



# Full wwPDB X-ray Structure Validation Report ⓘ

Jun 15, 2024 – 10:23 AM EDT

PDB ID : 1U6G  
Title : Crystal Structure of The Cand1-Cull1-Roc1 Complex  
Authors : Goldenberg, S.J.; Shumway, S.D.; Cascio, T.C.; Garbutt, K.C.; Liu, J.; Xiong, Y.; Zheng, N.  
Deposited on : 2004-07-29  
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

<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>.

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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  
Xtriage (Phenix) : 1.20.1  
EDS : 2.37.1  
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)  
Refmac : 5.8.0158  
CCP4 : 7.0.044 (Gargrove)  
Ideal geometry (proteins) : Engh & Huber (2001)  
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)  
Validation Pipeline (wwPDB-VP) : 2.37.1

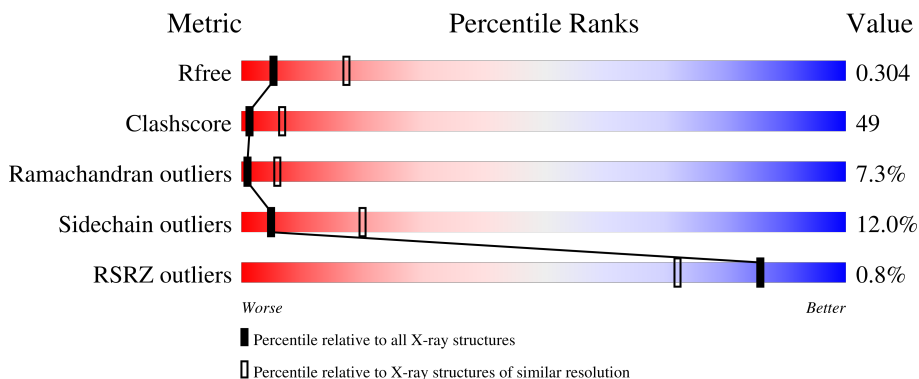
# 1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

*X-RAY DIFFRACTION*


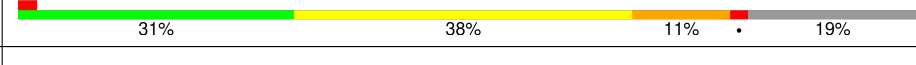

The reported resolution of this entry is 3.10 Å.

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))
$R_{free}$	130704	1094 (3.10-3.10)
Clashscore	141614	1184 (3.10-3.10)
Ramachandran outliers	138981	1141 (3.10-3.10)
Sidechain outliers	138945	1141 (3.10-3.10)
RSRZ outliers	127900	1067 (3.10-3.10)

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  $\geq 3$ , 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  $\leq 5\%$ . 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	776	
2	B	108	
3	C	1230	

## 2 Entry composition [i](#)

There are 5 unique types of molecules in this entry. The entry contains 15511 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 Cullin homolog 1.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
1	A	715	5855	3719	998	1109	29	0	0	0

- Molecule 2 is a protein called RING-box protein 1.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
2	B	88	731	464	133	125	9	0	0	0

- Molecule 3 is a protein called TIP120 protein.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
3	C	1146	8904	5667	1509	1672	56	0	0	0

- Molecule 4 is ZINC ION (three-letter code: ZN) (formula: Zn).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
4	B	3	Total	Zn	0	0
			3	3		

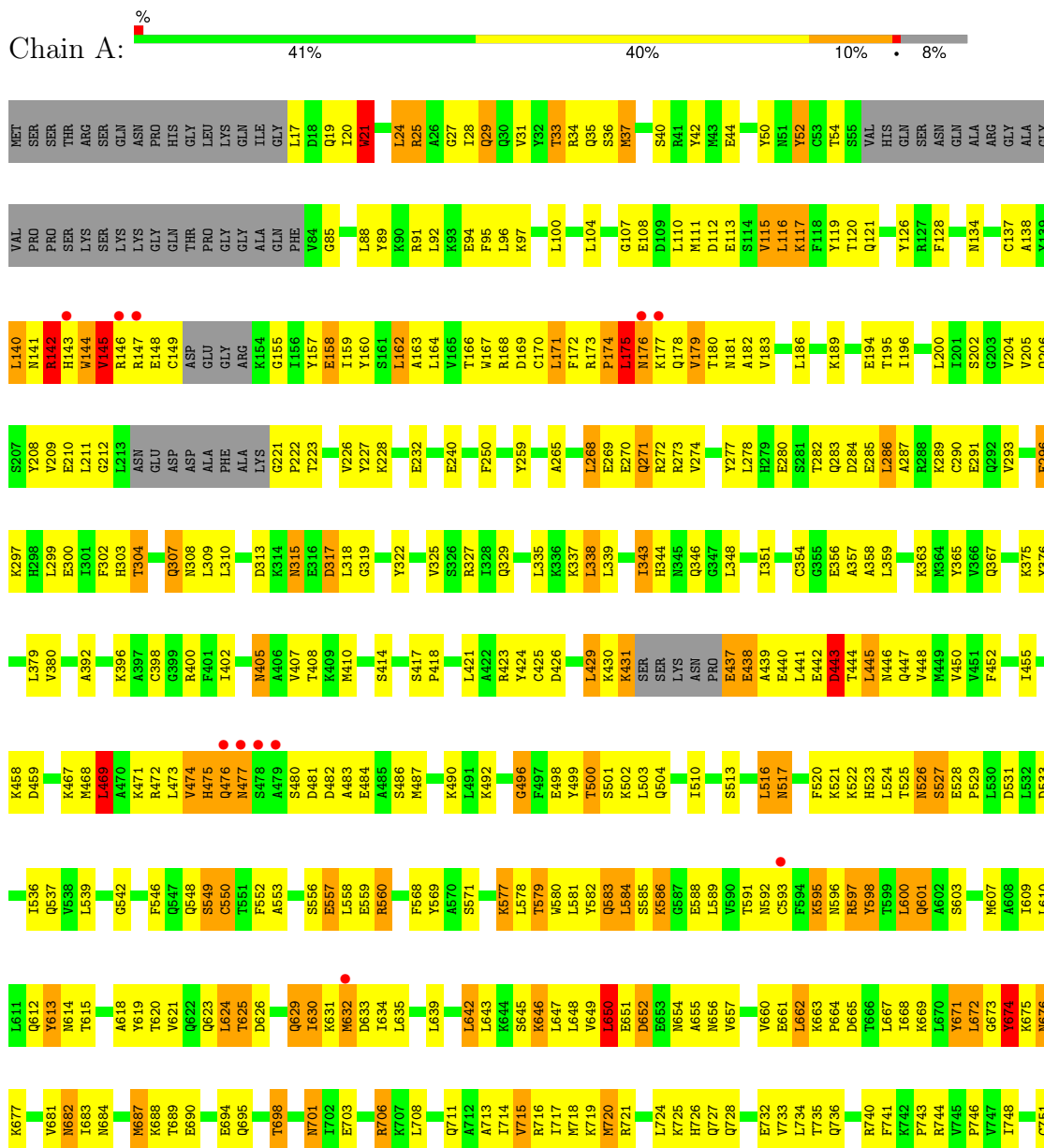
- Molecule 5 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
5	A	10	Total	O	0	0
			10	10		
5	B	3	Total	O	0	0
			3	3		
5	C	5	Total	O	0	0
			5	5		

### 3 Residue-property plots

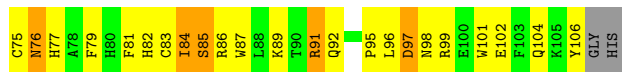
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and electron density. 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: Cullin homolog 1

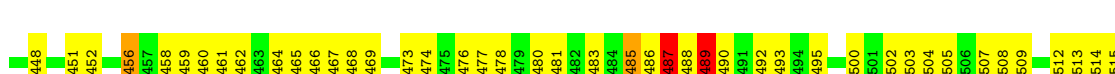
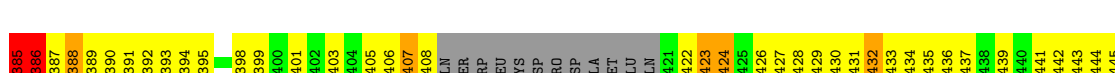
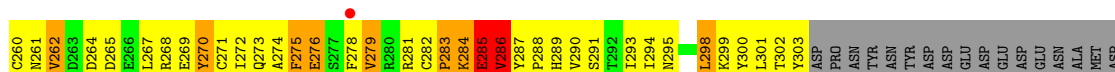




• Molecule 2: RING-box protein 1



• Molecule 3: TIP120 protein



GLU	Q1164	D1098	D1019	C954	I883	A804	V722	E850
SER	E1165	R1099	L1020	L958	S884	R808	Y723	G851
MET	F1166	D1100	M1021	T958	N887	A809	P724	V652
ASP	E1167	D1101	V1022	T959	L888	R810	S725	P653
THR	K1168	I1102	R1023	L960	P889	C810	S726	I654
SER	Q1169	F1103	R1024	I961	E890	P811	L727	L655
	D1170	E1104	V1025	D962	Y891	K812		A656
	E1171	M1107	A1026	P963	L892	E813	I730	S657
		H1108	L1027	E964	L893	G814	S731	F658
		V1109	V1028	T965	F893	P815	G732	L659
		E1110	F1030	L966	F894	S733	G733	R660
		D1111	N1031	P967	V895	I734	I734	K661
		G1112	S1032	P968	L896	L735	L735	M662
		L1113	A1033	E969	Q897	M736	M736	Q663
		Y1117	A1034	L970	E898	E737	E737	R664
		K1120	H1035	K971	I899	L738	L738	A665
		M1121	K1037	G972	T900	V742	V742	L666
		L1122	P1038	I975	Q902	R743	R743	K667
		T1123	S1039	S976	P903	L741	L741	A673
		M1126	I1040	S977	R904	V742	V742	L674
		L1127	I1041	S978	R905	Q748	Q748	D675
		V1128	L1044	S979	L1040	G749	G749	I676
		R1129	L1047	Y980	Q906	G750	G750	L677
		L1130	T1047	Y981	P903	A751	A751	M680
		S1131	V1048	R982	R904	Q760	Q760	Y691
		T1132	L1049	Y985	I916	S692	S692	S692
		L1133	P1050	V986	I917	V763	V763	D683
		C1134	H1051	T987	S918	S694	S694	S684
		V1135	L1052	A988	S919	G766	G766	L685
		L1139	Y1053	V989	A920	T767	T767	T686
		R1141	M1054	K990	S921	M768	M768	A657
		D1142	E1055	T992	V922	A688	A688	A688
		R1144	T1056	I993	G924	L770	L770	M689
		L1145	E1067	S994	V923	G771	G771	I690
		V1146	M1068	H996	L925	Y772	Y772	D691
		E1147	H1073	P999	L926	M773	M773	A692
		P1148	L1079	I1000	P927	D774	D774	V693
		L1149	D1080	D1001	L851	L775	L775	L694
		A1151	I1081	I1005	S852			D695
		C1153	R1082	K1005	G853	M778	M778	E696
		T1154	K1083	L1008	Q854	L779	L779	L697
		T1155	C1088	G1009	L855	T780	T780	P698
		K1156	M1089	I1010	L856	G781	G781	P699
		V1157	Y1090	F1011	K858	P782	P782	L700
		K1158	Y1090	E941	S859	V783	V783	I701
		A1159	L1093	C942	V860	S785	S785	M706
		M1160	D1094	A943	I861	Q786	Q786	S709
		S1161	S1095	E944	L862	SER	SER	Q710
		V1162	C1096	E945	P865	THR	THR	M711
		K1163	L1097	G946	E870	ALA	ALA	M711
				T947	S874	LEU	LEU	L716
				R948	S874	T717	T717	T717
				L1014	S874	T718	T718	T718
				L1015	S874	L719	L719	L719
				E1016	S874	I799	I799	I799
				C1017	S874			
				P1018	S874			

## 4 Data and refinement statistics

Property	Value	Source
Space group	P 21 21 21	Depositor
Cell constants a, b, c, $\alpha$ , $\beta$ , $\gamma$	108.47Å 151.33Å 215.89Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	50.00 – 3.10 49.68 – 2.49	Depositor EDS
% Data completeness (in resolution range)	(Not available) (50.00-3.10) 73.1 (49.68-2.49)	Depositor EDS
$R_{merge}$	(Not available)	Depositor
$R_{sym}$	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ <sup>1</sup>	0.84 (at 2.48Å)	Xtrriage
Refinement program	CNS	Depositor
R, $R_{free}$	0.243 , 0.317 0.236 , 0.304	Depositor DCC
$R_{free}$ test set	3108 reflections (2.95%)	wwPDB-VP
Wilson B-factor (Å <sup>2</sup> )	56.5	Xtrriage
Anisotropy	0.413	Xtrriage
Bulk solvent $k_{sol}$ (e/Å <sup>3</sup> ), $B_{sol}$ (Å <sup>2</sup> )	0.28 , 53.0	EDS
L-test for twinning <sup>2</sup>	$\langle  L  \rangle = 0.49$ , $\langle L^2 \rangle = 0.32$	Xtrriage
Estimated twinning fraction	No twinning to report.	Xtrriage
$F_o, F_c$ correlation	0.92	EDS
Total number of atoms	15511	wwPDB-VP
Average B, all atoms (Å <sup>2</sup> )	62.0	wwPDB-VP

Xtrriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 2.64% 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, 0.333 respectively for untwinned datasets, and 0.375, 0.2 for perfectly twinned datasets.

## 5 Model quality i

### 5.1 Standard geometry i

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

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	0.49	3/5949 (0.1%)	1.14	14/8007 (0.2%)
2	B	0.51	0/752	0.86	1/1020 (0.1%)
3	C	0.45	1/9041 (0.0%)	0.86	31/12243 (0.3%)
All	All	0.47	4/15742 (0.0%)	0.97	46/21270 (0.2%)

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

Mol	Chain	#Chirality outliers	#Planarity outliers
1	A	0	1
3	C	0	2
All	All	0	3

All (4) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	437	GLU	C-N	-8.90	1.13	1.34
1	A	443	ASP	C-N	7.93	1.52	1.34
3	C	601	GLY	C-N	-6.35	1.19	1.34
1	A	630	ILE	CG1-CD1	5.03	1.85	1.50

All (46) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	437	GLU	O-C-N	-72.37	6.91	122.70
3	C	117	LEU	C-N-CD	-20.01	76.58	120.60
3	C	117	LEU	C-N-CA	13.74	179.69	122.00
3	C	487	LYS	CB-CA-C	12.45	135.31	110.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	C	377	PRO	CA-N-CD	-10.61	96.64	111.50
1	A	476	GLN	N-CA-C	9.83	137.54	111.00
1	A	630	ILE	CB-CG1-CD1	-9.22	88.08	113.90
1	A	721	ARG	N-CA-C	-8.50	88.06	111.00
1	A	33	THR	N-CA-C	-8.21	88.82	111.00
1	A	175	LEU	CA-CB-CG	8.21	134.18	115.30
1	A	584	LEU	CA-CB-CG	8.01	133.72	115.30
3	C	1195	MET	N-CA-C	7.95	132.45	111.00
3	C	375	VAL	CB-CA-C	-7.63	96.91	111.40
3	C	488	SER	CA-C-N	-7.58	100.51	117.20
1	A	630	ILE	CB-CA-C	-7.42	96.77	111.60
2	B	45	CYS	N-CA-C	-7.29	91.32	111.00
1	A	111	MET	N-CA-C	7.01	129.92	111.00
3	C	1198	PHE	CB-CA-C	-6.92	96.56	110.40
3	C	487	LYS	N-CA-C	-6.81	92.60	111.00
3	C	489	SER	CA-C-N	-6.79	102.25	117.20
3	C	99	LYS	N-CA-C	-6.71	92.90	111.00
3	C	601	GLY	O-C-N	-6.67	112.03	122.70
1	A	142	ARG	N-CA-C	6.60	128.83	111.00
3	C	921	SER	N-CA-C	-6.56	93.29	111.00
3	C	941	GLU	N-CA-C	-6.56	93.29	111.00
3	C	147	ASP	N-CA-C	-6.42	93.67	111.00
3	C	488	SER	C-N-CA	6.18	137.15	121.70
3	C	118	PRO	CA-N-CD	-5.96	103.15	111.50
3	C	42	ASP	N-CA-C	-5.87	95.14	111.00
1	A	687	MET	N-CA-C	-5.86	95.17	111.00
3	C	814	GLY	N-CA-C	-5.85	98.48	113.10
3	C	974	LEU	CB-CG-CD2	-5.78	101.18	111.00
3	C	285	GLU	N-CA-C	5.61	126.15	111.00
3	C	188	ARG	N-CA-C	-5.57	95.96	111.00
3	C	488	SER	N-CA-C	5.54	125.96	111.00
3	C	485	ASN	C-N-CA	-5.54	107.86	121.70
1	A	469	LEU	CA-CB-CG	5.50	127.95	115.30
3	C	1194	LEU	N-CA-C	-5.46	96.27	111.00
3	C	977	GLY	N-CA-C	5.44	126.70	113.10
3	C	921	SER	CB-CA-C	5.41	120.37	110.10
3	C	599	ASN	N-CA-C	5.34	125.41	111.00
3	C	1198	PHE	CA-CB-CG	-5.23	101.36	113.90
1	A	650	LEU	CA-CB-CG	-5.15	103.45	115.30
3	C	490	SER	N-CA-C	-5.11	97.21	111.00
1	A	175	LEU	N-CA-C	5.08	124.71	111.00
3	C	488	SER	O-C-N	5.08	130.82	122.70

There are no chirality outliers.

All (3) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	A	437	GLU	Mainchain
3	C	599	ASN	Mainchain
3	C	601	GLY	Mainchain

## 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	5855	0	5900	502	0
2	B	731	0	689	76	0
3	C	8904	0	9248	998	0
4	B	3	0	0	0	0
5	A	10	0	0	0	0
5	B	3	0	0	0	0
5	C	5	0	0	0	0
All	All	15511	0	15837	1525	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 49.

All (1525) 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)
3:C:373:LYS:CE	3:C:427:MET:HE1	1.31	1.56
3:C:373:LYS:HE3	3:C:427:MET:CE	1.36	1.54
1:A:630:ILE:CG1	1:A:630:ILE:CD1	1.85	1.51
3:C:373:LYS:CE	3:C:427:MET:CE	1.84	1.48
3:C:373:LYS:CD	3:C:427:MET:HE1	1.53	1.37
3:C:373:LYS:CG	3:C:427:MET:HE1	1.63	1.27
2:B:97:ASP:OD1	2:B:97:ASP:O	1.55	1.25
3:C:373:LYS:CG	3:C:427:MET:CE	2.19	1.18
3:C:600:LEU:O	3:C:602:ASP:N	1.81	1.14
3:C:373:LYS:CE	3:C:427:MET:HE3	1.74	1.13
3:C:375:VAL:HG13	3:C:379:LEU:HB2	1.19	1.12

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:38:SER:HB3	3:C:78:LYS:HD2	1.25	1.12
2:B:52:LEU:HD12	2:B:52:LEU:H	1.09	1.11
1:A:630:ILE:HG21	1:A:630:ILE:HD13	1.34	1.10
3:C:829:ARG:HH11	3:C:829:ARG:HB2	1.18	1.07
1:A:597:ARG:HH11	1:A:597:ARG:HB2	1.14	1.06
3:C:377:PRO:HB3	3:C:431:GLN:OE1	1.54	1.05
3:C:1013:LYS:HE2	3:C:1047:THR:HG21	1.38	1.05
1:A:630:ILE:CD1	1:A:630:ILE:CB	2.35	1.04
3:C:373:LYS:HE2	3:C:427:MET:HE3	1.29	1.04
1:A:625:THR:OG1	1:A:632:MET:HG2	1.58	1.02
3:C:211:ILE:O	3:C:215:LEU:HG	1.60	1.01
1:A:440:GLU:O	1:A:444:THR:N	1.94	0.99
3:C:1015:LEU:HD13	3:C:1018:PRO:HG3	1.41	0.99
3:C:1194:LEU:HD12	3:C:1194:LEU:O	1.63	0.99
3:C:1190:GLU:OE2	3:C:1191:LYS:HG2	1.63	0.98
1:A:441:LEU:O	1:A:445:LEU:HB2	1.63	0.97
3:C:982:ARG:NH2	3:C:1018:PRO:HB2	1.79	0.97
3:C:373:LYS:HG3	3:C:427:MET:CE	1.93	0.96
3:C:287:TYR:HB2	3:C:288:PRO:HD3	1.43	0.96
3:C:85:GLU:HG3	3:C:133:LYS:HE2	1.46	0.96
3:C:294:ILE:HG21	3:C:357:LEU:HG	1.44	0.96
3:C:375:VAL:CG1	3:C:379:LEU:HB2	1.95	0.95
1:A:625:THR:HG21	1:A:632:MET:HG3	1.44	0.95
3:C:1081:ILE:HG13	3:C:1082:ARG:N	1.78	0.95
3:C:192:ARG:HH21	3:C:227:THR:HG21	1.33	0.94
1:A:600:LEU:H	1:A:600:LEU:HD23	1.32	0.93
3:C:373:LYS:HE3	3:C:427:MET:SD	2.09	0.93
3:C:1011:PHE:O	3:C:1015:LEU:HB2	1.66	0.93
3:C:385:GLU:HA	3:C:391:LYS:HE2	1.51	0.92
1:A:175:LEU:HD11	1:A:208:TYR:CE1	2.04	0.92
3:C:481:ILE:HD11	3:C:520:LEU:HD23	1.51	0.92
3:C:375:VAL:HG13	3:C:379:LEU:CB	1.99	0.91
1:A:592:ASN:HD21	2:B:21:ARG:HE	1.14	0.91
3:C:231:ILE:HG23	3:C:273:GLN:NE2	1.84	0.91
1:A:600:LEU:HD23	1:A:600:LEU:N	1.84	0.91
1:A:116:LEU:O	1:A:120:THR:HG23	1.71	0.91
3:C:551:ARG:NH1	3:C:553:LEU:HB2	1.85	0.91
3:C:432:VAL:HG13	3:C:435:ILE:HB	1.53	0.90
1:A:542:GLY:H	2:B:76:ASN:HD21	1.20	0.90
1:A:625:THR:OG1	1:A:632:MET:CG	2.19	0.90
3:C:270:TYR:HD1	3:C:270:TYR:H	1.19	0.90

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:187:PRO:HB2	3:C:188:ARG:HH11	1.36	0.90
1:A:175:LEU:HG	1:A:208:TYR:OH	1.73	0.89
3:C:373:LYS:HE2	3:C:427:MET:CE	1.84	0.89
3:C:1147:GLU:HB3	3:C:1148:PRO:HD3	1.54	0.89
1:A:672:LEU:N	1:A:672:LEU:HD12	1.87	0.88
3:C:975:ILE:HG23	3:C:976:SER:H	1.37	0.88
1:A:173:ARG:HB2	1:A:174:PRO:HD3	1.53	0.88
3:C:285:GLU:HA	3:C:287:TYR:CE2	2.09	0.88
3:C:349:VAL:HG23	3:C:350:ARG:H	1.37	0.88
3:C:485:ASN:O	3:C:486:ASP:HB3	1.72	0.88
3:C:249:LEU:HA	3:C:252:ILE:HG13	1.55	0.88
3:C:298:LEU:O	3:C:298:LEU:HD22	1.72	0.88
1:A:592:ASN:HA	1:A:597:ARG:HH12	1.38	0.87
3:C:211:ILE:HG12	3:C:244:ARG:HE	1.39	0.87
1:A:642:LEU:HB3	1:A:648:LEU:HD12	1.54	0.87
1:A:592:ASN:CA	1:A:597:ARG:HH12	1.87	0.87
1:A:630:ILE:CD1	1:A:630:ILE:HG21	2.04	0.87
1:A:631:LYS:O	1:A:635:LEU:N	2.06	0.87
3:C:432:VAL:HG12	3:C:436:VAL:HG23	1.57	0.87
3:C:548:LYS:HA	3:C:551:ARG:HG3	1.54	0.87
3:C:373:LYS:CG	3:C:427:MET:HE2	2.02	0.87
1:A:144:TRP:O	1:A:145:VAL:HG13	1.74	0.87
3:C:211:ILE:HG12	3:C:244:ARG:NE	1.89	0.87
3:C:270:TYR:HA	3:C:273:GLN:OE1	1.75	0.87
3:C:92:CYS:HB3	3:C:137:ARG:HG2	1.56	0.86
3:C:373:LYS:HG3	3:C:427:MET:HE1	1.51	0.86
1:A:167:TRP:O	1:A:170:CYS:HB3	1.75	0.86
1:A:440:GLU:O	1:A:444:THR:OG1	1.91	0.86
2:B:49:ILE:HD13	2:B:50:MET:HG2	1.54	0.86
3:C:999:PRO:O	3:C:1002:PRO:HD2	1.76	0.86
3:C:1199:GLN:HB3	3:C:1202:ILE:HB	1.59	0.85
3:C:1037:LYS:HD2	3:C:1040:LEU:HD11	1.56	0.85
3:C:373:LYS:HG2	3:C:427:MET:CE	2.06	0.85
3:C:379:LEU:HA	3:C:382:ARG:HB2	1.56	0.84
3:C:812:LYS:HG3	3:C:812:LYS:O	1.76	0.84
1:A:287:ALA:O	1:A:291:GLU:HG3	1.76	0.84
3:C:269:GLU:O	3:C:273:GLN:HG3	1.77	0.84
1:A:300:GLU:O	1:A:304:THR:HG22	1.77	0.83
1:A:474:VAL:HG12	1:A:475:HIS:N	1.93	0.83
3:C:206:CYS:O	3:C:210:LEU:HB2	1.78	0.83
3:C:551:ARG:N	3:C:552:PRO:HD2	1.94	0.83

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:377:PRO:CB	3:C:431:GLN:OE1	2.27	0.83
3:C:473:ILE:O	3:C:477:VAL:HG23	1.79	0.83
3:C:590:ILE:HG21	3:C:628:THR:HG22	1.60	0.82
3:C:650:GLU:O	3:C:654:ILE:HG13	1.80	0.82
1:A:630:ILE:CD1	1:A:630:ILE:CG2	2.57	0.82
3:C:821:PHE:C	3:C:823:GLN:H	1.80	0.82
3:C:982:ARG:O	3:C:986:VAL:HG12	1.77	0.82
3:C:548:LYS:HA	3:C:551:ARG:CG	2.09	0.82
3:C:625:ARG:O	3:C:629:VAL:HG23	1.79	0.82
1:A:597:ARG:HB2	1:A:597:ARG:NH1	1.93	0.82
3:C:301:LEU:HD12	3:C:302:THR:H	1.44	0.82
3:C:386:ARG:HB2	3:C:386:ARG:CZ	2.09	0.82
3:C:673:ALA:HA	3:C:676:ILE:HD11	1.61	0.82
1:A:95:PHE:HD2	1:A:96:LEU:HD12	1.44	0.82
3:C:249:LEU:HA	3:C:252:ILE:CG1	2.09	0.82
3:C:1194:LEU:O	3:C:1195:MET:HB2	1.78	0.81
1:A:171:LEU:HG	1:A:175:LEU:HD22	1.60	0.81
3:C:1012:LEU:O	3:C:1014:THR:N	2.14	0.81
3:C:375:VAL:O	3:C:379:LEU:N	2.13	0.81
1:A:592:ASN:HD21	2:B:21:ARG:NE	1.78	0.81
2:B:52:LEU:HD12	2:B:52:LEU:N	1.93	0.81
3:C:1139:LEU:HA	3:C:1142:LEU:HB2	1.63	0.80
2:B:97:ASP:O	2:B:97:ASP:CG	2.18	0.80
3:C:181:LEU:HD13	3:C:217:GLU:HG3	1.60	0.80
1:A:27:GLY:O	1:A:31:VAL:HG23	1.81	0.80
3:C:967:LEU:N	3:C:968:PRO:HD2	1.97	0.80
3:C:566:LYS:HB2	3:C:566:LYS:HZ3	1.47	0.80
3:C:566:LYS:H	3:C:566:LYS:HD3	1.45	0.80
3:C:187:PRO:HB2	3:C:188:ARG:NH1	1.96	0.80
3:C:601:GLY:O	3:C:604:LEU:N	2.15	0.79
1:A:145:VAL:O	1:A:146:ARG:HG3	1.82	0.79
3:C:1142:LEU:O	3:C:1146:VAL:HG23	1.82	0.79
1:A:672:LEU:HD12	1:A:672:LEU:H	1.45	0.79
3:C:373:LYS:HG2	3:C:427:MET:HE2	1.63	0.79
3:C:1176:ALA:O	3:C:1180:VAL:HG23	1.82	0.79
3:C:1190:GLU:O	3:C:1193:PRO:HD2	1.79	0.79
3:C:1169:GLN:OE1	3:C:1169:GLN:HA	1.82	0.79
3:C:1199:GLN:O	3:C:1203:SER:HB3	1.82	0.79
3:C:970:LEU:HD22	3:C:985:VAL:HG23	1.64	0.79
1:A:614:ASN:ND2	2:B:21:ARG:HA	1.98	0.78
1:A:405:ASN:ND2	1:A:407:VAL:H	1.81	0.78

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:831:THR:HG22	3:C:833:SER:H	1.46	0.78
1:A:142:ARG:CZ	1:A:147:ARG:HG2	2.13	0.78
3:C:267:LEU:HA	3:C:270:TYR:CE1	2.17	0.78
2:B:52:LEU:H	2:B:52:LEU:CD1	1.90	0.78
3:C:551:ARG:HH11	3:C:553:LEU:HB2	1.44	0.78
3:C:1052:LEU:HD11	3:C:1088:CYS:HB3	1.65	0.78
1:A:297:LYS:O	1:A:297:LYS:HD3	1.84	0.78
3:C:375:VAL:O	3:C:379:LEU:HB2	1.84	0.78
3:C:110:LEU:HD23	3:C:157:ILE:HD13	1.67	0.77
3:C:349:VAL:HG23	3:C:350:ARG:N	1.99	0.77
3:C:372:TYR:HA	3:C:377:PRO:HG2	1.64	0.77
3:C:423:THR:O	3:C:427:MET:HG3	1.83	0.77
3:C:1187:PRO:O	3:C:1189:ALA:N	2.17	0.77
3:C:432:VAL:CG1	3:C:436:VAL:HG23	2.13	0.77
1:A:577:LYS:HB2	2:B:36:ASP:HB3	1.65	0.77
3:C:170:VAL:HA	3:C:173:HIS:CD2	2.18	0.77
1:A:528:GLU:O	1:A:528:GLU:HG2	1.84	0.77
3:C:1081:ILE:HG13	3:C:1082:ARG:H	1.48	0.77
1:A:577:LYS:NZ	1:A:578:LEU:H	1.82	0.77
1:A:618:ALA:HB2	1:A:669:LYS:HG2	1.66	0.77
3:C:982:ARG:HH21	3:C:1018:PRO:HB2	1.48	0.77
3:C:77:SER:O	3:C:78:LYS:HD3	1.82	0.77
1:A:621:VAL:HG23	1:A:668:ILE:HD11	1.65	0.76
3:C:723:TYR:H	3:C:724:PRO:HD3	1.51	0.76
3:C:1055:GLU:HG3	3:C:1081:ILE:HD12	1.66	0.76
3:C:686:THR:OG1	3:C:689:MET:HG3	1.86	0.76
3:C:1204:SER:O	3:C:1208:LEU:HD23	1.85	0.76
1:A:142:ARG:HH11	1:A:142:ARG:HB3	1.48	0.76
3:C:373:LYS:HE3	3:C:427:MET:HE1	1.06	0.76
3:C:660:ARG:HD2	3:C:696:GLU:OE2	1.85	0.76
3:C:942:CYS:HA	3:C:948:ARG:HD2	1.67	0.76
3:C:1012:LEU:C	3:C:1014:THR:H	1.89	0.76
1:A:614:ASN:HD21	2:B:22:PHE:H	1.34	0.76
3:C:481:ILE:HD12	3:C:523:PRO:HG3	1.67	0.76
1:A:630:ILE:HD13	1:A:630:ILE:CG2	2.12	0.75
3:C:1015:LEU:HD12	3:C:1022:VAL:HG12	1.68	0.75
3:C:1199:GLN:HG2	3:C:1202:ILE:HG12	1.68	0.75
2:B:81:PHE:O	2:B:85:SER:HB2	1.86	0.75
1:A:651:GLU:HA	1:A:669:LYS:HZ2	1.49	0.75
3:C:299:LYS:NZ	3:C:379:LEU:HD22	2.02	0.75
3:C:820:GLN:HB3	3:C:842:LEU:HD21	1.69	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:134:ASN:HA	1:A:159:ILE:HG21	1.69	0.75
1:A:134:ASN:HA	1:A:159:ILE:CG2	2.17	0.75
1:A:645:SER:O	1:A:646:LYS:HB3	1.87	0.75
3:C:611:THR:HA	3:C:614:ILE:HG12	1.69	0.75
1:A:438:GLU:HA	1:A:438:GLU:OE1	1.86	0.75
1:A:614:ASN:HD21	2:B:22:PHE:N	1.85	0.74
3:C:135:THR:CG2	3:C:176:ILE:HD11	2.18	0.74
3:C:618:ARG:HB3	3:C:624:THR:HG21	1.68	0.74
3:C:738:LEU:O	3:C:742:VAL:HG23	1.87	0.74
2:B:62:SER:O	2:B:66:GLU:HG3	1.88	0.74
1:A:676:ASN:HD22	1:A:677:LYS:N	1.86	0.74
3:C:827:ASN:O	3:C:829:ARG:N	2.20	0.74
1:A:117:LYS:NZ	1:A:121:GLN:HE21	1.85	0.74
1:A:173:ARG:CB	1:A:174:PRO:HD3	2.18	0.74
1:A:315:ASN:HB3	1:A:379:LEU:HD21	1.69	0.74
1:A:720:MET:HE3	1:A:720:MET:O	1.87	0.74
3:C:143:ALA:O	3:C:145:GLN:N	2.20	0.73
3:C:268:ARG:HE	3:C:348:LYS:HB3	1.52	0.73
3:C:640:LEU:O	3:C:642:ILE:N	2.20	0.73
1:A:625:THR:CG2	1:A:632:MET:HG3	2.18	0.73
3:C:211:ILE:CG1	3:C:244:ARG:HE	2.00	0.73
1:A:592:ASN:ND2	2:B:21:ARG:HE	1.86	0.73
3:C:231:ILE:HG23	3:C:273:GLN:CD	2.09	0.73
3:C:618:ARG:CB	3:C:624:THR:HG21	2.19	0.73
3:C:36:LYS:HG3	3:C:37:ASP:OD2	1.89	0.73
3:C:94:ASN:HB3	3:C:102:LEU:HG	1.70	0.73
3:C:616:LEU:HD23	3:C:647:VAL:HG12	1.69	0.73
3:C:42:ASP:HB2	3:C:45:SER:HB2	1.71	0.73
3:C:249:LEU:HD22	3:C:250:GLU:OE1	1.89	0.73
3:C:226:THR:CG2	3:C:227:THR:N	2.52	0.72
3:C:226:THR:HG22	3:C:227:THR:N	2.05	0.72
3:C:974:LEU:HD21	3:C:1011:PHE:CD2	2.24	0.72
1:A:37:MET:HE2	1:A:42:TYR:HA	1.72	0.72
3:C:1151:ALA:O	3:C:1155:THR:HG23	1.88	0.72
1:A:107:GLY:HA2	1:A:110:LEU:HD12	1.71	0.72
3:C:1188:GLU:HA	3:C:1190:GLU:OE1	1.89	0.72
3:C:633:THR:HA	3:C:676:ILE:HD13	1.71	0.72
3:C:899:ILE:HG21	3:C:935:LEU:HD11	1.72	0.72
3:C:829:ARG:HH11	3:C:829:ARG:CB	2.00	0.72
1:A:603:SER:HB3	1:A:684:ASN:OD1	1.89	0.72
3:C:814:GLY:N	3:C:815:PRO:HD2	2.05	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:339:LEU:O	1:A:343:ILE:HG22	1.90	0.72
3:C:262:VAL:O	3:C:267:LEU:HD11	1.89	0.72
3:C:825:VAL:CG2	3:C:860:VAL:HG22	2.20	0.72
3:C:600:LEU:O	3:C:601:GLY:C	2.28	0.71
1:A:33:THR:O	1:A:34:ARG:HD3	1.91	0.71
3:C:375:VAL:O	3:C:375:VAL:HG12	1.90	0.71
1:A:134:ASN:HD22	1:A:159:ILE:HG22	1.54	0.71
3:C:735:LEU:HD11	3:C:778:MET:SD	2.30	0.71
3:C:495:ILE:HD11	3:C:534:LYS:HB3	1.73	0.71
3:C:366:GLU:OE2	3:C:367:MET:HG3	1.91	0.71
1:A:175:LEU:HD23	1:A:176:ASN:N	2.06	0.71
1:A:186:LEU:HD11	1:A:196:ILE:HB	1.72	0.71
1:A:438:GLU:OE1	1:A:438:GLU:CA	2.37	0.71
3:C:857:LEU:HD23	3:C:858:LYS:N	2.05	0.71
1:A:228:LYS:HA	1:A:232:GLU:HB3	1.72	0.71
1:A:232:GLU:OE1	1:A:282:THR:HG22	1.89	0.71
1:A:475:HIS:CE1	1:A:586:LYS:HD3	2.26	0.70
1:A:405:ASN:HD22	1:A:407:VAL:H	1.37	0.70
3:C:601:GLY:O	3:C:604:LEU:CB	2.39	0.70
1:A:533:ASP:OD2	2:B:26:LYS:HE3	1.92	0.70
3:C:375:VAL:HG22	3:C:379:LEU:HD12	1.74	0.70
3:C:287:TYR:HB2	3:C:288:PRO:CD	2.21	0.70
3:C:270:TYR:N	3:C:270:TYR:CD1	2.58	0.70
3:C:375:VAL:CG1	3:C:375:VAL:O	2.37	0.70
1:A:446:ASN:OD1	1:A:490:LYS:HE2	1.92	0.69
1:A:717:ILE:HA	3:C:25:MET:CE	2.22	0.69
1:A:592:ASN:HB3	1:A:597:ARG:HH22	1.54	0.69
3:C:1049:LEU:HD11	3:C:1100:LEU:HD23	1.74	0.69
3:C:218:LEU:HD13	3:C:234:ILE:HD13	1.75	0.69
1:A:676:ASN:HD22	1:A:677:LYS:H	1.38	0.69
3:C:233:CYS:O	3:C:237:ILE:HG13	1.92	0.69
3:C:820:GLN:HA	3:C:823:GLN:HG3	1.73	0.69
3:C:532:PHE:CZ	3:C:534:LYS:HB2	2.28	0.69
3:C:239:ARG:CZ	3:C:276:GLU:HG2	2.23	0.69
3:C:818:VAL:HG22	3:C:854:GLN:OE1	1.92	0.69
3:C:1141:ARG:O	3:C:1145:LEU:HG	1.93	0.69
1:A:344:HIS:NE2	1:A:348:LEU:HD11	2.08	0.69
3:C:244:ARG:HH11	3:C:244:ARG:HG2	1.56	0.69
3:C:855:LEU:HD11	3:C:858:LYS:HD2	1.75	0.69
3:C:211:ILE:HD13	3:C:244:ARG:HH21	1.57	0.69
3:C:914:LYS:HD3	3:C:953:GLU:HG2	1.73	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:29:GLN:O	1:A:33:THR:HG23	1.93	0.68
3:C:690:ILE:HG13	3:C:719:LEU:HD11	1.74	0.68
1:A:174:PRO:O	1:A:178:GLN:HB3	1.93	0.68
1:A:517:ASN:HD21	1:A:536:ILE:H	1.41	0.68
1:A:660:VAL:HG12	1:A:661:GLU:N	2.08	0.68
3:C:38:SER:CB	3:C:78:LYS:HD2	2.15	0.68
3:C:601:GLY:O	3:C:604:LEU:HB2	1.92	0.68
1:A:718:MET:CE	1:A:771:TYR:HB2	2.23	0.68
3:C:905:ARG:HH11	3:C:905:ARG:CG	2.05	0.68
1:A:639:LEU:O	1:A:643:LEU:HG	1.94	0.68
3:C:209:ASP:O	3:C:213:HIS:NE2	2.27	0.68
3:C:551:ARG:HD2	3:C:551:ARG:C	2.14	0.68
3:C:551:ARG:HD2	3:C:551:ARG:O	1.94	0.68
1:A:536:ILE:HG12	1:A:537:GLN:H	1.58	0.68
3:C:4:ALA:O	3:C:40:LYS:HG3	1.94	0.68
3:C:633:THR:HG23	3:C:676:ILE:HG12	1.74	0.68
1:A:577:LYS:HZ2	1:A:578:LEU:H	1.41	0.68
3:C:8:ILE:HD12	3:C:8:ILE:H	1.57	0.68
3:C:212:GLU:HB3	3:C:248:TYR:OH	1.93	0.68
3:C:905:ARG:HH11	3:C:905:ARG:HG3	1.58	0.68
1:A:24:LEU:O	1:A:28:ILE:HG12	1.93	0.68
1:A:405:ASN:HD22	1:A:405:ASN:C	1.97	0.68
3:C:551:ARG:N	3:C:552:PRO:CD	2.57	0.67
3:C:701:ILE:HG21	3:C:738:LEU:HD23	1.75	0.67
3:C:283:PRO:C	3:C:284:LYS:HD3	2.15	0.67
3:C:1008:ILE:HG23	3:C:1009:GLY:N	2.10	0.67
3:C:1097:LEU:HA	3:C:1100:LEU:HD12	1.76	0.67
3:C:813:GLU:CD	3:C:814:GLY:H	1.97	0.67
3:C:206:CYS:CB	3:C:207:PHE:HA	2.24	0.67
3:C:350:ARG:HH21	3:C:386:ARG:HH12	1.41	0.67
3:C:825:VAL:C	3:C:827:ASN:H	1.98	0.67
3:C:826:LYS:HA	3:C:826:LYS:HE2	1.77	0.67
1:A:134:ASN:HD21	1:A:157:TYR:CB	2.08	0.67
1:A:357:ALA:H	3:C:489:SER:HB2	1.59	0.67
3:C:38:SER:HB3	3:C:78:LYS:CD	2.13	0.67
3:C:76:VAL:HG21	3:C:113:VAL:HG13	1.77	0.67
3:C:282:CYS:HB2	3:C:283:PRO:HD3	1.77	0.67
3:C:550:ILE:HD12	3:C:561:ALA:HB1	1.77	0.67
2:B:49:ILE:HD12	2:B:50:MET:H	1.60	0.67
3:C:253:ILE:O	3:C:257:VAL:HG23	1.94	0.67
3:C:385:GLU:CA	3:C:391:LYS:HE2	2.24	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:913:LEU:HD23	3:C:913:LEU:O	1.95	0.67
3:C:295:ASN:OD1	3:C:357:LEU:HD21	1.94	0.67
3:C:1015:LEU:CD1	3:C:1018:PRO:HG3	2.19	0.66
3:C:481:ILE:CD1	3:C:520:LEU:HD23	2.25	0.66
1:A:186:LEU:HG	1:A:196:ILE:HD12	1.77	0.66
1:A:583:GLN:H	1:A:583:GLN:HE21	1.43	0.66
3:C:829:ARG:HB2	3:C:829:ARG:NH1	2.03	0.66
1:A:467:LYS:NZ	1:A:698:THR:HB	2.10	0.66
1:A:682:ASN:C	1:A:682:ASN:HD22	1.98	0.66
2:B:19:LYS:NZ	2:B:19:LYS:HB3	2.10	0.66
3:C:92:CYS:CB	3:C:137:ARG:HG2	2.26	0.66
3:C:724:PRO:O	3:C:726:SER:N	2.28	0.66
3:C:1188:GLU:HA	3:C:1190:GLU:CD	2.15	0.66
3:C:825:VAL:O	3:C:827:ASN:N	2.26	0.66
3:C:148:VAL:O	3:C:151:GLN:N	2.28	0.66
1:A:719:LYS:HA	1:A:773:TYR:CD1	2.31	0.66
3:C:168:LEU:HD23	3:C:168:LEU:N	2.10	0.66
3:C:881:GLY:O	3:C:884:SER:HB2	1.95	0.66
1:A:286:LEU:HD22	1:A:290:CYS:HG	1.61	0.65
1:A:557:GLU:CD	1:A:557:GLU:H	1.98	0.65
3:C:723:TYR:H	3:C:724:PRO:CD	2.08	0.65
3:C:822:ILE:C	3:C:826:LYS:HB2	2.16	0.65
3:C:1036:ASN:O	3:C:1037:LYS:HB2	1.95	0.65
1:A:662:LEU:HD12	1:A:662:LEU:H	1.61	0.65
3:C:618:ARG:HB3	3:C:624:THR:CG2	2.26	0.65
1:A:630:ILE:HG22	1:A:635:LEU:HB2	1.78	0.65
3:C:407:PRO:HG2	3:C:408:VAL:H	1.60	0.65
3:C:1055:GLU:OE1	3:C:1055:GLU:HA	1.95	0.65
1:A:492:LYS:HD3	3:C:108:ILE:HD11	1.78	0.65
1:A:475:HIS:NE2	1:A:584:LEU:C	2.50	0.65
3:C:1079:LEU:O	3:C:1079:LEU:HD22	1.97	0.65
3:C:390:VAL:O	3:C:394:VAL:HG23	1.96	0.65
1:A:104:LEU:HD23	1:A:173:ARG:HH11	1.61	0.65
3:C:148:VAL:HA	3:C:151:GLN:HE21	1.62	0.65
3:C:566:LYS:HB2	3:C:566:LYS:NZ	2.11	0.65
3:C:655:LEU:HA	3:C:658:PHE:CD2	2.32	0.65
3:C:822:ILE:HG22	3:C:826:LYS:HD2	1.78	0.65
3:C:989:VAL:O	3:C:992:THR:HB	1.96	0.65
1:A:591:THR:HG22	2:B:22:PHE:HE2	1.61	0.65
1:A:591:THR:HG22	2:B:22:PHE:CE2	2.31	0.64
3:C:905:ARG:HG3	3:C:905:ARG:NH1	2.11	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:134:ASN:HD21	1:A:157:TYR:HB2	1.63	0.64
3:C:550:ILE:C	3:C:552:PRO:HD2	2.16	0.64
3:C:631:ALA:O	3:C:635:ILE:HG13	1.97	0.64
1:A:527:SER:O	1:A:529:PRO:HD3	1.97	0.64
3:C:701:ILE:HD13	3:C:738:LEU:CD2	2.27	0.64
1:A:717:ILE:HA	3:C:25:MET:HE2	1.80	0.64
3:C:722:VAL:O	3:C:723:TYR:HB2	1.97	0.64
1:A:498:GLU:O	1:A:502:LYS:HG3	1.97	0.64
3:C:206:CYS:HB3	3:C:207:PHE:HA	1.80	0.64
1:A:682:ASN:HD22	1:A:684:ASN:H	1.45	0.64
3:C:129:ASN:HA	3:C:132:LYS:CB	2.27	0.64
3:C:1008:ILE:HG23	3:C:1009:GLY:H	1.63	0.64
3:C:573:ILE:HD12	3:C:574:LYS:N	2.13	0.64
3:C:862:LEU:O	3:C:865:PHE:HB2	1.98	0.64
1:A:549:SER:O	1:A:550:CYS:C	2.34	0.63
3:C:760:GLN:HG2	3:C:809:ALA:HB2	1.78	0.63
3:C:551:ARG:HD3	3:C:599:ASN:OD1	1.98	0.63
1:A:147:ARG:O	1:A:148:GLU:HB2	1.97	0.63
1:A:467:LYS:HZ2	1:A:698:THR:HB	1.62	0.63
3:C:364:ARG:HA	3:C:364:ARG:NE	2.11	0.63
3:C:655:LEU:HA	3:C:658:PHE:HD2	1.62	0.63
3:C:210:LEU:HD23	3:C:213:HIS:ND1	2.14	0.63
3:C:1164:GLN:HA	3:C:1167:GLU:HG3	1.78	0.63
1:A:273:ARG:HG2	1:A:277:TYR:OH	1.99	0.63
2:B:97:ASP:OD1	2:B:99:ARG:HB2	1.98	0.63
3:C:551:ARG:HG2	3:C:599:ASN:ND2	2.14	0.63
1:A:417:SER:N	1:A:418:PRO:HD2	2.14	0.63
2:B:53:CYS:HB2	2:B:83:CYS:SG	2.38	0.63
3:C:129:ASN:HA	3:C:132:LYS:HB2	1.81	0.63
3:C:936:LEU:HD22	3:C:951:VAL:HG13	1.80	0.63
1:A:175:LEU:CD1	1:A:208:TYR:CE1	2.81	0.63
3:C:183:GLN:C	3:C:185:THR:H	2.02	0.63
3:C:823:GLN:HA	3:C:823:GLN:HE21	1.63	0.62
1:A:592:ASN:HA	1:A:597:ARG:NH1	2.10	0.62
3:C:301:LEU:HD12	3:C:302:THR:N	2.11	0.62
3:C:385:GLU:O	3:C:386:ARG:HB3	1.99	0.62
3:C:1135:PRO:O	3:C:1138:VAL:HB	1.99	0.62
1:A:92:LEU:O	1:A:96:LEU:HD13	1.98	0.62
3:C:96:LEU:HD12	3:C:96:LEU:N	2.14	0.62
3:C:349:VAL:CG2	3:C:350:ARG:H	2.09	0.62
3:C:548:LYS:HG2	3:C:599:ASN:HD21	1.64	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:974:LEU:HD21	3:C:1011:PHE:CE2	2.34	0.62
2:B:48:HIS:ND1	2:B:49:ILE:HD12	2.15	0.62
2:B:48:HIS:CE1	2:B:50:MET:HB2	2.34	0.62
3:C:158:MET:O	3:C:162:LEU:HB2	1.98	0.62
3:C:294:ILE:CG2	3:C:357:LEU:HG	2.25	0.62
3:C:33:GLU:C	3:C:35:GLN:H	2.01	0.62
3:C:212:GLU:OE1	3:C:212:GLU:N	2.19	0.62
3:C:253:ILE:HD11	3:C:281:ARG:HH22	1.65	0.62
3:C:825:VAL:HG23	3:C:860:VAL:HG13	1.82	0.62
1:A:632:MET:HA	1:A:635:LEU:HB3	1.80	0.62
1:A:734:LEU:CD2	1:A:743:PRO:HD2	2.30	0.62
3:C:810:CYS:O	3:C:812:LYS:N	2.31	0.62
3:C:831:THR:HG22	3:C:833:SER:HB3	1.80	0.62
3:C:1177:MET:HG3	3:C:1205:ASN:HB3	1.82	0.62
1:A:344:HIS:CE1	1:A:348:LEU:HD11	2.34	0.62
1:A:711:GLN:HE22	1:A:758:LYS:NZ	1.97	0.62
3:C:153:GLU:O	3:C:157:ILE:HG13	2.00	0.62
1:A:577:LYS:HE2	1:A:577:LYS:HA	1.81	0.62
1:A:585:SER:HB2	2:B:29:ALA:HA	1.82	0.62
3:C:207:PHE:C	3:C:209:ASP:N	2.51	0.62
3:C:294:ILE:HG23	3:C:353:ALA:HA	1.82	0.62
3:C:942:CYS:CA	3:C:948:ARG:HD2	2.28	0.61
3:C:578:ALA:O	3:C:579:ALA:HB3	2.00	0.61
3:C:723:TYR:O	3:C:724:PRO:C	2.39	0.61
3:C:902:GLN:HE22	3:C:905:ARG:HH12	1.48	0.61
1:A:600:LEU:N	1:A:600:LEU:CD2	2.58	0.61
1:A:104:LEU:HD12	1:A:104:LEU:O	2.00	0.61
1:A:682:ASN:ND2	1:A:684:ASN:H	1.98	0.61
3:C:652:VAL:N	3:C:653:PRO:HD2	2.15	0.61
1:A:620:THR:OG1	1:A:623:GLN:HG3	1.99	0.61
3:C:570:THR:O	3:C:572:THR:N	2.34	0.61
3:C:821:PHE:HE2	3:C:842:LEU:HD22	1.65	0.61
1:A:210:GLU:HB2	3:C:1164:GLN:HG3	1.83	0.61
1:A:363:LYS:O	1:A:367:GLN:HB2	2.00	0.61
3:C:804:ALA:HA	3:C:845:VAL:HG22	1.82	0.61
3:C:218:LEU:HD23	3:C:230:TYR:HD1	1.66	0.61
3:C:192:ARG:HH21	3:C:227:THR:CG2	2.11	0.61
3:C:573:ILE:HD12	3:C:574:LYS:H	1.66	0.61
3:C:689:MET:O	3:C:692:ALA:HB3	2.01	0.61
3:C:54:LEU:HD13	3:C:90:THR:HG21	1.82	0.61
3:C:423:THR:HG22	3:C:426:THR:H	1.64	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:405:ASN:ND2	1:A:408:THR:H	1.99	0.60
1:A:603:SER:O	1:A:607:MET:HG3	2.01	0.60
3:C:42:ASP:HB2	3:C:45:SER:H	1.65	0.60
3:C:294:ILE:HD11	3:C:356:CYS:SG	2.41	0.60
3:C:710:GLN:HB3	3:C:751:ALA:HA	1.82	0.60
3:C:249:LEU:HD13	3:C:249:LEU:N	2.15	0.60
3:C:1107:ASN:CG	3:C:1141:ARG:HH12	2.04	0.60
3:C:821:PHE:HE2	3:C:842:LEU:CD2	2.14	0.60
1:A:676:ASN:ND2	1:A:677:LYS:N	2.49	0.60
1:A:744:ARG:HG2	1:A:746:PRO:HD2	1.83	0.60
2:B:49:ILE:HD12	2:B:50:MET:N	2.15	0.60
3:C:281:ARG:HH21	3:C:284:LYS:HB3	1.66	0.60
3:C:625:ARG:HG3	3:C:658:PHE:CE1	2.36	0.60
3:C:902:GLN:NE2	3:C:905:ARG:NH1	2.50	0.60
3:C:959:THR:HA	3:C:966:LEU:HD13	1.83	0.60
1:A:452:PHE:HA	1:A:455:ILE:HD13	1.83	0.60
1:A:459:ASP:OD2	1:A:706:ARG:NE	2.23	0.60
3:C:33:GLU:O	3:C:35:GLN:N	2.33	0.60
3:C:265:ASP:HB3	3:C:345:MET:SD	2.42	0.60
3:C:270:TYR:O	3:C:273:GLN:HB2	2.02	0.60
3:C:451:ARG:HD2	3:C:483:SER:OG	2.02	0.60
3:C:460:GLU:O	3:C:464:VAL:HG23	2.01	0.60
1:A:717:ILE:HG12	3:C:25:MET:CE	2.32	0.60
3:C:284:LYS:HD3	3:C:284:LYS:N	2.16	0.60
3:C:469:LEU:H	3:C:508:HIS:CE1	2.20	0.60
3:C:469:LEU:H	3:C:508:HIS:HE1	1.47	0.60
3:C:521:VAL:HB	3:C:522:PRO:HD3	1.84	0.60
1:A:52:TYR:HD2	1:A:52:TYR:O	1.84	0.60
1:A:475:HIS:NE2	1:A:584:LEU:O	2.35	0.60
1:A:592:ASN:CB	1:A:597:ARG:HH12	2.15	0.60
1:A:717:ILE:HD13	1:A:732:GLU:HB3	1.84	0.60
3:C:376:SER:OG	3:C:377:PRO:HD2	2.02	0.60
3:C:481:ILE:CD1	3:C:523:PRO:HG3	2.30	0.60
3:C:959:THR:HG21	3:C:967:LEU:HD23	1.82	0.60
3:C:1194:LEU:HD12	3:C:1194:LEU:C	2.21	0.60
3:C:294:ILE:HG23	3:C:353:ALA:CA	2.31	0.60
3:C:701:ILE:O	3:C:701:ILE:HG22	2.02	0.60
3:C:818:VAL:C	3:C:820:GLN:H	2.05	0.60
3:C:917:ILE:HD13	3:C:958:LEU:HG	1.84	0.60
1:A:147:ARG:HG3	1:A:148:GLU:N	2.16	0.59
3:C:41:LEU:HD22	3:C:46:GLU:HG2	1.84	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:135:THR:HG22	3:C:176:ILE:HD11	1.83	0.59
3:C:971:LYS:HA	3:C:974:LEU:HD23	1.83	0.59
3:C:350:ARG:NE	3:C:386:ARG:NH2	2.51	0.59
1:A:405:ASN:HD22	1:A:407:VAL:N	1.99	0.59
2:B:42:CYS:O	2:B:45:CYS:O	2.20	0.59
3:C:246:GLY:O	3:C:249:LEU:HD11	2.03	0.59
3:C:376:SER:O	3:C:380:ILE:HB	2.03	0.59
3:C:965:THR:O	3:C:965:THR:HG22	2.01	0.59
1:A:325:VAL:C	1:A:327:ARG:H	2.05	0.59
3:C:365:HIS:C	3:C:367:MET:H	2.04	0.59
3:C:431:GLN:O	3:C:434:ASN:HB2	2.02	0.59
3:C:551:ARG:NH1	3:C:553:LEU:H	2.00	0.59
1:A:88:LEU:HD23	1:A:140:LEU:HD23	1.84	0.59
3:C:131:CYS:HB3	3:C:161:MET:SD	2.42	0.59
3:C:370:GLU:O	3:C:374:THR:HG22	2.03	0.59
3:C:698:PRO:HB2	3:C:699:PRO:HD3	1.85	0.59
3:C:1093:LEU:HD11	3:C:1130:LEU:HD21	1.85	0.59
1:A:629:GLN:HA	1:A:629:GLN:OE1	2.03	0.59
3:C:652:VAL:O	3:C:655:LEU:HB2	2.02	0.59
1:A:85:GLY:HA3	1:A:144:TRP:CE3	2.38	0.59
3:C:42:ASP:C	3:C:44:ASP:H	2.05	0.59
3:C:346:SER:O	3:C:349:VAL:HG22	2.02	0.59
1:A:499:TYR:CZ	1:A:503:LEU:HD21	2.38	0.59
3:C:211:ILE:CD1	3:C:244:ARG:HE	2.16	0.59
3:C:1184:LEU:HD23	3:C:1190:GLU:HG3	1.84	0.59
3:C:894:PHE:O	3:C:897:GLN:HB3	2.02	0.58
3:C:928:TYR:O	3:C:932:ILE:HG12	2.03	0.58
2:B:62:SER:H	2:B:65:SER:HB3	1.68	0.58
3:C:168:LEU:HG	3:C:169:LEU:HD12	1.86	0.58
3:C:207:PHE:C	3:C:209:ASP:H	2.05	0.58
1:A:542:GLY:H	2:B:76:ASN:ND2	1.95	0.58
3:C:562:THR:OG1	3:C:563:PRO:HD3	2.02	0.58
1:A:430:LYS:HA	1:A:477:ASN:O	2.04	0.58
3:C:268:ARG:CD	3:C:348:LYS:HE3	2.33	0.58
3:C:459:THR:HG23	3:C:503:VAL:HG21	1.84	0.58
3:C:192:ARG:NH2	3:C:227:THR:HG21	2.14	0.58
3:C:611:THR:HA	3:C:614:ILE:CG1	2.33	0.58
3:C:1139:LEU:HD11	3:C:1189:ALA:HB3	1.86	0.58
3:C:188:ARG:HD2	3:C:188:ARG:N	2.18	0.58
3:C:226:THR:CG2	3:C:227:THR:H	2.15	0.58
3:C:608:LEU:HB3	3:C:609:PRO:HD3	1.85	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:192:ARG:O	3:C:196:ILE:HG13	2.03	0.58
3:C:1185:THR:HG22	3:C:1185:THR:O	2.04	0.58
1:A:577:LYS:HA	1:A:577:LYS:CE	2.34	0.58
1:A:37:MET:HB3	3:C:1068:MET:HA	1.84	0.58
1:A:317:ASP:OD2	1:A:317:ASP:N	2.35	0.58
1:A:634:ILE:HD11	1:A:687:MET:SD	2.44	0.58
3:C:7:HIS:HB3	3:C:8:ILE:HD12	1.84	0.58
1:A:177:LYS:HG3	1:A:177:LYS:O	2.04	0.57
3:C:597:ILE:HG21	3:C:635:ILE:HD13	1.86	0.57
3:C:722:VAL:O	3:C:722:VAL:HG23	2.02	0.57
3:C:1117:TYR:C	3:C:1117:TYR:CD2	2.77	0.57
1:A:40:SER:O	1:A:44:GLU:HG3	2.04	0.57
1:A:579:THR:HG23	2:B:32:LEU:HB2	1.85	0.57
3:C:15:MET:CG	3:C:56:LEU:HD11	2.34	0.57
3:C:82:TYR:O	3:C:85:GLU:HB3	2.04	0.57
3:C:441:LYS:HB2	3:C:441:LYS:NZ	2.19	0.57
3:C:586:LYS:O	3:C:590:ILE:HG13	2.04	0.57
3:C:1052:LEU:HD21	3:C:1089:MET:HG2	1.87	0.57
3:C:1188:GLU:HA	3:C:1190:GLU:OE2	2.04	0.57
1:A:134:ASN:ND2	1:A:159:ILE:HG22	2.19	0.57
3:C:249:LEU:HD22	3:C:250:GLU:H	1.69	0.57
3:C:275:PHE:CE2	3:C:359:ALA:HB2	2.39	0.57
3:C:1037:LYS:CD	3:C:1040:LEU:HD11	2.32	0.57
1:A:635:LEU:HD13	1:A:635:LEU:O	2.04	0.57
1:A:756:ILE:HD13	1:A:761:LEU:HB2	1.86	0.57
1:A:155:GLY:HA3	3:C:1163:LYS:N	2.20	0.57
1:A:650:LEU:O	1:A:669:LYS:HD2	2.04	0.57
3:C:551:ARG:HH11	3:C:553:LEU:CB	2.16	0.57
3:C:673:ALA:HA	3:C:676:ILE:CD1	2.34	0.57
3:C:1113:LEU:O	3:C:1120:LYS:HD3	2.04	0.57
3:C:822:ILE:O	3:C:826:LYS:HB2	2.05	0.57
1:A:357:ALA:H	3:C:489:SER:CB	2.17	0.57
1:A:441:LEU:HD21	1:A:483:ALA:CB	2.35	0.57
1:A:539:LEU:O	2:B:32:LEU:HA	2.04	0.57
3:C:206:CYS:HA	3:C:211:ILE:HD11	1.87	0.57
3:C:210:LEU:HD23	3:C:213:HIS:CE1	2.39	0.57
3:C:982:ARG:O	3:C:985:VAL:HG12	2.05	0.57
1:A:221:GLY:HA3	3:C:1167:GLU:CD	2.26	0.57
3:C:465:LEU:O	3:C:467:GLY:N	2.38	0.57
3:C:553:LEU:HD13	3:C:639:PRO:HD2	1.87	0.57
3:C:831:THR:CG2	3:C:833:SER:HB3	2.34	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:42:ASP:O	3:C:46:GLU:HG3	2.04	0.56
3:C:138:LEU:O	3:C:141:ALA:HB3	2.05	0.56
3:C:205:SER:O	3:C:206:CYS:HB2	2.04	0.56
3:C:207:PHE:O	3:C:210:LEU:N	2.36	0.56
3:C:967:LEU:N	3:C:968:PRO:CD	2.67	0.56
3:C:8:ILE:H	3:C:8:ILE:CD1	2.17	0.56
3:C:780:THR:HG22	3:C:837:LEU:HD21	1.87	0.56
1:A:354:CYS:HB3	1:A:358:ALA:HB2	1.87	0.56
1:A:473:LEU:HB3	1:A:510:ILE:HG13	1.87	0.56
3:C:17:SER:O	3:C:19:ASP:N	2.36	0.56
3:C:36:LYS:NZ	3:C:36:LYS:HB3	2.20	0.56
3:C:289:HIS:O	3:C:293:ILE:HG13	2.05	0.56
3:C:299:LYS:HZ2	3:C:379:LEU:HD22	1.69	0.56
3:C:379:LEU:HD23	3:C:382:ARG:HG3	1.87	0.56
3:C:442:GLN:O	3:C:444:LYS:N	2.39	0.56
3:C:645:ARG:HD2	3:C:684:SER:HB2	1.88	0.56
3:C:1143:ASP:OD1	3:C:1193:PRO:HB3	2.04	0.56
3:C:1207:GLU:HG3	3:C:1208:LEU:HD22	1.88	0.56
1:A:762:GLU:HB3	1:A:774:LEU:HD12	1.88	0.56
3:C:735:LEU:C	3:C:735:LEU:HD13	2.25	0.56
1:A:513:SER:OG	1:A:537:GLN:HA	2.06	0.56
3:C:216:SER:O	3:C:220:LYS:HG3	2.05	0.56
3:C:717:THR:O	3:C:721:LYS:HB2	2.06	0.56
1:A:286:LEU:HD22	1:A:290:CYS:SG	2.46	0.56
1:A:718:MET:HE1	1:A:771:TYR:HB2	1.87	0.56
3:C:1199:GLN:HB3	3:C:1202:ILE:CB	2.35	0.56
1:A:143:HIS:O	1:A:145:VAL:N	2.37	0.56
1:A:296:GLU:HA	1:A:299:LEU:HG	1.85	0.56
3:C:933:TRP:CH2	3:C:966:LEU:HD22	2.41	0.56
2:B:87:TRP:CE2	2:B:91:ARG:HG3	2.41	0.56
1:A:117:LYS:HZ1	1:A:121:GLN:HE21	1.52	0.56
1:A:625:THR:CG2	1:A:632:MET:CG	2.84	0.56
3:C:46:GLU:OE2	3:C:79:VAL:HA	2.06	0.56
3:C:375:VAL:O	3:C:379:LEU:CB	2.53	0.56
1:A:660:VAL:HG12	1:A:661:GLU:H	1.70	0.56
3:C:495:ILE:HG23	3:C:538:GLU:HG3	1.86	0.56
3:C:1015:LEU:HD12	3:C:1022:VAL:CG1	2.36	0.56
1:A:117:LYS:HZ2	1:A:121:GLN:HE21	1.54	0.55
3:C:979:SER:HB3	3:C:1020:LEU:HD11	1.89	0.55
3:C:1015:LEU:O	3:C:1018:PRO:HD2	2.07	0.55
1:A:142:ARG:NH2	1:A:147:ARG:HG2	2.20	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:643:LEU:HD23	1:A:648:LEU:HB2	1.86	0.55
3:C:350:ARG:CZ	3:C:386:ARG:HH22	2.20	0.55
3:C:79:VAL:HG22	3:C:83:GLN:HB2	1.87	0.55
3:C:551:ARG:O	3:C:552:PRO:C	2.45	0.55
3:C:799:ILE:HG22	3:C:837:LEU:HD11	1.88	0.55
3:C:1047:THR:O	3:C:1050:PRO:HD2	2.06	0.55
1:A:748:ILE:O	1:A:752:ILE:HG13	2.06	0.55
1:A:595:LYS:NZ	1:A:595:LYS:HB3	2.21	0.55
1:A:621:VAL:HG11	1:A:632:MET:HE1	1.88	0.55
1:A:688:LYS:HD3	1:A:689:THR:N	2.21	0.55
3:C:8:ILE:HD12	3:C:8:ILE:N	2.22	0.55
3:C:35:GLN:O	3:C:36:LYS:HB3	2.06	0.55
3:C:942:CYS:O	3:C:943:ALA:C	2.45	0.55
3:C:1037:LYS:H	3:C:1038:PRO:HD3	1.71	0.55
3:C:285:GLU:C	3:C:285:GLU:OE2	2.45	0.55
1:A:171:LEU:HD12	1:A:175:LEU:HD13	1.88	0.55
1:A:601:GLN:O	1:A:683:ILE:HG12	2.07	0.55
3:C:144:LYS:O	3:C:145:GLN:C	2.45	0.55
3:C:268:ARG:HD2	3:C:348:LYS:HE3	1.87	0.55
3:C:383:PHE:HE2	3:C:386:ARG:HH21	1.54	0.55
3:C:601:GLY:HA2	3:C:604:LEU:HB2	1.89	0.55
3:C:804:ALA:HA	3:C:845:VAL:CG2	2.37	0.55
3:C:486:ASP:O	3:C:487:LYS:CB	2.55	0.55
3:C:858:LYS:HE2	3:C:891:TYR:CD2	2.41	0.55
3:C:1012:LEU:O	3:C:1015:LEU:N	2.37	0.55
3:C:1143:ASP:CG	3:C:1193:PRO:HB3	2.28	0.55
3:C:259:PHE:HB3	3:C:270:TYR:HE2	1.71	0.55
3:C:282:CYS:O	3:C:284:LYS:N	2.40	0.55
3:C:551:ARG:CB	3:C:599:ASN:HB3	2.37	0.55
1:A:307:GLN:O	1:A:310:LEU:N	2.40	0.54
3:C:253:ILE:HG12	3:C:286:VAL:HG21	1.87	0.54
3:C:827:ASN:O	3:C:828:SER:C	2.45	0.54
1:A:646:LYS:C	1:A:647:LEU:HD12	2.28	0.54
1:A:651:GLU:CA	1:A:669:LYS:HZ2	2.20	0.54
2:B:73:GLY:HA2	2:B:102:GLU:O	2.07	0.54
3:C:15:MET:HG2	3:C:56:LEU:HD11	1.89	0.54
3:C:75:LEU:O	3:C:78:LYS:N	2.39	0.54
3:C:183:GLN:C	3:C:185:THR:N	2.61	0.54
3:C:254:PRO:O	3:C:258:LYS:HG3	2.07	0.54
3:C:361:VAL:HA	3:C:371:PHE:CE1	2.42	0.54
1:A:631:LYS:O	1:A:635:LEU:CB	2.55	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:271:CYS:HB2	3:C:352:ALA:HB1	1.89	0.54
3:C:346:SER:C	3:C:349:VAL:HG22	2.27	0.54
3:C:405:THR:O	3:C:407:PRO:HD3	2.07	0.54
1:A:21:TRP:CZ2	1:A:91:ARG:HB3	2.42	0.54
3:C:551:ARG:HG2	3:C:599:ASN:CG	2.28	0.54
3:C:658:PHE:O	3:C:660:ARG:N	2.39	0.54
3:C:970:LEU:HB3	3:C:985:VAL:CG2	2.38	0.54
1:A:597:ARG:HH11	1:A:597:ARG:CB	2.04	0.54
3:C:372:TYR:HA	3:C:377:PRO:CG	2.37	0.54
3:C:465:LEU:HB2	3:C:468:ALA:HB2	1.90	0.54
3:C:1184:LEU:HD23	3:C:1190:GLU:CG	2.38	0.54
1:A:439:ALA:O	1:A:443:ASP:HB2	2.07	0.54
1:A:614:ASN:ND2	2:B:22:PHE:H	2.02	0.54
1:A:718:MET:HE2	1:A:771:TYR:HB2	1.89	0.54
3:C:126:LEU:O	3:C:128:ALA:N	2.41	0.54
3:C:134:ILE:HG22	3:C:138:LEU:HD11	1.89	0.54
3:C:386:ARG:HG3	3:C:387:GLU:H	1.73	0.54
3:C:398:TYR:O	3:C:401:LEU:HB3	2.07	0.54
3:C:469:LEU:N	3:C:508:HIS:HE1	2.05	0.54
3:C:566:LYS:H	3:C:566:LYS:CD	2.16	0.54
3:C:936:LEU:HD11	3:C:954:CYS:HB3	1.90	0.54
1:A:426:ASP:OD2	1:A:430:LYS:HE3	2.08	0.54
3:C:600:LEU:C	3:C:602:ASP:N	2.57	0.54
3:C:723:TYR:N	3:C:724:PRO:CD	2.70	0.54
3:C:975:ILE:HG23	3:C:976:SER:N	2.17	0.54
1:A:137:CYS:CB	1:A:159:ILE:HG12	2.38	0.54
1:A:713:ALA:O	1:A:717:ILE:HG13	2.08	0.54
3:C:88:VAL:CG1	3:C:134:ILE:HG12	2.38	0.54
3:C:1012:LEU:C	3:C:1014:THR:N	2.58	0.54
1:A:443:ASP:O	1:A:446:ASN:N	2.40	0.53
1:A:651:GLU:O	1:A:652:ASP:O	2.26	0.53
2:B:64:THR:O	2:B:67:GLU:HB3	2.08	0.53
3:C:188:ARG:N	3:C:188:ARG:CD	2.71	0.53
3:C:230:TYR:O	3:C:234:ILE:HG12	2.08	0.53
3:C:301:LEU:HD13	3:C:350:ARG:HH12	1.71	0.53
3:C:616:LEU:HD23	3:C:647:VAL:CG1	2.38	0.53
1:A:363:LYS:HA	1:A:424:TYR:CD2	2.44	0.53
1:A:621:VAL:CG1	1:A:632:MET:HE1	2.39	0.53
1:A:631:LYS:O	1:A:635:LEU:HB2	2.08	0.53
3:C:41:LEU:HD22	3:C:46:GLU:CG	2.38	0.53
3:C:386:ARG:HD3	3:C:390:VAL:HG12	1.89	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:690:ILE:HG12	3:C:723:TYR:CE2	2.43	0.53
3:C:933:TRP:NE1	3:C:937:LEU:HD11	2.23	0.53
3:C:1142:LEU:HD22	3:C:1193:PRO:HG2	1.90	0.53
1:A:423:ARG:O	1:A:426:ASP:HB3	2.07	0.53
1:A:536:ILE:HG12	1:A:537:GLN:N	2.21	0.53
2:B:77:HIS:CE1	2:B:97:ASP:HB3	2.44	0.53
3:C:300:TYR:O	3:C:300:TYR:CD2	2.61	0.53
3:C:365:HIS:O	3:C:367:MET:N	2.42	0.53
1:A:270:GLU:O	1:A:274:VAL:HG23	2.07	0.53
3:C:208:VAL:HA	3:C:244:ARG:NH2	2.22	0.53
3:C:285:GLU:C	3:C:287:TYR:H	2.12	0.53
1:A:52:TYR:O	1:A:52:TYR:CD2	2.61	0.53
1:A:630:ILE:HG22	1:A:630:ILE:O	2.04	0.53
3:C:83:GLN:HA	3:C:86:THR:OG1	2.08	0.53
3:C:294:ILE:HD13	3:C:356:CYS:HB3	1.90	0.53
3:C:1159:ALA:HA	3:C:1166:PHE:HZ	1.72	0.53
3:C:543:THR:O	3:C:547:VAL:HG23	2.09	0.53
3:C:1149:LEU:HD13	3:C:1180:VAL:HG22	1.88	0.53
1:A:100:LEU:HD21	1:A:126:TYR:CE1	2.44	0.53
1:A:619:TYR:HD2	1:A:623:GLN:HE21	1.57	0.53
3:C:206:CYS:HB3	3:C:207:PHE:CA	2.37	0.53
3:C:269:GLU:O	3:C:272:ILE:HB	2.09	0.53
3:C:933:TRP:CZ3	3:C:966:LEU:HD22	2.44	0.53
3:C:982:ARG:HH22	3:C:1019:ASP:H	1.55	0.53
3:C:1023:ARG:O	3:C:1026:ALA:HB3	2.09	0.53
1:A:112:ASP:O	1:A:182:ALA:HB1	2.08	0.53
1:A:221:GLY:HA3	3:C:1167:GLU:OE1	2.09	0.53
1:A:662:LEU:HD12	1:A:662:LEU:N	2.22	0.53
3:C:85:GLU:CG	3:C:133:LYS:HE2	2.30	0.53
3:C:133:LYS:HB2	3:C:133:LYS:NZ	2.24	0.53
3:C:365:HIS:C	3:C:367:MET:N	2.62	0.53
3:C:33:GLU:HA	3:C:36:LYS:HE2	1.90	0.53
3:C:299:LYS:HZ1	3:C:379:LEU:HD22	1.73	0.53
3:C:502:TYR:CE1	3:C:541:LEU:HD22	2.44	0.53
3:C:896:LEU:HD11	3:C:932:ILE:HD13	1.90	0.53
3:C:1015:LEU:CD1	3:C:1022:VAL:CG1	2.87	0.53
1:A:592:ASN:HB3	1:A:597:ARG:HH12	1.73	0.53
1:A:719:LYS:HG3	1:A:773:TYR:HE1	1.72	0.53
3:C:945:GLU:HA	3:C:948:ARG:HD3	1.90	0.53
1:A:134:ASN:ND2	1:A:160:TYR:HB2	2.25	0.52
1:A:734:LEU:HD23	1:A:743:PRO:HD2	1.91	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:767:GLU:HA	1:A:767:GLU:OE1	2.09	0.52
3:C:208:VAL:O	3:C:212:GLU:OE2	2.27	0.52
3:C:813:GLU:OE1	3:C:814:GLY:N	2.39	0.52
1:A:21:TRP:CD1	1:A:91:ARG:HD3	2.44	0.52
3:C:227:THR:HG22	3:C:229:THR:OG1	2.09	0.52
3:C:856:GLU:O	3:C:860:VAL:HG23	2.10	0.52
3:C:870:GLU:CD	3:C:870:GLU:H	2.12	0.52
1:A:440:GLU:C	1:A:444:THR:HG1	2.08	0.52
1:A:719:LYS:HG3	1:A:773:TYR:CE1	2.44	0.52
3:C:926:LYS:HB3	3:C:927:PRO:HD3	1.91	0.52
1:A:117:LYS:O	1:A:117:LYS:HD3	2.09	0.52
1:A:186:LEU:O	1:A:189:LYS:HB2	2.10	0.52
1:A:472:ARG:NH1	1:A:484:GLU:OE1	2.43	0.52
1:A:592:ASN:HB3	1:A:597:ARG:NH2	2.23	0.52
1:A:630:ILE:O	1:A:635:LEU:HB2	2.09	0.52
3:C:19:ASP:OD1	3:C:21:ASP:HB2	2.10	0.52
3:C:168:LEU:C	3:C:169:LEU:HD12	2.30	0.52
3:C:253:ILE:CD1	3:C:281:ARG:HH22	2.21	0.52
3:C:701:ILE:HD13	3:C:738:LEU:HD21	1.89	0.52
1:A:660:VAL:HB	1:A:662:LEU:CD1	2.39	0.52
1:A:719:LYS:HE2	1:A:773:TYR:OH	2.10	0.52
2:B:37:ILE:HG23	2:B:38:VAL:HG13	1.91	0.52
3:C:727:LEU:HD13	3:C:767:THR:OG1	2.10	0.52
1:A:25:ARG:HD3	1:A:95:PHE:CD1	2.44	0.52
2:B:39:VAL:O	2:B:40:ASP:C	2.47	0.52
3:C:458:LEU:O	3:C:462:VAL:HG23	2.09	0.52
3:C:1194:LEU:O	3:C:1195:MET:CB	2.44	0.52
1:A:107:GLY:HA2	1:A:110:LEU:CD1	2.37	0.52
1:A:175:LEU:CG	1:A:208:TYR:OH	2.52	0.52
1:A:492:LYS:HB3	3:C:108:ILE:CD1	2.39	0.52
3:C:239:ARG:NE	3:C:276:GLU:HG2	2.24	0.52
3:C:548:LYS:CA	3:C:551:ARG:HG3	2.33	0.52
3:C:821:PHE:C	3:C:823:GLN:N	2.51	0.52
3:C:971:LYS:O	3:C:971:LYS:HG2	2.08	0.52
1:A:717:ILE:HA	3:C:25:MET:HE3	1.89	0.52
3:C:87:ILE:O	3:C:88:VAL:C	2.47	0.52
3:C:213:HIS:O	3:C:217:GLU:HB2	2.10	0.52
3:C:626:LEU:HD23	3:C:666:LEU:HD12	1.91	0.52
1:A:21:TRP:NE1	1:A:91:ARG:HD3	2.25	0.52
1:A:50:TYR:CE1	1:A:54:THR:HG21	2.45	0.52
1:A:667:LEU:HB3	1:A:669:LYS:HE3	1.91	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:37:ASP:OD2	3:C:39:ILE:HG12	2.10	0.52
3:C:771:GLY:H	3:C:774:ASP:HB2	1.75	0.52
3:C:826:LYS:NZ	3:C:828:SER:HB2	2.23	0.52
3:C:903:PRO:HA	3:C:906:GLN:HG3	1.91	0.52
1:A:178:GLN:O	1:A:181:ASN:N	2.43	0.52
1:A:597:ARG:O	1:A:597:ARG:HG3	2.09	0.52
1:A:645:SER:O	1:A:646:LYS:CB	2.57	0.52
2:B:86:ARG:O	2:B:89:LYS:HB2	2.09	0.52
3:C:168:LEU:HG	3:C:169:LEU:CD1	2.39	0.52
3:C:942:CYS:HB3	3:C:980:TYR:CD2	2.45	0.52
3:C:1038:PRO:C	3:C:1040:LEU:H	2.13	0.52
1:A:614:ASN:HA	2:B:20:LYS:O	2.10	0.51
3:C:225:SER:O	3:C:226:THR:O	2.28	0.51
3:C:385:GLU:HB3	3:C:442:GLN:OE1	2.10	0.51
1:A:286:LEU:O	1:A:290:CYS:SG	2.64	0.51
1:A:714:ILE:HD13	1:A:733:VAL:HG21	1.93	0.51
1:A:733:VAL:HG11	1:A:748:ILE:HD13	1.91	0.51
2:B:49:ILE:CD1	2:B:50:MET:HG2	2.34	0.51
1:A:158:GLU:O	1:A:162:LEU:N	2.44	0.51
1:A:405:ASN:ND2	1:A:405:ASN:C	2.64	0.51
1:A:649:VAL:HG23	1:A:671:TYR:HB2	1.92	0.51
1:A:654:ASN:HD22	1:A:656:ASN:ND2	2.09	0.51
3:C:701:ILE:HD13	3:C:738:LEU:HD23	1.92	0.51
3:C:913:LEU:CD2	3:C:917:ILE:HG13	2.40	0.51
3:C:947:THR:O	3:C:951:VAL:HG23	2.10	0.51
3:C:1104:GLU:OE1	3:C:1104:GLU:HA	2.11	0.51
1:A:17:LEU:N	1:A:19:GLN:HG2	2.25	0.51
1:A:144:TRP:C	1:A:145:VAL:HG22	2.30	0.51
1:A:227:TYR:HE1	1:A:282:THR:HG23	1.75	0.51
1:A:542:GLY:N	2:B:76:ASN:HD21	1.99	0.51
1:A:117:LYS:HZ2	1:A:121:GLN:NE2	2.08	0.51
1:A:376:TYR:O	1:A:380:VAL:HG23	2.09	0.51
1:A:595:LYS:HG3	1:A:596:ASN:N	2.25	0.51
3:C:41:LEU:HD22	3:C:46:GLU:OE2	2.09	0.51
3:C:543:THR:HG23	3:C:568:LEU:HD22	1.93	0.51
3:C:610:ASN:O	3:C:614:ILE:HG12	2.11	0.51
3:C:961:ILE:O	3:C:962:ASP:HB3	2.10	0.51
3:C:994:SER:O	3:C:1037:LYS:HE2	2.11	0.51
1:A:720:MET:HE1	3:C:29:ASP:OD2	2.11	0.51
3:C:220:LYS:C	3:C:222:ASP:H	2.14	0.51
3:C:245:ILE:HG12	3:C:245:ILE:O	2.11	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:374:THR:O	3:C:374:THR:HG23	2.10	0.51
3:C:473:ILE:N	3:C:474:PRO:CD	2.73	0.51
1:A:612:GLN:C	1:A:614:ASN:H	2.14	0.51
1:A:660:VAL:CG1	1:A:661:GLU:N	2.72	0.51
1:A:671:TYR:CD1	1:A:671:TYR:C	2.83	0.51
3:C:301:LEU:HB2	3:C:350:ARG:NH1	2.25	0.51
3:C:351:ARG:HD3	3:C:393:ASP:OD2	2.10	0.51
3:C:887:ASN:CG	3:C:890:GLU:HB2	2.31	0.51
3:C:933:TRP:CD1	3:C:937:LEU:HD11	2.46	0.51
1:A:319:GLY:O	1:A:322:TYR:HB3	2.10	0.51
1:A:577:LYS:HZ3	1:A:578:LEU:H	1.58	0.51
3:C:236:ALA:HA	3:C:239:ARG:NH1	2.26	0.51
3:C:495:ILE:CD1	3:C:534:LYS:HB3	2.41	0.51
3:C:1024:ARG:O	3:C:1028:VAL:HG23	2.11	0.51
1:A:365:TYR:CE2	1:A:407:VAL:HG21	2.46	0.51
1:A:486:SER:O	1:A:490:LYS:HG3	2.11	0.51
3:C:129:ASN:HA	3:C:132:LYS:HB3	1.92	0.51
3:C:248:TYR:C	3:C:249:LEU:HD13	2.31	0.51
3:C:825:VAL:HG23	3:C:860:VAL:HG22	1.92	0.51
2:B:73:GLY:O	2:B:104:GLN:NE2	2.44	0.51
3:C:126:LEU:CD2	3:C:130:VAL:HG21	2.41	0.51
3:C:383:PHE:O	3:C:394:VAL:HG11	2.11	0.51
1:A:21:TRP:HE3	1:A:21:TRP:HA	1.75	0.50
1:A:672:LEU:H	1:A:672:LEU:CD1	2.16	0.50
1:A:726:HIS:HA	1:A:771:TYR:HE1	1.77	0.50
3:C:206:CYS:HB3	3:C:207:PHE:C	2.31	0.50
3:C:267:LEU:HA	3:C:270:TYR:CD1	2.46	0.50
3:C:1037:LYS:O	3:C:1040:LEU:HG	2.11	0.50
3:C:1112:GLY:O	3:C:1123:THR:CB	2.59	0.50
3:C:1190:GLU:O	3:C:1193:PRO:CD	2.55	0.50
1:A:717:ILE:HG12	3:C:25:MET:HE2	1.93	0.50
1:A:741:PHE:O	1:A:743:PRO:HD3	2.11	0.50
3:C:86:THR:O	3:C:87:ILE:C	2.49	0.50
3:C:645:ARG:HD2	3:C:684:SER:CB	2.41	0.50
3:C:769:ASN:O	3:C:770:LEU:HD12	2.11	0.50
3:C:796:TYR:HD2	3:C:837:LEU:HB2	1.76	0.50
3:C:1031:ASN:OD1	3:C:1088:CYS:HA	2.10	0.50
1:A:21:TRP:HA	1:A:21:TRP:CE3	2.46	0.50
1:A:598:TYR:CD1	1:A:598:TYR:N	2.79	0.50
1:A:662:LEU:H	1:A:662:LEU:CD1	2.23	0.50
2:B:40:ASP:O	2:B:49:ILE:HD11	2.11	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:206:CYS:HB2	3:C:207:PHE:HA	1.92	0.50
3:C:244:ARG:HG2	3:C:244:ARG:NH1	2.24	0.50
3:C:373:LYS:HG3	3:C:427:MET:HE2	1.74	0.50
3:C:570:THR:O	3:C:571:CYS:C	2.50	0.50
3:C:1036:ASN:N	3:C:1036:ASN:ND2	2.60	0.50
1:A:299:LEU:O	1:A:303:HIS:CG	2.64	0.50
2:B:82:HIS:O	2:B:86:ARG:HB2	2.12	0.50
3:C:254:PRO:HB2	3:C:258:LYS:HE3	1.92	0.50
3:C:500:CYS:O	3:C:504:ILE:HG13	2.11	0.50
3:C:673:ALA:CA	3:C:676:ILE:HD11	2.37	0.50
3:C:857:LEU:HD11	3:C:883:ILE:HD13	1.93	0.50
1:A:21:TRP:CE3	1:A:21:TRP:O	2.65	0.50
1:A:227:TYR:CE1	1:A:282:THR:HG23	2.46	0.50
1:A:440:GLU:O	1:A:444:THR:CB	2.59	0.50
1:A:646:LYS:O	1:A:646:LYS:HG2	2.11	0.50
3:C:143:ALA:C	3:C:145:GLN:H	2.13	0.50
3:C:1202:ILE:HA	3:C:1205:ASN:HD22	1.76	0.50
1:A:309:LEU:HD13	1:A:317:ASP:HB2	1.92	0.50
3:C:428:LEU:O	3:C:429:GLN:C	2.49	0.50
1:A:309:LEU:CD1	1:A:317:ASP:HB2	2.42	0.50
1:A:441:LEU:HD21	1:A:483:ALA:HB2	1.93	0.50
1:A:703:GLU:OE1	1:A:703:GLU:HA	2.12	0.50
3:C:209:ASP:O	3:C:213:HIS:CD2	2.65	0.50
3:C:290:VAL:O	3:C:291:SER:C	2.50	0.50
3:C:658:PHE:C	3:C:660:ARG:H	2.15	0.50
1:A:141:ASN:HD21	1:A:159:ILE:H	1.58	0.49
1:A:274:VAL:HA	1:A:278:LEU:HB2	1.93	0.49
1:A:521:LYS:HB3	1:A:521:LYS:NZ	2.27	0.49
1:A:522:LYS:O	1:A:525:THR:N	2.45	0.49
3:C:219:SER:O	3:C:222:ASP:HB2	2.12	0.49
3:C:814:GLY:O	3:C:818:VAL:HG23	2.12	0.49
1:A:175:LEU:O	1:A:176:ASN:C	2.48	0.49
2:B:97:ASP:O	2:B:99:ARG:N	2.45	0.49
3:C:151:GLN:O	3:C:154:ALA:N	2.44	0.49
3:C:223:SER:O	3:C:225:SER:N	2.45	0.49
3:C:350:ARG:NH2	3:C:386:ARG:HH22	2.10	0.49
3:C:368:LEU:O	3:C:369:PRO:C	2.50	0.49
1:A:144:TRP:O	1:A:145:VAL:CG1	2.53	0.49
1:A:660:VAL:HB	1:A:662:LEU:HD11	1.94	0.49
3:C:887:ASN:OD1	3:C:889:PRO:HD2	2.11	0.49
3:C:1109:VAL:HG13	3:C:1123:THR:HG22	1.94	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:446:ASN:CG	1:A:490:LYS:HE2	2.33	0.49
1:A:624:LEU:C	1:A:626:ASP:N	2.66	0.49
3:C:509:SER:O	3:C:512:VAL:HG23	2.11	0.49
3:C:697:LEU:CD1	3:C:716:LEU:HD21	2.42	0.49
3:C:697:LEU:O	3:C:700:LEU:N	2.38	0.49
3:C:821:PHE:CE1	3:C:857:LEU:HB2	2.46	0.49
3:C:902:GLN:HE22	3:C:905:ARG:NH1	2.11	0.49
1:A:175:LEU:HG	1:A:208:TYR:CZ	2.48	0.49
1:A:430:LYS:HG2	1:A:477:ASN:O	2.12	0.49
3:C:1205:ASN:C	3:C:1207:GLU:H	2.15	0.49
3:C:75:LEU:O	3:C:76:VAL:C	2.51	0.49
3:C:249:LEU:CB	3:C:281:ARG:NH2	2.75	0.49
3:C:660:ARG:HD2	3:C:696:GLU:CD	2.32	0.49
3:C:663:GLN:O	3:C:664:ARG:C	2.50	0.49
3:C:1001:ASP:HB2	3:C:1002:PRO:HD3	1.93	0.49
1:A:175:LEU:HG	1:A:208:TYR:HH	1.77	0.49
1:A:598:TYR:CZ	1:A:675:LYS:HB3	2.48	0.49
1:A:725:LYS:O	1:A:726:HIS:C	2.51	0.49
3:C:267:LEU:HD23	3:C:270:TYR:CZ	2.47	0.49
3:C:301:LEU:HB2	3:C:350:ARG:CZ	2.42	0.49
3:C:763:VAL:HG13	3:C:775:LEU:HD12	1.93	0.49
3:C:851:LEU:C	3:C:853:GLY:H	2.16	0.49
2:B:48:HIS:O	2:B:50:MET:N	2.45	0.49
3:C:42:ASP:HB2	3:C:45:SER:CB	2.42	0.49
3:C:405:THR:O	3:C:407:PRO:N	2.46	0.49
1:A:452:PHE:O	1:A:458:LYS:NZ	2.46	0.49
1:A:492:LYS:HB3	3:C:108:ILE:HD11	1.95	0.49
1:A:593:CYS:HB2	2:B:20:LYS:H	1.78	0.49
1:A:609:ILE:HD11	1:A:635:LEU:CD2	2.42	0.49
1:A:615:THR:OG1	1:A:619:TYR:OH	2.31	0.49
1:A:618:ALA:CB	1:A:669:LYS:HG2	2.39	0.49
3:C:4:ALA:HB3	3:C:7:HIS:HB2	1.95	0.49
3:C:349:VAL:CG2	3:C:350:ARG:N	2.69	0.49
3:C:633:THR:HG23	3:C:676:ILE:CG1	2.41	0.49
1:A:134:ASN:ND2	1:A:157:TYR:HB2	2.27	0.49
3:C:17:SER:C	3:C:19:ASP:H	2.15	0.49
3:C:386:ARG:HG3	3:C:386:ARG:HH11	1.77	0.49
3:C:808:ARG:HE	3:C:848:HIS:CG	2.31	0.49
3:C:374:THR:O	3:C:374:THR:CG2	2.61	0.48
3:C:1079:LEU:O	3:C:1079:LEU:CD2	2.60	0.48
3:C:1205:ASN:C	3:C:1207:GLU:N	2.66	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:170:CYS:O	1:A:174:PRO:HD2	2.12	0.48
1:A:325:VAL:C	1:A:327:ARG:N	2.67	0.48
1:A:643:LEU:HD23	1:A:648:LEU:CB	2.42	0.48
2:B:87:TRP:CZ2	2:B:95:PRO:HB3	2.48	0.48
3:C:229:THR:C	3:C:231:ILE:N	2.65	0.48
3:C:547:VAL:HG12	3:C:599:ASN:HD22	1.77	0.48
3:C:825:VAL:C	3:C:827:ASN:N	2.64	0.48
3:C:1016:GLU:OE2	3:C:1016:GLU:HA	2.13	0.48
1:A:100:LEU:HD13	1:A:167:TRP:HA	1.96	0.48
1:A:556:SER:O	1:A:558:LEU:N	2.46	0.48
1:A:178:GLN:O	1:A:180:THR:N	2.46	0.48
1:A:475:HIS:CE1	1:A:585:SER:HA	2.47	0.48
1:A:619:TYR:HD2	1:A:623:GLN:NE2	2.11	0.48
1:A:647:LEU:HD12	1:A:647:LEU:N	2.28	0.48
1:A:660:VAL:CG1	1:A:661:GLU:H	2.26	0.48
3:C:249:LEU:HB3	3:C:281:ARG:CZ	2.43	0.48
3:C:299:LYS:HZ3	3:C:382:ARG:HD3	1.79	0.48
3:C:386:ARG:CZ	3:C:386:ARG:CB	2.80	0.48
3:C:578:ALA:O	3:C:579:ALA:CB	2.62	0.48
1:A:170:CYS:O	1:A:174:PRO:CD	2.61	0.48
1:A:186:LEU:HA	1:A:189:LYS:HG3	1.94	0.48
1:A:713:ALA:O	1:A:714:ILE:C	2.52	0.48
3:C:600:LEU:N	3:C:600:LEU:HD23	2.27	0.48
3:C:601:GLY:CA	3:C:604:LEU:HB2	2.44	0.48
3:C:1013:LYS:HB2	3:C:1047:THR:HG21	1.95	0.48
1:A:520:PHE:HD1	1:A:568:PHE:CG	2.30	0.48
2:B:64:THR:O	2:B:65:SER:C	2.52	0.48
3:C:249:LEU:HD22	3:C:250:GLU:N	2.27	0.48
3:C:1199:GLN:CG	3:C:1202:ILE:HG12	2.42	0.48
1:A:475:HIS:O	1:A:476:GLN:HG3	2.14	0.48
1:A:727:GLN:O	1:A:728:GLN:C	2.51	0.48
3:C:61:ASN:OD1	3:C:63:GLU:HB2	2.13	0.48
3:C:282:CYS:C	3:C:284:LYS:H	2.17	0.48
3:C:507:ASN:O	3:C:508:HIS:CG	2.66	0.48
3:C:633:THR:HG23	3:C:676:ILE:CD1	2.44	0.48
3:C:975:ILE:CG2	3:C:976:SER:H	2.19	0.48
1:A:202:SER:O	1:A:206:GLN:HG3	2.13	0.48
1:A:284:ASP:OD1	1:A:284:ASP:O	2.31	0.48
1:A:624:LEU:C	1:A:626:ASP:H	2.17	0.48
3:C:117:LEU:HD11	3:C:130:VAL:HG11	1.94	0.48
3:C:448:VAL:HG13	3:C:493:LEU:HD22	1.96	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:590:ILE:CD1	3:C:624:THR:HG23	2.44	0.48
3:C:821:PHE:CD2	3:C:821:PHE:N	2.79	0.48
1:A:250:PHE:CE2	1:A:259:TYR:HA	2.48	0.48
2:B:19:LYS:HB3	2:B:19:LYS:HZ3	1.76	0.48
3:C:134:ILE:O	3:C:137:ARG:N	2.46	0.48
3:C:181:LEU:HB3	3:C:217:GLU:OE1	2.14	0.48
3:C:226:THR:HG23	3:C:227:THR:H	1.79	0.48
3:C:294:ILE:HG23	3:C:353:ALA:HB1	1.96	0.48
3:C:521:VAL:HG13	3:C:525:VAL:HG23	1.94	0.48
3:C:633:THR:HA	3:C:676:ILE:CD1	2.42	0.48
3:C:1100:LEU:O	3:C:1102:ILE:HD13	2.14	0.48
1:A:104:LEU:O	1:A:108:GLU:HG3	2.14	0.47
1:A:711:GLN:HE22	1:A:758:LYS:HZ2	1.62	0.47
1:A:734:LEU:HD23	1:A:734:LEU:HA	1.70	0.47
2:B:19:LYS:O	2:B:20:LYS:HB2	2.14	0.47
3:C:46:GLU:O	3:C:47:ARG:C	2.52	0.47
3:C:79:VAL:CG2	3:C:83:GLN:HB2	2.44	0.47
3:C:166:GLY:O	3:C:168:LEU:N	2.47	0.47
3:C:462:VAL:HG12	3:C:462:VAL:O	2.14	0.47
3:C:551:ARG:HD3	3:C:599:ASN:CG	2.34	0.47
3:C:598:CYS:SG	3:C:638:SER:HB2	2.53	0.47
3:C:771:GLY:O	3:C:775:LEU:HG	2.13	0.47
1:A:289:LYS:O	1:A:293:VAL:HG12	2.14	0.47
1:A:630:ILE:CD1	1:A:630:ILE:HB	2.38	0.47
3:C:380:ILE:HG23	3:C:394:VAL:HG12	1.96	0.47
3:C:592:CYS:O	3:C:596:ILE:HG13	2.14	0.47
3:C:690:ILE:HG23	3:C:719:LEU:HD21	1.95	0.47
3:C:897:GLN:HE21	3:C:897:GLN:HA	1.79	0.47
1:A:405:ASN:ND2	1:A:408:THR:HG23	2.29	0.47
2:B:87:TRP:CE2	2:B:95:PRO:HB3	2.48	0.47
3:C:514:HIS:CD2	3:C:559:PHE:HB2	2.49	0.47
3:C:698:PRO:CG	3:C:733:SER:HB2	2.43	0.47
3:C:823:GLN:HA	3:C:823:GLN:NE2	2.29	0.47
1:A:115:VAL:O	1:A:119:TYR:N	2.42	0.47
1:A:315:ASN:HB3	1:A:318:LEU:HD12	1.96	0.47
1:A:504:GLN:HA	1:A:504:GLN:NE2	2.29	0.47
3:C:195:THR:O	3:C:198:ALA:HB3	2.15	0.47
3:C:540:LEU:HD22	3:C:589:ALA:HA	1.96	0.47
3:C:1017:ASP:N	3:C:1018:PRO:CD	2.78	0.47
3:C:1094:ASP:CG	3:C:1129:ARG:HH22	2.17	0.47
1:A:205:VAL:O	1:A:209:VAL:HG23	2.15	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:392:ALA:O	1:A:396:LYS:HG3	2.14	0.47
1:A:405:ASN:ND2	1:A:407:VAL:N	2.53	0.47
1:A:635:LEU:HD13	1:A:635:LEU:C	2.35	0.47
3:C:371:PHE:O	3:C:376:SER:OG	2.32	0.47
3:C:383:PHE:HD2	3:C:386:ARG:HE	1.55	0.47
3:C:386:ARG:HB2	3:C:386:ARG:NH1	2.29	0.47
3:C:428:LEU:O	3:C:431:GLN:HB2	2.15	0.47
3:C:734:ILE:HG22	3:C:735:LEU:N	2.28	0.47
3:C:891:TYR:O	3:C:894:PHE:HB3	2.14	0.47
3:C:1019:ASP:O	3:C:1020:LEU:HG	2.15	0.47
1:A:143:HIS:C	1:A:145:VAL:H	2.18	0.47
3:C:257:VAL:O	3:C:260:CYS:N	2.47	0.47
3:C:621:ASN:HB2	3:C:624:THR:HB	1.96	0.47
3:C:724:PRO:O	3:C:727:LEU:HG	2.15	0.47
3:C:824:ASP:O	3:C:825:VAL:C	2.53	0.47
3:C:861:ILE:HG21	3:C:880:LEU:HB2	1.96	0.47
1:A:365:TYR:CD2	1:A:407:VAL:HG21	2.49	0.47
1:A:548:GLN:HA	1:A:581:LEU:HD22	1.96	0.47
3:C:38:SER:H	3:C:78:LYS:NZ	2.12	0.47
3:C:148:VAL:O	3:C:149:SER:C	2.53	0.47
3:C:211:ILE:HD12	3:C:211:ILE:N	2.29	0.47
3:C:281:ARG:HE	3:C:284:LYS:HG2	1.79	0.47
3:C:285:GLU:O	3:C:287:TYR:N	2.47	0.47
3:C:375:VAL:O	3:C:379:LEU:CA	2.61	0.47
3:C:385:GLU:HA	3:C:391:LYS:CE	2.34	0.47
3:C:465:LEU:CB	3:C:468:ALA:HB2	2.44	0.47
3:C:1127:LEU:HD21	3:C:1145:LEU:HD13	1.96	0.47
1:A:221:GLY:N	3:C:1171:GLU:OE2	2.48	0.47
1:A:445:LEU:HG	1:A:487:MET:SD	2.55	0.47
1:A:560:ARG:HG2	1:A:560:ARG:HH11	1.80	0.47
1:A:672:LEU:N	1:A:672:LEU:CD1	2.60	0.47
1:A:708:LEU:HD12	2:B:106:TYR:CD1	2.49	0.47
3:C:199:LEU:O	3:C:202:LEU:HB3	2.15	0.47
3:C:218:LEU:HD13	3:C:234:ILE:CD1	2.44	0.47
3:C:235:ALA:O	3:C:238:SER:HB2	2.14	0.47
3:C:375:VAL:HG13	3:C:379:LEU:HD12	1.96	0.47
3:C:590:ILE:HD11	3:C:624:THR:HG23	1.97	0.47
3:C:925:LEU:O	3:C:926:LYS:C	2.53	0.47
3:C:126:LEU:C	3:C:128:ALA:H	2.18	0.47
3:C:532:PHE:CE2	3:C:534:LYS:HB2	2.50	0.47
3:C:667:LYS:HE3	3:C:700:LEU:HD21	1.96	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:769:ASN:O	3:C:770:LEU:CD1	2.62	0.47
3:C:819:GLY:O	3:C:823:GLN:HG3	2.15	0.47
3:C:1179:ALA:O	3:C:1180:VAL:C	2.52	0.47
1:A:694:GLU:O	1:A:698:THR:HG23	2.15	0.47
3:C:287:TYR:CB	3:C:288:PRO:HD3	2.28	0.47
3:C:825:VAL:HG23	3:C:860:VAL:CG1	2.44	0.47
3:C:1157:VAL:HB	3:C:1166:PHE:HE2	1.79	0.47
3:C:1158:LYS:C	3:C:1160:ASN:H	2.17	0.47
3:C:1196:SER:O	3:C:1198:PHE:N	2.48	0.47
3:C:1199:GLN:HG3	3:C:1201:GLN:N	2.31	0.47
3:C:95:MET:HB2	3:C:96:LEU:HD12	1.97	0.46
3:C:200:GLY:O	3:C:203:VAL:HG22	2.15	0.46
3:C:405:THR:O	3:C:407:PRO:CD	2.63	0.46
3:C:590:ILE:HD13	3:C:628:THR:CG2	2.45	0.46
3:C:618:ARG:CG	3:C:624:THR:HG21	2.45	0.46
3:C:982:ARG:HH21	3:C:1018:PRO:CB	2.23	0.46
3:C:1152:THR:C	3:C:1154:THR:H	2.18	0.46
3:C:1157:VAL:HB	3:C:1166:PHE:CE2	2.50	0.46
1:A:159:ILE:HD12	1:A:159:ILE:HA	1.78	0.46
1:A:167:TRP:O	1:A:170:CYS:N	2.48	0.46
1:A:171:LEU:CD1	1:A:175:LEU:HD13	2.46	0.46
1:A:408:THR:HB	1:A:414:SER:HA	1.96	0.46
3:C:253:ILE:HG21	3:C:286:VAL:HG11	1.96	0.46
3:C:432:VAL:HG11	3:C:436:VAL:HG23	1.97	0.46
3:C:560:ASP:OD1	3:C:562:THR:HG23	2.15	0.46
3:C:562:THR:N	3:C:563:PRO:HD2	2.30	0.46
3:C:576:LEU:HD22	3:C:593:MET:HG2	1.98	0.46
1:A:142:ARG:HH22	1:A:148:GLU:HG2	1.80	0.46
1:A:612:GLN:HB3	1:A:619:TYR:CE1	2.51	0.46
1:A:613:TYR:CE2	1:A:648:LEU:HD21	2.51	0.46
3:C:1138:VAL:O	3:C:1142:LEU:N	2.48	0.46
3:C:6:TYR:N	3:C:6:TYR:CD2	2.81	0.46
3:C:384:LYS:C	3:C:385:GLU:HG3	2.36	0.46
3:C:654:ILE:O	3:C:657:SER:HB3	2.16	0.46
3:C:970:LEU:C	3:C:972:GLY:H	2.18	0.46
1:A:35:GLN:O	1:A:36:SER:C	2.53	0.46
3:C:821:PHE:O	3:C:823:GLN:N	2.44	0.46
3:C:1008:ILE:CG2	3:C:1009:GLY:N	2.78	0.46
3:C:1036:ASN:ND2	3:C:1036:ASN:H	2.14	0.46
3:C:1205:ASN:HB2	3:C:1206:PRO:CD	2.46	0.46
1:A:104:LEU:HD21	1:A:173:ARG:HB3	1.96	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:172:PHE:O	3:C:176:ILE:HG12	2.15	0.46
3:C:469:LEU:HD13	3:C:476:LEU:HD13	1.96	0.46
3:C:1202:ILE:O	3:C:1206:PRO:HD2	2.16	0.46
1:A:268:LEU:O	1:A:271:GLN:HB2	2.16	0.46
3:C:131:CYS:O	3:C:134:ILE:HB	2.16	0.46
3:C:206:CYS:CB	3:C:207:PHE:CA	2.94	0.46
3:C:261:ASN:O	3:C:262:VAL:C	2.53	0.46
3:C:1117:TYR:C	3:C:1117:TYR:HD2	2.18	0.46
3:C:1123:THR:HA	3:C:1126:MET:HB2	1.97	0.46
3:C:1183:LEU:O	3:C:1186:ILE:CG2	2.63	0.46
1:A:308:ASN:C	1:A:310:LEU:H	2.18	0.46
1:A:309:LEU:HB3	1:A:318:LEU:HD21	1.98	0.46
1:A:398:CYS:O	1:A:402:ILE:HG13	2.15	0.46
1:A:438:GLU:OE1	1:A:438:GLU:O	2.33	0.46
3:C:171:ASN:OD1	3:C:171:ASN:N	2.49	0.46
3:C:186:SER:O	3:C:192:ARG:HD2	2.16	0.46
3:C:218:LEU:HD23	3:C:230:TYR:CD1	2.47	0.46
3:C:1051:HIS:O	3:C:1054:ASN:N	2.49	0.46
1:A:553:ALA:HB2	1:A:629:GLN:HB2	1.97	0.46
2:B:74:VAL:HA	2:B:104:GLN:NE2	2.30	0.46
3:C:676:ILE:H	3:C:676:ILE:HG13	1.36	0.46
3:C:852:SER:HB2	3:C:887:ASN:HD22	1.81	0.46
3:C:1015:LEU:CD1	3:C:1022:VAL:HG12	2.41	0.46
3:C:1036:ASN:H	3:C:1036:ASN:HD22	1.62	0.46
1:A:171:LEU:CG	1:A:175:LEU:HD13	2.46	0.46
1:A:533:ASP:HB3	2:B:26:LYS:HG2	1.97	0.46
3:C:442:GLN:O	3:C:445:GLU:HB2	2.15	0.46
3:C:505:LEU:HD23	3:C:513:PHE:CE2	2.51	0.46
3:C:813:GLU:OE2	3:C:813:GLU:HA	2.16	0.46
3:C:1181:ALA:O	3:C:1183:LEU:N	2.49	0.46
1:A:582:TYR:HA	1:A:585:SER:HG	1.80	0.45
2:B:40:ASP:HB3	2:B:49:ILE:HD11	1.98	0.45
3:C:35:GLN:O	3:C:36:LYS:CB	2.65	0.45
3:C:247:GLU:HG3	3:C:248:TYR:CD1	2.51	0.45
3:C:1023:ARG:HD3	3:C:1055:GLU:OE2	2.15	0.45
1:A:624:LEU:O	1:A:626:ASP:N	2.50	0.45
3:C:173:HIS:HB3	3:C:210:LEU:HD13	1.98	0.45
3:C:208:VAL:HA	3:C:244:ARG:HH22	1.81	0.45
3:C:601:GLY:HA2	3:C:604:LEU:HD22	1.97	0.45
3:C:686:THR:O	3:C:689:MET:N	2.35	0.45
3:C:1147:GLU:HB3	3:C:1148:PRO:CD	2.38	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:21:TRP:O	1:A:21:TRP:CD2	2.69	0.45
1:A:400:ARG:HG2	1:A:400:ARG:HH11	1.81	0.45
1:A:655:ALA:C	1:A:657:VAL:H	2.20	0.45
3:C:168:LEU:O	3:C:169:LEU:HB2	2.16	0.45
3:C:189:LEU:HD13	3:C:192:ARG:CZ	2.47	0.45
3:C:205:SER:O	3:C:206:CYS:CB	2.63	0.45
3:C:249:LEU:HB2	3:C:281:ARG:NH2	2.31	0.45
3:C:579:ALA:HA	3:C:586:LYS:HE2	1.99	0.45
3:C:933:TRP:HE1	3:C:937:LEU:HD11	1.81	0.45
3:C:985:VAL:HG13	3:C:986:VAL:N	2.31	0.45
3:C:1037:LYS:N	3:C:1038:PRO:HD3	2.31	0.45
1:A:145:VAL:O	1:A:146:ARG:CG	2.59	0.45
1:A:431:LYS:HD2	1:A:431:LYS:C	2.37	0.45
3:C:218:LEU:O	3:C:222:ASP:OD2	2.35	0.45
3:C:813:GLU:OE2	3:C:815:PRO:HG2	2.16	0.45
3:C:1199:GLN:HG3	3:C:1201:GLN:H	1.81	0.45
3:C:1208:LEU:HD22	3:C:1208:LEU:N	2.31	0.45
1:A:145:VAL:C	1:A:146:ARG:HG3	2.34	0.45
3:C:545:GLN:O	3:C:549:VAL:HG23	2.17	0.45
3:C:562:THR:OG1	3:C:563:PRO:CD	2.65	0.45
3:C:1034:ALA:O	3:C:1038:PRO:HG3	2.17	0.45
1:A:682:ASN:HD21	1:A:684:ASN:HB3	1.82	0.45
2:B:70:VAL:HG12	2:B:71:ALA:N	2.32	0.45
3:C:433:PRO:HB2	3:C:437:LYS:HE3	1.99	0.45
3:C:576:LEU:CD2	3:C:593:MET:HG2	2.47	0.45
3:C:851:LEU:C	3:C:853:GLY:N	2.68	0.45
3:C:1132:THR:HG22	3:C:1133:LEU:N	2.32	0.45
3:C:1199:GLN:CG	3:C:1202:ILE:H	2.29	0.45
1:A:168:ARG:O	1:A:172:PHE:HD1	2.00	0.45
1:A:171:LEU:HD12	1:A:175:LEU:CD1	2.47	0.45
1:A:200:LEU:O	1:A:204:VAL:HG23	2.17	0.45
1:A:226:VAL:HG23	1:A:227:TYR:H	1.81	0.45
1:A:682:ASN:C	1:A:682:ASN:ND2	2.69	0.45
2:B:79:PHE:HE1	2:B:101:TRP:CZ3	2.35	0.45
3:C:169:LEU:HD12	3:C:169:LEU:N	2.32	0.45
3:C:186:SER:O	3:C:192:ARG:NH1	2.27	0.45
3:C:485:ASN:O	3:C:486:ASP:CB	2.34	0.45
3:C:514:HIS:HE1	3:C:549:VAL:O	2.00	0.45
3:C:958:LEU:HD23	3:C:958:LEU:HA	1.72	0.45
1:A:89:TYR:CZ	1:A:162:LEU:HG	2.52	0.45
1:A:546:PHE:CD2	1:A:584:LEU:HD11	2.52	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:585:SER:CB	2:B:29:ALA:HA	2.47	0.45
1:A:632:MET:C	1:A:634:ILE:N	2.69	0.45
1:A:706:ARG:HG2	1:A:741:PHE:CE1	2.52	0.45
3:C:588:ARG:HG3	3:C:588:ARG:HH11	1.81	0.45
3:C:604:LEU:O	3:C:605:GLY:O	2.35	0.45
3:C:616:LEU:HD23	3:C:647:VAL:CB	2.46	0.45
1:A:595:LYS:HG3	1:A:596:ASN:H	1.82	0.44
1:A:600:LEU:HA	1:A:681:VAL:O	2.17	0.44
3:C:920:ALA:O	3:C:921:SER:OG	2.35	0.44
3:C:932:ILE:HB	3:C:958:LEU:HD11	1.99	0.44
3:C:982:ARG:HH22	3:C:1018:PRO:HB2	1.75	0.44
3:C:1199:GLN:HG3	3:C:1202:ILE:H	1.83	0.44
1:A:582:TYR:HA	1:A:585:SER:OG	2.18	0.44
3:C:248:TYR:N	3:C:249:LEU:HD13	2.32	0.44
3:C:253:ILE:HD12	3:C:253:ILE:H	1.83	0.44
3:C:439:LEU:O	3:C:442:GLN:N	2.50	0.44
3:C:818:VAL:C	3:C:820:GLN:N	2.70	0.44
3:C:858:LYS:HD3	3:C:894:PHE:CE2	2.52	0.44
1:A:89:TYR:O	1:A:92:LEU:N	2.49	0.44
1:A:147:ARG:HG3	1:A:148:GLU:H	1.79	0.44
1:A:171:LEU:HG	1:A:175:LEU:HD13	1.99	0.44
1:A:351:ILE:CG2	1:A:407:VAL:HG23	2.48	0.44
1:A:472:ARG:NH1	1:A:484:GLU:OE2	2.49	0.44
1:A:500:THR:HG22	1:A:501:SER:N	2.32	0.44
1:A:657:VAL:HA	1:A:660:VAL:CG2	2.47	0.44
3:C:33:GLU:C	3:C:35:GLN:N	2.67	0.44
3:C:177:LEU:HD11	3:C:181:LEU:HD21	1.98	0.44
3:C:555:GLN:HE21	3:C:555:GLN:HB2	1.61	0.44
3:C:799:ILE:CG2	3:C:837:LEU:HD11	2.47	0.44
1:A:649:VAL:CG2	1:A:671:TYR:HB2	2.48	0.44
1:A:676:ASN:HB3	1:A:681:VAL:CG2	2.47	0.44
1:A:717:ILE:HG12	3:C:25:MET:HE1	2.00	0.44
2:B:21:ARG:HG3	2:B:21:ARG:HH11	1.82	0.44
3:C:31:MET:HB2	3:C:71:CYS:SG	2.57	0.44
3:C:52:MET:O	3:C:55:LYS:HB3	2.18	0.44
3:C:251:LYS:O	3:C:254:PRO:HG2	2.18	0.44
3:C:405:THR:O	3:C:406:ARG:C	2.55	0.44
3:C:616:LEU:O	3:C:619:LEU:HB3	2.16	0.44
3:C:1008:ILE:HG23	3:C:1044:LEU:HD11	1.99	0.44
3:C:1049:LEU:O	3:C:1050:PRO:C	2.55	0.44
3:C:1083:LYS:O	3:C:1083:LYS:HD3	2.17	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:1197:GLU:O	3:C:1198:PHE:C	2.54	0.44
1:A:138:ALA:O	1:A:141:ASN:HB2	2.17	0.44
1:A:173:ARG:CB	1:A:174:PRO:CD	2.90	0.44
1:A:175:LEU:CG	1:A:208:TYR:CZ	3.01	0.44
1:A:588:GLU:OE2	2:B:26:LYS:HD3	2.17	0.44
1:A:724:LEU:HD22	1:A:728:GLN:HB3	1.99	0.44
3:C:225:SER:O	3:C:226:THR:C	2.56	0.44
1:A:21:TRP:O	1:A:25:ARG:HB2	2.18	0.44
3:C:573:ILE:HG23	3:C:593:MET:HE3	2.00	0.44
3:C:615:PHE:O	3:C:616:LEU:C	2.55	0.44
3:C:786:GLN:HE21	3:C:786:GLN:HB2	1.63	0.44
3:C:1013:LYS:HB2	3:C:1047:THR:CG2	2.48	0.44
1:A:178:GLN:O	1:A:179:VAL:C	2.56	0.44
1:A:338:LEU:HD12	1:A:338:LEU:HA	1.83	0.44
1:A:687:MET:HB2	1:A:690:GLU:HB2	1.98	0.44
3:C:253:ILE:HD11	3:C:281:ARG:NH2	2.32	0.44
3:C:283:PRO:HD2	3:C:284:LYS:NZ	2.33	0.44
3:C:899:ILE:CG2	3:C:935:LEU:HD11	2.44	0.44
3:C:1159:ALA:C	3:C:1161:SER:H	2.20	0.44
1:A:166:THR:O	1:A:169:ASP:HB2	2.17	0.44
3:C:294:ILE:HG23	3:C:353:ALA:CB	2.48	0.44
3:C:350:ARG:HE	3:C:386:ARG:NH2	2.15	0.44
3:C:385:GLU:HA	3:C:391:LYS:HG3	2.00	0.44
3:C:406:ARG:NH1	3:C:460:GLU:OE2	2.50	0.44
3:C:429:GLN:O	3:C:431:GLN:N	2.51	0.44
3:C:601:GLY:HA2	3:C:604:LEU:CD2	2.48	0.44
3:C:830:SER:O	3:C:831:THR:C	2.54	0.44
1:A:442:GLU:O	1:A:446:ASN:ND2	2.51	0.44
1:A:517:ASN:ND2	1:A:536:ILE:O	2.51	0.44
1:A:526:ASN:O	1:A:527:SER:HB3	2.17	0.44
1:A:715:VAL:HG12	1:A:716:ARG:N	2.32	0.44
2:B:83:CYS:HA	2:B:86:ARG:NH1	2.33	0.44
3:C:85:GLU:HG3	3:C:133:LYS:CE	2.33	0.44
3:C:181:LEU:N	3:C:182:PRO:HD2	2.32	0.44
3:C:636:ALA:O	3:C:637:GLY:C	2.55	0.44
3:C:686:THR:O	3:C:688:ALA:N	2.51	0.44
3:C:697:LEU:HB2	3:C:698:PRO:HD3	2.00	0.44
3:C:824:ASP:C	3:C:826:LYS:N	2.70	0.44
3:C:1015:LEU:C	3:C:1018:PRO:HD2	2.39	0.44
3:C:1198:PHE:C	3:C:1198:PHE:CD1	2.62	0.44
1:A:117:LYS:HD3	1:A:117:LYS:C	2.37	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:443:ASP:O	1:A:444:THR:C	2.56	0.43
1:A:625:THR:O	1:A:625:THR:HG22	2.17	0.43
3:C:148:VAL:O	3:C:150:VAL:N	2.51	0.43
3:C:228:ARG:CG	3:C:228:ARG:O	2.65	0.43
3:C:477:VAL:HB	3:C:478:PRO:HD3	2.00	0.43
3:C:164:ARG:HH11	3:C:164:ARG:HG3	1.83	0.43
3:C:227:THR:CG2	3:C:229:THR:OG1	2.66	0.43
3:C:386:ARG:HD3	3:C:390:VAL:CG1	2.48	0.43
3:C:771:GLY:N	3:C:774:ASP:HB2	2.33	0.43
3:C:785:SER:O	3:C:786:GLN:HG3	2.17	0.43
3:C:855:LEU:CD1	3:C:858:LYS:HD2	2.46	0.43
1:A:178:GLN:C	1:A:180:THR:N	2.72	0.43
1:A:651:GLU:HA	1:A:669:LYS:NZ	2.27	0.43
3:C:97:SER:CB	3:C:102:LEU:HD23	2.47	0.43
3:C:170:VAL:HA	3:C:173:HIS:NE2	2.33	0.43
3:C:630:LYS:HG3	3:C:631:ALA:N	2.33	0.43
3:C:733:SER:O	3:C:737:GLU:HB2	2.18	0.43
3:C:835:ARG:HE	3:C:835:ARG:HB2	1.54	0.43
3:C:1032:SER:O	3:C:1036:ASN:ND2	2.52	0.43
1:A:95:PHE:CD2	1:A:96:LEU:HD12	2.36	0.43
1:A:356:GLU:O	1:A:357:ALA:C	2.57	0.43
1:A:425:CYS:O	1:A:429:LEU:HD22	2.18	0.43
2:B:36:ASP:C	2:B:36:ASP:OD2	2.57	0.43
2:B:82:HIS:HB3	2:B:86:ARG:HH21	1.83	0.43
3:C:88:VAL:HG13	3:C:134:ILE:HG12	2.01	0.43
3:C:218:LEU:CD2	3:C:230:TYR:HD1	2.29	0.43
3:C:386:ARG:HH11	3:C:386:ARG:CG	2.31	0.43
3:C:976:SER:O	3:C:977:GLY:O	2.36	0.43
1:A:309:LEU:HB3	1:A:318:LEU:CD2	2.49	0.43
1:A:447:GLN:O	1:A:450:VAL:HB	2.18	0.43
1:A:510:ILE:HD13	1:A:510:ILE:HA	1.80	0.43
3:C:100:GLU:C	3:C:102:LEU:N	2.72	0.43
3:C:103:ARG:O	3:C:107:SER:HB2	2.19	0.43
3:C:423:THR:HA	3:C:424:PRO:HD3	1.81	0.43
3:C:423:THR:CG2	3:C:424:PRO:N	2.82	0.43
3:C:551:ARG:NH1	3:C:553:LEU:CB	2.71	0.43
3:C:710:GLN:HB3	3:C:751:ALA:CA	2.46	0.43
1:A:597:ARG:NH1	1:A:597:ARG:CB	2.74	0.43
3:C:979:SER:OG	3:C:1020:LEU:HD21	2.18	0.43
1:A:107:GLY:CA	1:A:110:LEU:HD12	2.44	0.43
1:A:140:LEU:HA	1:A:140:LEU:HD22	1.80	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:376:TYR:HA	1:A:379:LEU:HB3	2.01	0.43
1:A:631:LYS:HB3	1:A:634:ILE:HG22	2.01	0.43
1:A:716:ARG:O	3:C:25:MET:HG3	2.18	0.43
1:A:720:MET:HG2	3:C:22:PHE:CE2	2.54	0.43
1:A:768:LYS:O	1:A:769:ASP:HB2	2.18	0.43
3:C:346:SER:O	3:C:348:LYS:N	2.51	0.43
3:C:355:LYS:O	3:C:358:ASP:HB3	2.18	0.43
3:C:673:ALA:C	3:C:675:ASP:N	2.72	0.43
3:C:769:ASN:HA	3:C:774:ASP:OD2	2.19	0.43
3:C:826:LYS:O	3:C:830:SER:HB2	2.18	0.43
3:C:1203:SER:OG	3:C:1204:SER:N	2.51	0.43
1:A:212:GLY:C	1:A:223:THR:HG21	2.38	0.43
3:C:37:ASP:OD1	3:C:39:ILE:HD13	2.17	0.43
3:C:146:GLU:CD	3:C:146:GLU:N	2.72	0.43
3:C:246:GLY:O	3:C:249:LEU:CD1	2.67	0.43
3:C:659:LEU:HD13	3:C:700:LEU:HD11	2.01	0.43
3:C:727:LEU:O	3:C:730:ILE:N	2.48	0.43
3:C:1141:ARG:NH1	3:C:1144:ARG:NH2	2.67	0.43
1:A:179:VAL:O	1:A:183:VAL:HG23	2.19	0.43
1:A:472:ARG:O	1:A:473:LEU:C	2.57	0.43
1:A:480:SER:C	1:A:482:ASP:H	2.22	0.43
2:B:84:ILE:HG23	2:B:85:SER:N	2.34	0.43
3:C:389:ASN:O	3:C:392:ALA:HB3	2.18	0.43
3:C:544:GLN:HG3	3:C:595:GLN:CB	2.49	0.43
3:C:551:ARG:HH12	3:C:553:LEU:HB2	1.79	0.43
3:C:913:LEU:HD23	3:C:917:ILE:HG13	1.99	0.43
3:C:1194:LEU:C	3:C:1194:LEU:CD1	2.87	0.43
1:A:440:GLU:C	1:A:444:THR:OG1	2.55	0.43
1:A:625:THR:CB	1:A:632:MET:CG	2.97	0.43
1:A:708:LEU:HD22	2:B:81:PHE:CZ	2.54	0.43
1:A:734:LEU:O	1:A:735:THR:C	2.57	0.43
3:C:481:ILE:HD11	3:C:520:LEU:CD2	2.36	0.43
3:C:1030:PHE:HE1	3:C:1041:ILE:HG23	1.83	0.43
1:A:157:TYR:N	1:A:157:TYR:CD1	2.86	0.42
1:A:162:LEU:HD22	1:A:162:LEU:O	2.20	0.42
1:A:280:GLU:HA	1:A:283:GLN:HE21	1.84	0.42
1:A:346:GLN:HG2	1:A:376:TYR:OH	2.19	0.42
1:A:496:GLY:H	1:A:740:ARG:NH2	2.17	0.42
1:A:516:LEU:HD11	1:A:569:TYR:HE1	1.84	0.42
1:A:593:CYS:CB	2:B:20:LYS:H	2.32	0.42
1:A:716:ARG:NE	1:A:736:GLN:HE22	2.17	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:56:LEU:C	3:C:58:GLU:N	2.73	0.42
3:C:260:CYS:HA	3:C:267:LEU:HD22	2.00	0.42
3:C:268:ARG:O	3:C:272:ILE:HG12	2.18	0.42
3:C:274:ALA:O	3:C:278:PHE:HD1	2.02	0.42
3:C:283:PRO:HD2	3:C:284:LYS:HZ1	1.84	0.42
3:C:359:ALA:O	3:C:360:VAL:C	2.57	0.42
3:C:547:VAL:HG13	3:C:600:LEU:HD21	2.01	0.42
3:C:548:LYS:HA	3:C:551:ARG:HG2	1.98	0.42
3:C:1183:LEU:HD23	3:C:1183:LEU:HA	1.84	0.42
1:A:171:LEU:CG	1:A:175:LEU:HD22	2.41	0.42
1:A:445:LEU:HD12	1:A:445:LEU:HA	1.88	0.42
3:C:461:LEU:O	3:C:461:LEU:HD22	2.19	0.42
3:C:508:HIS:O	3:C:509:SER:C	2.58	0.42
3:C:520:LEU:O	3:C:523:PRO:HG2	2.19	0.42
2:B:37:ILE:HG12	2:B:37:ILE:O	2.20	0.42
3:C:89:ASP:OD1	3:C:137:ARG:NH1	2.51	0.42
3:C:127:ALA:HA	3:C:130:VAL:HB	2.00	0.42
3:C:825:VAL:HG21	3:C:860:VAL:HG22	1.97	0.42
3:C:826:LYS:HA	3:C:826:LYS:CE	2.47	0.42
3:C:1008:ILE:CG2	3:C:1009:GLY:H	2.30	0.42
3:C:110:LEU:HD12	3:C:110:LEU:HA	1.80	0.42
3:C:148:VAL:HG12	3:C:152:LEU:HG	2.01	0.42
3:C:209:ASP:C	3:C:212:GLU:OE1	2.57	0.42
3:C:275:PHE:HE2	3:C:279:VAL:HG21	1.85	0.42
3:C:387:GLU:O	3:C:388:GLU:HG2	2.19	0.42
3:C:625:ARG:HH11	3:C:625:ARG:CG	2.32	0.42
3:C:686:THR:C	3:C:688:ALA:N	2.70	0.42
3:C:730:ILE:O	3:C:730:ILE:HG22	2.19	0.42
3:C:731:SER:O	3:C:732:GLY:O	2.36	0.42
3:C:813:GLU:CD	3:C:814:GLY:N	2.70	0.42
3:C:1109:VAL:HG13	3:C:1123:THR:CG2	2.50	0.42
1:A:117:LYS:NZ	1:A:121:GLN:HG3	2.35	0.42
1:A:147:ARG:C	1:A:149:CYS:H	2.21	0.42
1:A:195:THR:HG21	3:C:1028:VAL:HG13	2.02	0.42
1:A:270:GLU:HA	1:A:273:ARG:HB2	2.01	0.42
1:A:663:LYS:HB3	1:A:664:PRO:HD2	2.01	0.42
1:A:725:LYS:O	1:A:728:GLN:HB2	2.19	0.42
3:C:177:LEU:HG	3:C:181:LEU:HD11	2.01	0.42
3:C:602:ASP:HB3	3:C:640:LEU:HD13	2.01	0.42
3:C:1177:MET:O	3:C:1178:ARG:C	2.57	0.42
1:A:469:LEU:HA	1:A:472:ARG:CZ	2.50	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:556:SER:C	1:A:558:LEU:H	2.23	0.42
3:C:168:LEU:CG	3:C:169:LEU:HD12	2.49	0.42
3:C:599:ASN:C	3:C:600:LEU:HD23	2.39	0.42
3:C:857:LEU:O	3:C:858:LYS:C	2.57	0.42
3:C:1038:PRO:C	3:C:1040:LEU:N	2.72	0.42
3:C:1186:ILE:O	3:C:1187:PRO:C	2.58	0.42
1:A:25:ARG:HD3	1:A:95:PHE:HD1	1.84	0.42
1:A:475:HIS:HE1	1:A:585:SER:HA	1.83	0.42
1:A:522:LYS:O	1:A:524:LEU:N	2.53	0.42
1:A:667:LEU:CB	1:A:669:LYS:HE3	2.48	0.42
3:C:45:SER:O	3:C:49:VAL:HG23	2.20	0.42
3:C:174:PRO:HB3	3:C:210:LEU:HD21	2.00	0.42
3:C:252:ILE:H	3:C:252:ILE:HG12	1.73	0.42
3:C:275:PHE:C	3:C:275:PHE:CD2	2.93	0.42
3:C:347:TRP:C	3:C:349:VAL:N	2.73	0.42
3:C:637:GLY:H	3:C:680:ASN:HD22	1.67	0.42
3:C:814:GLY:N	3:C:815:PRO:CD	2.72	0.42
1:A:475:HIS:ND1	1:A:586:LYS:HD3	2.34	0.42
1:A:651:GLU:CB	1:A:669:LYS:HZ2	2.33	0.42
3:C:104:ASP:O	3:C:108:ILE:HG12	2.20	0.42
3:C:441:LYS:HB2	3:C:441:LYS:HZ3	1.85	0.42
3:C:781:GLY:O	3:C:783:VAL:N	2.52	0.42
1:A:128:PHE:CE1	3:C:1073:HIS:HB2	2.55	0.42
1:A:195:THR:CG2	3:C:1028:VAL:HG13	2.49	0.42
1:A:583:GLN:H	1:A:583:GLN:NE2	2.12	0.42
1:A:646:LYS:O	1:A:646:LYS:CG	2.67	0.42
3:C:536:THR:O	3:C:540:LEU:HD12	2.20	0.42
3:C:914:LYS:HE2	3:C:914:LYS:HB3	1.90	0.42
3:C:987:THR:O	3:C:990:LYS:HB3	2.19	0.42
3:C:1160:ASN:CG	3:C:1160:ASN:O	2.58	0.42
1:A:671:TYR:OH	1:A:674:TYR:HB2	2.19	0.42
3:C:92:CYS:HA	3:C:95:MET:HG3	2.02	0.42
3:C:388:GLU:OE2	3:C:388:GLU:HA	2.18	0.42
3:C:391:LYS:HG2	3:C:395:PHE:HE1	1.84	0.42
3:C:432:VAL:CG1	3:C:435:ILE:HB	2.36	0.42
3:C:1079:LEU:O	3:C:1083:LYS:HB2	2.20	0.42
3:C:1127:LEU:HD23	3:C:1127:LEU:HA	1.89	0.42
1:A:280:GLU:OE1	3:C:1174:ARG:HD2	2.19	0.41
3:C:64:VAL:O	3:C:65:GLN:C	2.58	0.41
3:C:115:GLY:HA2	3:C:164:ARG:HD3	2.00	0.41
3:C:173:HIS:N	3:C:174:PRO:HD2	2.35	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:515:PRO:HG2	3:C:516:HIS:CD2	2.55	0.41
3:C:611:THR:CA	3:C:614:ILE:HG12	2.45	0.41
3:C:1015:LEU:C	3:C:1018:PRO:CD	2.88	0.41
3:C:115:GLY:HA2	3:C:164:ARG:CD	2.50	0.41
3:C:368:LEU:O	3:C:371:PHE:HB2	2.20	0.41
3:C:399:LEU:O	3:C:403:LYS:HG3	2.20	0.41
3:C:540:LEU:CD2	3:C:589:ALA:HA	2.51	0.41
3:C:551:ARG:C	3:C:551:ARG:CD	2.84	0.41
3:C:581:ILE:CD1	3:C:586:LYS:HE3	2.49	0.41
1:A:160:TYR:O	1:A:163:ALA:N	2.53	0.41
1:A:375:LYS:HD3	1:A:376:TYR:CE1	2.55	0.41
1:A:468:MET:HB3	1:A:468:MET:HE2	1.94	0.41
1:A:476:GLN:O	1:A:477:ASN:HB2	2.20	0.41
3:C:237:ILE:HG13	3:C:237:ILE:H	1.72	0.41
3:C:914:LYS:HG2	3:C:954:CYS:SG	2.59	0.41
3:C:1000:ILE:HD13	3:C:1000:ILE:N	2.36	0.41
3:C:1053:TYR:O	3:C:1056:THR:HB	2.20	0.41
3:C:1161:SER:HB3	3:C:1165:GLU:HB3	2.02	0.41
3:C:1205:ASN:O	3:C:1207:GLU:N	2.53	0.41
1:A:673:GLY:O	1:A:674:TYR:O	2.39	0.41
3:C:942:CYS:CB	3:C:948:ARG:HD2	2.50	0.41
3:C:1186:ILE:O	3:C:1190:GLU:OE1	2.39	0.41
1:A:265:ALA:O	1:A:269:GLU:HG3	2.20	0.41
1:A:417:SER:N	1:A:418:PRO:CD	2.83	0.41
1:A:621:VAL:CG2	1:A:668:ILE:HD11	2.45	0.41
2:B:73:GLY:C	2:B:75:CYS:N	2.74	0.41
3:C:302:THR:O	3:C:303:TYR:CB	2.69	0.41
3:C:693:VAL:O	3:C:694:LEU:C	2.59	0.41
3:C:895:VAL:O	3:C:896:LEU:C	2.58	0.41
3:C:926:LYS:N	3:C:927:PRO:CD	2.83	0.41
3:C:967:LEU:HD22	3:C:967:LEU:HA	1.79	0.41
3:C:1184:LEU:HA	3:C:1190:GLU:HG3	2.03	0.41
1:A:97:LYS:HB2	1:A:97:LYS:NZ	2.36	0.41
1:A:164:LEU:HD23	1:A:164:LEU:HA	1.85	0.41
1:A:344:HIS:CD2	1:A:348:LEU:HD11	2.55	0.41
1:A:354:CYS:CB	1:A:358:ALA:HB2	2.51	0.41
1:A:632:MET:O	1:A:633:ASP:C	2.59	0.41
2:B:92:GLN:HG2	3:C:19:ASP:HA	2.03	0.41
3:C:281:ARG:HH21	3:C:284:LYS:CB	2.33	0.41
3:C:433:PRO:O	3:C:437:LYS:HG3	2.20	0.41
3:C:469:LEU:HD13	3:C:476:LEU:CD1	2.50	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:480:ILE:HG22	3:C:481:ILE:N	2.34	0.41
3:C:706:MET:O	3:C:709:SER:HB2	2.20	0.41
3:C:936:LEU:CD1	3:C:954:CYS:HB3	2.50	0.41
3:C:1017:ASP:N	3:C:1018:PRO:HD2	2.34	0.41
1:A:337:LYS:HE2	1:A:337:LYS:HB3	1.89	0.41
1:A:474:VAL:HG12	1:A:475:HIS:H	1.77	0.41
2:B:28:ASN:N	2:B:28:ASN:HD22	2.17	0.41
2:B:49:ILE:CD1	2:B:50:MET:N	2.82	0.41
3:C:661:LYS:O	3:C:662:ASN:C	2.58	0.41
3:C:743:ARG:CZ	3:C:782:PRO:HG2	2.51	0.41
3:C:889:PRO:HB3	3:C:928:TYR:OH	2.21	0.41
1:A:29:GLN:HE21	1:A:29:GLN:HB2	1.61	0.41
1:A:657:VAL:HA	1:A:660:VAL:HG23	2.03	0.41
1:A:694:GLU:O	1:A:698:THR:CG2	2.68	0.41
2:B:77:HIS:CD2	2:B:96:LEU:HD23	2.56	0.41
3:C:65:GLN:O	3:C:69:VAL:HG23	2.20	0.41
3:C:650:GLU:O	3:C:653:PRO:HG2	2.20	0.41
3:C:990:LYS:C	3:C:992:THR:H	2.24	0.41
3:C:1090:TYR:O	3:C:1093:LEU:HB2	2.21	0.41
1:A:445:LEU:O	1:A:448:VAL:HB	2.21	0.41
1:A:580:TRP:CD1	1:A:580:TRP:N	2.88	0.41
1:A:589:LEU:HD23	1:A:610:LEU:HD12	2.03	0.41
1:A:714:ILE:HD13	1:A:733:VAL:CG2	2.51	0.41
3:C:126:LEU:C	3:C:128:ALA:N	2.74	0.41
3:C:267:LEU:HD23	3:C:270:TYR:CE1	2.56	0.41
3:C:268:ARG:HG3	3:C:269:GLU:N	2.35	0.41
3:C:386:ARG:NH1	3:C:386:ARG:CG	2.82	0.41
3:C:710:GLN:CB	3:C:751:ALA:HA	2.47	0.41
3:C:1020:LEU:HB2	3:C:1021:ASN:H	1.66	0.41
3:C:1079:LEU:CD2	3:C:1079:LEU:C	2.89	0.41
3:C:1141:ARG:HH11	3:C:1144:ARG:NH2	2.18	0.41
3:C:1143:ASP:OD2	3:C:1193:PRO:HB3	2.21	0.41
3:C:1183:LEU:O	3:C:1186:ILE:HG22	2.19	0.41
1:A:137:CYS:HB3	1:A:159:ILE:HG12	2.02	0.41
1:A:226:VAL:HG23	1:A:227:TYR:N	2.35	0.41
1:A:618:ALA:HA	1:A:669:LYS:HA	2.02	0.41
3:C:602:ASP:OD1	3:C:603:ASN:N	2.53	0.41
3:C:644:LEU:O	3:C:647:VAL:HG23	2.21	0.41
3:C:667:LYS:HE3	3:C:700:LEU:CD2	2.51	0.41
3:C:723:TYR:N	3:C:724:PRO:HD3	2.26	0.41
3:C:966:LEU:C	3:C:968:PRO:HD2	2.41	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:1026:ALA:O	3:C:1027:LEU:C	2.57	0.41
3:C:1066:VAL:HB	3:C:1073:HIS:HB3	2.03	0.41
1:A:609:ILE:O	1:A:610:LEU:C	2.59	0.40
1:A:648:LEU:HD23	1:A:648:LEU:HA	1.91	0.40
1:A:711:GLN:HE22	1:A:758:LYS:HZ3	1.65	0.40
3:C:373:LYS:CD	3:C:427:MET:CE	2.42	0.40
3:C:858:LYS:HE2	3:C:891:TYR:HD2	1.82	0.40
3:C:892:LEU:HD23	3:C:892:LEU:O	2.21	0.40
3:C:1146:VAL:O	3:C:1147:GLU:C	2.59	0.40
1:A:701:ASN:C	1:A:701:ASN:ND2	2.73	0.40
3:C:220:LYS:O	3:C:222:ASP:N	2.55	0.40
3:C:294:ILE:O	3:C:298:LEU:N	2.54	0.40
3:C:639:PRO:O	3:C:641:LYS:N	2.54	0.40
3:C:1152:THR:O	3:C:1154:THR:N	2.55	0.40
1:A:299:LEU:HA	1:A:302:PHE:HB2	2.03	0.40
1:A:359:LEU:HD22	1:A:410:MET:SD	2.60	0.40
1:A:475:HIS:CE1	1:A:584:LEU:O	2.73	0.40
3:C:88:VAL:HG11	3:C:134:ILE:HG12	2.04	0.40
3:C:202:LEU:HD12	3:C:202:LEU:O	2.21	0.40
3:C:209:ASP:O	3:C:212:GLU:CD	2.60	0.40
3:C:452:GLN:NE2	3:C:492:ASN:HB3	2.36	0.40
3:C:652:VAL:N	3:C:653:PRO:CD	2.83	0.40
3:C:735:LEU:C	3:C:737:GLU:H	2.24	0.40
3:C:960:LEU:O	3:C:963:PRO:HD3	2.21	0.40
1:A:240:GLU:CD	1:A:289:LYS:NZ	2.74	0.40
1:A:552:PHE:CD1	1:A:630:ILE:HG13	2.57	0.40
1:A:558:LEU:HD13	2:B:27:TRP:CE2	2.57	0.40
1:A:560:ARG:HG2	1:A:560:ARG:NH1	2.37	0.40
1:A:620:THR:HG22	1:A:667:LEU:CD2	2.52	0.40
3:C:74:PRO:O	3:C:78:LYS:HG2	2.21	0.40
3:C:456:ASN:HD22	3:C:456:ASN:HA	1.63	0.40
3:C:1177:MET:O	3:C:1179:ALA:N	2.54	0.40
1:A:753:ASP:O	1:A:756:ILE:N	2.48	0.40
3:C:66:ASN:HD22	3:C:66:ASN:HA	1.67	0.40
3:C:287:TYR:O	3:C:290:VAL:HB	2.22	0.40
3:C:682:SER:O	3:C:685:LEU:HG	2.22	0.40
3:C:696:GLU:OE1	3:C:696:GLU:HA	2.22	0.40
3:C:862:LEU:HD23	3:C:862:LEU:HA	1.91	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	705/776 (91%)	584 (83%)	91 (13%)	30 (4%)	2	16
2	B	86/108 (80%)	68 (79%)	13 (15%)	5 (6%)	1	10
3	C	1134/1230 (92%)	793 (70%)	236 (21%)	105 (9%)	0	3
All	All	1925/2114 (91%)	1445 (75%)	340 (18%)	140 (7%)	1	6

All (140) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	144	TRP
1	A	145	VAL
1	A	646	LYS
1	A	652	ASP
1	A	674	TYR
2	B	98	ASN
3	C	34	LEU
3	C	36	LYS
3	C	87	ILE
3	C	128	ALA
3	C	144	LYS
3	C	224	MET
3	C	226	THR
3	C	252	ILE
3	C	347	TRP
3	C	375	VAL
3	C	443	MET
3	C	487	LYS
3	C	552	PRO
3	C	601	GLY
3	C	619	LEU
3	C	641	LYS
3	C	659	LEU
3	C	723	TYR

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
3	C	724	PRO
3	C	725	SER
3	C	828	SER
3	C	901	SER
3	C	943	ALA
3	C	976	SER
3	C	977	GLY
3	C	1013	LYS
3	C	1037	LYS
3	C	1187	PRO
3	C	1188	GLU
3	C	1195	MET
1	A	285	GLU
1	A	313	ASP
1	A	475	HIS
1	A	477	ASN
1	A	527	SER
1	A	550	CYS
1	A	557	GLU
2	B	20	LYS
2	B	67	GLU
3	C	76	VAL
3	C	88	VAL
3	C	127	ALA
3	C	146	GLU
3	C	149	SER
3	C	221	ASN
3	C	228	ARG
3	C	262	VAL
3	C	285	GLU
3	C	286	VAL
3	C	345	MET
3	C	346	SER
3	C	360	VAL
3	C	386	ARG
3	C	388	GLU
3	C	430	SER
3	C	489	SER
3	C	570	THR
3	C	571	CYS
3	C	605	GLY
3	C	664	ARG

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
3	C	732	GLY
3	C	734	ILE
3	C	750	GLY
3	C	766	GLY
3	C	772	TYR
3	C	822	ILE
3	C	826	LYS
3	C	918	SER
3	C	975	ILE
3	C	1012	LEU
3	C	1018	PRO
3	C	1096	CYS
3	C	1197	GLU
1	A	174	PRO
1	A	175	LEU
1	A	559	GLU
1	A	767	GLU
3	C	7	HIS
3	C	167	GLY
3	C	283	PRO
3	C	366	GLU
3	C	407	PRO
3	C	466	PRO
3	C	566	LYS
3	C	649	GLY
3	C	684	SER
3	C	785	SER
3	C	811	PRO
3	C	853	GLY
3	C	1153	CYS
3	C	1181	ALA
3	C	1182	ALA
3	C	1204	SER
1	A	21	TRP
1	A	176	ASN
1	A	474	VAL
1	A	549	SER
1	A	625	THR
1	A	650	LEU
1	A	662	LEU
2	B	49	ILE
3	C	18	SER

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Mol	Chain	Res	Type
3	C	151	GLN
3	C	152	LEU
3	C	579	ALA
3	C	687	ALA
3	C	731	SER
3	C	960	LEU
3	C	1132	THR
1	A	523	HIS
1	A	695	GLN
3	C	385	GLU
3	C	637	GLY
3	C	677	LEU
3	C	1134	CYS
3	C	1194	LEU
1	A	222	PRO
1	A	613	TYR
3	C	646	PRO
3	C	694	LEU
3	C	782	PRO
3	C	1039	SER
3	C	1193	PRO
2	B	38	VAL
1	A	496	GLY
3	C	73	GLY
3	C	701	ILE
3	C	1017	ASP
1	A	179	VAL
1	A	715	VAL
3	C	551	ARG
3	C	749	GLY
3	C	916	ILE
3	C	927	PRO

### 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	650/698 (93%)	575 (88%)	75 (12%)	5	22
2	B	78/90 (87%)	65 (83%)	13 (17%)	2	9
3	C	1022/1098 (93%)	900 (88%)	122 (12%)	5	20
All	All	1750/1886 (93%)	1540 (88%)	210 (12%)	5	20

All (210) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	20	ILE
1	A	21	TRP
1	A	24	LEU
1	A	25	ARG
1	A	29	GLN
1	A	37	MET
1	A	52	TYR
1	A	94	GLU
1	A	113	GLU
1	A	115	VAL
1	A	116	LEU
1	A	117	LYS
1	A	140	LEU
1	A	142	ARG
1	A	145	VAL
1	A	158	GLU
1	A	162	LEU
1	A	171	LEU
1	A	194	GLU
1	A	211	LEU
1	A	268	LEU
1	A	271	GLN
1	A	272	ARG
1	A	286	LEU
1	A	296	GLU
1	A	304	THR
1	A	307	GLN
1	A	315	ASN
1	A	317	ASP
1	A	329	GLN
1	A	335	LEU
1	A	338	LEU
1	A	343	ILE
1	A	405	ASN

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	A	421	LEU
1	A	429	LEU
1	A	431	LYS
1	A	438	GLU
1	A	443	ASP
1	A	445	LEU
1	A	469	LEU
1	A	471	LYS
1	A	481	ASP
1	A	500	THR
1	A	516	LEU
1	A	517	ASN
1	A	526	ASN
1	A	531	ASP
1	A	560	ARG
1	A	571	SER
1	A	577	LYS
1	A	579	THR
1	A	583	GLN
1	A	586	LYS
1	A	595	LYS
1	A	597	ARG
1	A	598	TYR
1	A	600	LEU
1	A	601	GLN
1	A	624	LEU
1	A	629	GLN
1	A	632	MET
1	A	642	LEU
1	A	665	ASP
1	A	671	TYR
1	A	672	LEU
1	A	674	TYR
1	A	676	ASN
1	A	682	ASN
1	A	698	THR
1	A	701	ASN
1	A	706	ARG
1	A	720	MET
1	A	751	CYS
1	A	774	LEU
2	B	42	CYS

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
2	B	49	ILE
2	B	52	LEU
2	B	65	SER
2	B	66	GLU
2	B	67	GLU
2	B	68	CYS
2	B	69	THR
2	B	76	ASN
2	B	84	ILE
2	B	85	SER
2	B	91	ARG
2	B	97	ASP
3	C	7	HIS
3	C	36	LYS
3	C	66	ASN
3	C	71	CYS
3	C	75	LEU
3	C	86	THR
3	C	96	LEU
3	C	116	GLU
3	C	118	PRO
3	C	144	LYS
3	C	162	LEU
3	C	168	LEU
3	C	171	ASN
3	C	189	LEU
3	C	194	ARG
3	C	204	MET
3	C	214	LEU
3	C	217	GLU
3	C	228	ARG
3	C	243	HIS
3	C	249	LEU
3	C	259	PHE
3	C	264	ASP
3	C	270	TYR
3	C	275	PHE
3	C	276	GLU
3	C	279	VAL
3	C	284	LYS
3	C	286	VAL
3	C	298	LEU

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
3	C	344	ASP
3	C	345	MET
3	C	351	ARG
3	C	363	THR
3	C	364	ARG
3	C	366	GLU
3	C	377	PRO
3	C	382	ARG
3	C	383	PHE
3	C	384	LYS
3	C	385	GLU
3	C	386	ARG
3	C	422	GLU
3	C	423	THR
3	C	424	PRO
3	C	432	VAL
3	C	456	ASN
3	C	518	GLN
3	C	540	LEU
3	C	541	LEU
3	C	555	GLN
3	C	566	LYS
3	C	573	ILE
3	C	600	LEU
3	C	603	ASN
3	C	610	ASN
3	C	616	LEU
3	C	621	ASN
3	C	625	ARG
3	C	638	SER
3	C	664	ARG
3	C	676	ILE
3	C	683	ASP
3	C	698	PRO
3	C	711	MET
3	C	724	PRO
3	C	741	LEU
3	C	748	GLN
3	C	763	VAL
3	C	773	MET
3	C	774	ASP
3	C	786	GLN

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
3	C	813	GLU
3	C	820	GLN
3	C	826	LYS
3	C	829	ARG
3	C	832	ASP
3	C	835	ARG
3	C	856	GLU
3	C	857	LEU
3	C	870	GLU
3	C	874	SER
3	C	892	LEU
3	C	900	THR
3	C	902	GLN
3	C	905	ARG
3	C	914	LYS
3	C	918	SER
3	C	921	SER
3	C	923	VAL
3	C	967	LEU
3	C	974	LEU
3	C	996	HIS
3	C	1000	ILE
3	C	1004	LEU
3	C	1005	LYS
3	C	1020	LEU
3	C	1027	LEU
3	C	1036	ASN
3	C	1040	LEU
3	C	1055	GLU
3	C	1056	THR
3	C	1064	ARG
3	C	1079	LEU
3	C	1093	LEU
3	C	1098	ASP
3	C	1102	ILE
3	C	1104	GLU
3	C	1111	ASP
3	C	1117	TYR
3	C	1122	LEU
3	C	1123	THR
3	C	1131	SER
3	C	1157	VAL

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
3	C	1162	VAL
3	C	1164	GLN
3	C	1167	GLU
3	C	1169	GLN
3	C	1187	PRO
3	C	1190	GLU
3	C	1194	LEU
3	C	1195	MET

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (64) such sidechains are listed below:

<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	A	29	GLN
1	A	51	ASN
1	A	121	GLN
1	A	134	ASN
1	A	141	ASN
1	A	143	HIS
1	A	252	GLN
1	A	253	GLN
1	A	271	GLN
1	A	283	GLN
1	A	307	GLN
1	A	323	ASN
1	A	367	GLN
1	A	377	ASN
1	A	385	ASN
1	A	405	ASN
1	A	447	GLN
1	A	477	ASN
1	A	504	GLN
1	A	517	ASN
1	A	526	ASN
1	A	583	GLN
1	A	592	ASN
1	A	596	ASN
1	A	614	ASN
1	A	622	GLN
1	A	623	GLN
1	A	656	ASN
1	A	676	ASN
1	A	682	ASN

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Mol	Chain	Res	Type
1	A	701	ASN
1	A	711	GLN
1	A	736	GLN
2	B	28	ASN
2	B	76	ASN
3	C	66	ASN
3	C	101	GLN
3	C	151	GLN
3	C	442	GLN
3	C	452	GLN
3	C	456	ASN
3	C	463	ASN
3	C	472	HIS
3	C	508	HIS
3	C	511	GLN
3	C	514	HIS
3	C	544	GLN
3	C	555	GLN
3	C	595	GLN
3	C	599	ASN
3	C	603	ASN
3	C	610	ASN
3	C	663	GLN
3	C	680	ASN
3	C	710	GLN
3	C	736	ASN
3	C	897	GLN
3	C	902	GLN
3	C	906	GLN
3	C	1036	ASN
3	C	1054	ASN
3	C	1108	HIS
3	C	1164	GLN
3	C	1205	ASN

### 5.3.3 RNA [i](#)

There are no RNA molecules in this entry.

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

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

## 5.5 Carbohydrates [i](#)

There are no monosaccharides in this entry.

## 5.6 Ligand geometry [i](#)

Of 3 ligands modelled in this entry, 3 are 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](#)

The following chains have linkage breaks:

Mol	Chain	Number of breaks
3	C	1
1	A	1

All chain breaks are listed below:

Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	C	601:GLY	C	602:ASP	N	1.19
1	A	437:GLU	C	438:GLU	N	1.13

## 6 Fit of model and data [i](#)

### 6.1 Protein, DNA and RNA chains [i](#)

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	715/776 (92%)	-0.57	11 (1%) 73 54	13, 46, 129, 197	0
2	B	88/108 (81%)	-0.62	2 (2%) 60 39	3, 38, 76, 151	0
3	C	1146/1230 (93%)	-0.68	2 (0%) 95 90	14, 61, 122, 190	0
All	All	1949/2114 (92%)	-0.64	15 (0%) 86 72	3, 55, 124, 197	0

All (15) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	A	478	SER	16.0
1	A	477	ASN	10.7
1	A	479	ALA	4.6
1	A	176	ASN	4.1
2	B	20	LYS	3.7
1	A	476	GLN	3.5
1	A	143	HIS	3.4
3	C	278	PHE	3.0
2	B	19	LYS	2.8
1	A	593	CYS	2.6
1	A	146	ARG	2.4
1	A	632	MET	2.3
3	C	373	LYS	2.3
1	A	177	LYS	2.2
1	A	147	ARG	2.1

### 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<sup>th</sup> percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9' lists the number of atoms with occupancy less than 0.9.

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors( $\text{\AA}^2$ )	Q<0.9
4	ZN	B	1230	1/1	0.93	0.14	56,56,56,56	0
4	ZN	B	1229	1/1	0.95	0.12	42,42,42,42	0
4	ZN	B	1231	1/1	0.97	0.10	36,36,36,36	0

### 6.5 Other polymers [i](#)

There are no such residues in this entry.