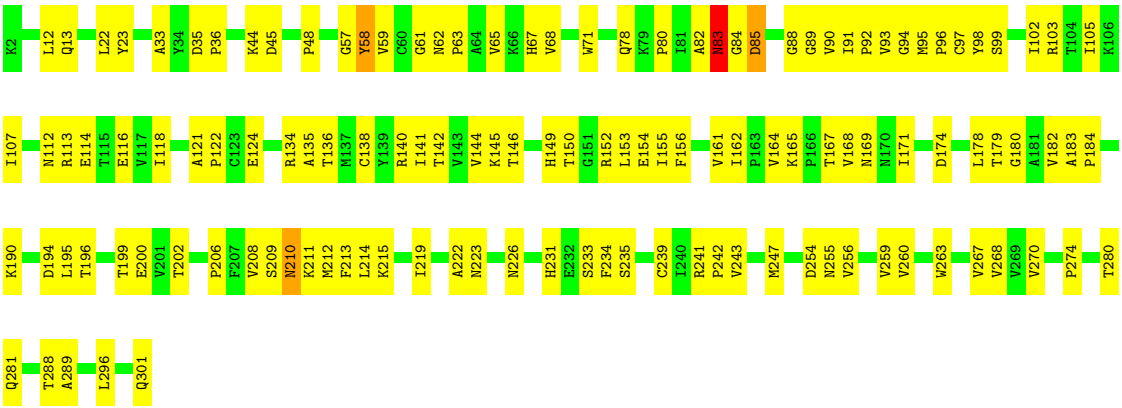
- Molecule 1: VP1, Structural polyprotein

Chain A:



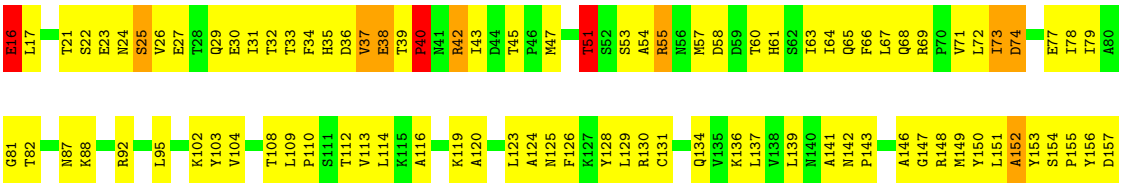
- Molecule 2: VP2, Structural polyprotein

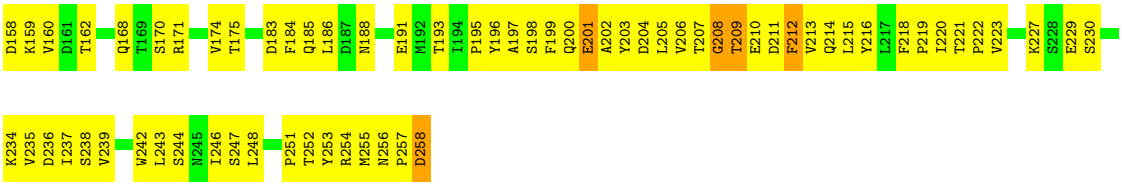
Chain B:



- Molecule 3: VP3, Structural polyprotein

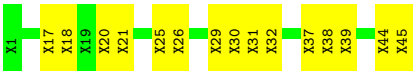
Chain C:





- Molecule 4: VP4

Chain D:



4 Data and refinement statistics (i)

Property	Value	Source
Space group	P 21 21 2	Depositor
Cell constants a, b, c, α, β, γ	343.15Å 383.26Å 329.91Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	70.00 – 4.00 59.46 – 3.50	Depositor EDS
% Data completeness (in resolution range)	68.8 (70.00-4.00) 49.2 (59.46-3.50)	Depositor EDS
R_{merge}	(Not available)	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	1.09 (at 3.49Å)	Xtriage
Refinement program	CNS	Depositor
R, R_{free}	(Not available) , (Not available) 0.305 , (Not available)	Depositor DCC
R_{free} test set	No test flags present.	wwPDB-VP
Wilson B-factor (Å^2)	97.9	Xtriage
Anisotropy	0.117	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.60 , 92.5	EDS
L-test for twinning[2]	$< \|L\| > = 0.42$, $< L^2 > = 0.24$	Xtriage
Estimated twinning fraction	0.044 for l,-k,h	Xtriage
F_o,F_c correlation	0.80	EDS
Total number of atoms	6120	wwPDB-VP
Average B, all atoms (Å^2)	130.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 2.66% of the height of the origin peak. No significant pseudotranslation is detected.*

[1]Intensities estimated from amplitudes.

[2]Theoretical values of $< |L| >$, $< L^2 >$ for acentric reflections are 0.5, 0.333 respectively for untwinned datasets, and 0.375, 0.2 for perfectly twinned datasets.

5 Model quality (i)

5.1 Standard geometry (i)

The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with $|Z| > 5$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	$\#\|Z\|>5$	RMSZ	$\#\|Z\|>5$
1	A	0.32	0/1688	0.54	0/2296
2	B	1.19	6/2402 (0.2%)	0.58	4/3290 (0.1%)
3	C	0.63	1/1949 (0.1%)	0.79	9/2658 (0.3%)
All	All	0.85	7/6039 (0.1%)	0.64	13/8244 (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
3	C	0	1

All (7) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	B	58	TYR	CD1-CE1	35.16	1.92	1.39
2	B	58	TYR	CD2-CE2	28.79	1.82	1.39
3	C	16	GLU	CA-C	21.63	2.09	1.52
2	B	58	TYR	CE1-CZ	18.84	1.63	1.38
2	B	58	TYR	CE2-CZ	17.39	1.61	1.38
2	B	58	TYR	CG-CD1	15.68	1.59	1.39
2	B	58	TYR	CG-CD2	15.14	1.58	1.39

All (13) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
3	C	16	GLU	O-C-N	-7.24	111.12	122.70
3	C	227	LYS	N-CA-C	7.12	130.22	111.00
2	B	270	VAL	N-CA-C	7.11	130.19	111.00
2	B	85	ASP	N-CA-C	-7.03	92.01	111.00
3	C	16	GLU	N-CA-CB	-6.72	98.51	110.60
3	C	208	GLY	N-CA-C	-6.71	96.32	113.10

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
3	C	16	GLU	CB-CA-C	6.63	123.66	110.40
2	B	83	ASN	N-CA-C	5.87	126.85	111.00
3	C	37	VAL	N-CA-C	-5.59	95.92	111.00
3	C	38	GLU	N-CA-C	-5.39	96.45	111.00
2	B	270	VAL	CB-CA-C	-5.26	101.40	111.40
3	C	47	MET	N-CA-C	-5.12	97.18	111.00
3	C	51	THR	CB-CA-C	-5.04	98.00	111.60

There are no chirality outliers.

All (1) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
3	C	212	PHE	Sidechain

5.2 Too-close contacts (i)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	1646	0	1584	123	0
2	B	2339	0	2300	148	0
3	C	1910	0	1875	229	0
4	D	225	0	51	10	0
All	All	6120	0	5810	452	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 38.

All (452) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:58:TYR:CD2	2:B:58:TYR:CE2	1.82	1.65
2:B:58:TYR:CE1	2:B:58:TYR:CD1	1.92	1.52
3:C:16:GLU:C	3:C:16:GLU:CA	2.09	1.21
3:C:156:TYR:H	3:C:213:VAL:HB	1.06	1.09
2:B:94:GLY:HA3	2:B:234:PHE:HD1	1.23	1.02

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:156:TYR:N	3:C:213:VAL:HB	1.76	0.99
3:C:29:GLN:HB3	3:C:40:PRO:HD2	1.44	0.94
3:C:148:ARG:HG2	3:C:220:ILE:HD12	1.48	0.94
2:B:107:ILE:HD11	2:B:113:ARG:HB2	1.49	0.92
3:C:206:VAL:HG11	3:C:254:ARG:HB3	1.50	0.91
1:A:52:ASN:ND2	2:B:301:GLN:OE1	2.04	0.90
3:C:154:SER:O	3:C:213:VAL:HG21	1.72	0.90
3:C:63:ILE:HG22	3:C:64:ILE:H	1.38	0.88
2:B:94:GLY:HA3	2:B:234:PHE:CD1	2.08	0.88
1:A:115:MET:HE2	1:A:124:ILE:HG21	1.55	0.87
3:C:130:ARG:HG2	3:C:196:TYR:CZ	2.10	0.86
1:A:98:ASN:HA	1:A:178:GLN:HG2	1.55	0.86
2:B:65:VAL:H	3:C:175:THR:HG21	1.40	0.86
3:C:155:PRO:HA	3:C:213:VAL:HG11	1.57	0.86
3:C:156:TYR:HE2	3:C:212:PHE:CD2	1.95	0.85
3:C:37:VAL:HG12	3:C:38:GLU:H	1.43	0.84
3:C:143:PRO:HA	3:C:185:GLN:HE22	1.42	0.83
2:B:121:ALA:HB1	2:B:122:PRO:HD2	1.60	0.83
1:A:52:ASN:CG	2:B:301:GLN:OE1	2.17	0.83
3:C:134:GLN:NE2	3:C:193:THR:OG1	2.12	0.82
3:C:73:ILE:O	3:C:74:ASP:HB2	1.78	0.81
3:C:215:LEU:HD12	3:C:216:TYR:H	1.43	0.81
1:A:115:MET:CE	1:A:124:ILE:HG21	2.10	0.81
3:C:26:VAL:HG12	3:C:27:GLU:H	1.45	0.81
3:C:37:VAL:O	3:C:38:GLU:HG3	1.81	0.81
2:B:78:GLN:HB3	2:B:180:GLY:HA3	1.59	0.81
3:C:88:LYS:HD3	3:C:102:LYS:HG3	1.62	0.80
1:A:27:VAL:CG1	2:B:212:MET:HB3	2.13	0.79
2:B:214:LEU:HD11	2:B:235:SER:HB3	1.64	0.79
3:C:256:ASN:HD21	3:C:258:ASP:HB2	1.48	0.78
3:C:21:THR:HG22	3:C:22:SER:H	1.47	0.78
1:A:201:GLY:HA3	2:B:116:GLU:HB2	1.66	0.77
3:C:35:HIS:HE1	3:C:251:PRO:HG2	1.47	0.77
1:A:206:VAL:HG22	1:A:207:VAL:H	1.50	0.76
3:C:154:SER:O	3:C:213:VAL:CG2	2.34	0.75
1:A:67:THR:HG23	1:A:71:ASP:OD2	1.86	0.75
3:C:206:VAL:HG22	3:C:255:MET:HA	1.69	0.75
3:C:207:THR:HG22	3:C:208:GLY:N	2.01	0.75
3:C:51:THR:HG23	3:C:51:THR:O	1.86	0.74
3:C:25:SER:HB2	3:C:42:ARG:HB3	1.70	0.73
2:B:91:ILE:O	2:B:93:VAL:HG23	1.89	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:27:VAL:HG13	2:B:212:MET:HB3	1.68	0.73
3:C:35:HIS:CE1	3:C:251:PRO:HG2	2.23	0.73
3:C:129:LEU:HA	3:C:247:SER:O	1.89	0.73
2:B:82:ALA:O	2:B:83:ASN:CB	2.36	0.73
2:B:12:LEU:HG	2:B:13:GLN:N	2.04	0.72
3:C:68:GLN:HG2	3:C:246:ILE:HD11	1.69	0.72
3:C:113:VAL:HG11	3:C:243:LEU:HD21	1.71	0.72
3:C:162:THR:HG22	3:C:168:GLN:HG3	1.71	0.71
2:B:145:LYS:HD2	2:B:149:HIS:HB2	1.72	0.71
3:C:130:ARG:HG2	3:C:196:TYR:CE2	2.26	0.70
2:B:93:VAL:HG12	2:B:93:VAL:O	1.90	0.70
1:A:159:THR:HG23	1:A:160:SER:N	2.07	0.70
1:A:98:ASN:HB2	1:A:178:GLN:HE21	1.57	0.70
1:A:117:ARG:HA	1:A:167:SER:HB3	1.73	0.70
1:A:52:ASN:CB	2:B:301:GLN:OE1	2.41	0.69
2:B:94:GLY:CA	2:B:234:PHE:HD1	2.01	0.69
1:A:114:LEU:HD22	1:A:114:LEU:H	1.57	0.69
3:C:207:THR:CG2	3:C:208:GLY:H	2.07	0.68
3:C:131:CYS:HB3	3:C:246:ILE:HA	1.75	0.68
3:C:156:TYR:HE2	3:C:212:PHE:HD2	1.41	0.68
3:C:215:LEU:HD12	3:C:216:TYR:N	2.09	0.68
3:C:37:VAL:HG12	3:C:38:GLU:N	2.08	0.68
3:C:72:LEU:HD13	3:C:74:ASP:H	1.58	0.67
3:C:29:GLN:HG2	3:C:30:GLU:N	2.08	0.67
3:C:26:VAL:HG12	3:C:27:GLU:N	2.10	0.67
1:A:116:PRO:HB3	1:A:163:GLY:HA2	1.77	0.67
3:C:130:ARG:HG3	3:C:202:ALA:HA	1.76	0.67
2:B:144:VAL:HG22	3:C:148:ARG:HE	1.61	0.66
1:A:192:TRP:CZ3	2:B:48:PRO:HG3	2.31	0.66
1:A:207:VAL:HB	1:A:208:PRO:HD3	1.76	0.66
2:B:65:VAL:N	3:C:175:THR:HG21	2.10	0.65
3:C:143:PRO:HA	3:C:185:GLN:NE2	2.11	0.65
3:C:200:GLN:OE1	3:C:212:PHE:CZ	2.49	0.65
3:C:150:TYR:HB2	3:C:220:ILE:HD11	1.79	0.65
3:C:207:THR:HG22	3:C:208:GLY:H	1.61	0.65
3:C:207:THR:CG2	3:C:208:GLY:N	2.59	0.65
3:C:134:GLN:HE22	3:C:193:THR:HG1	1.45	0.65
3:C:209:THR:HB	3:C:211:ASP:OD2	1.96	0.65
2:B:142:THR:HG21	3:C:148:ARG:CZ	2.27	0.65
1:A:24:ASN:ND2	2:B:134:ARG:HE	1.95	0.65
3:C:154:SER:O	3:C:213:VAL:HG11	1.97	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:D:31:UNK:O	4:D:32:UNK:CB	2.45	0.64
2:B:144:VAL:HG22	3:C:148:ARG:NE	2.12	0.64
1:A:63:ILE:HG12	1:A:168:LEU:HB3	1.78	0.64
3:C:203:TYR:OH	3:C:210:GLU:HB3	1.97	0.64
3:C:128:TYR:HB3	3:C:202:ALA:HB1	1.79	0.64
1:A:98:ASN:HB2	1:A:178:GLN:NE2	2.13	0.64
1:A:115:MET:HE2	1:A:124:ILE:CG2	2.26	0.64
3:C:109:LEU:HD23	3:C:112:THR:HB	1.78	0.64
1:A:146:PRO:HG2	2:B:33:ALA:HB2	1.79	0.64
2:B:71:TRP:HB3	2:B:256:VAL:HG23	1.80	0.64
1:A:24:ASN:HB3	2:B:268:VAL:HG11	1.79	0.64
2:B:82:ALA:O	2:B:83:ASN:HB2	1.98	0.63
1:A:23:GLN:O	1:A:27:VAL:HG23	1.97	0.63
2:B:12:LEU:HG	2:B:13:GLN:H	1.63	0.63
1:A:9:GLU:HG2	2:B:200:GLU:HB2	1.79	0.63
1:A:98:ASN:CB	1:A:178:GLN:HE21	2.12	0.63
3:C:32:THR:HG23	3:C:36:ASP:O	1.99	0.62
3:C:35:HIS:O	3:C:36:ASP:CG	2.36	0.62
3:C:67:LEU:HB2	3:C:246:ILE:HD13	1.82	0.62
3:C:206:VAL:O	3:C:207:THR:HB	1.99	0.62
3:C:157:ASP:H	3:C:213:VAL:HG23	1.65	0.62
2:B:89:GLY:O	2:B:239:CYS:HA	1.99	0.62
3:C:78:ILE:HG21	3:C:223:VAL:HG21	1.82	0.62
3:C:154:SER:C	3:C:213:VAL:HG21	2.19	0.62
1:A:28:LEU:HD12	2:B:213:PHE:HZ	1.63	0.62
1:A:114:LEU:O	1:A:115:MET:HB2	1.99	0.62
4:D:44:UNK:O	4:D:45:UNK:C	2.47	0.62
1:A:115:MET:HE1	1:A:169:MET:SD	2.40	0.61
3:C:139:LEU:HD21	3:C:184:PHE:HD1	1.65	0.61
2:B:82:ALA:O	2:B:83:ASN:CG	2.38	0.61
1:A:204:ARG:HH22	2:B:223:ASN:ND2	1.98	0.61
3:C:159:LYS:HZ3	3:C:211:ASP:HB2	1.65	0.61
3:C:256:ASN:ND2	3:C:258:ASP:HB2	2.15	0.61
3:C:209:THR:HB	3:C:211:ASP:CG	2.21	0.61
1:A:154:ILE:HG12	1:A:164:TYR:CE1	2.36	0.61
3:C:209:THR:C	3:C:211:ASP:H	2.03	0.61
2:B:152:ARG:NH1	2:B:194:ASP:OD2	2.33	0.61
2:B:12:LEU:CG	2:B:13:GLN:N	2.65	0.60
3:C:237:ILE:HG22	3:C:238:SER:N	2.14	0.60
3:C:103:TYR:HB3	3:C:218:PHE:CE1	2.36	0.60
1:A:24:ASN:HD22	2:B:134:ARG:HE	1.49	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:12:LEU:CG	2:B:13:GLN:H	2.13	0.60
2:B:150:THR:HG22	2:B:196:THR:CG2	2.31	0.60
3:C:33:THR:HG22	3:C:34:PHE:HD2	1.67	0.60
2:B:208:VAL:HG23	2:B:208:VAL:O	2.01	0.60
3:C:54:ALA:O	3:C:55:ARG:NE	2.35	0.60
1:A:64:THR:HA	1:A:67:THR:HB	1.84	0.59
1:A:114:LEU:HD21	1:A:129:PRO:HD2	1.83	0.59
2:B:57:GLY:HA3	4:D:20:UNK:HA	1.84	0.59
2:B:142:THR:HG21	3:C:148:ARG:NH1	2.17	0.59
1:A:120:SER:O	1:A:123:GLU:HG2	2.02	0.59
2:B:274:PRO:HG2	2:B:280:THR:HG23	1.84	0.59
1:A:19:ASP:HB2	1:A:22:THR:HB	1.85	0.59
3:C:198:SER:OG	3:C:200:GLN:HG3	2.02	0.59
1:A:117:ARG:HG3	1:A:165:ASP:OD2	2.03	0.59
1:A:204:ARG:O	1:A:205:SER:OG	2.18	0.59
3:C:206:VAL:HG21	3:C:254:ARG:O	2.02	0.59
3:C:26:VAL:H	3:C:42:ARG:HB2	1.67	0.59
1:A:110:ILE:O	1:A:132:ILE:HA	2.02	0.58
3:C:151:LEU:O	3:C:152:ALA:HB2	2.02	0.58
3:C:64:ILE:HG22	3:C:64:ILE:O	2.03	0.58
3:C:203:TYR:CZ	3:C:210:GLU:HB3	2.39	0.58
3:C:51:THR:O	3:C:51:THR:CG2	2.50	0.58
3:C:156:TYR:CE2	3:C:212:PHE:CD2	2.86	0.58
3:C:196:TYR:CE2	3:C:198:SER:HB3	2.39	0.58
1:A:27:VAL:HA	2:B:212:MET:HE1	1.85	0.58
2:B:154:GLU:HB2	2:B:243:VAL:CG2	2.34	0.58
1:A:161:ASP:OD1	1:A:164:TYR:HB3	2.03	0.58
2:B:44:LYS:O	2:B:45:ASP:HB2	2.03	0.57
3:C:79:ILE:HG22	3:C:81:GLY:H	1.68	0.57
2:B:134:ARG:HB3	2:B:268:VAL:HG23	1.86	0.57
1:A:7:THR:HG23	1:A:8:ASN:N	2.19	0.57
2:B:146:THR:HG23	3:C:146:ALA:HB2	1.86	0.57
3:C:201:GLU:O	3:C:202:ALA:HB3	2.04	0.57
3:C:206:VAL:HA	3:C:256:ASN:HB2	1.86	0.57
2:B:71:TRP:HB3	2:B:256:VAL:CG2	2.35	0.57
3:C:110:PRO:O	3:C:113:VAL:HG12	2.04	0.57
2:B:65:VAL:H	3:C:175:THR:CG2	2.15	0.57
1:A:63:ILE:CG1	1:A:168:LEU:HB3	2.34	0.57
1:A:98:ASN:HA	1:A:178:GLN:CG	2.31	0.57
2:B:171:ILE:HD12	2:B:222:ALA:HB1	1.86	0.57
3:C:229:GLU:O	3:C:230:SER:HB2	2.04	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:86:ARG:HG2	3:C:155:PRO:HB2	1.86	0.57
3:C:130:ARG:HG2	3:C:196:TYR:OH	2.03	0.57
2:B:150:THR:OG1	2:B:247:MET:HB2	2.04	0.57
3:C:139:LEU:HD11	3:C:235:VAL:CG1	2.35	0.56
2:B:99:SER:O	2:B:118:ILE:HG23	2.05	0.56
3:C:114:LEU:O	3:C:120:ALA:HB2	2.04	0.56
3:C:213:VAL:HG22	3:C:214:GLN:N	2.19	0.56
3:C:73:ILE:CD1	3:C:113:VAL:HA	2.35	0.56
3:C:73:ILE:HD12	3:C:116:ALA:HB3	1.87	0.56
3:C:78:ILE:CG2	3:C:223:VAL:HG21	2.36	0.56
3:C:154:SER:O	3:C:213:VAL:CG1	2.53	0.56
3:C:139:LEU:HD21	3:C:184:PHE:CD1	2.41	0.56
1:A:198:GLN:HE21	3:C:170:SER:HB3	1.71	0.56
3:C:33:THR:HG22	3:C:34:PHE:CD2	2.40	0.56
3:C:207:THR:C	3:C:208:GLY:O	2.42	0.56
3:C:57:MET:O	3:C:57:MET:HG3	2.06	0.55
3:C:156:TYR:HB3	3:C:159:LYS:HB2	1.87	0.55
3:C:130:ARG:CG	3:C:202:ALA:HA	2.36	0.55
3:C:229:GLU:O	3:C:230:SER:CB	2.55	0.55
3:C:155:PRO:HA	3:C:213:VAL:CG1	2.33	0.55
2:B:97:CYS:SG	2:B:118:ILE:HG22	2.47	0.54
3:C:136:LYS:HG3	3:C:191:GLU:HG2	1.88	0.54
2:B:78:GLN:HB3	2:B:180:GLY:CA	2.35	0.54
1:A:95:LYS:HG2	1:A:142:GLU:HG2	1.90	0.54
3:C:21:THR:HG22	3:C:22:SER:N	2.21	0.54
1:A:185:ASN:HD21	1:A:187:ASP:HB2	1.72	0.54
1:A:11:VAL:HG22	2:B:202:THR:HB	1.88	0.54
1:A:9:GLU:O	1:A:10:ASN:ND2	2.41	0.53
1:A:206:VAL:HG22	1:A:207:VAL:N	2.22	0.53
1:A:63:ILE:HD12	1:A:64:THR:N	2.23	0.53
2:B:281:GLN:NE2	2:B:296:LEU:HG	2.23	0.53
3:C:200:GLN:OE1	3:C:212:PHE:CE1	2.61	0.53
3:C:251:PRO:O	3:C:252:THR:HG23	2.07	0.53
1:A:7:THR:HG23	1:A:8:ASN:H	1.73	0.53
1:A:116:PRO:HB2	1:A:119:TYR:CD1	2.44	0.53
3:C:200:GLN:O	3:C:201:GLU:C	2.46	0.53
1:A:32:CYS:SG	1:A:34:GLU:HG2	2.49	0.53
1:A:109:TYR:CE2	1:A:173:ASN:HB3	2.44	0.53
2:B:142:THR:HG21	3:C:148:ARG:NH2	2.24	0.53
3:C:67:LEU:HD23	3:C:119:LYS:HB3	1.90	0.53
2:B:84:GLY:O	2:B:85:ASP:HB2	2.09	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:92:PRO:HG2	2:B:98:TYR:CG	2.43	0.53
3:C:73:ILE:HD11	3:C:112:THR:O	2.08	0.53
3:C:82:THR:HG22	3:C:87:ASN:ND2	2.24	0.53
3:C:171:ARG:O	3:C:175:THR:HG22	2.08	0.53
2:B:97:CYS:HA	2:B:124:GLU:OE2	2.09	0.52
1:A:7:THR:H	3:C:186:LEU:CD2	2.21	0.52
1:A:113:PHE:HB2	1:A:169:MET:HE2	1.90	0.52
2:B:92:PRO:HG2	2:B:98:TYR:CB	2.39	0.52
3:C:73:ILE:HD13	3:C:113:VAL:HA	1.92	0.52
3:C:143:PRO:CA	3:C:185:GLN:HE22	2.19	0.52
3:C:198:SER:HG	3:C:200:GLN:HG3	1.74	0.52
3:C:147:GLY:HA3	3:C:184:PHE:CE2	2.45	0.52
4:D:25:UNK:O	4:D:26:UNK:CB	2.57	0.52
1:A:28:LEU:HD12	2:B:213:PHE:CZ	2.45	0.52
1:A:124:ILE:HG13	1:A:125:ASN:N	2.25	0.52
2:B:80:PRO:N	2:B:241:ARG:HG2	2.25	0.52
1:A:154:ILE:HG21	1:A:164:TYR:CE1	2.46	0.51
3:C:63:ILE:HG22	3:C:64:ILE:N	2.17	0.51
3:C:213:VAL:CG2	3:C:214:GLN:N	2.73	0.51
1:A:115:MET:CE	1:A:169:MET:SD	2.99	0.51
3:C:200:GLN:OE1	3:C:212:PHE:HZ	1.89	0.51
2:B:135:ALA:HB2	2:B:267:VAL:HA	1.93	0.51
3:C:126:PHE:CG	3:C:248:LEU:HG	2.46	0.51
2:B:156:PHE:HB3	2:B:190:LYS:HB3	1.91	0.51
3:C:137:LEU:CD2	3:C:239:VAL:HG22	2.41	0.51
3:C:157:ASP:H	3:C:213:VAL:CG2	2.23	0.51
1:A:159:THR:HG23	1:A:161:ASP:N	2.26	0.51
1:A:193:MET:HE1	2:B:59:VAL:HA	1.92	0.51
3:C:158:ASP:OD1	3:C:214:GLN:HG2	2.11	0.51
2:B:209:SER:HB2	2:B:235:SER:HB2	1.93	0.51
3:C:60:THR:HG22	3:C:61:HIS:H	1.76	0.51
3:C:63:ILE:C	3:C:65:GLN:H	2.14	0.51
1:A:159:THR:HG23	1:A:160:SER:H	1.74	0.50
4:D:30:UNK:O	4:D:31:UNK:CB	2.59	0.50
3:C:129:LEU:HD13	3:C:248:LEU:HD13	1.92	0.50
3:C:137:LEU:HD22	3:C:239:VAL:HG22	1.93	0.50
3:C:29:GLN:O	3:C:39:THR:HG22	2.12	0.50
3:C:37:VAL:CG1	3:C:38:GLU:H	2.19	0.50
2:B:209:SER:O	2:B:211:LYS:HG3	2.12	0.50
3:C:124:ALA:O	3:C:125:ASN:HB2	2.10	0.50
3:C:156:TYR:OH	3:C:212:PHE:HE2	1.93	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:146:PRO:HB2	1:A:148:TYR:CE2	2.47	0.50
2:B:167:THR:HG22	2:B:168:VAL:N	2.26	0.50
1:A:27:VAL:HA	2:B:212:MET:CE	2.41	0.50
2:B:140:ARG:HD2	2:B:200:GLU:OE1	2.12	0.50
2:B:154:GLU:HB2	2:B:243:VAL:HG22	1.94	0.50
3:C:77:GLU:HA	3:C:236:ASP:HA	1.94	0.50
2:B:12:LEU:CD1	2:B:13:GLN:H	2.25	0.49
2:B:152:ARG:NH1	2:B:194:ASP:HB2	2.27	0.49
3:C:88:LYS:CD	3:C:102:LYS:HG3	2.38	0.49
1:A:53:TRP:CZ3	1:A:55:LEU:HD11	2.46	0.49
1:A:148:TYR:O	1:A:165:ASP:HA	2.12	0.49
3:C:78:ILE:HB	3:C:235:VAL:HB	1.94	0.49
3:C:253:TYR:CE1	3:C:254:ARG:HG3	2.47	0.49
1:A:205:SER:HA	2:B:112:ASN:O	2.12	0.49
3:C:73:ILE:O	3:C:74:ASP:CB	2.56	0.49
3:C:196:TYR:OH	3:C:202:ALA:O	2.27	0.49
3:C:36:ASP:C	3:C:36:ASP:OD1	2.51	0.49
3:C:73:ILE:HD12	3:C:116:ALA:CB	2.42	0.49
3:C:209:THR:C	3:C:211:ASP:N	2.65	0.49
1:A:19:ASP:HB2	1:A:22:THR:CB	2.42	0.49
2:B:268:VAL:HG23	2:B:268:VAL:O	2.12	0.49
3:C:35:HIS:N	3:C:35:HIS:CD2	2.80	0.49
1:A:23:GLN:HB3	2:B:134:ARG:HH21	1.78	0.48
3:C:152:ALA:O	3:C:215:LEU:CD1	2.61	0.48
4:D:37:UNK:O	4:D:38:UNK:C	2.61	0.48
1:A:207:VAL:HB	1:A:208:PRO:CD	2.43	0.48
1:A:63:ILE:HG13	1:A:168:LEU:O	2.12	0.48
3:C:42:ARG:O	3:C:43:ILE:HG23	2.13	0.48
2:B:68:VAL:CG1	3:C:221:THR:HG22	2.43	0.48
2:B:84:GLY:O	2:B:85:ASP:C	2.49	0.48
2:B:162:ILE:O	2:B:164:VAL:HG13	2.13	0.48
1:A:203:THR:HG23	2:B:114:GLU:O	2.14	0.48
1:A:18:THR:O	1:A:19:ASP:C	2.51	0.48
1:A:201:GLY:CA	2:B:116:GLU:HB2	2.41	0.48
1:A:156:ILE:O	3:C:160:VAL:HG12	2.14	0.48
2:B:134:ARG:HB2	2:B:213:PHE:HD1	1.78	0.48
2:B:136:THR:HG23	2:B:206:PRO:HA	1.96	0.48
2:B:161:VAL:HG12	2:B:162:ILE:N	2.29	0.48
3:C:26:VAL:H	3:C:42:ARG:CB	2.26	0.48
2:B:153:LEU:HD12	2:B:242:PRO:HA	1.96	0.48
2:B:215:LYS:HB2	2:B:233:SER:OG	2.14	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:203:TYR:CE1	3:C:210:GLU:HB3	2.49	0.47
3:C:32:THR:OG1	3:C:37:VAL:HG22	2.14	0.47
3:C:148:ARG:CG	3:C:220:ILE:HD12	2.32	0.47
1:A:58:ASN:HA	1:A:171:PHE:CE1	2.49	0.47
2:B:62:ASN:O	2:B:122:PRO:HG3	2.14	0.47
2:B:165:LYS:NZ	2:B:174:ASP:OD1	2.48	0.47
2:B:288:THR:HG22	2:B:289:ALA:N	2.30	0.47
4:D:17:UNK:O	4:D:18:UNK:CB	2.62	0.47
2:B:105:ILE:CG1	2:B:113:ARG:HB3	2.45	0.47
3:C:156:TYR:HH	3:C:199:PHE:HD2	1.59	0.47
2:B:103:ARG:HG3	3:C:95:LEU:HD23	1.97	0.47
3:C:37:VAL:CG1	3:C:38:GLU:N	2.77	0.47
1:A:114:LEU:HD21	1:A:129:PRO:CD	2.45	0.47
1:A:108:CYS:HA	1:A:173:ASN:OD1	2.15	0.47
3:C:134:GLN:HB3	3:C:242:TRP:CE2	2.50	0.47
1:A:140:VAL:HG12	1:A:142:GLU:HG3	1.97	0.47
1:A:159:THR:CG2	1:A:160:SER:N	2.73	0.47
2:B:88:GLY:O	2:B:90:VAL:N	2.48	0.47
2:B:102:ILE:HD11	2:B:169:ASN:O	2.15	0.47
2:B:182:VAL:O	2:B:182:VAL:HG22	2.15	0.47
1:A:9:GLU:HG2	2:B:200:GLU:CB	2.45	0.46
3:C:69:ARG:O	3:C:71:VAL:HG13	2.15	0.46
3:C:153:TYR:HB3	3:C:215:LEU:HD13	1.96	0.46
1:A:35:PHE:HE1	2:B:268:VAL:HG12	1.80	0.46
2:B:155:ILE:HD12	2:B:155:ILE:N	2.31	0.46
3:C:139:LEU:HD12	3:C:237:ILE:HG12	1.98	0.46
1:A:15:PHE:CD2	2:B:206:PRO:HD2	2.51	0.46
1:A:92:ARG:HA	1:A:184:GLY:HA2	1.98	0.46
2:B:234:PHE:O	2:B:235:SER:CB	2.63	0.46
3:C:24:ASN:O	3:C:25:SER:CB	2.63	0.46
3:C:92:ARG:HH11	3:C:171:ARG:NH2	2.15	0.46
3:C:255:MET:O	3:C:257:PRO:HD3	2.15	0.46
2:B:95:MET:HB3	2:B:96:PRO:HD3	1.98	0.45
3:C:35:HIS:O	3:C:36:ASP:OD1	2.33	0.45
1:A:114:LEU:HD22	1:A:114:LEU:N	2.27	0.45
3:C:31:ILE:O	3:C:31:ILE:HG22	2.17	0.45
2:B:88:GLY:C	2:B:90:VAL:N	2.70	0.45
3:C:58:ASP:OD1	3:C:58:ASP:N	2.49	0.45
3:C:64:ILE:C	3:C:66:PHE:H	2.20	0.45
1:A:93:ARG:HG2	1:A:144:GLU:HG3	1.99	0.45
3:C:43:ILE:HD13	3:C:45:THR:HG22	1.99	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:67:HIS:CE1	2:B:98:TYR:HH	2.34	0.45
2:B:80:PRO:HB3	2:B:239:CYS:SG	2.57	0.45
1:A:6:LYS:O	1:A:7:THR:HG22	2.16	0.45
1:A:45:THR:HG22	2:B:22:LEU:C	2.37	0.45
3:C:143:PRO:C	3:C:185:GLN:HE22	2.20	0.45
1:A:117:ARG:HB2	1:A:165:ASP:OD1	2.17	0.45
1:A:96:PHE:HB3	1:A:178:GLN:OE1	2.16	0.45
1:A:192:TRP:CH2	3:C:197:ALA:HB2	2.52	0.45
2:B:61:GLY:O	2:B:63:PRO:HD3	2.17	0.45
2:B:138:CYS:HB2	2:B:263:TRP:CE2	2.52	0.45
3:C:29:GLN:HG2	3:C:30:GLU:H	1.81	0.45
3:C:104:VAL:HG23	3:C:219:PRO:HG3	1.98	0.45
3:C:221:THR:HB	3:C:222:PRO:HD2	1.99	0.44
2:B:145:LYS:HE3	2:B:195:LEU:O	2.17	0.44
3:C:88:LYS:HD3	3:C:102:LYS:CG	2.40	0.44
3:C:108:THR:HB	3:C:214:GLN:OE1	2.17	0.44
3:C:141:ALA:HB2	3:C:235:VAL:HG13	1.99	0.44
2:B:199:THR:HG22	2:B:199:THR:O	2.18	0.44
3:C:77:GLU:CG	3:C:234:LYS:HD2	2.47	0.44
1:A:177:THR:HG23	1:A:177:THR:O	2.18	0.44
2:B:91:ILE:HG22	2:B:93:VAL:H	1.82	0.44
3:C:57:MET:O	3:C:57:MET:CG	2.64	0.44
2:B:95:MET:N	2:B:96:PRO:CD	2.81	0.44
3:C:154:SER:HA	3:C:155:PRO:HD3	1.80	0.44
2:B:57:GLY:HA3	4:D:21:UNK:N	2.33	0.44
3:C:193:THR:O	3:C:195:PRO:HD3	2.17	0.44
3:C:213:VAL:HG22	3:C:214:GLN:O	2.18	0.44
1:A:67:THR:HG22	1:A:68:ASN:N	2.33	0.44
2:B:12:LEU:HD12	2:B:13:GLN:H	1.82	0.44
2:B:80:PRO:CA	2:B:241:ARG:HG2	2.48	0.44
2:B:150:THR:HG22	2:B:196:THR:HG23	2.00	0.44
3:C:207:THR:O	3:C:208:GLY:O	2.35	0.44
1:A:28:LEU:HD23	1:A:34:GLU:O	2.18	0.44
1:A:46:PHE:CE2	1:A:95:LYS:HG3	2.53	0.44
2:B:247:MET:HE2	2:B:247:MET:HA	1.98	0.44
3:C:253:TYR:CD1	3:C:254:ARG:HG3	2.52	0.44
2:B:142:THR:CG2	3:C:148:ARG:NH2	2.81	0.43
1:A:7:THR:H	3:C:186:LEU:HD21	1.83	0.43
2:B:140:ARG:HH11	2:B:200:GLU:CD	2.21	0.43
2:B:156:PHE:CB	2:B:190:LYS:HB3	2.48	0.43
3:C:131:CYS:HB2	3:C:244:SER:O	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:26:VAL:CG1	3:C:27:GLU:N	2.81	0.43
1:A:136:VAL:HG13	1:A:137:ILE:HG23	2.00	0.43
3:C:60:THR:HG22	3:C:61:HIS:N	2.32	0.43
1:A:117:ARG:HG3	1:A:165:ASP:CG	2.38	0.43
2:B:90:VAL:HG21	2:B:178:LEU:CD1	2.48	0.43
2:B:179:THR:OG1	2:B:182:VAL:HG12	2.18	0.43
3:C:79:ILE:HG12	3:C:234:LYS:HG3	1.99	0.43
3:C:196:TYR:OH	3:C:202:ALA:C	2.57	0.43
4:D:38:UNK:O	4:D:39:UNK:CB	2.66	0.43
3:C:78:ILE:HD11	3:C:104:VAL:HG11	2.00	0.43
3:C:218:PHE:HA	3:C:219:PRO:HD3	1.77	0.43
3:C:143:PRO:O	3:C:185:GLN:NE2	2.52	0.43
4:D:29:UNK:O	4:D:30:UNK:C	2.66	0.43
2:B:222:ALA:HA	2:B:226:ASN:O	2.18	0.43
3:C:125:ASN:O	3:C:251:PRO:HA	2.19	0.43
3:C:195:PRO:O	3:C:196:TYR:C	2.57	0.43
3:C:236:ASP:C	3:C:237:ILE:HG13	2.39	0.43
3:C:237:ILE:CG2	3:C:238:SER:N	2.81	0.43
1:A:113:PHE:CD2	1:A:169:MET:HE2	2.54	0.42
3:C:35:HIS:HE1	3:C:251:PRO:CG	2.25	0.42
1:A:7:THR:H	3:C:186:LEU:HD22	1.84	0.42
2:B:209:SER:O	2:B:211:LYS:N	2.53	0.42
1:A:50:THR:HG23	1:A:50:THR:O	2.19	0.42
1:A:120:SER:OG	1:A:123:GLU:HG2	2.20	0.42
3:C:22:SER:OG	3:C:23:GLU:N	2.52	0.42
3:C:149:MET:HE3	3:C:219:PRO:HG3	2.02	0.42
1:A:115:MET:HE3	1:A:124:ILE:HG21	1.95	0.42
2:B:259:VAL:HG21	3:C:148:ARG:HD2	2.01	0.42
2:B:254:ASP:C	2:B:255:ASN:HD22	2.23	0.42
3:C:43:ILE:HD13	3:C:45:THR:CG2	2.50	0.42
3:C:205:LEU:HD11	3:C:248:LEU:HD11	2.00	0.42
1:A:27:VAL:HG12	2:B:213:PHE:CZ	2.55	0.42
3:C:43:ILE:O	3:C:43:ILE:HD12	2.20	0.42
1:A:198:GLN:NE2	3:C:170:SER:HB3	2.33	0.42
2:B:141:ILE:HG23	2:B:260:VAL:HG22	2.01	0.42
3:C:26:VAL:CG1	3:C:27:GLU:H	2.24	0.42
3:C:129:LEU:O	3:C:203:TYR:HB3	2.20	0.42
1:A:35:PHE:CE1	2:B:268:VAL:HG12	2.55	0.41
2:B:183:ALA:N	2:B:184:PRO:HD3	2.35	0.41
2:B:209:SER:O	2:B:210:ASN:C	2.58	0.41
1:A:193:MET:HE2	2:B:59:VAL:HG13	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:204:ASP:HB3	3:C:208:GLY:HA3	2.00	0.41
3:C:114:LEU:HD22	3:C:123:LEU:HD21	2.02	0.41
1:A:204:ARG:HH22	2:B:223:ASN:HD22	1.68	0.41
3:C:142:ASN:HB2	3:C:143:PRO:CD	2.51	0.41
1:A:30:LYS:HB2	2:B:212:MET:HE1	2.02	0.41
3:C:26:VAL:HG21	3:C:42:ARG:HH11	1.85	0.41
3:C:130:ARG:HB2	3:C:247:SER:HB2	2.02	0.41
1:A:100:THR:OG1	1:A:177:THR:N	2.52	0.41
2:B:156:PHE:CE2	2:B:239:CYS:HB3	2.56	0.41
3:C:150:TYR:HB2	3:C:220:ILE:CD1	2.49	0.41
2:B:209:SER:C	2:B:211:LYS:N	2.73	0.41
3:C:235:VAL:HG12	3:C:236:ASP:O	2.21	0.41
1:A:93:ARG:CG	1:A:144:GLU:HG3	2.50	0.41
2:B:241:ARG:HA	2:B:242:PRO:HD3	1.94	0.41
3:C:54:ALA:O	3:C:55:ARG:CZ	2.68	0.41
3:C:139:LEU:CD2	3:C:184:PHE:HA	2.51	0.41
1:A:7:THR:CG2	1:A:8:ASN:H	2.32	0.41
1:A:8:ASN:O	1:A:9:GLU:CB	2.69	0.41
1:A:24:ASN:HD22	1:A:24:ASN:N	2.18	0.41
2:B:35:ASP:HA	2:B:36:PRO:HD3	1.92	0.41
2:B:154:GLU:HB3	2:B:241:ARG:O	2.21	0.41
2:B:161:VAL:HG13	2:B:231:HIS:ND1	2.36	0.41
2:B:219:ILE:HG13	2:B:219:ILE:O	2.21	0.41
3:C:17:LEU:HD12	3:C:17:LEU:C	2.41	0.41
3:C:67:LEU:HB2	3:C:246:ILE:CD1	2.50	0.41
1:A:8:ASN:O	1:A:9:GLU:HB2	2.21	0.41
1:A:115:MET:HB3	1:A:167:SER:OG	2.21	0.41
2:B:92:PRO:HG2	2:B:98:TYR:HB2	2.02	0.41
3:C:151:LEU:O	3:C:152:ALA:CB	2.66	0.41
3:C:156:TYR:CE2	3:C:212:PHE:HD2	2.28	0.41
1:A:203:THR:HA	2:B:114:GLU:O	2.21	0.40
1:A:89:ARG:HG3	1:A:152:ARG:O	2.22	0.40
2:B:68:VAL:HG13	3:C:221:THR:HG22	2.02	0.40
2:B:144:VAL:HG13	3:C:183:ASP:OD2	2.21	0.40
3:C:170:SER:O	3:C:174:VAL:HG23	2.21	0.40
1:A:76:ASP:OD2	1:A:79:SER:HB3	2.21	0.40
3:C:153:TYR:CB	3:C:215:LEU:HD13	2.51	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	201/203 (99%)	167 (83%)	33 (16%)	1 (0%)	29	67
2	B	298/300 (99%)	253 (85%)	44 (15%)	1 (0%)	41	75
3	C	241/243 (99%)	178 (74%)	57 (24%)	6 (2%)	5	35
All	All	740/746 (99%)	598 (81%)	134 (18%)	8 (1%)	14	51

All (8) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
2	B	83	ASN
3	C	25	SER
3	C	40	PRO
3	C	74	ASP
3	C	51	THR
3	C	152	ALA
1	A	115	MET
3	C	42	ARG

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	185/185 (100%)	181 (98%)	4 (2%)	52	71
2	B	262/262 (100%)	260 (99%)	2 (1%)	81	89
3	C	218/218 (100%)	209 (96%)	9 (4%)	30	57

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
All	All	665/665 (100%)	650 (98%)	15 (2%)	50 70

All (15) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	67	THR
1	A	114	LEU
1	A	119	TYR
1	A	192	TRP
2	B	23	TYR
2	B	210	ASN
3	C	16	GLU
3	C	40	PRO
3	C	53	SER
3	C	55	ARG
3	C	73	ILE
3	C	188	ASN
3	C	201	GLU
3	C	209	THR
3	C	258	ASP

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (21) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	10	ASN
1	A	24	ASN
1	A	52	ASN
1	A	68	ASN
1	A	131	HIS
1	A	141	HIS
1	A	198	GLN
1	A	200	GLN
2	B	13	GLN
2	B	175	GLN
2	B	187	ASN
2	B	229	ASN
2	B	255	ASN
2	B	281	GLN
3	C	35	HIS
3	C	87	ASN
3	C	97	GLN

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Mol	Chain	Res	Type
3	C	134	GLN
3	C	185	GLN
3	C	188	ASN
3	C	256	ASN

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 monosaccharides 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 (i)

6.1 Protein, DNA and RNA chains (i)

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

6.2 Non-standard residues in protein, DNA, RNA chains (i)

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

6.3 Carbohydrates (i)

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

6.4 Ligands (i)

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

6.5 Other polymers (i)

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