



# Full wwPDB X-ray Structure Validation Report ⓘ

Feb 1, 2016 – 05:20 PM GMT

PDB ID : 4HZK  
Title : Crystal structure of free CRM1 (crystal form 2)  
Authors : Monecke, T.; Neumann, P.; Dickmanns, A.; Ficner, R.  
Deposited on : 2012-11-15  
Resolution : 3.10 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](mailto:validation@mail.wwpdb.org)  
A user guide is available at  
<http://wwpdb.org/validation/2016/XrayValidationReportHelp>  
with specific help available everywhere you see the ⓘ symbol.

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

MolProbity : 4.02b-467  
Mogul : 1.7 (RC4), CSD as536be (2015)  
Xtriage (Phenix) : 1.9-1692  
EDS : rb-20026688  
Percentile statistics : 20151230.v01 (using entries in the PDB archive December 30th 2015)  
Refmac : 5.8.0135  
CCP4 : 6.5.0  
Ideal geometry (proteins) : Engh & Huber (2001)  
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)  
Validation Pipeline (wwPDB-VP) : trunk26865

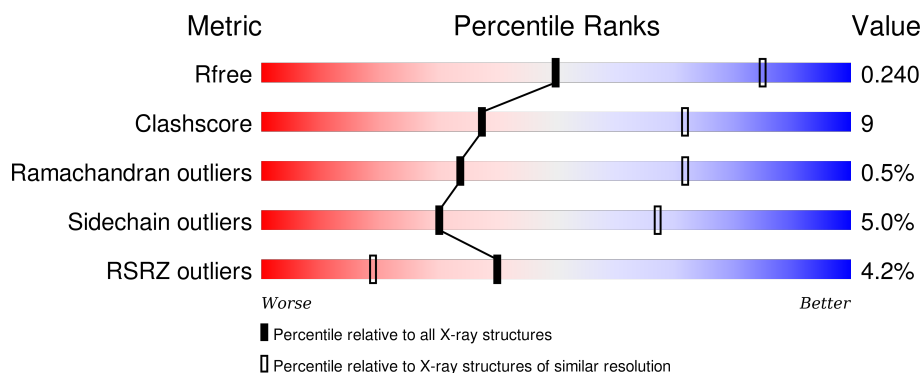
# 1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

## *X-RAY DIFFRACTION*



The reported resolution of this entry is 3.10 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))
$R_{free}$	91344	1114 (3.14-3.06)
Clashscore	102246	1222 (3.14-3.06)
Ramachandran outliers	100387	1174 (3.14-3.06)
Sidechain outliers	100360	1174 (3.14-3.06)
RSRZ outliers	91569	1119 (3.14-3.06)

The table below summarises the geometric issues observed across the polymeric chains and their fit to the electron density. The red, orange, yellow and green segments on the lower bar indicate the fraction of residues that contain outliers for  $\geq 3$ , 2, 1 and 0 types of geometric quality criteria. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions  $\leq 5\%$ . The upper red bar (where present) indicates the fraction of residues that have poor fit to the electron density. The numeric value is given above the bar.

Mol	Chain	Length	Quality of chain
1	A	1086	 4% 71% 22% • 5%
1	B	1086	 4% 68% 25% • 5%

## 2 Entry composition

There is only 1 type of molecule in this entry. The entry contains 16642 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 CRM1 Nuclear transport receptor.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	1033	Total	C	N	O	S	0	0	0
			8326	5316	1404	1543	63			
1	B	1031	Total	C	N	O	S	0	0	0
			8316	5313	1403	1537	63			

There are 86 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	-8	GLY	-	EXPRESSION TAG	UNP G0RZB7
A	-7	ALA	-	EXPRESSION TAG	UNP G0RZB7
A	-6	ALA	-	EXPRESSION TAG	UNP G0RZB7
A	-5	ALA	-	EXPRESSION TAG	UNP G0RZB7
A	-4	SER	-	EXPRESSION TAG	UNP G0RZB7
A	-3	GLY	-	EXPRESSION TAG	UNP G0RZB7
A	-2	SER	-	EXPRESSION TAG	UNP G0RZB7
A	-1	GLU	-	EXPRESSION TAG	UNP G0RZB7
A	0	PHE	-	EXPRESSION TAG	UNP G0RZB7
A	22	GLN	-	SEE REMARK 999	UNP G0RZB7
A	23	GLN	-	SEE REMARK 999	UNP G0RZB7
A	24	LYS	-	SEE REMARK 999	UNP G0RZB7
A	25	ALA	-	SEE REMARK 999	UNP G0RZB7
A	26	ALA	-	SEE REMARK 999	UNP G0RZB7
A	27	GLN	-	SEE REMARK 999	UNP G0RZB7
A	28	ALA	-	SEE REMARK 999	UNP G0RZB7
A	29	ALA	-	SEE REMARK 999	UNP G0RZB7
A	30	LEU	-	SEE REMARK 999	UNP G0RZB7
A	31	ASN	-	SEE REMARK 999	UNP G0RZB7
A	57	PHE	-	SEE REMARK 999	UNP G0RZB7
A	58	LEU	-	SEE REMARK 999	UNP G0RZB7
A	59	ALA	-	SEE REMARK 999	UNP G0RZB7
A	60	LEU	-	SEE REMARK 999	UNP G0RZB7
A	61	GLN	-	SEE REMARK 999	UNP G0RZB7
A	62	VAL	-	SEE REMARK 999	UNP G0RZB7

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Chain	Residue	Modelled	Actual	Comment	Reference
A	63	LEU	-	SEE REMARK 999	UNP G0RZB7
A	64	ASP	-	SEE REMARK 999	UNP G0RZB7
A	65	ASN	-	SEE REMARK 999	UNP G0RZB7
A	66	VAL	-	SEE REMARK 999	UNP G0RZB7
A	67	ILE	-	SEE REMARK 999	UNP G0RZB7
A	68	MET	-	SEE REMARK 999	UNP G0RZB7
A	69	THR	-	SEE REMARK 999	UNP G0RZB7
A	70	ARG	-	SEE REMARK 999	UNP G0RZB7
A	71	TRP	-	SEE REMARK 999	UNP G0RZB7
A	72	LYS	-	SEE REMARK 999	UNP G0RZB7
A	73	VAL	-	SEE REMARK 999	UNP G0RZB7
A	74	LEU	-	SEE REMARK 999	UNP G0RZB7
A	75	PRO	-	SEE REMARK 999	UNP G0RZB7
A	76	ARG	-	SEE REMARK 999	UNP G0RZB7
A	77	GLU	-	SEE REMARK 999	UNP G0RZB7
A	78	GLN	-	SEE REMARK 999	UNP G0RZB7
A	80	GLN	-	SEE REMARK 999	UNP G0RZB7
A	81	GLY	-	SEE REMARK 999	UNP G0RZB7
B	-8	GLY	-	EXPRESSION TAG	UNP G0RZB7
B	-7	ALA	-	EXPRESSION TAG	UNP G0RZB7
B	-6	ALA	-	EXPRESSION TAG	UNP G0RZB7
B	-5	ALA	-	EXPRESSION TAG	UNP G0RZB7
B	-4	SER	-	EXPRESSION TAG	UNP G0RZB7
B	-3	GLY	-	EXPRESSION TAG	UNP G0RZB7
B	-2	SER	-	EXPRESSION TAG	UNP G0RZB7
B	-1	GLU	-	EXPRESSION TAG	UNP G0RZB7
B	0	PHE	-	EXPRESSION TAG	UNP G0RZB7
B	22	GLN	-	SEE REMARK 999	UNP G0RZB7
B	23	GLN	-	SEE REMARK 999	UNP G0RZB7
B	24	LYS	-	SEE REMARK 999	UNP G0RZB7
B	25	ALA	-	SEE REMARK 999	UNP G0RZB7
B	26	ALA	-	SEE REMARK 999	UNP G0RZB7
B	27	GLN	-	SEE REMARK 999	UNP G0RZB7
B	28	ALA	-	SEE REMARK 999	UNP G0RZB7
B	29	ALA	-	SEE REMARK 999	UNP G0RZB7
B	30	LEU	-	SEE REMARK 999	UNP G0RZB7
B	31	ASN	-	SEE REMARK 999	UNP G0RZB7
B	57	PHE	-	SEE REMARK 999	UNP G0RZB7
B	58	LEU	-	SEE REMARK 999	UNP G0RZB7
B	59	ALA	-	SEE REMARK 999	UNP G0RZB7
B	60	LEU	-	SEE REMARK 999	UNP G0RZB7
B	61	GLN	-	SEE REMARK 999	UNP G0RZB7

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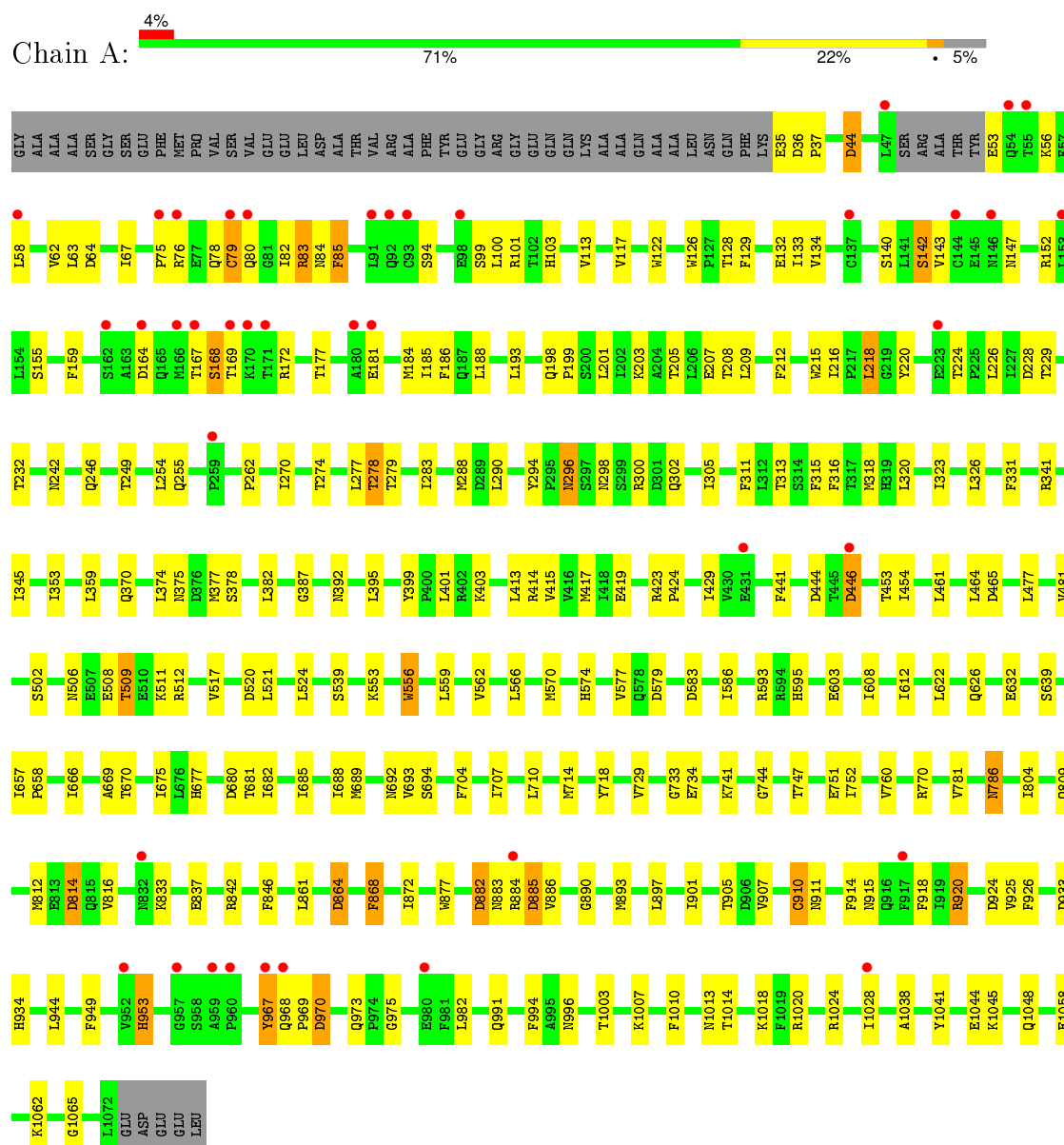
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Chain	Residue	Modelled	Actual	Comment	Reference
B	62	VAL	-	SEE REMARK 999	UNP G0RZB7
B	63	LEU	-	SEE REMARK 999	UNP G0RZB7
B	64	ASP	-	SEE REMARK 999	UNP G0RZB7
B	65	ASN	-	SEE REMARK 999	UNP G0RZB7
B	66	VAL	-	SEE REMARK 999	UNP G0RZB7
B	67	ILE	-	SEE REMARK 999	UNP G0RZB7
B	68	MET	-	SEE REMARK 999	UNP G0RZB7
B	69	THR	-	SEE REMARK 999	UNP G0RZB7
B	70	ARG	-	SEE REMARK 999	UNP G0RZB7
B	71	TRP	-	SEE REMARK 999	UNP G0RZB7
B	72	LYS	-	SEE REMARK 999	UNP G0RZB7
B	73	VAL	-	SEE REMARK 999	UNP G0RZB7
B	74	LEU	-	SEE REMARK 999	UNP G0RZB7
B	75	PRO	-	SEE REMARK 999	UNP G0RZB7
B	76	ARG	-	SEE REMARK 999	UNP G0RZB7
B	77	GLU	-	SEE REMARK 999	UNP G0RZB7
B	78	GLN	-	SEE REMARK 999	UNP G0RZB7
B	80	GLN	-	SEE REMARK 999	UNP G0RZB7
B	81	GLY	-	SEE REMARK 999	UNP G0RZB7

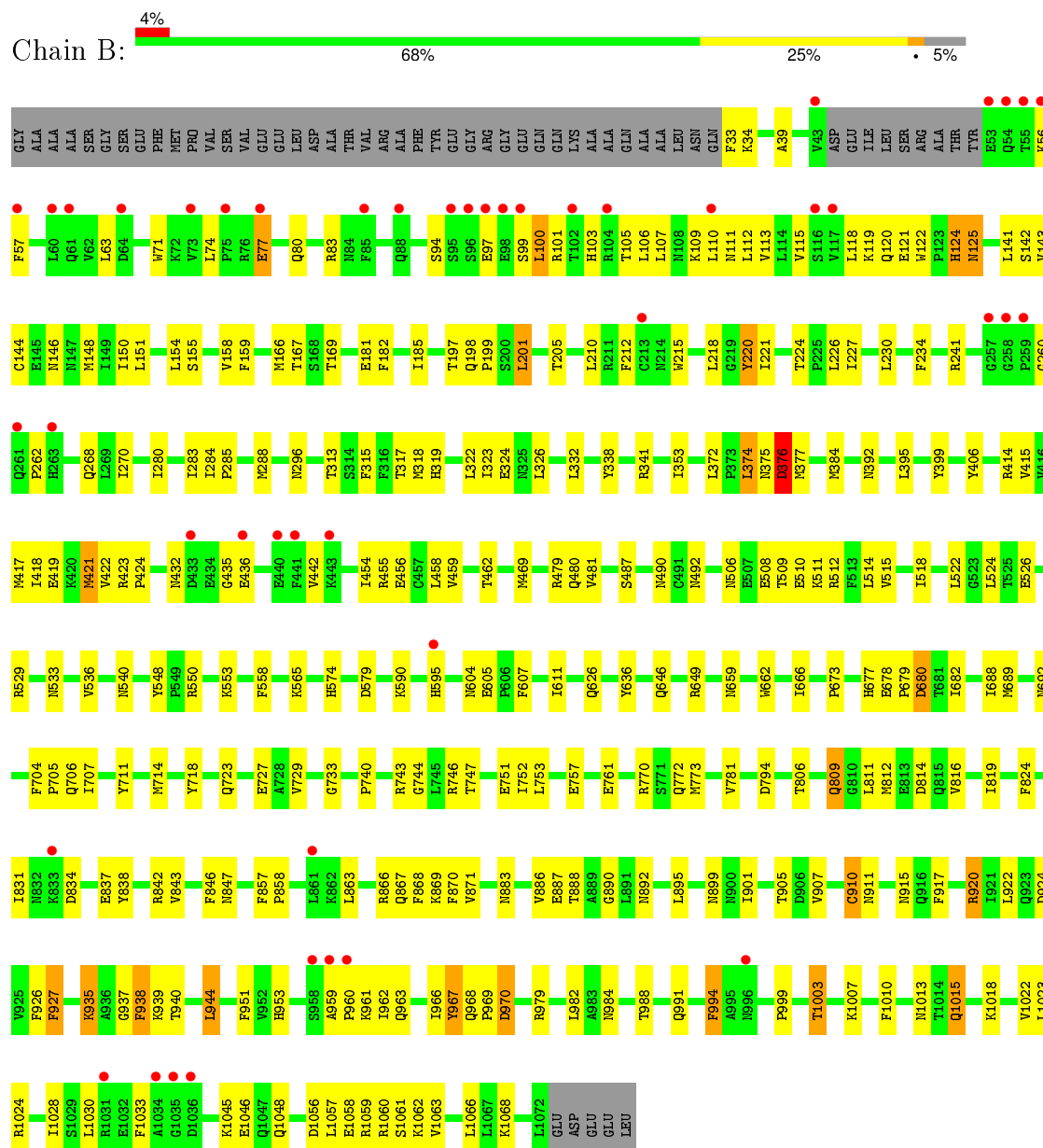
### 3 Residue-property plots

These plots are drawn for all protein, RNA and DNA chains in the entry. The first graphic for a chain summarises the proportions of errors 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: CRM1 Nuclear transport receptor



- Molecule 1: CRM1 Nuclear transport receptor



## 4 Data and refinement statistics

Property	Value	Source
Space group	P 31	Depositor
Cell constants a, b, c, $\alpha$ , $\beta$ , $\gamma$	89.82Å 89.82Å 316.20Å 90.00° 90.00° 120.00°	Depositor
Resolution (Å)	49.07 – 3.10 49.07 – 3.10	Depositor EDS
% Data completeness (in resolution range)	97.1 (49.07-3.10) 97.1 (49.07-3.10)	Depositor EDS
$R_{merge}$	0.04	Depositor
$R_{sym}$	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ <sup>1</sup>	2.10 (at 3.12Å)	Xtriage
Refinement program	PHENIX (phenix.refine: 1.8.1_1168)	Depositor
R, $R_{free}$	0.216 , 0.236 0.215 , 0.240	Depositor DCC
$R_{free}$ test set	1997 reflections (4.14%)	DCC
Wilson B-factor (Å <sup>2</sup> )	105.4	Xtriage
Anisotropy	0.184	Xtriage
Bulk solvent $k_{sol}$ (e/Å <sup>3</sup> ), $B_{sol}$ (Å <sup>2</sup> )	0.28 , 57.4	EDS
Estimated twinning fraction	0.460 for h,-h-k,-l 0.094 for -h,-k,l 0.407 for h,-h-k,-l 0.097 for -k,-h,-l	Xtriage
Reported twinning fraction	0.460 for h,-h-k,-l	Depositor
L-test for twinning <sup>2</sup>	$\langle  L  \rangle = 0.39$ , $\langle L^2 \rangle = 0.21$	Xtriage
Outliers	0 of 50204 reflections	Xtriage
$F_o, F_c$ correlation	0.95	EDS
Total number of atoms	16642	wwPDB-VP
Average B, all atoms (Å <sup>2</sup> )	112.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 3.22% of the height of the origin peak. No significant pseudotranslation is detected.*

<sup>1</sup>Intensities estimated from amplitudes.

<sup>2</sup>Theoretical values of  $\langle |L| \rangle$ ,  $\langle L^2 \rangle$  for acentric reflections are 0.5, 0.375 respectively for untwinned datasets, and 0.333, 0.2 for perfectly twinned datasets.



## 5 Model quality

### 5.1 Standard geometry

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	0.26	0/8491	0.46	0/11493
1	B	0.26	0/8482	0.47	0/11479
All	All	0.26	0/16973	0.46	0/22972

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	8326	0	8346	151	0
1	B	8316	0	8345	159	0
All	All	16642	0	16691	309	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 9.

All (309) 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:A:298:ASN:HD21	1:A:300:ARG:HE	1.24	0.85
1:B:915:ASN:ND2	1:B:967:TYR:O	2.16	0.78

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:462:THR:HG22	1:B:469:MET:HG2	1.66	0.77
1:B:94:SER:HB3	1:B:143:VAL:HG22	1.65	0.76
1:B:100:LEU:HD22	1:B:142:SER:HB3	1.69	0.75
1:B:526:GLU:OE2	1:B:565:LYS:NZ	2.21	0.73
1:B:288:MET:O	1:B:341:ARG:NH2	2.23	0.72
1:A:99:SER:O	1:A:103:HIS:ND1	2.22	0.72
1:A:682:ILE:HD13	1:A:744:GLY:HA3	1.71	0.72
1:B:659:ASN:OD1	1:B:706:GLN:NE2	2.23	0.71
1:B:372:LEU:O	1:B:375:ASN:ND2	2.23	0.71
1:B:837:GLU:O	1:B:842:ARG:NH1	2.25	0.69
1:A:970:ASP:N	1:A:970:ASP:OD1	2.17	0.69
1:A:167:THR:O	1:A:172:ARG:NH1	2.25	0.68
1:B:487:SER:OG	1:B:490:ASN:OD1	2.12	0.68
1:B:869:LYS:HD3	1:B:917:PHE:HE2	1.57	0.68
1:A:80:GLN:HA	1:A:83:ARG:HD3	1.74	0.68
1:A:94:SER:HA	1:A:100:LEU:HD21	1.76	0.66
1:B:970:ASP:OD2	1:B:970:ASP:N	2.28	0.66
1:B:324:GLU:OE2	1:B:406:TYR:OH	2.14	0.66
1:A:1020:ARG:NH2	1:A:1044:GLU:OE2	2.28	0.66
1:A:414:ARG:HH12	1:A:465:ASP:HB3	1.59	0.66
1:B:283:ILE:HG23	1:B:284:ILE:HG13	1.78	0.66
1:B:746:ARG:NH1	1:B:794:ASP:OD1	2.25	0.66
1:A:288:MET:O	1:A:341:ARG:NH1	2.29	0.66
1:B:1045:LYS:O	1:B:1048:GLN:HG2	1.96	0.65
1:A:53:GLU:HB2	1:A:56:LYS:HE2	1.79	0.65
1:A:915:ASN:ND2	1:A:967:TYR:O	2.30	0.64
1:B:688:ILE:O	1:B:692:ASN:ND2	2.30	0.64
1:A:553:LYS:O	1:A:595:HIS:NE2	2.30	0.64
1:A:688:ILE:O	1:A:692:ASN:ND2	2.28	0.64
1:A:714:MET:HE2	1:A:752:ILE:HG23	1.79	0.63
1:A:82:ILE:HG13	1:A:85:PHE:HE1	1.63	0.63
1:B:883:ASN:HB3	1:B:886:VAL:HG22	1.81	0.63
1:B:313:THR:HG21	1:B:353:ILE:HG22	1.81	0.62
1:B:770:ARG:NH2	1:B:814:ASP:OD2	2.33	0.62
1:B:315:PHE:HE1	1:B:323:ILE:HD11	1.64	0.62
1:B:376:ASP:OD1	1:B:376:ASP:N	2.26	0.62
1:A:218:LEU:H	1:A:218:LEU:HD23	1.64	0.61
1:A:392:ASN:HB3	1:A:395:LEU:HD13	1.81	0.61
1:B:646:GLN:OE1	1:B:649:ARG:NH2	2.32	0.61
1:B:432:ASN:OD1	1:B:436:GLU:N	2.32	0.61
1:B:99:SER:O	1:B:103:HIS:ND1	2.30	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:579:ASP:OD1	1:A:626:GLN:NE2	2.28	0.60
1:A:814:ASP:N	1:A:814:ASP:OD1	2.32	0.60
1:B:536:VAL:O	1:B:540:ASN:ND2	2.28	0.60
1:A:885:ASP:OD1	1:A:885:ASP:N	2.34	0.60
1:B:843:VAL:O	1:B:847:ASN:ND2	2.33	0.60
1:B:714:MET:HE2	1:B:752:ILE:HG23	1.84	0.60
1:B:553:LYS:O	1:B:595:HIS:NE2	2.32	0.60
1:A:134:VAL:HG22	1:A:188:LEU:HD11	1.83	0.59
1:A:481:VAL:HA	1:A:524:LEU:HD21	1.84	0.59
1:B:270:ILE:HD13	1:B:326:LEU:HD21	1.85	0.59
1:B:816:VAL:HA	1:B:819:ILE:HD12	1.85	0.59
1:B:834:ASP:HB3	1:B:837:GLU:HB2	1.84	0.59
1:A:399:TYR:HB3	1:A:401:LEU:HD13	1.85	0.59
1:A:168:SER:OG	1:A:169:THR:N	2.32	0.58
1:A:864:ASP:N	1:A:864:ASP:OD1	2.37	0.58
1:B:888:THR:O	1:B:892:ASN:ND2	2.32	0.57
1:B:182:PHE:CE1	1:B:215:TRP:HB3	2.40	0.57
1:B:579:ASP:OD2	1:B:626:GLN:NE2	2.30	0.57
1:A:925:VAL:HG21	1:A:944:LEU:HD22	1.85	0.57
1:B:907:VAL:O	1:B:911:ASN:ND2	2.33	0.57
1:A:481:VAL:HG21	1:A:520:ASP:HB3	1.88	0.56
1:A:973:GLN:HG3	1:A:975:GLY:H	1.69	0.56
1:A:79:CYS:SG	1:A:80:GLN:N	2.79	0.56
1:B:814:ASP:N	1:B:814:ASP:OD1	2.38	0.56
1:B:33:PHE:HD1	1:B:34:LYS:HG2	1.70	0.56
1:A:134:VAL:HG13	1:A:188:LEU:HD21	1.88	0.56
1:A:255:GLN:NE2	1:A:318:MET:SD	2.79	0.56
1:A:920:ARG:NH1	1:A:924:ASP:OD2	2.38	0.56
1:B:806:THR:O	1:B:809:GLN:NE2	2.30	0.55
1:A:277:LEU:HD23	1:A:331:PHE:HD1	1.71	0.55
1:A:991:GLN:OE1	1:B:866:ARG:NH2	2.39	0.55
1:B:1056:ASP:O	1:B:1060:ARG:HG2	2.07	0.55
1:B:56:LYS:HD2	1:B:106:LEU:HD13	1.89	0.55
1:B:680:ASP:OD2	1:B:680:ASP:N	2.38	0.54
1:A:82:ILE:HA	1:A:85:PHE:HD1	1.71	0.54
1:A:846:PHE:CZ	1:A:890:GLY:HA2	2.43	0.54
1:B:711:TYR:OH	1:B:773:MET:O	2.25	0.54
1:B:319:HIS:HB3	1:B:322:LEU:HD13	1.90	0.54
1:B:935:LYS:O	1:B:938:PHE:HB3	2.08	0.54
1:B:230:LEU:HA	1:B:234:PHE:HD2	1.73	0.54
1:A:100:LEU:HD11	1:A:142:SER:HB3	1.90	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:920:ARG:NH1	1:B:924:ASP:OD1	2.41	0.53
1:A:205:THR:O	1:A:208:THR:OG1	2.26	0.53
1:B:268:GLN:OE1	1:B:268:GLN:N	2.38	0.53
1:B:230:LEU:HA	1:B:234:PHE:CD2	2.43	0.53
1:A:270:ILE:HD13	1:A:326:LEU:HD21	1.90	0.53
1:A:910:CYS:SG	1:A:911:ASN:N	2.82	0.53
1:B:895:LEU:O	1:B:899:ASN:ND2	2.38	0.52
1:A:140:SER:HB3	1:A:143:VAL:HG23	1.90	0.52
1:A:155:SER:O	1:A:159:PHE:HB3	2.10	0.52
1:A:704:PHE:HA	1:A:707:ILE:HG22	1.92	0.52
1:A:370:GLN:O	1:A:375:ASN:ND2	2.42	0.52
1:A:933:ASP:OD1	1:A:934:HIS:N	2.37	0.52
1:B:480:GLN:HE22	1:B:490:ASN:HB2	1.74	0.52
1:A:446:ASP:OD1	1:A:446:ASP:N	2.42	0.52
1:A:677:HIS:O	1:A:677:HIS:ND1	2.43	0.52
1:A:1058:GLU:O	1:A:1062:LYS:HG3	2.10	0.52
1:A:1020:ARG:HH22	1:A:1044:GLU:HG2	1.74	0.51
1:B:689:MET:HE3	1:B:752:ILE:HG12	1.92	0.51
1:B:740:PRO:HA	1:B:743:ARG:HE	1.75	0.51
1:B:1024:ARG:O	1:B:1028:ILE:HG13	2.11	0.51
1:A:570:MET:HG3	1:A:622:LEU:HD21	1.92	0.51
1:B:155:SER:HB2	1:B:212:PHE:CZ	2.46	0.51
1:B:181:GLU:O	1:B:185:ILE:HG13	2.11	0.51
1:A:122:TRP:CD1	1:A:126:TRP:HB3	2.45	0.51
1:B:910:CYS:SG	1:B:911:ASN:N	2.83	0.51
1:B:313:THR:O	1:B:317:THR:OG1	2.25	0.50
1:B:492:ASN:HA	1:B:540:ASN:OD1	2.12	0.50
1:A:953:HIS:O	1:A:1013:ASN:ND2	2.45	0.50
1:B:318:MET:HG3	1:B:319:HIS:CE1	2.47	0.49
1:B:510:GLU:OE2	1:B:550:ARG:NH2	2.33	0.49
1:A:1045:LYS:O	1:A:1048:GLN:HG2	2.12	0.49
1:A:897:LEU:O	1:A:901:ILE:HG12	2.12	0.49
1:B:831:ILE:HG23	1:B:842:ARG:HG2	1.94	0.49
1:A:718:TYR:CZ	1:A:781:VAL:HG12	2.47	0.49
1:B:911:ASN:HB3	1:B:966:ILE:HB	1.93	0.49
1:A:35:GLU:C	1:A:37:PRO:HD3	2.32	0.49
1:A:1003:THR:O	1:A:1007:LYS:HG2	2.12	0.49
1:B:374:LEU:HD21	1:B:399:TYR:OH	2.12	0.49
1:B:144:CYS:O	1:B:148:MET:HG2	2.13	0.49
1:B:57:PHE:HE1	1:B:106:LEU:HA	1.76	0.49
1:A:883:ASN:HB3	1:A:886:VAL:HG22	1.94	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:220:TYR:O	1:B:224:THR:OG1	2.19	0.49
1:A:556:TRP:O	1:A:559:LEU:HB3	2.12	0.49
1:A:181:GLU:O	1:A:185:ILE:HG13	2.12	0.49
1:B:33:PHE:CD1	1:B:34:LYS:HG2	2.47	0.49
1:B:111:ASN:ND2	1:B:146:ASN:OD1	2.46	0.49
1:B:110:LEU:O	1:B:113:VAL:HG12	2.13	0.49
1:B:94:SER:O	1:B:142:SER:OG	2.19	0.48
1:B:863:LEU:HG	1:B:867:GLN:HB2	1.94	0.48
1:B:757:GLU:O	1:B:761:GLU:HG3	2.13	0.48
1:A:378:SER:HA	1:A:382:LEU:O	2.14	0.48
1:A:949:PHE:CE1	1:A:982:LEU:HD21	2.49	0.48
1:A:315:PHE:HE2	1:A:323:ILE:HD11	1.78	0.48
1:B:887:GLU:OE2	1:B:937:GLY:N	2.46	0.48
1:A:1010:PHE:O	1:A:1013:ASN:ND2	2.47	0.48
1:A:414:ARG:NH1	1:A:465:ASP:HB3	2.27	0.48
1:A:63:LEU:HD11	1:A:82:ILE:HD11	1.96	0.48
1:B:939:LYS:NZ	1:B:1046:GLU:OE1	2.47	0.48
1:A:129:PHE:O	1:A:133:ILE:HG12	2.13	0.48
1:B:968:GLN:HG2	1:B:969:PRO:HD2	1.95	0.48
1:A:359:LEU:HD22	1:A:453:THR:HG23	1.96	0.47
1:B:421:MET:SD	1:B:422:VAL:N	2.85	0.47
1:B:481:VAL:HG12	1:B:524:LEU:HD13	1.97	0.47
1:A:689:MET:O	1:A:693:VAL:HG23	2.15	0.47
1:A:583:ASP:HA	1:A:586:ILE:HG22	1.97	0.47
1:A:770:ARG:NH2	1:A:814:ASP:OD2	2.48	0.47
1:B:221:ILE:HG22	1:B:227:ILE:HD11	1.97	0.47
1:A:574:HIS:O	1:A:577:VAL:HG12	2.15	0.47
1:A:249:THR:HG23	1:A:311:PHE:HA	1.97	0.47
1:B:812:MET:O	1:B:816:VAL:HG23	2.14	0.46
1:B:148:MET:HE2	1:B:205:THR:HA	1.97	0.46
1:A:632:GLU:HB2	1:A:694:SER:HB3	1.97	0.46
1:B:141:LEU:HD23	1:B:201:LEU:HD13	1.96	0.46
1:B:218:LEU:H	1:B:218:LEU:HD12	1.81	0.46
1:A:968:GLN:HB2	1:A:969:PRO:HD2	1.96	0.46
1:B:74:LEU:HD21	1:B:124:HIS:HE1	1.80	0.46
1:B:753:LEU:O	1:B:757:GLU:HG3	2.15	0.46
1:A:133:ILE:HG23	1:A:147:ASN:HB3	1.97	0.46
1:B:166:MET:O	1:B:167:THR:OG1	2.28	0.46
1:A:593:ARG:NH1	1:A:639:SER:OG	2.49	0.46
1:A:155:SER:HB2	1:A:212:PHE:CZ	2.50	0.46
1:B:456:GLU:HG2	1:B:1066:LEU:HD22	1.98	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:154:LEU:O	1:B:158:VAL:HG12	2.15	0.46
1:B:159:PHE:HB2	1:B:215:TRP:HE1	1.78	0.46
1:B:146:ASN:O	1:B:150:ILE:HG13	2.16	0.46
1:B:529:ARG:O	1:B:533:ASN:ND2	2.46	0.46
1:B:100:LEU:HD21	1:B:101:ARG:HE	1.80	0.45
1:A:882:ASP:N	1:A:882:ASP:OD1	2.49	0.45
1:B:718:TYR:CZ	1:B:781:VAL:HG12	2.51	0.45
1:A:242:ASN:O	1:A:246:GLN:HG3	2.16	0.45
1:A:994:PHE:HB3	1:A:996:ASN:OD1	2.16	0.45
1:A:729:VAL:O	1:A:733:GLY:N	2.49	0.45
1:B:590:LYS:HE2	1:B:636:TYR:CZ	2.51	0.45
1:B:459:VAL:O	1:B:462:THR:OG1	2.28	0.45
1:B:951:PHE:HD1	1:B:963:GLN:HG3	1.80	0.45
1:A:83:ARG:HG2	1:A:84:ASN:N	2.31	0.45
1:B:121:GLU:O	1:B:124:HIS:HB3	2.16	0.45
1:B:901:ILE:O	1:B:905:THR:OG1	2.22	0.45
1:A:67:ILE:HG21	1:A:117:VAL:HG22	1.99	0.45
1:B:682:ILE:HD13	1:B:744:GLY:HA3	1.98	0.45
1:A:274:THR:O	1:A:278:THR:OG1	2.35	0.45
1:A:477:LEU:HD22	1:A:517:VAL:HG22	1.99	0.45
1:B:1013:ASN:N	1:B:1013:ASN:OD1	2.50	0.45
1:B:857:PHE:N	1:B:858:PRO:HD2	2.32	0.45
1:A:429:ILE:HD11	1:A:539:SER:HB3	1.99	0.45
1:B:677:HIS:ND1	1:B:677:HIS:O	2.49	0.45
1:B:994:PHE:CZ	1:B:1030:LEU:HD13	2.52	0.45
1:A:53:GLU:O	1:A:56:LYS:HG2	2.17	0.45
1:B:979:ARG:HG3	1:B:1010:PHE:CE1	2.51	0.45
1:A:417:MET:HE3	1:A:454:ILE:HG23	1.99	0.44
1:B:514:LEU:HD21	1:B:548:TYR:CD1	2.52	0.44
1:B:479:ARG:HD3	1:B:479:ARG:HA	1.65	0.44
1:A:423:ARG:HA	1:A:424:PRO:HD3	1.79	0.44
1:A:1024:ARG:O	1:A:1028:ILE:HG13	2.17	0.44
1:A:44:ASP:N	1:A:44:ASP:OD2	2.50	0.44
1:B:323:ILE:HG22	1:B:332:LEU:HB2	1.98	0.44
1:B:1018:LYS:O	1:B:1022:VAL:HG12	2.18	0.44
1:B:1059:ARG:NH2	1:B:1060:ARG:HE	2.16	0.44
1:A:313:THR:HG21	1:A:353:ILE:HG22	2.00	0.44
1:A:669:ALA:HB2	1:A:675:ILE:HD11	2.00	0.44
1:A:1018:LYS:H	1:A:1018:LYS:HG2	1.61	0.44
1:B:280:ILE:HA	1:B:283:ILE:HG22	2.00	0.44
1:A:316:PHE:O	1:A:320:LEU:HB2	2.18	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:662:TRP:O	1:B:666:ILE:HG12	2.17	0.44
1:B:392:ASN:HB3	1:B:395:LEU:HG	1.99	0.44
1:B:71:TRP:CE2	1:B:120:GLN:HB3	2.52	0.44
1:A:415:VAL:O	1:A:419:GLU:HG3	2.18	0.44
1:A:608:ILE:O	1:A:612:ILE:HG12	2.18	0.44
1:B:56:LYS:HB2	1:B:56:LYS:HE3	1.77	0.44
1:A:128:THR:O	1:A:132:GLU:HG3	2.17	0.44
1:B:284:ILE:HA	1:B:285:PRO:HD3	1.86	0.43
1:A:58:LEU:O	1:A:62:VAL:HG23	2.18	0.43
1:A:122:TRP:HD1	1:A:126:TRP:HB3	1.84	0.43
1:B:151:LEU:O	1:B:154:LEU:HG	2.18	0.43
1:A:203:LYS:O	1:A:207:GLU:HG2	2.18	0.43
1:A:403:LYS:HD2	1:A:464:LEU:HB3	1.98	0.43
1:A:868:PHE:O	1:A:872:ILE:HG12	2.19	0.43
1:A:186:PHE:CE2	1:A:224:THR:HG21	2.52	0.43
1:B:509:THR:HG23	1:B:512:ARG:HH21	1.82	0.43
1:B:746:ARG:HD2	1:B:794:ASP:OD1	2.17	0.43
1:A:812:MET:O	1:A:816:VAL:HG23	2.17	0.43
1:B:417:MET:HE3	1:B:454:ILE:HG23	1.99	0.43
1:A:747:THR:O	1:A:751:GLU:HG2	2.18	0.43
1:A:274:THR:HG23	1:A:331:PHE:CE1	2.53	0.43
1:B:1030:LEU:HD12	1:B:1033:PHE:CD1	2.53	0.43
1:B:729:VAL:O	1:B:733:GLY:N	2.49	0.43
1:A:212:PHE:O	1:A:216:ILE:HG13	2.18	0.43
1:B:704:PHE:CG	1:B:705:PRO:HD3	2.54	0.43
1:A:681:THR:O	1:A:685:ILE:HG13	2.19	0.43
1:A:842:ARG:HD3	1:A:877:TRP:CZ3	2.54	0.43
1:A:134:VAL:HG21	1:A:184:MET:SD	2.58	0.43
1:A:159:PHE:HD1	1:A:215:TRP:HZ2	1.66	0.43
1:B:959:ALA:O	1:B:961:LYS:N	2.52	0.43
1:B:824:PHE:HZ	1:B:870:PHE:HB2	1.83	0.43
1:B:867:GLN:O	1:B:871:VAL:HG23	2.19	0.43
1:B:511:LYS:O	1:B:515:VAL:HG23	2.19	0.43
1:A:760:VAL:HG11	1:A:804:ILE:HG22	2.00	0.43
1:B:415:VAL:O	1:B:419:GLU:HG3	2.19	0.43
1:B:423:ARG:HA	1:B:424:PRO:HD3	1.87	0.42
1:A:75:PRO:HG2	1:A:78:GLN:HB3	2.00	0.42
1:A:914:PHE:HB3	1:A:918:PHE:HB2	2.01	0.42
1:B:838:TYR:O	1:B:842:ARG:HG3	2.19	0.42
1:A:296:ASN:N	1:A:296:ASN:OD1	2.52	0.42
1:B:506:ASN:ND2	1:B:508:GLU:OE1	2.52	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:112:LEU:O	1:B:115:VAL:HG12	2.19	0.42
1:A:502:SER:O	1:A:1065:GLY:HA2	2.19	0.42
1:B:155:SER:HB2	1:B:212:PHE:CE2	2.55	0.42
1:B:198:GLN:HA	1:B:199:PRO:HD3	1.84	0.42
1:A:996:ASN:OD1	1:A:996:ASN:N	2.48	0.42
1:B:953:HIS:O	1:B:1013:ASN:ND2	2.52	0.42
1:A:520:ASP:O	1:A:524:LEU:HG	2.20	0.42
1:B:1003:THR:O	1:B:1007:LYS:HG2	2.20	0.42
1:A:414:ARG:HH22	1:A:465:ASP:HB3	1.83	0.42
1:A:315:PHE:CE2	1:A:323:ILE:HD11	2.55	0.42
1:B:455:ARG:NH1	1:B:1068:LYS:HG2	2.34	0.42
1:A:294:TYR:CE1	1:A:302:GLN:HG2	2.54	0.42
1:A:521:LEU:HD23	1:A:524:LEU:HD12	2.01	0.42
1:A:198:GLN:HA	1:A:199:PRO:HD3	1.93	0.42
1:B:811:LEU:HA	1:B:811:LEU:HD23	1.86	0.42
1:A:228:ASP:O	1:A:232:THR:OG1	2.28	0.42
1:A:413:LEU:HD23	1:A:461:LEU:HD21	2.00	0.42
1:B:1057:LEU:O	1:B:1061:SER:N	2.49	0.42
1:A:556:TRP:CZ2	1:A:603:GLU:HG2	2.55	0.41
1:A:198:GLN:HB3	1:A:201:LEU:HG	2.02	0.41
1:B:39:ALA:HB1	1:B:63:LEU:HD12	2.02	0.41
1:A:1038:ALA:HB1	1:A:1041:TYR:CD2	2.55	0.41
1:B:109:LYS:O	1:B:112:LEU:HG	2.20	0.41
1:A:666:ILE:O	1:A:670:THR:OG1	2.22	0.41
1:B:940:THR:O	1:B:944:LEU:N	2.45	0.41
1:A:562:VAL:O	1:A:566:LEU:HG	2.20	0.41
1:B:518:ILE:O	1:B:522:LEU:HG	2.20	0.41
1:B:984:ASN:O	1:B:988:THR:HG23	2.20	0.41
1:A:506:ASN:OD1	1:A:509:THR:OG1	2.34	0.41
1:A:279:THR:O	1:A:283:ILE:HG13	2.21	0.41
1:A:657:ILE:HB	1:A:658:PRO:HD3	2.02	0.41
1:A:477:LEU:HD21	1:A:517:VAL:HA	2.03	0.41
1:A:294:TYR:HD1	1:A:305:ILE:HD12	1.86	0.41
1:A:833:LYS:HE3	1:A:833:LYS:HB3	1.93	0.41
1:A:226:LEU:O	1:A:229:THR:OG1	2.28	0.41
1:B:723:GLN:O	1:B:727:GLU:HG3	2.20	0.41
1:A:374:LEU:HD12	1:A:377:MET:HE3	2.02	0.41
1:A:508:GLU:O	1:A:511:LYS:HB3	2.21	0.41
1:B:80:GLN:HA	1:B:83:ARG:HD3	2.02	0.41
1:B:458:LEU:O	1:B:462:THR:HG23	2.20	0.41
1:A:64:ASP:HB2	1:A:113:VAL:HG22	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:270:ILE:HG23	1:A:326:LEU:HD11	2.03	0.40
1:A:316:PHE:HE1	1:A:323:ILE:HD12	1.85	0.40
1:A:509:THR:HG22	1:A:512:ARG:NH2	2.36	0.40
1:B:607:PHE:O	1:B:611:ILE:HG13	2.21	0.40
1:B:103:HIS:O	1:B:107:LEU:HG	2.21	0.40
1:A:837:GLU:O	1:A:842:ARG:NH2	2.54	0.40
1:B:846:PHE:CE1	1:B:890:GLY:HA2	2.55	0.40
1:A:254:LEU:HD23	1:A:254:LEU:HA	1.92	0.40
1:B:927:PHE:HA	1:B:927:PHE:HD1	1.77	0.40
1:B:1058:GLU:O	1:B:1062:LYS:HG2	2.21	0.40
1:A:710:LEU:O	1:A:714:MET:HG3	2.21	0.40
1:B:678:GLU:HA	1:B:679:PRO:HD3	1.91	0.40
1:B:414:ARG:O	1:B:418:ILE:HG13	2.22	0.40
1:B:1015:GLN:HG3	1:B:1018:LYS:HD2	2.03	0.40
1:B:747:THR:O	1:B:751:GLU:HG2	2.21	0.40
1:B:77:GLU:H	1:B:77:GLU:HG3	1.66	0.40
1:B:999:PRO:O	1:B:1003:THR:OG1	2.37	0.40
1:B:604:ASN:OD1	1:B:605:GLU:N	2.55	0.40
1:A:290:LEU:HD23	1:A:345:ILE:HD11	2.03	0.40
1:A:786:ASN:HD22	1:A:786:ASN:C	2.25	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	1029/1086 (95%)	996 (97%)	30 (3%)	3 (0%)	46 80
1	B	1027/1086 (95%)	991 (96%)	29 (3%)	7 (1%)	26 65
All	All	2056/2172 (95%)	1987 (97%)	59 (3%)	10 (0%)	34 72

All (10) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	262	PRO
1	B	960	PRO
1	A	168	SER
1	A	387	GLY
1	B	376	ASP
1	B	435	GLY
1	B	260	GLY
1	B	124	HIS
1	B	125	ASN
1	B	262	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	A	930/971 (96%)	886 (95%)	44 (5%)	32	70
1	B	929/971 (96%)	880 (95%)	49 (5%)	28	64
All	All	1859/1942 (96%)	1766 (95%)	93 (5%)	30	67

All (93) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	36	ASP
1	A	44	ASP
1	A	76	ARG
1	A	79	CYS
1	A	83	ARG
1	A	85	PHE
1	A	101	ARG
1	A	142	SER
1	A	152	ARG
1	A	164	ASP
1	A	177	THR
1	A	193	LEU
1	A	209	LEU
1	A	218	LEU

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Mol	Chain	Res	Type
1	A	220	TYR
1	A	278	THR
1	A	296	ASN
1	A	441	PHE
1	A	444	ASP
1	A	446	ASP
1	A	509	THR
1	A	556	TRP
1	A	680	ASP
1	A	734	GLU
1	A	741	LYS
1	A	786	ASN
1	A	809	GLN
1	A	814	ASP
1	A	861	LEU
1	A	864	ASP
1	A	868	PHE
1	A	882	ASP
1	A	884	ARG
1	A	885	ASP
1	A	893	MET
1	A	905	THR
1	A	907	VAL
1	A	910	CYS
1	A	920	ARG
1	A	926	PHE
1	A	953	HIS
1	A	967	TYR
1	A	970	ASP
1	A	1014	THR
1	B	77	GLU
1	B	97	GLU
1	B	100	LEU
1	B	105	THR
1	B	118	LEU
1	B	119	LYS
1	B	122	TRP
1	B	125	ASN
1	B	169	THR
1	B	197	THR
1	B	201	LEU
1	B	210	LEU

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Mol	Chain	Res	Type
1	B	220	TYR
1	B	226	LEU
1	B	241	ARG
1	B	296	ASN
1	B	338	TYR
1	B	374	LEU
1	B	376	ASP
1	B	377	MET
1	B	384	MET
1	B	421	MET
1	B	442	VAL
1	B	558	PHE
1	B	574	HIS
1	B	673	PRO
1	B	680	ASP
1	B	707	ILE
1	B	772	GLN
1	B	809	GLN
1	B	868	PHE
1	B	910	CYS
1	B	920	ARG
1	B	922	LEU
1	B	926	PHE
1	B	927	PHE
1	B	935	LYS
1	B	938	PHE
1	B	944	LEU
1	B	962	ILE
1	B	967	TYR
1	B	970	ASP
1	B	982	LEU
1	B	991	GLN
1	B	994	PHE
1	B	1003	THR
1	B	1015	GLN
1	B	1023	LEU
1	B	1063	VAL

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

Mol	Chain	Res	Type
1	A	298	ASN

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Mol	Chain	Res	Type
1	B	124	HIS
1	B	319	HIS
1	B	480	GLN
1	B	659	ASN
1	B	706	GLN
1	B	915	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 carbohydrates 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

### 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<sup>th</sup> 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 <sup>2</sup> )	Q<0.9
1	A	1033/1086 (95%)	0.08	40 (3%)	43 21	71, 100, 175, 211	0
1	B	1031/1086 (94%)	0.11	46 (4%)	37 17	74, 105, 175, 204	0
All	All	2064/2172 (95%)	0.09	86 (4%)	40 19	71, 102, 175, 211	0

All (86) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	B	258	GLY	13.5
1	B	960	PRO	10.0
1	B	98	GLU	7.7
1	A	162	SER	7.1
1	B	85	PHE	6.5
1	B	60	LEU	6.4
1	B	55	THR	6.2
1	B	95	SER	6.1
1	B	259	PRO	6.0
1	B	96	SER	5.9
1	B	440	GLU	5.3
1	B	53	GLU	5.3
1	B	958	SER	5.2
1	B	102	THR	5.1
1	B	263	HIS	5.0
1	B	54	GLN	5.0
1	A	917	PHE	4.7
1	A	181	GLU	4.7
1	B	117	VAL	4.5
1	B	43	VAL	4.3
1	B	1035	GLY	4.2
1	B	73	VAL	4.2
1	A	832	ASN	4.2
1	A	164	ASP	4.1

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Mol	Chain	Res	Type	RSRZ
1	B	996	ASN	3.9
1	A	167	THR	3.8
1	B	261	GLN	3.7
1	A	960	PRO	3.6
1	B	75	PRO	3.6
1	A	180	ALA	3.5
1	B	104	ARG	3.5
1	A	79	CYS	3.4
1	A	98	GLU	3.4
1	B	959	ALA	3.4
1	B	257	GLY	3.3
1	A	884	ARG	3.3
1	A	76	ARG	3.3
1	B	1031	ARG	3.3
1	B	88	GLN	3.2
1	A	55	THR	3.2
1	A	58	LEU	3.1
1	B	64	ASP	3.0
1	A	446	ASP	2.9
1	A	957	GLY	2.9
1	A	959	ALA	2.9
1	A	91	LEU	2.8
1	B	57	PHE	2.8
1	B	56	LYS	2.8
1	B	61	GLN	2.8
1	A	166	MET	2.7
1	B	1034	ALA	2.7
1	A	47	LEU	2.7
1	A	967	TYR	2.7
1	A	92	GLN	2.7
1	B	97	GLU	2.6
1	A	431	GLU	2.6
1	B	213	CYS	2.6
1	A	80	GLN	2.6
1	B	433	ASP	2.6
1	B	441	PHE	2.6
1	A	170	LYS	2.6
1	A	259	PRO	2.5
1	B	77	GLU	2.5
1	B	110	LEU	2.4
1	A	968	GLN	2.4
1	B	861	LEU	2.3

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Mol	Chain	Res	Type	RSRZ
1	B	1036	ASP	2.3
1	A	75	PRO	2.3
1	B	833	LYS	2.3
1	A	153	LEU	2.3
1	A	169	THR	2.3
1	A	952	VAL	2.3
1	A	171	THR	2.2
1	B	116	SER	2.2
1	A	144	CYS	2.2
1	B	436	GLU	2.2
1	A	223	GLU	2.2
1	A	137	CYS	2.2
1	B	595	HIS	2.1
1	A	146	ASN	2.1
1	A	1028	ILE	2.1
1	B	443	LYS	2.1
1	B	99	SER	2.1
1	A	93	CYS	2.1
1	A	54	GLN	2.1
1	A	980	GLU	2.0

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

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

## 6.3 Carbohydrates [i](#)

There are no carbohydrates in this entry.

## 6.4 Ligands [i](#)

There are no ligands in this entry.

## 6.5 Other polymers [i](#)

There are no such residues in this entry.