Full wwPDB EM Validation Report

Nov 27, 2022 – 01:33 AM EST

PDB ID	:	5TBY
EMDB ID	:	EMD-2240
Title	:	HUMAN BETA CARDIAC HEAVY MEROMYOSIN INTERACTING-HEADS MOTIF OBTAINED BY HOMOLOGY MODELING (USING SWISS-MODEL) OF HUMAN SEQUENCE FROM APHONOPELMA HOMOLOGY MODEL (PDB-3JBH), RIGIDLY FITTED TO HUMAN BETA-CARDIAC NEGATIVELY STAINED THICK FILAMENT 3D-RECONSTRUCTION (EMD-2240)
Authors	:	ALAMO, L.; WARE, J.S.; PINTO, A.; GILLILAN, R.E.; SEIDMAN, J.G.; SEIDMAN, C.E.; PADRON, R.
Deposited on	:	2016-09-13
Resolution	:	20.00 Å(reported)
Based on initial model	:	3JBH

This is a Full wwPDB EM Validation Report for a publicly released PDB entry.

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

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

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

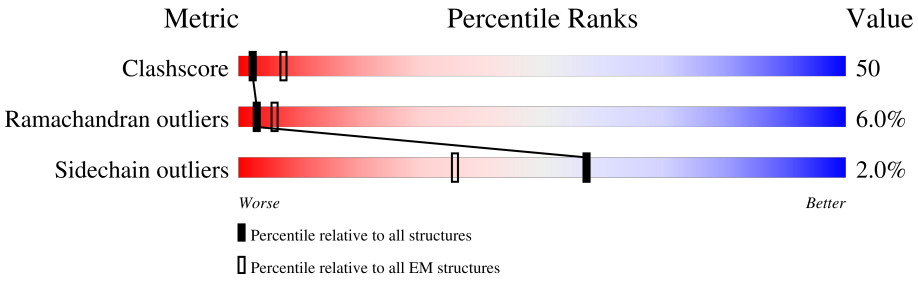
EMDB validation analysis	:	0.0.1.dev43
MolProbity	:	4.02b-467
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
MapQ	:	FAILED
Ideal geometry (proteins)	:	Engh & Huber (2001)

1 Overall quality at a glance

The following experimental techniques were used to determine the structure:
ELECTRON MICROSCOPY

The reported resolution of this entry is 20.00 Å.

Percentile scores (ranging between 0-100) for global validation metrics of the entry are shown in the following graphic. The table shows the number of entries on which the scores are based.



Metric	Whole archive (#Entries)	EM structures (#Entries)
Clashscore	158937	4297
Ramachandran outliers	154571	4023
Sidechain outliers	154315	3826

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

Mol	Chain	Length	Quality of chain
1	A	1935	25% 21% • • 51%
1	B	1935	20% 24% • • 51%
2	C	195	37% 38% • • 22%
2	D	195	38% 36% • • 22%
3	E	166	40% 46% 7% • •
3	F	166	44% 43% 8% • •

Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.31.2

2 Entry composition

There are 3 unique types of molecules in this entry. The entry contains 20357 atoms, of which 0 are hydrogens and 0 are deuteriums.

In the tables below, 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 Myosin-7.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	A	954	Total	C	N	O	S	0	0
			7704	4899	1324	1439	42		
1	B	950	Total	C	N	O	S	0	0
			7673	4877	1320	1435	41		

- Molecule 2 is a protein called Myosin light chain 3.

Mol	Chain	Residues	Atoms					AltConf	Trace
2	C	152	Total	C	N	O	S	0	0
			1212	759	202	240	11		
2	D	152	Total	C	N	O	S	0	0
			1212	759	202	240	11		

- Molecule 3 is a protein called Myosin regulatory light chain 2, ventricular/cardiac muscle isoform.

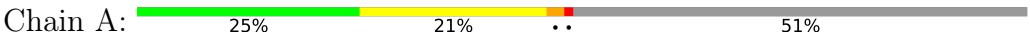
Mol	Chain	Residues	Atoms					AltConf	Trace
3	E	160	Total	C	N	O	S	0	0
			1278	808	212	252	6		
3	F	160	Total	C	N	O	S	0	0
			1278	808	212	252	6		

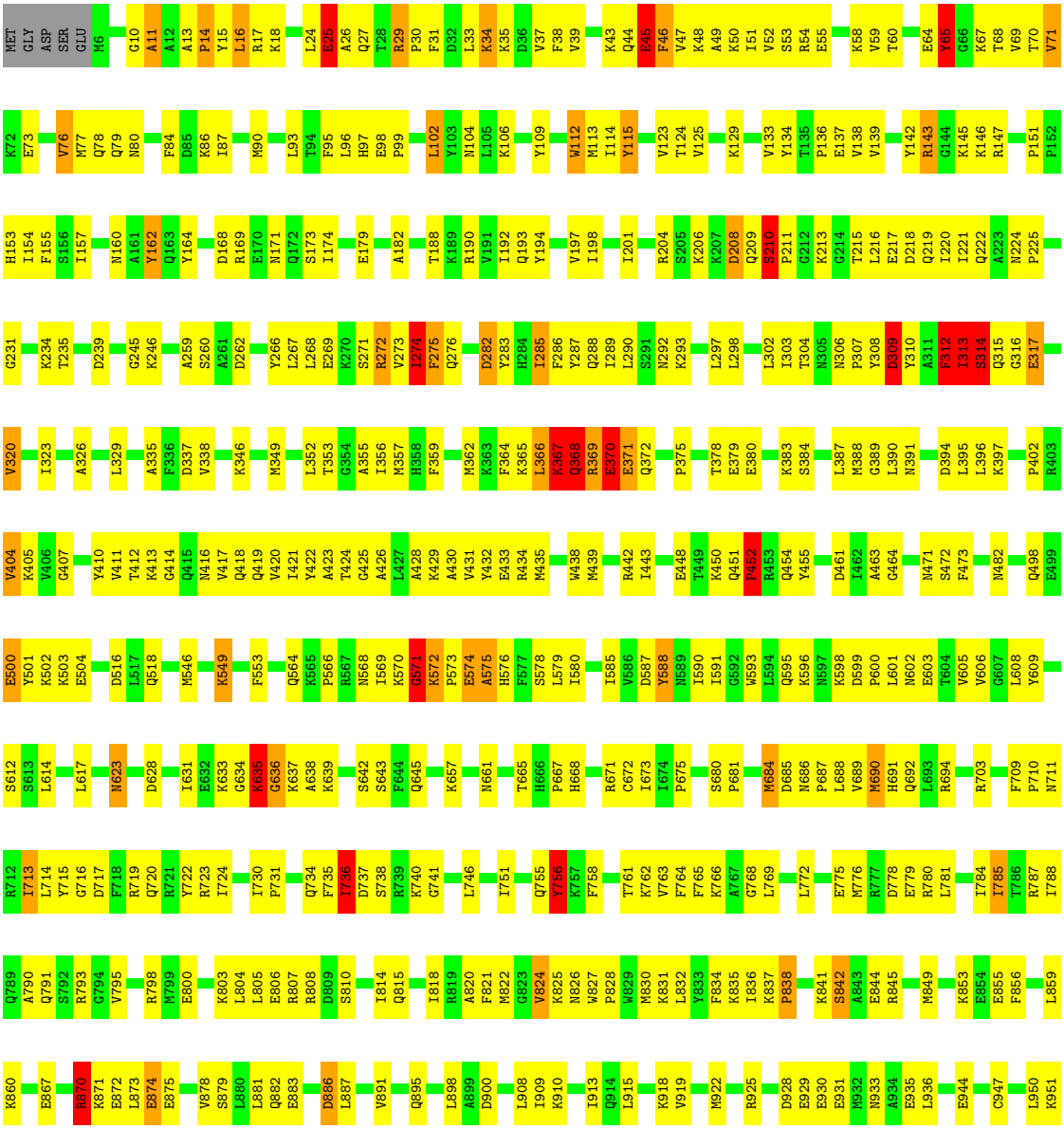
3 Residue-property plots (i)

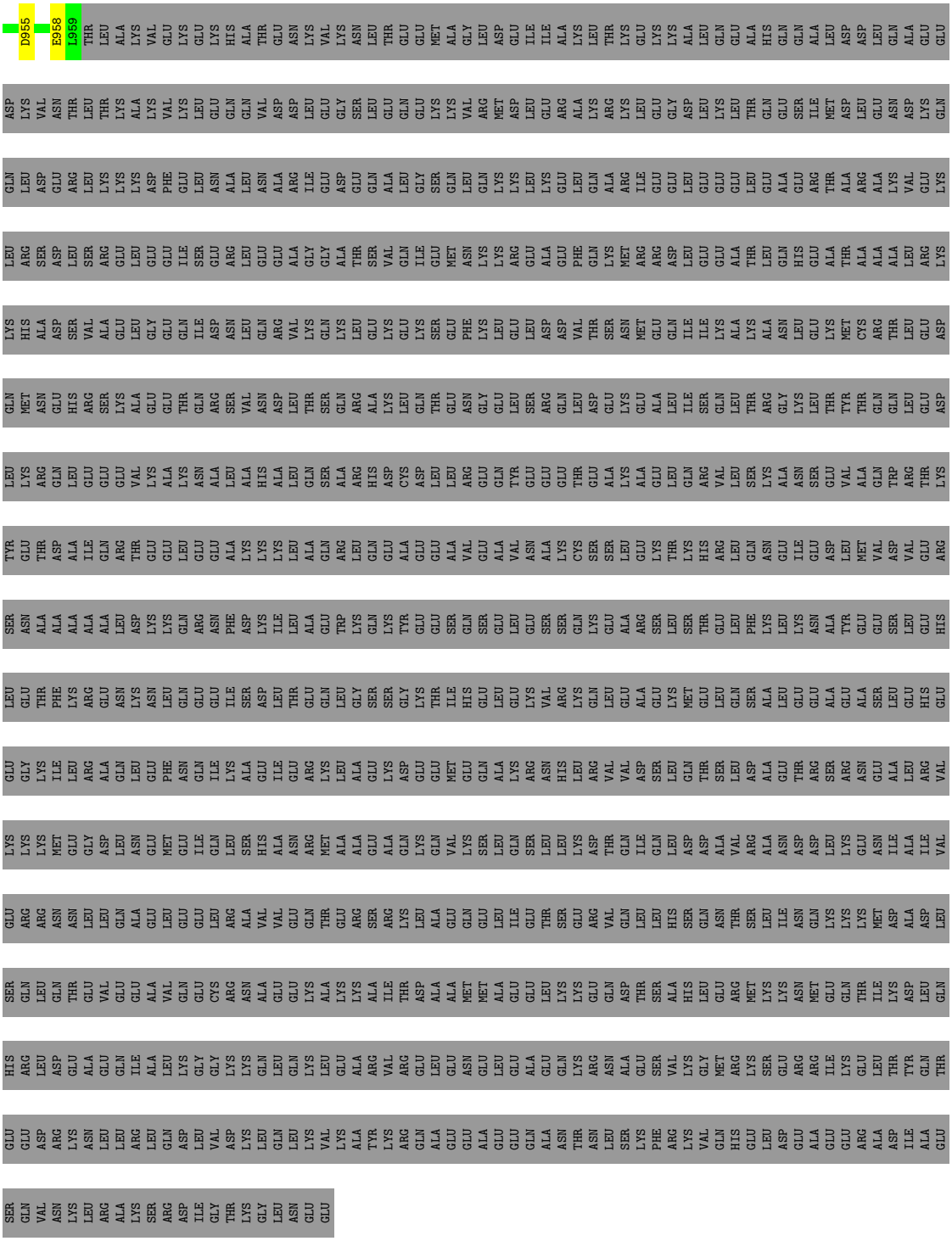
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry. Residues are color-coded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

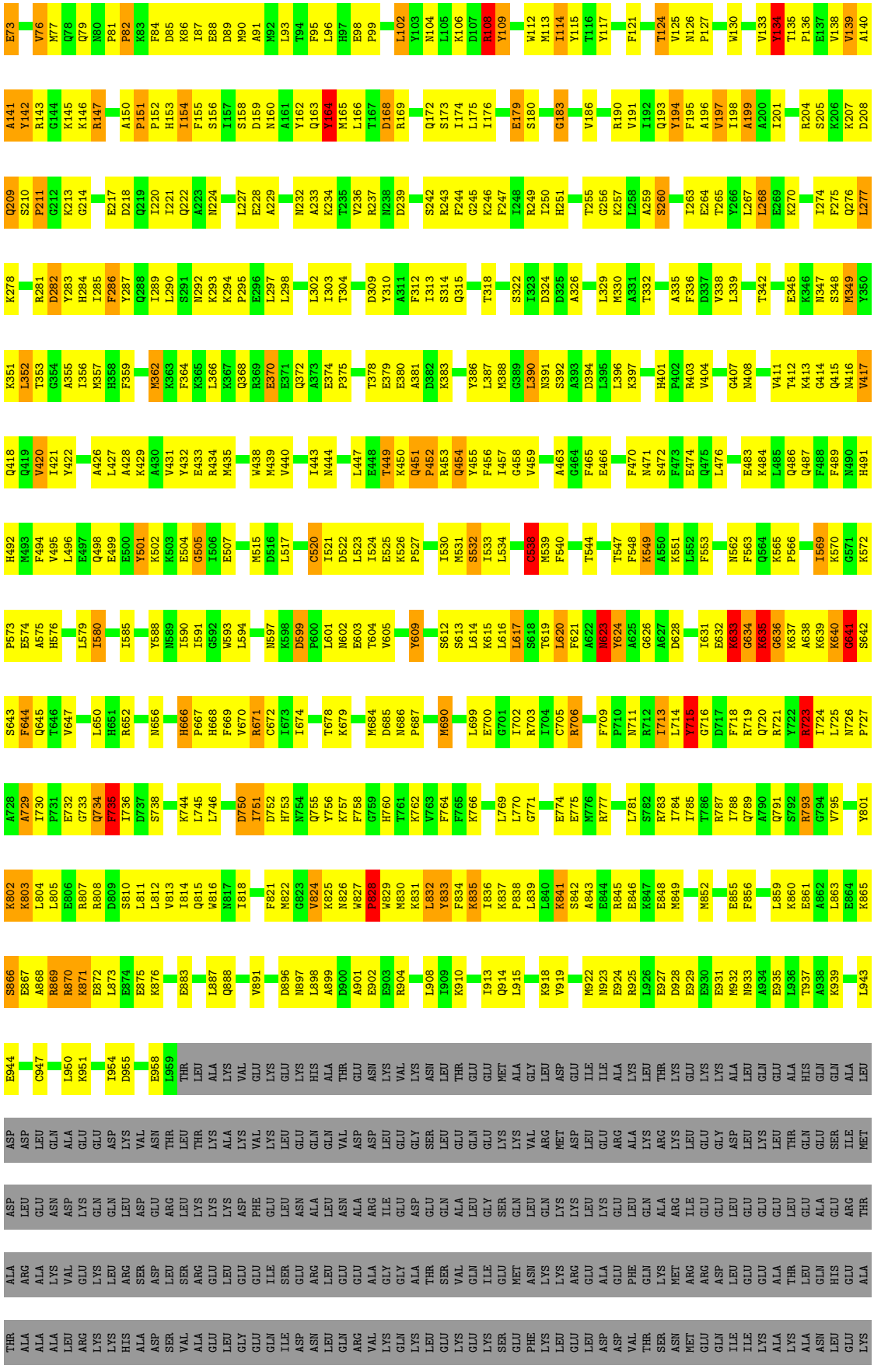
- Molecule 1: Myosin-7

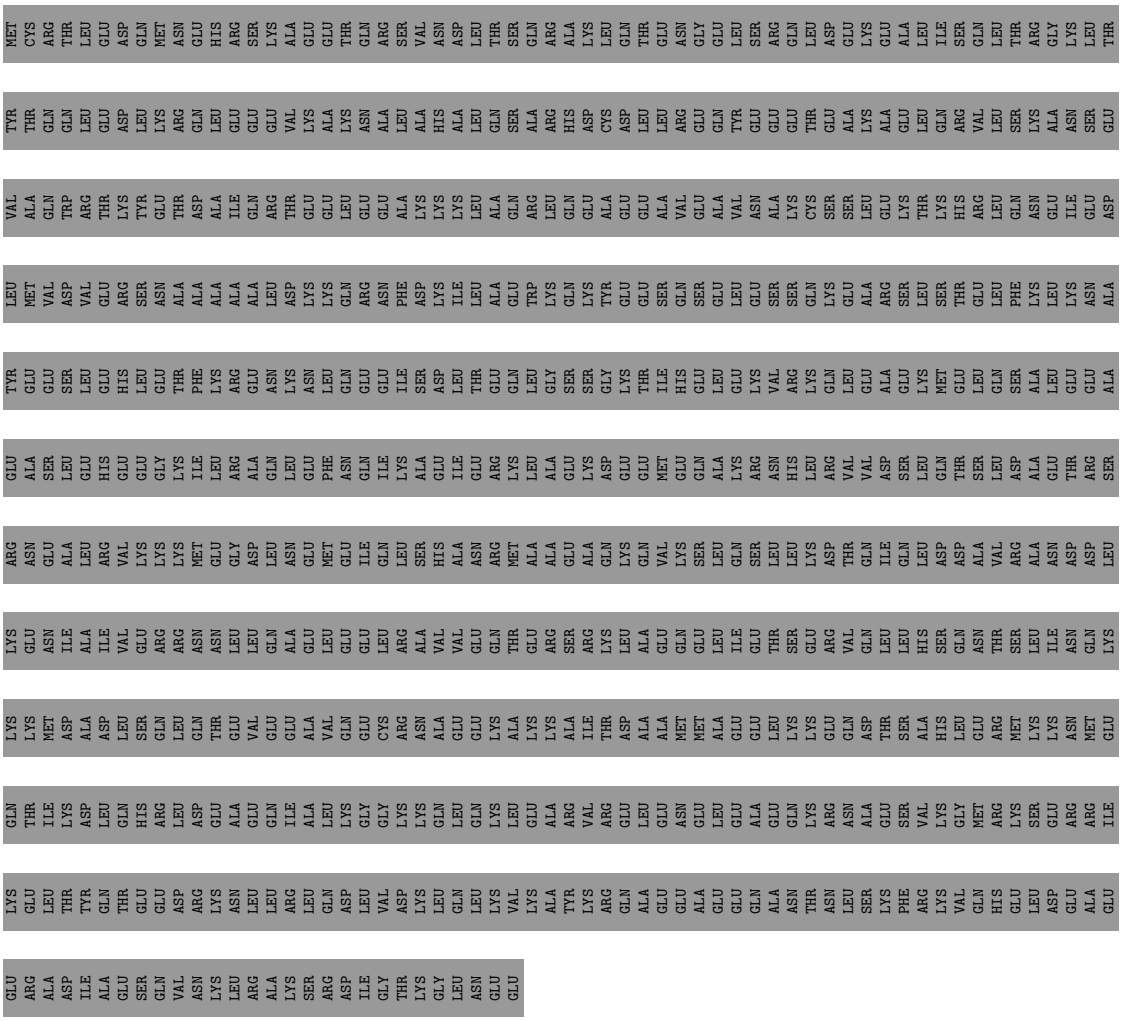
Chain A:





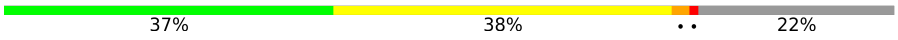

D955
E958
L959
THR LEU ALA LYS VAL GLU LYS GLU LYS HIS ALA THR GLU ASN LYS VAL LYS ASN LEU THR GLU GLU MET ALA GLY LEU ASP GLU ILE ILE ALA LYS LEU THR LYS GLU LYS LYS ALA LEU GLN GLU ALA HIS GLN GLN ALA LEU ASP ASP LEU GLN LEU GLU ASP
ASP LYS VAL ASN THR LEU THR LYS ALA LYS VAL LYS ALA LEU GLU GLN GLU MET ASP LEU GLU GLU ARG VAL LYS VAL ASP ASP LEU GLU LEU GLY SER LEU GLU ALA LEU GLY SER GLN LEU GLU LYS LYS LYS ASP PHE GLU LEU ASN ALA LEU ASN ALA ARG ILE GLU ASP GLU GLN LEU ALA ILE GLU PHE GLU GLU ILE SER GLU ARG LEU GLU GLU GLU LEU GLN ILE ASP ASN LEU GLN ARG VAL LYS GLN LYS LEU GLU GLN ARG GLU LEU HIS ALA LEU GLN GLY GLU GLN ILE ASP ARG GLN THR GLU ASP ARG LEU GLU ASP ASN LYS LEU GLU ASP ASP VAL THR SER ASN MET GLU GLN ILE LEU GLU LYS ALA LYS ALA LYS MET CYS ARG THR LEU GLU ASP
GLN MET ASN GLU HIS ARG SER LYS ALA GLU GLU THR GLN ARG ASP SER VAL ASN ASP LEU THR GLU GLN ILE LEU GLY GLU GLU ASN GLY GLU LEU SER ARG GLN LEU ASP GLU ALA LEU ILE SER GLN LEU THR ARG GLY LYS LEU THR TYR THR GLN GLN LEU GLU GLY
LEU LYS ARG GLN LEU GLU GLU VAL LYS ALA LYS ASN ALA LEU HIS ALA LEU GLN GLY SER GLN ILE ASP ASN ALA LEU ALA ARG HIS ASP CYS ASP LEU LEU ARG GLU GLN TYR GLU GLU GLU THR GLU ALA LYS ALA GLU LEU GLN ARG VAL LEU SER LYS ALA ASN SER GLU LEU GLU
TYR GLU THR ASP ALA ILE GLN GLU GLU LEU GLU GLU ALA LYS LYS LYS LEU ALA ALA GLN ARG LEU GLN GLU ALA GLU GLU ALA ALA VAL GLU ALA VAL ASN ALA ALA LYS CYS SER SER LEU GLU LYS THR LYS HIS ARG LEU GLN ASN GLU ILE GLU ASP LEU MET VAL ASP VAL GLU ARG
SER ASN ALA ALA ALA ALA LEU ASP LYS LYS GLN ARG ASN PHE ASP LYS ILE LEU ALA ALA GLU TRP LYS GLN LYS TYR GLU GLU SER GLN SER GLU LEU GLU SER SER GLN LYS GLU ALA ARG SER LEU SER THR GLU LEU PHE LYS LEU LYS ASN ALA TYR GLU GLU SER LEU GLU HIS
LEU GLU THR PHE LYS ARG GLU ASN LYS ASN LEU GLN GLU GLU ILE SER ASP LEU THR GLU GLN LEU GLY SER SER GLY LYS THR ILE HIS GLU LEU GLU LEU LYS VAL ARG LYS GLN LEU GLU ALA GLU LYS MET GLU LEU GLN SER ALA LEU GLU GLU ALA GLU ALA SER LEU GLU HIS GLU
GLU GLY LYS ILE LEU ARG ALA GLN LEU GLU PHE ASN GLN ILE LYS ALA GLU ILE GLU ARG LYS LEU GLU LYS ASP GLU GLU MET GLU GLN ALA LYS ARG ASN HIS LEU ARG VAL VAL ASP SER LEU GLN THR SER LEU ASP ALA GLU THR ARG SER ARG ASN GLU ALA LEU ARG VAL
LYS LYS LYS MET GLU GLY ASP LEU ASN GLU MET GLU GLU ILE GLN LEU SER HIS ALA ASN ARG MET ALA ALA GLU ALA GLN LYS ASP GLU ARG VAL ALA ASP ASP ALA VAL ARG ALA ASN ASP ASP LEU LYS GLU ASN ILE ALA ILE VAL
GLU ARG ARG ASN ASN LEU LEU GLN ALA GLU LEU GLU LEU GLU GLU GLN ALA VAL ARG GLU GLN THR GLU ARG SER ARG LYS LEU ALA GLU GLN GLU LEU GLU THR GLU LEU ILE LEU HIS SER GLN ASN THR SER LEU ILE ASN GLU MET LYS LYS LYS MET ASP ARG LEU
SER GLN LEU GLN GLU GLU ALA VAL GLN GLU GLU CYS ARG ASN ALA GLU GLY LYS ALA LYS ALA ILE THR ASP ALA ALA MET MET ALA GLU GLU LEU LYS LYS GLU GLN ASP THR SER ALA HIS LEU GLU ARG MET LYS LYS ASN MET GLU GLN THR ILE LYS ASP LEU GLN
HIS ARG LEU ASP GLU ALA GLN ILE LYS GLY GLY LYS LYS LYS GLN LEU GLU ALA ARG VAL ARG GLU LEU GLU ASN GLU LEU GLU ALA GLU GLN LYS ARG ASN ALA GLU SER VAL LYS GLY MET ARG LYS SER GLU GLU ARG GLU ILE LYS GLU LEU THR TYR GLN THR
GLU GLU ASP ARG LYS ASN LEU LEU ARG LEU LEU ARG ASP LEU VAL ASP LYS VAL LYS ALA TYR LYS ARG GLN ALA GLU GLU GLU GLN ALA ASN THR ASN LEU SER LYS PHE ARG LYS VAL GLN HIS GLU LEU ASP GLU ALA GLU GLU ARG ALA ASP ILE ALA GLU
SER GLN VAL ASN LYS LEU ARG ALA LYS SER ARG ASP ILE GLY THR LYS GLY LEU ASN GLU GLU
• Molecule 1: Myosin-7
Chain B:
20%
24%
51%
MET GLY ASP SER GLU MET ALA VAL PHE G10 A13 P14 Y15 L16 R17 K18 S19 E20 K21 E22 E25 R29 P30 L33 K34 K35 D36 V37 F38 V39 Q44 E45 F46 V47 K48 V52 E55 K58 V59 T60 A61 E62 T63 E64 Y65 G66 K67 T68 V69 T70 V71 K72

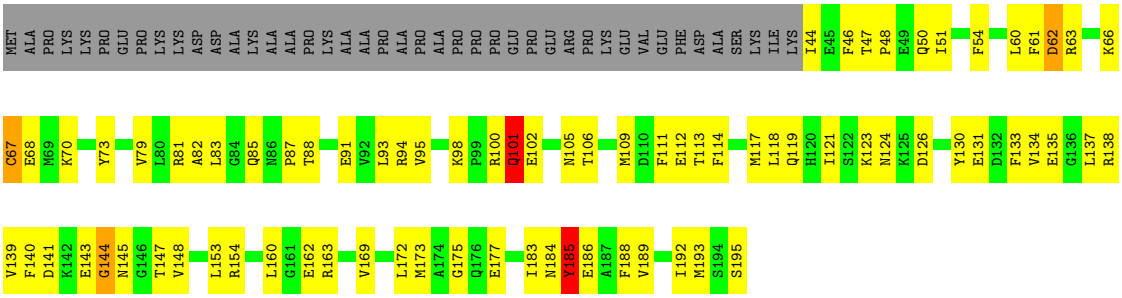




• Molecule 2: Myosin light chain 3

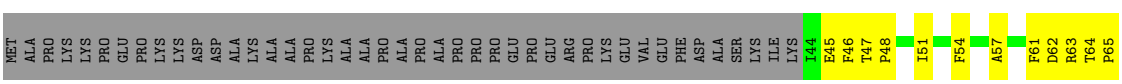
Chain C:

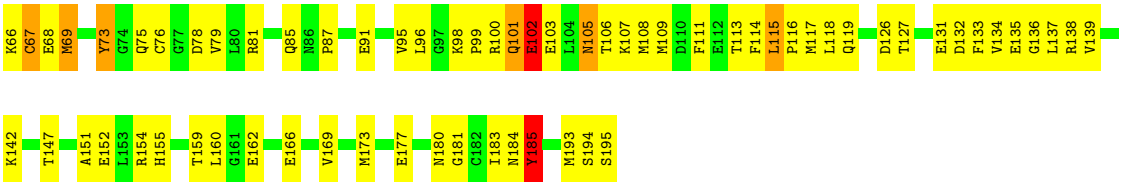




• Molecule 2: Myosin light chain 3

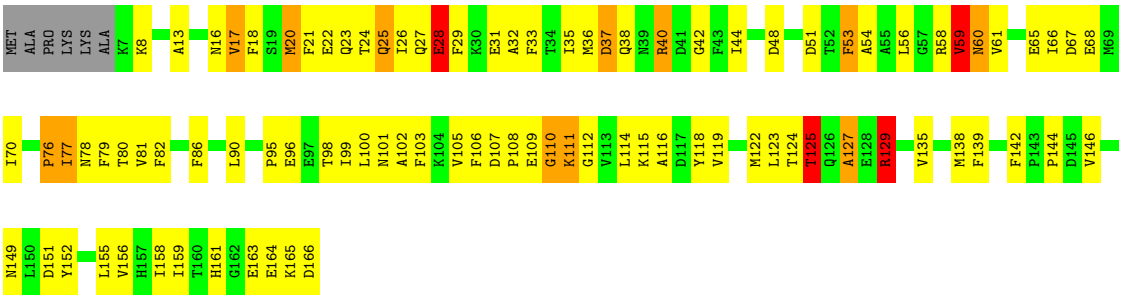
Chain D:





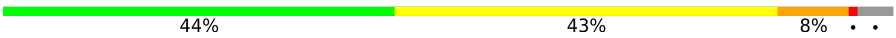
• Molecule 3: Myosin regulatory light chain 2, ventricular/cardiac muscle isoform

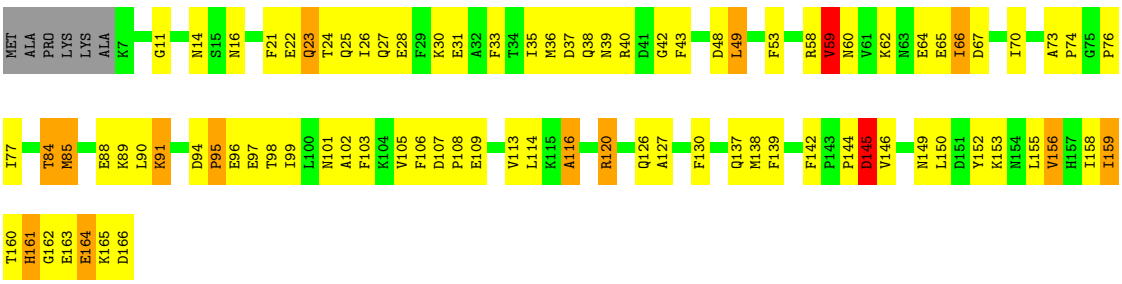
Chain E:



• Molecule 3: Myosin regulatory light chain 2, ventricular/cardiac muscle isoform

Chain F:





4 Experimental information (i)

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, C4	Depositor
Number of particles used	10700	Depositor
Resolution determination method	FSC 0.5 CUT-OFF	Depositor
CTF correction method	NONE	Depositor
Microscope	FEI/PHILIPS CM120T	Depositor
Voltage (kV)	120	Depositor
Electron dose ($e^-/Å^2$)	9	Depositor
Minimum defocus (nm)	1950	Depositor
Maximum defocus (nm)	1950	Depositor
Magnification	35000	Depositor
Image detector	KODAK SO-163 FILM	Depositor

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	0.61	3/7851 (0.0%)	1.11	54/10556 (0.5%)
1	B	0.62	1/7819 (0.0%)	1.11	48/10513 (0.5%)
2	C	0.60	0/1231	1.05	2/1651 (0.1%)
2	D	0.78	4/1231 (0.3%)	1.13	9/1651 (0.5%)
3	E	0.89	3/1301 (0.2%)	1.25	8/1747 (0.5%)
3	F	0.60	0/1301	1.15	6/1747 (0.3%)
All	All	0.65	11/20734 (0.1%)	1.12	127/27865 (0.5%)

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	20
1	B	0	19
2	C	0	2
3	E	0	3
3	F	0	4
All	All	0	48

All (11) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	E	129	ARG	CZ-NH1	-19.60	1.07	1.33
2	D	101	GLN	C-O	-10.93	1.02	1.23
3	E	129	ARG	NE-CZ	9.37	1.45	1.33
3	E	129	ARG	CZ-NH2	9.25	1.45	1.33
1	A	112	TRP	CG-CD1	-8.76	1.24	1.36
1	A	112	TRP	CD2-CE2	-8.51	1.31	1.41
1	B	666	HIS	CD2-NE2	-6.01	1.24	1.38
2	D	105	ASN	C-N	-5.88	1.20	1.34
2	D	152	GLU	CD-OE1	-5.68	1.19	1.25

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	D	102	GLU	CB-CG	5.40	1.62	1.52
1	A	45	GLU	CG-CD	-5.09	1.44	1.51

All (127) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
3	E	129	ARG	NE-CZ-NH2	-25.59	107.50	120.30
1	A	756	TYR	CZ-CE2-CD2	15.78	134.00	119.80
1	B	641	GLY	CA-C-O	-13.49	96.31	120.60
3	F	120	ARG	NE-CZ-NH1	12.91	126.76	120.30
1	B	102	LEU	CB-CG-CD2	-12.58	89.62	111.00
1	A	45	GLU	OE1-CD-OE2	11.81	137.47	123.30
1	B	641	GLY	CA-C-N	11.45	142.38	117.20
1	A	756	TYR	CB-CG-CD2	-11.24	114.26	121.00
1	A	756	TYR	CB-CG-CD1	10.85	127.51	121.00
1	B	199	ALA	N-CA-CB	-10.76	95.04	110.10
2	D	73	TYR	CB-CG-CD1	-10.49	114.70	121.00
1	B	109	TYR	CB-CG-CD2	-10.42	114.75	121.00
1	A	684	MET	CG-SD-CE	10.24	116.59	100.20
1	A	756	TYR	CG-CD2-CE2	-9.82	113.44	121.30
1	A	320	VAL	CG1-CB-CG2	-9.66	95.45	110.90
1	A	29	ARG	NE-CZ-NH1	-9.58	115.51	120.30
1	B	109	TYR	CB-CG-CD1	9.30	126.58	121.00
2	D	102	GLU	N-CA-CB	8.91	126.64	110.60
1	B	36	ASP	N-CA-CB	-8.75	94.85	110.60
1	A	366	LEU	C-N-CA	8.65	143.32	121.70
1	B	65	TYR	CD1-CE1-CZ	8.60	127.54	119.80
1	A	46	PHE	CG-CD1-CE1	8.33	129.97	120.80
1	B	690	MET	CG-SD-CE	-8.10	87.25	100.20
1	B	635	LYS	C-N-CA	8.06	139.23	122.30
3	E	125	THR	O-C-N	-7.95	109.98	122.70
1	B	38	PHE	CG-CD2-CE2	7.75	129.32	120.80
1	B	349	MET	CG-SD-CE	-7.60	88.04	100.20
2	D	102	GLU	CA-CB-CG	7.52	129.94	113.40
2	D	101	GLN	CA-C-O	-7.40	104.56	120.10
1	A	282	ASP	CB-CG-OD1	-7.36	111.68	118.30
3	F	156	VAL	CG1-CB-CG2	-7.35	99.14	110.90
1	A	366	LEU	N-CA-CB	-7.32	95.76	110.40
3	F	120	ARG	NE-CZ-NH2	-7.28	116.66	120.30
1	B	666	HIS	CG-CD2-NE2	-7.18	95.56	109.20
1	A	452	PRO	CA-N-CD	-7.18	101.45	111.50
1	B	139	VAL	CA-CB-CG1	-7.13	100.21	110.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
3	F	49	LEU	CB-CG-CD1	-7.09	98.95	111.00
1	A	404	VAL	CG1-CB-CG2	-7.04	99.64	110.90
1	B	620	LEU	CD1-CG-CD2	-7.03	89.41	110.50
2	C	185	TYR	CB-CG-CD2	-6.95	116.83	121.00
1	B	65	TYR	CG-CD1-CE1	-6.86	115.81	121.30
2	D	101	GLN	CA-C-N	6.83	132.23	117.20
3	E	129	ARG	NE-CZ-NH1	6.83	123.71	120.30
1	A	736	ILE	CG1-CB-CG2	-6.77	96.51	111.40
1	A	34	LYS	CA-CB-CG	6.77	128.29	113.40
1	A	575	ALA	N-CA-CB	-6.75	100.66	110.10
1	B	390	LEU	CB-CG-CD1	-6.64	99.71	111.00
1	B	549	LYS	CD-CE-NZ	6.51	126.68	111.70
2	C	67	CYS	CB-CA-C	6.51	123.42	110.40
1	B	635	LYS	CA-C-N	6.48	129.16	116.20
1	B	666	HIS	CE1-NE2-CD2	6.43	122.67	106.60
3	E	40	ARG	NE-CZ-NH2	6.41	123.50	120.30
1	B	352	LEU	CB-CG-CD1	-6.40	100.12	111.00
2	D	115	LEU	CB-CG-CD1	-6.36	100.19	111.00
1	B	617	LEU	CB-CG-CD2	-6.36	100.19	111.00
1	B	828	PRO	CA-N-CD	-6.36	102.60	111.50
1	B	282	ASP	CB-CG-OD1	-6.25	112.68	118.30
1	A	46	PHE	CZ-CE2-CD2	6.24	127.58	120.10
1	B	729	ALA	N-CA-CB	-6.20	101.42	110.10
1	A	210	SER	N-CA-CB	6.18	119.77	110.50
1	A	112	TRP	CB-CG-CD1	-6.16	118.99	127.00
1	A	112	TRP	CD2-CE2-CZ2	6.15	129.68	122.30
1	A	65	TYR	CB-CG-CD2	-6.12	117.33	121.00
1	B	538	CYS	CA-CB-SG	-6.12	102.98	114.00
1	B	599	ASP	CB-CG-OD2	-6.10	112.81	118.30
1	A	29	ARG	NE-CZ-NH2	6.01	123.30	120.30
1	A	690	MET	CG-SD-CE	5.97	109.75	100.20
1	A	309	ASP	N-CA-C	5.94	127.05	111.00
1	A	571	GLY	CA-C-O	-5.89	110.00	120.60
1	A	736	ILE	CA-CB-CG2	5.88	122.67	110.90
1	A	370	GLU	C-N-CA	5.85	136.32	121.70
1	A	570	LYS	C-N-CA	5.83	134.55	122.30
1	A	25	GLU	CB-CA-C	-5.80	98.80	110.40
2	D	73	TYR	CB-CG-CD2	5.75	124.45	121.00
1	A	366	LEU	CA-C-N	5.73	129.80	117.20
1	B	45	GLU	CG-CD-OE2	-5.72	106.86	118.30
3	E	129	ARG	CD-NE-CZ	-5.69	115.64	123.60
1	B	108	ARG	NE-CZ-NH2	-5.65	117.47	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	B	609	TYR	CG-CD1-CE1	5.65	125.82	121.30
1	A	309	ASP	CB-CG-OD1	-5.64	113.22	118.30
3	E	53	PHE	CB-CG-CD1	-5.64	116.85	120.80
1	A	312	PHE	CB-CG-CD2	-5.59	116.89	120.80
2	D	185	TYR	CB-CG-CD2	-5.59	117.65	121.00
3	F	145	ASP	CB-CG-OD2	-5.57	113.29	118.30
1	B	635	LYS	CA-CB-CG	5.55	125.62	113.40
1	B	828	PRO	N-CD-CG	5.54	111.51	103.20
1	A	314	SER	N-CA-C	5.54	125.95	111.00
1	A	690	MET	CB-CA-C	-5.53	99.33	110.40
1	A	275	PHE	CB-CG-CD2	-5.53	116.93	120.80
1	B	268	LEU	CB-CG-CD2	-5.53	101.61	111.00
1	B	168	ASP	CB-CG-OD1	5.50	123.25	118.30
1	B	715	TYR	CB-CG-CD2	-5.49	117.70	121.00
1	A	14	PRO	CA-N-CD	-5.45	103.87	111.50
1	A	370	GLU	O-C-N	-5.45	113.98	122.70
1	A	501	TYR	CB-CG-CD2	-5.44	117.74	121.00
1	A	598	LYS	N-CA-CB	-5.42	100.83	110.60
1	B	286	PHE	CB-CG-CD2	-5.41	117.02	120.80
1	A	756	TYR	CE1-CZ-CE2	-5.40	111.17	119.80
1	A	162	TYR	CB-CG-CD2	-5.35	117.79	121.00
1	A	112	TRP	CD1-CG-CD2	5.33	110.56	106.30
1	B	102	LEU	CD1-CG-CD2	5.31	126.44	110.50
1	A	452	PRO	N-CA-C	5.31	125.91	112.10
1	A	287	TYR	CB-CG-CD2	-5.30	117.82	121.00
1	B	124	THR	CA-CB-CG2	-5.29	104.99	112.40
1	A	76	VAL	CG1-CB-CG2	-5.28	102.45	110.90
1	B	194	TYR	CG-CD2-CE2	5.24	125.49	121.30
1	A	370	GLU	CA-C-N	5.24	128.73	117.20
1	A	46	PHE	CB-CG-CD2	5.23	124.46	120.80
1	A	368	GLN	N-CA-C	5.23	125.13	111.00
1	B	142	TYR	CB-CG-CD2	-5.21	117.87	121.00
1	B	735	PHE	CB-CG-CD1	5.20	124.44	120.80
1	B	164	TYR	CB-CG-CD1	-5.18	117.89	121.00
1	A	549	LYS	CB-CG-CD	5.17	125.03	111.60
3	F	85	MET	CG-SD-CE	-5.16	91.95	100.20
3	E	125	THR	CA-C-N	5.15	128.52	117.20
1	A	367	LYS	N-CA-CB	5.14	119.85	110.60
1	A	740	LYS	C-N-CA	-5.13	111.53	122.30
1	A	34	LYS	N-CA-CB	-5.12	101.38	110.60
3	E	129	ARG	NH1-CZ-NH2	5.11	125.02	119.40
1	B	44	GLN	O-C-N	5.09	130.85	122.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	B	633	LYS	CB-CA-C	5.09	120.58	110.40
1	B	723	ARG	NE-CZ-NH1	5.07	122.84	120.30
1	A	102	LEU	CB-CG-CD2	-5.07	102.39	111.00
1	B	38	PHE	CD1-CE1-CZ	5.04	126.14	120.10
2	D	102	GLU	CB-CA-C	-5.03	100.33	110.40
1	B	134	TYR	CB-CG-CD2	-5.03	117.98	121.00
1	B	164	TYR	CE1-CZ-OH	5.03	133.67	120.10

There are no chirality outliers.

All (48) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	A	115	TYR	Sidechain
1	A	15	TYR	Sidechain
1	A	162	TYR	Sidechain
1	A	25	GLU	Mainchain
1	A	274	ILE	Mainchain
1	A	308	TYR	Peptide
1	A	310	TYR	Sidechain,Peptide
1	A	313	ILE	Peptide
1	A	369	ARG	Sidechain,Peptide
1	A	413	LYS	Peptide
1	A	45	GLU	Mainchain
1	A	588	TYR	Sidechain
1	A	634	GLY	Peptide
1	A	635	LYS	Mainchain
1	A	722	TYR	Sidechain
1	A	756	TYR	Sidechain
1	A	821	PHE	Sidechain
1	A	870	ARG	Sidechain
1	B	108	ARG	Sidechain
1	B	141	ALA	Mainchain
1	B	164	TYR	Sidechain
1	B	197	VAL	Mainchain
1	B	209	GLN	Peptide
1	B	45	GLU	Mainchain
1	B	465	PHE	Sidechain
1	B	501	TYR	Sidechain
1	B	572	LYS	Peptide
1	B	623	ASN	Peptide
1	B	633	LYS	Mainchain,Peptide
1	B	636	GLY	Mainchain

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Mol	Chain	Res	Type	Group
1	B	644	PHE	Sidechain
1	B	671	ARG	Sidechain
1	B	715	TYR	Sidechain
1	B	734	GLN	Mainchain,Peptide
1	B	866	SER	Peptide
2	C	101	GLN	Peptide
2	C	185	TYR	Sidechain
3	E	125	THR	Mainchain
3	E	129	ARG	Sidechain
3	E	59	VAL	Peptide
3	F	59	VAL	Peptide
3	F	84	THR	Peptide
3	F	91	LYS	Mainchain
3	F	95	PRO	Mainchain

5.2 Too-close contacts (i)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	7704	0	7735	681	0
1	B	7673	0	7706	1064	0
2	C	1212	0	1182	120	0
2	D	1212	0	1183	234	0
3	E	1278	0	1241	179	0
3	F	1278	0	1239	234	0
All	All	20357	0	20286	2030	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 50.

All (2030) 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:B:804:LEU:CD2	2:D:63:ARG:HD3	1.21	1.56
1:A:714:LEU:HD21	1:B:396:LEU:CD1	1.15	1.55
1:B:831:LYS:HD3	3:F:163:GLU:CG	1.34	1.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:E:8:LYS:CD	3:F:59:VAL:HA	1.33	1.54
1:A:714:LEU:CD2	1:B:396:LEU:HD12	1.33	1.53
1:B:804:LEU:HD22	2:D:63:ARG:CD	1.03	1.49
1:A:822:MET:CE	3:E:138:MET:HE2	1.00	1.46
1:B:804:LEU:HD21	2:D:63:ARG:NH1	1.22	1.43
1:B:845:ARG:CD	3:F:23:GLN:NE2	1.83	1.41
1:A:822:MET:HE1	3:E:138:MET:CE	0.93	1.40
1:A:791:GLN:NE2	2:C:193:MET:HE1	1.12	1.40
1:A:791:GLN:OE1	2:C:133:PHE:CZ	1.73	1.40
1:A:845:ARG:HH22	3:F:23:GLN:CB	1.31	1.39
1:B:791:GLN:NE2	2:D:193:MET:CE	1.86	1.38
1:A:455:TYR:CE1	1:B:403:ARG:NH1	1.73	1.37
2:D:65:PRO:HG2	3:F:126:GLN:OE1	1.19	1.36
1:A:455:TYR:HE1	1:B:403:ARG:NH1	0.86	1.35
2:D:65:PRO:CG	3:F:126:GLN:OE1	1.73	1.34
1:B:831:LYS:CD	3:F:163:GLU:CG	2.01	1.33
1:B:733:GLY:N	2:D:138:ARG:HH22	1.25	1.33
1:B:831:LYS:CD	3:F:163:GLU:HG3	1.58	1.33
1:B:791:GLN:NE2	2:D:193:MET:HE1	0.99	1.31
1:B:826:ASN:CB	3:F:59:VAL:HB	1.58	1.31
1:A:859:LEU:HD11	1:B:860:LYS:N	1.45	1.30
1:B:804:LEU:CD2	2:D:63:ARG:CD	1.88	1.30
1:B:733:GLY:N	2:D:138:ARG:NH2	1.79	1.29
1:B:826:ASN:HB3	3:F:59:VAL:CB	1.63	1.29
1:B:804:LEU:CD2	2:D:63:ARG:HH11	1.47	1.25
1:B:821:PHE:CE2	3:F:138:MET:HG2	1.69	1.25
1:A:853:LYS:HZ1	1:B:841:LYS:NZ	1.34	1.25
1:B:733:GLY:H	2:D:138:ARG:NH2	1.34	1.25
1:A:791:GLN:NE2	2:C:193:MET:CE	2.02	1.23
1:B:719:ARG:NH1	2:D:139:VAL:O	1.70	1.23
1:A:845:ARG:NH2	3:F:23:GLN:CB	1.87	1.22
2:D:65:PRO:HG2	3:F:126:GLN:CD	1.57	1.22
3:E:8:LYS:HD3	3:F:59:VAL:CA	1.68	1.21
1:A:853:LYS:NZ	1:B:841:LYS:HZ1	1.38	1.20
1:A:791:GLN:OE1	2:C:133:PHE:CE2	1.95	1.20
1:B:635:LYS:HG3	1:B:636:GLY:HA3	1.21	1.20
3:E:8:LYS:HB3	3:F:58:ARG:O	1.38	1.20
1:B:733:GLY:CA	2:D:138:ARG:HH22	1.54	1.19
1:A:856:PHE:CE1	1:B:855:GLU:HB3	1.78	1.19
3:E:100:LEU:HA	3:E:155:LEU:HD23	1.21	1.19
1:A:835:LYS:HE3	3:E:165:LYS:NZ	1.58	1.16

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:256:GLY:N	2:D:154:ARG:HH22	1.42	1.16
3:E:27:GLN:NE2	3:F:24:THR:HG22	1.61	1.16
1:B:869:ARG:CD	2:D:177:GLU:OE2	1.93	1.16
3:E:80:THR:HG23	3:F:40:ARG:CD	1.75	1.16
3:E:80:THR:HG23	3:F:40:ARG:HD2	1.28	1.15
1:B:869:ARG:HD2	2:D:177:GLU:OE2	0.98	1.15
1:A:845:ARG:NH2	3:F:23:GLN:HB2	1.21	1.14
1:B:831:LYS:HD2	3:F:163:GLU:CD	1.67	1.14
1:B:827:TRP:N	3:F:58:ARG:CZ	2.11	1.13
2:D:66:LYS:HD3	3:F:126:GLN:HG2	1.21	1.13
2:D:66:LYS:HE3	3:F:126:GLN:HG3	1.27	1.12
3:E:8:LYS:CB	3:F:58:ARG:O	1.96	1.12
3:E:8:LYS:HD2	3:F:58:ARG:O	1.48	1.12
1:A:805:LEU:HD11	2:C:60:LEU:HD22	1.17	1.11
3:E:8:LYS:CD	3:F:59:VAL:CA	2.22	1.11
1:A:60:THR:HG22	1:A:70:THR:HG22	1.31	1.11
2:C:98:LYS:HE3	2:C:100:ARG:HB3	1.30	1.10
1:A:735:PHE:HA	1:A:736:ILE:HG22	1.23	1.10
2:D:66:LYS:CD	3:F:126:GLN:HG2	1.81	1.10
1:B:733:GLY:HA2	2:D:134:VAL:HG13	1.10	1.10
3:E:8:LYS:CG	3:F:58:ARG:O	2.00	1.09
1:A:860:LYS:N	1:B:859:LEU:HD11	1.68	1.09
1:A:87:ILE:HD12	1:A:93:LEU:HD11	1.30	1.09
1:A:367:LYS:HE2	1:A:370:GLU:HB2	1.35	1.09
1:B:804:LEU:HD22	2:D:63:ARG:HD2	1.33	1.09
1:A:805:LEU:CD1	2:C:60:LEU:HD22	1.83	1.08
2:D:66:LYS:HD2	3:F:127:ALA:CB	1.82	1.08
1:B:292:ASN:HD21	1:B:330:MET:HG3	0.97	1.08
1:B:791:GLN:CD	2:D:193:MET:HE1	1.73	1.08
1:B:827:TRP:N	3:F:58:ARG:NH1	1.98	1.08
1:B:845:ARG:HD2	3:F:23:GLN:NE2	1.49	1.08
1:A:375:PRO:HG2	1:A:380:GLU:HA	1.35	1.08
1:A:849:MET:HE1	1:B:852:MET:HE1	1.26	1.08
1:A:169:ARG:HB3	1:B:403:ARG:HH21	0.94	1.08
1:A:788:ILE:CD1	2:C:133:PHE:CE2	2.32	1.08
1:B:623:ASN:HA	1:B:637:LYS:HE2	1.35	1.07
1:B:734:GLN:N	2:D:138:ARG:NH2	2.03	1.07
1:B:783:ARG:HH12	2:D:126:ASP:CB	1.66	1.07
3:F:153:LYS:HA	3:F:156:VAL:HG12	1.33	1.07
1:A:33:LEU:HD23	1:A:50:LYS:HE2	1.36	1.06
1:B:733:GLY:C	2:D:138:ARG:NH2	2.09	1.06

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:835:LYS:HE3	3:E:165:LYS:HZ1	0.92	1.06
1:A:808:ARG:CZ	2:C:63:ARG:HA	1.85	1.06
3:E:8:LYS:CD	3:F:58:ARG:O	2.03	1.06
1:A:784:ILE:HD13	2:C:140:PHE:HE2	1.17	1.05
1:B:807:ARG:HD2	2:D:63:ARG:HB2	1.06	1.05
1:B:388:MET:HA	1:B:617:LEU:HD23	1.38	1.04
1:B:831:LYS:HD3	3:F:163:GLU:HG2	1.37	1.04
1:B:723:ARG:HH21	1:B:785:ILE:HA	1.22	1.04
1:B:635:LYS:NZ	1:B:647:VAL:HA	1.72	1.04
1:B:834:PHE:CD1	3:F:163:GLU:O	2.11	1.04
3:E:8:LYS:CG	3:F:59:VAL:HA	1.87	1.04
1:A:735:PHE:CD1	1:A:741:GLY:HA3	1.91	1.04
1:A:808:ARG:NH2	2:C:63:ARG:HA	1.71	1.04
1:A:873:LEU:HD12	1:B:870:ARG:HD2	1.35	1.04
1:B:733:GLY:CA	2:D:138:ARG:HH12	1.69	1.04
3:E:80:THR:CG2	3:F:40:ARG:HD2	1.88	1.03
1:B:631:ILE:HB	1:B:641:GLY:HA2	1.34	1.03
1:B:783:ARG:NH1	2:D:126:ASP:HB3	1.74	1.03
2:D:66:LYS:HD2	3:F:127:ALA:HB2	1.04	1.02
1:B:869:ARG:HD2	2:D:177:GLU:CD	1.79	1.02
1:A:430:ALA:HB2	1:A:601:LEU:HD21	1.42	1.02
1:B:733:GLY:CA	2:D:134:VAL:HG13	1.88	1.02
1:A:169:ARG:HB3	1:B:403:ARG:NH2	1.74	1.01
1:B:36:ASP:HB3	1:B:48:LYS:NZ	1.76	1.01
1:B:827:TRP:CD1	1:B:828:PRO:HD2	1.95	1.01
1:B:845:ARG:HD3	3:F:23:GLN:HE22	0.89	1.01
1:A:147:ARG:HB2	1:A:160:ASN:HD22	1.24	1.01
1:A:572:LYS:HB2	1:A:573:PRO:HD3	1.36	1.01
1:B:733:GLY:C	2:D:138:ARG:HH22	1.62	1.01
1:B:831:LYS:CD	3:F:163:GLU:CD	2.28	1.01
1:A:849:MET:HE1	1:B:852:MET:CE	1.89	1.00
1:A:856:PHE:HE1	1:B:855:GLU:HB3	0.88	1.00
1:A:881:LEU:HD12	2:D:180:ASN:HD21	1.20	1.00
1:B:633:LYS:O	1:B:640:LYS:HD3	1.60	1.00
1:B:831:LYS:HG3	3:F:163:GLU:OE2	1.61	1.00
1:B:160:ASN:HD21	1:B:711:ASN:HA	1.22	1.00
1:B:804:LEU:HD11	2:D:75:GLN:NE2	1.77	1.00
1:B:733:GLY:C	2:D:138:ARG:NH1	2.15	1.00
1:B:45:GLU:HG3	1:B:690:MET:SD	2.01	1.00
1:A:822:MET:HE1	3:E:138:MET:HE1	1.42	0.99
1:A:873:LEU:CD1	1:B:870:ARG:HD2	1.92	0.99

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:815:GLN:OE1	3:E:127:ALA:HB3	1.61	0.99
1:B:733:GLY:HA2	2:D:138:ARG:HH12	1.27	0.98
1:B:160:ASN:ND2	1:B:711:ASN:HA	1.77	0.98
1:A:45:GLU:HG3	1:A:46:PHE:CD1	1.99	0.98
1:A:822:MET:HE1	3:E:138:MET:HE3	1.44	0.98
1:B:190:ARG:HA	1:B:193:GLN:HG2	1.46	0.98
1:B:603:GLU:HG3	1:B:604:THR:H	1.28	0.98
1:B:821:PHE:CD2	3:F:138:MET:HG2	1.99	0.97
1:B:827:TRP:H	3:F:58:ARG:NH1	1.57	0.97
1:A:112:TRP:HE1	1:A:129:LYS:NZ	1.61	0.97
1:B:84:PHE:HZ	1:B:90:MET:HA	1.29	0.97
1:B:804:LEU:HD21	2:D:63:ARG:CZ	1.95	0.97
1:B:613:SER:HB2	2:C:144:GLY:O	1.65	0.97
1:A:798:ARG:HD2	2:C:82:ALA:HA	1.47	0.96
1:B:733:GLY:O	2:D:138:ARG:NH1	1.97	0.96
1:A:806:GLU:HB3	3:E:105:VAL:HG21	1.46	0.96
1:B:639:LYS:HG2	1:B:640:LYS:HG3	1.42	0.96
1:B:65:TYR:HE1	1:B:67:LYS:HB3	1.29	0.96
1:B:292:ASN:ND2	1:B:330:MET:HG3	1.80	0.96
1:A:859:LEU:HD11	1:B:860:LYS:CA	1.95	0.96
1:B:845:ARG:HD3	3:F:23:GLN:NE2	1.47	0.96
1:B:109:TYR:HB2	1:B:125:VAL:HG11	1.47	0.95
1:B:783:ARG:HH12	2:D:126:ASP:HB3	1.25	0.95
1:A:714:LEU:CD2	1:B:396:LEU:CD1	2.09	0.95
1:A:791:GLN:HE22	2:C:193:MET:CE	1.71	0.95
1:B:17:ARG:HD3	1:B:20:GLU:HB3	1.48	0.95
1:B:65:TYR:CE1	1:B:67:LYS:HB3	2.00	0.95
1:A:827:TRP:CE3	1:A:828:PRO:HD2	2.01	0.95
1:B:803:LYS:NZ	3:F:107:ASP:O	2.00	0.95
1:A:293:LYS:HD3	1:A:298:LEU:HA	1.48	0.95
1:B:733:GLY:C	2:D:138:ARG:HH12	1.70	0.95
1:A:147:ARG:HB2	1:A:160:ASN:ND2	1.81	0.94
1:A:922:MET:HE1	1:B:923:ASN:OD1	1.67	0.94
1:B:713:ILE:HG22	1:B:714:LEU:H	1.32	0.94
1:A:169:ARG:CB	1:B:403:ARG:HH21	1.79	0.94
1:A:805:LEU:HD11	2:C:60:LEU:CD2	1.97	0.94
1:A:713:ILE:HG22	1:A:714:LEU:H	1.32	0.94
1:B:198:ILE:HD13	1:B:204:ARG:NH2	1.82	0.94
1:B:723:ARG:NH2	1:B:785:ILE:HA	1.83	0.94
1:B:810:SER:OG	3:F:102:ALA:HA	1.68	0.94
1:A:784:ILE:HD13	2:C:140:PHE:CE2	2.02	0.94

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:733:GLY:C	2:D:138:ARG:CZ	2.36	0.94
1:A:853:LYS:NZ	1:B:841:LYS:NZ	2.04	0.93
1:A:735:PHE:HA	1:A:736:ILE:CG2	1.98	0.93
1:A:822:MET:HE3	3:E:138:MET:HE2	1.48	0.93
1:A:849:MET:CE	1:B:852:MET:CE	2.46	0.93
1:A:860:LYS:CA	1:B:859:LEU:HD11	1.98	0.93
1:A:908:LEU:HD11	1:B:908:LEU:C	1.88	0.93
1:A:800:GLU:OE2	3:E:108:PRO:HG3	1.69	0.93
1:B:873:LEU:HD23	1:B:876:LYS:HD3	1.47	0.92
1:B:635:LYS:CG	1:B:636:GLY:HA3	1.99	0.92
1:B:290:LEU:HG	1:B:303:ILE:HD11	1.50	0.92
1:B:827:TRP:CG	1:B:828:PRO:HD2	2.03	0.92
2:D:66:LYS:CE	3:F:126:GLN:HG3	2.00	0.92
1:A:922:MET:CE	1:B:919:VAL:HG13	2.00	0.92
1:B:388:MET:HA	1:B:617:LEU:CD2	1.99	0.92
1:A:17:ARG:HD3	1:A:151:PRO:HG3	1.49	0.91
1:B:845:ARG:CD	3:F:23:GLN:HE22	1.60	0.91
1:B:723:ARG:HA	1:B:745:LEU:HD21	1.48	0.91
1:B:84:PHE:CE1	1:B:87:ILE:HD11	2.06	0.91
1:B:783:ARG:HH12	2:D:126:ASP:CG	1.73	0.91
1:A:289:ILE:O	1:A:293:LYS:HB2	1.69	0.91
1:A:735:PHE:CD2	1:B:379:GLU:OE2	2.24	0.90
1:B:827:TRP:HB2	3:F:58:ARG:NH2	1.85	0.90
1:A:434:ARG:HH12	1:A:623:ASN:HD22	1.17	0.90
1:B:335:ALA:HA	1:B:338:VAL:HG22	1.54	0.90
1:B:270:LYS:HD3	1:B:433:GLU:HB2	1.51	0.90
1:A:849:MET:CE	1:B:852:MET:HE1	2.01	0.90
1:B:831:LYS:HD3	3:F:163:GLU:HG3	0.90	0.90
3:E:21:PHE:CD2	3:E:26:ILE:HG21	2.07	0.90
1:B:733:GLY:CA	2:D:138:ARG:NH2	2.24	0.90
1:A:274:ILE:HD12	1:A:422:TYR:HA	1.52	0.89
1:A:735:PHE:CD2	1:A:738:SER:HA	2.07	0.89
1:B:135:THR:O	1:B:138:VAL:HG12	1.72	0.89
1:A:873:LEU:HD12	1:B:870:ARG:CD	2.01	0.89
1:B:18:LYS:CD	1:B:108:ARG:HD2	2.02	0.89
1:B:755:GLN:HB2	1:B:769:LEU:HD13	1.50	0.89
1:B:549:LYS:HG2	1:B:553:PHE:CE2	2.06	0.89
1:B:733:GLY:CA	2:D:138:ARG:NH1	2.35	0.89
1:B:807:ARG:HD2	2:D:63:ARG:CB	1.99	0.89
1:A:33:LEU:HB3	1:A:50:LYS:NZ	1.86	0.89
1:A:633:LYS:HA	1:A:636:GLY:HA2	1.52	0.89

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:733:GLY:HA2	2:D:134:VAL:CG1	2.00	0.88
2:C:114:PHE:CE1	2:C:118:LEU:HD11	2.08	0.88
1:A:791:GLN:OE1	2:C:133:PHE:HZ	1.54	0.88
1:B:831:LYS:CG	3:F:163:GLU:HG3	2.04	0.88
1:A:734:GLN:HG2	1:A:735:PHE:CD1	2.07	0.88
1:A:845:ARG:NH2	3:F:23:GLN:HB3	1.89	0.88
1:B:783:ARG:NH2	2:D:126:ASP:OD2	2.07	0.88
2:D:65:PRO:HG3	3:F:126:GLN:OE1	1.71	0.88
2:D:66:LYS:CD	3:F:126:GLN:CG	2.52	0.88
3:E:164:GLU:HG2	3:E:165:LYS:HA	1.54	0.88
1:A:168:ASP:OD1	1:B:397:LYS:HE3	1.74	0.88
1:A:834:PHE:CE2	3:E:163:GLU:HA	2.09	0.88
2:D:66:LYS:CD	3:F:127:ALA:HB2	1.99	0.88
1:B:804:LEU:CG	2:D:63:ARG:HD3	2.04	0.88
1:A:822:MET:CE	3:E:138:MET:CE	1.82	0.87
1:B:804:LEU:CD2	2:D:63:ARG:HD2	1.95	0.87
1:A:822:MET:HE2	3:E:138:MET:HE2	1.49	0.87
1:A:428:ALA:HA	1:A:431:VAL:HG12	1.56	0.87
1:B:729:ALA:HB1	1:B:744:LYS:HE2	1.56	0.87
1:A:45:GLU:HG2	1:A:102:LEU:CD2	2.04	0.87
1:A:168:ASP:OD1	1:B:397:LYS:CE	2.22	0.87
1:A:564:GLN:HG3	1:A:578:SER:HB2	1.57	0.87
1:B:831:LYS:CG	3:F:163:GLU:OE2	2.23	0.87
1:B:635:LYS:HZ2	1:B:647:VAL:HA	1.37	0.87
1:B:821:PHE:CD2	3:F:138:MET:CG	2.58	0.87
1:B:84:PHE:CZ	1:B:90:MET:HA	2.09	0.87
1:B:723:ARG:CZ	1:B:785:ILE:HG12	2.05	0.87
1:A:881:LEU:CD1	2:D:180:ASN:ND2	2.38	0.86
1:B:549:LYS:HE2	1:B:553:PHE:CE2	2.10	0.86
1:A:734:GLN:HG2	1:A:735:PHE:HD1	1.39	0.86
1:A:735:PHE:HE2	1:B:379:GLU:OE1	1.57	0.86
1:B:791:GLN:HE21	2:D:193:MET:HE1	1.36	0.86
1:B:734:GLN:N	2:D:138:ARG:HH22	1.68	0.86
1:B:298:LEU:HG	1:B:303:ILE:CG2	2.05	0.86
1:A:455:TYR:HE1	1:B:403:ARG:HH11	1.21	0.86
1:B:635:LYS:HG3	1:B:636:GLY:CA	2.06	0.86
3:E:80:THR:HA	3:F:40:ARG:HD3	1.58	0.86
1:A:810:SER:HB2	3:E:105:VAL:CG1	2.06	0.85
1:B:260:SER:HB2	1:B:447:LEU:O	1.76	0.85
1:B:268:LEU:HD21	1:B:432:TYR:CE2	2.11	0.85
1:A:631:ILE:HD11	1:A:639:LYS:HB3	1.54	0.85

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:781:LEU:HD13	1:B:785:ILE:HD12	1.59	0.85
2:C:114:PHE:CZ	2:C:118:LEU:HD11	2.11	0.85
1:A:375:PRO:CG	1:A:380:GLU:HA	2.07	0.85
1:B:292:ASN:HD21	1:B:330:MET:CG	1.88	0.85
1:B:829:TRP:CG	3:F:89:LYS:HE2	2.11	0.85
2:D:66:LYS:HD3	3:F:126:GLN:CG	2.04	0.85
3:E:80:THR:HG23	3:F:40:ARG:NE	1.91	0.85
1:A:881:LEU:CD1	2:D:180:ASN:HD21	1.89	0.85
1:A:67:LYS:HG2	1:A:68:THR:H	1.42	0.84
3:F:35:ILE:HG13	3:F:36:MET:HG3	1.59	0.84
1:B:832:LEU:HD23	3:F:164:GLU:HG2	1.58	0.84
1:B:180:SER:HB2	1:B:466:GLU:HA	1.58	0.84
1:B:38:PHE:CE1	1:B:79:GLN:HA	2.13	0.84
1:B:735:PHE:HB3	2:D:138:ARG:NE	1.90	0.84
1:B:807:ARG:CD	2:D:63:ARG:HB2	2.00	0.84
1:A:134:TYR:CD1	1:A:190:ARG:HD3	2.12	0.84
1:A:404:VAL:HG12	1:A:411:VAL:O	1.78	0.84
1:A:815:GLN:OE1	3:E:127:ALA:CB	2.25	0.84
1:A:878:VAL:HG12	1:B:453:ARG:HB2	1.57	0.84
1:B:827:TRP:CB	3:F:58:ARG:HH12	1.90	0.84
2:D:65:PRO:CG	3:F:126:GLN:NE2	2.41	0.84
1:A:859:LEU:HD11	1:B:859:LEU:C	1.97	0.84
1:A:936:LEU:HD11	1:B:933:ASN:OD1	1.78	0.84
1:A:58:LYS:CE	1:A:70:THR:HB	2.08	0.83
1:A:293:LYS:HD3	1:A:298:LEU:CA	2.08	0.83
1:B:426:ALA:HA	1:B:429:LYS:HE2	1.60	0.83
2:D:65:PRO:HG2	3:F:126:GLN:NE2	1.92	0.83
1:B:255:THR:HB	2:D:154:ARG:NH1	1.93	0.83
1:B:821:PHE:CE2	3:F:138:MET:CG	2.60	0.83
1:A:856:PHE:HE1	1:B:855:GLU:CB	1.83	0.83
1:B:162:TYR:CZ	1:B:199:ALA:HB1	2.14	0.83
1:B:179:GLU:HB3	1:B:674:ILE:HD12	1.61	0.83
1:B:791:GLN:HE22	2:D:193:MET:CE	1.65	0.83
1:A:746:LEU:HD22	1:A:751:ILE:HD11	1.57	0.83
1:B:18:LYS:NZ	1:B:88:GLU:HA	1.93	0.83
1:A:434:ARG:HH12	1:A:623:ASN:ND2	1.75	0.83
3:E:67:ASP:O	3:E:70:ILE:HG12	1.79	0.83
1:B:635:LYS:HB3	1:B:640:LYS:O	1.79	0.83
1:A:810:SER:OG	3:E:102:ALA:O	1.97	0.83
1:B:46:PHE:CD2	1:B:99:PRO:HB3	2.14	0.82
1:B:531:MET:SD	1:B:532:SER:HB3	2.19	0.82

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:714:LEU:HD21	1:B:396:LEU:CG	2.07	0.82
1:A:835:LYS:CE	3:E:165:LYS:NZ	2.39	0.82
1:A:881:LEU:HD12	2:D:180:ASN:ND2	1.94	0.82
3:E:99:ILE:HD12	3:E:159:ILE:HD13	1.59	0.82
1:A:806:GLU:HB3	3:E:105:VAL:CG2	2.09	0.82
1:B:633:LYS:H	1:B:641:GLY:HA3	1.43	0.82
3:F:66:ILE:HG13	3:F:67:ASP:H	1.42	0.82
3:E:80:THR:CB	3:F:40:ARG:HD2	2.08	0.82
1:B:872:GLU:O	1:B:875:GLU:HG2	1.80	0.82
1:A:822:MET:CE	3:E:138:MET:HE1	2.01	0.82
1:B:815:GLN:HA	1:B:818:ILE:HG12	1.62	0.82
1:A:755:GLN:HG2	1:A:769:LEU:HD12	1.60	0.82
1:A:58:LYS:HE2	1:A:70:THR:HB	1.59	0.82
1:B:47:VAL:HG22	1:B:48:LYS:H	1.45	0.81
3:E:59:VAL:HA	3:E:60:ASN:HB2	1.60	0.81
1:B:791:GLN:HE22	2:D:193:MET:HE1	1.19	0.81
1:B:256:GLY:N	2:D:154:ARG:NH2	2.27	0.81
1:B:352:LEU:HD11	1:B:620:LEU:HD12	1.60	0.81
1:A:730:ILE:HB	1:A:734:GLN:HG3	1.63	0.81
1:A:77:MET:SD	1:A:99:PRO:HD3	2.21	0.81
1:A:832:LEU:HA	3:E:164:GLU:HG3	1.62	0.81
1:B:822:MET:CE	3:F:137:GLN:HG3	2.10	0.81
1:A:675:PRO:HA	1:A:684:MET:SD	2.21	0.81
2:D:73:TYR:CE1	2:D:106:THR:HB	2.15	0.81
2:C:54:PHE:CZ	2:C:118:LEU:HD23	2.16	0.81
1:B:418:GLN:HA	1:B:421:ILE:HG12	1.63	0.81
1:A:78:GLN:HG2	1:A:95:PHE:CE1	2.16	0.80
1:A:922:MET:CE	1:B:923:ASN:OD1	2.30	0.80
1:B:351:LYS:HD3	1:B:614:LEU:HD23	1.62	0.80
3:E:8:LYS:HD3	3:F:59:VAL:HA	0.81	0.80
3:E:8:LYS:HG2	3:F:59:VAL:CA	2.11	0.80
1:B:726:ASN:HD22	1:B:744:LYS:HB3	1.45	0.80
1:A:353:THR:O	1:A:356:ILE:HG12	1.81	0.80
1:A:735:PHE:CE2	1:B:379:GLU:OE1	2.34	0.80
2:D:147:THR:HG22	2:D:184:ASN:HD21	1.44	0.80
3:E:27:GLN:HE22	3:F:24:THR:HG22	1.46	0.80
1:A:810:SER:HB2	3:E:105:VAL:HG11	1.63	0.80
1:B:146:LYS:HD2	1:B:774:GLU:HG2	1.63	0.80
2:D:65:PRO:CG	3:F:126:GLN:CD	2.34	0.80
3:E:78:ASN:H	3:E:81:VAL:HG12	1.47	0.80
1:B:151:PRO:HB2	1:B:152:PRO:HD2	1.61	0.80

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:609:TYR:O	1:B:612:SER:HB2	1.82	0.80
1:B:534:LEU:HA	1:B:538:CYS:SG	2.22	0.80
1:B:939:LYS:NZ	1:B:943:LEU:HD21	1.97	0.80
1:B:804:LEU:CD2	2:D:63:ARG:NH1	2.19	0.79
1:A:112:TRP:HE1	1:A:129:LYS:HZ2	1.14	0.79
1:B:45:GLU:CD	1:B:102:LEU:HD21	2.02	0.79
1:A:194:TYR:O	1:A:197:VAL:HG12	1.82	0.79
1:A:834:PHE:HE2	3:E:163:GLU:HA	1.47	0.79
1:A:45:GLU:OE1	1:A:690:MET:HB2	1.82	0.79
1:A:922:MET:HE1	1:B:919:VAL:HG13	1.63	0.79
1:B:260:SER:OG	1:B:449:THR:HB	1.83	0.79
1:B:520:CYS:SG	1:B:579:LEU:HD11	2.22	0.79
1:B:810:SER:OG	3:F:102:ALA:CA	2.31	0.79
3:E:56:LEU:HB3	3:E:165:LYS:HD3	1.64	0.79
1:A:574:GLU:OE2	1:A:591:ILE:HG21	1.83	0.79
3:E:142:PHE:O	3:E:144:PRO:HD3	1.83	0.79
1:B:18:LYS:HD3	1:B:108:ARG:HD2	1.65	0.79
1:B:84:PHE:CD2	1:B:93:LEU:HD13	2.17	0.79
1:B:208:ASP:O	1:B:210:SER:HA	1.82	0.79
3:F:139:PHE:HA	3:F:142:PHE:CD2	2.18	0.79
1:B:190:ARG:HA	1:B:193:GLN:CG	2.14	0.78
1:A:359:PHE:CE1	1:A:384:SER:HB2	2.18	0.78
1:B:17:ARG:HD3	1:B:20:GLU:CB	2.13	0.78
1:B:910:LYS:O	1:B:913:ILE:HG12	1.84	0.78
2:D:134:VAL:HG13	2:D:138:ARG:HH12	1.48	0.78
1:A:289:ILE:HD11	1:A:357:MET:HE3	1.65	0.78
1:B:162:TYR:CZ	1:B:166:LEU:HD11	2.18	0.78
1:A:804:LEU:HA	1:A:807:ARG:HE	1.49	0.78
1:B:45:GLU:OE2	1:B:690:MET:HA	1.83	0.78
1:B:831:LYS:HD2	3:F:163:GLU:OE2	1.82	0.78
1:B:164:TYR:HE1	1:B:762:LYS:HG2	1.46	0.78
1:A:10:GLY:O	1:A:14:PRO:HD3	1.84	0.78
3:F:103:PHE:CD1	3:F:114:LEU:HD22	2.19	0.78
1:A:803:LYS:NZ	3:E:109:GLU:OE1	2.13	0.78
1:B:88:GLU:HG3	1:B:89:ASP:H	1.48	0.78
1:A:690:MET:HG2	1:A:694:ARG:NH1	1.99	0.78
2:C:46:PHE:HD1	2:C:119:GLN:HE21	1.30	0.78
1:A:370:GLU:HB3	1:A:371:GLU:HB2	1.66	0.77
1:B:294:LYS:HE3	1:B:295:PRO:HD2	1.66	0.77
1:A:38:PHE:CE1	1:A:79:GLN:HA	2.20	0.77
1:A:298:LEU:HG	1:A:303:ILE:CG1	2.13	0.77

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:730:ILE:HD12	1:B:745:LEU:HD13	1.65	0.77
1:B:353:THR:O	1:B:356:ILE:HG12	1.85	0.77
1:B:635:LYS:NZ	1:B:650:LEU:HB2	1.99	0.77
3:E:56:LEU:C	3:E:165:LYS:HE2	2.05	0.77
1:B:139:VAL:HG11	1:B:197:VAL:HG13	1.67	0.77
1:B:915:LEU:HD23	1:B:918:LYS:HD3	1.64	0.77
1:B:84:PHE:CE2	1:B:104:ASN:ND2	2.53	0.77
1:A:45:GLU:CD	1:A:690:MET:HB2	2.05	0.77
3:F:152:TYR:CE2	3:F:153:LYS:HG3	2.20	0.77
1:B:160:ASN:HA	1:B:163:GLN:CD	2.05	0.77
1:A:859:LEU:CD1	1:B:860:LYS:N	2.39	0.76
1:A:910:LYS:O	1:A:913:ILE:HG12	1.84	0.76
2:D:87:PRO:HA	2:D:91:GLU:OE1	1.85	0.76
2:D:135:GLU:HG2	2:D:138:ARG:HH22	1.47	0.76
1:A:808:ARG:NH2	2:C:62:ASP:O	2.18	0.76
1:B:387:LEU:O	1:B:617:LEU:HD21	1.84	0.76
1:B:834:PHE:CG	3:F:163:GLU:O	2.38	0.76
3:E:21:PHE:HD2	3:E:26:ILE:HG21	1.51	0.76
1:B:733:GLY:HA2	2:D:138:ARG:NH1	1.98	0.76
1:B:827:TRP:HB3	3:F:58:ARG:HH12	1.49	0.76
3:E:8:LYS:CG	3:F:59:VAL:CA	2.56	0.76
1:A:372:GLN:HA	1:A:420:VAL:HG21	1.67	0.76
1:A:800:GLU:OE2	3:E:108:PRO:CG	2.34	0.76
2:D:114:PHE:CE2	2:D:118:LEU:HD11	2.20	0.76
1:B:746:LEU:HB3	1:B:751:ILE:CD1	2.16	0.76
1:A:33:LEU:HB3	1:A:50:LYS:HZ3	1.50	0.75
1:A:45:GLU:HG2	1:A:102:LEU:HD22	1.66	0.75
1:A:549:LYS:HD3	1:A:575:ALA:HB1	1.67	0.75
1:B:22:GLU:OE1	1:B:87:ILE:HG22	1.85	0.75
1:B:549:LYS:HE2	1:B:553:PHE:CZ	2.20	0.75
1:B:723:ARG:HA	1:B:745:LEU:CD2	2.16	0.75
1:B:826:ASN:HB3	3:F:59:VAL:HB	0.80	0.75
1:B:831:LYS:CD	3:F:163:GLU:OE2	2.33	0.75
1:A:109:TYR:CD1	1:A:125:VAL:HG13	2.21	0.75
2:D:65:PRO:CG	3:F:126:GLN:HE22	1.98	0.75
3:F:94:ASP:O	3:F:99:ILE:HG12	1.85	0.75
2:C:94:ARG:HH22	2:C:124:ASN:ND2	1.84	0.75
1:A:25:GLU:C	1:A:29:ARG:HH12	1.89	0.75
1:B:36:ASP:HB3	1:B:48:LYS:CE	2.16	0.75
1:B:821:PHE:O	1:B:824:VAL:HG12	1.86	0.75
1:B:783:ARG:NH1	2:D:126:ASP:CB	2.40	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:63:THR:HG21	1:B:65:TYR:CE2	2.21	0.75
1:B:303:ILE:HD12	1:B:310:TYR:OH	1.87	0.75
1:B:836:ILE:HG21	3:F:28:GLU:OE1	1.87	0.75
1:A:48:LYS:CE	1:A:79:GLN:HE21	1.98	0.75
1:A:404:VAL:HG13	1:A:411:VAL:HB	1.69	0.75
1:B:427:LEU:HA	1:B:601:LEU:HD11	1.66	0.75
1:B:614:LEU:HB2	1:B:617:LEU:HD22	1.67	0.75
1:B:623:ASN:HA	1:B:637:LYS:CE	2.14	0.75
1:B:746:LEU:HB3	1:B:751:ILE:HD11	1.68	0.75
3:E:32:ALA:O	3:E:35:ILE:HG12	1.86	0.75
1:B:46:PHE:HD2	1:B:99:PRO:HB3	1.52	0.74
1:B:544:THR:HA	1:B:594:LEU:HD11	1.68	0.74
3:E:23:GLN:HG3	3:E:24:THR:HG23	1.68	0.74
3:E:61:VAL:HG23	3:E:66:ILE:HG23	1.68	0.74
1:B:256:GLY:CA	2:D:154:ARG:HH22	1.99	0.74
1:B:569:ILE:HD13	1:B:574:GLU:OE1	1.87	0.74
1:A:38:PHE:CD2	1:A:99:PRO:HB2	2.21	0.74
1:B:36:ASP:HB3	1:B:48:LYS:HZ2	1.51	0.74
3:E:22:GLU:HG2	3:E:25:GLN:HE21	1.52	0.74
3:F:67:ASP:HA	3:F:70:ILE:HG22	1.69	0.74
1:B:390:LEU:HD12	1:B:609:TYR:HA	1.70	0.74
1:B:633:LYS:H	1:B:641:GLY:CA	1.99	0.74
2:D:66:LYS:CE	3:F:126:GLN:CG	2.66	0.74
1:B:601:LEU:HD23	1:B:602:ASN:N	2.02	0.74
1:B:733:GLY:CA	2:D:138:ARG:CZ	2.66	0.74
1:B:832:LEU:HD23	3:F:164:GLU:CG	2.17	0.74
1:A:955:ASP:O	1:A:958:GLU:HG2	1.87	0.74
1:A:428:ALA:HA	1:A:431:VAL:CG1	2.17	0.74
1:B:549:LYS:NZ	1:B:566:PRO:HG3	2.03	0.74
1:B:366:LEU:HD21	1:B:368:GLN:HB3	1.70	0.73
2:C:101:GLN:HB2	2:C:102:GLU:HB2	1.70	0.73
2:D:45:GLU:HA	2:D:119:GLN:NE2	2.03	0.73
3:F:138:MET:HB3	3:F:142:PHE:CE1	2.22	0.73
1:A:804:LEU:HA	1:A:807:ARG:NE	2.03	0.73
2:C:67:CYS:CB	2:C:68:GLU:HA	2.16	0.73
2:D:147:THR:HG22	2:D:184:ASN:ND2	2.04	0.73
1:A:143:ARG:HG3	1:A:198:ILE:HG22	1.70	0.73
1:A:735:PHE:HB2	1:A:737:ASP:O	1.86	0.73
1:B:352:LEU:HD12	1:B:617:LEU:HA	1.70	0.73
1:B:633:LYS:HB2	1:B:642:SER:H	1.54	0.73
1:A:791:GLN:CD	2:C:133:PHE:CZ	2.60	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:139:VAL:HG11	1:B:197:VAL:CG1	2.18	0.73
1:B:785:ILE:O	1:B:788:ILE:HG12	1.87	0.73
1:A:97:HIS:C	1:A:99:PRO:HD2	2.09	0.73
1:A:822:MET:CE	3:E:138:MET:HB3	2.17	0.73
1:B:434:ARG:NH1	1:B:621:PHE:HA	2.03	0.73
1:B:549:LYS:HZ3	1:B:566:PRO:HG3	1.54	0.73
3:E:27:GLN:NE2	3:F:24:THR:CG2	2.47	0.73
1:B:605:VAL:O	1:B:609:TYR:CD1	2.40	0.73
1:B:818:ILE:HD12	3:F:130:PHE:CE2	2.24	0.73
1:A:756:TYR:HE2	1:A:758:PHE:CZ	2.07	0.73
1:A:84:PHE:CD2	1:A:93:LEU:HG	2.24	0.72
1:B:520:CYS:SG	1:B:579:LEU:HD21	2.28	0.72
2:D:98:LYS:HD2	2:D:99:PRO:HD2	1.71	0.72
3:E:24:THR:HB	3:E:161:HIS:NE2	2.03	0.72
1:A:168:ASP:OD1	1:B:397:LYS:CD	2.36	0.72
1:A:735:PHE:HD1	1:A:741:GLY:HA3	1.54	0.72
1:A:798:ARG:CD	2:C:82:ALA:HA	2.18	0.72
1:B:635:LYS:HD2	1:B:645:GLN:O	1.90	0.72
1:B:924:GLU:O	1:B:927:GLU:HG2	1.89	0.72
2:C:114:PHE:CE2	2:C:118:LEU:HD21	2.24	0.72
1:A:217:GLU:O	1:A:220:ILE:HG12	1.89	0.72
1:B:605:VAL:HG22	1:B:609:TYR:CE1	2.23	0.72
2:C:98:LYS:HD3	2:C:106:THR:HG21	1.70	0.72
1:A:222:GLN:HG3	1:A:338:VAL:HG21	1.70	0.72
1:B:723:ARG:HG3	1:B:724:ILE:H	1.52	0.72
3:F:73:ALA:HB2	3:F:85:MET:CE	2.20	0.72
1:A:298:LEU:HG	1:A:303:ILE:HG13	1.72	0.72
1:A:553:PHE:CE1	1:A:566:PRO:HD3	2.24	0.72
1:A:735:PHE:HD2	1:A:738:SER:HA	1.53	0.72
1:A:804:LEU:HD22	1:A:807:ARG:HH21	1.55	0.72
1:A:45:GLU:HG3	1:A:46:PHE:HD1	1.49	0.72
1:A:112:TRP:NE1	1:A:129:LYS:NZ	2.26	0.72
1:A:375:PRO:HG2	1:A:380:GLU:CA	2.18	0.72
1:A:798:ARG:CZ	2:C:82:ALA:O	2.37	0.72
1:A:820:ALA:O	1:A:824:VAL:HG12	1.90	0.72
1:B:827:TRP:CB	3:F:58:ARG:NH1	2.52	0.72
1:B:73:GLU:O	1:B:76:VAL:HG12	1.90	0.72
1:B:96:LEU:HD23	1:B:703:ARG:HG2	1.72	0.72
1:B:277:LEU:HD23	1:B:278:LYS:N	2.05	0.72
1:B:633:LYS:HA	1:B:641:GLY:CA	2.18	0.72
1:B:733:GLY:HA2	2:D:135:GLU:N	2.05	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:65:PRO:CD	3:F:126:GLN:HE22	2.03	0.72
2:D:95:VAL:HB	2:D:117:MET:SD	2.29	0.72
3:F:113:VAL:HG21	3:F:150:LEU:HD12	1.71	0.72
1:B:275:PHE:CE1	1:B:314:SER:HB2	2.24	0.71
1:B:401:HIS:CD2	1:B:414:GLY:HA2	2.25	0.71
1:B:428:ALA:O	1:B:431:VAL:HG12	1.91	0.71
1:B:791:GLN:O	1:B:795:VAL:HG23	1.90	0.71
1:B:218:ASP:O	1:B:221:ILE:HG12	1.90	0.71
2:C:67:CYS:HB3	2:C:68:GLU:HA	1.71	0.71
1:B:721:ARG:HD2	2:D:159:THR:OG1	1.91	0.71
1:B:830:MET:HB3	3:F:166:ASP:O	1.90	0.71
2:C:48:PRO:O	2:C:51:ILE:HG12	1.90	0.71
3:E:53:PHE:HB3	3:E:60:ASN:OD1	1.90	0.71
3:E:106:PHE:CZ	3:E:114:LEU:HD11	2.26	0.71
1:A:389:GLY:C	1:A:390:LEU:HD12	2.11	0.71
1:B:286:PHE:O	1:B:289:ILE:HG12	1.91	0.71
3:F:153:LYS:HA	3:F:156:VAL:CG1	2.17	0.71
1:B:45:GLU:CG	1:B:102:LEU:HD21	2.19	0.71
1:B:826:ASN:HB3	3:F:59:VAL:CG1	2.19	0.71
2:D:66:LYS:HE3	3:F:126:GLN:CG	2.14	0.71
1:A:637:LYS:HG3	1:A:638:ALA:H	1.53	0.71
1:B:639:LYS:CG	1:B:640:LYS:HG3	2.20	0.71
2:D:135:GLU:HA	2:D:138:ARG:CZ	2.21	0.71
1:B:822:MET:HE2	3:F:137:GLN:HG3	1.72	0.71
2:C:87:PRO:HA	2:C:91:GLU:OE1	1.91	0.71
3:E:8:LYS:HD2	3:F:58:ARG:C	2.09	0.71
1:A:18:LYS:HE2	1:A:86:LYS:HD3	1.72	0.71
1:A:751:ILE:HD12	1:A:756:TYR:CE1	2.26	0.71
1:B:427:LEU:HD21	1:B:609:TYR:OH	1.91	0.71
1:A:136:PRO:HD2	1:A:209:GLN:O	1.90	0.70
1:B:848:GLU:O	1:B:852:MET:HG3	1.92	0.70
1:B:709:PHE:CZ	1:B:757:LYS:HG3	2.26	0.70
1:A:855:GLU:HB3	1:B:856:PHE:HE1	1.55	0.70
1:B:723:ARG:NH2	1:B:785:ILE:HG12	2.06	0.70
1:B:810:SER:OG	3:F:102:ALA:CB	2.39	0.70
1:B:633:LYS:N	1:B:641:GLY:HA3	2.06	0.70
1:B:635:LYS:HZ1	1:B:650:LEU:HB2	1.56	0.70
1:B:867:GLU:HA	1:B:871:LYS:HG2	1.72	0.70
1:B:623:ASN:OD1	1:B:624:TYR:HA	1.92	0.70
1:A:872:GLU:O	1:A:875:GLU:HG2	1.92	0.69
1:B:142:TYR:O	1:B:198:ILE:HD12	1.91	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:730:ILE:HD12	1:B:745:LEU:CD1	2.21	0.69
1:A:572:LYS:HB2	1:A:573:PRO:CD	2.21	0.69
1:B:275:PHE:CD1	1:B:314:SER:HB3	2.25	0.69
2:D:131:GLU:HA	2:D:134:VAL:HG12	1.72	0.69
1:B:293:LYS:HZ1	1:B:303:ILE:HB	1.55	0.69
1:B:631:ILE:HB	1:B:641:GLY:CA	2.18	0.69
1:B:635:LYS:HG2	1:B:639:LYS:O	1.91	0.69
1:A:335:ALA:O	1:A:338:VAL:HG22	1.93	0.69
1:A:790:ALA:HB2	2:C:88:THR:HG22	1.74	0.69
1:A:290:LEU:HD23	1:A:303:ILE:HD13	1.74	0.69
1:B:869:ARG:HG3	1:B:870:ARG:H	1.58	0.69
1:B:190:ARG:CA	1:B:193:GLN:HG2	2.20	0.69
1:B:633:LYS:H	1:B:641:GLY:N	1.91	0.69
2:D:66:LYS:HD3	3:F:126:GLN:C	2.12	0.69
3:E:76:PRO:O	3:E:81:VAL:HG11	1.93	0.69
3:F:156:VAL:HG23	3:F:159:ILE:HD11	1.74	0.69
1:B:652:ARG:HA	1:B:652:ARG:HE	1.58	0.69
2:D:66:LYS:CG	3:F:126:GLN:HG2	2.23	0.69
2:D:135:GLU:HA	2:D:138:ARG:NH2	2.07	0.69
1:A:793:ARG:HH21	2:C:162:GLU:HB3	1.57	0.68
1:B:401:HIS:HD2	1:B:414:GLY:HA2	1.58	0.68
2:D:45:GLU:HA	2:D:119:GLN:HE21	1.58	0.68
2:D:65:PRO:HD2	3:F:126:GLN:HE22	1.56	0.68
3:E:13:ALA:HA	3:F:165:LYS:O	1.92	0.68
1:A:46:PHE:CD2	1:A:99:PRO:HB3	2.29	0.68
1:B:52:VAL:HG12	1:B:60:THR:O	1.94	0.68
2:C:44:ILE:HD11	2:C:123:LYS:HG2	1.74	0.68
1:A:735:PHE:CG	1:A:741:GLY:HA3	2.29	0.68
1:A:849:MET:CE	1:B:852:MET:SD	2.81	0.68
3:F:139:PHE:HA	3:F:142:PHE:CE2	2.28	0.68
1:A:714:LEU:HD21	1:B:396:LEU:HD13	1.60	0.68
1:B:826:ASN:OD1	3:E:8:LYS:NZ	2.18	0.68
1:A:84:PHE:CE2	1:A:93:LEU:HA	2.27	0.68
1:A:761:THR:HG21	1:B:374:GLU:HB3	1.75	0.68
1:B:335:ALA:CA	1:B:338:VAL:HG22	2.22	0.68
1:B:716:GLY:HA2	1:B:719:ARG:NH2	2.08	0.68
3:F:67:ASP:HA	3:F:70:ILE:CG2	2.24	0.68
1:B:198:ILE:HD13	1:B:204:ARG:HH21	1.55	0.68
1:A:289:ILE:O	1:A:293:LYS:HE3	1.94	0.68
1:A:804:LEU:HD23	1:A:807:ARG:HE	1.57	0.68
3:E:8:LYS:HD3	3:F:59:VAL:CB	2.24	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:18:LYS:HE2	1:A:86:LYS:HE2	1.75	0.68
1:A:259:ALA:HB1	1:A:450:LYS:HG3	1.75	0.68
1:B:814:ILE:O	1:B:818:ILE:HG23	1.94	0.68
2:C:130:TYR:OH	2:C:186:GLU:HG3	1.94	0.68
3:F:108:PRO:HG2	3:F:109:GLU:OE1	1.94	0.68
1:A:224:ASN:HB3	1:A:225:PRO:HD3	1.76	0.67
1:A:756:TYR:HB3	1:A:769:LEU:HD13	1.74	0.67
1:A:845:ARG:HH22	3:F:23:GLN:HB2	0.59	0.67
1:B:432:TYR:HA	1:B:435:MET:HG2	1.75	0.67
1:B:787:ARG:HH12	2:D:127:THR:HA	1.59	0.67
1:A:286:PHE:O	1:A:289:ILE:HG12	1.94	0.67
1:A:454:GLN:HB3	1:A:455:TYR:HA	1.76	0.67
1:B:286:PHE:CZ	1:B:356:ILE:HG13	2.30	0.67
1:B:335:ALA:HA	1:B:338:VAL:CG2	2.23	0.67
1:B:815:GLN:HE22	2:D:66:LYS:HA	1.60	0.67
1:A:260:SER:OG	1:A:448:GLU:HA	1.95	0.67
1:A:11:ALA:O	1:A:14:PRO:HD2	1.94	0.67
1:B:735:PHE:CB	2:D:138:ARG:NE	2.58	0.67
1:A:564:GLN:NE2	1:A:578:SER:HB3	2.10	0.67
1:B:633:LYS:CB	1:B:642:SER:H	2.07	0.67
1:B:832:LEU:HA	3:F:164:GLU:HG3	1.77	0.67
1:B:89:ASP:HA	1:B:117:TYR:HB2	1.77	0.67
2:C:131:GLU:HA	2:C:134:VAL:HG12	1.77	0.67
2:C:172:LEU:HD21	2:C:188:PHE:CE1	2.30	0.67
1:B:18:LYS:HD2	1:B:108:ARG:HD2	1.75	0.67
1:B:44:GLN:O	1:B:45:GLU:HB2	1.95	0.67
1:B:834:PHE:CE1	3:F:163:GLU:O	2.48	0.67
2:D:66:LYS:CD	3:F:127:ALA:CB	2.64	0.67
1:B:849:MET:HA	1:B:852:MET:HG3	1.76	0.66
2:C:172:LEU:HD21	2:C:188:PHE:CZ	2.30	0.66
1:A:289:ILE:HD11	1:A:357:MET:CE	2.24	0.66
1:A:834:PHE:HE2	3:E:163:GLU:CA	2.07	0.66
1:A:849:MET:HE1	1:B:852:MET:SD	2.35	0.66
1:A:908:LEU:HD11	1:B:908:LEU:O	1.95	0.66
1:B:888:GLN:HA	1:B:891:VAL:HG12	1.77	0.66
2:C:47:THR:HB	2:C:48:PRO:HD2	1.76	0.66
1:A:713:ILE:CG2	1:A:714:LEU:H	2.07	0.66
1:B:38:PHE:HE1	1:B:79:GLN:HA	1.60	0.66
1:B:831:LYS:HD2	3:F:163:GLU:CG	2.03	0.66
2:D:111:PHE:CE2	2:D:115:LEU:HD11	2.30	0.66
1:B:603:GLU:HG3	1:B:604:THR:N	2.06	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:827:TRP:CD2	1:A:828:PRO:HD2	2.30	0.66
1:B:867:GLU:CA	1:B:871:LYS:HG2	2.25	0.66
3:F:160:THR:HG22	3:F:161:HIS:H	1.61	0.66
1:A:908:LEU:HD13	1:B:908:LEU:HB3	1.76	0.66
1:B:77:MET:SD	1:B:99:PRO:HD3	2.35	0.66
1:B:213:LYS:HB3	1:B:214:GLY:HA2	1.78	0.66
1:A:756:TYR:CE2	1:A:758:PHE:CE2	2.84	0.66
1:B:292:ASN:HB3	1:B:329:LEU:HD23	1.78	0.66
2:C:54:PHE:CE2	2:C:118:LEU:HD23	2.30	0.66
2:D:64:THR:HB	2:D:67:CYS:HA	1.78	0.66
1:A:45:GLU:HG2	1:A:102:LEU:HD21	1.77	0.65
1:A:370:GLU:HB2	1:A:372:GLN:H	1.62	0.65
1:B:164:TYR:OH	1:B:762:LYS:HD2	1.95	0.65
1:B:614:LEU:HB3	1:B:617:LEU:HD13	1.77	0.65
1:A:17:ARG:HD3	1:A:151:PRO:CG	2.25	0.65
1:B:88:GLU:HG3	1:B:89:ASP:N	2.10	0.65
1:B:256:GLY:H	2:D:154:ARG:HH22	1.38	0.65
1:B:726:ASN:HD22	1:B:744:LYS:CB	2.09	0.65
1:B:726:ASN:ND2	1:B:745:LEU:HD12	2.12	0.65
1:B:45:GLU:HG2	1:B:102:LEU:HD21	1.78	0.65
1:B:633:LYS:HA	1:B:641:GLY:C	2.17	0.65
3:E:8:LYS:HE2	3:F:60:ASN:HD21	1.62	0.65
1:A:33:LEU:HB3	1:A:50:LYS:HZ1	1.60	0.65
1:B:713:ILE:HG22	1:B:714:LEU:N	2.08	0.65
1:B:18:LYS:HZ1	1:B:88:GLU:HA	1.62	0.65
1:B:164:TYR:CE1	1:B:762:LYS:HG2	2.30	0.65
1:B:417:VAL:HG13	1:B:418:GLN:H	1.61	0.65
1:B:729:ALA:CB	1:B:744:LYS:HE2	2.26	0.65
1:B:808:ARG:HB2	2:D:62:ASP:O	1.96	0.65
1:A:312:PHE:O	1:A:313:ILE:HG12	1.96	0.65
1:A:810:SER:CB	3:E:105:VAL:CG1	2.74	0.65
1:B:143:ARG:NH2	2:D:166:GLU:OE2	2.29	0.65
1:B:162:TYR:OH	1:B:199:ALA:HB1	1.95	0.65
1:B:829:TRP:CD2	3:F:89:LYS:HE2	2.31	0.65
1:A:736:ILE:HG23	1:A:737:ASP:H	1.62	0.65
1:B:549:LYS:HE2	1:B:553:PHE:HE2	1.57	0.65
1:B:634:GLY:O	1:B:635:LYS:HB2	1.94	0.65
2:C:54:PHE:CD1	2:C:83:LEU:HD13	2.31	0.65
1:A:313:ILE:HG13	1:A:314:SER:N	2.12	0.65
1:A:860:LYS:HA	1:B:859:LEU:HD11	1.79	0.65
1:B:38:PHE:HD2	1:B:99:PRO:HB2	1.62	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:146:LYS:HD2	1:B:774:GLU:CG	2.26	0.65
1:B:623:ASN:HB2	1:B:637:LYS:HZ3	1.61	0.65
1:B:635:LYS:HG2	1:B:639:LYS:C	2.17	0.65
3:E:20:MET:HG3	3:E:90:LEU:HD13	1.79	0.65
1:B:849:MET:HA	1:B:852:MET:SD	2.36	0.64
2:C:111:PHE:CE2	2:C:112:GLU:HG3	2.31	0.64
2:D:47:THR:HB	2:D:48:PRO:HD2	1.77	0.64
1:B:158:SER:HB3	1:B:195:PHE:HE1	1.62	0.64
1:B:210:SER:N	1:B:211:PRO:HD2	2.12	0.64
1:B:709:PHE:CE2	1:B:757:LYS:HG3	2.33	0.64
1:B:733:GLY:H	2:D:138:ARG:CZ	2.08	0.64
1:A:84:PHE:HD2	1:A:93:LEU:HG	1.61	0.64
1:A:209:GLN:HB2	1:A:210:SER:HB2	1.78	0.64
1:B:540:PHE:CZ	1:B:913:ILE:HG21	2.32	0.64
1:B:726:ASN:HD21	1:B:730:ILE:HD12	1.63	0.64
1:B:849:MET:SD	1:B:852:MET:SD	2.96	0.64
3:E:100:LEU:CA	3:E:155:LEU:HD23	2.13	0.64
1:A:685:ASP:OD1	1:A:687:PRO:HD2	1.97	0.64
1:B:734:GLN:O	1:B:735:PHE:CD1	2.51	0.64
2:D:61:PHE:CE2	2:D:79:VAL:HB	2.32	0.64
1:A:11:ALA:C	1:A:14:PRO:HD2	2.17	0.64
1:B:390:LEU:CD1	1:B:609:TYR:CD1	2.80	0.64
2:D:46:PHE:CE2	2:D:54:PHE:CE2	2.85	0.64
3:E:33:PHE:HA	3:E:36:MET:HG2	1.79	0.64
1:A:174:ILE:CD1	1:A:668:HIS:HB2	2.27	0.64
1:A:564:GLN:HG3	1:A:578:SER:CB	2.27	0.64
1:B:804:LEU:CD2	2:D:63:ARG:NE	2.60	0.64
1:B:155:PHE:HE1	1:B:193:GLN:HG3	1.63	0.64
1:B:835:LYS:HB3	3:E:16:ASN:HB3	1.79	0.64
1:A:375:PRO:HG2	1:A:380:GLU:HG2	1.80	0.63
1:B:525:GLU:OE1	1:B:656:ASN:HB2	1.97	0.63
1:B:666:HIS:NE2	1:B:762:LYS:NZ	2.45	0.63
1:A:137:GLU:HG3	1:A:208:ASP:O	1.99	0.63
1:B:59:VAL:HG13	1:B:71:VAL:HB	1.80	0.63
1:B:364:PHE:CE2	1:B:375:PRO:HD3	2.34	0.63
1:B:735:PHE:N	2:D:138:ARG:HH21	1.96	0.63
1:B:834:PHE:CD2	1:B:835:LYS:N	2.66	0.63
2:D:54:PHE:CD1	2:D:118:LEU:HD13	2.32	0.63
1:A:18:LYS:HE2	1:A:86:LYS:CE	2.29	0.63
1:A:87:ILE:HG12	1:A:104:ASN:ND2	2.14	0.63
1:A:690:MET:HG2	1:A:694:ARG:HH12	1.61	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:849:MET:SD	1:B:852:MET:CE	2.87	0.63
1:A:856:PHE:CE1	1:B:855:GLU:CB	2.68	0.63
1:B:751:ILE:HG13	1:B:751:ILE:O	1.99	0.63
3:E:8:LYS:CG	3:F:58:ARG:C	2.67	0.63
1:B:85:ASP:OD1	1:B:86:LYS:HG3	1.97	0.63
1:B:526:LYS:O	1:B:530:ILE:HG13	1.98	0.63
1:B:59:VAL:CG1	1:B:71:VAL:HB	2.28	0.63
1:B:289:ILE:HD11	1:B:357:MET:HE1	1.79	0.63
1:B:310:TYR:O	1:B:313:ILE:HG22	1.98	0.63
1:B:336:PHE:CE1	1:B:349:MET:SD	2.92	0.63
2:D:134:VAL:HG22	2:D:138:ARG:HH11	1.63	0.63
3:E:56:LEU:O	3:E:165:LYS:HE2	1.99	0.63
1:A:790:ALA:CB	2:C:88:THR:HG22	2.28	0.63
1:B:815:GLN:HE22	2:D:66:LYS:CB	2.12	0.63
1:A:31:PHE:CE2	1:A:34:LYS:HB2	2.34	0.63
1:A:688:LEU:O	1:A:692:GLN:HG3	1.98	0.63
2:C:73:TYR:CE2	2:C:106:THR:HB	2.33	0.63
3:E:80:THR:HA	3:F:40:ARG:CD	2.28	0.63
1:B:671:ARG:HB3	1:B:671:ARG:HH11	1.64	0.63
1:B:804:LEU:CD1	2:D:75:GLN:NE2	2.56	0.63
1:B:133:VAL:O	1:B:138:VAL:HG11	1.98	0.62
1:B:700:GLU:HG3	1:B:703:ARG:NH2	2.14	0.62
1:B:826:ASN:CB	3:F:59:VAL:CB	2.45	0.62
1:B:48:LYS:NZ	1:B:79:GLN:HB2	2.13	0.62
2:D:85:GLN:O	2:D:87:PRO:HD3	1.99	0.62
1:A:404:VAL:CG1	1:A:411:VAL:HB	2.29	0.62
1:A:574:GLU:OE2	1:A:591:ILE:HD13	1.99	0.62
1:B:217:GLU:O	1:B:221:ILE:HG23	1.99	0.62
1:A:142:TYR:O	1:A:145:LYS:HG2	1.99	0.62
1:A:367:LYS:HD2	1:A:372:GLN:N	2.15	0.62
1:A:788:ILE:HD13	1:A:791:GLN:OE1	1.98	0.62
1:A:849:MET:SD	1:B:852:MET:HE3	2.39	0.62
1:B:298:LEU:HG	1:B:303:ILE:HG22	1.80	0.62
3:F:91:LYS:O	3:F:95:PRO:HD2	1.98	0.62
1:A:209:GLN:HB2	1:A:210:SER:CB	2.30	0.62
1:A:245:GLY:HA3	1:A:266:TYR:HB3	1.81	0.62
1:B:174:ILE:HB	1:B:459:VAL:HG22	1.80	0.62
1:B:815:GLN:HA	1:B:818:ILE:CG1	2.29	0.62
1:A:123:VAL:HA	1:A:671:ARG:O	2.00	0.62
1:B:734:GLN:H	2:D:138:ARG:NH2	1.97	0.62
1:B:815:GLN:HE22	2:D:66:LYS:CA	2.12	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:31:PHE:CD2	1:A:34:LYS:HE3	2.34	0.62
1:A:402:PRO:O	1:A:412:THR:HA	1.99	0.62
1:A:746:LEU:O	1:A:751:ILE:HG12	2.00	0.62
1:A:822:MET:HE3	3:E:138:MET:CE	2.12	0.62
1:A:31:PHE:CE2	1:A:34:LYS:CB	2.83	0.62
1:A:806:GLU:CB	3:E:105:VAL:CG2	2.77	0.62
1:A:922:MET:HE1	1:B:919:VAL:CG1	2.28	0.62
1:B:193:GLN:O	1:B:197:VAL:HG12	2.00	0.62
1:B:484:LYS:HD3	1:B:523:LEU:HA	1.82	0.62
1:B:808:ARG:NH1	2:D:67:CYS:SG	2.72	0.62
1:A:39:VAL:CG1	1:A:49:ALA:HB2	2.30	0.62
1:A:834:PHE:HE2	3:E:163:GLU:N	1.89	0.62
1:B:533:ILE:HG12	1:B:551:LYS:HB2	1.80	0.61
1:B:827:TRP:CD2	1:B:828:PRO:HD2	2.34	0.61
1:B:925:ARG:HA	1:B:928:ASP:OD2	2.00	0.61
1:B:222:GLN:HG3	1:B:338:VAL:HG21	1.81	0.61
1:B:735:PHE:N	2:D:138:ARG:NH2	2.48	0.61
1:B:815:GLN:NE2	2:D:66:LYS:HA	2.14	0.61
1:B:146:LYS:HE3	2:D:160:LEU:HD21	1.81	0.61
1:A:84:PHE:HE2	1:A:93:LEU:HA	1.65	0.61
1:A:579:LEU:HD23	1:A:580:ILE:N	2.16	0.61
1:A:612:SER:HB3	1:A:617:LEU:HD22	1.82	0.61
1:A:675:PRO:CA	1:A:684:MET:SD	2.88	0.61
1:A:731:PRO:HD2	1:A:734:GLN:HB3	1.83	0.61
1:A:168:ASP:OD1	1:B:397:LYS:HD3	1.99	0.61
1:A:262:ASP:HB2	1:A:448:GLU:OE2	2.00	0.61
1:B:48:LYS:HZ3	1:B:79:GLN:HB2	1.66	0.61
1:A:79:GLN:HG2	1:A:80:ASN:O	2.01	0.61
1:A:428:ALA:CA	1:A:431:VAL:HG12	2.27	0.61
1:B:63:THR:HG22	1:B:64:GLU:N	2.15	0.61
1:B:752:ASP:HB2	1:B:769:LEU:CD1	2.31	0.61
1:B:830:MET:HG3	1:B:831:LYS:HG2	1.82	0.61
1:B:929:GLU:HA	1:B:932:MET:HB3	1.83	0.61
3:E:125:THR:O	3:E:129:ARG:CZ	2.49	0.61
1:B:440:VAL:HA	1:B:443:ILE:HG12	1.83	0.61
2:C:148:VAL:HG13	2:C:183:ILE:HG13	1.81	0.61
1:B:491:HIS:O	1:B:495:VAL:HB	2.00	0.61
3:F:120:ARG:HH22	3:F:139:PHE:HE1	1.47	0.61
1:A:53:SER:O	1:A:59:VAL:HG23	2.01	0.60
2:C:175:GLY:HA2	2:C:177:GLU:H	1.65	0.60
1:A:271:SER:N	1:A:272:ARG:HB2	2.15	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:293:LYS:HE3	1:B:298:LEU:HA	1.83	0.60
1:B:347:ASN:OD1	1:B:351:LYS:HE3	2.01	0.60
1:B:65:TYR:CE1	1:B:67:LYS:HE2	2.35	0.60
1:B:168:ASP:OD2	1:B:762:LYS:HG3	2.02	0.60
1:B:870:ARG:HB3	1:B:871:LYS:HE2	1.81	0.60
3:E:142:PHE:CD2	3:E:144:PRO:HB3	2.37	0.60
1:A:417:VAL:HG23	1:A:418:GLN:H	1.66	0.60
1:A:791:GLN:HE22	2:C:193:MET:HE1	0.77	0.60
1:B:418:GLN:HA	1:B:421:ILE:CG1	2.31	0.60
3:F:73:ALA:HB2	3:F:85:MET:HE3	1.83	0.60
1:A:18:LYS:HG3	1:A:113:MET:SD	2.42	0.60
1:A:46:PHE:CE1	1:A:690:MET:SD	2.94	0.60
1:A:836:ILE:HG12	3:E:164:GLU:OE2	2.01	0.60
1:A:855:GLU:CB	1:B:856:PHE:HE1	2.13	0.60
1:B:48:LYS:HD3	1:B:79:GLN:OE1	2.01	0.60
1:B:292:ASN:HB3	1:B:329:LEU:CD2	2.31	0.60
1:B:724:ILE:O	1:B:727:PRO:HD3	2.01	0.60
2:D:100:ARG:HG2	2:D:106:THR:OG1	2.01	0.60
3:F:88:GLU:HA	3:F:91:LYS:HB3	1.82	0.60
1:A:810:SER:OG	3:E:102:ALA:HA	2.01	0.60
1:A:822:MET:HE3	3:E:138:MET:HB3	1.83	0.60
1:B:762:LYS:HE2	1:B:764:PHE:CZ	2.36	0.60
1:B:803:LYS:NZ	3:F:107:ASP:C	2.55	0.60
1:B:896:ASP:HA	1:B:899:ALA:HB3	1.81	0.60
2:C:93:LEU:HD21	2:C:101:GLN:HG3	1.84	0.60
1:B:190:ARG:HA	1:B:193:GLN:CD	2.22	0.60
1:B:632:GLU:O	1:B:632:GLU:CD	2.40	0.60
1:B:735:PHE:CB	2:D:138:ARG:HE	2.14	0.60
3:E:80:THR:OG1	3:F:40:ARG:HD2	2.00	0.60
1:B:45:GLU:OE2	1:B:690:MET:HG3	2.02	0.60
1:B:84:PHE:HD2	1:B:93:LEU:HD13	1.66	0.60
2:D:131:GLU:O	2:D:134:VAL:HG12	2.02	0.60
1:A:608:LEU:O	1:A:608:LEU:HD23	2.02	0.60
1:A:716:GLY:C	1:B:392:SER:OG	2.40	0.60
1:B:277:LEU:HD23	1:B:278:LYS:H	1.64	0.60
1:B:834:PHE:CE1	3:F:163:GLU:C	2.75	0.60
1:A:735:PHE:HD2	1:B:379:GLU:OE2	1.81	0.59
1:A:756:TYR:HE2	1:A:758:PHE:CE2	2.19	0.59
1:A:805:LEU:CD1	2:C:60:LEU:HD13	2.32	0.59
1:B:289:ILE:HG13	1:B:290:LEU:HD12	1.84	0.59
1:B:534:LEU:CA	1:B:538:CYS:SG	2.90	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:709:PHE:CZ	1:B:757:LYS:CG	2.85	0.59
1:B:781:LEU:HD13	1:B:785:ILE:CD1	2.30	0.59
1:A:772:LEU:O	1:A:776:MET:HG3	2.02	0.59
1:A:24:LEU:C	1:A:29:ARG:HH22	2.05	0.59
1:A:112:TRP:HE1	1:A:129:LYS:HZ3	1.50	0.59
1:B:155:PHE:CZ	1:B:193:GLN:NE2	2.65	0.59
1:B:201:ILE:HG23	1:B:257:LYS:HD3	1.83	0.59
1:B:585:ILE:HG13	1:B:585:ILE:O	2.01	0.59
1:B:827:TRP:HB2	3:F:58:ARG:CZ	2.33	0.59
1:A:25:GLU:C	1:A:29:ARG:NH1	2.55	0.59
1:A:451:GLN:HB2	1:A:452:PRO:HD2	1.84	0.59
1:A:775:GLU:O	1:A:779:GLU:HG3	2.02	0.59
1:A:784:ILE:CD1	2:C:140:PHE:CE2	2.82	0.59
1:B:827:TRP:H	3:F:58:ARG:HG2	1.68	0.59
3:F:150:LEU:HG	3:F:152:TYR:CE1	2.37	0.59
1:A:714:LEU:CG	1:B:396:LEU:CD1	2.75	0.59
1:B:234:LYS:HG3	1:B:239:ASP:HA	1.84	0.59
1:B:835:LYS:O	1:B:835:LYS:HD2	2.02	0.59
1:A:78:GLN:HG2	1:A:95:PHE:CD1	2.37	0.59
1:A:293:LYS:HD2	1:A:303:ILE:HD11	1.85	0.59
1:B:565:LYS:HB2	1:B:566:PRO:HD2	1.85	0.59
1:B:918:LYS:O	1:B:922:MET:HG3	2.03	0.59
1:A:69:VAL:HG22	1:A:71:VAL:HG13	1.84	0.59
1:A:735:PHE:CA	1:A:736:ILE:HG22	2.15	0.59
1:A:778:ASP:HA	1:A:781:LEU:HB2	1.85	0.59
1:B:17:ARG:HG2	1:B:18:LYS:N	2.18	0.59
1:B:623:ASN:CA	1:B:637:LYS:HE2	2.21	0.59
1:B:632:GLU:O	1:B:633:LYS:HG2	2.03	0.59
1:A:362:MET:HG3	1:A:421:ILE:HG22	1.83	0.59
1:B:13:ALA:HB1	1:B:14:PRO:HD2	1.85	0.59
1:B:734:GLN:C	1:B:735:PHE:CD1	2.76	0.59
3:F:145:ASP:HB3	3:F:150:LEU:CD1	2.32	0.59
1:A:290:LEU:HD23	1:A:303:ILE:CD1	2.33	0.59
1:B:449:THR:OG1	1:B:452:PRO:HG2	2.03	0.59
1:B:815:GLN:O	1:B:818:ILE:HG12	2.03	0.59
1:B:866:SER:HA	1:B:869:ARG:HH12	1.68	0.59
1:A:355:ALA:O	1:A:359:PHE:CD1	2.56	0.58
1:B:624:TYR:CE2	1:B:626:GLY:HA2	2.38	0.58
1:B:735:PHE:H	2:D:138:ARG:HH21	1.51	0.58
1:B:109:TYR:CD1	1:B:125:VAL:HG13	2.38	0.58
1:B:221:ILE:HG13	1:B:222:GLN:N	2.18	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:730:ILE:HG23	1:B:736:ILE:HD13	1.85	0.58
1:B:868:ALA:O	1:B:872:GLU:HG3	2.03	0.58
1:A:275:PHE:CD1	1:A:421:ILE:HD12	2.38	0.58
1:A:471:ASN:HB2	1:A:587:ASP:O	2.03	0.58
1:B:431:VAL:HG22	1:B:435:MET:HE2	1.85	0.58
3:E:17:VAL:HG23	3:E:18:PHE:H	1.68	0.58
3:E:27:GLN:HE22	3:F:24:THR:CG2	2.13	0.58
3:F:145:ASP:H	3:F:150:LEU:HD13	1.67	0.58
1:A:18:LYS:HD2	1:A:113:MET:CE	2.33	0.58
1:B:347:ASN:O	1:B:351:LYS:HG3	2.02	0.58
1:B:418:GLN:CA	1:B:421:ILE:HG12	2.33	0.58
1:B:435:MET:HA	1:B:620:LEU:HD22	1.85	0.58
1:B:863:LEU:O	1:B:867:GLU:HG2	2.04	0.58
1:A:18:LYS:HE2	1:A:86:LYS:CD	2.33	0.58
1:A:190:ARG:O	1:A:193:GLN:HG2	2.02	0.58
1:B:115:TYR:HA	1:B:124:THR:HG22	1.85	0.58
1:B:160:ASN:HA	1:B:163:GLN:CG	2.34	0.58
1:B:791:GLN:CD	2:D:193:MET:CE	2.50	0.58
1:B:160:ASN:HD21	1:B:711:ASN:CA	2.07	0.58
1:B:298:LEU:HG	1:B:303:ILE:HG23	1.85	0.58
1:B:788:ILE:HG13	1:B:789:GLN:N	2.18	0.58
3:F:39:ASN:HB2	3:F:43:PHE:HB2	1.85	0.58
1:A:804:LEU:CD2	1:A:807:ARG:HE	2.17	0.58
1:A:834:PHE:CE2	3:E:163:GLU:CA	2.81	0.58
1:B:109:TYR:CB	1:B:125:VAL:HG11	2.28	0.58
1:B:944:GLU:HA	1:B:947:CYS:SG	2.43	0.58
1:B:352:LEU:CD1	1:B:617:LEU:HA	2.33	0.58
3:E:115:LYS:HD3	3:E:118:TYR:CE1	2.39	0.58
1:A:849:MET:HE3	1:B:852:MET:SD	2.44	0.58
1:B:165:MET:SD	1:B:457:ILE:HD11	2.43	0.58
1:B:194:TYR:HD2	1:B:195:PHE:CD1	2.21	0.58
3:E:21:PHE:HB2	3:F:31:GLU:HG2	1.86	0.58
1:A:950:LEU:HD11	1:B:951:LYS:CE	2.33	0.57
1:B:802:LYS:HA	1:B:805:LEU:HD12	1.86	0.57
1:B:898:LEU:O	1:B:902:GLU:HG2	2.03	0.57
1:B:901:ALA:HA	1:B:904:ARG:HB2	1.86	0.57
1:B:955:ASP:O	1:B:958:GLU:HG2	2.03	0.57
3:E:80:THR:CG2	3:F:40:ARG:CD	2.58	0.57
1:A:389:GLY:O	1:A:390:LEU:HD12	2.03	0.57
1:B:84:PHE:HE1	1:B:87:ILE:HD11	1.62	0.57
1:B:549:LYS:HG2	1:B:553:PHE:CZ	2.39	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:E:164:GLU:CG	3:E:165:LYS:HA	2.29	0.57
1:A:48:LYS:HE3	1:A:79:GLN:HE21	1.68	0.57
1:A:791:GLN:CD	2:C:133:PHE:HZ	2.04	0.57
1:B:294:LYS:HB3	1:B:295:PRO:HD2	1.86	0.57
1:B:810:SER:HG	3:F:102:ALA:HB2	1.69	0.57
1:A:860:LYS:N	1:B:859:LEU:CD1	2.58	0.57
1:B:522:ASP:HB3	1:B:527:PRO:HB2	1.86	0.57
1:A:898:LEU:HD11	1:B:897:ASN:OD1	2.04	0.57
1:B:336:PHE:CZ	1:B:349:MET:HE1	2.40	0.57
1:B:788:ILE:HG22	2:D:133:PHE:CE2	2.39	0.57
3:E:108:PRO:HG2	3:E:109:GLU:OE1	2.04	0.57
1:A:39:VAL:HG12	1:A:49:ALA:HB2	1.86	0.57
1:B:198:ILE:HA	1:B:204:ARG:HH21	1.69	0.57
1:B:421:ILE:HG13	1:B:422:TYR:N	2.19	0.57
2:D:114:PHE:CZ	2:D:118:LEU:HD11	2.39	0.57
1:A:684:MET:CE	1:A:689:VAL:HG22	2.34	0.57
1:A:810:SER:CB	3:E:105:VAL:HG13	2.35	0.57
1:A:831:LYS:O	3:E:164:GLU:HA	2.05	0.57
3:E:142:PHE:CE2	3:E:144:PRO:HB3	2.39	0.57
1:A:46:PHE:HE1	1:A:690:MET:SD	2.27	0.57
1:A:90:MET:HA	1:A:93:LEU:HD13	1.85	0.57
1:A:710:PRO:HD2	1:A:766:LYS:HA	1.87	0.57
1:B:275:PHE:CD1	1:B:314:SER:CB	2.87	0.57
1:B:635:LYS:CB	1:B:640:LYS:H	2.18	0.57
1:B:810:SER:OG	3:F:102:ALA:HB2	2.04	0.57
1:A:735:PHE:O	1:B:379:GLU:OE2	2.23	0.57
3:F:102:ALA:O	3:F:105:VAL:HG12	2.04	0.57
1:B:633:LYS:N	1:B:641:GLY:CA	2.67	0.57
1:B:815:GLN:HA	1:B:818:ILE:CD1	2.34	0.57
1:A:815:GLN:CD	3:E:127:ALA:HB3	2.23	0.56
1:B:826:ASN:CB	3:F:58:ARG:HG3	2.16	0.56
3:E:77:ILE:HA	3:E:81:VAL:CG1	2.34	0.56
3:E:116:ALA:HA	3:E:119:VAL:HG12	1.86	0.56
1:A:29:ARG:HB2	1:A:30:PRO:HD3	1.86	0.56
1:A:367:LYS:HD2	1:A:372:GLN:O	2.05	0.56
1:A:390:LEU:CD2	1:A:609:TYR:CE2	2.88	0.56
1:A:549:LYS:HG2	1:A:553:PHE:HE2	1.70	0.56
1:B:36:ASP:HB3	1:B:48:LYS:HE3	1.86	0.56
1:B:562:ASN:OD1	1:B:580:ILE:HG21	2.05	0.56
2:D:73:TYR:HB2	2:D:96:LEU:CD1	2.35	0.56
1:A:213:LYS:HE2	1:A:221:ILE:HD11	1.86	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:286:PHE:CE1	1:A:356:ILE:HG13	2.39	0.56
1:A:438:TRP:O	1:A:442:ARG:HG2	2.05	0.56
1:B:496:LEU:HA	1:B:499:GLU:HB2	1.87	0.56
1:B:623:ASN:CB	1:B:637:LYS:HZ3	2.17	0.56
1:B:635:LYS:HZ1	1:B:650:LEU:CB	2.18	0.56
1:B:733:GLY:CA	2:D:135:GLU:N	2.67	0.56
1:B:827:TRP:CA	3:F:58:ARG:NH1	2.68	0.56
3:E:8:LYS:HD3	3:F:60:ASN:ND2	2.20	0.56
3:F:21:PHE:C	3:F:22:GLU:HG2	2.26	0.56
1:A:352:LEU:HD21	1:A:431:VAL:CG2	2.36	0.56
1:A:390:LEU:HD23	1:A:608:LEU:HD22	1.87	0.56
1:A:765:PHE:CD1	1:A:769:LEU:HD22	2.41	0.56
1:B:277:LEU:HD23	1:B:278:LYS:CB	2.34	0.56
1:B:835:LYS:O	1:B:838:PRO:HD2	2.04	0.56
3:E:8:LYS:CD	3:F:58:ARG:C	2.71	0.56
1:B:259:ALA:O	1:B:260:SER:HB3	2.06	0.56
1:B:391:ASN:HB3	1:B:394:ASP:HB2	1.87	0.56
1:B:569:ILE:HG22	1:B:569:ILE:O	2.06	0.56
1:B:549:LYS:CE	1:B:553:PHE:CZ	2.89	0.56
1:B:713:ILE:O	1:B:762:LYS:HA	2.06	0.56
2:D:78:ASP:HA	2:D:81:ARG:HD2	1.87	0.56
3:E:8:LYS:CD	3:F:60:ASN:ND2	2.69	0.56
1:A:426:ALA:O	1:A:429:LYS:HB3	2.06	0.56
1:A:595:GLN:HG2	1:A:600:PRO:HB3	1.88	0.56
1:A:859:LEU:C	1:B:859:LEU:HD11	2.26	0.56
1:B:335:ALA:C	1:B:338:VAL:HG22	2.26	0.56
1:B:635:LYS:HZ2	1:B:647:VAL:CA	2.14	0.56
1:B:719:ARG:HB3	2:D:139:VAL:HG12	1.86	0.56
1:B:815:GLN:NE2	2:D:66:LYS:CA	2.69	0.56
3:E:33:PHE:O	3:E:36:MET:HG2	2.05	0.56
3:E:59:VAL:HA	3:E:60:ASN:CB	2.35	0.56
3:F:73:ALA:HB2	3:F:85:MET:HE2	1.87	0.56
1:A:46:PHE:HE2	1:A:77:MET:SD	2.29	0.56
1:A:675:PRO:HA	1:A:684:MET:CE	2.36	0.56
1:A:711:ASN:HB2	1:A:765:PHE:HB2	1.86	0.56
1:A:784:ILE:HG21	2:C:140:PHE:CE2	2.40	0.56
1:B:822:MET:HE1	3:F:137:GLN:HG3	1.86	0.56
1:A:160:ASN:O	1:A:164:TYR:CD1	2.58	0.56
1:B:351:LYS:HD3	1:B:614:LEU:CD2	2.34	0.56
3:E:8:LYS:HG2	3:F:58:ARG:C	2.26	0.56
1:A:859:LEU:CD1	1:B:859:LEU:C	2.73	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:84:PHE:CD2	1:B:104:ASN:ND2	2.74	0.56
1:B:569:ILE:CG2	1:B:574:GLU:H	2.19	0.56
1:B:787:ARG:O	1:B:791:GLN:HG3	2.06	0.56
1:B:789:GLN:O	1:B:793:ARG:HG2	2.06	0.56
2:D:115:LEU:HB2	2:D:116:PRO:HD3	1.87	0.56
3:F:94:ASP:HB3	3:F:98:THR:OG1	2.06	0.56
1:A:134:TYR:CE1	1:A:190:ARG:HD3	2.40	0.55
1:B:418:GLN:HA	1:B:421:ILE:CD1	2.35	0.55
1:B:451:GLN:N	1:B:452:PRO:HD3	2.21	0.55
1:B:633:LYS:HA	1:B:642:SER:N	2.21	0.55
1:B:813:VAL:HA	1:B:816:TRP:HD1	1.71	0.55
2:D:61:PHE:HE2	2:D:79:VAL:HB	1.70	0.55
2:D:155:HIS:NE2	2:D:159:THR:HG21	2.20	0.55
1:B:45:GLU:HG2	1:B:46:PHE:CD1	2.41	0.55
1:B:293:LYS:CG	1:B:297:LEU:HB2	2.36	0.55
1:B:304:THR:HG21	1:B:309:ASP:OD2	2.05	0.55
1:B:234:LYS:HB3	1:B:281:ARG:HB2	1.89	0.55
1:B:275:PHE:CE1	1:B:314:SER:CB	2.89	0.55
2:D:73:TYR:HB2	2:D:96:LEU:HD13	1.88	0.55
1:A:98:GLU:N	1:A:99:PRO:HD2	2.22	0.55
1:A:887:LEU:O	1:A:891:VAL:HG23	2.06	0.55
1:B:815:GLN:CA	1:B:818:ILE:HG12	2.34	0.55
3:F:138:MET:HB3	3:F:142:PHE:CZ	2.40	0.55
1:B:255:THR:C	2:D:154:ARG:HH12	2.10	0.55
1:B:434:ARG:HH12	1:B:621:PHE:HA	1.67	0.55
1:B:733:GLY:CA	2:D:134:VAL:CG1	2.74	0.55
1:A:320:VAL:HG12	1:A:323:ILE:HG22	1.89	0.55
1:A:434:ARG:NH1	1:A:623:ASN:HD22	1.96	0.55
1:A:472:SER:HB2	1:A:596:LYS:HZ3	1.72	0.55
1:A:827:TRP:O	3:E:166:ASP:OD2	2.24	0.55
1:B:33:LEU:HA	1:B:34:LYS:HB2	1.89	0.55
1:B:791:GLN:NE2	2:D:193:MET:SD	2.77	0.55
3:E:65:GLU:O	3:E:68:GLU:HG2	2.06	0.55
3:F:49:LEU:HD11	3:F:70:ILE:HD13	1.88	0.55
1:A:124:THR:O	1:A:672:CYS:HA	2.07	0.55
1:A:765:PHE:HD1	1:A:769:LEU:HD22	1.71	0.55
1:B:38:PHE:CD2	1:B:99:PRO:HG2	2.42	0.55
1:B:236:VAL:HG22	1:B:278:LYS:O	2.07	0.55
1:B:849:MET:HA	1:B:852:MET:CG	2.36	0.55
3:E:58:ARG:HG3	3:E:58:ARG:O	2.07	0.55
1:A:18:LYS:CD	1:A:86:LYS:HD3	2.37	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:292:ASN:ND2	1:A:326:ALA:HA	2.22	0.55
1:B:16:LEU:HD23	1:B:133:VAL:HG23	1.89	0.55
1:B:732:GLU:HG2	2:D:132:ASP:O	2.07	0.55
1:B:827:TRP:N	3:F:58:ARG:HG2	2.21	0.55
1:A:306:ASN:HB3	1:A:309:ASP:CG	2.26	0.55
1:A:746:LEU:CD2	1:A:751:ILE:HD11	2.33	0.55
1:A:808:ARG:CZ	2:C:63:ARG:CA	2.75	0.55
1:A:900:ASP:HB3	1:B:526:LYS:HD3	1.88	0.55
1:B:217:GLU:HA	1:B:220:ILE:CD1	2.37	0.55
1:B:247:PHE:O	1:B:263:ILE:HA	2.07	0.55
1:B:418:GLN:O	1:B:421:ILE:HG12	2.07	0.55
1:B:633:LYS:CB	1:B:642:SER:N	2.70	0.55
2:D:154:ARG:HB2	2:D:169:VAL:HG11	1.87	0.55
3:E:78:ASN:H	3:E:81:VAL:CG1	2.16	0.55
1:B:355:ALA:O	1:B:359:PHE:CD2	2.60	0.55
1:B:752:ASP:HB2	1:B:769:LEU:HD11	1.87	0.55
2:C:147:THR:HG22	2:C:184:ASN:HD21	1.70	0.55
1:A:424:THR:C	1:A:426:ALA:HB3	2.27	0.54
1:A:787:ARG:NH1	2:C:126:ASP:OD1	2.40	0.54
1:B:804:LEU:HD11	2:D:75:GLN:HE22	1.67	0.54
3:F:120:ARG:NH2	3:F:139:PHE:CE1	2.74	0.54
1:A:87:ILE:HG12	1:A:104:ASN:CG	2.27	0.54
1:B:283:TYR:CE2	1:B:432:TYR:CE2	2.96	0.54
1:B:390:LEU:HD13	1:B:609:TYR:CD1	2.42	0.54
1:B:526:LYS:HB3	1:B:527:PRO:HD3	1.88	0.54
1:B:725:LEU:HG	1:B:781:LEU:HD21	1.89	0.54
2:D:100:ARG:HD2	2:D:103:GLU:OE1	2.07	0.54
1:A:73:GLU:O	1:A:76:VAL:HG12	2.07	0.54
1:A:218:ASP:O	1:A:222:GLN:HG2	2.07	0.54
1:B:114:ILE:H	1:B:114:ILE:HD12	1.72	0.54
1:B:173:SER:O	1:B:668:HIS:HB2	2.08	0.54
1:B:233:ALA:HB1	1:B:281:ARG:O	2.08	0.54
3:E:118:TYR:O	3:E:122:MET:HG2	2.08	0.54
1:B:33:LEU:O	1:B:33:LEU:HD23	2.07	0.54
1:B:183:GLY:O	1:B:186:VAL:HG12	2.07	0.54
1:A:370:GLU:CB	1:A:372:GLN:H	2.21	0.54
1:B:61:ALA:O	1:B:69:VAL:HG12	2.07	0.54
1:A:549:LYS:CD	1:A:575:ALA:HB1	2.37	0.54
1:B:45:GLU:OE2	1:B:102:LEU:HD11	2.07	0.54
1:B:348:SER:HA	1:B:351:LYS:HD2	1.90	0.54
1:B:352:LEU:HD12	1:B:617:LEU:HG	1.90	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:603:GLU:CG	1:B:604:THR:H	2.10	0.54
2:C:141:ASP:HB2	2:C:185:TYR:HE2	1.72	0.54
1:A:367:LYS:HE2	1:A:370:GLU:CB	2.24	0.54
1:A:835:LYS:HB2	3:E:164:GLU:HB3	1.90	0.54
1:B:483:GLU:HG2	1:B:521:ILE:HG12	1.89	0.54
1:B:787:ARG:NH1	2:D:127:THR:HA	2.23	0.54
1:A:39:VAL:HB	1:A:49:ALA:HB2	1.90	0.54
1:B:160:ASN:HA	1:B:163:GLN:HG2	1.89	0.54
2:C:46:PHE:HD1	2:C:119:GLN:NE2	2.02	0.54
2:C:118:LEU:N	2:C:118:LEU:HD12	2.23	0.54
1:A:38:PHE:CE2	1:A:99:PRO:HB2	2.43	0.54
1:A:709:PHE:HB3	1:A:764:PHE:HB3	1.89	0.54
1:A:805:LEU:HD13	2:C:60:LEU:HD13	1.89	0.54
1:B:115:TYR:CD2	1:B:124:THR:HG21	2.43	0.54
1:B:124:THR:OG1	1:B:672:CYS:SG	2.66	0.54
1:B:147:ARG:HG2	1:B:150:ALA:HB3	1.89	0.54
1:B:147:ARG:HH11	1:B:160:ASN:HD22	1.56	0.54
2:D:109:MET:CE	2:D:113:THR:HB	2.37	0.54
1:A:390:LEU:HD22	1:A:609:TYR:CE2	2.42	0.54
1:B:249:ARG:HA	1:B:457:ILE:O	2.08	0.54
2:C:154:ARG:HG3	2:C:169:VAL:HG11	1.90	0.54
2:D:46:PHE:CD2	2:D:54:PHE:CE2	2.96	0.54
3:F:142:PHE:O	3:F:144:PRO:HD3	2.08	0.54
3:F:152:TYR:CD2	3:F:153:LYS:HG3	2.43	0.54
1:A:133:VAL:HG22	1:A:153:HIS:CE1	2.43	0.53
1:A:316:GLY:O	1:A:364:PHE:HB3	2.08	0.53
2:C:134:VAL:O	2:C:138:ARG:HG2	2.08	0.53
2:D:134:VAL:O	2:D:138:ARG:HG3	2.09	0.53
1:A:213:LYS:HE2	1:A:221:ILE:CD1	2.38	0.53
1:A:810:SER:HB2	3:E:105:VAL:HG13	1.86	0.53
1:A:841:LYS:HG2	1:A:842:SER:H	1.73	0.53
1:B:141:ALA:O	1:B:145:LYS:HD3	2.08	0.53
1:B:417:VAL:HG13	1:B:418:GLN:N	2.22	0.53
1:B:788:ILE:HG22	2:D:133:PHE:CD2	2.43	0.53
1:B:870:ARG:HB3	1:B:871:LYS:HD3	1.89	0.53
2:D:151:ALA:O	2:D:154:ARG:HG2	2.08	0.53
3:E:21:PHE:CA	3:E:26:ILE:HG13	2.38	0.53
1:A:872:GLU:HG2	1:A:875:GLU:OE2	2.09	0.53
1:A:882:GLN:NE2	1:B:454:GLN:HB3	2.23	0.53
1:B:172:GLN:NE2	1:B:666:HIS:HB2	2.23	0.53
3:E:8:LYS:HG2	3:F:59:VAL:C	2.28	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:67:LYS:HG2	1:A:68:THR:N	2.19	0.53
2:C:46:PHE:HA	2:C:50:GLN:OE1	2.08	0.53
3:E:96:GLU:HA	3:E:159:ILE:CD1	2.38	0.53
1:B:176:ILE:HG12	1:B:670:VAL:HB	1.91	0.53
1:B:289:ILE:HD11	1:B:357:MET:CE	2.38	0.53
1:B:415:GLN:HB2	1:B:420:VAL:HG22	1.90	0.53
1:B:808:ARG:NH1	2:D:62:ASP:OD2	2.40	0.53
1:B:931:GLU:O	1:B:935:GLU:HG3	2.09	0.53
2:C:46:PHE:CD1	2:C:119:GLN:NE2	2.76	0.53
1:A:18:LYS:CE	1:A:86:LYS:HD3	2.38	0.53
1:A:798:ARG:NH1	2:C:82:ALA:O	2.41	0.53
1:B:77:MET:SD	1:B:99:PRO:CD	2.97	0.53
1:B:827:TRP:NE1	1:B:828:PRO:HD2	2.22	0.53
1:A:190:ARG:HA	1:A:193:GLN:HG2	1.91	0.53
1:A:451:GLN:CB	1:A:452:PRO:HD2	2.39	0.53
1:B:173:SER:HA	1:B:458:GLY:O	2.09	0.53
1:B:781:LEU:CD1	1:B:785:ILE:HD12	2.35	0.53
3:E:8:LYS:HD2	3:F:59:VAL:CA	2.31	0.53
3:F:145:ASP:HB3	3:F:150:LEU:CD2	2.38	0.53
1:A:631:ILE:HD11	1:A:639:LYS:CB	2.34	0.53
1:A:657:LYS:HG2	1:A:661:ASN:ND2	2.24	0.53
1:A:950:LEU:HD11	1:B:951:LYS:HE3	1.91	0.53
1:B:147:ARG:NH1	1:B:160:ASN:HB2	2.24	0.53
1:B:826:ASN:CB	3:F:59:VAL:CG1	2.85	0.53
2:D:96:LEU:HG	2:D:98:LYS:O	2.09	0.53
1:A:44:GLN:O	1:A:45:GLU:HB3	2.09	0.53
1:A:883:GLU:HA	1:A:886:ASP:HB2	1.90	0.53
1:B:155:PHE:CE1	1:B:193:GLN:HG3	2.44	0.53
1:A:93:LEU:N	1:A:93:LEU:HD12	2.24	0.53
1:A:425:GLY:N	1:A:426:ALA:HB3	2.24	0.53
1:B:209:GLN:O	1:B:209:GLN:HG2	2.09	0.53
3:F:142:PHE:C	3:F:144:PRO:HD3	2.30	0.53
3:F:155:LEU:O	3:F:158:ILE:HG13	2.09	0.53
1:A:146:LYS:NZ	1:A:775:GLU:CA	2.72	0.52
1:A:713:ILE:O	1:A:762:LYS:HD2	2.09	0.52
1:A:735:PHE:CE2	1:B:379:GLU:CD	2.83	0.52
1:B:55:GLU:OE1	1:B:58:LYS:HB3	2.09	0.52
1:B:439:MET:O	1:B:443:ILE:HG23	2.09	0.52
3:F:150:LEU:HG	3:F:152:TYR:HE1	1.73	0.52
1:A:146:LYS:HZ1	1:A:775:GLU:HA	1.73	0.52
1:A:549:LYS:HG3	1:A:590:ILE:HD12	1.91	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:251:HIS:ND1	1:B:456:PHE:HB3	2.24	0.52
1:B:533:ILE:HD12	1:B:533:ILE:N	2.25	0.52
1:B:633:LYS:N	1:B:641:GLY:N	2.57	0.52
1:B:686:ASN:HB2	1:B:687:PRO:HD3	1.90	0.52
1:B:726:ASN:HD21	1:B:730:ILE:CD1	2.21	0.52
2:D:76:CYS:HA	2:D:79:VAL:HG12	1.91	0.52
1:A:298:LEU:HG	1:A:303:ILE:HD11	1.91	0.52
1:A:346:LYS:O	1:A:349:MET:HG2	2.08	0.52
1:B:135:THR:OG1	1:B:136:PRO:HD2	2.08	0.52
1:B:828:PRO:HG2	1:B:829:TRP:H	1.74	0.52
2:C:101:GLN:CB	2:C:102:GLU:HB2	2.38	0.52
1:A:235:THR:O	1:A:239:ASP:HA	2.08	0.52
1:A:298:LEU:HG	1:A:303:ILE:CD1	2.39	0.52
1:B:286:PHE:O	1:B:290:LEU:HD13	2.09	0.52
1:B:566:PRO:HB3	1:B:576:HIS:O	2.10	0.52
1:A:48:LYS:HE2	1:A:79:GLN:HE21	1.73	0.52
1:B:714:LEU:HD23	1:B:716:GLY:N	2.25	0.52
1:B:84:PHE:HE2	1:B:104:ASN:ND2	2.07	0.52
1:B:290:LEU:HG	1:B:303:ILE:CD1	2.30	0.52
1:B:633:LYS:CA	1:B:641:GLY:CA	2.87	0.52
1:B:732:GLU:CG	2:D:132:ASP:O	2.58	0.52
1:A:756:TYR:HB3	1:A:769:LEU:CD1	2.39	0.52
1:B:517:LEU:O	1:B:520:CYS:HB3	2.09	0.52
1:B:913:ILE:HG13	1:B:914:GLN:N	2.23	0.52
1:A:39:VAL:HG13	1:A:47:VAL:HG13	1.92	0.52
1:A:391:ASN:HB2	1:A:394:ASP:OD2	2.10	0.52
1:B:218:ASP:O	1:B:222:GLN:HG2	2.09	0.52
1:B:504:GLU:O	1:B:760:HIS:CD2	2.63	0.52
1:B:635:LYS:HB3	1:B:640:LYS:H	1.74	0.52
2:C:153:LEU:HD22	2:C:183:ILE:CD1	2.40	0.52
2:D:98:LYS:HG2	2:D:106:THR:CG2	2.40	0.52
3:E:44:ILE:HG23	3:E:48:ASP:HB2	1.92	0.52
3:E:107:ASP:HB2	3:E:108:PRO:HD2	1.92	0.52
3:E:149:ASN:ND2	3:E:151:ASP:HA	2.25	0.52
1:A:791:GLN:CD	2:C:133:PHE:CE2	2.80	0.52
1:B:336:PHE:CE1	1:B:349:MET:CE	2.92	0.52
1:A:356:ILE:HG22	1:A:431:VAL:HG11	1.92	0.52
1:A:922:MET:SD	1:B:919:VAL:HG13	2.50	0.52
1:B:36:ASP:HB3	1:B:48:LYS:HZ1	1.67	0.52
1:B:124:THR:O	1:B:672:CYS:HA	2.10	0.52
1:B:164:TYR:CE1	1:B:762:LYS:HE3	2.45	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:251:HIS:HA	1:B:455:TYR:O	2.08	0.52
1:B:735:PHE:HA	2:D:138:ARG:HE	1.74	0.52
1:B:815:GLN:NE2	2:D:66:LYS:HB3	2.25	0.52
3:E:8:LYS:HG2	3:F:59:VAL:N	2.25	0.52
3:F:113:VAL:CG2	3:F:150:LEU:HD12	2.38	0.52
1:A:16:LEU:HD11	1:A:153:HIS:HB2	1.92	0.51
1:A:352:LEU:HD22	1:A:435:MET:CE	2.41	0.51
1:B:18:LYS:HZ3	1:B:88:GLU:HA	1.75	0.51
1:B:47:VAL:HG22	1:B:48:LYS:N	2.21	0.51
1:B:65:TYR:HE1	1:B:67:LYS:HE2	1.75	0.51
1:B:84:PHE:CE1	1:B:90:MET:O	2.63	0.51
1:B:115:TYR:CD2	1:B:124:THR:CG2	2.93	0.51
1:B:364:PHE:HB2	1:B:421:ILE:HG22	1.91	0.51
1:B:679:LYS:HG3	1:B:679:LYS:O	2.09	0.51
1:B:713:ILE:HD12	1:B:718:PHE:CZ	2.45	0.51
1:B:726:ASN:CG	1:B:745:LEU:HD12	2.30	0.51
1:A:222:GLN:CG	1:A:338:VAL:HG21	2.39	0.51
1:A:234:LYS:HA	1:A:239:ASP:O	2.11	0.51
1:B:804:LEU:HD21	2:D:63:ARG:NE	2.24	0.51
1:B:866:SER:HA	1:B:869:ARG:NH1	2.25	0.51
2:D:66:LYS:HG2	3:F:126:GLN:CG	2.39	0.51
1:A:201:ILE:HG13	1:A:201:ILE:O	2.10	0.51
1:A:720:GLN:HG3	1:A:723:ARG:HH12	1.75	0.51
1:A:822:MET:HE2	3:E:138:MET:HB3	1.91	0.51
1:A:944:GLU:HA	1:A:947:CYS:SG	2.50	0.51
1:B:55:GLU:O	1:B:55:GLU:CD	2.49	0.51
1:B:873:LEU:CD2	1:B:876:LYS:HD3	2.33	0.51
3:E:152:TYR:O	3:E:156:VAL:HG23	2.11	0.51
3:F:22:GLU:HG3	3:F:26:ILE:CD1	2.41	0.51
1:B:37:VAL:HG11	1:B:76:VAL:CG2	2.40	0.51
1:B:245:GLY:O	1:B:265:THR:HA	2.11	0.51
1:B:286:PHE:HB3	1:B:357:MET:SD	2.51	0.51
1:B:563:PHE:CD2	1:B:579:LEU:HD13	2.46	0.51
1:A:146:LYS:NZ	1:A:775:GLU:HA	2.25	0.51
1:A:908:LEU:HD13	1:B:908:LEU:CB	2.21	0.51
1:B:472:SER:HB2	1:B:474:GLU:OE1	2.11	0.51
1:A:109:TYR:HD1	1:A:125:VAL:HG13	1.69	0.51
1:A:735:PHE:HA	1:A:736:ILE:CB	2.40	0.51
1:A:859:LEU:HD11	1:B:860:LYS:HA	1.88	0.51
1:B:47:VAL:CG2	1:B:48:LYS:H	2.18	0.51
1:B:803:LYS:NZ	3:F:108:PRO:HA	2.25	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:637:LYS:CG	1:A:638:ALA:H	2.23	0.51
1:A:805:LEU:HD13	2:C:60:LEU:HB3	1.93	0.51
1:B:164:TYR:CE1	1:B:762:LYS:CE	2.94	0.51
1:B:390:LEU:CD1	1:B:609:TYR:HA	2.39	0.51
1:B:713:ILE:HD12	1:B:718:PHE:HZ	1.74	0.51
1:A:31:PHE:CE2	1:A:34:LYS:HB3	2.44	0.51
1:A:804:LEU:HD22	1:A:807:ARG:NH2	2.23	0.51
1:A:874:GLU:O	1:A:878:VAL:HG23	2.11	0.51
1:B:65:TYR:CD1	1:B:67:LYS:HB3	2.45	0.51
1:B:173:SER:OG	1:B:667:PRO:HA	2.10	0.51
1:A:215:THR:HG22	1:A:219:GLN:OE1	2.11	0.51
3:E:21:PHE:CB	3:F:31:GLU:HG2	2.41	0.51
1:B:147:ARG:HH21	1:B:156:SER:HB2	1.75	0.50
1:B:933:ASN:O	1:B:937:THR:HG23	2.11	0.50
1:A:455:TYR:CE1	1:B:403:ARG:CZ	2.79	0.50
1:A:788:ILE:HD13	2:C:133:PHE:CE2	1.89	0.50
1:B:260:SER:HB3	1:B:449:THR:HA	1.91	0.50
1:B:281:ARG:HD2	1:B:318:THR:O	2.10	0.50
1:B:746:LEU:HB3	1:B:751:ILE:HD13	1.92	0.50
2:D:63:ARG:CZ	2:D:75:GLN:HE22	2.25	0.50
3:E:106:PHE:CE1	3:E:114:LEU:HD11	2.46	0.50
1:A:367:LYS:HD2	1:A:372:GLN:C	2.32	0.50
1:B:84:PHE:CD2	1:B:84:PHE:O	2.64	0.50
1:B:159:ASP:HA	1:B:194:TYR:CZ	2.46	0.50
1:A:472:SER:HB2	1:A:596:LYS:NZ	2.27	0.50
1:A:684:MET:HE3	1:A:689:VAL:HG22	1.93	0.50
1:A:872:GLU:HA	1:A:875:GLU:OE1	2.11	0.50
1:A:950:LEU:HD11	1:B:951:LYS:HE2	1.94	0.50
1:B:44:GLN:O	1:B:45:GLU:CB	2.59	0.50
1:B:65:TYR:OH	1:B:67:LYS:HE2	2.12	0.50
1:B:274:ILE:HA	1:B:312:PHE:CE1	2.46	0.50
1:B:726:ASN:HD21	1:B:730:ILE:CG1	2.24	0.50
1:B:242:SER:HB2	1:B:463:ALA:CB	2.41	0.50
1:B:685:ASP:OD2	1:B:687:PRO:HD2	2.11	0.50
1:B:821:PHE:CD2	3:F:138:MET:HG3	2.44	0.50
1:B:826:ASN:CG	3:F:59:VAL:HB	2.29	0.50
1:A:43:LYS:O	1:A:687:PRO:HD3	2.11	0.50
1:A:378:THR:HA	1:A:380:GLU:HG3	1.93	0.50
1:B:98:GLU:CD	1:B:699:LEU:HD22	2.32	0.50
1:B:154:ILE:HD11	1:B:191:VAL:HG22	1.93	0.50
1:B:534:LEU:C	1:B:538:CYS:SG	2.90	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:609:TYR:HD2	1:A:617:LEU:HD11	1.77	0.50
1:B:142:TYR:HA	1:B:145:LYS:HG3	1.92	0.50
2:C:94:ARG:NH2	2:C:124:ASN:ND2	2.58	0.50
1:A:77:MET:SD	1:A:99:PRO:CD	2.99	0.50
1:A:303:ILE:HG13	1:A:303:ILE:O	2.12	0.50
1:A:367:LYS:HG2	1:A:368:GLN:N	2.25	0.50
1:A:580:ILE:HG22	1:A:585:ILE:HG22	1.92	0.50
1:B:633:LYS:HG3	1:B:634:GLY:H	1.77	0.50
1:B:827:TRP:HB2	3:F:58:ARG:NH1	2.27	0.50
1:B:827:TRP:CE2	1:B:828:PRO:HD2	2.47	0.50
3:E:135:VAL:O	3:E:138:MET:HG2	2.12	0.50
1:A:31:PHE:CZ	1:A:34:LYS:HB2	2.47	0.50
1:A:316:GLY:CA	1:A:317:GLU:HB2	2.42	0.50
1:A:870:ARG:HB2	1:B:870:ARG:HB2	1.93	0.50
1:B:29:ARG:HB2	1:B:30:PRO:HD3	1.93	0.50
1:B:771:GLY:O	1:B:774:GLU:HB3	2.12	0.50
1:B:777:ARG:O	1:B:781:LEU:HB2	2.12	0.50
2:D:46:PHE:N	2:D:46:PHE:CD1	2.80	0.50
1:A:99:PRO:HA	1:A:102:LEU:HB3	1.94	0.49
1:A:784:ILE:HA	1:A:785:ILE:HB	1.94	0.49
1:B:735:PHE:CA	2:D:138:ARG:HE	2.24	0.49
1:B:804:LEU:CD1	2:D:63:ARG:HD3	2.41	0.49
1:B:121:PHE:HD1	1:B:705:CYS:HG	1.60	0.49
1:B:783:ARG:O	1:B:787:ARG:HG3	2.11	0.49
1:B:896:ASP:HA	1:B:899:ALA:CB	2.42	0.49
2:C:79:VAL:O	2:C:83:LEU:HG	2.12	0.49
3:F:73:ALA:HB1	3:F:77:ILE:HD11	1.94	0.49
1:A:472:SER:CB	1:A:596:LYS:NZ	2.75	0.49
1:A:755:GLN:CG	1:A:769:LEU:HD12	2.38	0.49
1:B:36:ASP:C	1:B:48:LYS:HZ2	2.15	0.49
1:B:829:TRP:CE2	3:F:89:LYS:HD3	2.47	0.49
2:D:57:ALA:O	2:D:61:PHE:CD1	2.65	0.49
3:E:151:ASP:O	3:E:155:LEU:HD13	2.11	0.49
1:A:715:TYR:CE1	1:A:758:PHE:HD1	2.30	0.49
1:A:859:LEU:CD1	1:B:860:LYS:CA	2.80	0.49
1:B:84:PHE:CE1	1:B:87:ILE:CD1	2.89	0.49
1:B:815:GLN:HE22	2:D:66:LYS:HB3	1.76	0.49
1:A:106:LYS:HD2	1:A:686:ASN:HD21	1.78	0.49
1:B:143:ARG:HA	1:B:198:ILE:HG23	1.94	0.49
1:B:801:TYR:OH	1:B:804:LEU:HD12	2.12	0.49
3:E:78:ASN:N	3:E:81:VAL:HG12	2.23	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:293:LYS:HD3	1:A:298:LEU:N	2.27	0.49
1:A:370:GLU:HB3	1:A:371:GLU:CB	2.41	0.49
1:A:601:LEU:HD22	1:A:606:VAL:CG2	2.41	0.49
1:B:404:VAL:HG12	1:B:411:VAL:C	2.32	0.49
1:B:803:LYS:HZ3	3:F:108:PRO:HA	1.77	0.49
2:D:66:LYS:CG	3:F:126:GLN:CG	2.89	0.49
3:E:42:GLY:O	3:E:78:ASN:HA	2.12	0.49
1:A:569:ILE:C	1:A:571:GLY:N	2.65	0.49
1:A:714:LEU:CD2	1:B:396:LEU:HD13	2.29	0.49
1:B:146:LYS:HB3	1:B:774:GLU:HB3	1.95	0.49
1:B:304:THR:HG23	1:B:310:TYR:CE1	2.47	0.49
1:A:173:SER:O	1:A:667:PRO:HA	2.12	0.49
1:A:434:ARG:NH1	1:A:623:ASN:ND2	2.55	0.49
1:B:38:PHE:HD2	1:B:99:PRO:CB	2.25	0.49
1:B:498:GLN:HA	1:B:501:TYR:CD2	2.48	0.49
1:B:783:ARG:NH1	2:D:126:ASP:OD2	2.45	0.49
1:A:352:LEU:O	1:A:355:ALA:HB3	2.13	0.49
1:A:714:LEU:HD12	1:B:396:LEU:O	2.11	0.49
1:B:164:TYR:CZ	1:B:762:LYS:NZ	2.76	0.49
1:B:292:ASN:CB	1:B:329:LEU:HD23	2.42	0.49
2:D:109:MET:HE3	2:D:113:THR:HB	1.94	0.49
3:E:124:THR:O	3:E:129:ARG:HD2	2.13	0.49
1:A:78:GLN:HG2	1:A:95:PHE:CZ	2.46	0.49
1:A:112:TRP:O	1:A:114:ILE:HG23	2.12	0.49
1:A:292:ASN:HD22	1:A:326:ALA:CB	2.25	0.49
1:A:568:ASN:OD1	1:A:569:ILE:HG23	2.13	0.49
1:A:781:LEU:HD13	2:C:139:VAL:HB	1.94	0.49
1:B:65:TYR:CZ	1:B:67:LYS:HE2	2.48	0.49
1:B:730:ILE:CG2	1:B:736:ILE:HD13	2.42	0.49
1:B:735:PHE:HB3	2:D:138:ARG:CD	2.41	0.49
2:C:44:ILE:HD11	2:C:123:LYS:CG	2.40	0.49
2:C:46:PHE:CD2	2:C:51:ILE:HG22	2.48	0.49
1:A:38:PHE:HB2	1:A:77:MET:HB2	1.94	0.48
1:A:275:PHE:CG	1:A:276:GLN:N	2.78	0.48
1:A:735:PHE:HB3	1:A:741:GLY:HA3	1.95	0.48
3:E:80:THR:CB	3:F:40:ARG:CD	2.86	0.48
1:A:549:LYS:HD3	1:A:575:ALA:CB	2.41	0.48
1:B:533:ILE:HD12	1:B:533:ILE:H	1.79	0.48
1:B:549:LYS:CE	1:B:553:PHE:HZ	2.26	0.48
1:B:569:ILE:HG22	1:B:574:GLU:H	1.78	0.48
1:B:580:ILE:HG23	1:B:580:ILE:O	2.13	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:63:ARG:O	2:D:63:ARG:HG3	2.13	0.48
3:F:120:ARG:NH2	3:F:139:PHE:HE1	2.09	0.48
3:F:145:ASP:HB3	3:F:150:LEU:HD13	1.95	0.48
1:A:298:LEU:HD21	1:A:303:ILE:O	2.12	0.48
1:B:18:LYS:HE3	1:B:87:ILE:O	2.14	0.48
1:B:175:LEU:O	1:B:669:PHE:HA	2.13	0.48
1:B:507:GLU:HB2	1:B:758:PHE:CZ	2.49	0.48
1:B:841:LYS:HG3	1:B:842:SER:N	2.28	0.48
1:B:846:GLU:O	1:B:849:MET:HB3	2.12	0.48
1:B:939:LYS:HZ1	1:B:943:LEU:HD21	1.77	0.48
1:A:44:GLN:HE22	1:A:106:LYS:NZ	2.11	0.48
1:A:553:PHE:HE1	1:A:566:PRO:HD3	1.75	0.48
1:A:673:ILE:HG23	1:A:692:GLN:OE1	2.14	0.48
1:B:201:ILE:O	1:B:201:ILE:HG13	2.13	0.48
1:B:563:PHE:HA	1:B:579:LEU:HD12	1.95	0.48
1:B:755:GLN:CB	1:B:769:LEU:HD13	2.34	0.48
1:A:204:ARG:HD2	1:A:206:LYS:O	2.14	0.48
1:A:274:ILE:O	1:A:282:ASP:OD1	2.31	0.48
1:A:293:LYS:HZ3	1:A:303:ILE:HG12	1.79	0.48
1:A:688:LEU:HG	1:A:692:GLN:HE21	1.79	0.48
1:B:217:GLU:HA	1:B:220:ILE:HD11	1.94	0.48
1:A:216:LEU:O	1:A:220:ILE:HG23	2.14	0.48
1:A:417:VAL:HG23	1:A:418:GLN:N	2.28	0.48
1:A:724:ILE:HG23	2:C:135:GLU:HA	1.95	0.48
1:A:730:ILE:O	1:A:730:ILE:HG13	2.13	0.48
1:A:827:TRP:O	3:E:166:ASP:CG	2.51	0.48
1:B:155:PHE:CE1	1:B:193:GLN:NE2	2.71	0.48
1:B:268:LEU:HD21	1:B:432:TYR:CD2	2.48	0.48
1:B:599:ASP:HB3	1:B:645:GLN:HB2	1.94	0.48
1:B:784:ILE:O	1:B:788:ILE:HG23	2.12	0.48
1:B:826:ASN:O	3:F:59:VAL:HG11	2.14	0.48
2:D:134:VAL:HG22	2:D:138:ARG:NH1	2.27	0.48
3:F:94:ASP:N	3:F:95:PRO:HD3	2.29	0.48
1:A:139:VAL:HG13	1:A:194:TYR:HE1	1.77	0.48
1:A:366:LEU:HD11	1:A:417:VAL:HB	1.96	0.48
1:A:736:ILE:HG13	1:A:737:ASP:H	1.78	0.48
1:A:780:ARG:HH21	2:C:135:GLU:CD	2.17	0.48
1:B:45:GLU:CD	1:B:690:MET:HA	2.34	0.48
1:B:190:ARG:C	1:B:193:GLN:HG2	2.33	0.48
1:B:869:ARG:HG3	1:B:871:LYS:HE2	1.95	0.48
2:D:46:PHE:CZ	2:D:119:GLN:HA	2.49	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:101:GLN:NE2	2:D:103:GLU:HG3	2.28	0.48
2:D:134:VAL:HG13	2:D:138:ARG:NH1	2.24	0.48
3:E:106:PHE:CZ	3:E:114:LEU:CD1	2.96	0.48
2:D:61:PHE:CE2	2:D:79:VAL:CB	2.96	0.48
2:D:64:THR:HB	2:D:67:CYS:CA	2.44	0.48
3:E:81:VAL:HG13	3:E:82:PHE:N	2.28	0.48
3:F:49:LEU:HD23	3:F:53:PHE:CE1	2.49	0.48
1:A:720:GLN:O	1:A:723:ARG:HG2	2.14	0.48
1:B:194:TYR:O	1:B:198:ILE:HG12	2.14	0.48
1:A:416:ASN:O	1:A:420:VAL:HG13	2.13	0.48
1:A:805:LEU:CD1	2:C:60:LEU:CD2	2.71	0.48
1:B:45:GLU:OE2	1:B:102:LEU:HD21	2.13	0.48
1:B:190:ARG:O	1:B:193:GLN:HG2	2.13	0.48
1:B:368:GLN:HG3	1:B:368:GLN:O	2.14	0.48
1:B:750:ASP:O	1:B:751:ILE:HG12	2.13	0.48
2:C:172:LEU:HD23	2:C:172:LEU:C	2.35	0.48
2:D:131:GLU:O	2:D:135:GLU:HG3	2.14	0.48
3:E:20:MET:HG3	3:E:90:LEU:CD1	2.44	0.48
1:A:17:ARG:CD	1:A:151:PRO:HG3	2.34	0.47
1:A:45:GLU:C	1:A:46:PHE:HD1	2.18	0.47
1:A:872:GLU:HA	1:A:875:GLU:CD	2.34	0.47
1:B:16:LEU:O	1:B:113:MET:HE1	2.14	0.47
1:B:380:GLU:H	1:B:380:GLU:CD	2.18	0.47
1:B:836:ILE:HD12	1:B:839:LEU:HD12	1.96	0.47
2:D:46:PHE:N	2:D:46:PHE:HD1	2.13	0.47
3:E:8:LYS:HD3	3:F:59:VAL:CG2	2.43	0.47
1:A:123:VAL:HG12	1:A:671:ARG:HB3	1.95	0.47
1:B:130:TRP:O	1:B:130:TRP:CD1	2.67	0.47
1:B:404:VAL:HG12	1:B:411:VAL:O	2.13	0.47
2:C:114:PHE:CD1	2:C:118:LEU:HD11	2.48	0.47
2:D:65:PRO:HD2	3:F:126:GLN:NE2	2.27	0.47
2:D:73:TYR:CZ	2:D:106:THR:HB	2.49	0.47
2:D:107:LYS:HG2	2:D:108:MET:N	2.30	0.47
1:A:67:LYS:CG	1:A:68:THR:H	2.22	0.47
1:A:169:ARG:CB	1:B:403:ARG:NH2	2.57	0.47
1:A:359:PHE:CD1	1:A:384:SER:HB2	2.50	0.47
1:A:834:PHE:O	1:A:838:PRO:HD2	2.14	0.47
1:B:616:LEU:H	1:B:616:LEU:HD12	1.79	0.47
3:E:95:PRO:HG2	3:E:98:THR:CG2	2.44	0.47
1:A:553:PHE:HZ	1:A:576:HIS:O	1.97	0.47
1:A:714:LEU:HD23	1:A:715:TYR:N	2.29	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:849:MET:SD	1:B:852:MET:HE1	2.51	0.47
1:A:891:VAL:O	1:A:895:GLN:HG3	2.13	0.47
1:B:38:PHE:CD2	1:B:99:PRO:CG	2.97	0.47
1:B:139:VAL:HG11	1:B:197:VAL:HG11	1.95	0.47
1:B:207:LYS:HG3	1:B:207:LYS:O	2.14	0.47
1:B:826:ASN:OD1	3:E:8:LYS:HD2	2.14	0.47
3:E:142:PHE:CE2	3:E:144:PRO:HG3	2.49	0.47
1:A:58:LYS:HE3	1:A:70:THR:HB	1.94	0.47
1:A:549:LYS:HG2	1:A:553:PHE:CE2	2.49	0.47
1:A:719:ARG:HH12	1:B:386:TYR:HB2	1.78	0.47
1:B:46:PHE:CB	1:B:99:PRO:HB3	2.43	0.47
1:B:162:TYR:CE1	1:B:166:LEU:HD11	2.48	0.47
1:B:366:LEU:C	1:B:366:LEU:HD23	2.35	0.47
1:B:810:SER:O	1:B:814:ILE:HG13	2.14	0.47
3:E:21:PHE:HA	3:E:26:ILE:HG13	1.95	0.47
1:A:609:TYR:CD2	1:A:617:LEU:HD11	2.50	0.47
1:A:735:PHE:HB3	1:A:741:GLY:N	2.30	0.47
1:B:39:VAL:HG23	1:B:47:VAL:HG13	1.95	0.47
1:B:624:TYR:HE2	1:B:626:GLY:HA2	1.79	0.47
2:D:61:PHE:CZ	2:D:79:VAL:HA	2.49	0.47
1:A:45:GLU:CB	1:A:686:ASN:HB3	2.45	0.47
1:A:546:MET:SD	1:A:575:ALA:HB2	2.55	0.47
1:A:793:ARG:NE	2:C:162:GLU:OE1	2.45	0.47
1:B:125:VAL:HG13	1:B:125:VAL:O	2.15	0.47
1:B:142:TYR:HA	1:B:145:LYS:CG	2.45	0.47
1:B:143:ARG:HH22	2:D:166:GLU:CG	2.28	0.47
1:B:209:GLN:O	1:B:211:PRO:HD2	2.14	0.47
1:B:427:LEU:CA	1:B:601:LEU:HD11	2.39	0.47
1:B:575:ALA:HB3	1:B:590:ILE:HB	1.97	0.47
1:B:631:ILE:HG13	1:B:631:ILE:O	2.15	0.47
1:B:783:ARG:CZ	2:D:126:ASP:OD2	2.62	0.47
2:C:54:PHE:CE1	2:C:83:LEU:HD13	2.49	0.47
2:C:95:VAL:HG22	2:C:117:MET:SD	2.55	0.47
2:C:137:LEU:HD22	2:C:185:TYR:HB2	1.97	0.47
3:E:24:THR:CB	3:E:161:HIS:NE2	2.75	0.47
1:A:26:ALA:HA	1:A:29:ARG:HH11	1.80	0.47
3:F:59:VAL:CG2	3:F:60:ASN:HD22	2.27	0.47
1:A:39:VAL:HG21	1:A:69:VAL:HG11	1.95	0.47
1:A:90:MET:O	1:A:93:LEU:HD13	2.15	0.47
1:B:18:LYS:HG2	1:B:113:MET:HB2	1.96	0.47
1:B:352:LEU:CD1	1:B:620:LEU:HD12	2.38	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:713:ILE:HB	1:A:765:PHE:HE2	1.79	0.47
1:A:853:LYS:NZ	1:B:841:LYS:HZ3	2.05	0.47
1:B:190:ARG:HG2	1:B:193:GLN:OE1	2.15	0.47
1:B:713:ILE:CG2	1:B:714:LEU:H	2.11	0.47
1:B:924:GLU:C	1:B:927:GLU:HG2	2.35	0.47
2:D:68:GLU:O	2:D:69:MET:HB3	2.14	0.47
2:D:114:PHE:O	2:D:117:MET:HB2	2.15	0.47
1:B:487:GLN:OE1	1:B:487:GLN:HA	2.15	0.46
1:B:827:TRP:H	3:F:58:ARG:HH11	1.53	0.46
1:B:898:LEU:O	1:B:898:LEU:HD23	2.14	0.46
3:E:26:ILE:HG23	3:E:86:PHE:HE2	1.79	0.46
1:A:38:PHE:HE1	1:A:79:GLN:HA	1.77	0.46
1:B:84:PHE:HE2	1:B:104:ASN:HD22	1.62	0.46
1:B:162:TYR:CZ	1:B:199:ALA:CB	2.94	0.46
1:B:413:LYS:HG3	1:B:414:GLY:O	2.16	0.46
1:B:520:CYS:SG	1:B:579:LEU:CD1	2.98	0.46
1:B:888:GLN:CA	1:B:891:VAL:HG12	2.44	0.46
2:D:111:PHE:CZ	2:D:115:LEU:HD21	2.51	0.46
3:E:77:ILE:HA	3:E:81:VAL:HG11	1.96	0.46
1:A:416:ASN:H	1:A:419:GLN:HB2	1.80	0.46
1:B:755:GLN:CD	1:B:766:LYS:HG3	2.36	0.46
1:B:829:TRP:CB	3:F:89:LYS:HE2	2.45	0.46
1:B:883:GLU:O	1:B:887:LEU:HG	2.15	0.46
1:B:888:GLN:HA	1:B:891:VAL:CG1	2.46	0.46
1:A:591:ILE:HG13	1:A:591:ILE:O	2.16	0.46
1:A:637:LYS:HG3	1:A:638:ALA:N	2.26	0.46
1:A:684:MET:HE2	1:A:689:VAL:HG22	1.97	0.46
1:A:714:LEU:HD23	1:A:716:GLY:N	2.31	0.46
1:A:715:TYR:CE1	1:A:758:PHE:CD1	3.02	0.46
1:A:822:MET:SD	3:E:138:MET:CE	3.00	0.46
1:A:827:TRP:O	3:E:166:ASP:OD1	2.33	0.46
1:A:908:LEU:HD11	1:B:908:LEU:HD23	0.60	0.46
1:B:139:VAL:HG12	1:B:198:ILE:HD11	1.96	0.46
1:A:292:ASN:HD22	1:A:326:ALA:HA	1.81	0.46
1:A:312:PHE:O	1:A:313:ILE:HG23	2.16	0.46
1:A:918:LYS:HE3	1:A:922:MET:HE3	1.96	0.46
1:B:115:TYR:HD2	1:B:124:THR:HG21	1.78	0.46
1:B:440:VAL:O	1:B:443:ILE:HG12	2.15	0.46
1:B:638:ALA:HA	1:B:639:LYS:HA	1.76	0.46
2:C:131:GLU:O	2:C:134:VAL:HG12	2.14	0.46
3:E:119:VAL:O	3:E:123:LEU:HD13	2.15	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:38:PHE:HD2	1:A:99:PRO:HB2	1.73	0.46
1:A:908:LEU:HB3	1:B:908:LEU:HD13	1.83	0.46
1:B:787:ARG:NH1	2:D:127:THR:CA	2.76	0.46
2:C:147:THR:HG22	2:C:184:ASN:ND2	2.30	0.46
2:D:73:TYR:CE1	2:D:106:THR:CB	2.95	0.46
3:F:22:GLU:CG	3:F:26:ILE:HG12	2.46	0.46
1:A:367:LYS:CG	1:A:368:GLN:N	2.78	0.46
1:A:383:LYS:O	1:A:387:LEU:HD13	2.15	0.46
1:A:841:LYS:HG2	1:A:842:SER:N	2.30	0.46
1:B:63:THR:HG22	1:B:64:GLU:H	1.81	0.46
1:B:532:SER:HB2	1:B:533:ILE:HD12	1.96	0.46
1:B:813:VAL:HA	1:B:816:TRP:CD1	2.49	0.46
2:C:133:PHE:O	2:C:137:LEU:HG	2.16	0.46
1:A:154:ILE:HG23	1:A:155:PHE:CD1	2.51	0.46
1:A:352:LEU:HD21	1:A:431:VAL:HG22	1.96	0.46
1:A:417:VAL:O	1:A:420:VAL:HG22	2.15	0.46
1:A:855:GLU:HB3	1:B:856:PHE:CE1	2.43	0.46
1:A:859:LEU:HD21	1:B:859:LEU:O	1.91	0.46
1:B:613:SER:HA	2:C:145:ASN:ND2	2.31	0.46
1:B:635:LYS:CE	1:B:650:LEU:HB2	2.46	0.46
1:B:723:ARG:NH2	1:B:785:ILE:CA	2.69	0.46
2:C:68:GLU:HB3	2:C:70:LYS:HD2	1.97	0.46
1:A:31:PHE:CE2	1:A:34:LYS:HE3	2.51	0.46
1:A:768:GLY:O	1:A:772:LEU:HG	2.15	0.46
1:A:925:ARG:O	1:A:928:ASP:HB3	2.16	0.46
1:B:106:LYS:HE3	1:B:686:ASN:OD1	2.15	0.46
1:B:153:HIS:NE2	1:B:154:ILE:HG22	2.31	0.46
1:B:233:ALA:HB3	1:B:243:ARG:HE	1.80	0.46
1:B:601:LEU:HD23	1:B:602:ASN:O	2.16	0.46
1:B:738:SER:OG	2:D:142:LYS:HA	2.16	0.46
1:B:871:LYS:HD3	1:B:871:LYS:N	2.31	0.46
1:B:871:LYS:H	1:B:871:LYS:CD	2.28	0.46
2:D:48:PRO:O	2:D:51:ILE:HG12	2.16	0.46
3:E:8:LYS:HG2	3:F:59:VAL:O	2.16	0.46
1:A:43:LYS:O	1:A:687:PRO:CD	2.63	0.46
1:A:139:VAL:HG13	1:A:194:TYR:CE1	2.51	0.46
1:A:439:MET:O	1:A:443:ILE:HG12	2.16	0.46
1:A:898:LEU:HD11	1:B:897:ASN:CG	2.36	0.46
1:B:38:PHE:CE1	1:B:79:GLN:OE1	2.68	0.46
1:B:197:VAL:O	1:B:204:ARG:NH2	2.49	0.46
1:B:293:LYS:HZ1	1:B:303:ILE:CB	2.25	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:492:HIS:ND1	1:B:667:PRO:HB3	2.31	0.46
1:B:505:GLY:HA3	1:B:760:HIS:CD2	2.51	0.46
1:B:716:GLY:HA2	1:B:719:ARG:HH21	1.79	0.46
1:A:18:LYS:HD2	1:A:113:MET:HE2	1.97	0.45
1:A:723:ARG:HE	2:C:138:ARG:NH1	2.14	0.45
1:A:735:PHE:CD2	1:A:735:PHE:O	2.69	0.45
1:B:229:ALA:O	1:B:284:HIS:HB2	2.16	0.45
2:C:109:MET:CE	2:C:113:THR:HB	2.46	0.45
2:D:48:PRO:HA	2:D:51:ILE:HG12	1.97	0.45
3:F:16:ASN:HB3	3:F:90:LEU:CD1	2.46	0.45
3:F:64:GLU:HG3	3:F:65:GLU:HG3	1.98	0.45
1:A:60:THR:HA	1:A:70:THR:HA	1.98	0.45
1:A:147:ARG:HH22	1:A:157:ILE:HA	1.80	0.45
1:A:675:PRO:CB	1:A:684:MET:SD	3.04	0.45
1:B:18:LYS:HG3	1:B:113:MET:HE2	1.97	0.45
1:B:38:PHE:HD2	1:B:99:PRO:CG	2.29	0.45
1:B:193:GLN:O	1:B:197:VAL:CG1	2.63	0.45
1:B:476:LEU:HD22	1:B:593:TRP:CH2	2.51	0.45
2:C:85:GLN:HE21	2:C:121:ILE:HG22	1.81	0.45
3:F:49:LEU:HD11	3:F:70:ILE:CD1	2.46	0.45
1:A:464:GLY:HA2	1:A:482:ASN:OD1	2.16	0.45
1:A:735:PHE:HB3	1:A:741:GLY:CA	2.46	0.45
1:B:134:TYR:CB	1:B:193:GLN:HE22	2.29	0.45
1:B:520:CYS:SG	1:B:579:LEU:CG	3.04	0.45
1:B:632:GLU:O	1:B:633:LYS:CG	2.64	0.45
2:D:46:PHE:CE1	2:D:119:GLN:HA	2.51	0.45
3:E:8:LYS:CE	3:F:60:ASN:HD21	2.28	0.45
1:A:379:GLU:HB3	1:A:383:LYS:HD3	1.99	0.45
1:A:390:LEU:HD21	1:A:609:TYR:CD2	2.51	0.45
1:A:596:LYS:HA	1:A:600:PRO:HD3	1.99	0.45
1:B:494:PHE:HE2	1:B:515:MET:HB2	1.82	0.45
1:B:534:LEU:HB2	1:B:548:PHE:CE1	2.51	0.45
1:B:867:GLU:HB2	1:B:871:LYS:HG2	1.98	0.45
2:D:194:SER:O	2:D:195:SER:HB3	2.17	0.45
3:E:80:THR:CA	3:F:40:ARG:CD	2.95	0.45
1:A:52:VAL:HB	1:A:60:THR:O	2.17	0.45
1:A:283:TYR:HE2	1:A:432:TYR:CZ	2.35	0.45
1:B:146:LYS:NZ	1:B:721:ARG:NH1	2.65	0.45
1:B:263:ILE:H	1:B:444:ASN:ND2	2.14	0.45
1:B:418:GLN:C	1:B:421:ILE:HG12	2.36	0.45
1:B:499:GLU:O	1:B:502:LYS:HB3	2.16	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:734:GLN:OE1	2:D:135:GLU:OE2	2.33	0.45
1:B:826:ASN:O	3:F:59:VAL:CG1	2.65	0.45
3:F:16:ASN:HB3	3:F:90:LEU:HD12	1.97	0.45
3:F:97:GLU:O	3:F:101:ASN:HB2	2.16	0.45
1:A:25:GLU:O	1:A:29:ARG:NH1	2.50	0.45
1:A:498:GLN:O	1:A:502:LYS:HG3	2.17	0.45
1:B:520:CYS:SG	1:B:579:LEU:CD2	3.03	0.45
1:B:544:THR:HG23	1:B:547:THR:H	1.79	0.45
1:B:836:ILE:CG2	3:F:28:GLU:OE1	2.60	0.45
2:D:69:MET:O	2:D:69:MET:HG3	2.16	0.45
3:E:8:LYS:CD	3:F:59:VAL:N	2.79	0.45
3:E:103:PHE:O	3:E:106:PHE:HB2	2.17	0.45
1:A:367:LYS:O	1:A:368:GLN:HB2	2.16	0.45
1:B:16:LEU:CD2	1:B:133:VAL:HG23	2.46	0.45
1:B:114:ILE:HD12	1:B:114:ILE:N	2.31	0.45
1:B:139:VAL:HG12	1:B:139:VAL:O	2.16	0.45
1:B:324:ASP:OD2	1:B:326:ALA:HB3	2.17	0.45
1:B:388:MET:CA	1:B:617:LEU:HD23	2.27	0.45
2:D:48:PRO:HA	2:D:51:ILE:CD1	2.46	0.45
1:A:45:GLU:OE2	1:A:690:MET:HB2	2.16	0.45
1:A:143:ARG:NH2	1:A:197:VAL:HG22	2.31	0.45
1:A:426:ALA:N	1:A:429:LYS:HB2	2.32	0.45
1:A:715:TYR:HE1	1:A:763:VAL:HB	1.82	0.45
1:B:45:GLU:HG3	1:B:690:MET:CG	2.46	0.45
1:B:268:LEU:CD2	1:B:432:TYR:CE2	2.94	0.45
1:B:277:LEU:HD23	1:B:278:LYS:HB2	1.98	0.45
1:B:342:THR:OG1	1:B:345:GLU:HG3	2.16	0.45
1:B:534:LEU:HD12	1:B:538:CYS:SG	2.56	0.45
1:B:534:LEU:O	1:B:538:CYS:SG	2.75	0.45
1:B:637:LYS:HB3	1:B:637:LYS:HE3	1.78	0.45
1:B:870:ARG:NE	1:B:871:LYS:HD3	2.32	0.45
1:B:888:GLN:O	1:B:891:VAL:HG12	2.17	0.45
1:B:924:GLU:O	1:B:927:GLU:CG	2.63	0.45
2:D:100:ARG:HD3	2:D:101:GLN:OE1	2.17	0.45
3:F:62:LYS:HB3	3:F:64:GLU:HG2	1.99	0.45
1:A:55:GLU:HG3	1:A:55:GLU:O	2.17	0.45
1:A:571:GLY:O	1:A:573:PRO:N	2.50	0.45
1:B:147:ARG:HD3	1:B:711:ASN:OD1	2.17	0.45
1:B:165:MET:HG3	1:B:166:LEU:N	2.32	0.45
1:B:168:ASP:OD2	1:B:762:LYS:CG	2.64	0.45
1:B:224:ASN:O	1:B:228:GLU:HG3	2.17	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:356:ILE:HA	1:B:359:PHE:HD2	1.82	0.45
1:B:723:ARG:NE	1:B:785:ILE:HG12	2.32	0.45
2:C:67:CYS:SG	2:C:68:GLU:HA	2.57	0.45
3:E:31:GLU:OE2	3:F:30:LYS:NZ	2.44	0.45
3:F:66:ILE:HG13	3:F:67:ASP:N	2.20	0.45
1:A:431:VAL:HG13	1:A:432:TYR:N	2.32	0.45
1:B:283:TYR:CE2	1:B:432:TYR:CZ	3.05	0.45
1:B:505:GLY:HA3	1:B:760:HIS:NE2	2.32	0.45
1:B:769:LEU:C	1:B:769:LEU:HD23	2.38	0.45
1:B:832:LEU:HD23	3:F:164:GLU:HG3	1.98	0.45
3:F:38:GLN:OE1	3:F:48:ASP:HB2	2.17	0.45
1:A:39:VAL:CB	1:A:49:ALA:HB2	2.46	0.44
1:B:267:LEU:HG	1:B:268:LEU:N	2.32	0.44
1:B:283:TYR:CD2	1:B:432:TYR:CZ	3.05	0.44
1:B:417:VAL:O	1:B:421:ILE:HG23	2.17	0.44
1:B:494:PHE:O	1:B:498:GLN:HG2	2.17	0.44
2:D:61:PHE:CE2	2:D:79:VAL:HA	2.52	0.44
2:D:111:PHE:CZ	2:D:115:LEU:HD11	2.52	0.44
3:E:101:ASN:O	3:E:105:VAL:HG12	2.16	0.44
1:A:171:ASN:ND2	1:A:665:THR:HG22	2.33	0.44
1:A:275:PHE:HB2	1:A:421:ILE:CG1	2.47	0.44
1:A:549:LYS:CG	1:A:553:PHE:HE2	2.31	0.44
1:B:168:ASP:O	1:B:168:ASP:OD1	2.36	0.44
1:B:196:ALA:HA	1:B:217:GLU:OE1	2.17	0.44
1:A:500:GLU:O	1:A:504:GLU:HG2	2.17	0.44
1:B:145:LYS:HA	1:B:145:LYS:HD2	1.81	0.44
1:B:197:VAL:HG22	1:B:204:ARG:NH2	2.33	0.44
1:B:345:GLU:O	1:B:349:MET:HG2	2.16	0.44
1:B:732:GLU:CD	2:D:135:GLU:OE1	2.56	0.44
1:B:834:PHE:CE2	1:B:835:LYS:HB2	2.52	0.44
1:B:899:ALA:O	1:B:902:GLU:HB2	2.16	0.44
2:C:93:LEU:HD11	2:C:101:GLN:HG3	1.99	0.44
3:E:22:GLU:CG	3:E:25:GLN:HE21	2.27	0.44
1:A:285:ILE:HA	1:A:288:GLN:OE1	2.17	0.44
1:A:815:GLN:NE2	3:E:127:ALA:HB3	2.31	0.44
1:B:45:GLU:C	1:B:46:PHE:HD1	2.21	0.44
1:B:126:ASN:OD1	1:B:127:PRO:HD2	2.17	0.44
1:B:276:GLN:NE2	1:B:276:GLN:H	2.15	0.44
1:B:869:ARG:HG3	1:B:870:ARG:N	2.30	0.44
3:F:59:VAL:HG13	3:F:60:ASN:H	1.81	0.44
1:A:124:THR:OG1	1:A:672:CYS:SG	2.75	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:293:LYS:CE	1:B:298:LEU:HA	2.48	0.44
1:B:438:TRP:HE1	1:B:619:THR:HG1	1.63	0.44
1:B:631:ILE:HG22	1:B:637:LYS:O	2.16	0.44
3:E:8:LYS:HD3	3:F:59:VAL:HG23	2.00	0.44
1:A:388:MET:HB3	1:A:390:LEU:HD13	1.99	0.44
1:A:642:SER:OG	1:A:645:GLN:HB2	2.17	0.44
1:A:730:ILE:CB	1:A:734:GLN:HG3	2.42	0.44
1:A:735:PHE:CE2	1:B:379:GLU:OE2	2.70	0.44
1:B:76:VAL:HG13	1:B:76:VAL:O	2.17	0.44
1:B:726:ASN:ND2	1:B:730:ILE:HG13	2.33	0.44
1:B:804:LEU:HD11	2:D:75:GLN:HE21	1.74	0.44
2:C:63:ARG:HG3	2:C:63:ARG:O	2.17	0.44
2:D:65:PRO:CD	3:F:126:GLN:NE2	2.75	0.44
1:A:915:LEU:O	1:A:919:VAL:HG23	2.17	0.44
1:B:98:GLU:HB2	1:B:99:PRO:HD3	1.99	0.44
1:B:195:PHE:HE2	1:B:457:ILE:HD12	1.82	0.44
1:B:302:LEU:HD13	1:B:383:LYS:HA	1.98	0.44
1:A:65:TYR:N	1:A:65:TYR:CD1	2.86	0.44
1:A:146:LYS:NZ	1:A:775:GLU:CB	2.80	0.44
1:B:18:LYS:CE	1:B:88:GLU:HA	2.47	0.44
1:B:652:ARG:HA	1:B:652:ARG:NE	2.29	0.44
1:B:950:LEU:O	1:B:954:ILE:HG13	2.17	0.44
2:C:54:PHE:CE1	2:C:118:LEU:HD23	2.53	0.44
2:C:88:THR:OG1	2:C:91:GLU:HG3	2.17	0.44
2:D:63:ARG:CZ	2:D:75:GLN:NE2	2.81	0.44
3:F:73:ALA:N	3:F:74:PRO:HD3	2.32	0.44
1:A:31:PHE:CZ	1:A:34:LYS:CB	3.01	0.44
1:A:33:LEU:CB	1:A:50:LYS:HZ3	2.27	0.44
1:A:746:LEU:HB3	1:A:751:ILE:HD11	1.99	0.44
1:B:136:PRO:HA	1:B:139:VAL:HB	2.00	0.44
1:B:139:VAL:CG1	1:B:197:VAL:HG13	2.42	0.44
1:B:789:GLN:NE2	2:D:160:LEU:O	2.47	0.44
1:B:868:ALA:C	1:B:871:LYS:HB2	2.38	0.44
2:C:50:GLN:O	2:C:54:PHE:CD2	2.71	0.44
2:D:155:HIS:O	2:D:159:THR:HG23	2.18	0.44
3:E:159:ILE:O	3:E:159:ILE:HG13	2.17	0.44
3:F:22:GLU:HB3	3:F:26:ILE:HG12	1.99	0.44
1:A:872:GLU:C	1:A:875:GLU:HG2	2.38	0.43
1:B:25:GLU:HG3	1:B:25:GLU:O	2.18	0.43
1:B:45:GLU:OE2	1:B:102:LEU:CD1	2.66	0.43
1:B:751:ILE:HD12	1:B:756:TYR:CE2	2.53	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:781:LEU:HD23	1:B:781:LEU:HA	1.87	0.43
1:B:818:ILE:CD1	3:F:130:PHE:CE2	2.97	0.43
1:B:832:LEU:CD2	3:F:164:GLU:HG2	2.38	0.43
3:E:125:THR:O	3:E:129:ARG:NH1	2.50	0.43
3:E:158:ILE:HG22	3:E:159:ILE:HG23	2.00	0.43
3:F:159:ILE:HG13	3:F:160:THR:H	1.82	0.43
1:A:286:PHE:HE1	1:A:356:ILE:HG13	1.83	0.43
1:A:425:GLY:C	1:A:429:LYS:HB2	2.39	0.43
1:A:735:PHE:CD1	1:A:741:GLY:CA	2.83	0.43
1:A:795:VAL:HG21	2:C:195:SER:C	2.39	0.43
1:A:837:LYS:HE3	3:E:28:GLU:HB2	1.99	0.43
1:A:841:LYS:NZ	3:F:21:PHE:HB3	2.33	0.43
1:B:114:ILE:HG23	1:B:125:VAL:O	2.18	0.43
1:B:293:LYS:HZ2	1:B:298:LEU:HA	1.83	0.43
1:B:834:PHE:CE1	3:F:164:GLU:CD	2.54	0.43
3:E:110:GLY:O	3:E:111:LYS:HB3	2.18	0.43
1:A:174:ILE:HD12	1:A:668:HIS:HB2	1.98	0.43
1:A:714:LEU:HD23	1:A:716:GLY:H	1.84	0.43
1:A:930:GLU:O	1:A:933:ASN:HB3	2.18	0.43
1:B:112:TRP:O	1:B:114:ILE:HD12	2.19	0.43
1:B:155:PHE:HE1	1:B:193:GLN:HE21	1.58	0.43
1:B:162:TYR:HA	1:B:165:MET:HG2	2.00	0.43
1:B:209:GLN:C	1:B:211:PRO:HD2	2.39	0.43
1:B:355:ALA:HB1	1:B:359:PHE:CE2	2.54	0.43
1:B:411:VAL:HG12	1:B:412:THR:N	2.33	0.43
1:B:540:PHE:CE1	1:B:913:ILE:HD13	2.53	0.43
1:B:699:LEU:HG	1:B:703:ARG:NH1	2.34	0.43
1:B:699:LEU:HG	1:B:703:ARG:HH11	1.83	0.43
3:E:125:THR:O	3:E:129:ARG:NH2	2.52	0.43
1:A:417:VAL:O	1:A:421:ILE:HG12	2.18	0.43
1:B:136:PRO:O	1:B:140:ALA:HB2	2.17	0.43
1:B:471:ASN:HB3	1:B:588:TYR:CD1	2.53	0.43
1:B:733:GLY:H	2:D:135:GLU:HA	1.09	0.43
2:C:141:ASP:HB2	2:C:185:TYR:CE2	2.53	0.43
1:A:635:LYS:O	1:A:637:LYS:N	2.52	0.43
1:A:831:LYS:HB3	3:E:163:GLU:O	2.16	0.43
1:B:98:GLU:N	1:B:99:PRO:HD2	2.33	0.43
1:B:332:THR:O	1:B:335:ALA:HB3	2.19	0.43
1:B:824:VAL:HG13	1:B:825:LYS:N	2.32	0.43
3:F:88:GLU:OE1	3:F:91:LYS:HD2	2.19	0.43
1:B:48:LYS:HZ3	1:B:79:GLN:CB	2.31	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:233:ALA:HB3	1:B:243:ARG:NE	2.33	0.43
1:B:349:MET:HB2	1:B:349:MET:HE2	1.67	0.43
1:B:724:ILE:HG12	1:B:784:ILE:HB	2.00	0.43
2:C:172:LEU:HD21	2:C:188:PHE:HE1	1.81	0.43
2:D:101:GLN:O	2:D:102:GLU:CG	2.67	0.43
2:D:115:LEU:HD23	2:D:118:LEU:HD12	2.00	0.43
3:E:51:ASP:O	3:E:54:ALA:HB3	2.18	0.43
3:E:139:PHE:CE2	3:E:142:PHE:CE1	3.07	0.43
1:A:54:ARG:HG3	1:A:54:ARG:O	2.18	0.43
1:A:106:LYS:HD2	1:A:686:ASN:ND2	2.33	0.43
1:A:134:TYR:CG	1:A:190:ARG:HD3	2.50	0.43
1:A:834:PHE:CE1	1:A:835:LYS:HG2	2.54	0.43
1:B:251:HIS:CE1	1:B:456:PHE:HB3	2.53	0.43
1:A:45:GLU:HB2	1:A:686:ASN:HB3	1.99	0.43
1:B:46:PHE:CG	1:B:99:PRO:HB3	2.52	0.43
1:B:63:THR:CG2	1:B:64:GLU:N	2.82	0.43
1:B:63:THR:CG2	1:B:65:TYR:CE2	2.96	0.43
1:B:750:ASP:O	1:B:751:ILE:CG1	2.67	0.43
1:B:865:LYS:O	1:B:867:GLU:O	2.37	0.43
2:D:76:CYS:HA	2:D:79:VAL:CG1	2.48	0.43
1:A:43:LYS:HD3	1:A:43:LYS:N	2.33	0.43
1:A:503:LYS:NZ	1:B:372:GLN:HB2	2.34	0.43
1:B:84:PHE:CD1	1:B:87:ILE:HD11	2.50	0.43
1:B:151:PRO:HB2	1:B:152:PRO:CD	2.42	0.43
1:B:155:PHE:HZ	1:B:193:GLN:HE21	1.55	0.43
1:B:260:SER:HB3	1:B:449:THR:CA	2.49	0.43
1:B:303:ILE:HA	1:B:310:TYR:OH	2.18	0.43
1:B:723:ARG:HG3	1:B:724:ILE:N	2.25	0.43
1:A:388:MET:O	1:A:614:LEU:HD22	2.19	0.43
1:A:769:LEU:HD23	1:A:769:LEU:C	2.40	0.43
1:B:293:LYS:HE3	1:B:298:LEU:CA	2.48	0.43
1:B:335:ALA:O	1:B:339:LEU:HG	2.18	0.43
1:B:431:VAL:HG22	1:B:435:MET:CE	2.48	0.43
1:B:635:LYS:HB3	1:B:640:LYS:N	2.33	0.43
1:B:732:GLU:HG3	2:D:136:GLY:N	2.34	0.43
2:D:76:CYS:C	2:D:79:VAL:HG12	2.39	0.43
3:F:159:ILE:HG13	3:F:160:THR:N	2.34	0.43
1:A:293:LYS:NZ	1:A:303:ILE:HD13	2.34	0.42
1:A:713:ILE:HB	1:A:765:PHE:CE2	2.54	0.42
1:B:59:VAL:O	1:B:70:THR:HA	2.19	0.42
1:B:174:ILE:O	1:B:459:VAL:HA	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:390:LEU:HD11	1:B:609:TYR:CD1	2.54	0.42
1:B:404:VAL:CG1	1:B:411:VAL:HB	2.49	0.42
1:B:534:LEU:HG	1:B:538:CYS:SG	2.59	0.42
1:B:720:GLN:NE2	2:D:137:LEU:HA	2.34	0.42
1:B:818:ILE:HG13	3:F:130:PHE:CZ	2.53	0.42
1:B:833:TYR:CG	1:B:833:TYR:O	2.71	0.42
1:B:849:MET:CA	1:B:852:MET:HG3	2.46	0.42
2:C:147:THR:CG2	2:C:184:ASN:HD21	2.32	0.42
1:B:48:LYS:NZ	1:B:79:GLN:CB	2.81	0.42
1:B:549:LYS:CE	1:B:566:PRO:HG3	2.48	0.42
1:B:834:PHE:CG	1:B:835:LYS:N	2.87	0.42
1:A:268:LEU:HD23	1:A:433:GLU:OE1	2.19	0.42
1:A:346:LYS:HA	1:A:349:MET:CE	2.50	0.42
1:B:256:GLY:CA	2:D:154:ARG:NH2	2.75	0.42
1:B:286:PHE:HZ	1:B:356:ILE:HG13	1.81	0.42
3:E:38:GLN:HB3	3:E:48:ASP:OD2	2.19	0.42
1:A:617:LEU:C	1:A:617:LEU:HD23	2.39	0.42
1:B:172:GLN:HE22	1:B:666:HIS:CG	2.37	0.42
1:B:562:ASN:HB3	1:B:580:ILE:HG22	2.01	0.42
1:B:633:LYS:CA	1:B:641:GLY:HA3	2.49	0.42
1:B:867:GLU:CB	1:B:871:LYS:HG2	2.49	0.42
2:C:153:LEU:HD22	2:C:183:ILE:HD12	1.99	0.42
1:A:746:LEU:HD22	1:A:751:ILE:CD1	2.40	0.42
1:B:246:LYS:HA	1:B:264:GLU:O	2.20	0.42
2:D:76:CYS:O	2:D:79:VAL:HG12	2.19	0.42
3:F:22:GLU:CB	3:F:26:ILE:HG12	2.49	0.42
3:F:156:VAL:HG23	3:F:159:ILE:CD1	2.45	0.42
1:A:65:TYR:N	1:A:65:TYR:HD1	2.17	0.42
1:A:133:VAL:CG2	1:A:138:VAL:HG11	2.49	0.42
1:A:717:ASP:HA	1:B:392:SER:HB3	2.01	0.42
1:B:139:VAL:O	1:B:204:ARG:NH1	2.53	0.42
1:B:345:GLU:HA	1:B:348:SER:HB2	2.00	0.42
1:B:403:ARG:HG3	1:B:403:ARG:O	2.19	0.42
1:B:793:ARG:NH2	2:D:162:GLU:OE2	2.52	0.42
1:B:871:LYS:CD	1:B:871:LYS:N	2.82	0.42
2:C:100:ARG:O	2:C:100:ARG:HG2	2.18	0.42
3:E:37:ASP:O	3:E:40:ARG:NH1	2.52	0.42
1:A:96:LEU:HD13	1:A:703:ARG:HG2	2.00	0.42
1:A:115:TYR:CD1	1:A:124:THR:CG2	3.02	0.42
1:A:366:LEU:HD11	1:A:417:VAL:CG1	2.50	0.42
1:A:472:SER:CB	1:A:596:LYS:HZ3	2.31	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:549:LYS:HD3	1:A:576:HIS:N	2.34	0.42
1:A:909:ILE:N	1:B:908:LEU:HD11	2.35	0.42
1:B:38:PHE:CE1	1:B:79:GLN:CD	2.93	0.42
1:B:109:TYR:HE2	1:B:684:MET:HB3	1.85	0.42
1:B:227:LEU:HD21	1:B:443:ILE:HD13	2.00	0.42
1:B:432:TYR:HA	1:B:435:MET:CG	2.48	0.42
2:C:46:PHE:CE2	2:C:51:ILE:HG22	2.53	0.42
1:A:87:ILE:CG1	1:A:104:ASN:ND2	2.82	0.42
1:A:404:VAL:HG23	1:A:603:GLU:OE1	2.19	0.42
1:A:756:TYR:CE2	1:A:758:PHE:CZ	2.96	0.42
1:B:250:ILE:O	1:B:456:PHE:HA	2.19	0.42
1:B:628:ASP:OD1	1:B:628:ASP:O	2.37	0.42
3:E:33:PHE:CD1	3:E:36:MET:SD	3.13	0.42
1:A:714:LEU:HD22	1:B:396:LEU:HB2	1.85	0.42
1:A:908:LEU:HD13	1:B:908:LEU:HD22	0.86	0.42
1:A:908:LEU:C	1:B:908:LEU:HD11	2.40	0.42
1:A:944:GLU:O	1:A:947:CYS:SG	2.72	0.42
1:B:303:ILE:HG13	1:B:304:THR:O	2.20	0.42
1:B:440:VAL:CA	1:B:443:ILE:HG12	2.49	0.42
1:B:616:LEU:HD12	1:B:616:LEU:N	2.34	0.42
1:B:804:LEU:HD22	2:D:63:ARG:HD3	0.42	0.42
1:B:834:PHE:CD1	3:F:164:GLU:HG3	2.44	0.42
1:B:924:GLU:HA	1:B:927:GLU:HG2	2.01	0.42
1:B:944:GLU:O	1:B:947:CYS:SG	2.74	0.42
2:D:131:GLU:CA	2:D:134:VAL:HG12	2.46	0.42
1:A:98:GLU:N	1:A:99:PRO:CD	2.83	0.42
1:A:168:ASP:OD1	1:A:168:ASP:O	2.37	0.42
1:B:39:VAL:HG23	1:B:47:VAL:CG1	2.49	0.42
1:B:228:GLU:O	1:B:232:ASN:HB2	2.19	0.42
1:B:540:PHE:CE1	1:B:913:ILE:CD1	3.02	0.42
1:B:614:LEU:CB	1:B:617:LEU:HD13	2.45	0.42
1:B:735:PHE:H	2:D:138:ARG:NH2	2.13	0.42
1:B:869:ARG:CD	2:D:177:GLU:CD	2.66	0.42
2:C:93:LEU:HD11	2:C:101:GLN:CG	2.50	0.42
2:C:172:LEU:HD21	2:C:188:PHE:HZ	1.82	0.42
3:E:56:LEU:HB3	3:E:165:LYS:CD	2.43	0.42
1:A:37:VAL:HG21	1:A:76:VAL:HG23	2.02	0.41
1:A:785:ILE:HG23	1:A:785:ILE:O	2.20	0.41
1:B:18:LYS:HG3	1:B:113:MET:CE	2.50	0.41
1:B:108:ARG:HA	1:B:108:ARG:HD3	1.84	0.41
1:B:292:ASN:CB	1:B:329:LEU:HB3	2.50	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:591:ILE:O	1:B:591:ILE:HG13	2.19	0.41
1:B:633:LYS:HA	1:B:642:SER:H	1.85	0.41
3:E:33:PHE:HA	3:E:36:MET:SD	2.60	0.41
1:A:680:SER:HA	1:A:681:PRO:HD2	1.91	0.41
1:A:785:ILE:HG23	1:A:788:ILE:HB	2.01	0.41
1:A:947:CYS:O	1:A:951:LYS:HB2	2.20	0.41
1:B:243:ARG:HB2	1:B:283:TYR:HE1	1.85	0.41
1:B:256:GLY:H	2:D:154:ARG:NH2	2.08	0.41
1:B:524:ILE:O	1:B:527:PRO:HD2	2.20	0.41
2:D:66:LYS:HD3	3:F:126:GLN:O	2.20	0.41
2:D:183:ILE:HG22	2:D:184:ASN:N	2.35	0.41
1:A:160:ASN:OD1	1:A:164:TYR:CZ	2.73	0.41
1:A:246:LYS:HB3	1:A:461:ASP:HB3	2.02	0.41
1:A:390:LEU:HD11	1:A:612:SER:OG	2.20	0.41
1:B:285:ILE:O	1:B:289:ILE:HG23	2.20	0.41
2:C:81:ARG:HA	2:C:85:GLN:O	2.21	0.41
2:C:137:LEU:HD11	2:C:189:VAL:HG21	2.00	0.41
2:D:76:CYS:CA	2:D:79:VAL:HG12	2.50	0.41
3:E:33:PHE:HA	3:E:36:MET:CG	2.48	0.41
3:E:67:ASP:HA	3:E:70:ILE:HD13	2.02	0.41
1:A:352:LEU:HD23	1:A:352:LEU:C	2.40	0.41
1:A:735:PHE:CB	1:A:741:GLY:HA3	2.51	0.41
1:A:791:GLN:HB3	2:C:192:ILE:CG2	2.50	0.41
1:A:804:LEU:HD23	1:A:807:ARG:NE	2.31	0.41
1:A:929:GLU:HA	1:A:929:GLU:OE1	2.20	0.41
1:B:293:LYS:HG3	1:B:297:LEU:HB2	2.01	0.41
1:B:812:LEU:O	1:B:816:TRP:CD1	2.73	0.41
3:E:96:GLU:HA	3:E:159:ILE:HD11	2.01	0.41
1:A:795:VAL:HG23	2:C:195:SER:OXT	2.21	0.41
1:B:113:MET:HG3	1:B:115:TYR:O	2.19	0.41
1:B:869:ARG:HG3	1:B:871:LYS:CE	2.51	0.41
2:C:61:PHE:HE2	2:C:79:VAL:HA	1.84	0.41
2:C:154:ARG:NH2	2:C:173:MET:SD	2.93	0.41
3:F:145:ASP:N	3:F:150:LEU:HD13	2.34	0.41
1:A:13:ALA:N	1:A:14:PRO:CD	2.83	0.41
1:A:18:LYS:CG	1:A:113:MET:SD	3.08	0.41
1:A:631:ILE:HG13	1:A:638:ALA:HA	2.03	0.41
1:A:643:SER:HB3	1:A:645:GLN:HG3	2.03	0.41
1:A:715:TYR:CE1	1:A:763:VAL:HB	2.56	0.41
1:A:879:SER:O	1:A:883:GLU:HG3	2.19	0.41
1:B:81:PRO:HA	1:B:82:PRO:HD3	1.85	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:C:66:LYS:HG3	2:C:66:LYS:O	2.20	0.41
2:D:173:MET:HG3	2:D:173:MET:O	2.20	0.41
1:A:549:LYS:O	1:A:553:PHE:CD2	2.74	0.41
1:B:217:GLU:HA	1:B:220:ILE:HG12	2.01	0.41
1:B:335:ALA:O	1:B:338:VAL:HG22	2.20	0.41
1:B:470:PHE:CE1	1:B:472:SER:OG	2.70	0.41
1:B:570:LYS:HA	1:B:573:PRO:HB3	2.02	0.41
1:B:633:LYS:C	1:B:640:LYS:O	2.59	0.41
1:B:811:LEU:HD11	2:D:65:PRO:HB3	0.77	0.41
2:C:114:PHE:O	2:C:118:LEU:HD13	2.20	0.41
1:B:45:GLU:OE2	1:B:690:MET:CA	2.61	0.41
1:B:134:TYR:HB3	1:B:193:GLN:HE22	1.86	0.41
1:B:298:LEU:C	1:B:298:LEU:HD23	2.41	0.41
1:B:370:GLU:HG3	1:B:372:GLN:HG3	2.02	0.41
1:B:826:ASN:HB3	3:F:58:ARG:HG3	1.98	0.41
1:A:18:LYS:HE3	1:A:18:LYS:HB3	1.82	0.41
1:A:35:LYS:HB3	1:A:51:ILE:HB	2.02	0.41
1:A:38:PHE:CE1	1:A:79:GLN:CA	2.98	0.41
1:A:106:LYS:HD2	1:A:686:ASN:OD1	2.20	0.41
1:A:293:LYS:HZ2	1:A:303:ILE:HD13	1.84	0.41
1:A:423:ALA:O	1:A:426:ALA:CB	2.69	0.41
1:A:516:ASP:OD2	1:A:518:GLN:HG2	2.20	0.41
1:A:608:LEU:HD23	1:A:608:LEU:C	2.41	0.41
1:A:735:PHE:CG	1:A:735:PHE:O	2.73	0.41
1:A:825:LYS:O	1:A:825:LYS:HG2	2.21	0.41
1:B:48:LYS:HZ3	1:B:79:GLN:CG	2.33	0.41
1:B:124:THR:HG1	1:B:672:CYS:HG	1.62	0.41
1:B:180:SER:O	1:B:237:ARG:NH1	2.53	0.41
1:B:348:SER:HB2	1:B:616:LEU:HD22	2.03	0.41
1:B:753:HIS:HA	1:B:756:TYR:CE2	2.56	0.41
1:B:818:ILE:HD12	3:F:130:PHE:HE2	1.77	0.41
1:B:939:LYS:O	1:B:943:LEU:HG	2.20	0.41
3:E:21:PHE:CB	3:E:26:ILE:HG13	2.51	0.41
3:F:116:ALA:HA	3:F:149:ASN:ND2	2.36	0.41
1:A:113:MET:HB2	1:A:113:MET:HE3	1.71	0.41
1:B:427:LEU:HD21	1:B:609:TYR:CZ	2.56	0.41
1:B:486:GLN:O	1:B:489:PHE:HB3	2.21	0.41
1:B:538:CYS:SG	1:B:597:ASN:ND2	2.94	0.41
1:B:715:TYR:CE1	1:B:719:ARG:HD3	2.56	0.41
2:C:93:LEU:CD2	2:C:101:GLN:HG3	2.50	0.41
2:C:114:PHE:CE2	2:C:118:LEU:CD2	3.00	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:C:183:ILE:HG13	2:C:183:ILE:O	2.21	0.41
2:D:134:VAL:HG23	2:D:185:TYR:CE2	2.56	0.41
1:A:188:THR:O	1:A:192:ILE:HG13	2.22	0.40
1:A:784:ILE:O	2:C:160:LEU:HB3	2.22	0.40
1:B:160:ASN:CA	1:B:163:GLN:HG2	2.51	0.40
1:B:287:TYR:CD1	1:B:287:TYR:N	2.89	0.40
1:B:362:MET:SD	1:B:381:ALA:HB2	2.61	0.40
1:B:641:GLY:O	1:B:642:SER:HB2	2.21	0.40
3:F:49:LEU:HD11	3:F:70:ILE:CG1	2.51	0.40
3:F:62:LYS:CG	3:F:64:GLU:HG2	2.50	0.40
1:A:293:LYS:CG	1:A:297:LEU:HB2	2.51	0.40
1:A:352:LEU:HD22	1:A:435:MET:HE2	2.02	0.40
1:A:714:LEU:CG	1:B:396:LEU:HD13	2.50	0.40
1:A:836:ILE:HG21	3:E:56:LEU:HA	2.03	0.40
1:B:18:LYS:HD3	1:B:108:ARG:CD	2.44	0.40
1:B:38:PHE:CZ	1:B:79:GLN:NE2	2.90	0.40
1:B:143:ARG:N	1:B:145:LYS:HG2	2.36	0.40
1:B:276:GLN:CG	1:B:282:ASP:OD1	2.68	0.40
1:B:292:ASN:HB2	1:B:326:ALA:O	2.21	0.40
1:B:313:ILE:HG23	1:B:313:ILE:O	2.22	0.40
1:B:438:TRP:HB2	1:B:620:LEU:HD23	2.02	0.40
1:B:549:LYS:CG	1:B:553:PHE:CE2	2.93	0.40
1:B:574:GLU:O	1:B:591:ILE:HG23	2.21	0.40
1:B:702:ILE:O	1:B:706:ARG:HB3	2.21	0.40
1:B:898:LEU:HD23	1:B:898:LEU:C	2.42	0.40
2:D:100:ARG:HD3	2:D:100:ARG:HA	1.89	0.40
3:F:62:LYS:HG3	3:F:64:GLU:H	1.87	0.40
3:F:103:PHE:CE1	3:F:114:LEU:HD22	2.54	0.40
3:F:106:PHE:CD2	3:F:114:LEU:HD12	2.56	0.40
1:A:109:TYR:CD1	1:A:125:VAL:CG1	3.01	0.40
1:A:853:LYS:HZ1	1:B:841:LYS:HZ1	0.53	0.40
1:B:168:ASP:O	1:B:169:ARG:HB2	2.21	0.40
1:B:449:THR:O	1:B:452:PRO:HD3	2.21	0.40
1:B:539:MET:CE	1:B:910:LYS:HD3	2.51	0.40
1:B:623:ASN:OD1	1:B:624:TYR:CA	2.65	0.40
1:B:709:PHE:CZ	1:B:757:LYS:HG2	2.56	0.40
2:D:46:PHE:HZ	2:D:119:GLN:N	2.20	0.40
3:E:8:LYS:HG3	3:F:60:ASN:ND2	2.36	0.40
1:A:38:PHE:CD2	1:A:99:PRO:CB	2.99	0.40
1:A:43:LYS:HE2	1:A:43:LYS:HB2	1.94	0.40
1:A:316:GLY:HA2	1:A:317:GLU:HB2	2.02	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:735:PHE:CD2	1:B:379:GLU:CD	2.93	0.40
1:A:882:GLN:CD	1:B:454:GLN:HB3	2.42	0.40
1:B:146:LYS:NZ	1:B:721:ARG:HH12	2.18	0.40
1:B:244:PHE:HA	1:B:267:LEU:O	2.21	0.40
1:B:355:ALA:C	1:B:359:PHE:CE2	2.95	0.40
1:B:605:VAL:HG22	1:B:609:TYR:CZ	2.56	0.40
1:B:830:MET:O	1:B:831:LYS:HE3	2.21	0.40
3:E:100:LEU:C	3:E:100:LEU:HD23	2.42	0.40
1:A:329:LEU:HD13	1:A:329:LEU:O	2.22	0.40
1:A:405:LYS:HD2	1:A:410:TYR:CE1	2.56	0.40
1:A:818:ILE:O	1:A:822:MET:HG3	2.21	0.40
1:A:918:LYS:O	1:A:922:MET:HG3	2.21	0.40
1:A:931:GLU:O	1:A:935:GLU:HG3	2.21	0.40
1:B:63:THR:HG21	1:B:65:TYR:CD2	2.53	0.40
1:B:95:PHE:N	1:B:95:PHE:HD1	2.20	0.40
1:B:666:HIS:CE1	1:B:762:LYS:NZ	2.89	0.40
1:B:815:GLN:NE2	2:D:65:PRO:O	2.55	0.40
1:B:869:ARG:N	1:B:871:LYS:HE3	2.37	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 PDB entries followed by that with respect to all EM entries.

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	952/1935 (49%)	759 (80%)	141 (15%)	52 (6%)	2 19
1	B	948/1935 (49%)	781 (82%)	111 (12%)	56 (6%)	1 17
2	C	150/195 (77%)	132 (88%)	12 (8%)	6 (4%)	3 23
2	D	150/195 (77%)	133 (89%)	12 (8%)	5 (3%)	4 26
3	E	158/166 (95%)	111 (70%)	32 (20%)	15 (10%)	0 10
3	F	158/166 (95%)	115 (73%)	27 (17%)	16 (10%)	0 9

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
All	All	2516/4592 (55%)	2031 (81%)	335 (13%)	150 (6%)	3 17

All (150) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	11	ALA
1	A	27	GLN
1	A	208	ASP
1	A	272	ARG
1	A	313	ILE
1	A	314	SER
1	A	367	LYS
1	A	368	GLN
1	A	396	LEU
1	A	397	LYS
1	A	452	PRO
1	A	463	ALA
1	A	572	LYS
1	A	599	ASP
1	A	605	VAL
1	A	636	GLY
1	A	844	GLU
1	B	45	GLU
1	B	91	ALA
1	B	147	ARG
1	B	211	PRO
1	B	260	SER
1	B	277	LEU
1	B	370	GLU
1	B	452	PRO
1	B	615	LYS
1	B	623	ASN
1	B	635	LYS
1	B	641	GLY
1	B	643	SER
1	B	723	ARG
1	B	828	PRO
1	B	833	TYR
1	B	843	ALA
2	C	101	GLN
2	C	105	ASN
2	C	144	GLY

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Mol	Chain	Res	Type
3	E	20	MET
3	E	28	GLU
3	E	127	ALA
3	F	23	GLN
3	F	76	PRO
3	F	96	GLU
3	F	116	ALA
1	A	64	GLU
1	A	143	ARG
1	A	274	ILE
1	A	302	LEU
1	A	307	PRO
1	A	369	ARG
1	A	370	GLU
1	A	371	GLU
1	A	395	LEU
1	A	571	GLY
1	A	623	ASN
1	A	635	LYS
1	A	736	ILE
1	A	785	ILE
1	A	830	MET
1	B	73	GLU
1	B	154	ILE
1	B	183	GLY
1	B	315	GLN
1	B	450	LYS
1	B	454	GLN
1	B	520	CYS
1	B	634	GLY
1	B	644	PHE
1	B	802	LYS
1	B	824	VAL
1	B	841	LYS
1	B	869	ARG
2	D	102	GLU
2	D	105	ASN
3	E	17	VAL
3	E	25	GLN
3	E	29	PHE
3	E	111	LYS
3	F	27	GLN

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Mol	Chain	Res	Type
3	F	33	PHE
3	F	66	ILE
1	A	182	ALA
1	A	842	SER
1	B	62	GLU
1	B	322	SER
1	B	378	THR
1	B	750	ASP
2	C	143	GLU
2	D	67	CYS
2	D	69	MET
3	F	42	GLY
3	F	159	ILE
3	F	161	HIS
1	A	16	LEU
1	A	211	PRO
1	A	267	LEU
1	A	317	GLU
1	A	628	ASP
1	A	826	ASN
1	B	205	SER
1	B	362	MET
1	B	417	VAL
1	B	449	THR
1	B	538	CYS
1	B	624	TYR
1	B	633	LYS
1	B	678	THR
1	B	735	PHE
1	B	751	ILE
1	B	803	LYS
1	B	832	LEU
3	E	37	ASP
3	E	146	VAL
3	F	146	VAL
3	F	164	GLU
1	A	179	GLU
1	A	210	SER
1	A	231	GLY
1	A	273	VAL
1	A	824	VAL
1	B	114	ILE

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Mol	Chain	Res	Type
1	B	532	SER
1	B	870	ARG
2	C	62	ASP
2	C	163	ARG
3	E	59	VAL
3	E	60	ASN
3	F	59	VAL
1	A	304	THR
3	E	110	GLY
3	F	14	ASN
1	A	285	ILE
1	A	838	PRO
1	B	505	GLY
1	B	713	ILE
2	D	181	GLY
3	E	77	ILE
3	F	162	GLY
1	A	71	VAL
1	A	407	GLY
1	B	82	PRO
1	B	569	ILE
1	A	414	GLY
1	A	713	ILE
1	B	76	VAL
1	B	580	ILE
1	B	407	GLY
3	E	76	PRO
3	F	11	GLY
3	E	112	GLY

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 PDB entries followed by that with respect to all EM entries.

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	831/1695 (49%)	811 (98%)	20 (2%)	49	69
1	B	828/1695 (49%)	811 (98%)	17 (2%)	53	72

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
2	C	133/167 (80%)	132 (99%)	1 (1%)	81 89
2	D	133/167 (80%)	132 (99%)	1 (1%)	81 89
3	E	137/141 (97%)	135 (98%)	2 (2%)	65 80
3	F	137/141 (97%)	133 (97%)	4 (3%)	42 64
All	All	2199/4006 (55%)	2154 (98%)	45 (2%)	57 74

All (45) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	65	TYR
1	A	269	GLU
1	A	309	ASP
1	A	312	PHE
1	A	315	GLN
1	A	337	ASP
1	A	365	LYS
1	A	473	PHE
1	A	500	GLU
1	A	574	GLU
1	A	588	TYR
1	A	593	TRP
1	A	602	ASN
1	A	691	HIS
1	A	814	ILE
1	A	867	GLU
1	A	870	ARG
1	A	871	LYS
1	A	874	GLU
1	A	886	ASP
1	B	108	ARG
1	B	134	TYR
1	B	151	PRO
1	B	179	GLU
1	B	408	ASN
1	B	416	ASN
1	B	420	VAL
1	B	451	GLN
1	B	640	LYS
1	B	706	ARG
1	B	770	LEU
1	B	775	GLU

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Mol	Chain	Res	Type
1	B	793	ARG
1	B	835	LYS
1	B	837	LYS
1	B	861	GLU
1	B	871	LYS
2	C	185	TYR
2	D	185	TYR
3	E	28	GLU
3	E	79	PHE
3	F	25	GLN
3	F	37	ASP
3	F	84	THR
3	F	145	ASP

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (44) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	44	GLN
1	A	79	GLN
1	A	153	HIS
1	A	160	ASN
1	A	292	ASN
1	A	361	ASN
1	A	401	HIS
1	A	589	ASN
1	A	623	ASN
1	A	661	ASN
1	A	791	GLN
1	A	897	ASN
1	B	160	ASN
1	B	163	GLN
1	B	251	HIS
1	B	292	ASN
1	B	401	HIS
1	B	444	ASN
1	B	581	HIS
1	B	589	ASN
1	B	597	ASN
1	B	691	HIS
1	B	726	ASN
1	B	755	GLN
1	B	760	HIS

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Mol	Chain	Res	Type
1	B	791	GLN
1	B	815	GLN
2	C	85	GLN
2	C	119	GLN
2	C	124	ASN
2	C	184	ASN
2	D	75	GLN
2	D	105	ASN
2	D	119	GLN
2	D	180	ASN
2	D	184	ASN
3	E	25	GLN
3	E	149	ASN
3	E	157	HIS
3	F	25	GLN
3	F	60	ASN
3	F	101	ASN
3	F	154	ASN
3	F	161	HIS

5.3.3 RNA

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates

There are no monosaccharides in this entry.

5.6 Ligand geometry

There are no ligands in this entry.

5.7 Other polymers

There are no such residues in this entry.

5.8 Polymer linkage issues (i)

There are no chain breaks in this entry.

6 Map visualisation

This section contains visualisations of the EMDB entry EMD-2240. These allow visual inspection of the internal detail of the map and identification of artifacts.

No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections

This section was not generated.

6.2 Central slices

This section was not generated.

6.3 Largest variance slices

This section was not generated.

6.4 Orthogonal surface views

This section was not generated.

6.5 Mask visualisation

This section was not generated. No masks/segmentation were deposited.

7 Map analysis

This section contains the results of statistical analysis of the map.

7.1 Map-value distribution

This section was not generated.

7.2 Volume estimate versus contour level

This section was not generated.

7.3 Rotationally averaged power spectrum

This section was not generated. The rotationally averaged power spectrum had issues being displayed.

8 Fourier-Shell correlation

This section was not generated. No FSC curve or half-maps provided.

9 Map-model fit

This section was not generated.