Full wwPDB X-ray Structure Validation Report ⓘ

May 15, 2023 – 06:08 PM JST

PDB ID	:	8J8P
Title	:	Structure of the four-component Paf1 complex from Saccharomyces eubayanus
Authors	:	Wang, Z.; Qin, Y.; Zhou, Y.; Cao, Y.
Deposited on	:	2023-05-02
Resolution	:	2.70 Å(reported)

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

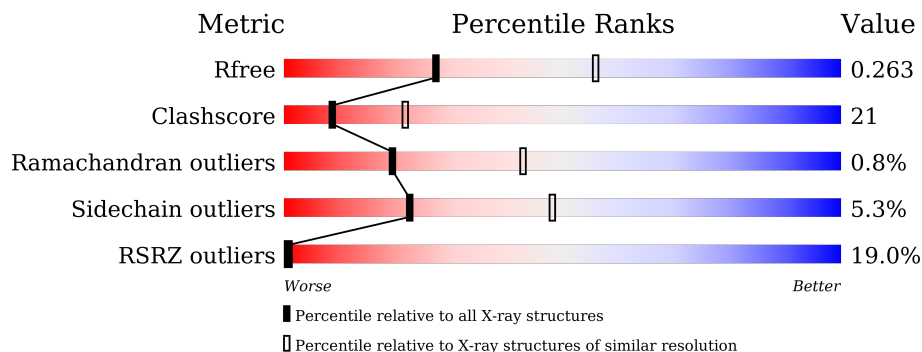|		
MolProbity	:	4.02b-467
Xtriage (Phenix)	:	1.13
EDS	:	2.32.2
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac	:	5.8.0158
CCP4	:	7.0.044 (Gargrove)
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.32.2

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 2.70 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	Percentile Ranks	Value
Rfree		0.263
Clashscore		21
Ramachandran outliers		0.8%
Sidechain outliers		5.3%
RSRZ outliers		19.0%

Worse ← → Better

▌ Percentile relative to all X-ray structures

▯ Percentile relative to X-ray structures of similar resolution

Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R$_{free}$	130704	2808 (2.70-2.70)
Clashscore	141614	3122 (2.70-2.70)
Ramachandran outliers	138981	3069 (2.70-2.70)
Sidechain outliers	138945	3069 (2.70-2.70)
RSRZ outliers	127900	2737 (2.70-2.70)

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% 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	C	908	20% / 69% / 27% / •
2	A	81	12% / 31% / 26% / • / 42%
3	P	111	10% / 63% / 18% / • / 18%
4	R	77	12% / 62% / 25% / • / 10%

2 Entry composition ⓘ

There are 5 unique types of molecules in this entry. The entry contains 9128 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 CTR9-like protein.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	C	906	Total	C	N	O	S	0	0	0
			7363	4694	1248	1399	22			

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
C	0	SER	-	expression tag	UNP A0A0L8RHL9

- Molecule 2 is a protein called CDC73-like protein.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
2	A	47	Total	C	N	O	S	0	0	0
			366	229	67	69	1			

- Molecule 3 is a protein called PAF1-like protein.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
3	P	91	Total	C	N	O	S	0	0	0
			726	464	120	140	2			

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
P	0	SER	-	expression tag	UNP A0A0L8RM45

- Molecule 4 is a protein called RTF1-like protein.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
4	R	69	Total	C	N	O	S	0	0	0
			594	373	107	112	2			

- Molecule 5 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
5	C	56	Total 56	O 56	0	0
5	P	18	Total 18	O 18	0	0
5	R	5	Total 5	O 5	0	0

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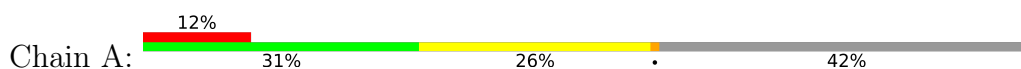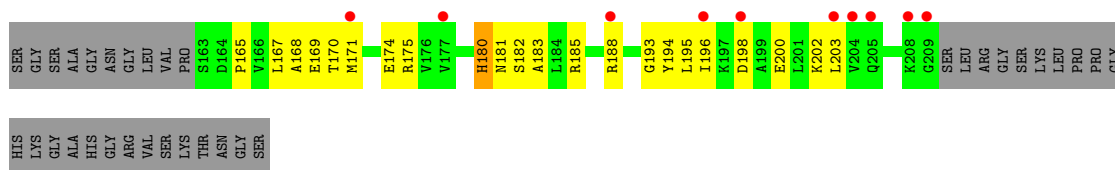
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and electron density.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

• Molecule 1: CTR9-like protein

Chain C:
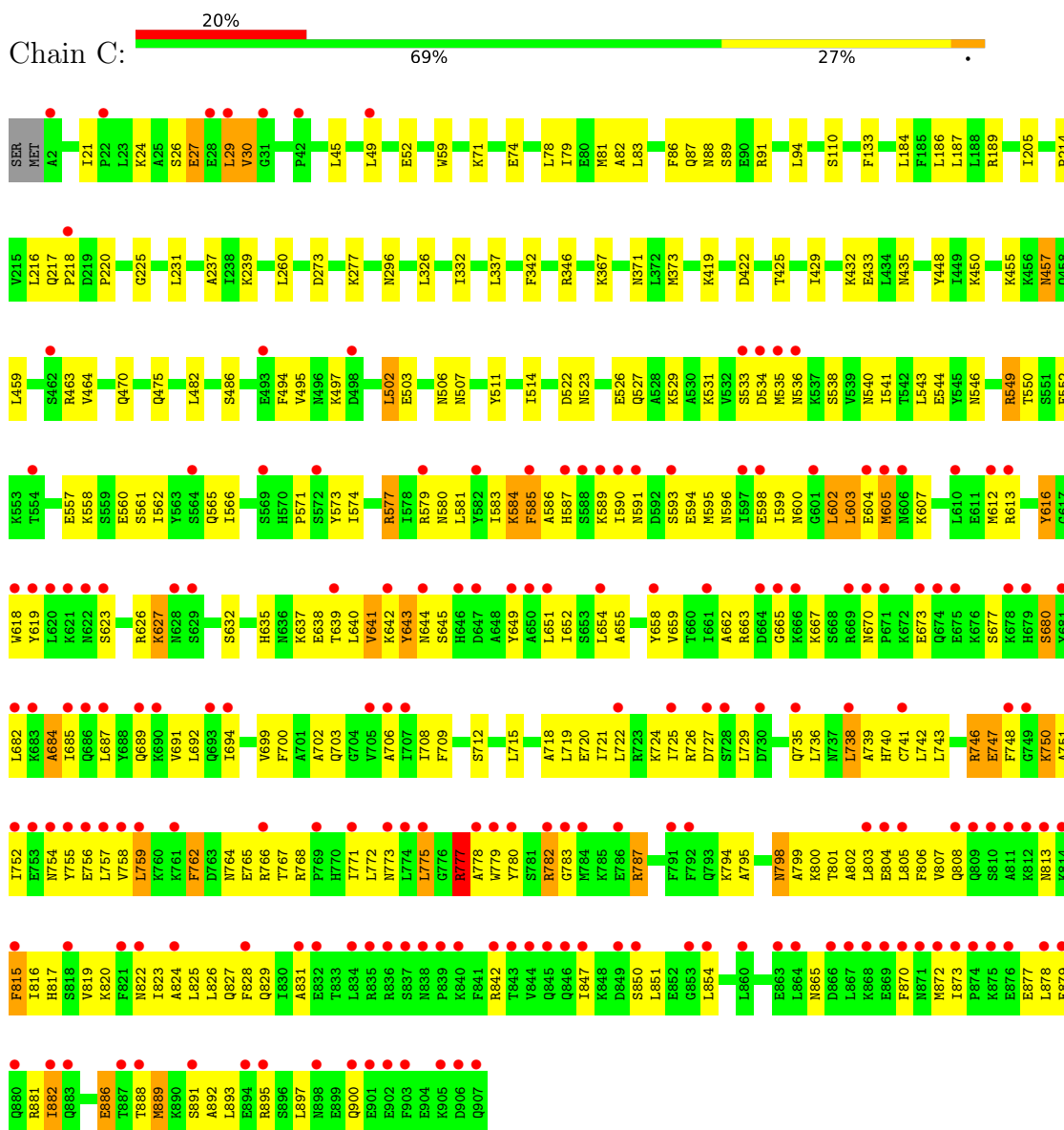
• Molecule 2: CDC73-like protein

Chain A:

SER GLY SER ALA GLY ASN GLY LEU VAL PRO **S163 D164 P165 V166 L167 A168 E169 T170 M171 E174 R175 V176 V177 H180 N181 S182 A183 L184 R185 R188 G193 Y194 L195 I196 K197 D198 A199 E200 L201 K202 L203 V204 Q205 K208 G209** SER LEU ARG SER LYS LEU PRO PRO GLY

HIS LYS GLY ALA HIS GLY ARG VAL SER LYS THR ASN GLY SER

• Molecule 3: PAF1-like protein

Chain P:

10%

63% 18% · 18%

SER MET SER LYS LYS GLN GLU TYR ILE ALA PRO ILE LYS TYR GLN ASN **S16 L17 P18 Q21 L22 E34 T35 N36 S45 L46 Y47 N51 I52 Q58 M64 P65 V66 D67 L68 M69 K70 F71 L74 S80 K81 L82 L83 V89 P102 R103 I104 D105 R106** LEU

THR LYS THR
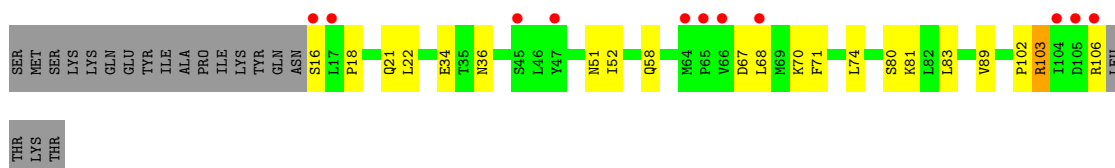
• Molecule 4: RTF1-like protein

Chain R:

12%

62% 25% · 10%

SER LYS SER ASP PRO PHE SER ARG **L502 Y509 I513 E528 K529 L530 Q531 E532 D533 R534 E535 T536 K537 E538 R539 N540 E541 L545 L546 A547 Q548 F549 R550 R551 L552 G553 G554 K565 F566 F570**
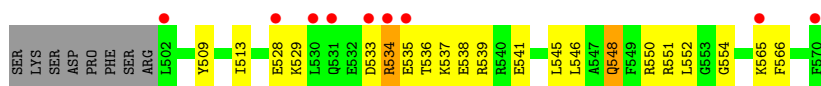
4 Data and refinement statistics (i)

Property	Value	Source
Space group	P 1 21 1	Depositor
Cell constants a, b, c, α, β, γ	71.78Å 88.48Å 127.78Å 90.00° 97.27° 90.00°	Depositor
Resolution (Å)	34.47 – 2.70 34.47 – 2.70	Depositor EDS
% Data completeness (in resolution range)	99.5 (34.47-2.70) 99.5 (34.47-2.70)	Depositor EDS
R_{merge}	0.07	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	2.30 (at 2.68Å)	Xtriage
Refinement program	PHENIX 1.13_2998	Depositor
R, R_{free}	0.225 , 0.263 0.225 , 0.263	Depositor DCC
R_{free} test set	2125 reflections (4.87%)	wwPDB-VP
Wilson B-factor (Å^2)	64.7	Xtriage
Anisotropy	0.548	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.32 , 74.7	EDS
L-test for twinning[2]	$< |L| > = 0.50$, $< L^2 > = 0.33$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o,F_c correlation	0.94	EDS
Total number of atoms	9128	wwPDB-VP
Average B, all atoms (Å^2)	91.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 6.17% of the height of the origin peak. No significant pseudotranslation is detected.*

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[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	C	0.40	0/7499	0.58	3/10111 (0.0%)
2	A	0.41	0/370	0.71	0/497
3	P	0.55	0/740	0.57	1/1006 (0.1%)
4	R	0.35	0/599	0.54	0/789
All	All	0.41	0/9208	0.58	4/12403 (0.0%)

Chiral center outliers are detected by calculating the chiral volume of a chiral center and verifying if the center is modelled as a planar moiety or with the opposite hand. A planarity outlier is detected by checking planarity of atoms in a peptide group, atoms in a mainchain group or atoms of a sidechain that are expected to be planar.

Mol	Chain	#Chirality outliers	#Planarity outliers
1	C	0	2

There are no bond length outliers.

All (4) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	C	603	LEU	CA-CB-CG	7.71	133.03	115.30
3	P	103	ARG	NE-CZ-NH1	-6.59	117.00	120.30
1	C	602	LEU	CA-CB-CG	6.21	129.59	115.30
1	C	759	LEU	CA-CB-CG	5.60	128.18	115.30

There are no chirality outliers.

All (2) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	C	775	LEU	Peptide
1	C	815	PHE	Peptide

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	C	7363	0	7426	332	0
2	A	366	0	377	21	0
3	P	726	0	746	22	0
4	R	594	0	610	23	0
5	C	56	0	0	1	0
5	P	18	0	0	2	0
5	R	5	0	0	0	0
All	All	9128	0	9159	375	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 21.

All (375) 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:C:613:ARG:HD2	1:C:616:TYR:CE1	1.36	1.55
1:C:613:ARG:CG	1:C:639:THR:HG22	1.54	1.36
1:C:613:ARG:CD	1:C:616:TYR:HE1	1.39	1.35
1:C:782:ARG:HB3	1:C:787:ARG:NH2	1.41	1.33
1:C:613:ARG:CG	1:C:639:THR:CG2	2.24	1.16
1:C:613:ARG:HG3	1:C:639:THR:CG2	1.82	1.09
1:C:613:ARG:CD	1:C:639:THR:HG22	1.86	1.05
1:C:435:ASN:ND2	1:C:475:GLN:HE22	1.53	1.04
1:C:613:ARG:HG2	1:C:639:THR:HG22	1.40	1.04
1:C:640:LEU:HD11	1:C:645:SER:OG	1.57	1.04
1:C:613:ARG:NE	1:C:639:THR:HG22	1.73	1.04
1:C:662:ALA:HB2	1:C:680:SER:OG	1.60	1.00
1:C:655:ALA:HB2	1:C:687:LEU:HD11	1.41	1.00
1:C:831:ALA:HB2	1:C:854:LEU:HD11	1.43	0.99
1:C:613:ARG:HG3	1:C:639:THR:HG21	1.44	0.95
1:C:782:ARG:CB	1:C:787:ARG:NH2	2.30	0.94
2:A:183:ALA:HB3	3:P:21:GLN:HE21	1.31	0.93
1:C:640:LEU:CD1	1:C:645:SER:OG	2.20	0.89
1:C:603:LEU:HD12	1:C:604:GLU:HB2	1.52	0.89
1:C:782:ARG:HG2	1:C:787:ARG:HD3	1.54	0.88

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:768:ARG:HH11	1:C:805:LEU:HD11	1.38	0.88
1:C:71:LYS:HE2	1:C:74:GLU:CD	1.95	0.86
1:C:579:ARG:O	1:C:583:ILE:CD1	2.24	0.84
1:C:892:ALA:HA	1:C:895:ARG:HE	1.42	0.84
1:C:482:LEU:HD12	1:C:511:TYR:HB3	1.60	0.84
1:C:782:ARG:HB3	1:C:787:ARG:HH21	1.41	0.84
1:C:762:PHE:CZ	1:C:768:ARG:HG3	2.13	0.83
1:C:735:GLN:HE22	1:C:757:LEU:HB3	1.41	0.83
1:C:435:ASN:HD21	1:C:475:GLN:HE22	1.26	0.83
1:C:526:GLU:HA	1:C:529:LYS:HG2	1.62	0.82
1:C:692:LEU:HD11	2:A:196:ILE:HB	1.59	0.81
1:C:735:GLN:NE2	1:C:757:LEU:HB3	1.94	0.81
1:C:854:LEU:HD13	1:C:893:LEU:HD21	1.61	0.81
4:R:534:ARG:HB2	4:R:536:THR:HG23	1.61	0.81
1:C:603:LEU:CD1	1:C:604:GLU:HB2	2.10	0.80
1:C:638:GLU:HA	1:C:641:VAL:HB	1.63	0.80
1:C:613:ARG:CD	1:C:616:TYR:CE1	2.30	0.80
1:C:783:GLY:CA	1:C:787:ARG:NH1	2.45	0.80
1:C:854:LEU:HD13	1:C:893:LEU:CD2	2.12	0.79
1:C:782:ARG:HB3	1:C:787:ARG:HH22	1.48	0.79
1:C:27:GLU:OE2	1:C:29:LEU:HD23	1.83	0.79
1:C:187:LEU:HD21	1:C:218:PRO:HG2	1.66	0.78
1:C:762:PHE:CD2	1:C:764:ASN:HB3	2.18	0.77
1:C:782:ARG:CD	1:C:787:ARG:HH21	1.97	0.77
1:C:699:VAL:HG13	1:C:725:ILE:HG13	1.65	0.77
1:C:435:ASN:ND2	1:C:475:GLN:NE2	2.32	0.76
1:C:579:ARG:O	1:C:583:ILE:HD12	1.84	0.76
1:C:613:ARG:NE	1:C:639:THR:CG2	2.47	0.76
1:C:663:ARG:O	1:C:663:ARG:NH1	2.18	0.75
1:C:184:LEU:HD23	3:P:83:LEU:HD22	1.69	0.74
1:C:649:TYR:H	2:A:181:ASN:HD21	1.32	0.74
1:C:638:GLU:O	1:C:641:VAL:CG1	2.36	0.73
1:C:764:ASN:OD1	1:C:765:GLU:N	2.21	0.73
1:C:640:LEU:O	1:C:641:VAL:HG12	1.87	0.73
1:C:783:GLY:HA3	1:C:787:ARG:NH1	2.02	0.73
1:C:470:GLN:HE21	2:A:175:ARG:HH12	1.35	0.73
1:C:83:LEU:O	1:C:91:ARG:NH2	2.21	0.73
1:C:803:LEU:HA	1:C:806:PHE:CE2	2.23	0.73
1:C:882:ILE:O	1:C:886:GLU:HB2	1.87	0.73
1:C:748:PHE:HB3	1:C:782:ARG:HG3	1.71	0.72
1:C:260:LEU:HB3	3:P:52:ILE:HD13	1.71	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:603:LEU:HD12	1:C:604:GLU:CB	2.20	0.71
1:C:640:LEU:C	1:C:641:VAL:HG12	2.11	0.71
1:C:603:LEU:HD12	1:C:604:GLU:N	2.04	0.71
1:C:782:ARG:CG	1:C:787:ARG:HH21	2.03	0.71
1:C:779:TRP:HA	1:C:782:ARG:HD2	1.73	0.71
1:C:613:ARG:HE	1:C:639:THR:CG2	2.04	0.70
1:C:773:ASN:HD21	1:C:819:VAL:HG21	1.56	0.70
1:C:214:PRO:HG3	3:P:89:VAL:HG11	1.74	0.69
1:C:706:ALA:HB1	1:C:722:LEU:HD11	1.74	0.69
1:C:651:LEU:HD22	1:C:691:VAL:CG2	2.21	0.69
1:C:851:LEU:HA	1:C:854:LEU:HD12	1.74	0.69
1:C:742:LEU:HD11	1:C:750:LYS:HB3	1.74	0.69
1:C:584:LYS:HG2	1:C:590:ILE:HG13	1.74	0.69
1:C:762:PHE:HZ	1:C:768:ARG:HG3	1.58	0.69
1:C:768:ARG:NH1	1:C:805:LEU:HD11	2.08	0.68
1:C:623:SER:HB3	1:C:766:ARG:HD2	1.74	0.68
1:C:782:ARG:HD3	1:C:787:ARG:HH21	1.56	0.68
1:C:767:THR:O	1:C:771:ILE:HD12	1.94	0.68
1:C:373:MET:HG2	5:C:1046:HOH:O	1.93	0.68
1:C:534:ASP:OD1	1:C:535:MET:N	2.27	0.68
1:C:632:SER:HA	1:C:635:HIS:CG	2.27	0.68
1:C:778:ALA:O	1:C:782:ARG:HB2	1.94	0.68
1:C:803:LEU:HD21	1:C:823:ILE:HD11	1.75	0.68
1:C:703:GLN:HE22	3:P:16:SER:N	1.92	0.67
4:R:565:LYS:HG2	4:R:566:PHE:H	1.60	0.67
1:C:777:ARG:NH2	1:C:822:ASN:OD1	2.28	0.66
1:C:736:LEU:HB3	1:C:758:VAL:HG11	1.77	0.66
1:C:762:PHE:HD2	1:C:764:ASN:HB3	1.60	0.66
1:C:806:PHE:CE1	1:C:807:VAL:HG12	2.30	0.66
1:C:640:LEU:O	1:C:641:VAL:CG1	2.43	0.66
1:C:722:LEU:HB3	1:C:738:LEU:HG	1.78	0.66
1:C:613:ARG:HG2	1:C:639:THR:CG2	2.09	0.65
1:C:803:LEU:HA	1:C:806:PHE:CD2	2.32	0.65
1:C:596:ASN:HB3	1:C:619:TYR:OH	1.96	0.65
1:C:503:GLU:O	1:C:507:ASN:ND2	2.30	0.65
1:C:670:ASN:HB3	1:C:673:GLU:CD	2.17	0.65
1:C:772:LEU:O	1:C:798:ASN:ND2	2.20	0.65
1:C:708:ILE:HG22	1:C:709:PHE:HD1	1.62	0.65
1:C:767:THR:HA	1:C:771:ILE:CD1	2.27	0.65
1:C:889:MET:HB2	1:C:893:LEU:HD22	1.78	0.64
1:C:579:ARG:O	1:C:583:ILE:HD13	1.95	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:584:LYS:HD3	1:C:590:ILE:HG21	1.80	0.64
1:C:651:LEU:HD22	1:C:691:VAL:HG21	1.80	0.64
1:C:435:ASN:HD22	1:C:475:GLN:HE22	1.41	0.63
3:P:21:GLN:OE1	3:P:21:GLN:N	2.16	0.63
1:C:457:ASN:O	4:R:550:ARG:NH2	2.31	0.63
1:C:824:ALA:HA	1:C:827:GLN:HG2	1.80	0.63
1:C:71:LYS:HE2	1:C:74:GLU:CG	2.28	0.63
1:C:659:VAL:HG12	1:C:684:ALA:HB2	1.81	0.62
1:C:463:ARG:HH12	3:P:36:ASN:ND2	1.97	0.62
1:C:692:LEU:CD1	2:A:196:ILE:HB	2.29	0.62
1:C:816:ILE:C	1:C:816:ILE:HD12	2.20	0.62
1:C:767:THR:O	1:C:771:ILE:CD1	2.48	0.62
1:C:782:ARG:CB	1:C:787:ARG:HH21	2.02	0.62
1:C:599:ILE:O	1:C:602:LEU:N	2.33	0.62
1:C:803:LEU:HD22	1:C:806:PHE:HE2	1.65	0.62
1:C:591:ASN:O	1:C:594:GLU:HG3	2.00	0.61
1:C:819:VAL:O	1:C:823:ILE:HD12	1.99	0.61
1:C:682:LEU:HD11	2:A:203:LEU:HG	1.82	0.61
1:C:847:ILE:HG22	1:C:850:SER:OG	2.01	0.61
4:R:509:TYR:CZ	4:R:513:ILE:HD11	2.36	0.61
1:C:823:ILE:HG22	1:C:827:GLN:NE2	2.16	0.60
1:C:722:LEU:HA	1:C:725:ILE:HG22	1.82	0.60
1:C:823:ILE:HG22	1:C:827:GLN:HE22	1.66	0.60
1:C:739:ALA:HB2	1:C:754:ASN:HB2	1.83	0.60
1:C:546:ASN:O	1:C:550:THR:HG23	2.02	0.60
1:C:877:GLU:O	1:C:881:ARG:HG2	2.02	0.59
1:C:549:ARG:HH11	3:P:22:LEU:H	1.50	0.59
1:C:59:TRP:CE3	1:C:82:ALA:HB2	2.38	0.59
1:C:583:ILE:HD12	1:C:583:ILE:H	1.66	0.59
1:C:699:VAL:O	1:C:702:ALA:HB3	2.02	0.59
1:C:91:ARG:HA	1:C:94:LEU:HD12	1.85	0.59
1:C:616:TYR:HA	1:C:619:TYR:HB3	1.83	0.59
1:C:767:THR:OG1	1:C:771:ILE:HD13	2.03	0.59
1:C:779:TRP:O	1:C:787:ARG:NH2	2.36	0.58
1:C:613:ARG:CD	1:C:639:THR:CG2	2.71	0.58
1:C:655:ALA:O	1:C:659:VAL:HG13	2.03	0.58
1:C:24:LYS:NZ	1:C:52:GLU:OE1	2.37	0.58
1:C:419:LYS:O	1:C:425:THR:HG21	2.02	0.58
1:C:641:VAL:HG22	1:C:641:VAL:O	2.03	0.57
4:R:538:GLU:HA	4:R:541:GLU:HG2	1.86	0.57
1:C:422:ASP:HB3	1:C:425:THR:HG22	1.87	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:R:565:LYS:HG2	4:R:566:PHE:N	2.19	0.57
1:C:74:GLU:N	1:C:74:GLU:OE1	2.37	0.57
1:C:71:LYS:HE2	1:C:74:GLU:HG2	1.87	0.57
1:C:595:MET:SD	1:C:599:ILE:HD11	2.44	0.57
1:C:552:GLU:OE2	1:C:579:ARG:HD2	2.05	0.57
1:C:700:PHE:CE1	3:P:18:PRO:HD3	2.40	0.57
1:C:562:ILE:HA	1:C:565:GLN:HE21	1.70	0.56
1:C:651:LEU:HD22	1:C:691:VAL:HG23	1.87	0.56
1:C:110:SER:HB3	1:C:296:ASN:HD22	1.70	0.56
1:C:184:LEU:HD21	3:P:71:PHE:CZ	2.39	0.56
1:C:342:PHE:CZ	1:C:346:ARG:HD2	2.41	0.56
1:C:718:ALA:HA	1:C:721:ILE:HD12	1.86	0.56
1:C:708:ILE:O	1:C:712:SER:N	2.37	0.56
1:C:429:ILE:HD12	1:C:433:GLU:HG2	1.88	0.56
1:C:748:PHE:CB	1:C:782:ARG:HG3	2.35	0.56
1:C:762:PHE:CE2	1:C:764:ASN:HB3	2.41	0.56
1:C:643:TYR:CD2	1:C:644:ASN:OD1	2.59	0.56
4:R:529:LYS:O	4:R:533:ASP:HB2	2.06	0.56
1:C:463:ARG:HH12	3:P:36:ASN:HD22	1.53	0.55
1:C:777:ARG:HA	1:C:780:TYR:HB2	1.87	0.55
1:C:544:GLU:HB2	1:C:566:ILE:HD11	1.87	0.55
1:C:767:THR:CA	1:C:771:ILE:HD13	2.37	0.55
1:C:783:GLY:N	1:C:787:ARG:CZ	2.69	0.55
1:C:583:ILE:HD12	1:C:583:ILE:N	2.21	0.55
1:C:595:MET:O	1:C:599:ILE:HD12	2.06	0.55
1:C:638:GLU:O	1:C:641:VAL:HG12	2.06	0.55
1:C:755:TYR:HA	1:C:758:VAL:HG22	1.89	0.55
1:C:782:ARG:CG	1:C:787:ARG:HD3	2.34	0.55
1:C:577:ARG:HA	1:C:580:ASN:HB3	1.89	0.55
1:C:703:GLN:O	1:C:706:ALA:HB3	2.06	0.55
1:C:603:LEU:HD12	1:C:604:GLU:H	1.72	0.54
1:C:767:THR:C	1:C:771:ILE:HD13	2.28	0.54
1:C:886:GLU:HA	1:C:889:MET:HG3	1.88	0.54
2:A:170:THR:O	2:A:174:GLU:HG2	2.08	0.54
1:C:616:TYR:CE2	1:C:635:HIS:HB3	2.43	0.54
1:C:435:ASN:HD21	1:C:475:GLN:NE2	2.00	0.54
1:C:523:ASN:O	1:C:527:GLN:HG3	2.07	0.54
1:C:558:LYS:O	1:C:562:ILE:HG13	2.08	0.54
4:R:545:LEU:C	4:R:546:LEU:HD23	2.28	0.54
1:C:533:SER:OG	1:C:534:ASP:N	2.41	0.54
1:C:602:LEU:O	1:C:605:MET:HG3	2.07	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:613:ARG:HE	1:C:639:THR:HG23	1.73	0.53
4:R:528:GLU:OE2	4:R:529:LYS:N	2.41	0.53
1:C:642:LYS:O	1:C:642:LYS:HG2	2.08	0.53
1:C:825:LEU:O	1:C:829:GLN:HG2	2.08	0.53
1:C:506:ASN:HD22	1:C:543:LEU:CD2	2.21	0.53
1:C:816:ILE:C	1:C:816:ILE:CD1	2.77	0.53
1:C:739:ALA:HA	1:C:742:LEU:HB3	1.91	0.52
1:C:783:GLY:CA	1:C:787:ARG:CZ	2.87	0.52
1:C:721:ILE:O	1:C:725:ILE:HG22	2.10	0.52
1:C:879:GLU:O	1:C:882:ILE:HB	2.09	0.52
4:R:546:LEU:HD23	4:R:546:LEU:N	2.23	0.52
1:C:586:ALA:O	1:C:587:HIS:ND1	2.43	0.52
2:A:183:ALA:HB3	3:P:21:GLN:NE2	2.13	0.52
1:C:584:LYS:CG	1:C:590:ILE:HG13	2.39	0.52
1:C:722:LEU:HA	1:C:725:ILE:CG2	2.40	0.52
3:P:51:ASN:OD1	3:P:52:ILE:HG13	2.10	0.52
1:C:561:SER:O	1:C:565:GLN:HG2	2.09	0.52
1:C:662:ALA:CB	1:C:680:SER:OG	2.48	0.52
1:C:616:TYR:HE2	1:C:635:HIS:HB3	1.74	0.51
1:C:638:GLU:O	1:C:641:VAL:HG11	2.08	0.51
1:C:709:PHE:CD2	1:C:718:ALA:HB2	2.45	0.51
1:C:773:ASN:HB2	1:C:802:ALA:HB1	1.92	0.51
1:C:470:GLN:NE2	2:A:175:ARG:HH12	2.06	0.51
1:C:663:ARG:NH2	1:C:667:LYS:HG3	2.26	0.51
1:C:767:THR:CA	1:C:771:ILE:CD1	2.88	0.51
1:C:831:ALA:CB	1:C:854:LEU:HD11	2.29	0.51
1:C:655:ALA:CB	1:C:687:LEU:HD11	2.27	0.51
1:C:746:ARG:HG3	1:C:747:GLU:O	2.11	0.51
1:C:231:LEU:HD13	3:P:102:PRO:HG3	1.93	0.51
1:C:273:ASP:O	1:C:277:LYS:HG3	2.11	0.51
1:C:782:ARG:CD	1:C:787:ARG:NH2	2.72	0.51
1:C:557:GLU:O	1:C:560:GLU:HB3	2.11	0.50
1:C:816:ILE:HD12	1:C:817:HIS:N	2.26	0.50
1:C:747:GLU:HG2	1:C:748:PHE:H	1.76	0.50
1:C:823:ILE:HA	1:C:826:LEU:CD2	2.42	0.50
1:C:799:ALA:O	1:C:803:LEU:HG	2.11	0.50
1:C:823:ILE:HD12	1:C:823:ILE:H	1.77	0.50
1:C:742:LEU:HD21	1:C:751:ALA:HA	1.94	0.49
2:A:194:TYR:CE1	2:A:195:LEU:HG	2.46	0.49
2:A:200:GLU:O	2:A:200:GLU:HG3	2.12	0.49
1:C:700:PHE:O	1:C:703:GLN:HG3	2.12	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:640:LEU:HD13	1:C:645:SER:OG	2.10	0.49
3:P:74:LEU:HD13	3:P:80:SER:HA	1.93	0.49
1:C:337:LEU:HD23	1:C:367:LYS:CD	2.43	0.49
1:C:540:ASN:O	1:C:544:GLU:HG2	2.13	0.49
2:A:195:LEU:HA	2:A:198:ASP:HB2	1.93	0.48
1:C:888:THR:O	1:C:892:ALA:CB	2.61	0.48
1:C:670:ASN:HB3	1:C:673:GLU:OE1	2.14	0.48
1:C:502:LEU:H	1:C:502:LEU:HD23	1.77	0.48
1:C:803:LEU:O	1:C:807:VAL:HG13	2.14	0.48
1:C:342:PHE:CZ	1:C:373:MET:HB3	2.49	0.48
1:C:637:LYS:HA	1:C:654:LEU:HD11	1.96	0.48
1:C:332:ILE:HD11	1:C:337:LEU:HD13	1.96	0.48
3:P:34:GLU:OE2	3:P:34:GLU:N	2.33	0.48
1:C:494:PHE:CZ	4:R:546:LEU:HD21	2.49	0.47
1:C:700:PHE:HA	1:C:703:GLN:HG2	1.96	0.47
1:C:828:PHE:HA	1:C:854:LEU:CD2	2.44	0.47
1:C:872:MET:HG2	1:C:873:ILE:HG13	1.96	0.47
1:C:682:LEU:HD12	1:C:685:ILE:HD12	1.96	0.47
1:C:755:TYR:CZ	1:C:775:LEU:HG	2.50	0.47
5:P:210:HOH:O	4:R:552:LEU:HA	2.13	0.47
2:A:182:SER:HB2	2:A:185:ARG:HH21	1.79	0.47
1:C:536:ASN:O	1:C:538:SER:N	2.47	0.47
1:C:773:ASN:HD21	1:C:819:VAL:CG2	2.24	0.47
1:C:337:LEU:HD23	1:C:367:LYS:NZ	2.29	0.47
1:C:748:PHE:HB2	1:C:782:ARG:HE	1.80	0.47
1:C:626:ARG:HA	1:C:626:ARG:HD3	1.66	0.47
1:C:91:ARG:HB2	1:C:133:PHE:CE2	2.49	0.47
1:C:803:LEU:HD21	1:C:823:ILE:CD1	2.44	0.47
1:C:584:LYS:HE2	1:C:595:MET:SD	2.55	0.46
1:C:715:LEU:HD12	1:C:715:LEU:H	1.80	0.46
1:C:742:LEU:CD2	1:C:751:ALA:HA	2.45	0.46
4:R:537:LYS:O	4:R:541:GLU:HG2	2.15	0.46
1:C:755:TYR:CE2	1:C:775:LEU:HG	2.51	0.46
1:C:854:LEU:HD13	1:C:893:LEU:HD23	1.92	0.46
1:C:758:VAL:O	1:C:762:PHE:CD1	2.68	0.46
1:C:825:LEU:O	1:C:828:PHE:HB3	2.16	0.46
1:C:892:ALA:O	1:C:895:ARG:HB2	2.15	0.46
1:C:541:ILE:HD12	1:C:541:ILE:H	1.81	0.46
1:C:638:GLU:CA	1:C:641:VAL:HB	2.41	0.46
1:C:596:ASN:O	1:C:600:ASN:HB2	2.16	0.46
1:C:715:LEU:HB3	1:C:741:CYS:SG	2.56	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:888:THR:O	1:C:892:ALA:HB3	2.16	0.46
1:C:892:ALA:HB2	1:C:895:ARG:HH21	1.80	0.46
4:R:536:THR:HG22	4:R:539:ARG:CZ	2.45	0.46
4:R:538:GLU:O	4:R:541:GLU:HG3	2.15	0.46
1:C:448:TYR:CD2	1:C:464:VAL:HG21	2.51	0.45
1:C:665:GLY:HA3	1:C:677:SER:HB2	1.97	0.45
1:C:742:LEU:HD21	1:C:751:ALA:CA	2.46	0.45
1:C:27:GLU:CD	1:C:29:LEU:HD23	2.35	0.45
1:C:326:LEU:HD12	1:C:326:LEU:HA	1.77	0.45
1:C:574:ILE:HD11	1:C:602:LEU:HD12	1.99	0.45
1:C:584:LYS:CD	1:C:590:ILE:HG13	2.46	0.45
1:C:779:TRP:CE3	1:C:794:LYS:HG2	2.51	0.45
1:C:878:LEU:O	1:C:882:ILE:HG12	2.16	0.45
3:P:21:GLN:O	3:P:22:LEU:HD13	2.17	0.45
1:C:78:LEU:HA	1:C:81:MET:HE2	1.99	0.45
1:C:806:PHE:CE1	1:C:807:VAL:CG1	3.00	0.45
1:C:71:LYS:CE	1:C:74:GLU:CD	2.79	0.45
1:C:640:LEU:HD21	1:C:645:SER:HA	1.99	0.45
1:C:709:PHE:HB2	1:C:718:ALA:HB2	1.98	0.45
1:C:780:TYR:CE2	1:C:795:ALA:HB1	2.52	0.45
1:C:623:SER:CB	1:C:766:ARG:HH11	2.30	0.44
1:C:891:SER:O	1:C:895:ARG:NE	2.50	0.44
1:C:708:ILE:HG22	1:C:709:PHE:CD1	2.47	0.44
1:C:709:PHE:HD2	1:C:718:ALA:HB2	1.81	0.44
3:P:81:LYS:HB3	3:P:81:LYS:HE2	1.77	0.44
1:C:828:PHE:HA	1:C:854:LEU:HD21	2.00	0.44
4:R:535:GLU:HB3	4:R:539:ARG:HH11	1.82	0.44
2:A:180:HIS:NE2	2:A:181:ASN:OD1	2.50	0.44
1:C:742:LEU:HD23	1:C:743:LEU:N	2.33	0.44
1:C:699:VAL:HG13	1:C:725:ILE:CG1	2.43	0.44
4:R:548:GLN:O	4:R:554:GLY:HA3	2.18	0.44
1:C:448:TYR:CE2	1:C:464:VAL:HG21	2.53	0.44
1:C:640:LEU:C	1:C:641:VAL:CG1	2.77	0.44
1:C:817:HIS:CD2	1:C:817:HIS:H	2.35	0.44
1:C:870:PHE:HE2	1:C:878:LEU:HD21	1.83	0.44
1:C:756:GLU:O	1:C:759:LEU:HB3	2.17	0.44
4:R:566:PHE:N	4:R:566:PHE:CD2	2.85	0.44
1:C:71:LYS:CE	1:C:74:GLU:HG2	2.47	0.44
1:C:640:LEU:CD2	1:C:645:SER:HA	2.48	0.44
1:C:865:ASN:OD1	1:C:878:LEU:HD12	2.18	0.43
1:C:522:ASP:O	1:C:526:GLU:HG3	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A:167:LEU:HD13	2:A:167:LEU:O	2.18	0.43
1:C:598:GLU:O	1:C:602:LEU:HD23	2.18	0.43
1:C:602:LEU:HD12	1:C:612:MET:SD	2.58	0.43
1:C:432:LYS:HE2	1:C:432:LYS:HB2	1.84	0.43
1:C:593:SER:O	1:C:596:ASN:OD1	2.37	0.43
1:C:746:ARG:HD3	1:C:750:LYS:HB2	1.99	0.43
1:C:583:ILE:CD1	1:C:583:ILE:H	2.30	0.43
1:C:691:VAL:O	1:C:694:ILE:HG22	2.19	0.43
1:C:758:VAL:O	1:C:762:PHE:CE1	2.71	0.43
1:C:186:LEU:HD22	1:C:205:ILE:HG23	2.01	0.43
1:C:689:GLN:HE22	2:A:200:GLU:HB2	1.84	0.43
1:C:752:ILE:HG21	1:C:779:TRP:CE2	2.53	0.43
1:C:640:LEU:HD13	1:C:642:LYS:H	1.82	0.43
1:C:779:TRP:CD2	1:C:794:LYS:HG2	2.54	0.43
1:C:581:LEU:HA	1:C:584:LYS:HB2	2.00	0.43
1:C:649:TYR:O	1:C:652:ILE:HG13	2.19	0.43
1:C:663:ARG:HH12	1:C:667:LYS:N	2.17	0.43
2:A:193:GLY:O	2:A:196:ILE:HG22	2.19	0.43
3:P:68:LEU:HG	3:P:74:LEU:HD23	2.01	0.43
2:A:182:SER:HB2	2:A:185:ARG:NH2	2.33	0.42
4:R:529:LYS:HB3	4:R:529:LYS:HE3	1.70	0.42
1:C:800:LYS:HE2	1:C:801:THR:HG23	2.00	0.42
1:C:803:LEU:CD2	1:C:806:PHE:HE2	2.31	0.42
1:C:216:LEU:HD23	1:C:220:PRO:HG3	2.02	0.42
1:C:767:THR:C	1:C:771:ILE:CD1	2.88	0.42
3:P:58:GLN:NE2	5:P:203:HOH:O	2.37	0.42
1:C:45:LEU:O	1:C:49:LEU:HD12	2.19	0.42
1:C:651:LEU:HD23	1:C:687:LEU:HD13	2.01	0.42
1:C:804:GLU:HB3	1:C:808:GLN:NE2	2.34	0.42
1:C:897:LEU:HD12	1:C:900:GLN:HE21	1.85	0.42
2:A:195:LEU:HA	2:A:195:LEU:HD23	1.78	0.42
1:C:585:PHE:CD2	1:C:618:TRP:HZ3	2.38	0.42
1:C:24:LYS:HE2	1:C:24:LYS:HB2	1.94	0.41
1:C:627:LYS:O	1:C:627:LYS:HG3	2.16	0.41
1:C:813:ASN:N	1:C:813:ASN:OD1	2.54	0.41
1:C:589:LYS:C	1:C:590:ILE:HG12	2.40	0.41
1:C:623:SER:HB3	1:C:766:ARG:HH11	1.85	0.41
4:R:538:GLU:HA	4:R:541:GLU:CG	2.50	0.41
1:C:88:ASN:HB3	1:C:89:SER:H	1.50	0.41
1:C:225:GLY:HA2	1:C:237:ALA:HA	2.02	0.41
1:C:673:GLU:OE2	1:C:673:GLU:N	2.52	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:783:GLY:HA2	1:C:787:ARG:NH1	2.32	0.41
1:C:514:ILE:HD12	1:C:514:ILE:HA	1.84	0.41
1:C:700:PHE:N	1:C:700:PHE:HD2	2.19	0.41
1:C:851:LEU:HD21	1:C:897:LEU:HD13	2.02	0.41
1:C:86:PHE:O	1:C:91:ARG:HG2	2.20	0.41
1:C:700:PHE:N	1:C:700:PHE:CD2	2.88	0.41
1:C:780:TYR:OH	1:C:799:ALA:HB2	2.20	0.41
1:C:782:ARG:HD3	1:C:787:ARG:NH2	2.30	0.41
2:A:165:PRO:O	2:A:168:ALA:HB3	2.20	0.41
4:R:565:LYS:CG	4:R:566:PHE:H	2.29	0.41
1:C:709:PHE:CB	1:C:718:ALA:HB2	2.51	0.41
1:C:724:LYS:O	1:C:727:ASP:HB3	2.21	0.41
3:P:67:ASP:O	3:P:70:LYS:HG2	2.21	0.41
4:R:548:GLN:O	4:R:551:ARG:HG2	2.20	0.41
1:C:21:ILE:O	1:C:30:VAL:HG12	2.21	0.40
1:C:435:ASN:HD22	1:C:475:GLN:NE2	2.07	0.40
1:C:649:TYR:N	2:A:181:ASN:HD21	2.08	0.40
1:C:870:PHE:CZ	1:C:872:MET:HB3	2.56	0.40
3:P:74:LEU:HD22	3:P:83:LEU:HD21	2.02	0.40
1:C:459:LEU:HD21	1:C:495:VAL:HG21	2.03	0.40
1:C:595:MET:CE	1:C:599:ILE:HD11	2.51	0.40
1:C:613:ARG:HG2	1:C:639:THR:CB	2.51	0.40
1:C:773:ASN:ND2	1:C:819:VAL:HG21	2.32	0.40
1:C:457:ASN:HD22	4:R:550:ARG:HH22	1.68	0.40
1:C:602:LEU:O	1:C:603:LEU:C	2.60	0.40
1:C:748:PHE:CG	1:C:782:ARG:HG3	2.56	0.40
1:C:819:VAL:O	1:C:822:ASN:N	2.54	0.40

There are no symmetry-related clashes.

5.3 Torsion angles ⓘ

5.3.1 Protein backbone ⓘ

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	C	904/908 (100%)	817 (90%)	78 (9%)	9 (1%)	15	37
2	A	45/81 (56%)	39 (87%)	6 (13%)	0	100	100
3	P	89/111 (80%)	85 (96%)	4 (4%)	0	100	100
4	R	67/77 (87%)	63 (94%)	4 (6%)	0	100	100
All	All	1105/1177 (94%)	1004 (91%)	92 (8%)	9 (1%)	19	43

All (9) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	C	777	ARG
1	C	782	ARG
1	C	455	LYS
1	C	684	ALA
1	C	641	VAL
1	C	747	GLU
1	C	882	ILE
1	C	30	VAL
1	C	571	PRO

5.3.2 Protein sidechains ⓘ

In the following table, the Percentiles column shows the percent sidechain outliers of the chain as a percentile score with respect to all X-ray entries followed by that with respect to entries of similar resolution.

The Analysed column shows the number of residues for which the sidechain conformation was analysed, and the total number of residues.

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	C	819/821 (100%)	775 (95%)	44 (5%)	22	47
2	A	40/64 (62%)	35 (88%)	5 (12%)	4	10
3	P	86/105 (82%)	84 (98%)	2 (2%)	50	78
4	R	62/70 (89%)	60 (97%)	2 (3%)	39	68
All	All	1007/1060 (95%)	954 (95%)	53 (5%)	22	48

All (53) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	C	26	SER
1	C	27	GLU

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Mol	Chain	Res	Type
1	C	29	LEU
1	C	79	ILE
1	C	87	GLN
1	C	189	ARG
1	C	217	GLN
1	C	239	LYS
1	C	371	ASN
1	C	450	LYS
1	C	457	ASN
1	C	486	SER
1	C	497	LYS
1	C	502	LEU
1	C	531	LYS
1	C	549	ARG
1	C	573	TYR
1	C	577	ARG
1	C	584	LYS
1	C	585	PHE
1	C	605	MET
1	C	607	LYS
1	C	616	TYR
1	C	627	LYS
1	C	643	TYR
1	C	658	TYR
1	C	680	SER
1	C	719	LEU
1	C	720	GLU
1	C	726	ARG
1	C	729	LEU
1	C	738	LEU
1	C	740	HIS
1	C	746	ARG
1	C	750	LYS
1	C	762	PHE
1	C	777	ARG
1	C	787	ARG
1	C	798	ASN
1	C	815	PHE
1	C	820	LYS
1	C	842	ARG
1	C	886	GLU
1	C	889	MET

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Mol	Chain	Res	Type
2	A	169	GLU
2	A	171	MET
2	A	180	HIS
2	A	188	ARG
2	A	202	LYS
3	P	103	ARG
3	P	106	ARG
4	R	534	ARG
4	R	548	GLN

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (26) such sidechains are listed below:

Mol	Chain	Res	Type
1	C	104	ASN
1	C	126	ASN
1	C	217	GLN
1	C	242	GLN
1	C	265	ASN
1	C	371	ASN
1	C	435	ASN
1	C	443	GLN
1	C	457	ASN
1	C	470	GLN
1	C	506	ASN
1	C	512	HIS
1	C	527	GLN
1	C	540	ASN
1	C	565	GLN
1	C	580	ASN
1	C	622	ASN
1	C	689	GLN
1	C	770	HIS
1	C	808	GLN
1	C	817	HIS
1	C	827	GLN
2	A	178	GLN
2	A	181	ASN
3	P	36	ASN
4	R	548	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 ⓘ

There are no monosaccharides in this entry.

5.6 Ligand geometry ⓘ

There are no ligands in this entry.

5.7 Other polymers ⓘ

There are no such residues in this entry.

5.8 Polymer linkage issues ⓘ

There are no chain breaks in this entry.

6 Fit of model and data ⓘ

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	C	906/908 (99%)	1.21	181 (19%)	1	0	24, 76, 223, 317	0
2	A	47/81 (58%)	1.15	10 (21%)	0	0	80, 109, 134, 138	0
3	P	91/111 (81%)	0.87	11 (12%)	4	3	29, 43, 99, 112	0
4	R	69/77 (89%)	0.69	9 (13%)	3	2	41, 59, 102, 109	0
All	All	1113/1177 (94%)	1.14	211 (18%)	1	0	24, 72, 216, 317	0

All (211) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	C	850	SER	14.2
1	C	869	GLU	14.2
1	C	898	ASN	13.0
1	C	835	ARG	12.6
1	C	597	ILE	12.0
1	C	741	CYS	11.9
1	C	669	ARG	11.6
1	C	839	PRO	11.3
1	C	872	MET	10.4
1	C	805	LEU	9.8
1	C	853	GLY	9.0
1	C	867	LEU	8.9
1	C	903	PHE	8.6
1	C	849	ASP	8.4
1	C	840	LYS	8.3
1	C	902	GLU	7.9
1	C	811	ALA	7.8
1	C	876	GLU	7.7
1	C	654	LEU	7.5
1	C	832	GLU	7.3
1	C	864	LEU	7.2

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Mol	Chain	Res	Type	RSRZ
1	C	658	TYR	7.1
1	C	866	ASP	6.7
1	C	906	ASP	6.7
1	C	868	LYS	6.7
1	C	784	MET	6.6
1	C	534	ASP	6.6
1	C	824	ALA	6.5
1	C	831	ALA	6.4
2	A	205	GLN	6.4
1	C	812	LYS	6.3
1	C	619	TYR	6.2
1	C	846	GLN	6.2
1	C	838	ASN	6.1
1	C	778	ALA	6.1
4	R	531	GLN	6.1
1	C	754	ASN	6.1
1	C	905	LYS	6.1
1	C	757	LEU	6.0
1	C	870	PHE	6.0
1	C	671	PRO	6.0
1	C	888	THR	6.0
1	C	875	LYS	5.9
1	C	782	ARG	5.9
1	C	847	ILE	5.9
1	C	814	LYS	5.8
1	C	685	ILE	5.7
1	C	679	HIS	5.7
1	C	533	SER	5.7
1	C	689	GLN	5.7
1	C	593	SER	5.6
1	C	791	PHE	5.4
1	C	873	ILE	5.2
1	C	686	GLN	5.0
1	C	822	ASN	5.0
1	C	780	TYR	5.0
1	C	842	ARG	4.9
2	A	203	LEU	4.8
1	C	666	LYS	4.7
1	C	589	LYS	4.6
1	C	687	LEU	4.6
4	R	502	LEU	4.5
1	C	874	PRO	4.5

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Mol	Chain	Res	Type	RSRZ
1	C	678	LYS	4.5
3	P	16	SER	4.4
1	C	738	LEU	4.4
4	R	570	PHE	4.4
1	C	834	LEU	4.3
1	C	661	ILE	4.3
1	C	646	HIS	4.2
1	C	879	GLU	4.2
1	C	883	GLN	4.2
1	C	783	GLY	4.2
1	C	821	PHE	4.1
1	C	878	LEU	4.1
1	C	535	MET	4.1
1	C	681	TYR	4.1
1	C	606	ASN	4.0
1	C	836	ARG	4.0
1	C	498	ASP	3.9
1	C	759	LEU	3.9
1	C	601	GLY	3.9
4	R	534	ARG	3.8
2	A	171	MET	3.8
1	C	590	ILE	3.7
1	C	891	SER	3.7
1	C	28	GLU	3.7
1	C	536	ASN	3.7
1	C	900	GLN	3.7
1	C	860	LEU	3.6
1	C	774	LEU	3.6
1	C	651	LEU	3.6
1	C	804	GLU	3.6
1	C	707	ILE	3.5
1	C	761	LYS	3.4
3	P	105	ASP	3.4
1	C	554	THR	3.4
1	C	771	ILE	3.4
1	C	901	GLU	3.4
2	A	204	VAL	3.4
1	C	753	GLU	3.4
1	C	894	GLU	3.4
1	C	808	GLN	3.3
1	C	810	SER	3.3
1	C	675	GLU	3.3

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Mol	Chain	Res	Type	RSRZ
1	C	670	ASN	3.2
1	C	690	LYS	3.2
1	C	813	ASN	3.2
1	C	650	ALA	3.2
1	C	775	LEU	3.2
1	C	582	TYR	3.1
1	C	683	LYS	3.1
1	C	828	PHE	3.1
1	C	49	LEU	3.1
1	C	748	PHE	3.1
1	C	815	PHE	3.0
1	C	665	GLY	3.0
1	C	2	ALA	3.0
1	C	628	ASN	3.0
1	C	809	GLN	3.0
1	C	621	LYS	3.0
1	C	31	GLY	3.0
1	C	585	PHE	3.0
3	P	106	ARG	3.0
1	C	871	ASN	3.0
1	C	880	GLN	2.9
1	C	818	SER	2.9
1	C	647	ASP	2.9
1	C	730	ASP	2.9
1	C	803	LEU	2.9
1	C	725	ILE	2.9
1	C	682	LEU	2.9
4	R	533	ASP	2.8
1	C	786	GLU	2.8
1	C	844	VAL	2.8
1	C	863	GLU	2.8
2	A	177	VAL	2.8
1	C	618	TRP	2.8
1	C	642	LYS	2.8
1	C	837	SER	2.8
3	P	64	MET	2.8
1	C	749	GLY	2.7
1	C	218	PRO	2.7
1	C	773	ASN	2.7
1	C	887	THR	2.7
1	C	755	TYR	2.7
1	C	756	GLU	2.7

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Mol	Chain	Res	Type	RSRZ
1	C	727	ASP	2.7
1	C	758	VAL	2.6
1	C	493	GLU	2.6
1	C	843	THR	2.6
1	C	693	GLN	2.6
1	C	854	LEU	2.6
1	C	728	SER	2.6
1	C	29	LEU	2.6
3	P	68	LEU	2.6
1	C	779	TRP	2.5
1	C	629	SER	2.5
2	A	209	GLY	2.5
1	C	845	GLN	2.5
1	C	564	SER	2.5
1	C	569	SER	2.5
1	C	792	PHE	2.5
1	C	623	SER	2.4
2	A	188	ARG	2.4
1	C	613	ARG	2.4
1	C	579	ARG	2.4
3	P	65	PRO	2.4
1	C	639	THR	2.4
1	C	604	GLU	2.4
1	C	605	MET	2.4
1	C	694	ILE	2.4
1	C	766	ARG	2.4
1	C	612	MET	2.3
1	C	598	GLU	2.3
1	C	587	HIS	2.3
1	C	882	ILE	2.3
3	P	47	TYR	2.3
1	C	22	PRO	2.3
1	C	610	LEU	2.3
1	C	752	ILE	2.2
1	C	769	PRO	2.2
1	C	895	ARG	2.2
3	P	66	VAL	2.2
1	C	705	VAL	2.2
1	C	572	SER	2.2
1	C	706	ALA	2.2
4	R	535	GLU	2.2
2	A	196	ILE	2.2

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Mol	Chain	Res	Type	RSRZ
1	C	644	ASN	2.1
1	C	674	GLN	2.1
3	P	17	LEU	2.1
1	C	42	PRO	2.1
4	R	528	GLU	2.1
2	A	208	LYS	2.1
1	C	620	LEU	2.1
1	C	664	ASP	2.1
1	C	907	GLN	2.1
1	C	462	SER	2.1
2	A	198	ASP	2.1
1	C	722	LEU	2.1
1	C	588	SER	2.1
3	P	45	SER	2.1
3	P	104	ILE	2.1
4	R	565	LYS	2.1
1	C	622	ASN	2.1
1	C	649	TYR	2.0
4	R	530	LEU	2.0
1	C	673	GLU	2.0
1	C	591	ASN	2.0
1	C	735	GLN	2.0

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

There are no non-standard protein/DNA/RNA residues in this entry.

6.3 Carbohydrates ⓘ

There are no monosaccharides in this entry.

6.4 Ligands ⓘ

There are no ligands in this entry.

6.5 Other polymers ⓘ

There are no such residues in this entry.