



Full wwPDB X-ray Structure Validation Report ⓘ

Mar 5, 2026 – 05:23 PM UTC

PDB ID : 2XA7 / pdb_00002xa7
Title : AP2 clathrin adaptor core in active complex with cargo peptides
Authors : Jackson, L.P.; Kelly, B.T.; McCoy, A.J.; Evans, P.R.; Owen, D.J.
Deposited on : 2010-03-29
Resolution : 3.10 Å(reported)

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

We welcome your comments at validation@mail.wwpdb.org

A user guide is available at

<https://www.wwpdb.org/validation/2017/XrayValidationReportHelp>

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

<http://www.wwpdb.org/validation/2017/FAQs#types>.

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

MolProbity : 4-5-2 with Phenix2.0
Mogul : 2022.3.0, CSD as543be (2022)
Xtrriage (Phenix) : 2.0
EDS : 3.0
Percentile statistics : 20250101.v01 (using entries in the PDB archive January 1st 2025)
CCP4 : 9.0.010 (Gargrove)
Density-Fitness : 1.0.12
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.49

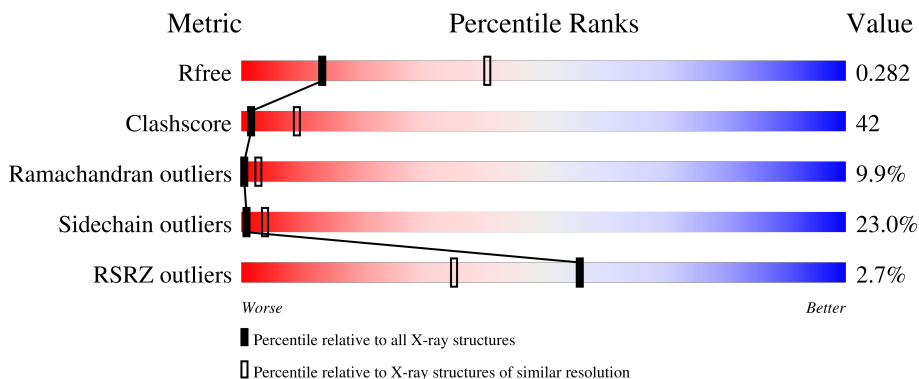
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 3.10 Å.

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



Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R_{free}	180053	1456 (3.10-3.10)
Clashscore	190562	1539 (3.10-3.10)
Ramachandran outliers	187476	1467 (3.10-3.10)
Sidechain outliers	187428	1467 (3.10-3.10)
RSRZ outliers	180081	1456 (3.10-3.10)

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

Mol	Chain	Length	Quality of chain
1	A	621	
2	B	592	
3	M	446	
4	P	6	
5	S	142	

2 Entry composition [i](#)

There are 6 unique types of molecules in this entry. The entry contains 14137 atoms, of which 0 are hydrogens and 0 are deuteriums.

In the tables below, the ZeroOcc column contains the number of atoms modelled with zero occupancy, the AltConf column contains the number of residues with at least one atom in alternate conformation and the Trace column contains the number of residues modelled with at most 2 atoms.

- Molecule 1 is a protein called ADAPTOR-RELATED PROTEIN COMPLEX 2, ALPHA 2 SUBUNIT.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
1	A	613	4836	3081	833	901	21	0	0	0

- Molecule 2 is a protein called AP-2 COMPLEX SUBUNIT BETA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
2	B	579	4596	2928	763	880	25	0	0	0

- Molecule 3 is a protein called AP-2 COMPLEX SUBUNIT MU,.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
3	M	428	3423	2192	591	621	19	0	0	0

There are 11 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
M	237	MET	-	insertion	UNP P84092
M	238	GLU	-	insertion	UNP P84092
M	239	GLN	-	insertion	UNP P84092
M	240	LYS	-	insertion	UNP P84092
M	241	LEU	-	insertion	UNP P84092
M	242	ILE	-	insertion	UNP P84092
M	243	SER	-	insertion	UNP P84092
M	244	GLU	-	insertion	UNP P84092
M	245	GLU	-	insertion	UNP P84092
M	246	ASP	-	insertion	UNP P84092
M	247	LEU	-	insertion	UNP P84092

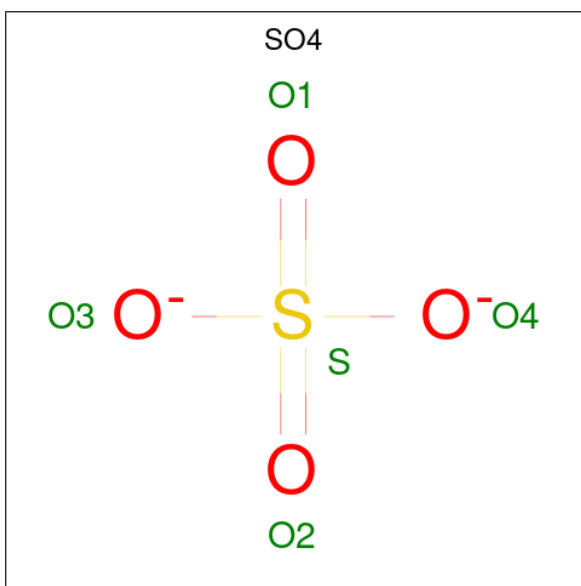
- Molecule 4 is a protein called TGN38 CARGO PEPTIDE.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
			Total	C	N	O			
4	P	6	57	34	11	12	0	0	0

- Molecule 5 is a protein called AP-2 COMPLEX SUBUNIT SIGMA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
5	S	142	1200	778	200	215	7	0	0	0

- Molecule 6 is SULFATE ION (CCD ID: SO4) (formula: O₄S).

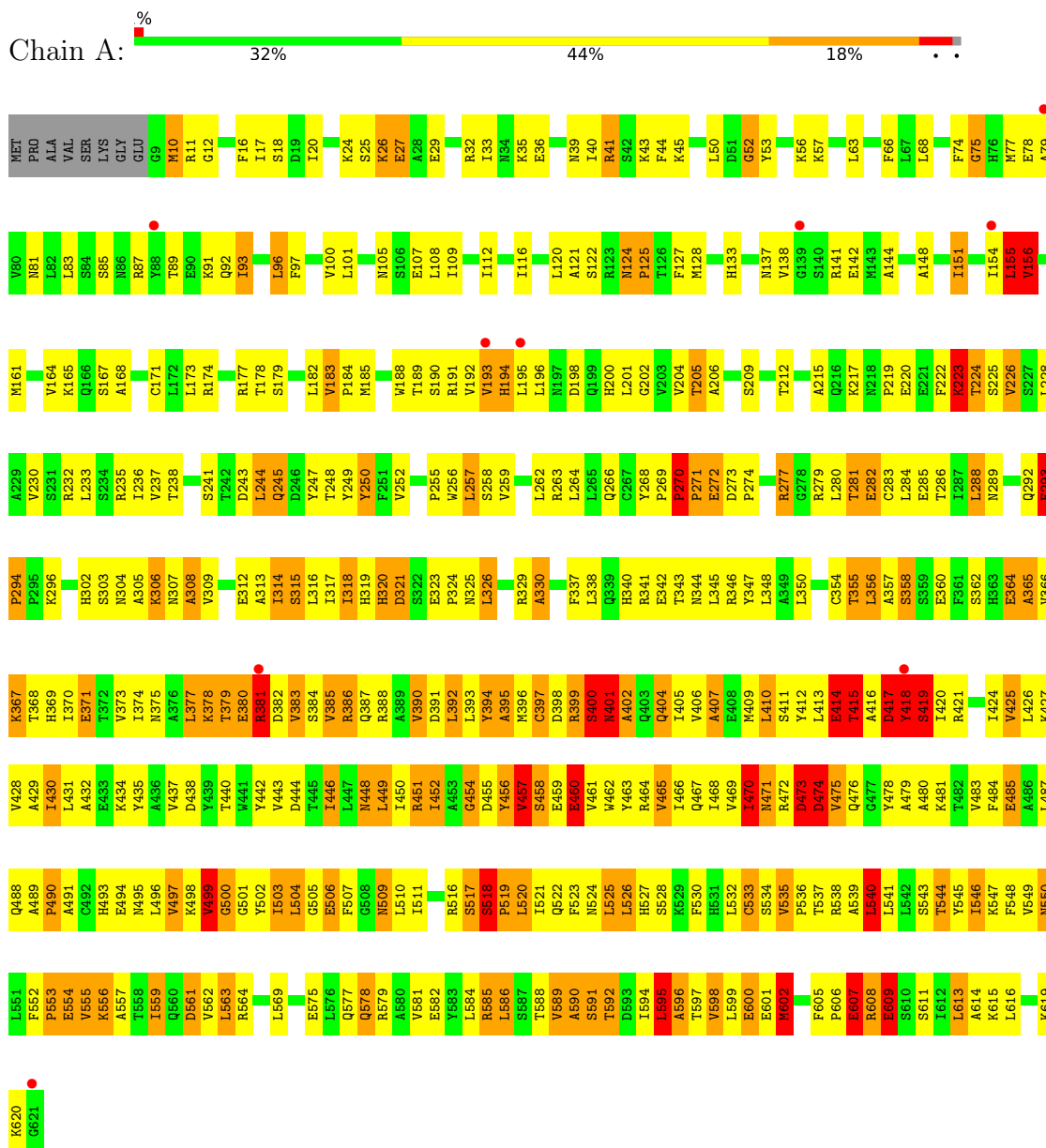


Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
			Total	O	S		
6	A	1	5	4	1	0	0
6	A	1	5	4	1	0	0
6	A	1	5	4	1	0	0
6	S	1	5	4	1	0	0
6	S	1	5	4	1	0	0

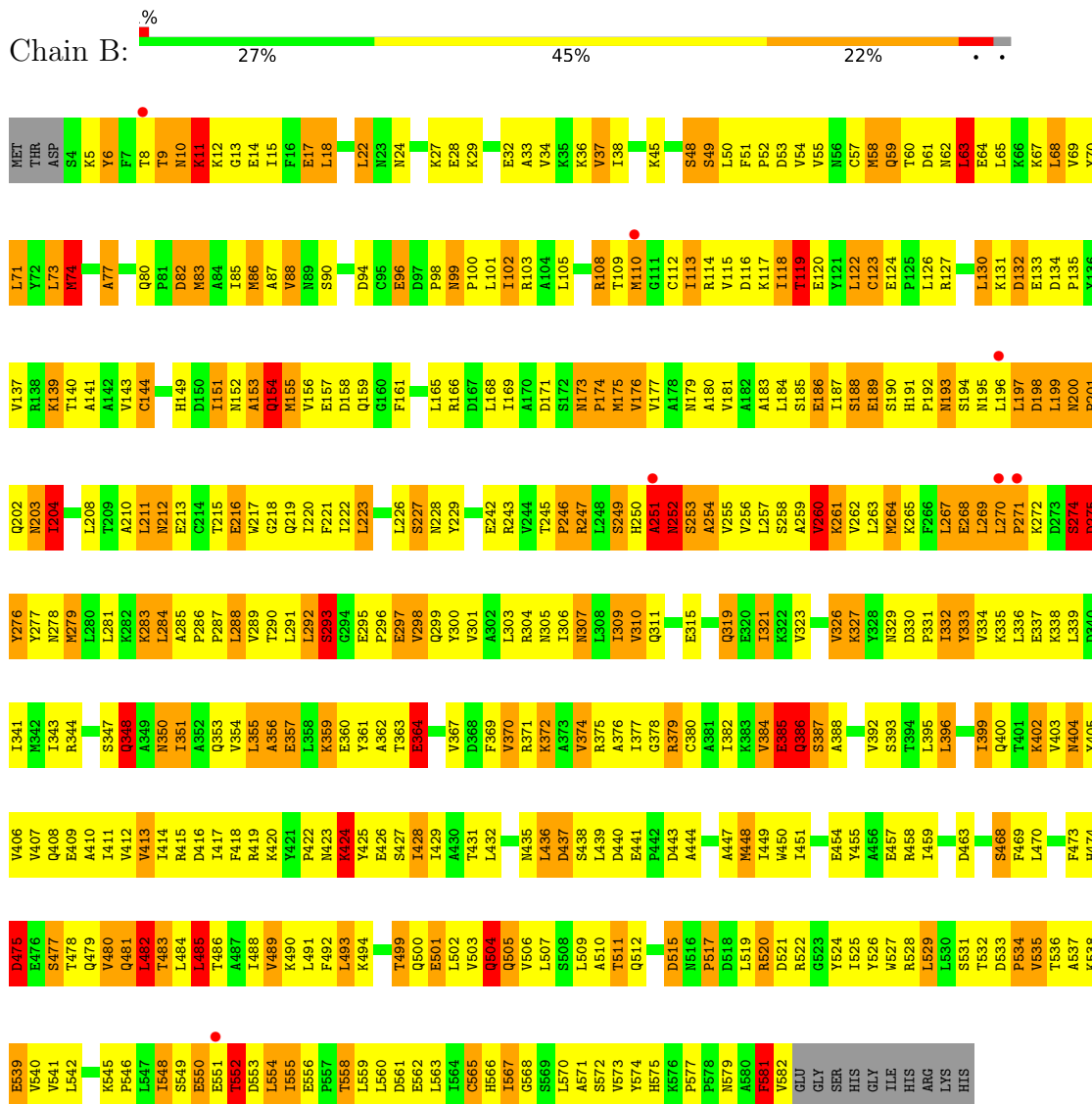
3 Residue-property plots

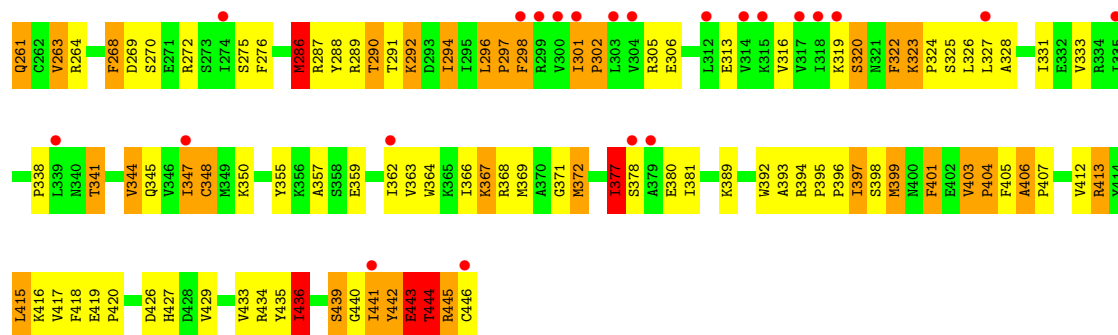
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and electron density.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

- Molecule 1: ADAPTOR-RELATED PROTEIN COMPLEX 2, ALPHA 2 SUBUNIT

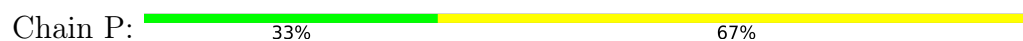


- Molecule 2: AP-2 COMPLEX SUBUNIT BETA

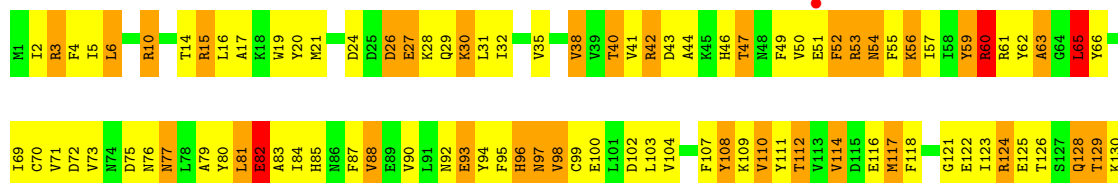




- Molecule 4: TGN38 CARGO PEPTIDE



- Molecule 5: AP-2 COMPLEX SUBUNIT SIGMA



4 Data and refinement statistics i

Property	Value	Source
Space group	H 3	Depositor
Cell constants a, b, c, α , β , γ	255.32Å 255.32Å 156.75Å 90.00° 90.00° 120.00°	Depositor
Resolution (Å)	127.88 – 3.10 127.88 – 3.10	Depositor EDS
% Data completeness (in resolution range)	96.2 (127.88-3.10) 96.2 (127.88-3.10)	Depositor EDS
R_{merge}	0.20	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	1.77 (at 3.12Å)	Xtrriage
Refinement program	REFMAC 5.5.0109	Depositor
R, R_{free}	0.236 , 0.285 (Not available) , 0.282	Depositor DCC
R_{free} test set	3378 reflections (5.08%)	wwPDB-VP
Wilson B-factor (Å ²)	83.6	Xtrriage
Anisotropy	0.500	Xtrriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.32 , 105.7	EDS
L-test for twinning ²	$\langle L \rangle = 0.44$, $\langle L^2 \rangle = 0.26$	Xtrriage
Estimated twinning fraction	0.027 for $-1/3^*h+1/3^*k+4/3^*l,-k,2/3^*h+1/3^*k+1/3^*l$ 0.018 for $-2/3^*h-1/3^*k-4/3^*l,-1/3^*h-2/3^*k+4/3^*l,-1/3^*h+1/3^*k+1/3^*l$ 0.028 for $-h,1/3^*h-1/3^*k-4/3^*l,-1/3^*h-2/3^*k+1/3^*l$ 0.022 for $-1/3^*h-2/3^*k+4/3^*l,-2/3^*h-1/3^*k-4/3^*l,1/3^*h-1/3^*k-1/3^*l$ 0.024 for $-h,2/3^*h+1/3^*k+4/3^*l,1/3^*h+2/3^*k-1/3^*l$ 0.026 for $1/3^*h+2/3^*k-4/3^*l,-k,-2/3^*h-1/3^*k-1/3^*l$ 0.043 for h,-h-k,-l	Xtrriage
F_o, F_c correlation	0.94	EDS
Total number of atoms	14137	wwPDB-VP
Average B, all atoms (Å ²)	112.0	wwPDB-VP

Xtrriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 3.60% of the height of the origin peak. No significant pseudotranslation is detected.*

¹Intensities estimated from amplitudes.

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

5 Model quality [i](#)

5.1 Standard geometry [i](#)

Bond lengths and bond angles in the following residue types are not validated in this section: SO4

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	1.26	23/4921 (0.5%)	1.47	75/6669 (1.1%)
2	B	1.08	8/4668 (0.2%)	1.35	42/6331 (0.7%)
3	M	1.08	6/3488 (0.2%)	1.31	38/4701 (0.8%)
4	P	0.67	0/57	0.90	0/74
5	S	1.05	2/1224 (0.2%)	1.24	11/1650 (0.7%)
All	All	1.14	39/14358 (0.3%)	1.37	166/19425 (0.9%)

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	3
2	B	0	5
3	M	0	2
All	All	0	10

All (39) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	85	SER	C-N	10.49	1.48	1.33
1	A	400	SER	C-O	8.88	1.35	1.24
1	A	399	ARG	CA-C	8.71	1.63	1.52
1	A	318	ILE	CA-CB	8.22	1.65	1.54
1	A	399	ARG	C-O	8.13	1.33	1.24
1	A	400	SER	CA-C	8.11	1.63	1.52
2	B	74	MET	C-O	7.82	1.33	1.24
1	A	607	GLU	CB-CG	7.48	1.74	1.52
1	A	470	ILE	CA-CB	7.28	1.62	1.54
1	A	415	THR	N-CA	6.74	1.55	1.47

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	M	444	THR	N-CA	6.74	1.54	1.46
1	A	607	GLU	CG-CD	6.72	1.68	1.52
1	A	456	TYR	CA-C	-6.62	1.44	1.52
2	B	251	ALA	N-CA	6.61	1.54	1.46
2	B	581	PHE	CA-C	6.47	1.61	1.52
1	A	417	ASP	N-CA	6.43	1.54	1.46
1	A	418	TYR	C-O	6.36	1.31	1.24
1	A	402	ALA	CA-C	-6.26	1.44	1.52
5	S	81	LEU	C-O	6.26	1.31	1.24
2	B	71	LEU	C-O	5.81	1.30	1.24
1	A	387	GLN	C-O	5.81	1.30	1.24
1	A	402	ALA	CA-CB	-5.72	1.44	1.53
3	M	73	VAL	CA-C	-5.71	1.46	1.53
1	A	497	VAL	C-O	-5.70	1.17	1.24
1	A	407	ALA	C-O	5.65	1.30	1.24
1	A	607	GLU	CA-CB	5.58	1.60	1.53
2	B	386	GLN	C-O	5.57	1.30	1.24
1	A	498	LYS	N-CA	5.56	1.52	1.46
2	B	9	THR	CA-CB	5.46	1.62	1.53
3	M	301	ILE	CA-CB	5.46	1.59	1.54
3	M	50	ILE	CA-CB	5.45	1.60	1.54
1	A	348	LEU	CA-C	5.45	1.60	1.52
3	M	441	ILE	CA-C	5.30	1.59	1.52
5	S	98	VAL	CA-C	5.21	1.59	1.52
2	B	333	TYR	C-O	5.14	1.30	1.24
1	A	419	SER	C-O	5.14	1.30	1.24
1	A	391	ASP	N-CA	5.11	1.52	1.46
2	B	301	VAL	C-O	5.06	1.29	1.24
3	M	214	PHE	C-O	5.01	1.30	1.23

All (166) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	415	THR	N-CA-C	13.63	129.81	107.32
2	B	385	GLU	N-CA-C	10.41	122.58	111.03
1	A	456	TYR	N-CA-C	-10.22	90.72	108.20
1	A	399	ARG	N-CA-C	9.52	121.34	110.97
3	M	443	GLU	N-CA-C	9.17	124.34	109.40
1	A	458	SER	N-CA-C	-9.10	91.43	110.80
3	M	26	ARG	N-CA-C	-8.79	101.78	111.36
3	M	73	VAL	CB-CA-C	-8.60	101.82	111.45
2	B	579	ASN	N-CA-C	8.45	123.43	113.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	320	HIS	N-CA-C	8.37	120.18	111.14
1	A	269	PRO	CA-C-N	8.33	128.96	120.38
1	A	269	PRO	C-N-CA	8.33	128.96	120.38
2	B	154	GLN	N-CA-C	-8.29	101.90	112.93
1	A	364	GLU	N-CA-C	-8.23	101.36	111.40
1	A	270	PRO	CA-C-N	8.02	129.86	119.84
1	A	270	PRO	C-N-CA	8.02	129.86	119.84
1	A	415	THR	CB-CA-C	-7.96	101.27	111.70
1	A	607	GLU	CB-CA-C	7.86	123.78	110.81
3	M	326	LEU	N-CA-C	7.81	121.75	109.81
1	A	528	SER	N-CA-C	-7.78	102.80	111.28
2	B	441	GLU	CA-C-N	7.68	129.45	119.84
2	B	441	GLU	C-N-CA	7.68	129.45	119.84
1	A	448	ASN	N-CA-C	7.64	119.25	111.07
2	B	515	ASP	N-CA-C	-7.64	103.22	112.54
1	A	252	VAL	CB-CA-C	-7.62	102.66	110.89
5	S	4	PHE	N-CA-C	7.62	119.73	108.60
1	A	392	LEU	N-CA-C	7.58	119.62	111.36
2	B	276	TYR	N-CA-C	-7.54	102.06	111.11
1	A	308	ALA	N-CA-C	-7.38	102.02	111.02
3	M	186	SER	CA-C-N	7.17	128.81	119.84
3	M	186	SER	C-N-CA	7.17	128.81	119.84
3	M	406	ALA	CA-C-N	7.15	128.77	119.84
3	M	406	ALA	C-N-CA	7.15	128.77	119.84
2	B	577	PRO	CA-C-N	-7.02	112.57	119.87
2	B	577	PRO	C-N-CA	-7.02	112.57	119.87
1	A	402	ALA	N-CA-C	-6.92	103.67	111.07
2	B	520	ARG	CA-C-N	6.89	129.82	120.38
2	B	520	ARG	C-N-CA	6.89	129.82	120.38
2	B	63	LEU	N-CA-C	6.84	118.82	111.36
1	A	11	ARG	N-CA-C	6.83	118.52	111.14
1	A	504	LEU	N-CA-C	-6.81	103.92	111.82
5	S	82	GLU	N-CA-C	6.80	118.70	111.28
1	A	484	PHE	N-CA-C	6.79	118.34	111.07
2	B	305	ASN	N-CA-C	6.68	119.13	111.11
3	M	3	GLY	N-CA-C	-6.67	97.36	113.18
3	M	412	VAL	CB-CA-C	-6.67	102.39	111.33
3	M	322	PHE	CB-CA-C	-6.66	106.08	114.40
1	A	410	LEU	CA-C-N	-6.61	111.42	120.28
1	A	410	LEU	C-N-CA	-6.61	111.42	120.28
2	B	295	GLU	CA-C-N	6.59	128.07	119.84
2	B	295	GLU	C-N-CA	6.59	128.07	119.84

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	M	301	ILE	N-CA-C	6.59	114.67	108.15
2	B	556	GLU	CA-C-N	6.58	128.07	119.84
2	B	556	GLU	C-N-CA	6.58	128.07	119.84
3	M	287	ARG	N-CA-C	-6.58	99.58	110.17
1	A	530	PHE	N-CA-C	6.56	118.99	111.11
1	A	293	GLU	CA-C-N	-6.53	113.65	120.38
1	A	293	GLU	C-N-CA	-6.53	113.65	120.38
1	A	461	VAL	CA-C-N	-6.52	110.40	120.31
1	A	461	VAL	C-N-CA	-6.52	110.40	120.31
1	A	243	ASP	N-CA-C	6.50	120.24	109.46
5	S	38	VAL	CB-CA-C	-6.47	103.52	111.87
2	B	550	GLU	N-CA-C	6.47	120.33	111.54
1	A	446	ILE	CB-CA-C	6.45	120.23	111.97
2	B	77	ALA	CA-C-N	-6.43	111.85	120.54
2	B	77	ALA	C-N-CA	-6.43	111.85	120.54
2	B	505	GLN	N-CA-C	6.39	119.93	111.75
3	M	15	LEU	CA-C-N	-6.33	113.20	122.58
3	M	15	LEU	C-N-CA	-6.33	113.20	122.58
1	A	429	ALA	CA-C-N	-6.30	111.47	120.42
1	A	429	ALA	C-N-CA	-6.30	111.47	120.42
3	M	195	HIS	N-CA-C	6.27	118.60	109.07
1	A	547	LYS	N-CA-C	-6.27	104.14	110.97
3	M	24	ILE	N-CA-C	6.25	116.86	110.05
3	M	418	PHE	N-CA-C	6.22	118.77	109.25
5	S	88	VAL	CB-CA-C	-6.22	103.89	112.04
2	B	270	LEU	CA-C-N	6.21	127.61	119.84
2	B	270	LEU	C-N-CA	6.21	127.61	119.84
1	A	183	VAL	CA-C-N	6.21	126.12	119.85
1	A	183	VAL	C-N-CA	6.21	126.12	119.85
1	A	392	LEU	CA-C-N	-6.18	112.40	120.44
1	A	392	LEU	C-N-CA	-6.18	112.40	120.44
1	A	330	ALA	N-CA-C	-6.16	104.48	111.14
1	A	471	ASN	N-CA-C	6.14	120.38	113.01
3	M	222	ILE	N-CA-C	6.08	122.00	109.34
3	M	38	HIS	N-CA-C	6.08	122.56	114.12
2	B	252	ASN	CB-CA-C	6.06	122.47	110.42
2	B	260	VAL	N-CA-C	6.04	117.51	110.62
5	S	60	ARG	N-CA-C	6.02	119.01	109.50
1	A	124	ASN	CA-C-N	5.99	127.33	119.84
1	A	124	ASN	C-N-CA	5.99	127.33	119.84
1	A	348	LEU	N-CA-C	5.96	123.50	110.80
2	B	8	THR	N-CA-C	5.93	118.11	108.08

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	390	VAL	N-CA-C	-5.92	104.96	110.53
3	M	442	TYR	N-CA-C	5.92	117.09	107.32
1	A	337	PHE	N-CA-C	5.92	119.60	112.38
1	A	540	LEU	N-CA-C	5.90	118.22	111.02
1	A	499	VAL	N-CA-C	5.88	116.07	110.42
1	A	318	ILE	N-CA-CB	5.84	118.93	110.52
1	A	607	GLU	CB-CG-CD	5.83	122.52	112.60
1	A	355	THR	CB-CA-C	-5.83	98.82	110.42
3	M	21	ARG	N-CA-C	5.77	118.61	108.75
3	M	259	PHE	N-CA-C	5.73	119.02	109.96
1	A	606	PRO	CA-C-N	-5.73	114.80	122.42
1	A	606	PRO	C-N-CA	-5.73	114.80	122.42
2	B	520	ARG	N-CA-C	-5.72	104.95	111.07
3	M	254	ILE	N-CA-C	5.71	116.33	107.99
1	A	460	GLU	N-CA-C	-5.69	105.22	111.82
1	A	417	ASP	N-CA-C	5.68	122.91	110.80
2	B	309	ILE	N-CA-CB	5.67	116.80	110.62
3	M	404	PRO	N-CA-C	5.65	120.56	114.68
1	A	397	CYS	N-CA-C	5.64	118.43	109.96
1	A	394	TYR	N-CA-C	-5.62	104.17	111.02
5	S	65	LEU	N-CA-C	5.60	118.02	108.90
2	B	291	LEU	N-CA-C	5.59	119.20	112.38
1	A	430	ILE	N-CA-C	5.56	116.34	110.72
1	A	607	GLU	N-CA-C	-5.55	99.47	108.41
2	B	247	ARG	N-CA-C	5.55	119.15	111.55
1	A	252	VAL	N-CA-C	5.54	114.38	108.95
3	M	117	ASP	N-CA-C	5.52	117.40	108.34
1	A	451	ARG	N-CA-C	5.50	116.96	110.97
2	B	204	ILE	N-CA-C	5.50	115.70	110.42
1	A	155	LEU	N-CA-C	5.49	120.66	113.30
1	A	500	GLY	N-CA-C	-5.49	106.01	113.37
1	A	595	LEU	CA-CB-CG	5.47	135.44	116.30
5	S	42	ARG	N-CA-C	5.46	116.96	110.19
1	A	401	ASN	CB-CA-C	-5.45	101.69	110.74
1	A	457	VAL	CB-CA-C	5.42	120.18	111.29
1	A	194	HIS	N-CA-C	-5.42	105.79	112.72
3	M	325	SER	N-CA-C	5.40	119.50	113.02
3	M	399	MET	N-CA-C	5.36	118.48	109.95
2	B	485	LEU	CA-C-N	-5.35	113.32	120.54
2	B	485	LEU	C-N-CA	-5.35	113.32	120.54
3	M	429	VAL	N-CA-C	5.34	115.54	107.80
2	B	173	ASN	CA-C-N	5.33	126.50	119.84

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	B	173	ASN	C-N-CA	5.33	126.50	119.84
1	A	470	ILE	N-CA-CB	5.32	116.41	110.51
1	A	448	ASN	CA-C-N	-5.31	113.37	120.54
1	A	448	ASN	C-N-CA	-5.31	113.37	120.54
2	B	422	PRO	N-CA-C	-5.31	103.49	111.57
1	A	269	PRO	O-C-N	5.30	123.64	121.15
2	B	151	ILE	N-CA-C	5.28	115.50	108.11
3	M	377	ILE	N-CA-C	5.27	115.63	107.78
3	M	29	VAL	CA-C-N	-5.23	111.54	121.54
3	M	29	VAL	C-N-CA	-5.23	111.54	121.54
3	M	252	ILE	N-CA-C	5.23	116.12	108.58
5	S	3	ARG	N-CA-C	-5.23	105.02	111.40
1	A	270	PRO	N-CA-C	5.20	117.04	110.70
1	A	457	VAL	N-CA-C	-5.17	98.58	109.34
1	A	518	SER	CA-C-N	-5.16	113.39	119.84
1	A	518	SER	C-N-CA	-5.16	113.39	119.84
3	M	143	GLN	N-CA-C	5.15	121.76	110.80
3	M	323	LYS	N-CA-C	-5.14	104.15	110.31
3	M	286	MET	N-CA-C	5.10	117.00	108.99
1	A	293	GLU	N-CA-C	5.09	121.07	109.81
3	M	436	ILE	N-CA-C	5.09	115.81	108.48
1	A	381	ARG	N-CA-C	5.08	118.75	112.24
5	S	19	TRP	N-CA-C	5.08	118.01	110.14
2	B	326	VAL	N-CA-C	5.06	116.03	108.54
5	S	136	LEU	N-CA-C	5.05	117.91	111.69
2	B	488	ILE	CA-C-N	-5.04	113.56	120.46
2	B	488	ILE	C-N-CA	-5.04	113.56	120.46
5	S	117	MET	N-CA-C	5.03	118.72	112.59
2	B	153	ALA	N-CA-C	5.02	116.88	107.99
2	B	525	ILE	N-CA-C	5.02	116.34	110.62
3	M	401	PHE	N-CA-C	5.01	115.91	108.60

There are no chirality outliers.

All (10) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	A	381	ARG	Peptide
1	A	401	ASN	Peptide
1	A	456	TYR	Peptide
2	B	249	SER	Peptide
2	B	251	ALA	Peptide
2	B	274	SER	Peptide

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Mol	Chain	Res	Type	Group
2	B	275	ASP	Peptide
2	B	550	GLU	Peptide
3	M	443	GLU	Peptide
3	M	48	THR	Peptide

5.2 Too-close contacts [i](#)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	4836	0	4952	428	0
2	B	4596	0	4715	457	0
3	M	3423	0	3485	267	0
4	P	57	0	53	4	0
5	S	1200	0	1195	125	0
6	A	15	0	0	0	0
6	S	10	0	0	2	0
All	All	14137	0	14400	1203	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 42.

All (1203) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:607:GLU:CG	1:A:607:GLU:CB	1.74	1.56
2:B:155:MET:HB2	2:B:158:ASP:CB	1.67	1.24
1:A:457:VAL:HG13	1:A:458:SER:O	1.41	1.19
3:M:320:SER:HB2	3:M:322:PHE:HE1	1.03	1.17
1:A:417:ASP:CG	1:A:418:TYR:H	1.54	1.16
5:S:57:ILE:HG22	5:S:70:CYS:HB2	1.29	1.15
2:B:189:GLU:OE1	2:B:189:GLU:HA	1.45	1.14
3:M:320:SER:HB2	3:M:322:PHE:CE1	1.83	1.13
1:A:472:ARG:HB2	1:A:475:VAL:HG21	1.31	1.13
1:A:416:ALA:HB1	1:A:420:ILE:HD12	1.21	1.12
2:B:200:ASN:HB2	2:B:201:PRO:HD2	1.32	1.09
1:A:472:ARG:HB2	1:A:475:VAL:CG2	1.84	1.07

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:M:323:LYS:HG2	3:M:324:PRO:HD2	1.30	1.07
2:B:249:SER:O	2:B:252:ASN:ND2	1.86	1.07
1:A:371:GLU:OE1	1:A:371:GLU:HA	1.47	1.07
2:B:10:ASN:O	2:B:11:LYS:HB2	1.54	1.05
3:M:144:THR:HG22	3:M:145:LYS:H	1.17	1.04
1:A:53:TYR:O	1:A:57:LYS:HB2	1.55	1.04
2:B:515:ASP:O	2:B:517:PRO:HD3	1.56	1.04
2:B:155:MET:HB2	2:B:158:ASP:HB2	1.03	1.03
2:B:166:ARG:HH21	2:B:197:LEU:HG	1.20	1.02
2:B:582:VAL:H	3:M:52:ARG:HH11	1.02	1.01
1:A:377:LEU:CD1	1:A:390:VAL:HG22	1.90	1.01
1:A:417:ASP:CG	1:A:418:TYR:N	2.10	1.01
5:S:2:ILE:HA	5:S:71:VAL:HG12	1.43	1.00
2:B:250:HIS:C	2:B:252:ASN:H	1.68	1.00
1:A:377:LEU:HD11	1:A:390:VAL:HG22	1.41	0.98
1:A:397:CYS:HA	1:A:401:ASN:HD22	1.28	0.98
2:B:203:ASN:HD22	2:B:203:ASN:H	1.01	0.97
2:B:492:PHE:HD1	2:B:499:THR:HB	1.25	0.96
3:M:5:LEU:HD12	3:M:5:LEU:C	1.90	0.96
2:B:276:TYR:HA	2:B:279:MET:HE3	1.47	0.96
1:A:457:VAL:HG13	1:A:458:SER:H	1.27	0.95
3:M:347:ILE:HG23	3:M:378:SER:HB2	1.48	0.95
2:B:321:ILE:HG21	2:B:350:ASN:HD22	1.28	0.95
2:B:385:GLU:O	2:B:388:ALA:N	1.98	0.95
1:A:535:VAL:HG23	1:A:536:PRO:HD3	1.46	0.95
2:B:58:MET:HB3	2:B:69:VAL:HG11	1.48	0.95
1:A:470:ILE:HD11	1:A:605:PHE:HD1	1.31	0.94
5:S:49:PHE:CE2	5:S:77:ASN:HB3	2.02	0.94
2:B:18:LEU:HD12	2:B:37:VAL:HG23	1.49	0.94
2:B:321:ILE:HG21	2:B:350:ASN:ND2	1.82	0.93
2:B:155:MET:CB	2:B:158:ASP:HB2	1.96	0.93
3:M:161:TRP:O	3:M:162:ARG:HB2	1.67	0.93
1:A:354:CYS:CA	1:A:392:LEU:HD13	1.97	0.93
1:A:354:CYS:HA	1:A:392:LEU:CD1	1.99	0.92
2:B:247:ARG:HA	2:B:249:SER:OG	1.69	0.91
2:B:261:LYS:HG3	2:B:567:ILE:HB	1.50	0.91
3:M:42:GLN:O	3:M:44:ARG:HG3	1.70	0.91
1:A:460:GLU:N	1:A:460:GLU:OE1	2.03	0.91
1:A:317:ILE:HG12	1:A:326:LEU:HD12	1.49	0.91
2:B:327:LYS:HG2	3:M:441:ILE:HG21	1.52	0.91
2:B:581:PHE:HA	3:M:52:ARG:HG2	1.50	0.90

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:S:108:TYR:H	5:S:108:TYR:HD2	1.18	0.90
1:A:133:HIS:O	1:A:137:ASN:HB2	1.70	0.89
1:A:417:ASP:OD2	1:A:418:TYR:N	2.05	0.88
3:M:135:GLN:HE21	3:M:135:GLN:HA	1.37	0.88
3:M:320:SER:CB	3:M:322:PHE:HE1	1.86	0.88
1:A:354:CYS:HA	1:A:392:LEU:HD13	1.52	0.88
2:B:199:LEU:HD13	2:B:229:TYR:HD1	1.37	0.87
2:B:203:ASN:HD22	2:B:203:ASN:N	1.72	0.87
3:M:53:THR:OG1	3:M:70:LYS:HE2	1.75	0.86
3:M:268:PHE:C	3:M:268:PHE:CD2	2.53	0.86
2:B:571:ALA:H	3:M:72:ASN:HD21	1.18	0.86
3:M:348:CYS:HB2	3:M:364:TRP:HE1	1.40	0.86
1:A:32:ARG:HH12	1:A:36:GLU:HG2	1.40	0.86
2:B:154:GLN:HG3	2:B:155:MET:N	1.89	0.86
1:A:271:PRO:HD2	1:A:320:HIS:NE2	1.91	0.85
2:B:379:ARG:HB3	2:B:552:THR:HB	1.56	0.85
1:A:527:HIS:HD2	1:A:545:TYR:OH	1.59	0.85
2:B:55:VAL:HG13	2:B:58:MET:HE3	1.57	0.85
2:B:252:ASN:O	2:B:253:SER:C	2.19	0.85
1:A:483:VAL:HG11	1:A:500:GLY:HA2	1.56	0.84
2:B:251:ALA:HB3	2:B:255:VAL:HG23	1.57	0.84
1:A:293:GLU:HB3	1:A:294:PRO:CD	2.07	0.84
2:B:250:HIS:C	2:B:252:ASN:N	2.35	0.84
1:A:457:VAL:CG1	1:A:458:SER:O	2.25	0.83
1:A:380:GLU:HG2	1:A:385:VAL:HG11	1.58	0.83
2:B:245:THR:O	2:B:247:ARG:N	2.11	0.83
3:M:32:PHE:CE2	3:M:36:VAL:HB	2.14	0.83
1:A:585:ARG:NH1	1:A:589:VAL:HG21	1.94	0.82
3:M:417:VAL:HG12	3:M:417:VAL:O	1.78	0.82
1:A:457:VAL:HG13	1:A:458:SER:N	1.93	0.82
2:B:327:LYS:HG2	3:M:441:ILE:CG2	2.10	0.82
2:B:511:THR:HG23	2:B:512:GLN:HE21	1.45	0.81
5:S:42:ARG:HD3	5:S:59:TYR:CZ	2.15	0.81
2:B:343:ILE:CD1	2:B:376:ALA:HB1	2.11	0.81
2:B:155:MET:O	2:B:158:ASP:HB3	1.81	0.81
1:A:602:MET:HE1	2:B:524:TYR:CB	2.11	0.81
1:A:323:GLU:HB3	1:A:326:LEU:HB2	1.63	0.80
1:A:417:ASP:OD2	1:A:420:ILE:HG12	1.80	0.80
3:M:132:PHE:HB3	3:M:151:ILE:HD13	1.63	0.80
3:M:125:GLU:HG2	3:M:161:TRP:HA	1.60	0.80
5:S:42:ARG:HD3	5:S:59:TYR:CE2	2.15	0.80

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:32:ARG:HH12	1:A:36:GLU:CG	1.94	0.80
1:A:417:ASP:OD2	1:A:420:ILE:CG1	2.30	0.80
1:A:289:ASN:O	1:A:292:GLN:HB2	1.82	0.80
3:M:32:PHE:C	3:M:32:PHE:HD2	1.90	0.80
2:B:64:GLU:O	2:B:68:LEU:HD13	1.81	0.80
1:A:511:ILE:HG13	1:A:517:SER:OG	1.82	0.80
3:M:5:LEU:C	3:M:5:LEU:CD1	2.56	0.79
5:S:90:VAL:HG23	5:S:128:GLN:HE21	1.48	0.79
2:B:261:LYS:HD2	2:B:567:ILE:H	1.47	0.79
1:A:509:ASN:H	1:A:509:ASN:HD22	1.28	0.79
2:B:250:HIS:O	2:B:252:ASN:N	2.11	0.79
2:B:297:GLU:HB2	3:M:83:TYR:OH	1.82	0.79
1:A:579:ARG:HG2	2:B:522:ARG:NH1	1.98	0.78
5:S:42:ARG:HD3	5:S:59:TYR:OH	1.83	0.78
2:B:250:HIS:HD2	3:M:261:GLN:HA	1.48	0.78
2:B:68:LEU:HD11	3:M:106:VAL:HG13	1.64	0.78
1:A:464:ARG:HE	1:A:468:ILE:HD11	1.48	0.78
1:A:598:VAL:HA	2:B:528:ARG:HB3	1.65	0.77
2:B:166:ARG:NH2	2:B:197:LEU:HG	2.00	0.77
2:B:492:PHE:CD1	2:B:499:THR:HB	2.15	0.77
1:A:602:MET:HE3	1:A:602:MET:HA	1.65	0.77
2:B:200:ASN:HB2	2:B:201:PRO:CD	2.14	0.77
5:S:24:ASP:HB2	5:S:27:GLU:HB3	1.66	0.77
1:A:292:GLN:HE21	1:A:329:ARG:HH22	1.33	0.77
2:B:6:TYR:C	2:B:6:TYR:CD2	2.63	0.77
5:S:96:HIS:O	5:S:97:ASN:HB2	1.84	0.77
2:B:6:TYR:C	2:B:6:TYR:HD2	1.92	0.77
3:M:108:ILE:O	3:M:112:LEU:HD23	1.85	0.76
1:A:470:ILE:HD11	1:A:605:PHE:CD1	2.20	0.76
2:B:11:LYS:HE2	5:S:61:ARG:HB3	1.68	0.76
3:M:127:GLY:HA3	3:M:162:ARG:HG3	1.66	0.76
5:S:16:LEU:CD1	5:S:111:TYR:CE1	2.69	0.76
1:A:53:TYR:O	1:A:57:LYS:CB	2.32	0.76
2:B:155:MET:CB	2:B:158:ASP:CB	2.59	0.76
2:B:110:MET:HE3	2:B:122:LEU:CB	2.15	0.76
3:M:268:PHE:C	3:M:268:PHE:HD2	1.93	0.76
3:M:44:ARG:HH11	3:M:44:ARG:CB	1.98	0.76
3:M:44:ARG:HH11	3:M:44:ARG:CG	1.97	0.76
4:P:5:LEU:O	4:P:6:ASN:HB2	1.85	0.76
5:S:87:PHE:CZ	5:S:114:VAL:HG23	2.21	0.76
2:B:582:VAL:H	3:M:52:ARG:NH1	1.82	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:M:173:LEU:C	3:M:174:PHE:HD1	1.94	0.76
1:A:483:VAL:CG1	1:A:500:GLY:HA2	2.16	0.75
3:M:144:THR:CG2	3:M:145:LYS:H	1.98	0.75
5:S:49:PHE:CD2	5:S:77:ASN:HB3	2.21	0.75
5:S:57:ILE:HG22	5:S:70:CYS:CB	2.12	0.75
2:B:395:LEU:O	2:B:399:ILE:HD12	1.87	0.75
1:A:426:LEU:HD21	1:A:615:LYS:HD3	1.67	0.75
1:A:209:SER:HB3	5:S:122:GLU:OE1	1.87	0.75
2:B:343:ILE:HD11	2:B:376:ALA:HB1	1.68	0.74
3:M:132:PHE:O	3:M:133:ILE:HD12	1.87	0.74
2:B:261:LYS:CG	2:B:567:ILE:HB	2.17	0.74
1:A:154:ILE:HG22	1:A:155:LEU:HD13	1.69	0.74
1:A:598:VAL:HG22	2:B:528:ARG:O	1.88	0.74
2:B:186:GLU:OE1	3:M:21:ARG:NH2	2.20	0.74
1:A:284:LEU:O	1:A:288:LEU:HD12	1.88	0.74
3:M:32:PHE:C	3:M:32:PHE:CD2	2.64	0.73
1:A:377:LEU:CD1	1:A:390:VAL:CG2	2.65	0.73
2:B:119:THR:CG2	2:B:155:MET:HE1	2.18	0.73
3:M:107:LEU:O	3:M:108:ILE:C	2.31	0.73
1:A:380:GLU:HG2	1:A:385:VAL:CG1	2.18	0.73
2:B:203:ASN:H	2:B:203:ASN:ND2	1.77	0.73
1:A:548:PHE:O	1:A:552:PHE:HB2	1.88	0.73
1:A:262:LEU:O	1:A:266:GLN:HG3	1.89	0.73
1:A:489:ALA:HB1	1:A:490:PRO:HD2	1.70	0.73
1:A:466:ILE:HD11	1:A:499:VAL:HA	1.70	0.73
2:B:256:VAL:O	2:B:259:ALA:HB3	1.89	0.73
3:M:331:ILE:HB	3:M:366:ILE:HB	1.71	0.73
1:A:266:GLN:HE22	1:A:315:SER:HB2	1.52	0.72
1:A:442:TYR:CE2	1:A:465:VAL:HG23	2.24	0.72
5:S:65:LEU:C	5:S:66:TYR:HD1	1.97	0.72
3:M:164:GLU:HG2	3:M:165:GLY:H	1.54	0.72
2:B:250:HIS:CD2	3:M:261:GLN:HG2	2.25	0.72
5:S:62:TYR:O	5:S:65:LEU:HB2	1.90	0.72
2:B:306:ILE:O	2:B:309:ILE:N	2.23	0.72
2:B:555:ILE:CG2	2:B:560:LEU:HB2	2.19	0.72
5:S:16:LEU:HD13	5:S:111:TYR:CE1	2.25	0.72
2:B:307:ASN:C	2:B:307:ASN:HD22	1.97	0.72
3:M:174:PHE:HD1	3:M:174:PHE:N	1.87	0.72
1:A:552:PHE:O	1:A:553:PRO:C	2.31	0.71
2:B:250:HIS:CD2	3:M:261:GLN:HA	2.26	0.71
2:B:378:GLY:HA3	2:B:413:VAL:HG11	1.71	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:249:TYR:CE2	5:S:82:GLU:HG3	2.26	0.71
2:B:187:ILE:C	2:B:189:GLU:H	1.98	0.71
3:M:135:GLN:HA	3:M:135:GLN:NE2	2.05	0.71
3:M:144:THR:HG22	3:M:145:LYS:N	2.01	0.71
1:A:89:THR:OG1	5:S:142:GLU:HG3	1.91	0.71
1:A:382:ASP:O	1:A:386:ARG:HD2	1.91	0.71
5:S:93:GLU:OE1	5:S:93:GLU:HA	1.89	0.71
5:S:136:LEU:HA	5:S:139:GLN:HB2	1.73	0.71
2:B:100:PRO:HD2	3:M:148:GLN:HG2	1.73	0.70
1:A:464:ARG:HE	1:A:468:ILE:CD1	2.04	0.70
3:M:1:MET:H2	3:M:71:GLN:NE2	1.89	0.70
1:A:377:LEU:HD12	1:A:390:VAL:CG2	2.21	0.70
3:M:174:PHE:N	3:M:174:PHE:CD1	2.59	0.70
1:A:442:TYR:HE2	1:A:465:VAL:HG23	1.56	0.70
2:B:70:TYR:CG	2:B:109:THR:HG21	2.27	0.70
2:B:226:LEU:C	2:B:228:ASN:H	2.00	0.70
2:B:440:ASP:OD2	2:B:440:ASP:N	2.20	0.70
5:S:59:TYR:O	5:S:59:TYR:CD1	2.45	0.70
1:A:527:HIS:CD2	1:A:545:TYR:OH	2.45	0.69
2:B:73:LEU:O	2:B:77:ALA:HB2	1.91	0.69
2:B:260:VAL:O	2:B:264:MET:HB2	1.92	0.69
2:B:385:GLU:O	2:B:388:ALA:HB3	1.91	0.69
2:B:407:VAL:O	2:B:410:ALA:HB3	1.92	0.69
1:A:493:HIS:CD2	1:A:495:ASN:H	2.11	0.69
1:A:77:MET:C	1:A:79:ALA:H	2.00	0.69
1:A:451:ARG:HB3	1:A:451:ARG:NH1	2.07	0.69
2:B:226:LEU:O	2:B:228:ASN:N	2.23	0.69
1:A:493:HIS:HD2	1:A:495:ASN:H	1.39	0.69
2:B:18:LEU:CD1	2:B:37:VAL:HG23	2.22	0.69
2:B:264:MET:HE2	2:B:264:MET:HA	1.75	0.69
2:B:292:LEU:N	2:B:292:LEU:HD13	2.08	0.69
3:M:445:ARG:O	3:M:446:CYS:SG	2.50	0.69
3:M:1:MET:HA	3:M:73:VAL:HG12	1.75	0.68
1:A:92:GLN:HE21	5:S:112:THR:HB	1.57	0.68
2:B:436:LEU:C	2:B:438:SER:H	2.00	0.68
1:A:247:TYR:OH	5:S:125:GLU:OE2	2.09	0.68
1:A:506:GLU:O	1:A:506:GLU:HG3	1.94	0.68
1:A:585:ARG:HB3	2:B:540:VAL:HG22	1.75	0.68
1:A:394:TYR:CD1	1:A:431:LEU:HD21	2.29	0.68
1:A:504:LEU:HD21	1:A:522:GLN:OE1	1.94	0.68
2:B:221:PHE:HZ	3:M:121:PRO:HD2	1.58	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:M:1:MET:N	3:M:71:GLN:NE2	2.41	0.68
2:B:154:GLN:HG3	2:B:155:MET:H	1.57	0.68
5:S:57:ILE:CG2	5:S:70:CYS:HB2	2.18	0.68
5:S:93:GLU:CB	5:S:132:LEU:HD11	2.24	0.68
2:B:117:LYS:O	2:B:120:GLU:HG3	1.94	0.67
2:B:250:HIS:HD2	3:M:261:GLN:HG2	1.60	0.67
3:M:44:ARG:HG3	3:M:44:ARG:HH11	1.59	0.67
5:S:59:TYR:O	5:S:59:TYR:CG	2.47	0.67
2:B:73:LEU:O	2:B:77:ALA:CB	2.42	0.67
2:B:571:ALA:N	3:M:72:ASN:HD21	1.92	0.67
1:A:451:ARG:HB3	1:A:451:ARG:HH11	1.59	0.67
2:B:347:SER:O	2:B:351:ILE:HG13	1.93	0.67
1:A:105:ASN:O	1:A:109:ILE:HD13	1.94	0.67
2:B:119:THR:HG21	2:B:155:MET:HE1	1.76	0.67
5:S:24:ASP:H	5:S:27:GLU:CD	2.03	0.67
3:M:184:LEU:HD13	3:M:443:GLU:OE1	1.94	0.67
2:B:388:ALA:O	2:B:392:VAL:HG23	1.95	0.67
1:A:589:VAL:HG12	1:A:590:ALA:H	1.59	0.67
2:B:251:ALA:CB	2:B:255:VAL:HG23	2.24	0.67
2:B:168:LEU:O	2:B:171:ASP:HB2	1.95	0.66
3:M:222:ILE:HD11	3:M:247:LEU:HA	1.76	0.66
5:S:59:TYR:CD1	5:S:59:TYR:C	2.73	0.66
2:B:376:ALA:HA	2:B:379:ARG:HG3	1.77	0.66
3:M:44:ARG:HB2	3:M:44:ARG:NH1	2.10	0.66
2:B:484:LEU:C	2:B:484:LEU:HD23	2.20	0.66
1:A:416:ALA:HB1	1:A:420:ILE:CD1	2.13	0.66
1:A:591:SER:OG	1:A:594:ILE:HG22	1.96	0.66
5:S:42:ARG:CD	5:S:59:TYR:CE2	2.79	0.66
1:A:262:LEU:CD2	1:A:313:ALA:HA	2.26	0.65
1:A:487:LEU:HD23	1:A:496:LEU:HD23	1.78	0.65
2:B:139:LYS:HG3	2:B:179:ASN:ND2	2.11	0.65
2:B:572:SER:O	2:B:575:HIS:HD2	1.79	0.65
3:M:56:PHE:N	3:M:56:PHE:HD1	1.94	0.65
1:A:411:SER:O	1:A:414:GLU:N	2.29	0.65
3:M:56:PHE:N	3:M:56:PHE:CD1	2.64	0.65
2:B:58:MET:CB	2:B:69:VAL:HG11	2.23	0.65
2:B:194:SER:O	2:B:197:LEU:HD13	1.97	0.65
2:B:562:GLU:HA	2:B:565:CYS:SG	2.35	0.65
2:B:336:LEU:HD23	2:B:369:PHE:HD1	1.61	0.65
3:M:255:ASP:HB2	3:M:289:ARG:O	1.96	0.65
1:A:263:ARG:HH12	5:S:75:ASP:HA	1.61	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:392:LEU:O	1:A:395:ALA:HB3	1.97	0.65
5:S:38:VAL:O	5:S:41:VAL:HG12	1.96	0.65
2:B:155:MET:C	2:B:158:ASP:HB3	2.22	0.65
3:M:26:ARG:NE	3:M:26:ARG:H	1.93	0.65
1:A:377:LEU:HD12	1:A:390:VAL:HG22	1.73	0.65
1:A:379:THR:HG22	1:A:380:GLU:N	2.10	0.65
1:A:555:VAL:HG13	1:A:559:ILE:HG13	1.76	0.65
5:S:90:VAL:HG23	5:S:128:GLN:NE2	2.12	0.65
5:S:129:THR:O	5:S:132:LEU:N	2.30	0.64
2:B:474:HIS:O	2:B:475:ASP:C	2.40	0.64
1:A:249:TYR:HE2	5:S:82:GLU:HG3	1.61	0.64
1:A:413:LEU:C	1:A:415:THR:N	2.54	0.64
2:B:74:MET:HE1	2:B:109:THR:CG2	2.27	0.64
5:S:95:PHE:CD2	5:S:102:ASP:HB3	2.32	0.64
2:B:99:ASN:HD22	2:B:101:LEU:H	1.46	0.64
1:A:262:LEU:HD22	1:A:313:ALA:HA	1.79	0.64
2:B:505:GLN:O	2:B:509:LEU:HG	1.98	0.64
1:A:381:ARG:HG2	1:A:386:ARG:NH2	2.13	0.64
1:A:490:PRO:HG2	1:A:491:ALA:H	1.62	0.64
1:A:520:LEU:CD1	1:A:521:ILE:HD13	2.28	0.64
2:B:425:TYR:HB3	2:B:428:ILE:HD11	1.79	0.64
1:A:519:PRO:HG3	1:A:552:PHE:CE1	2.33	0.64
2:B:74:MET:HE1	2:B:109:THR:HG22	1.79	0.64
2:B:533:ASP:HB2	2:B:535:VAL:HB	1.79	0.64
2:B:85:ILE:O	2:B:88:VAL:HG22	1.98	0.64
2:B:567:ILE:HG22	2:B:568:GLY:N	2.13	0.64
1:A:430:ILE:HD13	1:A:613:LEU:HD12	1.78	0.63
1:A:462:TRP:HB2	1:A:499:VAL:HG23	1.79	0.63
2:B:82:ASP:O	2:B:85:ILE:HG13	1.97	0.63
2:B:403:VAL:O	2:B:406:VAL:HG12	1.96	0.63
2:B:155:MET:HB2	2:B:158:ASP:HB3	1.72	0.63
1:A:356:LEU:O	1:A:358:SER:N	2.31	0.63
3:M:153:SER:HA	3:M:156:THR:HG22	1.80	0.63
1:A:520:LEU:HD12	1:A:521:ILE:HD13	1.81	0.63
2:B:385:GLU:O	2:B:388:ALA:CB	2.45	0.63
3:M:444:THR:CG2	3:M:445:ARG:N	2.62	0.63
1:A:471:ASN:HD21	1:A:605:PHE:HB2	1.64	0.63
1:A:517:SER:O	1:A:518:SER:O	2.17	0.63
3:M:217:ASN:OD1	3:M:217:ASN:N	2.32	0.63
1:A:457:VAL:CG1	1:A:458:SER:N	2.62	0.63
2:B:223:LEU:HD12	2:B:259:ALA:N	2.14	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:572:SER:O	2:B:575:HIS:CD2	2.52	0.63
1:A:417:ASP:O	1:A:418:TYR:CD2	2.52	0.63
1:A:577:GLN:O	1:A:578:GLN:C	2.42	0.63
2:B:114:ARG:NH2	2:B:151:ILE:HB	2.14	0.62
2:B:189:GLU:OE1	2:B:189:GLU:CA	2.33	0.62
2:B:261:LYS:HA	2:B:567:ILE:HD13	1.81	0.62
3:M:160:GLY:O	3:M:162:ARG:N	2.25	0.62
1:A:555:VAL:CG1	1:A:559:ILE:HG13	2.29	0.62
2:B:108:ARG:HH11	3:M:113:ASP:CG	2.07	0.62
5:S:3:ARG:HD3	5:S:21:MET:HE1	1.81	0.62
5:S:82:GLU:OE1	5:S:82:GLU:HA	1.98	0.62
1:A:417:ASP:OD2	1:A:420:ILE:HG13	1.99	0.62
3:M:111:LEU:O	3:M:114:GLU:N	2.32	0.62
5:S:87:PHE:CE1	5:S:114:VAL:HG23	2.33	0.62
2:B:139:LYS:HD2	3:M:122:GLN:OE1	1.99	0.62
2:B:582:VAL:HG12	2:B:582:VAL:O	1.99	0.62
3:M:268:PHE:HD2	3:M:269:ASP:N	1.97	0.62
1:A:485:GLU:O	1:A:488:GLN:HG2	1.99	0.62
3:M:44:ARG:HH11	3:M:44:ARG:HB2	1.63	0.62
1:A:602:MET:HE1	2:B:524:TYR:HB3	1.81	0.62
2:B:74:MET:CE	2:B:109:THR:HG22	2.30	0.62
2:B:503:VAL:O	2:B:507:LEU:HB2	1.99	0.62
2:B:261:LYS:HA	2:B:567:ILE:CD1	2.29	0.62
1:A:602:MET:HE1	2:B:524:TYR:HB2	1.80	0.62
3:M:30:ASP:O	3:M:31:ALA:C	2.42	0.62
1:A:460:GLU:CD	1:A:460:GLU:H	2.07	0.62
1:A:472:ARG:HB2	1:A:475:VAL:HG22	1.77	0.62
2:B:428:ILE:O	2:B:431:THR:HB	2.00	0.62
3:M:125:GLU:HG2	3:M:161:TRP:CA	2.28	0.62
1:A:539:ALA:HB1	1:A:579:ARG:NH1	2.15	0.61
2:B:534:PRO:HA	2:B:537:ALA:HB3	1.82	0.61
1:A:87:ARG:NH1	5:S:142:GLU:OE2	2.33	0.61
1:A:417:ASP:H	1:A:420:ILE:HD11	1.65	0.61
1:A:462:TRP:O	1:A:466:ILE:HG12	2.00	0.61
2:B:18:LEU:O	2:B:22:LEU:HB2	1.99	0.61
3:M:196:VAL:HG12	3:M:290:THR:O	2.00	0.61
1:A:228:LEU:O	1:A:232:ARG:HG2	2.00	0.61
1:A:564:ARG:O	1:A:569:LEU:HD12	2.00	0.61
1:A:188:TRP:O	1:A:192:VAL:HG23	2.00	0.61
1:A:473:ASP:O	1:A:476:GLN:N	2.33	0.61
1:A:494:GLU:O	1:A:497:VAL:N	2.32	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:582:VAL:N	3:M:52:ARG:HH11	1.86	0.61
1:A:397:CYS:SG	1:A:402:ALA:HA	2.40	0.61
1:A:539:ALA:HB1	1:A:579:ARG:CZ	2.30	0.61
2:B:404:ASN:O	2:B:407:VAL:HB	2.00	0.61
1:A:451:ARG:HH11	1:A:451:ARG:CB	2.14	0.61
1:A:562:VAL:C	1:A:564:ARG:H	2.08	0.61
1:A:156:VAL:HG12	1:A:188:TRP:HB3	1.83	0.61
1:A:460:GLU:OE2	1:A:615:LYS:HD2	2.00	0.61
2:B:436:LEU:O	2:B:438:SER:N	2.34	0.61
1:A:245:GLN:NE2	1:A:245:GLN:H	1.99	0.61
1:A:344:ASN:HB3	5:S:49:PHE:HE1	1.63	0.61
1:A:589:VAL:HG12	1:A:590:ALA:N	2.15	0.61
1:A:282:GLU:O	1:A:285:GLU:HB2	2.01	0.60
2:B:555:ILE:HG22	2:B:560:LEU:HB2	1.83	0.60
1:A:343:THR:OG1	1:A:346:ARG:NH2	2.27	0.60
1:A:519:PRO:HB3	1:A:552:PHE:CE1	2.36	0.60
2:B:548:ILE:HB	2:B:551:GLU:OE1	2.01	0.60
1:A:417:ASP:N	1:A:420:ILE:HD11	2.16	0.60
2:B:18:LEU:HD12	2:B:37:VAL:CG2	2.28	0.60
2:B:288:LEU:HD22	2:B:306:ILE:HG12	1.84	0.60
2:B:479:GLN:O	2:B:483:THR:HB	2.00	0.60
3:M:53:THR:HG1	3:M:70:LYS:HE2	1.65	0.60
2:B:290:THR:HG22	3:M:289:ARG:HH11	1.66	0.60
3:M:128:ALA:HB1	3:M:155:VAL:HG22	1.84	0.60
1:A:247:TYR:HE1	5:S:130:LYS:NZ	1.99	0.60
2:B:191:HIS:HA	2:B:195:ASN:OD1	2.02	0.60
1:A:317:ILE:CG1	1:A:326:LEU:HD12	2.26	0.60
1:A:393:LEU:O	1:A:394:TYR:C	2.42	0.60
5:S:117:MET:O	5:S:118:PHE:CD2	2.55	0.59
2:B:110:MET:HE3	2:B:122:LEU:HB2	1.83	0.59
5:S:108:TYR:N	5:S:108:TYR:CD2	2.66	0.59
1:A:591:SER:O	1:A:592:THR:HB	2.02	0.59
1:A:356:LEU:HD21	1:A:362:SER:OG	2.02	0.59
5:S:24:ASP:HB2	5:S:27:GLU:CB	2.32	0.59
1:A:519:PRO:O	1:A:520:LEU:C	2.44	0.59
1:A:264:LEU:O	1:A:264:LEU:HG	2.02	0.59
1:A:381:ARG:HG2	1:A:386:ARG:CZ	2.33	0.59
1:A:427:LYS:O	1:A:428:VAL:C	2.46	0.59
3:M:149:SER:O	3:M:152:THR:HG22	2.03	0.59
1:A:356:LEU:HD23	1:A:356:LEU:C	2.28	0.59
1:A:354:CYS:N	1:A:392:LEU:HD13	2.17	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:585:ARG:HH12	1:A:589:VAL:HG21	1.65	0.59
2:B:74:MET:CE	2:B:109:THR:CG2	2.81	0.59
2:B:517:PRO:O	2:B:521:ASP:HB2	2.02	0.59
5:S:47:THR:HG1	5:S:49:PHE:HD1	1.51	0.59
1:A:272:GLU:O	1:A:273:ASP:C	2.46	0.58
1:A:314:ILE:HG12	1:A:330:ALA:HB1	1.85	0.58
5:S:116:GLU:O	5:S:124:ARG:HD3	2.03	0.58
2:B:10:ASN:HB2	2:B:45:LYS:HE3	1.85	0.58
2:B:297:GLU:HG2	3:M:79:PHE:CE2	2.39	0.58
2:B:478:THR:O	2:B:482:LEU:HB2	2.02	0.58
5:S:93:GLU:HG3	5:S:132:LEU:HD11	1.85	0.58
2:B:511:THR:CG2	2:B:512:GLN:HE21	2.14	0.58
2:B:566:HIS:HB3	2:B:571:ALA:HB3	1.86	0.58
2:B:99:ASN:ND2	2:B:101:LEU:H	2.01	0.58
2:B:570:LEU:HD12	2:B:574:TYR:CE2	2.39	0.58
5:S:42:ARG:HE	5:S:46:HIS:HB3	1.68	0.58
2:B:247:ARG:CA	2:B:249:SER:OG	2.48	0.58
2:B:382:ILE:HD11	2:B:417:ILE:HG12	1.86	0.58
1:A:417:ASP:OD2	1:A:419:SER:N	2.36	0.58
2:B:348:GLN:O	2:B:351:ILE:HD11	2.04	0.58
1:A:400:SER:O	1:A:401:ASN:C	2.45	0.57
2:B:187:ILE:O	2:B:189:GLU:N	2.37	0.57
3:M:205:TYR:N	3:M:205:TYR:HD2	2.02	0.57
3:M:323:LYS:CG	3:M:324:PRO:HD2	2.19	0.57
2:B:52:PRO:HB3	2:B:83:MET:CE	2.33	0.57
3:M:191:VAL:CG2	3:M:194:ALA:HB2	2.34	0.57
3:M:333:VAL:HG22	3:M:399:MET:HG2	1.86	0.57
2:B:188:SER:HB3	2:B:196:LEU:H	1.69	0.57
1:A:247:TYR:HE1	5:S:130:LYS:HZ2	1.51	0.57
2:B:223:LEU:HB2	2:B:258:SER:HB3	1.87	0.57
2:B:372:LYS:O	2:B:375:ARG:HB3	2.04	0.57
3:M:186:SER:HB2	3:M:187:PRO:HD2	1.86	0.57
2:B:55:VAL:O	2:B:58:MET:HG2	2.04	0.57
2:B:392:VAL:O	2:B:396:LEU:HD12	2.03	0.57
3:M:123:ASN:HD22	3:M:155:VAL:HG13	1.68	0.57
1:A:390:VAL:HG21	1:A:412:TYR:CE2	2.40	0.57
2:B:11:LYS:CE	5:S:61:ARG:HB3	2.34	0.57
1:A:354:CYS:CB	1:A:392:LEU:HD13	2.35	0.57
1:A:506:GLU:OE2	1:A:601:GLU:O	2.22	0.57
2:B:186:GLU:CD	3:M:21:ARG:HH22	2.13	0.57
5:S:62:TYR:CE1	5:S:88:VAL:HG21	2.40	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:66:PHE:CD1	1:A:101:LEU:HD21	2.40	0.57
1:A:420:ILE:O	1:A:424:ILE:HG13	2.05	0.57
2:B:226:LEU:C	2:B:228:ASN:N	2.63	0.57
2:B:500:GLN:HE21	2:B:500:GLN:HA	1.70	0.57
3:M:205:TYR:N	3:M:205:TYR:CD2	2.73	0.57
1:A:533:CYS:SG	1:A:537:THR:HG21	2.44	0.57
2:B:290:THR:O	2:B:293:SER:HB2	2.05	0.57
3:M:106:VAL:O	3:M:110:GLU:CG	2.53	0.57
3:M:125:GLU:O	3:M:126:THR:HB	2.04	0.57
3:M:135:GLN:NE2	3:M:135:GLN:CA	2.67	0.57
2:B:52:PRO:HB3	2:B:83:MET:HE1	1.87	0.56
2:B:374:VAL:HG11	2:B:406:VAL:HG23	1.86	0.56
2:B:551:GLU:O	2:B:552:THR:C	2.47	0.56
3:M:1:MET:HA	3:M:73:VAL:CG1	2.35	0.56
3:M:205:TYR:O	3:M:206:LEU:HD23	2.05	0.56
2:B:195:ASN:O	2:B:196:LEU:HB3	2.05	0.56
1:A:449:LEU:O	1:A:450:ILE:C	2.46	0.56
2:B:149:HIS:HA	2:B:153:ALA:HB3	1.85	0.56
2:B:424:LYS:HB3	2:B:425:TYR:CD1	2.40	0.56
2:B:485:LEU:O	2:B:486:THR:C	2.45	0.56
2:B:570:LEU:O	2:B:571:ALA:C	2.49	0.56
5:S:50:VAL:HG13	5:S:57:ILE:HG12	1.86	0.56
1:A:270:PRO:HA	1:A:320:HIS:CD2	2.40	0.56
1:A:379:THR:O	1:A:380:GLU:C	2.48	0.56
1:A:417:ASP:HB3	1:A:420:ILE:HD11	1.88	0.56
2:B:489:VAL:HG11	2:B:526:TYR:CD1	2.41	0.56
3:M:32:PHE:HD2	3:M:32:PHE:O	1.88	0.56
1:A:12:GLY:HA3	1:A:57:LYS:HD2	1.88	0.56
2:B:287:PRO:HG2	2:B:288:LEU:H	1.71	0.56
2:B:351:ILE:HG22	2:B:355:LEU:HD12	1.88	0.56
2:B:570:LEU:CD2	3:M:73:VAL:HG23	2.36	0.56
3:M:5:LEU:HD12	3:M:6:PHE:N	2.19	0.56
3:M:9:ASN:OD1	3:M:9:ASN:C	2.48	0.56
2:B:417:ILE:O	2:B:420:LYS:N	2.39	0.56
3:M:263:VAL:HA	3:M:276:PHE:HB3	1.88	0.56
1:A:92:GLN:NE2	5:S:112:THR:HB	2.20	0.56
1:A:493:HIS:HD2	1:A:495:ASN:N	2.03	0.55
2:B:385:GLU:O	2:B:388:ALA:CA	2.54	0.55
3:M:32:PHE:CE1	3:M:66:ALA:HB2	2.41	0.55
1:A:26:LYS:O	1:A:29:GLU:HB3	2.06	0.55
1:A:464:ARG:NE	1:A:468:ILE:HD11	2.19	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:608:ARG:HD3	2:B:515:ASP:OD2	2.06	0.55
2:B:396:LEU:HD21	2:B:428:ILE:HG23	1.87	0.55
2:B:58:MET:HG3	2:B:59:GLN:N	2.20	0.55
2:B:94:ASP:C	2:B:96:GLU:H	2.13	0.55
2:B:335:LYS:HB3	2:B:369:PHE:CE1	2.40	0.55
1:A:397:CYS:HA	1:A:401:ASN:ND2	2.11	0.55
3:M:60:ARG:O	3:M:63:ILE:HB	2.07	0.55
1:A:466:ILE:CD1	1:A:499:VAL:HG22	2.36	0.55
1:A:174:ARG:O	1:A:177:ARG:HB3	2.06	0.55
2:B:103:ARG:HH21	2:B:137:VAL:HG21	1.70	0.55
3:M:109:TYR:O	3:M:110:GLU:C	2.50	0.55
5:S:81:LEU:O	5:S:84:ILE:HB	2.07	0.55
1:A:249:TYR:O	1:A:250:TYR:C	2.49	0.55
1:A:535:VAL:O	1:A:538:ARG:N	2.38	0.55
3:M:42:GLN:O	3:M:44:ARG:NH1	2.40	0.55
3:M:133:ILE:HG22	3:M:133:ILE:O	2.06	0.55
3:M:212:CYS:HA	3:M:416:LYS:O	2.07	0.55
2:B:253:SER:OG	2:B:298:VAL:HB	2.06	0.55
1:A:41:ARG:NH2	1:A:74:PHE:HB2	2.22	0.55
2:B:357:GLU:HG2	2:B:361:TYR:OH	2.07	0.55
2:B:558:THR:O	2:B:559:LEU:C	2.49	0.55
3:M:75:ALA:O	3:M:76:ALA:C	2.49	0.55
3:M:152:THR:CG2	3:M:153:SER:N	2.69	0.55
1:A:578:GLN:HG3	1:A:582:GLU:OE2	2.05	0.55
3:M:125:GLU:CG	3:M:161:TRP:HA	2.33	0.55
1:A:364:GLU:O	1:A:365:ALA:C	2.50	0.54
1:A:586:LEU:O	1:A:590:ALA:HB3	2.06	0.54
3:M:163:ARG:HG2	3:M:209:MET:SD	2.47	0.54
2:B:115:VAL:HG23	2:B:118:ILE:HB	1.90	0.54
3:M:32:PHE:HE2	3:M:37:ILE:HG13	1.72	0.54
2:B:402:LYS:NZ	2:B:435:ASN:ND2	2.56	0.54
2:B:114:ARG:CZ	2:B:151:ILE:HB	2.37	0.54
2:B:199:LEU:HD13	2:B:229:TYR:CD1	2.29	0.54
2:B:277:TYR:HD2	2:B:278:ASN:HD22	1.54	0.54
2:B:554:LEU:HD23	2:B:555:ILE:H	1.71	0.54
1:A:417:ASP:O	1:A:418:TYR:HD2	1.91	0.54
1:A:504:LEU:CD2	1:A:522:GLN:OE1	2.56	0.54
3:M:191:VAL:HG22	3:M:194:ALA:HB2	1.88	0.54
3:M:417:VAL:O	3:M:417:VAL:CG1	2.51	0.54
1:A:615:LYS:HE3	1:A:619:LYS:HE2	1.90	0.54
2:B:292:LEU:N	2:B:292:LEU:CD1	2.70	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:402:LYS:HZ3	2:B:435:ASN:ND2	2.06	0.54
2:B:470:LEU:HD21	2:B:484:LEU:HD21	1.88	0.54
2:B:338:LYS:O	2:B:339:LEU:C	2.50	0.54
2:B:511:THR:HG21	2:B:527:TRP:CZ3	2.42	0.54
5:S:15:ARG:HD2	5:S:100:GLU:OE2	2.08	0.54
5:S:117:MET:HE3	5:S:131:VAL:HG21	1.89	0.54
3:M:191:VAL:O	3:M:191:VAL:HG13	2.08	0.54
1:A:434:LYS:HD2	1:A:435:TYR:CZ	2.43	0.54
1:A:609:GLU:OE2	1:A:609:GLU:O	2.26	0.54
2:B:203:ASN:N	2:B:203:ASN:ND2	2.44	0.54
2:B:304:ARG:HH21	2:B:575:HIS:CD2	2.26	0.54
2:B:382:ILE:CD1	2:B:417:ILE:HG12	2.38	0.54
2:B:511:THR:HG21	2:B:527:TRP:HZ3	1.73	0.53
3:M:102:LYS:O	3:M:104:ASN:N	2.39	0.53
2:B:110:MET:CE	2:B:122:LEU:HB2	2.38	0.53
3:M:14:VAL:HG12	3:M:15:LEU:N	2.23	0.53
1:A:473:ASP:O	1:A:475:VAL:N	2.42	0.53
2:B:105:LEU:O	2:B:109:THR:OG1	2.17	0.53
2:B:299:GLN:O	2:B:300:TYR:C	2.50	0.53
3:M:178:LEU:HD23	3:M:436:ILE:HB	1.89	0.53
1:A:559:ILE:HG22	1:A:563:LEU:CD2	2.39	0.53
2:B:70:TYR:CD1	2:B:109:THR:HG21	2.44	0.53
2:B:227:SER:O	2:B:227:SER:OG	2.21	0.53
1:A:144:ALA:O	1:A:148:ALA:HB2	2.09	0.53
1:A:344:ASN:OD1	5:S:49:PHE:CE1	2.61	0.53
1:A:200:HIS:O	1:A:204:VAL:HG23	2.08	0.53
1:A:226:VAL:O	1:A:230:VAL:HG23	2.09	0.53
2:B:493:LEU:HD11	2:B:537:ALA:HB1	1.89	0.53
1:A:559:ILE:O	1:A:563:LEU:HD23	2.09	0.53
2:B:343:ILE:HD12	2:B:376:ALA:HB1	1.90	0.53
5:S:93:GLU:HG3	5:S:132:LEU:CD1	2.38	0.53
2:B:192:PRO:C	2:B:194:SER:H	2.17	0.53
2:B:264:MET:HA	2:B:264:MET:CE	2.39	0.53
1:A:478:TYR:O	1:A:479:ALA:C	2.52	0.52
1:A:608:ARG:CD	2:B:515:ASP:OD2	2.58	0.52
2:B:219:GLN:O	2:B:222:ILE:N	2.43	0.52
2:B:351:ILE:HG22	2:B:355:LEU:CD1	2.40	0.52
3:M:183:LEU:N	3:M:441:ILE:O	2.33	0.52
1:A:483:VAL:CG1	1:A:500:GLY:CA	2.86	0.52
2:B:74:MET:HE2	2:B:113:ILE:CD1	2.39	0.52
5:S:99:CYS:O	5:S:102:ASP:HB2	2.09	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:11:LYS:HG2	2:B:12:LYS:H	1.73	0.52
1:A:369:HIS:O	1:A:370:ILE:C	2.53	0.52
3:M:106:VAL:O	3:M:110:GLU:HG3	2.09	0.52
3:M:345:GLN:HB2	3:M:380:GLU:HB2	1.91	0.52
1:A:518:SER:O	1:A:522:GLN:HG3	2.09	0.52
2:B:139:LYS:HG3	2:B:179:ASN:HD22	1.72	0.52
1:A:460:GLU:HB3	1:A:611:SER:OG	2.09	0.52
1:A:151:ILE:O	1:A:154:ILE:HB	2.10	0.52
1:A:383:VAL:C	1:A:385:VAL:N	2.65	0.52
3:M:90:ALA:O	3:M:94:GLY:N	2.31	0.52
1:A:190:SER:HB3	1:A:191:ARG:HH12	1.74	0.52
2:B:336:LEU:HD23	2:B:369:PHE:CD1	2.44	0.52
3:M:296:LEU:HD22	3:M:297:PRO:HD3	1.92	0.52
3:M:302:PRO:HG2	3:M:445:ARG:HA	1.91	0.52
3:M:433:VAL:HG21	4:P:5:LEU:HD13	1.91	0.52
2:B:332:ILE:O	2:B:335:LYS:HB2	2.10	0.52
2:B:149:HIS:HE1	2:B:190:SER:HB3	1.75	0.52
2:B:217:TRP:HA	2:B:220:ILE:HD12	1.91	0.52
2:B:379:ARG:HE	2:B:552:THR:CB	2.23	0.52
5:S:40:THR:HA	5:S:66:TYR:HE2	1.74	0.52
1:A:283:CYS:O	1:A:286:THR:HB	2.10	0.51
1:A:338:LEU:HD22	1:A:350:LEU:CD2	2.40	0.51
3:M:355:TYR:HD1	3:M:362:ILE:HG12	1.75	0.51
1:A:151:ILE:HA	1:A:154:ILE:HD12	1.92	0.51
1:A:413:LEU:O	1:A:415:THR:N	2.43	0.51
1:A:594:ILE:HG23	1:A:595:LEU:H	1.75	0.51
3:M:252:ILE:HD13	3:M:253:ALA:H	1.75	0.51
2:B:287:PRO:O	2:B:290:THR:N	2.44	0.51
2:B:448:MET:HA	2:B:448:MET:HE2	1.92	0.51
1:A:314:ILE:O	1:A:317:ILE:HB	2.11	0.51
2:B:215:THR:HG23	2:B:218:GLY:H	1.74	0.51
1:A:460:GLU:N	1:A:460:GLU:CD	2.68	0.51
2:B:200:ASN:O	2:B:204:ILE:HB	2.10	0.51
2:B:515:ASP:O	2:B:517:PRO:CD	2.46	0.51
1:A:466:ILE:HD11	1:A:499:VAL:HG22	1.93	0.51
2:B:68:LEU:HD13	2:B:68:LEU:H	1.75	0.51
2:B:309:ILE:O	2:B:310:VAL:C	2.52	0.51
2:B:369:PHE:O	2:B:370:VAL:C	2.53	0.51
3:M:32:PHE:O	3:M:33:ARG:C	2.54	0.51
5:S:42:ARG:CD	5:S:59:TYR:HE2	2.23	0.51
2:B:139:LYS:HD3	2:B:175:MET:HG2	1.92	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:289:VAL:O	2:B:290:THR:C	2.54	0.51
1:A:292:GLN:HE21	1:A:329:ARG:NH2	2.05	0.51
1:A:383:VAL:O	1:A:384:SER:C	2.52	0.51
1:A:467:GLN:HE22	1:A:608:ARG:HG3	1.74	0.51
1:A:535:VAL:CG2	1:A:536:PRO:HD3	2.30	0.51
2:B:110:MET:HG2	2:B:122:LEU:HD22	1.93	0.51
2:B:571:ALA:O	2:B:575:HIS:N	2.42	0.51
2:B:200:ASN:CB	2:B:201:PRO:HD2	2.18	0.51
2:B:429:ILE:HG21	2:B:459:ILE:HD11	1.93	0.51
2:B:481:GLN:O	2:B:482:LEU:C	2.54	0.51
3:M:213:LYS:HB2	3:M:416:LYS:HB2	1.92	0.51
3:M:341:THR:HG21	3:M:344:VAL:HG22	1.93	0.51
1:A:293:GLU:HB3	1:A:294:PRO:HD3	1.89	0.50
1:A:546:ILE:HG23	1:A:599:LEU:HD11	1.92	0.50
2:B:32:GLU:O	2:B:36:LYS:HG3	2.10	0.50
2:B:208:LEU:O	2:B:211:LEU:N	2.43	0.50
2:B:289:VAL:O	2:B:292:LEU:HD22	2.10	0.50
3:M:161:TRP:O	3:M:162:ARG:CB	2.48	0.50
1:A:366:VAL:O	1:A:368:THR:N	2.44	0.50
3:M:154:GLN:HG3	3:M:155:VAL:N	2.25	0.50
2:B:348:GLN:CD	2:B:348:GLN:H	2.17	0.50
2:B:414:ILE:HA	2:B:417:ILE:HD12	1.94	0.50
2:B:510:ALA:O	2:B:520:ARG:HA	2.10	0.50
5:S:93:GLU:CG	5:S:132:LEU:HD11	2.41	0.50
1:A:52:GLY:HA3	1:A:87:ARG:NH1	2.26	0.50
1:A:401:ASN:HB3	1:A:405:ILE:CD1	2.41	0.50
2:B:175:MET:O	2:B:176:VAL:C	2.54	0.50
1:A:87:ARG:O	1:A:91:LYS:HG3	2.11	0.50
1:A:404:GLN:O	1:A:405:ILE:C	2.53	0.50
1:A:472:ARG:C	1:A:473:ASP:OD1	2.55	0.50
1:A:555:VAL:O	1:A:557:ALA:N	2.44	0.50
2:B:54:VAL:O	2:B:57:CYS:HB2	2.11	0.50
2:B:119:THR:HG22	2:B:155:MET:HE1	1.92	0.50
2:B:468:SER:OG	2:B:469:PHE:N	2.44	0.50
3:M:164:GLU:HG2	3:M:165:GLY:N	2.25	0.50
2:B:252:ASN:O	2:B:253:SER:O	2.28	0.50
2:B:350:ASN:O	2:B:354:VAL:HG23	2.12	0.50
1:A:463:TYR:O	1:A:467:GLN:HG3	2.11	0.50
1:A:586:LEU:CD2	2:B:540:VAL:HG21	2.41	0.50
2:B:115:VAL:CG2	2:B:118:ILE:HB	2.42	0.50
2:B:131:LYS:O	2:B:132:ASP:HB2	2.11	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:511:THR:HG23	2:B:512:GLN:NE2	2.19	0.50
2:B:549:SER:N	2:B:551:GLU:OE1	2.45	0.50
5:S:50:VAL:CG1	5:S:57:ILE:HG12	2.42	0.50
2:B:288:LEU:HD22	2:B:306:ILE:CG1	2.40	0.50
1:A:10:MET:HE2	1:A:56:LYS:HE3	1.94	0.49
1:A:414:GLU:HG3	1:A:452:ILE:HG12	1.94	0.49
3:M:26:ARG:H	3:M:26:ARG:CD	2.25	0.49
3:M:69:THR:HG21	3:M:73:VAL:HG22	1.93	0.49
1:A:105:ASN:CB	1:A:108:LEU:HD12	2.41	0.49
2:B:503:VAL:HA	2:B:506:VAL:HG12	1.95	0.49
3:M:163:ARG:CZ	3:M:166:ILE:HD12	2.42	0.49
1:A:52:GLY:HA3	1:A:87:ARG:HH12	1.77	0.49
1:A:579:ARG:HH21	2:B:482:LEU:HD21	1.76	0.49
1:A:581:VAL:HG21	2:B:545:LYS:HG2	1.93	0.49
2:B:108:ARG:NH1	3:M:113:ASP:OD1	2.46	0.49
5:S:3:ARG:HD2	5:S:55:PHE:CZ	2.48	0.49
1:A:201:LEU:HD11	1:A:244:LEU:HD13	1.92	0.49
1:A:598:VAL:HA	2:B:528:ARG:CB	2.37	0.49
2:B:367:VAL:HG13	2:B:405:TYR:CZ	2.48	0.49
3:M:392:TRP:CZ2	3:M:395:PRO:HD3	2.47	0.49
1:A:44:PHE:HE1	1:A:75:GLY:HA3	1.77	0.49
1:A:266:GLN:HG2	1:A:316:LEU:CD1	2.43	0.49
1:A:344:ASN:CB	5:S:49:PHE:HE1	2.24	0.49
1:A:459:GLU:HG2	1:A:460:GLU:OE1	2.13	0.49
2:B:51:PHE:N	2:B:52:PRO:HD2	2.28	0.49
3:M:394:ARG:NH1	3:M:445:ARG:O	2.45	0.49
1:A:509:ASN:H	1:A:509:ASN:ND2	2.04	0.49
1:A:579:ARG:HG2	2:B:522:ARG:HH12	1.75	0.49
5:S:92:ASN:OD1	5:S:98:VAL:HG12	2.12	0.49
1:A:520:LEU:HD12	1:A:521:ILE:CD1	2.42	0.49
3:M:37:ILE:HG12	3:M:64:TRP:CE2	2.48	0.49
5:S:69:ILE:HG22	5:S:71:VAL:HG13	1.94	0.49
1:A:39:ASN:O	1:A:43:LYS:HB2	2.12	0.49
1:A:493:HIS:CD2	1:A:494:GLU:N	2.81	0.49
2:B:108:ARG:NH1	3:M:113:ASP:CG	2.70	0.49
2:B:118:ILE:CG2	2:B:119:THR:N	2.75	0.49
2:B:425:TYR:O	2:B:428:ILE:HG13	2.12	0.49
2:B:501:GLU:O	2:B:505:GLN:HG2	2.12	0.49
5:S:30:LYS:O	5:S:31:LEU:C	2.56	0.49
5:S:43:ASP:HB2	6:S:1143:SO4:O2	2.13	0.49
1:A:420:ILE:O	1:A:421:ARG:C	2.51	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:575:GLU:OE1	2:B:482:LEU:HD22	2.13	0.49
2:B:67:LYS:HD2	2:B:67:LYS:C	2.38	0.49
2:B:174:PRO:O	2:B:177:VAL:HG12	2.12	0.49
2:B:310:VAL:HG11	2:B:344:ARG:CB	2.42	0.49
3:M:260:HIS:CG	3:M:261:GLN:N	2.81	0.49
5:S:66:TYR:N	5:S:66:TYR:CD1	2.81	0.49
5:S:87:PHE:HD1	5:S:117:MET:SD	2.36	0.49
1:A:375:ASN:O	1:A:379:THR:HB	2.13	0.48
3:M:24:ILE:HG22	3:M:25:GLY:N	2.28	0.48
1:A:92:GLN:HE21	5:S:112:THR:CB	2.23	0.48
2:B:10:ASN:O	2:B:11:LYS:CB	2.40	0.48
2:B:22:LEU:HD11	2:B:54:VAL:CG2	2.43	0.48
2:B:279:MET:O	2:B:283:LYS:HB2	2.12	0.48
3:M:74:ASN:C	3:M:74:ASN:OD1	2.56	0.48
2:B:110:MET:HE3	2:B:122:LEU:HB3	1.91	0.48
2:B:359:LYS:HG2	2:B:360:GLU:N	2.28	0.48
2:B:507:LEU:O	2:B:511:THR:HB	2.13	0.48
1:A:262:LEU:HD13	1:A:312:GLU:HB3	1.94	0.48
1:A:367:LYS:HD2	1:A:398:ASP:OD2	2.12	0.48
1:A:546:ILE:HA	1:A:549:VAL:HG23	1.95	0.48
2:B:581:PHE:CD2	2:B:581:PHE:N	2.81	0.48
1:A:466:ILE:HD13	1:A:503:ILE:HD13	1.95	0.48
2:B:185:SER:O	2:B:186:GLU:C	2.56	0.48
3:M:106:VAL:O	3:M:110:GLU:HG2	2.12	0.48
3:M:405:PHE:HD1	3:M:406:ALA:H	1.60	0.48
5:S:93:GLU:HB3	5:S:132:LEU:HD11	1.95	0.48
5:S:95:PHE:CE2	5:S:102:ASP:HB3	2.49	0.48
1:A:63:LEU:HD13	1:A:97:PHE:HA	1.96	0.48
1:A:281:THR:O	1:A:282:GLU:C	2.57	0.48
1:A:281:THR:O	1:A:285:GLU:HG3	2.14	0.48
2:B:245:THR:HB	2:B:246:PRO:HD3	1.94	0.48
2:B:270:LEU:HD23	2:B:271:PRO:HD2	1.95	0.48
2:B:506:VAL:HG13	2:B:507:LEU:N	2.27	0.48
3:M:10:HIS:NE2	3:M:11:LYS:HE3	2.29	0.48
3:M:127:GLY:CA	3:M:162:ARG:HG3	2.41	0.48
3:M:397:ILE:HB	3:M:444:THR:O	2.13	0.48
3:M:434:ARG:NH2	4:P:2:TYR:OH	2.46	0.48
5:S:131:VAL:O	5:S:135:LEU:HB2	2.13	0.48
1:A:271:PRO:CD	1:A:320:HIS:NE2	2.72	0.48
1:A:585:ARG:NH1	1:A:589:VAL:CG2	2.72	0.48
2:B:63:LEU:HD21	2:B:102:ILE:CD1	2.44	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:371:ARG:O	2:B:372:LYS:C	2.56	0.48
2:B:386:GLN:O	2:B:387:SER:C	2.56	0.48
3:M:1:MET:N	3:M:71:GLN:HE22	2.11	0.48
1:A:200:HIS:HD2	1:A:202:GLY:H	1.60	0.48
1:A:209:SER:O	1:A:212:THR:HB	2.14	0.48
1:A:356:LEU:C	1:A:356:LEU:CD2	2.86	0.48
1:A:364:GLU:OE1	1:A:367:LYS:HE2	2.14	0.48
1:A:473:ASP:O	1:A:474:ASP:C	2.57	0.48
3:M:179:GLU:OE2	3:M:288:TYR:OH	2.31	0.48
5:S:66:TYR:HD1	5:S:66:TYR:N	2.11	0.48
1:A:32:ARG:HH12	1:A:36:GLU:HG3	1.77	0.48
2:B:250:HIS:HA	2:B:252:ASN:ND2	2.29	0.48
2:B:382:ILE:N	2:B:382:ILE:HD12	2.28	0.48
2:B:417:ILE:O	2:B:418:PHE:C	2.56	0.48
2:B:548:ILE:HG22	2:B:551:GLU:HG3	1.96	0.48
1:A:77:MET:C	1:A:79:ALA:N	2.70	0.48
1:A:413:LEU:O	1:A:414:GLU:C	2.52	0.48
1:A:525:LEU:C	1:A:527:HIS:N	2.71	0.48
2:B:11:LYS:HD3	5:S:63:ALA:O	2.14	0.48
2:B:356:ALA:O	2:B:357:GLU:C	2.57	0.48
3:M:20:TYR:CE2	3:M:116:LEU:O	2.67	0.48
3:M:25:GLY:HA2	3:M:26:ARG:NH2	2.28	0.48
1:A:550:ASN:HB3	1:A:599:LEU:HD12	1.96	0.47
1:A:585:ARG:HH22	2:B:539:GLU:HG3	1.79	0.47
1:A:586:LEU:HD23	2:B:540:VAL:HG21	1.96	0.47
1:A:600:GLU:OE2	1:A:601:GLU:N	2.47	0.47
2:B:275:ASP:HB3	2:B:278:ASN:HB2	1.96	0.47
3:M:44:ARG:HG3	3:M:44:ARG:NH1	2.27	0.47
3:M:173:LEU:C	3:M:174:PHE:CD1	2.83	0.47
3:M:222:ILE:O	3:M:223:GLU:CB	2.62	0.47
2:B:123:CYS:HB3	2:B:157:GLU:OE1	2.13	0.47
2:B:189:GLU:O	2:B:190:SER:C	2.58	0.47
2:B:417:ILE:C	2:B:419:ARG:N	2.69	0.47
5:S:28:LYS:HA	5:S:31:LEU:HD12	1.96	0.47
1:A:393:LEU:HB3	1:A:405:ILE:HG23	1.95	0.47
1:A:470:ILE:CD1	1:A:605:PHE:CD1	2.94	0.47
1:A:478:TYR:O	1:A:481:LYS:N	2.48	0.47
3:M:182:ASN:OD1	3:M:441:ILE:HB	2.14	0.47
3:M:219:LYS:HE3	3:M:219:LYS:HB3	1.76	0.47
3:M:249:LYS:C	3:M:251:SER:H	2.22	0.47
3:M:444:THR:HG23	3:M:445:ARG:N	2.29	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:60:THR:HG21	2:B:65:LEU:HD23	1.97	0.47
2:B:300:TYR:HB2	2:B:333:TYR:CD1	2.50	0.47
3:M:260:HIS:CG	3:M:261:GLN:H	2.32	0.47
5:S:83:ALA:O	5:S:84:ILE:C	2.57	0.47
2:B:51:PHE:C	2:B:51:PHE:CD2	2.93	0.47
3:M:406:ALA:HB2	3:M:435:TYR:HD2	1.80	0.47
1:A:205:THR:O	1:A:206:ALA:C	2.57	0.47
1:A:523:PHE:O	1:A:524:ASN:C	2.58	0.47
1:A:562:VAL:O	1:A:564:ARG:N	2.47	0.47
2:B:259:ALA:O	2:B:263:LEU:HB2	2.14	0.47
3:M:20:TYR:HE2	3:M:116:LEU:O	1.97	0.47
3:M:39:ALA:C	3:M:41:GLN:N	2.71	0.47
3:M:85:MET:O	3:M:86:CYS:C	2.57	0.47
3:M:159:ILE:O	3:M:159:ILE:HG22	2.14	0.47
4:P:5:LEU:O	4:P:6:ASN:CB	2.57	0.47
5:S:24:ASP:N	5:S:27:GLU:OE1	2.38	0.47
2:B:165:LEU:O	2:B:168:LEU:HB2	2.14	0.47
2:B:277:TYR:HE2	2:B:281:LEU:HD11	1.80	0.47
3:M:42:GLN:O	3:M:43:VAL:C	2.57	0.47
3:M:132:PHE:O	3:M:132:PHE:CG	2.68	0.47
1:A:105:ASN:HB3	1:A:108:LEU:HD12	1.97	0.47
1:A:304:ASN:O	1:A:305:ALA:C	2.57	0.47
1:A:517:SER:C	1:A:518:SER:O	2.55	0.47
1:A:601:GLU:O	1:A:602:MET:CB	2.63	0.47
2:B:404:ASN:CG	2:B:405:TYR:N	2.73	0.47
3:M:107:LEU:O	3:M:110:GLU:N	2.48	0.47
3:M:252:ILE:HD13	3:M:253:ALA:N	2.30	0.47
1:A:329:ARG:HE	1:A:329:ARG:HB3	1.43	0.47
1:A:472:ARG:O	1:A:473:ASP:CB	2.63	0.47
2:B:268:GLU:OE2	2:B:269:LEU:HG	2.15	0.47
3:M:398:SER:HA	3:M:442:TYR:O	2.14	0.47
5:S:76:ASN:O	5:S:79:ALA:HB3	2.14	0.47
1:A:222:PHE:O	1:A:225:SER:N	2.47	0.46
1:A:401:ASN:O	1:A:402:ALA:C	2.58	0.46
2:B:289:VAL:HG13	2:B:323:VAL:HG11	1.97	0.46
3:M:247:LEU:HD12	3:M:247:LEU:H	1.80	0.46
5:S:54:ASN:O	5:S:55:PHE:CD2	2.68	0.46
1:A:366:VAL:O	1:A:367:LYS:C	2.58	0.46
2:B:155:MET:CB	2:B:158:ASP:HB3	2.41	0.46
2:B:204:ILE:HD11	2:B:229:TYR:CG	2.50	0.46
2:B:274:SER:O	2:B:276:TYR:N	2.37	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:353:GLN:O	2:B:356:ALA:HB3	2.15	0.46
2:B:415:ARG:HD3	2:B:447:ALA:CB	2.45	0.46
3:M:143:GLN:HG3	3:M:147:GLU:HB2	1.97	0.46
1:A:124:ASN:HB2	1:A:125:PRO:HD2	1.98	0.46
1:A:255:PRO:HD2	1:A:256:TRP:CE3	2.49	0.46
1:A:434:LYS:HD2	1:A:435:TYR:CE1	2.50	0.46
2:B:126:LEU:HD23	2:B:161:PHE:CE1	2.50	0.46
2:B:563:LEU:HA	2:B:563:LEU:HD23	1.70	0.46
3:M:183:LEU:O	3:M:442:TYR:HA	2.16	0.46
3:M:301:ILE:HA	3:M:302:PRO:HD3	1.69	0.46
1:A:188:TRP:CE3	1:A:192:VAL:HG21	2.50	0.46
1:A:190:SER:HB3	1:A:191:ARG:NH1	2.30	0.46
2:B:198:ASP:OD2	2:B:198:ASP:N	2.48	0.46
3:M:32:PHE:CE2	3:M:37:ILE:HG13	2.50	0.46
3:M:292:LYS:HA	3:M:292:LYS:HD3	1.78	0.46
3:M:401:PHE:H	3:M:439:SER:HB2	1.79	0.46
5:S:133:LYS:O	5:S:134:GLN:C	2.58	0.46
1:A:226:VAL:HG22	1:A:268:TYR:CD2	2.51	0.46
1:A:493:HIS:CD2	1:A:494:GLU:H	2.33	0.46
2:B:258:SER:O	2:B:262:VAL:HG23	2.16	0.46
2:B:264:MET:SD	2:B:309:ILE:HG23	2.55	0.46
3:M:264:ARG:HG2	3:M:275:SER:O	2.15	0.46
1:A:100:VAL:HG12	1:A:101:LEU:HD12	1.98	0.46
1:A:487:LEU:HD23	1:A:496:LEU:CD2	2.46	0.46
2:B:551:GLU:N	2:B:551:GLU:OE2	2.49	0.46
3:M:107:LEU:O	3:M:109:TYR:N	2.49	0.46
3:M:322:PHE:CZ	3:M:328:ALA:HB2	2.50	0.46
3:M:364:TRP:CG	3:M:377:ILE:HD12	2.50	0.46
5:S:15:ARG:HD3	5:S:104:VAL:HG22	1.96	0.46
1:A:188:TRP:HE3	1:A:192:VAL:HG21	1.81	0.46
1:A:245:GLN:H	1:A:245:GLN:HE21	1.64	0.46
1:A:552:PHE:O	1:A:554:GLU:N	2.48	0.46
2:B:87:ALA:O	2:B:88:VAL:C	2.59	0.46
2:B:176:VAL:HG12	2:B:177:VAL:N	2.31	0.46
2:B:307:ASN:HD21	2:B:311:GLN:NE2	2.14	0.46
1:A:155:LEU:HD11	1:A:165:LYS:HG2	1.98	0.46
1:A:277:ARG:HH11	1:A:277:ARG:HB3	1.81	0.46
1:A:526:LEU:HD22	1:A:541:LEU:HD23	1.98	0.46
2:B:169:ILE:HA	2:B:177:VAL:HG23	1.97	0.46
2:B:519:LEU:HA	2:B:519:LEU:HD12	1.69	0.46
3:M:39:ALA:C	3:M:41:GLN:H	2.24	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:S:52:PHE:CD2	5:S:52:PHE:O	2.68	0.46
5:S:95:PHE:O	5:S:97:ASN:N	2.49	0.46
1:A:89:THR:HG23	5:S:142:GLU:HA	1.98	0.46
1:A:562:VAL:C	1:A:564:ARG:N	2.74	0.46
2:B:484:LEU:HD23	2:B:484:LEU:O	2.15	0.46
1:A:493:HIS:CG	1:A:494:GLU:N	2.84	0.46
2:B:55:VAL:HG11	2:B:86:MET:HB3	1.98	0.46
3:M:1:MET:HB3	3:M:2:ILE:H	1.46	0.46
5:S:90:VAL:CG2	5:S:128:GLN:HE21	2.25	0.46
1:A:338:LEU:HD22	1:A:350:LEU:HD21	1.97	0.45
1:A:480:ALA:O	1:A:481:LYS:C	2.57	0.45
1:A:502:TYR:CE1	2:B:517:PRO:HB3	2.51	0.45
2:B:264:MET:HE2	2:B:264:MET:CA	2.46	0.45
2:B:94:ASP:C	2:B:96:GLU:N	2.74	0.45
2:B:191:HIS:ND1	2:B:195:ASN:OD1	2.49	0.45
2:B:284:LEU:O	2:B:288:LEU:HB2	2.16	0.45
3:M:254:ILE:HD12	3:M:254:ILE:HA	1.78	0.45
3:M:440:GLY:O	3:M:441:ILE:HG13	2.16	0.45
5:S:129:THR:HG22	5:S:130:LYS:N	2.31	0.45
1:A:266:GLN:HG2	1:A:316:LEU:HD12	1.99	0.45
1:A:308:ALA:O	1:A:309:VAL:C	2.59	0.45
2:B:208:LEU:HB3	2:B:243:ARG:HE	1.80	0.45
2:B:338:LYS:O	2:B:341:ILE:N	2.50	0.45
2:B:404:ASN:O	2:B:408:GLN:HG3	2.16	0.45
3:M:208:GLY:HA3	3:M:419:GLU:OE2	2.16	0.45
1:A:25:SER:O	1:A:27:GLU:N	2.50	0.45
1:A:305:ALA:O	1:A:306:LYS:C	2.58	0.45
1:A:345:LEU:O	1:A:346:ARG:C	2.59	0.45
1:A:393:LEU:O	1:A:396:MET:N	2.48	0.45
1:A:478:TYR:C	1:A:478:TYR:CD2	2.95	0.45
1:A:600:GLU:OE2	1:A:600:GLU:CA	2.63	0.45
2:B:68:LEU:HD13	2:B:68:LEU:N	2.32	0.45
2:B:192:PRO:O	2:B:194:SER:N	2.36	0.45
2:B:449:ILE:HD11	2:B:469:PHE:CE2	2.51	0.45
3:M:77:MET:HE2	3:M:78:VAL:HA	1.99	0.45
3:M:85:MET:HB2	3:M:85:MET:HE3	1.82	0.45
1:A:16:PHE:O	1:A:20:ILE:HD13	2.16	0.45
2:B:256:VAL:O	2:B:260:VAL:HG23	2.15	0.45
2:B:529:LEU:HA	2:B:529:LEU:HD12	1.32	0.45
2:B:533:ASP:HA	2:B:534:PRO:HD2	1.58	0.45
5:S:26:ASP:OD2	5:S:26:ASP:N	2.49	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:596:ALA:O	1:A:597:THR:C	2.59	0.45
5:S:6:LEU:HD11	5:S:32:ILE:HG12	1.97	0.45
5:S:52:PHE:CE2	5:S:55:PHE:HB2	2.52	0.45
1:A:385:VAL:O	1:A:386:ARG:C	2.59	0.45
1:A:600:GLU:HB2	2:B:528:ARG:NH1	2.32	0.45
2:B:67:LYS:O	2:B:70:TYR:HB2	2.17	0.45
3:M:205:TYR:C	3:M:206:LEU:HD23	2.42	0.45
1:A:255:PRO:HD2	1:A:256:TRP:CZ3	2.52	0.45
1:A:446:ILE:HD13	1:A:449:LEU:HD23	1.97	0.45
2:B:254:ALA:O	2:B:255:VAL:C	2.59	0.45
3:M:199:ARG:HA	3:M:286:MET:O	2.17	0.45
3:M:294:ILE:H	3:M:294:ILE:HG13	1.43	0.45
3:M:444:THR:HG23	3:M:445:ARG:H	1.81	0.45
5:S:90:VAL:O	5:S:93:GLU:HB2	2.17	0.45
1:A:446:ILE:HG21	1:A:465:VAL:HB	1.99	0.45
2:B:67:LYS:HD2	2:B:67:LYS:O	2.16	0.45
3:M:217:ASN:O	3:M:218:ASP:CG	2.59	0.45
5:S:95:PHE:HB2	5:S:98:VAL:HB	1.98	0.45
1:A:553:PRO:O	1:A:554:GLU:C	2.59	0.45
2:B:190:SER:O	2:B:192:PRO:HD3	2.17	0.45
2:B:210:ALA:O	2:B:211:LEU:C	2.60	0.45
2:B:221:PHE:CZ	3:M:121:PRO:HD2	2.46	0.45
2:B:287:PRO:CG	2:B:288:LEU:H	2.29	0.45
2:B:423:ASN:O	2:B:424:LYS:HE3	2.16	0.45
1:A:511:ILE:HG13	1:A:517:SER:HG	1.81	0.44
3:M:5:LEU:CD1	3:M:6:PHE:N	2.78	0.44
3:M:347:ILE:HG13	3:M:348:CYS:N	2.32	0.44
1:A:41:ARG:HH21	1:A:74:PHE:HB2	1.82	0.44
1:A:127:PHE:O	1:A:128:MET:C	2.61	0.44
1:A:262:LEU:HD21	1:A:313:ALA:HA	1.98	0.44
1:A:312:GLU:HB2	5:S:76:ASN:ND2	2.32	0.44
1:A:540:LEU:HD23	1:A:540:LEU:HA	1.53	0.44
2:B:363:THR:HB	3:M:393:ALA:CB	2.47	0.44
3:M:256:ASP:O	3:M:288:TYR:HA	2.18	0.44
1:A:256:TRP:CE3	5:S:126:THR:HG21	2.52	0.44
1:A:273:ASP:OD1	1:A:274:PRO:HD2	2.18	0.44
1:A:302:HIS:O	1:A:303:SER:C	2.61	0.44
1:A:388:ARG:HD3	1:A:388:ARG:HA	1.74	0.44
1:A:414:GLU:O	1:A:415:THR:HG23	2.17	0.44
1:A:501:GLY:HA2	1:A:526:LEU:HD21	1.99	0.44
1:A:594:ILE:HG23	1:A:595:LEU:N	2.32	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:601:GLU:O	1:A:602:MET:HG2	2.16	0.44
2:B:216:GLU:H	3:M:261:GLN:NE2	2.15	0.44
2:B:292:LEU:HD13	2:B:292:LEU:H	1.78	0.44
2:B:374:VAL:HG22	2:B:409:GLU:HG3	1.99	0.44
3:M:14:VAL:CG1	3:M:15:LEU:N	2.80	0.44
3:M:125:GLU:CB	3:M:161:TRP:HA	2.47	0.44
5:S:43:ASP:OD2	5:S:44:ALA:N	2.50	0.44
1:A:188:TRP:HE3	1:A:192:VAL:CG2	2.30	0.44
1:A:189:THR:O	1:A:193:VAL:HG22	2.17	0.44
1:A:517:SER:O	1:A:518:SER:C	2.60	0.44
2:B:169:ILE:O	2:B:171:ASP:N	2.50	0.44
2:B:247:ARG:HA	2:B:249:SER:HG	1.79	0.44
2:B:303:LEU:O	2:B:304:ARG:C	2.60	0.44
2:B:348:GLN:C	2:B:351:ILE:HD11	2.43	0.44
2:B:385:GLU:O	2:B:386:GLN:C	2.60	0.44
3:M:81:PHE:O	3:M:82:LEU:C	2.60	0.44
3:M:101:ILE:O	3:M:102:LYS:C	2.61	0.44
3:M:170:ARG:HH11	3:M:170:ARG:HB3	1.82	0.44
3:M:291:THR:O	3:M:294:ILE:CG1	2.65	0.44
3:M:357:ALA:C	3:M:359:GLU:H	2.26	0.44
1:A:413:LEU:C	1:A:415:THR:H	2.26	0.44
2:B:517:PRO:O	2:B:521:ASP:CB	2.65	0.44
2:B:533:ASP:OD2	2:B:533:ASP:N	2.50	0.44
3:M:8:TYR:N	3:M:8:TYR:CD1	2.86	0.44
3:M:338:PRO:HD2	3:M:381:ILE:HD13	1.98	0.44
3:M:371:GLY:O	3:M:372:MET:HB2	2.18	0.44
1:A:25:SER:C	1:A:27:GLU:N	2.76	0.44
1:A:215:ALA:HB2	1:A:222:PHE:CD1	2.52	0.44
1:A:545:TYR:O	1:A:549:VAL:HG23	2.18	0.44
2:B:63:LEU:HD21	2:B:102:ILE:HD11	1.98	0.44
2:B:168:LEU:HD22	2:B:176:VAL:HG13	1.99	0.44
2:B:436:LEU:HD23	2:B:437:ASP:N	2.33	0.44
3:M:259:PHE:CZ	3:M:268:PHE:CE1	3.06	0.44
3:M:316:VAL:HB	3:M:377:ILE:HG23	2.00	0.44
1:A:459:GLU:CG	1:A:460:GLU:OE1	2.66	0.44
1:A:487:LEU:HB3	1:A:525:LEU:HD21	2.00	0.44
1:A:496:LEU:O	1:A:496:LEU:HG	2.17	0.44
1:A:509:ASN:HD22	1:A:509:ASN:N	2.06	0.44
2:B:18:LEU:HA	2:B:18:LEU:HD22	1.78	0.44
2:B:155:MET:CA	2:B:158:ASP:HB3	2.48	0.44
2:B:327:LYS:HG2	3:M:441:ILE:HG23	1.96	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:331:PRO:HD2	2:B:334:VAL:HB	1.99	0.44
2:B:361:TYR:O	2:B:364:GLU:HB2	2.16	0.44
2:B:470:LEU:HD21	2:B:484:LEU:CD2	2.48	0.44
3:M:7:ILE:HD12	3:M:16:ILE:HG12	1.99	0.44
3:M:92:TYR:CE1	3:M:111:LEU:HD21	2.52	0.44
3:M:185:MET:HB3	3:M:185:MET:HE3	1.73	0.44
5:S:14:THR:HG21	5:S:17:ALA:HB2	1.98	0.44
1:A:534:SER:O	1:A:535:VAL:C	2.60	0.44
2:B:99:ASN:ND2	2:B:101:LEU:HB2	2.32	0.44
2:B:408:GLN:NE2	2:B:439:LEU:HA	2.33	0.44
1:A:470:ILE:CD1	1:A:605:PHE:HD1	2.15	0.44
2:B:188:SER:HA	2:B:195:ASN:HD22	1.83	0.44
3:M:313:GLU:HG2	3:M:380:GLU:HG2	2.00	0.44
1:A:32:ARG:HA	1:A:35:LYS:HD2	2.00	0.43
1:A:164:VAL:O	1:A:165:LYS:C	2.60	0.43
1:A:370:ILE:HG23	1:A:371:GLU:N	2.33	0.43
1:A:594:ILE:O	1:A:595:LEU:C	2.60	0.43
2:B:216:GLU:O	2:B:219:GLN:HB2	2.18	0.43
2:B:330:ASP:OD2	2:B:338:LYS:NZ	2.46	0.43
2:B:382:ILE:O	2:B:382:ILE:CG2	2.65	0.43
2:B:532:THR:HB	2:B:533:ASP:H	1.66	0.43
3:M:107:LEU:HA	3:M:110:GLU:HG3	2.00	0.43
3:M:328:ALA:HB3	3:M:369:MET:HB3	2.00	0.43
5:S:94:TYR:CE2	5:S:109:LYS:HD3	2.53	0.43
1:A:506:GLU:OE1	1:A:602:MET:HG2	2.19	0.43
1:A:601:GLU:O	1:A:602:MET:HB2	2.18	0.43
2:B:74:MET:HE2	2:B:113:ILE:HD12	1.99	0.43
2:B:119:THR:HG21	2:B:155:MET:CE	2.47	0.43
2:B:134:ASP:HA	2:B:135:PRO:HD3	1.75	0.43
3:M:327:LEU:HB2	3:M:368:ARG:HH12	1.83	0.43
1:A:473:ASP:HB2	1:A:474:ASP:H	1.62	0.43
2:B:10:ASN:OD1	5:S:10:ARG:NH1	2.51	0.43
2:B:33:ALA:O	2:B:34:VAL:C	2.61	0.43
2:B:126:LEU:CD1	2:B:144:CYS:HB3	2.48	0.43
2:B:485:LEU:HA	2:B:506:VAL:HG21	1.99	0.43
3:M:152:THR:HG23	3:M:153:SER:N	2.33	0.43
3:M:170:ARG:HB3	3:M:170:ARG:NH1	2.33	0.43
1:A:173:LEU:O	1:A:177:ARG:HB2	2.19	0.43
1:A:468:ILE:O	1:A:469:VAL:C	2.59	0.43
2:B:139:LYS:O	2:B:143:VAL:HG23	2.18	0.43
2:B:319:GLN:C	2:B:321:ILE:H	2.26	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:509:LEU:HD23	2:B:509:LEU:HA	1.73	0.43
3:M:127:GLY:HA3	3:M:162:ARG:HA	2.01	0.43
3:M:403:VAL:HG22	3:M:405:PHE:H	1.83	0.43
5:S:90:VAL:HG11	5:S:131:VAL:HG11	2.00	0.43
5:S:95:PHE:C	5:S:97:ASN:H	2.26	0.43
1:A:155:LEU:O	1:A:156:VAL:O	2.36	0.43
1:A:167:SER:O	1:A:171:CYS:HB2	2.18	0.43
1:A:448:ASN:O	1:A:449:LEU:C	2.53	0.43
2:B:74:MET:CE	2:B:109:THR:HG23	2.47	0.43
2:B:83:MET:HB3	2:B:83:MET:HE3	1.68	0.43
2:B:257:LEU:HD23	2:B:257:LEU:HA	1.93	0.43
2:B:285:ALA:O	2:B:286:PRO:C	2.60	0.43
2:B:449:ILE:HD11	2:B:469:PHE:CD2	2.53	0.43
2:B:562:GLU:O	2:B:562:GLU:HG2	2.18	0.43
3:M:196:VAL:CG1	3:M:290:THR:HG22	2.48	0.43
3:M:222:ILE:O	3:M:223:GLU:HB3	2.18	0.43
5:S:62:TYR:CZ	5:S:88:VAL:HG21	2.53	0.43
1:A:281:THR:O	1:A:283:CYS:N	2.51	0.43
1:A:316:LEU:HG	1:A:320:HIS:HD1	1.83	0.43
1:A:374:ILE:O	1:A:378:LYS:HB2	2.18	0.43
1:A:406:VAL:O	1:A:407:ALA:C	2.60	0.43
1:A:411:SER:HA	1:A:414:GLU:CD	2.43	0.43
2:B:212:ASN:ND2	2:B:243:ARG:HH22	2.16	0.43
2:B:250:HIS:HD2	3:M:261:GLN:CG	2.29	0.43
2:B:307:ASN:C	2:B:307:ASN:ND2	2.69	0.43
2:B:384:VAL:O	2:B:387:SER:HB2	2.18	0.43
3:M:297:PRO:O	3:M:298:PHE:CD1	2.72	0.43
5:S:60:ARG:HG2	6:S:1144:SO4:O3	2.19	0.43
1:A:165:LYS:O	1:A:168:ALA:HB3	2.19	0.43
1:A:355:THR:O	1:A:355:THR:HG22	2.15	0.43
1:A:481:LYS:HE3	1:A:485:GLU:OE1	2.18	0.43
1:A:569:LEU:O	1:A:577:GLN:NE2	2.50	0.43
2:B:154:GLN:CG	2:B:155:MET:N	2.73	0.43
2:B:473:PHE:CZ	2:B:481:GLN:HB3	2.53	0.43
3:M:419:GLU:OE1	3:M:420:PRO:HD2	2.18	0.43
1:A:33:ILE:HD11	1:A:68:LEU:HD13	1.99	0.43
1:A:200:HIS:NE2	5:S:130:LYS:HD3	2.33	0.43
1:A:283:CYS:O	1:A:286:THR:N	2.52	0.43
1:A:519:PRO:HG3	1:A:552:PHE:CD1	2.53	0.43
2:B:139:LYS:HG2	2:B:140:THR:N	2.33	0.43
2:B:490:LYS:O	2:B:491:LEU:C	2.62	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:M:259:PHE:CE1	3:M:268:PHE:CE1	3.07	0.43
2:B:22:LEU:HD11	2:B:54:VAL:HG22	2.01	0.43
3:M:355:TYR:CD1	3:M:362:ILE:HG12	2.53	0.43
1:A:112:ILE:O	1:A:116:ILE:HG13	2.19	0.43
1:A:183:VAL:HA	1:A:184:PRO:HD2	1.86	0.43
1:A:195:LEU:HA	1:A:198:ASP:HB2	2.00	0.43
1:A:555:VAL:CG1	1:A:556:LYS:N	2.80	0.43
3:M:108:ILE:O	3:M:111:LEU:HB2	2.19	0.43
3:M:146:GLU:HB3	3:M:147:GLU:H	1.67	0.43
3:M:175:LEU:HD21	3:M:415:LEU:HD22	2.00	0.43
5:S:82:GLU:OE1	5:S:82:GLU:CA	2.67	0.43
1:A:89:THR:O	1:A:93:ILE:HB	2.18	0.42
1:A:354:CYS:HB2	1:A:392:LEU:HD13	2.01	0.42
1:A:525:LEU:C	1:A:527:HIS:H	2.26	0.42
2:B:288:LEU:CD2	2:B:306:ILE:HG12	2.49	0.42
2:B:310:VAL:HG11	2:B:344:ARG:HB3	2.00	0.42
3:M:348:CYS:HB2	3:M:364:TRP:NE1	2.19	0.42
1:A:63:LEU:CD2	1:A:96:LEU:HD23	2.49	0.42
1:A:373:VAL:HG12	1:A:393:LEU:HD21	2.01	0.42
1:A:410:LEU:HD21	1:A:428:VAL:HG11	2.01	0.42
1:A:519:PRO:CG	1:A:552:PHE:CD1	3.02	0.42
2:B:73:LEU:HD22	2:B:77:ALA:HB2	2.01	0.42
2:B:296:PRO:O	2:B:297:GLU:C	2.62	0.42
3:M:97:SER:O	3:M:101:ILE:N	2.48	0.42
3:M:185:MET:SD	3:M:189:GLY:HA2	2.59	0.42
5:S:2:ILE:HB	5:S:121:GLY:HA2	2.00	0.42
1:A:443:VAL:O	1:A:444:ASP:C	2.59	0.42
2:B:377:ILE:O	2:B:378:GLY:C	2.62	0.42
2:B:560:LEU:O	2:B:561:ASP:C	2.61	0.42
3:M:367:LYS:H	3:M:367:LYS:HD3	1.85	0.42
1:A:250:TYR:O	1:A:302:HIS:HB2	2.20	0.42
2:B:173:ASN:ND2	2:B:175:MET:N	2.67	0.42
2:B:480:VAL:HG12	2:B:481:GLN:N	2.33	0.42
3:M:108:ILE:C	3:M:112:LEU:HD23	2.41	0.42
3:M:240:LYS:H	3:M:240:LYS:HG3	1.48	0.42
5:S:47:THR:OG1	5:S:49:PHE:HD1	2.01	0.42
1:A:472:ARG:O	1:A:473:ASP:HB2	2.19	0.42
1:A:493:HIS:CG	1:A:494:GLU:H	2.37	0.42
2:B:183:ALA:HA	3:M:120:TYR:OH	2.20	0.42
2:B:191:HIS:CD2	2:B:193:ASN:HA	2.55	0.42
3:M:111:LEU:HD23	3:M:129:LEU:HD13	2.00	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:S:92:ASN:HA	5:S:98:VAL:HG12	2.02	0.42
1:A:233:LEU:O	1:A:236:ILE:N	2.53	0.42
1:A:266:GLN:HA	1:A:319:HIS:CD2	2.54	0.42
2:B:374:VAL:HA	2:B:377:ILE:HD12	2.00	0.42
2:B:395:LEU:HD23	2:B:395:LEU:HA	1.84	0.42
2:B:411:ILE:O	2:B:412:VAL:C	2.62	0.42
2:B:507:LEU:HD23	2:B:507:LEU:HA	1.85	0.42
2:B:570:LEU:HB2	3:M:72:ASN:HD22	1.85	0.42
3:M:40:ARG:H	3:M:40:ARG:HG3	1.57	0.42
5:S:20:TYR:O	5:S:21:MET:HG3	2.19	0.42
1:A:404:GLN:O	1:A:407:ALA:N	2.53	0.42
1:A:602:MET:HA	1:A:602:MET:CE	2.44	0.42
2:B:270:LEU:O	2:B:272:LYS:N	2.52	0.42
2:B:277:TYR:HD2	2:B:278:ASN:ND2	2.18	0.42
2:B:281:LEU:HD23	2:B:281:LEU:HA	1.74	0.42
3:M:48:THR:O	3:M:54:SER:HA	2.20	0.42
5:S:54:ASN:HD22	5:S:54:ASN:C	2.28	0.42
5:S:135:LEU:O	5:S:139:GLN:HG2	2.20	0.42
1:A:413:LEU:CD1	1:A:425:VAL:HG23	2.49	0.42
1:A:595:LEU:HD13	1:A:596:ALA:N	2.34	0.42
3:M:97:SER:OG	3:M:98:GLU:N	2.52	0.42
3:M:413:ARG:HE	3:M:413:ARG:HB3	1.39	0.42
5:S:117:MET:HE2	5:S:125:GLU:O	2.20	0.42
1:A:417:ASP:C	1:A:418:TYR:CD2	2.98	0.42
1:A:489:ALA:HB1	1:A:490:PRO:CD	2.45	0.42
1:A:505:GLY:HA2	1:A:544:THR:HG23	2.01	0.42
3:M:392:TRP:CD1	3:M:393:ALA:H	2.38	0.42
1:A:179:SER:HB3	1:A:182:LEU:HB2	2.01	0.42
1:A:442:TYR:CD2	1:A:442:TYR:C	2.97	0.42
1:A:455:ASP:OD1	1:A:493:HIS:HE1	2.03	0.42
2:B:110:MET:HE3	2:B:122:LEU:CA	2.50	0.42
2:B:122:LEU:O	2:B:123:CYS:C	2.63	0.42
2:B:503:VAL:O	2:B:504:GLN:O	2.38	0.42
2:B:534:PRO:O	2:B:535:VAL:C	2.63	0.42
3:M:394:ARG:HA	3:M:395:PRO:HD3	1.90	0.42
1:A:225:SER:O	1:A:226:VAL:C	2.63	0.41
1:A:377:LEU:HD13	1:A:393:LEU:HD11	2.02	0.41
1:A:525:LEU:O	1:A:527:HIS:N	2.52	0.41
2:B:130:LEU:HG	2:B:141:ALA:HB1	2.02	0.41
3:M:69:THR:HG21	3:M:73:VAL:CG2	2.50	0.41
1:A:476:GLN:CD	1:A:507:PHE:CE2	2.98	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:507:PHE:HB3	1:A:510:LEU:HD12	2.01	0.41
2:B:48:SER:C	2:B:50:LEU:H	2.28	0.41
2:B:253:SER:O	2:B:256:VAL:N	2.52	0.41
2:B:409:GLU:O	2:B:413:VAL:HG23	2.20	0.41
2:B:455:TYR:O	2:B:459:ILE:HG13	2.20	0.41
3:M:256:ASP:HB3	3:M:289:ARG:NH1	2.36	0.41
5:S:16:LEU:HD12	5:S:111:TYR:CE1	2.52	0.41
1:A:340:HIS:ND1	1:A:342:GLU:HB3	2.35	0.41
1:A:431:LEU:O	1:A:432:ALA:C	2.61	0.41
1:A:519:PRO:O	1:A:522:GLN:N	2.53	0.41
2:B:265:LYS:C	2:B:267:LEU:H	2.28	0.41
2:B:336:LEU:CD2	2:B:369:PHE:HD1	2.31	0.41
3:M:71:GLN:OE1	3:M:71:GLN:N	2.53	0.41
1:A:307:ASN:O	1:A:308:ALA:C	2.61	0.41
1:A:398:ASP:H	1:A:401:ASN:ND2	2.18	0.41
2:B:287:PRO:HG2	2:B:288:LEU:N	2.33	0.41
3:M:2:ILE:O	3:M:119:GLY:HA3	2.20	0.41
1:A:68:LEU:HD23	1:A:68:LEU:O	2.21	0.41
1:A:120:LEU:O	1:A:122:SER:N	2.46	0.41
1:A:141:ARG:O	1:A:144:ALA:N	2.53	0.41
2:B:61:ASP:N	2:B:61:ASP:OD2	2.54	0.41
2:B:174:PRO:HG3	3:M:158:GLN:HG3	2.02	0.41
2:B:261:LYS:HA	2:B:567:ILE:HD12	2.00	0.41
2:B:415:ARG:O	2:B:416:ASP:C	2.64	0.41
3:M:4:GLY:HA3	3:M:6:PHE:CZ	2.56	0.41
3:M:268:PHE:O	3:M:269:ASP:C	2.61	0.41
1:A:204:VAL:HB	1:A:257:LEU:HD11	2.02	0.41
1:A:223:LYS:O	1:A:223:LYS:HG2	2.20	0.41
1:A:350:LEU:HD23	1:A:350:LEU:HA	1.40	0.41
1:A:454:GLY:O	1:A:455:ASP:C	2.63	0.41
2:B:177:VAL:HA	2:B:180:ALA:HB3	2.03	0.41
2:B:450:TRP:CZ2	2:B:454:GLU:HG3	2.56	0.41
3:M:79:PHE:O	3:M:82:LEU:N	2.54	0.41
3:M:403:VAL:HA	3:M:404:PRO:HD3	1.83	0.41
5:S:65:LEU:HD22	5:S:65:LEU:HA	1.73	0.41
5:S:84:ILE:HG22	5:S:85:HIS:N	2.34	0.41
1:A:424:ILE:HD13	1:A:424:ILE:HG21	1.82	0.41
1:A:519:PRO:CG	1:A:552:PHE:CE1	3.03	0.41
2:B:99:ASN:HD22	2:B:99:ASN:C	2.28	0.41
2:B:481:GLN:O	2:B:484:LEU:N	2.53	0.41
1:A:107:GLU:O	1:A:108:LEU:C	2.63	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:270:PRO:HA	1:A:271:PRO:HD2	1.47	0.41
1:A:377:LEU:HD12	1:A:390:VAL:HG23	1.98	0.41
1:A:394:TYR:CD1	1:A:427:LYS:HB3	2.56	0.41
1:A:611:SER:O	1:A:614:ALA:HB3	2.20	0.41
2:B:17:GLU:OE1	2:B:17:GLU:HA	2.19	0.41
2:B:375:ARG:HD2	2:B:409:GLU:OE1	2.20	0.41
2:B:377:ILE:O	2:B:380:CYS:HB2	2.21	0.41
2:B:437:ASP:N	2:B:437:ASP:OD2	2.51	0.41
2:B:444:ALA:O	2:B:448:MET:HB2	2.21	0.41
2:B:572:SER:O	2:B:573:VAL:C	2.62	0.41
3:M:7:ILE:HG12	3:M:65:LEU:HG	2.02	0.41
3:M:24:ILE:HG22	3:M:25:GLY:H	1.86	0.41
3:M:125:GLU:O	3:M:126:THR:CB	2.68	0.41
3:M:259:PHE:HB3	3:M:260:HIS:H	1.73	0.41
5:S:2:ILE:HG12	5:S:80:TYR:HE2	1.86	0.41
5:S:82:GLU:O	5:S:83:ALA:C	2.60	0.41
1:A:283:CYS:O	1:A:284:LEU:C	2.62	0.41
2:B:382:ILE:HD11	2:B:417:ILE:HA	2.03	0.41
2:B:424:LYS:HB3	2:B:425:TYR:CE1	2.56	0.41
3:M:55:PHE:C	3:M:56:PHE:HD1	2.28	0.41
1:A:553:PRO:O	1:A:555:VAL:N	2.54	0.40
2:B:371:ARG:HA	2:B:374:VAL:HG13	2.03	0.40
3:M:244:GLU:O	3:M:245:GLU:HB3	2.20	0.40
5:S:47:THR:HG1	5:S:49:PHE:H	1.67	0.40
1:A:17:ILE:O	1:A:18:SER:C	2.65	0.40
1:A:63:LEU:HD23	5:S:107:PHE:HE1	1.85	0.40
1:A:66:PHE:CD2	1:A:101:LEU:HD11	2.57	0.40
2:B:68:LEU:N	2:B:68:LEU:CD1	2.84	0.40
2:B:99:ASN:HD21	2:B:101:LEU:HD12	1.86	0.40
2:B:200:ASN:H	2:B:203:ASN:HB2	1.86	0.40
3:M:406:ALA:HB2	3:M:435:TYR:CD2	2.56	0.40
1:A:151:ILE:HG23	1:A:154:ILE:HD12	2.03	0.40
1:A:222:PHE:O	1:A:224:THR:N	2.55	0.40
2:B:52:PRO:HB3	2:B:83:MET:HE2	2.01	0.40
2:B:306:ILE:O	2:B:307:ASN:C	2.64	0.40
3:M:291:THR:O	3:M:294:ILE:HG13	2.22	0.40
3:M:305:ARG:HG2	3:M:306:GLU:H	1.86	0.40
5:S:52:PHE:HE2	5:S:55:PHE:HB2	1.86	0.40
5:S:56:LYS:HE3	5:S:77:ASN:ND2	2.36	0.40
1:A:519:PRO:HG3	1:A:552:PHE:HE1	1.84	0.40
2:B:50:LEU:C	2:B:52:PRO:HD2	2.47	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:M:323:LYS:HG2	3:M:324:PRO:CD	2.23	0.40
2:B:226:LEU:HA	2:B:226:LEU:HD23	1.87	0.40

There are no symmetry-related clashes.

5.3 Torsion angles [i](#)

5.3.1 Protein backbone [i](#)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	A	611/621 (98%)	429 (70%)	120 (20%)	62 (10%)	0	3
2	B	577/592 (98%)	380 (66%)	139 (24%)	58 (10%)	0	3
3	M	422/446 (95%)	307 (73%)	72 (17%)	43 (10%)	0	3
4	P	4/6 (67%)	4 (100%)	0	0	100	100
5	S	140/142 (99%)	106 (76%)	24 (17%)	10 (7%)	1	5
All	All	1754/1807 (97%)	1226 (70%)	355 (20%)	173 (10%)	0	3

All (173) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	125	PRO
1	A	156	VAL
1	A	223	LYS
1	A	226	VAL
1	A	270	PRO
1	A	293	GLU
1	A	294	PRO
1	A	357	ALA
1	A	417	ASP
1	A	474	ASP
1	A	553	PRO
1	A	554	GLU

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Mol	Chain	Res	Type
1	A	556	LYS
1	A	590	ALA
1	A	592	THR
1	A	602	MET
1	A	608	ARG
2	B	11	LYS
2	B	155	MET
2	B	176	VAL
2	B	199	LEU
2	B	216	GLU
2	B	246	PRO
2	B	251	ALA
2	B	252	ASN
2	B	253	SER
2	B	254	ALA
2	B	271	PRO
2	B	370	VAL
2	B	437	ASP
2	B	504	GLN
3	M	52	ARG
3	M	75	ALA
3	M	115	ILE
3	M	125	GLU
3	M	126	THR
3	M	143	GLN
3	M	146	GLU
3	M	161	TRP
3	M	162	ARG
3	M	187	PRO
3	M	247	LEU
3	M	248	GLY
3	M	297	PRO
3	M	298	PHE
3	M	372	MET
5	S	96	HIS
5	S	97	ASN
5	S	129	THR
5	S	133	LYS
1	A	75	GLY
1	A	78	GLU
1	A	250	TYR
1	A	367	LYS

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Mol	Chain	Res	Type
1	A	380	GLU
1	A	395	ALA
1	A	454	GLY
1	A	473	ASP
1	A	490	PRO
1	A	526	LEU
1	A	561	ASP
1	A	589	VAL
1	A	591	SER
1	A	596	ALA
2	B	5	LYS
2	B	9	THR
2	B	49	SER
2	B	82	ASP
2	B	98	PRO
2	B	200	ASN
2	B	213	GLU
2	B	227	SER
2	B	275	ASP
2	B	283	LYS
2	B	293	SER
2	B	348	GLN
2	B	362	ALA
2	B	481	GLN
2	B	552	THR
3	M	43	VAL
3	M	76	ALA
3	M	103	ASN
3	M	105	PHE
3	M	108	ILE
3	M	160	GLY
3	M	439	SER
3	M	445	ARG
5	S	140	SER
1	A	26	LYS
1	A	45	LYS
1	A	81	ASN
1	A	121	ALA
1	A	272	GLU
1	A	282	GLU
1	A	321	ASP
1	A	414	GLU

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Mol	Chain	Res	Type
1	A	457	VAL
2	B	59	GLN
2	B	123	CYS
2	B	130	LEU
2	B	174	PRO
2	B	188	SER
2	B	193	ASN
2	B	197	LEU
2	B	201	PRO
2	B	212	ASN
2	B	274	SER
2	B	297	GLU
2	B	364	GLU
2	B	424	LYS
2	B	475	ASP
2	B	477	SER
3	M	40	ARG
3	M	107	LEU
3	M	116	LEU
3	M	148	GLN
3	M	218	ASP
3	M	243	SER
3	M	302	PRO
3	M	389	LYS
3	M	426	ASP
3	M	444	THR
5	S	72	ASP
5	S	77	ASN
1	A	83	LEU
1	A	205	THR
1	A	241	SER
1	A	518	SER
1	A	563	LEU
1	A	588	THR
1	A	609	GLU
2	B	88	VAL
2	B	119	THR
2	B	482	LEU
3	M	244	GLU
3	M	251	SER
5	S	53	ARG
5	S	63	ALA

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Mol	Chain	Res	Type
1	A	50	LEU
1	A	138	VAL
1	A	220	GLU
1	A	365	ALA
1	A	418	TYR
1	A	578	GLN
1	A	598	VAL
2	B	13	GLY
2	B	356	ALA
2	B	535	VAL
3	M	42	GLN
3	M	157	GLY
3	M	250	GLN
3	M	407	PRO
1	A	400	SER
2	B	132	ASP
2	B	198	ASP
2	B	310	VAL
3	M	133	ILE
1	A	52	GLY
1	A	219	PRO
1	A	271	PRO
1	A	519	PRO
2	B	541	VAL
2	B	546	PRO
3	M	189	GLY
5	S	110	VAL
1	A	193	VAL
1	A	324	PRO
1	A	385	VAL
2	B	480	VAL
3	M	94	GLY
2	B	451	ILE
2	B	534	PRO
3	M	396	PRO

5.3.2 Protein sidechains

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

The Analysed column shows the number of residues for which the sidechain conformation was

analysed, and the total number of residues.

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	A	537/543 (99%)	435 (81%)	102 (19%)	1	7
2	B	522/533 (98%)	380 (73%)	142 (27%)	0	1
3	M	378/398 (95%)	292 (77%)	86 (23%)	1	4
4	P	6/6 (100%)	5 (83%)	1 (17%)	2	10
5	S	131/131 (100%)	100 (76%)	31 (24%)	1	3
All	All	1574/1611 (98%)	1212 (77%)	362 (23%)	1	4

All (362) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	10	MET
1	A	24	LYS
1	A	27	GLU
1	A	40	ILE
1	A	41	ARG
1	A	93	ILE
1	A	96	LEU
1	A	142	GLU
1	A	151	ILE
1	A	155	LEU
1	A	156	VAL
1	A	161	MET
1	A	178	THR
1	A	185	MET
1	A	194	HIS
1	A	196	LEU
1	A	217	LYS
1	A	223	LYS
1	A	224	THR
1	A	235	ARG
1	A	237	VAL
1	A	238	THR
1	A	244	LEU
1	A	245	GLN
1	A	248	THR
1	A	257	LEU
1	A	258	SER
1	A	259	VAL
1	A	277	ARG

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Mol	Chain	Res	Type
1	A	279	ARG
1	A	280	LEU
1	A	281	THR
1	A	288	LEU
1	A	296	LYS
1	A	306	LYS
1	A	314	ILE
1	A	315	SER
1	A	318	ILE
1	A	321	ASP
1	A	325	ASN
1	A	326	LEU
1	A	341	ARG
1	A	347	TYR
1	A	356	LEU
1	A	358	SER
1	A	360	GLU
1	A	371	GLU
1	A	377	LEU
1	A	378	LYS
1	A	379	THR
1	A	383	VAL
1	A	386	ARG
1	A	399	ARG
1	A	404	GLN
1	A	409	MET
1	A	414	GLU
1	A	415	THR
1	A	417	ASP
1	A	419	SER
1	A	425	VAL
1	A	437	VAL
1	A	438	ASP
1	A	440	THR
1	A	449	LEU
1	A	452	ILE
1	A	460	GLU
1	A	465	VAL
1	A	470	ILE
1	A	473	ASP
1	A	474	ASP
1	A	475	VAL

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Mol	Chain	Res	Type
1	A	485	GLU
1	A	499	VAL
1	A	503	ILE
1	A	506	GLU
1	A	509	ASN
1	A	516	ARG
1	A	517	SER
1	A	520	LEU
1	A	525	LEU
1	A	532	LEU
1	A	533	CYS
1	A	535	VAL
1	A	540	LEU
1	A	543	SER
1	A	544	THR
1	A	546	ILE
1	A	550	ASN
1	A	555	VAL
1	A	559	ILE
1	A	561	ASP
1	A	584	LEU
1	A	585	ARG
1	A	586	LEU
1	A	595	LEU
1	A	600	GLU
1	A	602	MET
1	A	607	GLU
1	A	609	GLU
1	A	613	LEU
1	A	616	LEU
1	A	620	LYS
2	B	6	TYR
2	B	10	ASN
2	B	11	LYS
2	B	14	GLU
2	B	15	ILE
2	B	17	GLU
2	B	18	LEU
2	B	22	LEU
2	B	24	ASN
2	B	27	LYS
2	B	28	GLU

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Mol	Chain	Res	Type
2	B	29	LYS
2	B	37	VAL
2	B	38	ILE
2	B	48	SER
2	B	49	SER
2	B	53	ASP
2	B	58	MET
2	B	62	ASN
2	B	63	LEU
2	B	68	LEU
2	B	71	LEU
2	B	73	LEU
2	B	74	MET
2	B	80	GLN
2	B	83	MET
2	B	86	MET
2	B	90	SER
2	B	96	GLU
2	B	99	ASN
2	B	102	ILE
2	B	108	ARG
2	B	110	MET
2	B	112	CYS
2	B	113	ILE
2	B	116	ASP
2	B	118	ILE
2	B	119	THR
2	B	122	LEU
2	B	124	GLU
2	B	127	ARG
2	B	133	GLU
2	B	139	LYS
2	B	144	CYS
2	B	152	ASN
2	B	154	GLN
2	B	156	VAL
2	B	159	GLN
2	B	175	MET
2	B	181	VAL
2	B	184	LEU
2	B	186	GLU
2	B	189	GLU

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Mol	Chain	Res	Type
2	B	202	GLN
2	B	203	ASN
2	B	204	ILE
2	B	211	LEU
2	B	223	LEU
2	B	242	GLU
2	B	260	VAL
2	B	261	LYS
2	B	264	MET
2	B	267	LEU
2	B	268	GLU
2	B	269	LEU
2	B	279	MET
2	B	284	LEU
2	B	288	LEU
2	B	292	LEU
2	B	293	SER
2	B	298	VAL
2	B	307	ASN
2	B	315	GLU
2	B	319	GLN
2	B	321	ILE
2	B	326	VAL
2	B	327	LYS
2	B	329	ASN
2	B	332	ILE
2	B	337	GLU
2	B	348	GLN
2	B	350	ASN
2	B	351	ILE
2	B	355	LEU
2	B	357	GLU
2	B	359	LYS
2	B	364	GLU
2	B	372	LYS
2	B	374	VAL
2	B	379	ARG
2	B	384	VAL
2	B	385	GLU
2	B	386	GLN
2	B	387	SER
2	B	393	SER

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Mol	Chain	Res	Type
2	B	396	LEU
2	B	399	ILE
2	B	400	GLN
2	B	402	LYS
2	B	404	ASN
2	B	413	VAL
2	B	424	LYS
2	B	426	GLU
2	B	427	SER
2	B	428	ILE
2	B	432	LEU
2	B	436	LEU
2	B	443	ASP
2	B	448	MET
2	B	457	GLU
2	B	458	ARG
2	B	463	ASP
2	B	468	SER
2	B	475	ASP
2	B	477	SER
2	B	482	LEU
2	B	483	THR
2	B	485	LEU
2	B	489	VAL
2	B	493	LEU
2	B	494	LYS
2	B	499	THR
2	B	501	GLU
2	B	502	LEU
2	B	504	GLN
2	B	511	THR
2	B	517	PRO
2	B	529	LEU
2	B	531	SER
2	B	536	THR
2	B	538	LYS
2	B	539	GLU
2	B	542	LEU
2	B	548	ILE
2	B	552	THR
2	B	553	ASP
2	B	554	LEU

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Mol	Chain	Res	Type
2	B	555	ILE
2	B	558	THR
2	B	565	CYS
2	B	567	ILE
2	B	581	PHE
3	M	1	MET
3	M	2	ILE
3	M	5	LEU
3	M	9	ASN
3	M	16	ILE
3	M	17	SER
3	M	23	ASP
3	M	26	ARG
3	M	29	VAL
3	M	32	PHE
3	M	40	ARG
3	M	44	ARG
3	M	48	THR
3	M	56	PHE
3	M	58	VAL
3	M	59	LYS
3	M	61	SER
3	M	62	ASN
3	M	63	ILE
3	M	65	LEU
3	M	73	VAL
3	M	77	MET
3	M	85	MET
3	M	95	LYS
3	M	100	ASN
3	M	108	ILE
3	M	110	GLU
3	M	111	LEU
3	M	115	ILE
3	M	116	LEU
3	M	133	ILE
3	M	135	GLN
3	M	146	GLU
3	M	148	GLN
3	M	149	SER
3	M	152	THR
3	M	154	GLN

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Mol	Chain	Res	Type
3	M	166	ILE
3	M	169	ARG
3	M	171	ASN
3	M	172	GLU
3	M	174	PHE
3	M	175	LEU
3	M	185	MET
3	M	188	GLN
3	M	190	GLN
3	M	200	VAL
3	M	204	SER
3	M	205	TYR
3	M	206	LEU
3	M	213	LYS
3	M	216	MET
3	M	217	ASN
3	M	221	VAL
3	M	222	ILE
3	M	240	LYS
3	M	245	GLU
3	M	251	SER
3	M	252	ILE
3	M	254	ILE
3	M	261	GLN
3	M	263	VAL
3	M	268	PHE
3	M	270	SER
3	M	272	ARG
3	M	286	MET
3	M	290	THR
3	M	292	LYS
3	M	294	ILE
3	M	296	LEU
3	M	319	LYS
3	M	320	SER
3	M	341	THR
3	M	344	VAL
3	M	347	ILE
3	M	348	CYS
3	M	350	LYS
3	M	363	VAL
3	M	367	LYS

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Mol	Chain	Res	Type
3	M	377	ILE
3	M	397	ILE
3	M	403	VAL
3	M	413	ARG
3	M	415	LEU
3	M	427	HIS
3	M	436	ILE
4	P	3	GLN
5	S	5	ILE
5	S	6	LEU
5	S	10	ARG
5	S	15	ARG
5	S	26	ASP
5	S	27	GLU
5	S	29	GLN
5	S	30	LYS
5	S	35	VAL
5	S	40	THR
5	S	47	THR
5	S	51	GLU
5	S	52	PHE
5	S	53	ARG
5	S	54	ASN
5	S	56	LYS
5	S	59	TYR
5	S	60	ARG
5	S	65	LEU
5	S	73	VAL
5	S	82	GLU
5	S	93	GLU
5	S	103	LEU
5	S	108	TYR
5	S	110	VAL
5	S	112	THR
5	S	114	VAL
5	S	123	ILE
5	S	124	ARG
5	S	128	GLN
5	S	135	LEU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (55) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	22	ASN
1	A	34	ASN
1	A	39	ASN
1	A	194	HIS
1	A	199	GLN
1	A	200	HIS
1	A	245	GLN
1	A	266	GLN
1	A	289	ASN
1	A	292	GLN
1	A	333	GLN
1	A	369	HIS
1	A	387	GLN
1	A	401	ASN
1	A	404	GLN
1	A	467	GLN
1	A	493	HIS
1	A	495	ASN
1	A	509	ASN
1	A	527	HIS
1	A	531	HIS
1	A	550	ASN
1	A	578	GLN
2	B	99	ASN
2	B	149	HIS
2	B	152	ASN
2	B	173	ASN
2	B	202	GLN
2	B	203	ASN
2	B	205	ASN
2	B	250	HIS
2	B	278	ASN
2	B	307	ASN
2	B	348	GLN
2	B	353	GLN
2	B	404	ASN
2	B	435	ASN
2	B	500	GLN
2	B	512	GLN
2	B	575	HIS
3	M	49	ASN
3	M	71	GLN
3	M	72	ASN

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Mol	Chain	Res	Type
3	M	103	ASN
3	M	135	GLN
3	M	154	GLN
3	M	261	GLN
3	M	321	ASN
3	M	427	HIS
4	P	3	GLN
4	P	6	ASN
5	S	48	ASN
5	S	54	ASN
5	S	76	ASN
5	S	85	HIS

5.3.3 RNA [i](#)

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

5.6 Ligand geometry [i](#)

5 ligands are modelled in this entry.

In the following table, the Counts columns list the number of bonds (or angles) for which Mogul statistics could be retrieved, the number of bonds (or angles) that are observed in the model and the number of bonds (or angles) that are defined in the Chemical Component Dictionary. The Link column lists molecule types, if any, to which the group is linked. 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 $|Z| > 2$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\# Z > 2$	Counts	RMSZ	$\# Z > 2$
6	SO4	S	1144	-	4,4,4	0.28	0	6,6,6	0.40	0
6	SO4	A	1623	-	4,4,4	0.27	0	6,6,6	0.36	0

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
6	SO4	A	1624	-	4,4,4	0.29	0	6,6,6	0.39	0
6	SO4	S	1143	-	4,4,4	0.40	0	6,6,6	0.50	0
6	SO4	A	1622	-	4,4,4	0.29	0	6,6,6	0.32	0

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

2 monomers are involved in 2 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
6	S	1144	SO4	1	0
6	S	1143	SO4	1	0

5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

6 Fit of model and data

6.1 Protein, DNA and RNA chains

In the following table, the column labelled ‘#RSRZ > 2’ contains the number (and percentage) of RSRZ outliers, followed by percent RSRZ outliers for the chain as percentile scores relative to all X-ray entries and entries of similar resolution. The OWAB column contains the minimum, median, 95th percentile and maximum values of the occupancy-weighted average B-factor per residue. The column labelled ‘Q < 0.9’ lists the number of (and percentage) of residues with an average occupancy less than 0.9.

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å ²)	Q<0.9
1	A	613/621 (98%)	0.03	9 (1%) 72 52	40, 94, 189, 206	0
2	B	579/592 (97%)	0.03	7 (1%) 76 58	57, 101, 139, 157	0
3	M	428/446 (95%)	0.50	28 (6%) 25 13	62, 118, 216, 252	0
4	P	6/6 (100%)	0.02	0 100 100	121, 124, 129, 129	0
5	S	142/142 (100%)	0.20	3 (2%) 63 42	70, 106, 149, 184	0
All	All	1768/1807 (97%)	0.16	47 (2%) 56 35	40, 105, 188, 252	0

All (47) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
3	M	247	LEU	4.0
3	M	318	ILE	4.0
2	B	251	ALA	4.0
3	M	312	LEU	4.0
3	M	43	VAL	3.4
3	M	319	LYS	3.1
3	M	142	HIS	3.1
3	M	441	ILE	3.1
1	A	418	TYR	3.0
3	M	378	SER	3.0
3	M	299	ARG	2.7
3	M	315	LYS	2.7
1	A	88	TYR	2.6
2	B	271	PRO	2.6
2	B	270	LEU	2.6
3	M	317	VAL	2.6
3	M	181	VAL	2.6
3	M	304	VAL	2.5
5	S	133	LYS	2.5
3	M	362	ILE	2.5

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Mol	Chain	Res	Type	RSRZ
3	M	314	VAL	2.4
3	M	347	ILE	2.4
2	B	8	THR	2.4
3	M	300	VAL	2.4
3	M	379	ALA	2.3
3	M	301	ILE	2.3
3	M	303	LEU	2.3
3	M	327	LEU	2.3
5	S	141	LEU	2.3
3	M	339	LEU	2.3
3	M	446	CYS	2.3
3	M	274	ILE	2.2
1	A	79	ALA	2.2
5	S	51	GLU	2.2
3	M	192	LEU	2.2
3	M	183	LEU	2.2
3	M	298	PHE	2.2
1	A	193	VAL	2.1
3	M	335	ILE	2.1
2	B	551	GLU	2.1
1	A	154	ILE	2.1
1	A	195	LEU	2.1
1	A	139	GLY	2.1
1	A	621	GLY	2.1
2	B	110	MET	2.0
1	A	381	ARG	2.0
2	B	196	LEU	2.0

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

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

6.3 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

6.4 Ligands [i](#)

In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum,

median, 95th percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9' lists the number of atoms with occupancy less than 0.9.

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(\AA^2)	Q<0.9
6	SO4	A	1622	5/5	0.70	0.13	162,162,163,163	0
6	SO4	A	1624	5/5	0.91	0.18	122,122,123,123	0
6	SO4	S	1144	5/5	0.95	0.11	104,105,107,108	0
6	SO4	S	1143	5/5	0.96	0.08	83,85,86,86	0
6	SO4	A	1623	5/5	0.97	0.05	77,78,79,79	0

6.5 Other polymers [i](#)

There are no such residues in this entry.