Full wwPDB X-ray Structure Validation Report ⓘ

Feb 6, 2024 – 03:49 PM EST

PDB ID	:	2FV2
Title	:	Crystal Structure Analysis of human Rcd-1 conserved region
Authors	:	Garces, R.G.; Gillon, W.; Pai, E.F.
Deposited on	:	2006-01-28
Resolution	:	2.20 Å(reported)

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

We welcome your comments at *validation@mail.wwpdb.org*
A user guide is available at
https://www.wwpdb.org/validation/2017/XrayValidationReportHelp
with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at
http://www.wwpdb.org/validation/2017/FAQs#types.

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

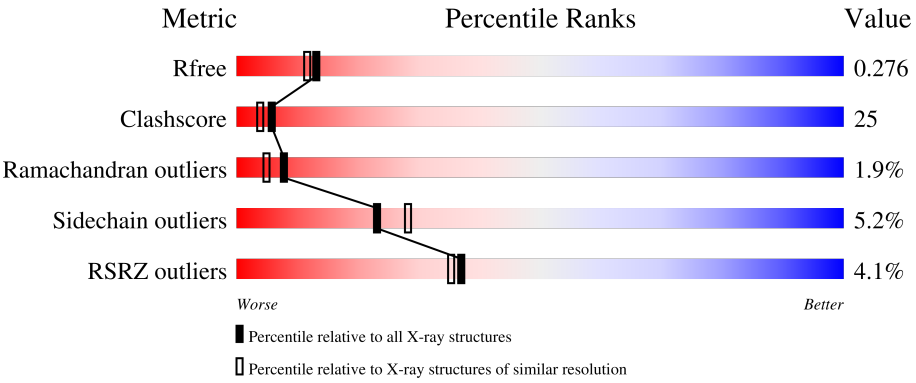
MolProbity	:	4.02b-467
Xtriage (Phenix)	:	1.13
EDS	:	2.36
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac	:	5.8.0158
CCP4	:	7.0.044 (Gargrove)
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.36

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 2.20 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	4898 (2.20-2.20)
Clashscore	141614	5594 (2.20-2.20)
Ramachandran outliers	138981	5503 (2.20-2.20)
Sidechain outliers	138945	5504 (2.20-2.20)
RSRZ outliers	127900	4800 (2.20-2.20)

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% 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	268	3% 68% 28% ·
1	B	268	2% 63% 34% · ·
1	C	268	8% 46% 49% 5%
1	D	268	3% 65% 32% ·

2 Entry composition (i)

There are 3 unique types of molecules in this entry. The entry contains 9211 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 RCD1 required for cell differentiation1 homolog.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	267	Total	C	N	O	S	0	0	0
			2136	1369	368	389	10			
1	B	266	Total	C	N	O	S	0	0	0
			2125	1363	364	388	10			
1	C	268	Total	C	N	O	S	0	0	0
			2144	1373	369	392	10			
1	D	268	Total	C	N	O	S	0	0	0
			2144	1373	369	392	10			

- Molecule 2 is MANGANESE (II) ION (three-letter code: MN) (formula: Mn).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
2	A	1	Total	Mn	0	0
			1	1		

- Molecule 3 is water.

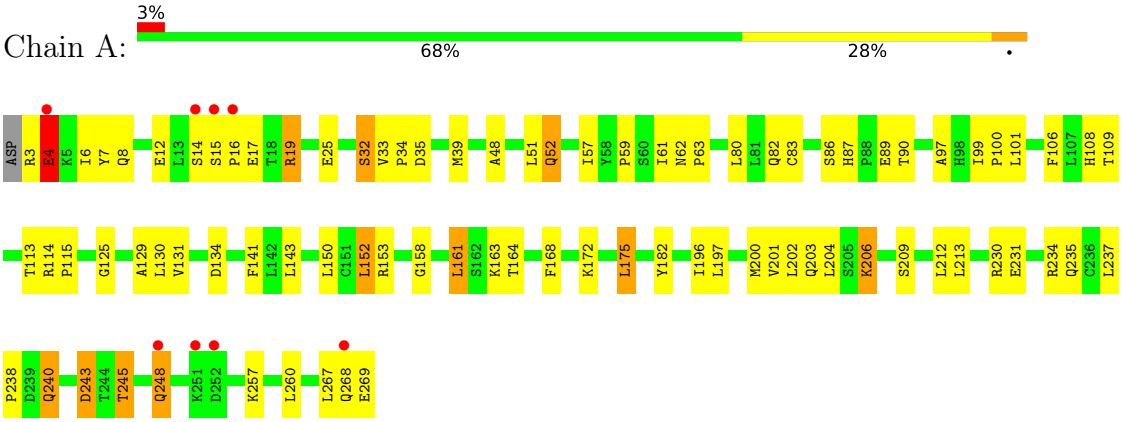
Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
3	A	181	Total	O	0	0
			181	181		
3	B	155	Total	O	0	0
			155	155		
3	C	152	Total	O	0	0
			152	152		
3	D	173	Total	O	0	0
			173	173		

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 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.

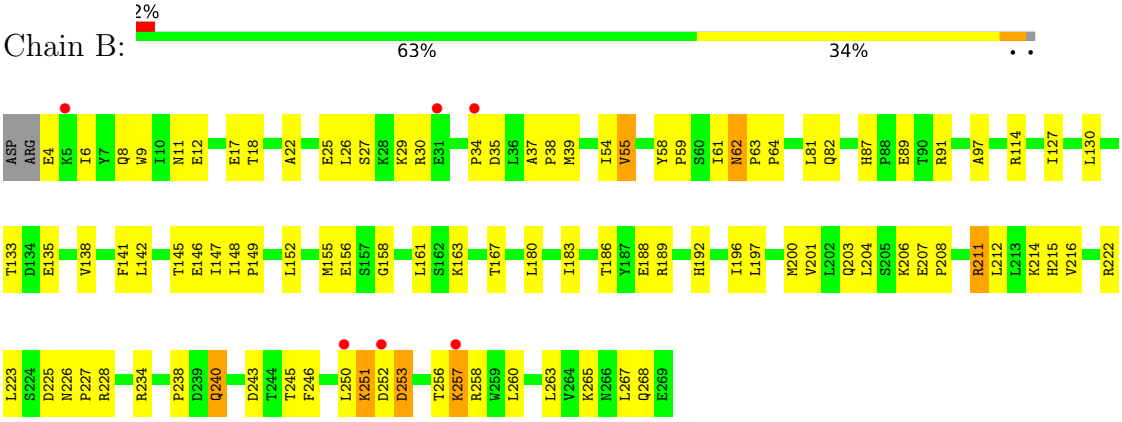
• Molecule 1: RCD1 required for cell differentiation1 homolog

Chain A:



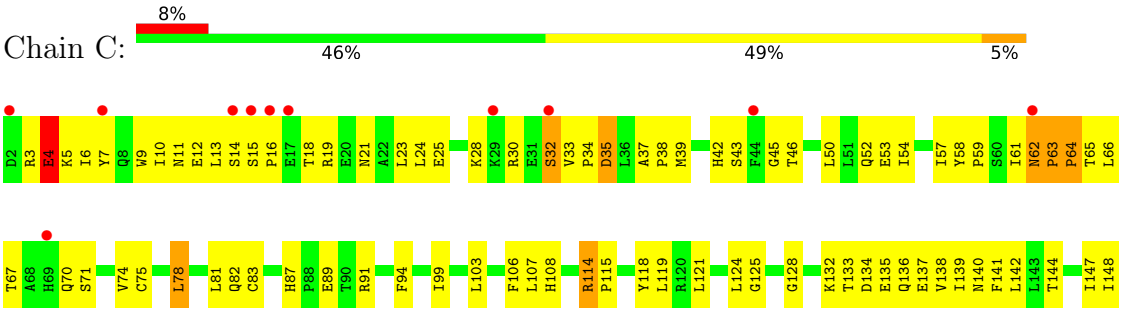
• Molecule 1: RCD1 required for cell differentiation1 homolog

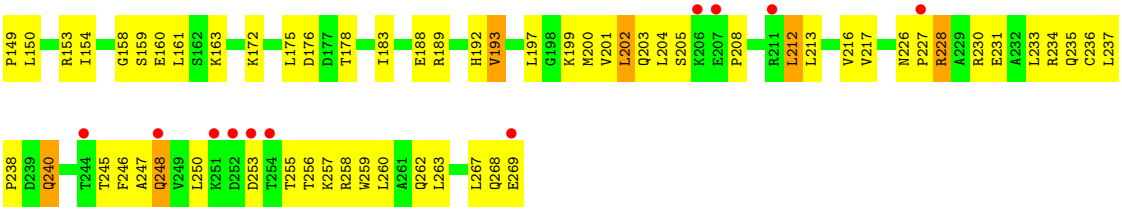
Chain B:



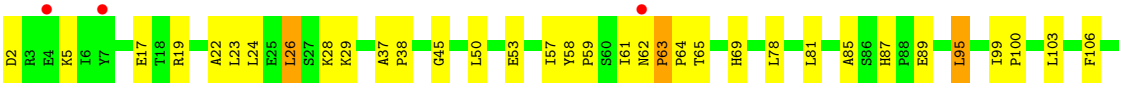
• Molecule 1: RCD1 required for cell differentiation1 homolog

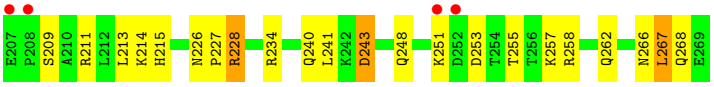
Chain C:





• Molecule 1: RCD1 required for cell differentiation1 homolog





4 Data and refinement statistics (i)

Property	Value	Source
Space group	P 1	Depositor
Cell constants a, b, c, α, β, γ	68.51Å 68.96Å 69.36Å 94.16° 117.26° 91.91°	Depositor
Resolution (Å)	27.26 – 2.20 27.26 – 2.20	Depositor EDS
% Data completeness (in resolution range)	91.0 (27.26-2.20) 91.1 (27.26-2.20)	Depositor EDS
R_{merge}	0.04	Depositor
R_{sym}	0.03	Depositor
$< I/\sigma(I) >$ [1]	7.31 (at 2.20Å)	Xtriage
Refinement program	CNS 1.1	Depositor
R, R_{free}	0.217 , 0.279 0.215 , 0.276	Depositor DCC
R_{free} test set	4247 reflections (7.84%)	wwPDB-VP
Wilson B-factor (Å^2)	21.7	Xtriage
Anisotropy	0.341	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.37 , 60.3	EDS
L-test for twinning[2]	$< \|L\| > = 0.50$, $< L^2 > = 0.33$	Xtriage
Estimated twinning fraction	0.012 for -l,-k,-h	Xtriage
F_o,F_c correlation	0.92	EDS
Total number of atoms	9211	wwPDB-VP
Average B, all atoms (Å^2)	29.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 5.55% 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

5.1 Standard geometry

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

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	0.34	0/2178	0.56	0/2958
1	B	0.33	0/2167	0.57	0/2944
1	C	0.33	0/2186	0.57	0/2969
1	D	0.34	0/2186	0.57	0/2969
All	All	0.34	0/8717	0.57	0/11840

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	2136	0	2210	87	0
1	B	2125	0	2197	105	0
1	C	2144	0	2214	150	0
1	D	2144	0	2214	104	0
2	A	1	0	0	0	0
3	A	181	0	0	16	0
3	B	155	0	0	13	0
3	C	152	0	0	19	0
3	D	173	0	0	14	0
All	All	9211	0	8835	439	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 25.

All (439) 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:62:ASN:HB2	1:D:63:PRO:HD3	1.16	1.14
1:D:248:GLN:HE22	1:D:251:LYS:NZ	1.48	1.10
1:D:251:LYS:NZ	3:D:428:HOH:O	1.83	1.09
1:C:62:ASN:HB3	1:C:63:PRO:HD3	1.42	1.01
1:D:248:GLN:NE2	1:D:251:LYS:CE	2.25	0.99
1:C:4:GLU:HG2	1:C:5:LYS:H	1.30	0.97
1:A:240:GLN:H	1:A:240:GLN:NE2	1.65	0.94
1:A:240:GLN:H	1:A:240:GLN:HE21	1.10	0.94
1:D:148:ILE:HD13	1:D:183:ILE:HD11	1.47	0.93
1:D:248:GLN:NE2	1:D:251:LYS:NZ	2.19	0.90
1:D:197:LEU:HD23	1:D:200:MET:HE1	1.52	0.89
1:A:4:GLU:HG3	3:A:1043:HOH:O	1.72	0.89
1:A:248:GLN:HG3	3:A:1004:HOH:O	1.77	0.85
1:C:37:ALA:HB3	1:C:38:PRO:HD3	1.58	0.84
1:C:237:LEU:HD12	1:C:238:PRO:HD2	1.60	0.84
1:D:62:ASN:HB2	1:D:63:PRO:CD	2.04	0.81
1:D:62:ASN:CB	1:D:63:PRO:HD3	2.06	0.81
1:C:78:LEU:HD11	1:C:103:LEU:CD2	2.11	0.81
1:B:180:LEU:HG	3:B:403:HOH:O	1.80	0.81
1:C:78:LEU:HD11	1:C:103:LEU:HD21	1.63	0.81
1:D:251:LYS:NZ	3:D:348:HOH:O	2.02	0.81
1:B:188:GLU:HG3	1:B:189:ARG:N	1.94	0.81
1:D:248:GLN:NE2	1:D:251:LYS:HE3	1.95	0.80
1:B:148:ILE:HD13	1:B:183:ILE:HD11	1.62	0.80
1:C:255:THR:HA	1:C:258:ARG:HH12	1.44	0.80
1:C:57:ILE:HG22	1:C:61:ILE:HD13	1.64	0.79
1:A:204:LEU:N	3:A:1012:HOH:O	2.15	0.78
1:C:3:ARG:HG3	1:C:3:ARG:HH11	1.49	0.78
1:B:87:HIS:HD2	1:B:89:GLU:H	1.32	0.78
1:A:201:VAL:C	3:A:1012:HOH:O	2.21	0.78
1:A:234:ARG:HE	1:A:268:GLN:HA	1.47	0.77
1:B:180:LEU:HD21	1:B:226:ASN:HB2	1.66	0.77
1:C:248:GLN:CD	1:C:248:GLN:H	1.88	0.77
1:B:37:ALA:HB3	1:B:38:PRO:HD3	1.66	0.77
1:A:16:PRO:HG3	1:A:19:ARG:HH12	1.50	0.76
1:A:237:LEU:HD22	1:A:267:LEU:HD11	1.67	0.74
1:C:87:HIS:HD2	1:C:89:GLU:H	1.33	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:248:GLN:NE2	1:D:251:LYS:HZ1	1.84	0.74
1:A:89:GLU:HG3	3:A:1073:HOH:O	1.86	0.74
1:D:196:ILE:HG22	1:D:200:MET:HE2	1.69	0.74
1:C:62:ASN:HB3	1:C:63:PRO:CD	2.17	0.73
1:A:234:ARG:HE	1:A:268:GLN:CA	2.01	0.73
1:A:153:ARG:HD3	3:A:1003:HOH:O	1.88	0.73
1:C:35:ASP:O	1:C:38:PRO:HD2	1.89	0.73
1:D:197:LEU:HA	1:D:200:MET:HE3	1.70	0.73
1:B:156:GLU:OE1	1:B:196:ILE:HD12	1.89	0.72
1:D:248:GLN:HE22	1:D:251:LYS:CE	1.92	0.72
1:D:251:LYS:CE	3:D:348:HOH:O	2.36	0.72
1:B:258:ARG:NH1	1:B:258:ARG:HB2	2.04	0.72
1:A:240:GLN:HE21	1:A:240:GLN:N	1.87	0.72
1:C:148:ILE:HB	1:C:149:PRO:HD3	1.70	0.72
1:D:248:GLN:HE22	1:D:251:LYS:HZ1	1.34	0.72
1:B:258:ARG:HB2	1:B:258:ARG:HH11	1.53	0.71
1:C:250:LEU:HB2	3:C:389:HOH:O	1.88	0.71
1:C:75:CYS:HB3	3:C:374:HOH:O	1.91	0.71
1:A:269:GLU:HG3	3:D:429:HOH:O	1.90	0.70
1:C:148:ILE:HD12	1:C:183:ILE:HD11	1.74	0.70
1:B:188:GLU:CG	1:B:189:ARG:H	2.05	0.69
1:A:152:LEU:HG	1:A:196:ILE:HD12	1.74	0.69
1:B:146:GLU:O	1:B:149:PRO:HD2	1.93	0.69
1:C:66:LEU:HD11	1:C:71:SER:HB2	1.75	0.69
1:D:211:ARG:HE	1:D:214:LYS:NZ	1.91	0.69
1:A:268:GLN:HB2	3:A:1041:HOH:O	1.92	0.68
1:B:188:GLU:CG	1:B:189:ARG:N	2.56	0.68
1:D:199:LYS:HG2	1:D:203:GLN:HE21	1.59	0.68
1:A:35:ASP:O	1:A:39:MET:HG3	1.93	0.68
1:C:3:ARG:NH2	1:C:6:ILE:HG23	2.09	0.68
1:B:240:GLN:H	1:B:240:GLN:NE2	1.92	0.67
1:C:197:LEU:O	1:C:201:VAL:HG23	1.93	0.67
1:B:148:ILE:O	1:B:152:LEU:HD13	1.95	0.67
1:C:4:GLU:CG	1:C:5:LYS:H	1.98	0.67
1:D:251:LYS:HE2	3:D:348:HOH:O	1.94	0.67
1:B:55:VAL:HG13	3:B:410:HOH:O	1.94	0.67
1:C:188:GLU:HB3	3:C:382:HOH:O	1.94	0.67
1:A:257:LYS:HD2	1:A:257:LYS:O	1.94	0.67
1:C:240:GLN:CD	1:C:240:GLN:H	1.96	0.67
1:C:91:ARG:CZ	1:C:133:THR:HG21	2.25	0.66
1:C:246:PHE:HB3	3:C:389:HOH:O	1.94	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:186:THR:OG1	1:B:188:GLU:HG2	1.96	0.65
1:A:201:VAL:O	3:A:1012:HOH:O	2.15	0.65
1:B:257:LYS:NZ	1:B:257:LYS:HB3	2.11	0.65
1:B:228:ARG:NH1	3:B:393:HOH:O	2.24	0.65
1:C:233:LEU:HD23	1:C:236:CYS:SG	2.37	0.65
1:C:255:THR:HA	1:C:258:ARG:NH1	2.11	0.64
1:D:148:ILE:HD13	1:D:183:ILE:CD1	2.25	0.64
1:B:188:GLU:HG3	1:B:189:ARG:H	1.56	0.64
1:B:211:ARG:HG2	1:B:211:ARG:HH11	1.63	0.64
1:C:259:TRP:HA	1:C:262:GLN:OE1	1.98	0.64
1:B:257:LYS:HB3	1:B:257:LYS:HZ3	1.62	0.64
1:C:6:ILE:HA	1:C:9:TRP:CE3	2.33	0.64
1:C:16:PRO:HG3	1:C:19:ARG:HH22	1.62	0.64
1:C:30:ARG:HG3	1:C:83:CYS:SG	2.37	0.64
1:D:141:PHE:O	1:D:145:THR:HG23	1.98	0.64
1:D:227:PRO:O	1:D:228:ARG:HB2	1.97	0.64
1:B:240:GLN:HB2	1:B:246:PHE:CE2	2.33	0.63
1:D:87:HIS:HD2	1:D:89:GLU:H	1.46	0.63
1:B:114:ARG:HD3	3:B:408:HOH:O	1.98	0.63
1:B:201:VAL:HG21	1:B:238:PRO:HG2	1.80	0.63
1:B:145:THR:O	1:B:146:GLU:HB3	1.99	0.62
1:A:82:GLN:HE21	1:A:125:GLY:C	2.02	0.62
1:C:32:SER:O	1:C:34:PRO:HD3	2.00	0.62
1:C:245:THR:C	1:C:247:ALA:H	2.03	0.62
1:B:265:LYS:O	1:B:268:GLN:HG2	1.99	0.62
1:D:248:GLN:HE22	1:D:251:LYS:HZ2	1.43	0.61
1:A:150:LEU:HD23	1:A:153:ARG:HH21	1.65	0.61
1:C:24:LEU:CD2	1:C:28:LYS:HD2	2.30	0.61
1:C:189:ARG:O	1:C:193:VAL:HG12	2.01	0.61
1:C:192:HIS:HB3	3:C:336:HOH:O	1.99	0.61
1:D:160:GLU:O	1:D:164:THR:HG23	2.01	0.61
1:A:3:ARG:HD2	1:A:7:TYR:OH	2.00	0.60
1:B:240:GLN:HB2	1:B:246:PHE:HE2	1.66	0.60
1:A:234:ARG:HE	1:A:268:GLN:N	2.00	0.60
1:A:86:SER:HB3	1:A:129:ALA:HB1	1.83	0.60
1:D:248:GLN:NE2	1:D:251:LYS:CD	2.65	0.60
1:C:258:ARG:NH1	1:C:258:ARG:HB3	2.16	0.59
1:A:237:LEU:HD22	1:A:267:LEU:CD1	2.32	0.59
1:A:99:ILE:N	1:A:100:PRO:HD2	2.17	0.59
1:C:61:ILE:HD11	1:C:119:LEU:HD21	1.83	0.59
1:C:227:PRO:O	1:C:228:ARG:HB2	2.02	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:227:PRO:O	1:D:228:ARG:CB	2.51	0.59
1:B:152:LEU:HD23	1:B:192:HIS:CD2	2.36	0.59
1:D:85:ALA:HB1	1:D:130:LEU:CD1	2.32	0.59
1:D:255:THR:HA	1:D:258:ARG:NH1	2.18	0.59
1:C:62:ASN:O	1:C:64:PRO:N	2.36	0.58
1:C:159:SER:O	1:C:163:LYS:HG3	2.04	0.58
1:C:4:GLU:CG	1:C:5:LYS:N	2.67	0.58
1:D:248:GLN:NE2	1:D:251:LYS:HD2	2.19	0.58
1:C:200:MET:O	1:C:204:LEU:HD23	2.03	0.58
1:C:139:ILE:HD13	1:C:176:ASP:HB2	1.86	0.58
1:D:22:ALA:O	1:D:26:LEU:HB2	2.04	0.58
1:A:158:GLY:O	1:A:163:LYS:HE3	2.05	0.57
1:C:268:GLN:HE21	1:C:268:GLN:HA	1.70	0.57
1:B:180:LEU:HD12	1:B:222:ARG:CZ	2.35	0.56
1:A:6:ILE:HG12	3:A:1043:HOH:O	2.04	0.56
1:A:204:LEU:HD21	1:A:213:LEU:HA	1.87	0.56
1:D:248:GLN:CD	1:D:251:LYS:HZ1	2.06	0.56
1:C:258:ARG:HB3	1:C:258:ARG:HH11	1.71	0.56
1:B:265:LYS:HG3	1:B:268:GLN:OE1	2.06	0.56
1:D:159:SER:O	1:D:163:LYS:HG3	2.06	0.56
1:A:62:ASN:HA	1:A:63:PRO:C	2.26	0.56
1:D:148:ILE:HB	1:D:149:PRO:HD3	1.88	0.56
1:B:145:THR:O	1:B:146:GLU:CB	2.54	0.56
1:D:61:ILE:O	1:D:62:ASN:C	2.44	0.56
1:B:180:LEU:O	1:B:180:LEU:HD23	2.06	0.55
1:C:142:LEU:HB3	1:C:147:ILE:HG21	1.89	0.55
1:B:8:GLN:O	1:B:12:GLU:HG3	2.06	0.55
1:C:6:ILE:HA	1:C:9:TRP:HE3	1.72	0.55
1:D:156:GLU:O	1:D:199:LYS:HE2	2.07	0.55
1:B:133:THR:OG1	1:B:135:GLU:HG2	2.07	0.55
1:D:240:GLN:HA	1:D:243:ASP:OD1	2.07	0.55
1:A:87:HIS:HB3	1:A:90:THR:OG1	2.07	0.55
1:B:192:HIS:O	1:B:196:ILE:HG12	2.07	0.55
1:C:161:LEU:HD13	3:C:385:HOH:O	2.06	0.55
1:A:97:ALA:HB1	1:A:99:ILE:HD11	1.89	0.54
1:C:199:LYS:HG3	3:C:366:HOH:O	2.07	0.54
1:D:124:LEU:HD11	1:D:154:ILE:HD13	1.89	0.54
1:C:52:GLN:NE2	1:D:145:THR:O	2.39	0.54
1:C:87:HIS:CD2	1:C:89:GLU:H	2.21	0.54
1:A:203:GLN:O	1:A:206:LYS:HG2	2.08	0.54
1:D:204:LEU:HD23	1:D:213:LEU:HD13	1.90	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:234:ARG:HG3	1:D:267:LEU:O	2.08	0.54
1:D:133:THR:HB	1:D:135:GLU:HG2	1.88	0.54
1:C:118:TYR:HD2	3:C:388:HOH:O	1.89	0.54
1:C:50:LEU:O	1:C:54:ILE:HD13	2.08	0.54
1:C:63:PRO:O	1:C:65:THR:N	2.42	0.53
1:C:176:ASP:OD2	1:C:178:THR:HB	2.08	0.53
1:D:63:PRO:O	1:D:65:THR:HG23	2.07	0.53
1:C:12:GLU:HB2	1:C:18:THR:OG1	2.08	0.53
1:A:87:HIS:HD2	1:A:89:GLU:HB3	1.72	0.53
1:C:46:THR:HB	3:C:352:HOH:O	2.09	0.53
1:C:128:GLY:O	1:C:132:LYS:HG3	2.09	0.53
1:C:141:PHE:O	1:C:144:THR:HG22	2.08	0.53
1:D:95:LEU:HD23	1:D:137:GLU:HG2	1.91	0.53
1:B:253:ASP:HB3	1:B:256:THR:HB	1.90	0.53
1:C:6:ILE:HD12	1:C:33:VAL:HG11	1.90	0.53
1:D:87:HIS:CD2	1:D:89:GLU:HB3	2.43	0.53
1:C:34:PRO:HG2	1:C:35:ASP:OD1	2.09	0.53
1:C:61:ILE:CG2	1:C:62:ASN:N	2.71	0.53
1:A:203:GLN:HA	1:A:206:LYS:HD3	1.91	0.53
1:A:243:ASP:HB2	1:A:245:THR:CG2	2.39	0.53
1:B:180:LEU:HD23	1:B:180:LEU:C	2.30	0.52
1:B:200:MET:O	1:B:204:LEU:HB2	2.08	0.52
1:B:228:ARG:NH2	3:B:414:HOH:O	2.41	0.52
1:C:3:ARG:HH21	1:C:6:ILE:HG23	1.72	0.52
1:D:199:LYS:HE3	1:D:203:GLN:NE2	2.24	0.52
1:A:202:LEU:O	1:A:206:LYS:HD2	2.09	0.52
1:A:51:LEU:HD21	1:A:99:ILE:HG23	1.91	0.52
1:D:214:LYS:HE2	3:D:390:HOH:O	2.10	0.52
1:A:3:ARG:NH2	1:A:35:ASP:OD1	2.40	0.52
1:A:87:HIS:CD2	1:A:89:GLU:HB3	2.45	0.52
1:B:135:GLU:HB2	1:B:138:VAL:HG23	1.91	0.52
1:C:15:SER:HB3	1:C:18:THR:OG1	2.09	0.52
1:C:248:GLN:H	1:C:248:GLN:NE2	2.06	0.52
1:D:145:THR:O	1:D:146:GLU:HB3	2.10	0.52
1:B:87:HIS:CD2	1:B:89:GLU:H	2.20	0.52
1:C:213:LEU:O	1:C:217:VAL:HG23	2.08	0.52
1:B:243:ASP:OD2	1:B:245:THR:HG23	2.10	0.52
1:C:212:LEU:O	1:C:216:VAL:HG23	2.09	0.52
1:C:35:ASP:HB2	1:C:39:MET:HE2	1.91	0.52
1:B:251:LYS:HE3	1:B:252:ASP:CA	2.40	0.52
1:D:85:ALA:HB1	1:D:130:LEU:HD11	1.91	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:87:HIS:CD2	1:D:89:GLU:H	2.27	0.52
1:A:234:ARG:HE	1:A:268:GLN:H	1.58	0.51
1:C:3:ARG:HG3	1:C:3:ARG:NH1	2.19	0.51
1:C:258:ARG:O	1:C:262:GLN:HG3	2.10	0.51
1:B:141:PHE:O	1:B:145:THR:HG23	2.11	0.51
1:C:6:ILE:O	1:C:10:ILE:HG13	2.10	0.51
1:D:196:ILE:HG22	1:D:200:MET:CE	2.38	0.51
1:C:24:LEU:O	1:C:28:LYS:HG3	2.10	0.51
1:C:59:PRO:O	1:D:62:ASN:ND2	2.38	0.51
1:D:63:PRO:HD2	3:D:290:HOH:O	2.09	0.51
1:A:204:LEU:CB	3:A:1012:HOH:O	2.58	0.51
1:C:133:THR:O	1:C:134:ASP:HB2	2.11	0.51
1:D:253:ASP:O	1:D:257:LYS:HB2	2.10	0.51
1:A:234:ARG:NE	1:A:268:GLN:H	2.08	0.51
1:C:63:PRO:HG2	1:D:62:ASN:CG	2.31	0.51
1:C:125:GLY:HA3	3:C:384:HOH:O	2.10	0.51
1:D:266:ASN:C	1:D:268:GLN:H	2.13	0.51
1:C:3:ARG:NH2	1:C:7:TYR:HD1	2.09	0.51
1:C:62:ASN:O	1:C:64:PRO:CD	2.58	0.51
1:D:37:ALA:HB3	1:D:38:PRO:CD	2.41	0.51
1:B:265:LYS:HA	1:B:268:GLN:CD	2.31	0.51
1:C:24:LEU:HD21	1:C:28:LYS:HD2	1.91	0.51
1:A:52:GLN:NE2	3:A:1066:HOH:O	2.44	0.50
1:A:204:LEU:HB3	3:A:1012:HOH:O	2.11	0.50
1:D:153:ARG:NH2	3:D:409:HOH:O	2.44	0.50
1:B:211:ARG:HG2	1:B:211:ARG:NH1	2.25	0.50
1:A:108:HIS:ND1	1:A:153:ARG:NH2	2.60	0.50
1:B:260:LEU:HD13	1:B:260:LEU:O	2.12	0.50
1:C:87:HIS:CD2	1:C:89:GLU:HB2	2.45	0.50
1:C:107:LEU:HD12	1:C:154:ILE:HD11	1.94	0.50
1:D:133:THR:CB	1:D:135:GLU:HG2	2.41	0.50
1:A:113:THR:HB	1:A:115:PRO:HD2	1.94	0.50
1:A:200:MET:O	1:A:204:LEU:HB2	2.10	0.50
1:B:9:TRP:HB2	1:B:26:LEU:HD21	1.94	0.50
1:A:131:VAL:O	1:A:172:LYS:HE2	2.12	0.50
1:B:4:GLU:N	3:B:396:HOH:O	2.44	0.50
1:D:171:GLN:O	1:D:175:LEU:HG	2.12	0.50
1:B:223:LEU:HD23	3:B:403:HOH:O	2.11	0.49
1:C:250:LEU:HD11	1:C:256:THR:HB	1.94	0.49
1:B:223:LEU:HA	3:B:403:HOH:O	2.12	0.49
1:C:4:GLU:HG2	1:C:5:LYS:N	2.11	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:226:ASN:OD1	1:C:228:ARG:HB3	2.13	0.49
1:B:82:GLN:NE2	3:B:360:HOH:O	2.41	0.49
1:B:158:GLY:O	1:B:163:LYS:HE3	2.13	0.49
1:C:228:ARG:NH2	3:C:396:HOH:O	2.44	0.49
1:A:61:ILE:HG23	1:A:109:THR:HG22	1.95	0.49
1:B:240:GLN:H	1:B:240:GLN:CD	2.11	0.49
1:C:66:LEU:CD1	1:C:71:SER:HB2	2.42	0.49
1:D:23:LEU:HD11	1:D:53:GLU:HG3	1.94	0.49
1:A:8:GLN:O	1:A:12:GLU:HG3	2.12	0.49
1:D:2:ASP:N	3:D:412:HOH:O	2.46	0.49
1:D:114:ARG:HB3	1:D:115:PRO:HD3	1.94	0.49
1:D:154:ILE:HG23	3:D:378:HOH:O	2.13	0.49
1:B:27:SER:O	1:B:30:ARG:NH1	2.46	0.48
1:D:17:GLU:HG3	3:D:367:HOH:O	2.12	0.48
1:B:146:GLU:O	1:B:146:GLU:HG2	2.13	0.48
1:C:35:ASP:HB2	1:C:39:MET:CE	2.44	0.48
1:C:57:ILE:CG2	1:C:61:ILE:HD13	2.40	0.48
1:B:201:VAL:HG12	1:B:216:VAL:HG11	1.95	0.48
1:B:148:ILE:HB	1:B:149:PRO:HD3	1.95	0.48
1:B:161:LEU:N	1:B:161:LEU:HD12	2.29	0.48
1:B:257:LYS:HG3	3:B:376:HOH:O	2.13	0.48
1:C:14:SER:O	1:C:16:PRO:HD3	2.12	0.48
1:C:153:ARG:NH2	3:C:305:HOH:O	2.45	0.48
1:A:196:ILE:O	1:A:200:MET:HG3	2.13	0.48
1:B:12:GLU:HB3	1:B:18:THR:HB	1.95	0.48
1:D:155:MET:O	1:D:163:LYS:HE3	2.13	0.48
1:A:80:LEU:O	1:A:83:CYS:HB3	2.13	0.48
1:C:132:LYS:HA	1:C:172:LYS:HE3	1.95	0.48
1:D:199:LYS:HE3	1:D:203:GLN:HE22	1.79	0.47
1:B:245:THR:O	1:B:246:PHE:HB2	2.14	0.47
1:C:78:LEU:CD1	1:C:103:LEU:HD21	2.40	0.47
1:C:58:TYR:N	1:C:59:PRO:HD2	2.30	0.47
1:D:240:GLN:CD	1:D:240:GLN:H	2.16	0.47
1:A:257:LYS:HD2	1:A:257:LYS:C	2.34	0.47
1:C:46:THR:CB	3:C:352:HOH:O	2.60	0.47
1:C:230:ARG:HD3	1:C:269:GLU:OE2	2.14	0.47
1:D:58:TYR:N	1:D:59:PRO:HD2	2.29	0.47
1:B:214:LYS:HG3	1:B:256:THR:OG1	2.15	0.47
1:C:3:ARG:HH11	1:C:3:ARG:CG	2.24	0.47
1:D:24:LEU:O	1:D:28:LYS:HG2	2.14	0.47
1:D:211:ARG:HE	1:D:214:LYS:HZ1	1.63	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:25:GLU:HA	1:A:25:GLU:OE2	2.15	0.47
1:B:180:LEU:HD22	3:B:308:HOH:O	2.14	0.47
1:C:144:THR:O	1:D:45:GLY:HA2	2.15	0.47
1:C:234:ARG:HD3	1:C:267:LEU:O	2.15	0.47
1:B:35:ASP:O	1:B:39:MET:HG3	2.15	0.47
1:C:94:PHE:CD1	1:C:99:ILE:HD12	2.50	0.46
1:C:106:PHE:CD1	1:C:119:LEU:HD11	2.50	0.46
1:D:99:ILE:N	1:D:100:PRO:HD2	2.31	0.46
1:C:245:THR:C	1:C:247:ALA:N	2.68	0.46
1:A:203:GLN:HA	1:A:206:LYS:CD	2.45	0.46
1:B:87:HIS:CD2	1:B:89:GLU:CB	2.99	0.46
1:B:222:ARG:O	1:B:225:ASP:HB2	2.14	0.46
1:C:6:ILE:CD1	1:C:33:VAL:HG11	2.45	0.46
1:C:160:GLU:HG3	3:C:347:HOH:O	2.16	0.46
1:C:238:PRO:HB2	1:C:240:GLN:HE21	1.80	0.46
1:C:240:GLN:H	1:C:240:GLN:NE2	2.14	0.46
1:C:30:ARG:HD2	3:C:419:HOH:O	2.16	0.46
1:D:197:LEU:HA	1:D:200:MET:CE	2.41	0.46
1:A:100:PRO:HG2	1:A:141:PHE:CE2	2.50	0.46
1:B:11:ASN:HB2	3:B:386:HOH:O	2.16	0.46
1:B:234:ARG:HD3	1:B:267:LEU:O	2.16	0.46
1:B:225:ASP:O	1:B:227:PRO:HD3	2.16	0.46
1:B:251:LYS:HE3	1:B:252:ASP:HA	1.96	0.46
1:A:57:ILE:HD11	1:A:106:PHE:CZ	2.51	0.46
1:D:211:ARG:HE	1:D:214:LYS:HZ3	1.62	0.46
1:C:19:ARG:O	1:C:23:LEU:HG	2.15	0.46
1:C:67:THR:OG1	1:C:70:GLN:HG3	2.15	0.45
1:D:226:ASN:HA	3:D:331:HOH:O	2.16	0.45
1:D:248:GLN:CD	1:D:251:LYS:HE3	2.37	0.45
1:C:16:PRO:HA	1:C:19:ARG:CZ	2.46	0.45
1:C:124:LEU:HD11	1:C:154:ILE:HD13	1.97	0.45
1:D:226:ASN:OD1	1:D:227:PRO:O	2.33	0.45
1:A:197:LEU:O	1:A:201:VAL:HG23	2.17	0.45
1:C:78:LEU:HD11	1:C:103:LEU:HD22	1.93	0.45
1:D:50:LEU:HB3	1:D:81:LEU:HD21	1.99	0.45
1:C:82:GLN:NE2	3:C:384:HOH:O	2.45	0.45
1:A:114:ARG:NH2	3:A:1063:HOH:O	2.26	0.45
1:C:234:ARG:HD3	1:C:269:GLU:O	2.16	0.45
1:B:146:GLU:C	1:B:149:PRO:HD2	2.36	0.45
1:C:108:HIS:CD2	1:C:150:LEU:HD21	2.52	0.45
1:D:192:HIS:O	1:D:196:ILE:HG12	2.16	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:142:LEU:HB3	1:B:147:ILE:HG21	1.99	0.44
1:C:37:ALA:HB3	1:C:38:PRO:CD	2.40	0.44
1:C:230:ARG:HD3	1:C:269:GLU:CD	2.38	0.44
1:D:202:LEU:HD11	1:D:206:LYS:NZ	2.32	0.44
1:D:171:GLN:NE2	1:D:215:HIS:ND1	2.65	0.44
1:B:246:PHE:O	1:B:250:LEU:N	2.48	0.44
1:C:78:LEU:HD12	1:C:78:LEU:HA	1.81	0.44
1:C:234:ARG:NH1	1:C:269:GLU:O	2.50	0.44
1:C:199:LYS:O	1:C:203:GLN:HG3	2.17	0.44
1:A:231:GLU:O	1:A:234:ARG:HB2	2.17	0.44
1:B:161:LEU:HD12	1:B:161:LEU:H	1.83	0.44
1:B:207:GLU:N	1:B:208:PRO:HD3	2.33	0.44
1:B:263:LEU:C	1:B:263:LEU:HD13	2.38	0.44
1:C:3:ARG:HH21	1:C:7:TYR:HD1	1.65	0.44
1:C:4:GLU:N	1:C:4:GLU:OE1	2.50	0.44
1:D:141:PHE:HD2	1:D:142:LEU:HD13	1.82	0.44
1:A:240:GLN:NE2	1:A:240:GLN:N	2.48	0.44
1:B:161:LEU:H	1:B:161:LEU:CD1	2.30	0.44
1:B:203:GLN:O	1:B:206:LYS:O	2.35	0.44
1:C:38:PRO:O	1:C:42:HIS:CD2	2.70	0.44
1:A:269:GLU:O	1:A:269:GLU:HG2	2.18	0.44
1:B:87:HIS:CD2	1:B:89:GLU:HB3	2.53	0.44
1:C:62:ASN:O	1:C:64:PRO:HD3	2.18	0.44
1:D:19:ARG:HD2	1:D:53:GLU:OE2	2.18	0.44
1:D:255:THR:O	1:D:258:ARG:HB3	2.18	0.44
1:B:35:ASP:C	1:B:38:PRO:HD2	2.37	0.44
1:D:197:LEU:CA	1:D:200:MET:HE3	2.45	0.44
1:A:52:GLN:OE1	1:B:145:THR:O	2.36	0.43
1:C:21:ASN:O	1:C:25:GLU:HG2	2.18	0.43
1:C:135:GLU:HB2	1:C:138:VAL:HG13	2.00	0.43
1:B:91:ARG:HD3	1:B:133:THR:HG21	2.00	0.43
1:C:13:LEU:O	1:C:19:ARG:HB3	2.18	0.43
1:C:158:GLY:N	1:C:163:LYS:HZ3	2.17	0.43
1:A:32:SER:O	1:A:34:PRO:N	2.51	0.43
1:A:230:ARG:O	1:A:234:ARG:HG3	2.18	0.43
1:B:58:TYR:N	1:B:59:PRO:CD	2.81	0.43
1:C:114:ARG:N	1:C:115:PRO:CD	2.80	0.43
1:C:250:LEU:HD21	1:C:257:LYS:HA	2.00	0.43
1:D:202:LEU:CD1	1:D:206:LYS:NZ	2.82	0.43
1:A:204:LEU:HD13	1:A:212:LEU:HD12	2.00	0.43
1:D:100:PRO:HG2	1:D:141:PHE:CZ	2.54	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:16:PRO:HA	1:C:19:ARG:NH1	2.33	0.43
1:C:50:LEU:O	1:C:53:GLU:HB2	2.19	0.43
1:C:62:ASN:O	1:C:63:PRO:C	2.57	0.43
1:D:26:LEU:HD12	1:D:26:LEU:HA	1.89	0.43
1:B:257:LYS:NZ	1:B:257:LYS:CB	2.81	0.43
1:A:12:GLU:C	1:A:14:SER:H	2.22	0.43
1:C:267:LEU:C	1:C:269:GLU:N	2.72	0.43
1:D:202:LEU:HG	1:D:206:LYS:NZ	2.34	0.43
1:A:206:LYS:HA	3:A:954:HOH:O	2.18	0.42
1:B:22:ALA:O	1:B:26:LEU:HG	2.19	0.42
1:B:25:GLU:O	1:B:29:LYS:HB2	2.19	0.42
1:B:54:ILE:HD11	1:B:81:LEU:HD12	2.00	0.42
1:B:206:LYS:O	1:B:207:GLU:HB2	2.18	0.42
1:C:148:ILE:HB	1:C:149:PRO:CD	2.45	0.42
1:B:6:ILE:HD12	1:B:6:ILE:N	2.33	0.42
1:C:3:ARG:NH2	1:C:4:GLU:O	2.49	0.42
1:D:69:HIS:HE1	3:D:415:HOH:O	2.02	0.42
1:D:87:HIS:HD2	1:D:89:GLU:HB3	1.85	0.42
1:A:234:ARG:HD3	1:A:268:GLN:NE2	2.34	0.42
1:B:61:ILE:O	1:B:62:ASN:C	2.58	0.42
1:C:91:ARG:NE	1:C:133:THR:HG21	2.35	0.42
1:B:127:ILE:O	1:B:130:LEU:HB2	2.20	0.42
1:C:245:THR:O	1:C:247:ALA:N	2.53	0.42
1:A:15:SER:C	1:A:17:GLU:H	2.23	0.42
1:B:61:ILE:HG22	1:B:62:ASN:ND2	2.35	0.42
1:B:180:LEU:C	1:B:180:LEU:CD2	2.88	0.42
1:A:161:LEU:HD12	1:A:161:LEU:HA	1.84	0.42
1:B:155:MET:HG2	1:B:167:THR:OG1	2.19	0.42
1:C:234:ARG:HG2	1:C:267:LEU:HB3	2.02	0.42
1:D:257:LYS:HD3	3:D:291:HOH:O	2.19	0.42
1:C:188:GLU:CD	3:C:383:HOH:O	2.58	0.42
1:A:62:ASN:O	1:B:59:PRO:HA	2.20	0.41
1:B:253:ASP:O	1:B:257:LYS:HG2	2.19	0.41
1:A:114:ARG:N	1:A:115:PRO:CD	2.83	0.41
1:B:63:PRO:HA	1:B:64:PRO:HD3	1.87	0.41
1:B:167:THR:HG22	1:B:215:HIS:HB3	2.02	0.41
1:A:164:THR:HA	1:A:212:LEU:HD23	2.02	0.41
1:C:255:THR:CA	1:C:258:ARG:HH12	2.23	0.41
1:D:29:LYS:HB3	1:D:29:LYS:HE2	1.87	0.41
1:D:145:THR:O	1:D:146:GLU:CB	2.69	0.41
1:A:48:ALA:HB1	3:A:1066:HOH:O	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:143:LEU:HD22	1:A:182:TYR:CD2	2.55	0.41
1:D:103:LEU:O	1:D:106:PHE:HB2	2.20	0.41
1:A:237:LEU:HD12	1:A:238:PRO:HD2	2.01	0.41
1:C:43:SER:HB2	1:C:46:THR:OG1	2.20	0.41
1:C:71:SER:HA	1:C:74:VAL:HG12	2.03	0.41
1:C:202:LEU:O	1:C:205:SER:HB3	2.20	0.41
1:C:231:GLU:O	1:C:231:GLU:OE1	2.39	0.41
1:A:59:PRO:HG2	3:A:902:HOH:O	2.20	0.41
1:A:243:ASP:HB2	1:A:245:THR:HG23	2.02	0.41
1:B:197:LEU:O	1:B:201:VAL:HG13	2.20	0.41
1:B:201:VAL:HG21	1:B:238:PRO:CG	2.49	0.41
1:D:100:PRO:HG2	1:D:141:PHE:CE2	2.56	0.41
1:A:168:PHE:O	1:A:172:LYS:HG2	2.21	0.41
1:A:268:GLN:O	1:A:269:GLU:HB2	2.21	0.41
1:B:203:GLN:NE2	3:B:391:HOH:O	2.53	0.41
1:D:133:THR:OG1	1:D:135:GLU:HG2	2.21	0.41
1:D:158:GLY:O	1:D:163:LYS:HD2	2.21	0.41
1:A:62:ASN:CA	1:A:63:PRO:C	2.89	0.41
1:A:204:LEU:HD11	1:A:209:SER:HB3	2.02	0.41
1:B:206:LYS:HE2	1:B:206:LYS:HB3	1.94	0.41
1:C:136:GLN:HE21	1:C:140:ASN:ND2	2.19	0.41
1:C:139:ILE:CD1	1:C:176:ASP:HB2	2.50	0.41
1:D:5:LYS:HD3	1:D:5:LYS:HA	1.87	0.41
1:D:188:GLU:CD	1:D:188:GLU:H	2.24	0.41
1:B:54:ILE:HD11	1:B:81:LEU:CD1	2.51	0.40
1:A:97:ALA:O	1:B:97:ALA:HA	2.21	0.40
1:C:35:ASP:C	1:C:38:PRO:HD2	2.39	0.40
1:D:57:ILE:HD13	1:D:57:ILE:HA	1.91	0.40
1:A:99:ILE:N	1:A:100:PRO:CD	2.84	0.40
1:C:188:GLU:OE2	3:C:383:HOH:O	2.22	0.40
1:A:175:LEU:HA	1:A:175:LEU:HD12	1.79	0.40
1:C:45:GLY:HA2	3:C:291:HOH:O	2.22	0.40
1:D:258:ARG:HG2	1:D:262:GLN:HE21	1.87	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	265/268 (99%)	248 (94%)	13 (5%)	4 (2%)	10	8
1	B	264/268 (98%)	254 (96%)	8 (3%)	2 (1%)	19	19
1	C	266/268 (99%)	242 (91%)	16 (6%)	8 (3%)	4	2
1	D	266/268 (99%)	250 (94%)	10 (4%)	6 (2%)	6	3
All	All	1061/1072 (99%)	994 (94%)	47 (4%)	20 (2%)	8	5

All (20) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	4	GLU
1	A	32	SER
1	C	228	ARG
1	C	4	GLU
1	C	32	SER
1	C	64	PRO
1	D	209	SER
1	D	228	ARG
1	D	267	LEU
1	A	243	ASP
1	B	62	ASN
1	C	253	ASP
1	D	63	PRO
1	D	64	PRO
1	A	33	VAL
1	C	63	PRO
1	C	208	PRO
1	D	243	ASP
1	B	34	PRO
1	C	62	ASN

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	241/242 (100%)	226 (94%)	15 (6%)	18	21
1	B	240/242 (99%)	232 (97%)	8 (3%)	38	49
1	C	242/242 (100%)	225 (93%)	17 (7%)	15	16
1	D	242/242 (100%)	232 (96%)	10 (4%)	30	39
All	All	965/968 (100%)	915 (95%)	50 (5%)	23	28

All (50) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	4	GLU
1	A	19	ARG
1	A	52	GLN
1	A	101	LEU
1	A	130	LEU
1	A	134	ASP
1	A	152	LEU
1	A	161	LEU
1	A	175	LEU
1	A	206	LYS
1	A	235	GLN
1	A	240	GLN
1	A	245	THR
1	A	248	GLN
1	A	260	LEU
1	B	17	GLU
1	B	55	VAL
1	B	211	ARG
1	B	212	LEU
1	B	240	GLN
1	B	251	LYS
1	B	253	ASP
1	B	257	LYS
1	C	4	GLU

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Mol	Chain	Res	Type
1	C	11	ASN
1	C	35	ASP
1	C	78	LEU
1	C	81	LEU
1	C	114	ARG
1	C	121	LEU
1	C	137	GLU
1	C	175	LEU
1	C	193	VAL
1	C	202	LEU
1	C	212	LEU
1	C	235	GLN
1	C	240	GLN
1	C	248	GLN
1	C	260	LEU
1	C	263	LEU
1	D	26	LEU
1	D	78	LEU
1	D	95	LEU
1	D	138	VAL
1	D	142	LEU
1	D	161	LEU
1	D	172	LYS
1	D	180	LEU
1	D	204	LEU
1	D	241	LEU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (46) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	11	ASN
1	A	52	GLN
1	A	56	ASN
1	A	76	ASN
1	A	82	GLN
1	A	87	HIS
1	A	98	HIS
1	A	203	GLN
1	A	240	GLN
1	A	248	GLN
1	A	268	GLN
1	B	8	GLN

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Mol	Chain	Res	Type
1	B	56	ASN
1	B	82	GLN
1	B	87	HIS
1	B	192	HIS
1	B	235	GLN
1	B	240	GLN
1	B	262	GLN
1	B	266	ASN
1	C	8	GLN
1	C	11	ASN
1	C	42	HIS
1	C	56	ASN
1	C	82	GLN
1	C	87	HIS
1	C	108	HIS
1	C	171	GLN
1	C	235	GLN
1	C	240	GLN
1	C	248	GLN
1	C	268	GLN
1	D	8	GLN
1	D	11	ASN
1	D	52	GLN
1	D	56	ASN
1	D	82	GLN
1	D	87	HIS
1	D	98	HIS
1	D	171	GLN
1	D	185	GLN
1	D	203	GLN
1	D	248	GLN
1	D	262	GLN
1	D	266	ASN
1	D	268	GLN

5.3.3 RNA

There are no RNA molecules in this entry.

5.4 Non-standard residues in protein, DNA, RNA chains

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)

Of 1 ligands modelled in this entry, 1 is 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 (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, 95^{th} 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	267/268 (99%)	0.01	8 (2%)	50	48	11, 25, 45, 55	0
1	B	266/268 (99%)	0.16	6 (2%)	60	58	13, 28, 48, 57	0
1	C	268/268 (100%)	0.46	22 (8%)	11	10	13, 32, 54, 59	0
1	D	268/268 (100%)	0.11	8 (2%)	50	48	13, 26, 44, 59	0
All	All	1069/1072 (99%)	0.18	44 (4%)	37	35	11, 27, 49, 59	0

All (44) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	B	252	ASP	5.2
1	D	251	LYS	4.6
1	C	2	ASP	4.6
1	C	44	PHE	4.0
1	C	244	THR	3.9
1	D	252	ASP	3.7
1	A	4	GLU	3.7
1	C	254	THR	3.7
1	C	15	SER	3.6
1	C	252	ASP	3.5
1	C	14	SER	3.3
1	C	16	PRO	3.2
1	A	16	PRO	3.1
1	C	269	GLU	3.1
1	C	207	GLU	2.9
1	A	251	LYS	2.9
1	A	252	ASP	2.9
1	B	34	PRO	2.9
1	D	62	ASN	2.8
1	C	227	PRO	2.7
1	A	14	SER	2.7

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Mol	Chain	Res	Type	RSRZ
1	C	253	ASP	2.7
1	C	29	LYS	2.7
1	C	17	GLU	2.5
1	A	248	GLN	2.5
1	D	4	GLU	2.4
1	C	211	ARG	2.4
1	A	268	GLN	2.4
1	C	32	SER	2.4
1	D	7	TYR	2.3
1	C	62	ASN	2.3
1	D	207	GLU	2.3
1	B	257	LYS	2.2
1	C	7	TYR	2.2
1	C	251	LYS	2.1
1	B	5	LYS	2.1
1	B	250	LEU	2.1
1	C	206	LYS	2.1
1	D	206	LYS	2.1
1	B	31	GLU	2.0
1	C	248	GLN	2.0
1	D	208	PRO	2.0
1	C	69	HIS	2.0
1	A	15	SER	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 monosaccharides 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, 95^{th} 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.

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
2	MN	A	900	1/1	0.98	0.07	20,20,20,20	0

6.5 Other polymers (i)

There are no such residues in this entry.