



Full wwPDB X-ray Structure Validation Report ⓘ

Mar 5, 2026 – 03:06 PM UTC

PDB ID : 2YVX / pdb_00002yvx
Title : Crystal structure of magnesium transporter MgtE
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Deposited on : 2007-04-18
Resolution : 3.50 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
Xtriage (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

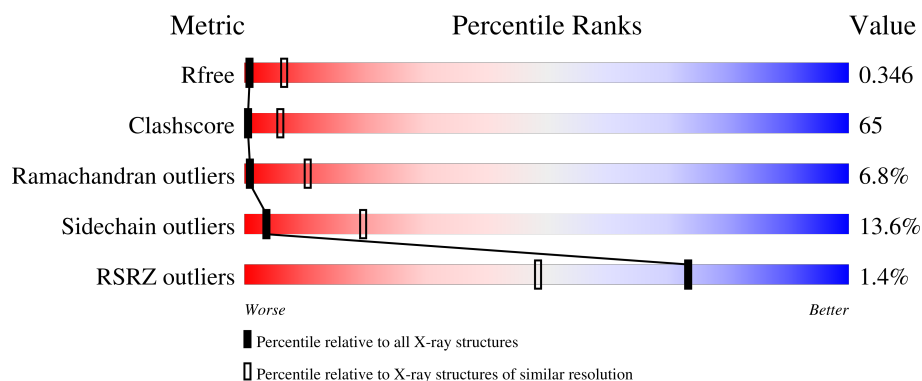
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 3.50 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	1085 (3.54-3.46)
Clashscore	190562	1140 (3.54-3.46)
Ramachandran outliers	187476	1113 (3.54-3.46)
Sidechain outliers	187428	1114 (3.54-3.46)
RSRZ outliers	180081	1084 (3.54-3.46)

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	473	25% 55% 12% 7%
1	B	473	23% 55% 14% 7%
1	C	473	24% 56% 13% 7%
1	D	473	25% 55% 13% 7%

2 Entry composition

There are 2 unique types of molecules in this entry. The entry contains 13898 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 Mg²⁺ transporter MgtE.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	442	Total	C	N	O	S	0	0	0
			3470	2238	577	648	7			
1	B	442	Total	C	N	O	S	0	0	0
			3470	2238	577	648	7			
1	C	442	Total	C	N	O	S	0	0	0
			3470	2238	577	648	7			
1	D	442	Total	C	N	O	S	0	0	0
			3470	2238	577	648	7			

There are 92 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	-22	MET	-	expression tag	UNP Q5SMG8
A	-21	GLY	-	expression tag	UNP Q5SMG8
A	-20	SER	-	expression tag	UNP Q5SMG8
A	-19	SER	-	expression tag	UNP Q5SMG8
A	-18	HIS	-	expression tag	UNP Q5SMG8
A	-17	HIS	-	expression tag	UNP Q5SMG8
A	-16	HIS	-	expression tag	UNP Q5SMG8
A	-15	HIS	-	expression tag	UNP Q5SMG8
A	-14	HIS	-	expression tag	UNP Q5SMG8
A	-13	HIS	-	expression tag	UNP Q5SMG8
A	-12	SER	-	expression tag	UNP Q5SMG8
A	-11	SER	-	expression tag	UNP Q5SMG8
A	-10	GLY	-	expression tag	UNP Q5SMG8
A	-9	LEU	-	expression tag	UNP Q5SMG8
A	-8	GLY	-	expression tag	UNP Q5SMG8
A	-7	VAL	-	expression tag	UNP Q5SMG8
A	-6	LEU	-	expression tag	UNP Q5SMG8
A	-5	PRO	-	expression tag	UNP Q5SMG8
A	-4	GLY	-	expression tag	UNP Q5SMG8
A	-3	GLY	-	expression tag	UNP Q5SMG8
A	-2	PRO	-	expression tag	UNP Q5SMG8

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Chain	Residue	Modelled	Actual	Comment	Reference
A	-1	LEU	-	expression tag	UNP Q5SMG8
A	0	HIS	-	expression tag	UNP Q5SMG8
B	-22	MET	-	expression tag	UNP Q5SMG8
B	-21	GLY	-	expression tag	UNP Q5SMG8
B	-20	SER	-	expression tag	UNP Q5SMG8
B	-19	SER	-	expression tag	UNP Q5SMG8
B	-18	HIS	-	expression tag	UNP Q5SMG8
B	-17	HIS	-	expression tag	UNP Q5SMG8
B	-16	HIS	-	expression tag	UNP Q5SMG8
B	-15	HIS	-	expression tag	UNP Q5SMG8
B	-14	HIS	-	expression tag	UNP Q5SMG8
B	-13	HIS	-	expression tag	UNP Q5SMG8
B	-12	SER	-	expression tag	UNP Q5SMG8
B	-11	SER	-	expression tag	UNP Q5SMG8
B	-10	GLY	-	expression tag	UNP Q5SMG8
B	-9	LEU	-	expression tag	UNP Q5SMG8
B	-8	GLY	-	expression tag	UNP Q5SMG8
B	-7	VAL	-	expression tag	UNP Q5SMG8
B	-6	LEU	-	expression tag	UNP Q5SMG8
B	-5	PRO	-	expression tag	UNP Q5SMG8
B	-4	GLY	-	expression tag	UNP Q5SMG8
B	-3	GLY	-	expression tag	UNP Q5SMG8
B	-2	PRO	-	expression tag	UNP Q5SMG8
B	-1	LEU	-	expression tag	UNP Q5SMG8
B	0	HIS	-	expression tag	UNP Q5SMG8
C	-22	MET	-	expression tag	UNP Q5SMG8
C	-21	GLY	-	expression tag	UNP Q5SMG8
C	-20	SER	-	expression tag	UNP Q5SMG8
C	-19	SER	-	expression tag	UNP Q5SMG8
C	-18	HIS	-	expression tag	UNP Q5SMG8
C	-17	HIS	-	expression tag	UNP Q5SMG8
C	-16	HIS	-	expression tag	UNP Q5SMG8
C	-15	HIS	-	expression tag	UNP Q5SMG8
C	-14	HIS	-	expression tag	UNP Q5SMG8
C	-13	HIS	-	expression tag	UNP Q5SMG8
C	-12	SER	-	expression tag	UNP Q5SMG8
C	-11	SER	-	expression tag	UNP Q5SMG8
C	-10	GLY	-	expression tag	UNP Q5SMG8
C	-9	LEU	-	expression tag	UNP Q5SMG8
C	-8	GLY	-	expression tag	UNP Q5SMG8
C	-7	VAL	-	expression tag	UNP Q5SMG8
C	-6	LEU	-	expression tag	UNP Q5SMG8

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Chain	Residue	Modelled	Actual	Comment	Reference
C	-5	PRO	-	expression tag	UNP Q5SMG8
C	-4	GLY	-	expression tag	UNP Q5SMG8
C	-3	GLY	-	expression tag	UNP Q5SMG8
C	-2	PRO	-	expression tag	UNP Q5SMG8
C	-1	LEU	-	expression tag	UNP Q5SMG8
C	0	HIS	-	expression tag	UNP Q5SMG8
D	-22	MET	-	expression tag	UNP Q5SMG8
D	-21	GLY	-	expression tag	UNP Q5SMG8
D	-20	SER	-	expression tag	UNP Q5SMG8
D	-19	SER	-	expression tag	UNP Q5SMG8
D	-18	HIS	-	expression tag	UNP Q5SMG8
D	-17	HIS	-	expression tag	UNP Q5SMG8
D	-16	HIS	-	expression tag	UNP Q5SMG8
D	-15	HIS	-	expression tag	UNP Q5SMG8
D	-14	HIS	-	expression tag	UNP Q5SMG8
D	-13	HIS	-	expression tag	UNP Q5SMG8
D	-12	SER	-	expression tag	UNP Q5SMG8
D	-11	SER	-	expression tag	UNP Q5SMG8
D	-10	GLY	-	expression tag	UNP Q5SMG8
D	-9	LEU	-	expression tag	UNP Q5SMG8
D	-8	GLY	-	expression tag	UNP Q5SMG8
D	-7	VAL	-	expression tag	UNP Q5SMG8
D	-6	LEU	-	expression tag	UNP Q5SMG8
D	-5	PRO	-	expression tag	UNP Q5SMG8
D	-4	GLY	-	expression tag	UNP Q5SMG8
D	-3	GLY	-	expression tag	UNP Q5SMG8
D	-2	PRO	-	expression tag	UNP Q5SMG8
D	-1	LEU	-	expression tag	UNP Q5SMG8
D	0	HIS	-	expression tag	UNP Q5SMG8

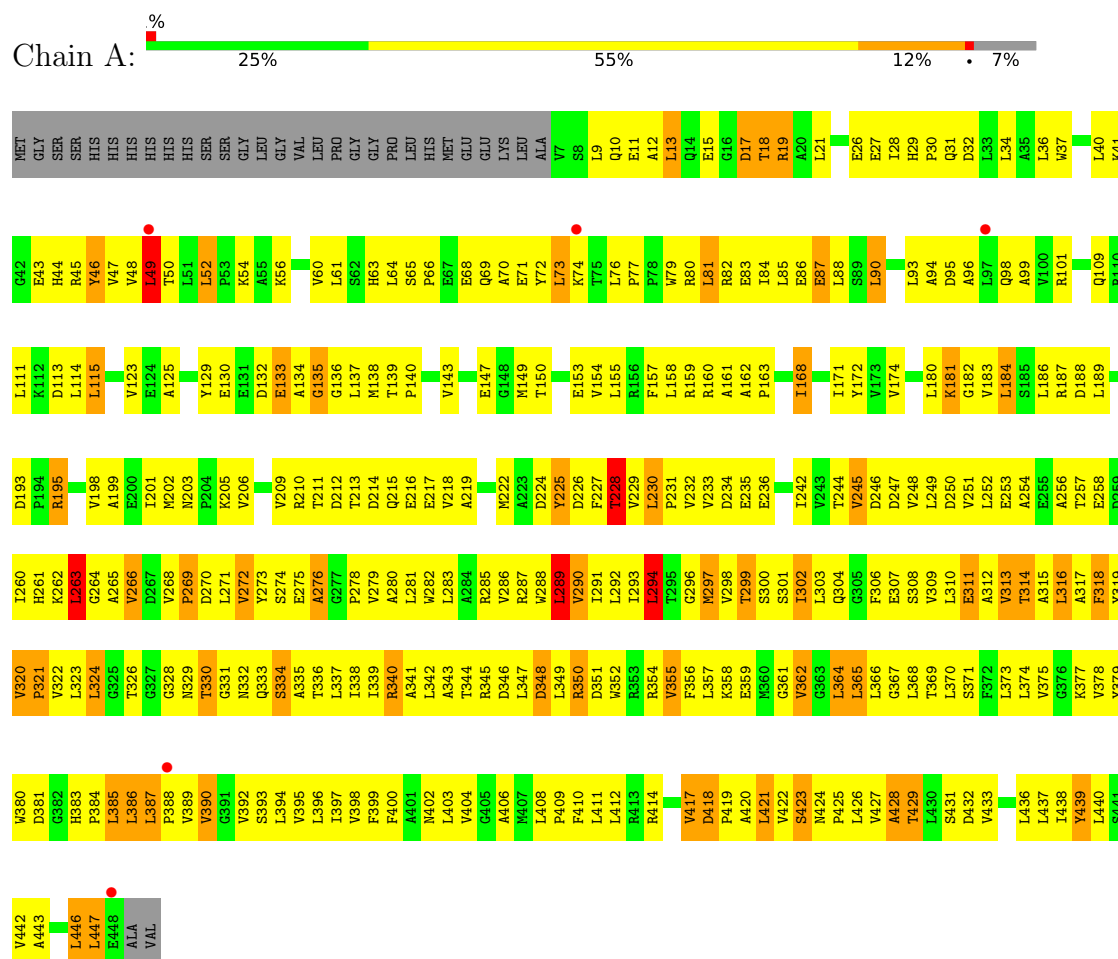
- Molecule 2 is MAGNESIUM ION (CCD ID: MG) (formula: Mg).

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
2	A	4	Total Mg 4 4	0	0
2	B	5	Total Mg 5 5	0	0
2	C	5	Total Mg 5 5	0	0
2	D	4	Total Mg 4 4	0	0

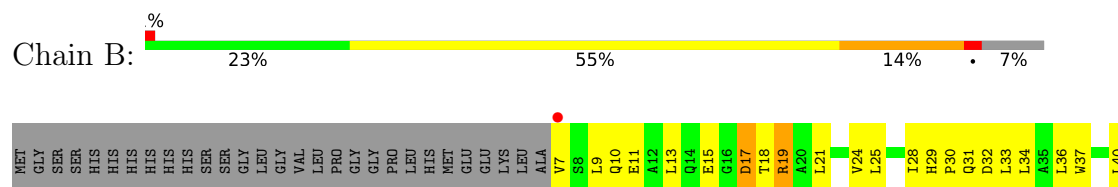
3 Residue-property plots

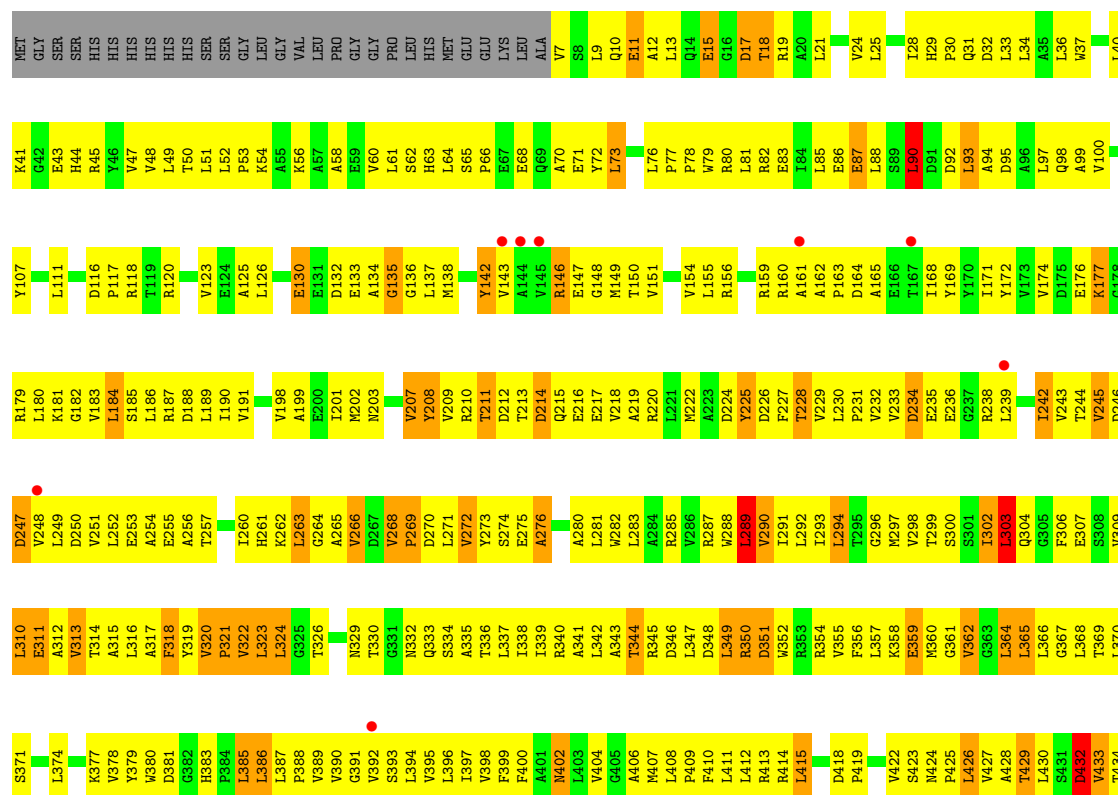
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and electron density.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

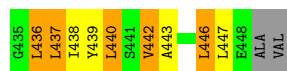
• Molecule 1: Mg²⁺ transporter MgtE



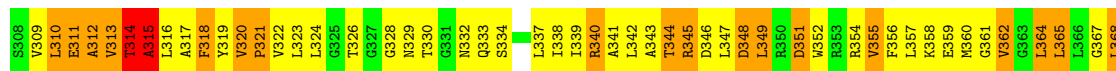
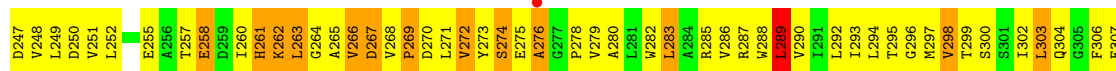
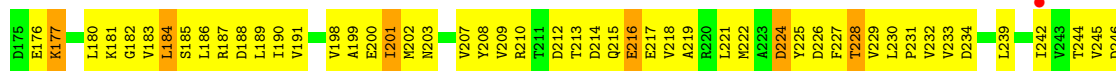
• Molecule 1: Mg²⁺ transporter MgtE







- Molecule 1: Mg²⁺ transporter MgtE



4 Data and refinement statistics

Property	Value	Source
Space group	C 2 2 21	Depositor
Cell constants a, b, c, α , β , γ	118.31Å 134.90Å 366.25Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	49.69 – 3.50 49.69 – 3.50	Depositor EDS
% Data completeness (in resolution range)	99.2 (49.69-3.50) 99.2 (49.69-3.50)	Depositor EDS
R_{merge}	(Not available)	Depositor
R_{sym}	0.11	Depositor
$\langle I/\sigma(I) \rangle$ ¹	2.12 (at 3.40Å)	Xtriage
Refinement program	CNS 1.2	Depositor
R, R_{free}	0.294 , 0.341 0.303 , 0.346	Depositor DCC
R_{free} test set	1854 reflections (4.63%)	wwPDB-VP
Wilson B-factor (Å ²)	97.1	Xtriage
Anisotropy	0.293	Xtriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.26 , 59.1	EDS
L-test for twinning ²	$\langle L \rangle = 0.35$, $\langle L^2 \rangle = 0.18$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o, F_c correlation	0.90	EDS
Total number of atoms	13898	wwPDB-VP
Average B, all atoms (Å ²)	115.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 6.81% 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

5.1 Standard geometry

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

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	0.79	0/3530	1.07	16/4815 (0.3%)
1	B	0.79	1/3530 (0.0%)	1.07	15/4815 (0.3%)
1	C	0.69	0/3530	1.02	12/4815 (0.2%)
1	D	0.73	5/3530 (0.1%)	1.02	13/4815 (0.3%)
All	All	0.75	6/14120 (0.0%)	1.04	56/19260 (0.3%)

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

Mol	Chain	#Chirality outliers	#Planarity outliers
1	A	0	1
1	D	0	1
All	All	0	2

All (6) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	D	314	THR	C-O	-10.10	1.11	1.24
1	D	315	ALA	CA-CB	-10.09	1.36	1.53
1	D	314	THR	CA-C	-5.88	1.44	1.52
1	D	314	THR	C-N	-5.76	1.25	1.33
1	D	311	GLU	CB-CG	5.37	1.68	1.52
1	B	314	THR	CA-C	-5.05	1.46	1.52

All (56) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	294	LEU	N-CA-C	-8.39	101.53	112.68

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	D	294	LEU	N-CA-C	-8.36	101.57	112.68
1	B	294	LEU	N-CA-C	-7.89	102.18	112.68
1	B	264	GLY	N-CA-C	-7.89	99.93	110.74
1	A	314	THR	CB-CA-C	7.40	123.08	110.86
1	B	314	THR	CB-CA-C	-7.32	95.85	110.42
1	C	294	LEU	N-CA-C	-7.31	102.96	112.68
1	C	264	GLY	N-CA-C	-7.30	100.74	110.74
1	D	264	GLY	N-CA-C	-6.95	101.22	110.74
1	D	90	LEU	N-CA-C	6.91	118.47	111.07
1	A	264	GLY	N-CA-C	-6.36	102.03	110.74
1	D	311	GLU	N-CA-C	-6.33	105.41	113.01
1	D	311	GLU	N-CA-CB	6.30	121.42	110.39
1	B	201	ILE	N-CA-C	-6.27	107.13	113.47
1	B	426	LEU	N-CA-C	-6.27	104.73	112.38
1	A	263	LEU	N-CA-C	-6.21	102.82	110.65
1	A	90	LEU	N-CA-C	6.17	117.67	111.07
1	C	90	LEU	N-CA-C	6.13	117.63	111.07
1	A	201	ILE	N-CA-C	-6.10	107.31	113.47
1	B	90	LEU	N-CA-C	5.91	117.39	111.07
1	D	201	ILE	N-CA-C	-5.86	107.55	113.47
1	C	201	ILE	N-CA-C	-5.81	107.46	113.10
1	C	426	LEU	N-CA-C	-5.67	105.47	112.38
1	B	277	GLY	CA-C-N	-5.67	112.76	119.84
1	B	277	GLY	C-N-CA	-5.67	112.76	119.84
1	A	73	LEU	N-CA-C	-5.61	105.20	113.61
1	A	74	LYS	N-CA-C	-5.56	107.13	114.31
1	B	287	ARG	N-CA-C	-5.56	105.12	111.07
1	D	426	LEU	N-CA-C	-5.54	105.33	111.71
1	C	311	GLU	N-CA-C	-5.53	105.63	112.38
1	A	258	GLU	N-CA-C	-5.51	105.42	111.82
1	A	299	THR	N-CA-CB	5.43	117.88	110.01
1	D	287	ARG	N-CA-C	-5.42	105.27	111.07
1	A	299	THR	CB-CA-C	-5.40	102.40	110.88
1	B	303	LEU	N-CA-C	-5.39	106.40	112.87
1	C	73	LEU	N-CA-C	-5.38	105.55	113.61
1	A	426	LEU	N-CA-C	-5.38	105.53	111.71
1	A	311	GLU	N-CA-C	-5.35	106.58	113.01
1	A	168	ILE	CB-CA-C	-5.33	105.37	112.46
1	D	272	VAL	N-CA-C	-5.31	101.42	108.96
1	D	312	ALA	N-CA-C	-5.31	105.16	111.69
1	A	287	ARG	N-CA-C	-5.31	105.39	111.07
1	A	272	VAL	N-CA-C	-5.29	101.45	108.96

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	B	124	GLU	N-CA-C	-5.26	107.16	113.21
1	C	287	ARG	N-CA-C	-5.26	105.46	111.14
1	C	323	LEU	N-CA-C	5.26	116.82	111.14
1	D	263	LEU	N-CA-C	-5.23	104.06	110.65
1	D	258	GLU	N-CA-C	-5.21	105.78	111.82
1	B	432	ASP	N-CA-C	-5.21	106.61	113.12
1	B	74	LYS	N-CA-C	-5.20	107.60	114.31
1	B	314	THR	N-CA-CB	5.20	119.28	110.49
1	C	432	ASP	N-CA-C	-5.16	106.67	113.12
1	D	378	VAL	N-CA-C	-5.15	106.22	112.76
1	B	311	GLU	N-CA-C	-5.14	106.11	112.38
1	C	303	LEU	N-CA-C	-5.13	106.72	112.87
1	C	272	VAL	N-CA-C	-5.03	101.82	108.96

There are no chirality outliers.

All (2) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	A	439	TYR	Sidechain
1	D	439	TYR	Sidechain

5.2 Too-close contacts

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	3470	0	3576	476	0
1	B	3470	0	3577	495	0
1	C	3470	0	3577	537	0
1	D	3470	0	3577	551	1
2	A	4	0	0	0	0
2	B	5	0	0	0	0
2	C	5	0	0	0	0
2	D	4	0	0	0	0
All	All	13898	0	14307	1822	1

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 65.

All (1822) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:333:GLN:NE2	1:D:265:ALA:HB3	1.50	1.26
1:A:311:GLU:O	1:A:314:THR:OG1	1.56	1.23
1:C:340:ARG:HH12	1:D:260:ILE:HB	1.08	1.18
1:B:268:VAL:HB	1:B:271:LEU:HD11	1.28	1.15
1:A:378:VAL:HG11	1:A:390:VAL:HG21	1.28	1.15
1:D:314:THR:HG22	1:D:315:ALA:N	1.61	1.15
1:A:378:VAL:HG21	1:A:390:VAL:HG11	1.20	1.14
1:C:378:VAL:HG21	1:C:390:VAL:HG11	1.30	1.13
1:B:285:ARG:HB3	1:B:285:ARG:HH11	1.13	1.11
1:A:296:GLY:O	1:A:299:THR:HG22	1.48	1.10
1:D:316:LEU:HG	1:D:317:ALA:H	1.15	1.10
1:B:378:VAL:HG11	1:B:390:VAL:HG21	1.31	1.10
1:D:378:VAL:HG21	1:D:390:VAL:HG11	1.17	1.09
1:B:378:VAL:HG21	1:B:390:VAL:HG11	1.18	1.09
1:D:359:GLU:HG3	1:D:402:ASN:HD21	1.15	1.08
1:C:378:VAL:HG11	1:C:390:VAL:HG21	1.30	1.07
1:C:266:VAL:HG11	1:D:337:LEU:HD21	1.34	1.07
1:C:336:THR:HG22	1:C:340:ARG:HH21	1.19	1.06
1:D:320:VAL:H	1:D:321:PRO:HD3	1.18	1.06
1:C:183:VAL:HG22	1:C:184:LEU:H	1.19	1.05
1:D:268:VAL:HB	1:D:271:LEU:HD11	1.38	1.05
1:C:333:GLN:HE21	1:D:265:ALA:HB3	0.89	1.05
1:D:183:VAL:HG22	1:D:184:LEU:H	1.22	1.04
1:C:73:LEU:HD22	1:C:111:LEU:HD11	1.39	1.04
1:C:311:GLU:O	1:C:314:THR:OG1	1.76	1.04
1:B:130:GLU:HB2	1:B:133:GLU:HG2	1.40	1.03
1:D:374:LEU:HD22	1:D:394:LEU:HD12	1.39	1.03
1:B:28:ILE:HD12	1:B:33:LEU:HD11	1.37	1.03
1:C:228:THR:HG23	1:C:229:VAL:HG23	1.39	1.03
1:A:311:GLU:C	1:A:314:THR:OG1	2.01	1.02
1:C:90:LEU:HD21	1:C:123:VAL:HG22	1.40	1.02
1:D:309:VAL:O	1:D:313:VAL:HG23	1.60	1.01
1:D:316:LEU:CG	1:D:317:ALA:H	1.71	1.01
1:A:285:ARG:HH12	1:B:402:ASN:HD21	0.99	0.99
1:D:378:VAL:HG11	1:D:390:VAL:HG21	1.45	0.99
1:A:268:VAL:HB	1:A:271:LEU:HD11	1.41	0.98
1:A:336:THR:O	1:A:339:ILE:HG22	1.62	0.98
1:A:322:VAL:HG22	1:B:296:GLY:O	1.63	0.98
1:B:215:GLN:HB3	1:B:251:VAL:HG11	1.46	0.98
1:C:333:GLN:HE21	1:D:265:ALA:CB	1.77	0.97

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:392:VAL:O	1:A:396:LEU:HB2	1.63	0.97
1:D:314:THR:O	1:D:316:LEU:N	1.97	0.96
1:A:299:THR:CG2	1:B:322:VAL:HG22	1.95	0.96
1:C:320:VAL:H	1:C:321:PRO:HD3	1.31	0.96
1:A:333:GLN:HE21	1:B:265:ALA:HB3	1.27	0.96
1:C:434:THR:HA	1:C:437:LEU:HD12	1.48	0.95
1:A:337:LEU:HD21	1:B:266:VAL:HG11	1.48	0.95
1:C:88:LEU:HD23	1:C:93:LEU:HD12	1.44	0.95
1:A:354:ARG:HH22	1:B:274:SER:HA	1.32	0.95
1:B:349:LEU:HD11	1:B:414:ARG:HG2	1.48	0.94
1:C:265:ALA:HB3	1:D:333:GLN:HE21	1.33	0.94
1:B:215:GLN:HB3	1:B:251:VAL:CG1	1.96	0.94
1:C:299:THR:OG1	1:D:321:PRO:HB2	1.67	0.94
1:C:347:LEU:HD11	1:D:273:TYR:HD2	1.29	0.94
1:C:107:TYR:HE2	1:C:111:LEU:HD12	1.34	0.93
1:C:321:PRO:HB2	1:D:299:THR:OG1	1.67	0.93
1:C:333:GLN:NE2	1:D:265:ALA:CB	2.31	0.93
1:C:224:ASP:HB3	1:D:31:GLN:HE21	1.33	0.93
1:A:285:ARG:HH12	1:B:402:ASN:ND2	1.66	0.92
1:A:183:VAL:HG22	1:A:184:LEU:H	1.34	0.92
1:C:265:ALA:HB1	1:C:288:TRP:HB2	1.50	0.92
1:D:54:LYS:HE3	1:D:83:GLU:HG2	1.47	0.92
1:B:334:SER:HB2	1:B:402:ASN:ND2	1.85	0.92
1:C:316:LEU:CG	1:C:317:ALA:H	1.80	0.92
1:A:375:VAL:HG13	1:A:387:LEU:HD11	1.50	0.90
1:C:265:ALA:CB	1:D:333:GLN:HE21	1.83	0.89
1:B:324:LEU:HD21	1:B:436:LEU:HG	1.53	0.89
1:D:228:THR:HG23	1:D:229:VAL:HG23	1.55	0.89
1:B:314:THR:HG22	1:B:315:ALA:N	1.87	0.89
1:C:296:GLY:O	1:D:322:VAL:HG22	1.72	0.89
1:A:257:THR:HA	1:B:340:ARG:HH12	1.37	0.88
1:C:340:ARG:HH12	1:D:260:ILE:CB	1.86	0.88
1:A:195:ARG:HB3	1:A:195:ARG:HH11	1.38	0.88
1:C:268:VAL:HG23	1:C:271:LEU:HD11	1.52	0.88
1:D:209:VAL:HG21	1:D:218:VAL:HG22	1.55	0.88
1:A:299:THR:HG22	1:B:322:VAL:HG22	1.52	0.88
1:C:340:ARG:HH22	1:D:260:ILE:HG22	1.38	0.87
1:C:21:LEU:HD21	1:C:51:LEU:HD13	1.54	0.87
1:A:273:TYR:HD2	1:B:347:LEU:HD11	1.37	0.87
1:B:25:LEU:HB3	1:B:52:LEU:HD23	1.55	0.87
1:B:158:LEU:HD11	1:B:171:ILE:HD11	1.56	0.87

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:393:SER:HB3	1:C:442:VAL:HG11	1.54	0.87
1:C:443:ALA:O	1:C:447:LEU:HG	1.75	0.87
1:C:132:ASP:HA	1:C:215:GLN:HE21	1.38	0.86
1:D:312:ALA:C	1:D:314:THR:H	1.79	0.86
1:D:133:GLU:HB3	1:D:212:ASP:HA	1.56	0.86
1:B:285:ARG:HB3	1:B:285:ARG:NH1	1.90	0.86
1:C:326:THR:HG23	1:D:293:ILE:HG13	1.58	0.86
1:A:320:VAL:H	1:A:321:PRO:HD2	1.40	0.85
1:C:186:LEU:HD23	1:D:186:LEU:HD23	1.59	0.85
1:B:388:PRO:HG2	1:B:446:LEU:HD11	1.57	0.85
1:B:228:THR:HA	1:B:245:VAL:CG2	2.07	0.85
1:C:322:VAL:HG22	1:D:296:GLY:O	1.77	0.85
1:A:333:GLN:NE2	1:B:265:ALA:HB3	1.91	0.85
1:D:316:LEU:HG	1:D:317:ALA:N	1.92	0.85
1:D:314:THR:CG2	1:D:315:ALA:N	2.33	0.84
1:A:338:ILE:HD12	1:A:406:ALA:HA	1.58	0.84
1:A:412:LEU:HD12	1:A:419:PRO:HA	1.56	0.84
1:A:312:ALA:C	1:A:314:THR:H	1.84	0.84
1:B:133:GLU:HB3	1:B:212:ASP:HA	1.59	0.84
1:B:228:THR:HA	1:B:245:VAL:HG23	1.59	0.84
1:C:326:THR:CG2	1:D:293:ILE:HG13	2.08	0.83
1:C:336:THR:HG22	1:C:340:ARG:NH2	1.92	0.83
1:C:337:LEU:HD21	1:D:266:VAL:HG11	1.59	0.83
1:D:386:LEU:HD11	1:D:447:LEU:HD21	1.59	0.83
1:C:155:LEU:HD21	1:C:189:LEU:HB3	1.60	0.83
1:D:371:SER:HB2	1:D:395:VAL:CG2	2.09	0.83
1:B:183:VAL:HG22	1:B:184:LEU:H	1.43	0.83
1:D:172:TYR:CE2	1:D:231:PRO:HB3	2.13	0.83
1:B:64:LEU:HD22	1:B:68:GLU:HB3	1.58	0.83
1:D:320:VAL:N	1:D:321:PRO:HD3	1.92	0.83
1:A:412:LEU:HD11	1:A:422:VAL:HG23	1.60	0.83
1:D:367:GLY:O	1:D:395:VAL:HG22	1.79	0.82
1:B:54:LYS:HE2	1:B:87:GLU:HB2	1.61	0.82
1:C:342:LEU:HB3	1:C:413:ARG:NH1	1.95	0.82
1:D:303:LEU:HD21	1:D:436:LEU:HD13	1.62	0.82
1:A:180:LEU:HD23	1:A:181:LYS:N	1.95	0.82
1:B:171:ILE:HD12	1:B:189:LEU:HD11	1.60	0.82
1:B:273:TYR:HE1	1:B:281:LEU:HD21	1.45	0.82
1:A:425:PRO:HG3	1:B:332:ASN:HD22	1.42	0.81
1:B:34:LEU:HD11	1:B:63:HIS:HB2	1.61	0.81
1:D:320:VAL:N	1:D:321:PRO:CD	2.43	0.81

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:371:SER:HB2	1:B:395:VAL:CG2	2.10	0.81
1:A:49:LEU:HB3	1:A:76:LEU:HD11	1.62	0.81
1:B:268:VAL:HB	1:B:271:LEU:CD1	2.09	0.81
1:C:316:LEU:HG	1:C:317:ALA:H	1.43	0.81
1:B:222:MET:CE	1:B:230:LEU:HG	2.11	0.81
1:D:320:VAL:H	1:D:321:PRO:CD	1.92	0.81
1:A:273:TYR:CD2	1:B:347:LEU:HD11	2.15	0.80
1:B:80:ARG:O	1:B:84:ILE:HG13	1.82	0.80
1:C:44:HIS:O	1:C:48:VAL:HG23	1.81	0.80
1:B:320:VAL:H	1:B:321:PRO:HD2	1.47	0.80
1:B:320:VAL:H	1:B:321:PRO:CD	1.95	0.80
1:D:424:ASN:HB2	1:D:425:PRO:HD3	1.63	0.80
1:C:340:ARG:NH1	1:D:260:ILE:HB	1.93	0.80
1:A:339:ILE:HD11	1:A:420:ALA:HA	1.63	0.80
1:A:52:LEU:HD23	1:A:52:LEU:H	1.48	0.79
1:C:352:TRP:HB2	1:C:407:MET:HE1	1.63	0.79
1:D:392:VAL:O	1:D:396:LEU:HB2	1.82	0.79
1:B:222:MET:HE3	1:B:230:LEU:HG	1.65	0.79
1:B:338:ILE:O	1:B:342:LEU:HD12	1.82	0.79
1:D:374:LEU:CD2	1:D:394:LEU:HD12	2.11	0.79
1:A:132:ASP:HA	1:A:215:GLN:HE21	1.47	0.79
1:A:297:MET:HE1	1:B:377:LYS:HB2	1.63	0.79
1:C:180:LEU:HD23	1:C:181:LYS:N	1.98	0.79
1:C:316:LEU:HA	1:C:318:PHE:CE1	2.18	0.79
1:C:306:PHE:O	1:C:310:LEU:HB2	1.83	0.79
1:C:371:SER:HA	1:C:394:LEU:HD23	1.65	0.79
1:A:195:ARG:HB3	1:A:195:ARG:NH1	1.96	0.78
1:B:306:PHE:CD2	1:B:440:LEU:HD13	2.18	0.78
1:D:359:GLU:HG3	1:D:402:ASN:ND2	1.97	0.78
1:D:359:GLU:HA	1:D:362:VAL:HG23	1.66	0.78
1:A:281:LEU:HD12	1:A:281:LEU:H	1.48	0.78
1:A:320:VAL:H	1:A:321:PRO:CD	1.96	0.78
1:C:347:LEU:HD11	1:D:273:TYR:CD2	2.15	0.78
1:B:367:GLY:O	1:B:395:VAL:HG22	1.84	0.78
1:C:397:ILE:HG12	1:C:438:ILE:HD12	1.65	0.78
1:D:434:THR:HA	1:D:437:LEU:HD12	1.65	0.78
1:B:388:PRO:CG	1:B:446:LEU:HD11	2.14	0.78
1:B:142:TYR:HB3	1:B:242:ILE:CG2	2.14	0.78
1:B:143:VAL:HG21	1:B:168:ILE:HA	1.63	0.78
1:B:392:VAL:O	1:B:396:LEU:HB2	1.84	0.78
1:C:94:ALA:O	1:C:98:GLN:HG3	1.84	0.78

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:361:GLY:O	1:B:365:LEU:HB2	1.84	0.78
1:D:184:LEU:HD21	1:D:189:LEU:HD21	1.66	0.78
1:C:293:ILE:HG13	1:D:326:THR:HG23	1.65	0.78
1:D:207:VAL:HG21	1:D:227:PHE:CE2	2.19	0.77
1:A:371:SER:HA	1:A:394:LEU:HD23	1.66	0.77
1:C:371:SER:HB2	1:C:395:VAL:HG22	1.65	0.77
1:B:323:LEU:HD12	1:B:324:LEU:HD12	1.66	0.77
1:A:215:GLN:HB3	1:A:251:VAL:HG11	1.65	0.77
1:B:400:PHE:O	1:B:404:VAL:HG23	1.85	0.77
1:C:371:SER:HB2	1:C:395:VAL:CG2	2.15	0.77
1:D:265:ALA:HB1	1:D:288:TRP:HB2	1.67	0.77
1:A:340:ARG:NH2	1:A:341:ALA:HB2	2.00	0.77
1:B:320:VAL:N	1:B:321:PRO:HD2	2.00	0.77
1:A:386:LEU:HD11	1:A:447:LEU:HD23	1.65	0.76
1:A:215:GLN:HB3	1:A:251:VAL:CG1	2.15	0.76
1:D:340:ARG:HG3	1:D:341:ALA:N	1.99	0.76
1:C:229:VAL:HG13	1:C:242:ILE:HD11	1.67	0.76
1:A:371:SER:HB2	1:A:395:VAL:CG2	2.16	0.76
1:B:142:TYR:HB3	1:B:242:ILE:HG21	1.67	0.76
1:B:399:PHE:O	1:B:403:LEU:HD23	1.86	0.76
1:D:268:VAL:HB	1:D:271:LEU:CD1	2.16	0.76
1:A:320:VAL:N	1:A:321:PRO:HD2	2.01	0.76
1:A:257:THR:HA	1:B:340:ARG:NH1	2.01	0.75
1:B:273:TYR:CE1	1:B:281:LEU:HD21	2.22	0.75
1:C:316:LEU:CD2	1:C:317:ALA:H	1.98	0.75
1:C:340:ARG:NH2	1:D:260:ILE:HG22	1.99	0.75
1:D:180:LEU:HD23	1:D:181:LYS:N	2.01	0.75
1:B:180:LEU:HD23	1:B:181:LYS:N	2.00	0.75
1:C:172:TYR:CE2	1:C:231:PRO:HB3	2.20	0.75
1:C:392:VAL:O	1:C:396:LEU:HB2	1.86	0.75
1:C:274:SER:CB	1:D:354:ARG:HH22	1.98	0.75
1:C:260:ILE:HD12	1:D:340:ARG:HH12	1.52	0.75
1:C:316:LEU:HD23	1:C:317:ALA:N	2.02	0.75
1:B:303:LEU:HD23	1:B:436:LEU:HD13	1.68	0.74
1:C:111:LEU:O	1:C:111:LEU:HD23	1.85	0.74
1:C:397:ILE:HG12	1:C:438:ILE:CD1	2.16	0.74
1:D:174:VAL:HG12	1:D:180:LEU:HA	1.70	0.74
1:B:172:TYR:CE2	1:B:231:PRO:HB3	2.21	0.74
1:C:335:ALA:O	1:C:339:ILE:HG13	1.87	0.74
1:D:112:LYS:HD2	1:D:124:GLU:OE2	1.88	0.74
1:D:338:ILE:HG21	1:D:410:PHE:CE1	2.22	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:277:GLY:O	1:B:278:PRO:C	2.30	0.74
1:B:394:LEU:O	1:B:398:VAL:HG23	1.87	0.74
1:C:184:LEU:HD21	1:C:189:LEU:HD21	1.69	0.74
1:D:183:VAL:HG22	1:D:184:LEU:N	2.01	0.74
1:A:268:VAL:HB	1:A:271:LEU:CD1	2.16	0.73
1:C:132:ASP:O	1:C:215:GLN:HG3	1.86	0.73
1:A:442:VAL:O	1:A:442:VAL:HG12	1.86	0.73
1:C:296:GLY:O	1:C:299:THR:HG23	1.89	0.73
1:A:306:PHE:O	1:A:310:LEU:HB2	1.88	0.73
1:B:181:LYS:O	1:B:181:LYS:HG2	1.89	0.73
1:C:183:VAL:HG22	1:C:184:LEU:N	1.99	0.73
1:D:180:LEU:HD12	1:D:239:LEU:HD13	1.71	0.73
1:B:265:ALA:HB1	1:B:288:TRP:HB2	1.69	0.73
1:C:143:VAL:HG21	1:C:168:ILE:HA	1.69	0.73
1:D:139:THR:HG21	1:D:166:GLU:OE2	1.89	0.73
1:B:442:VAL:HG12	1:B:442:VAL:O	1.89	0.73
1:B:364:LEU:O	1:B:368:LEU:HG	1.87	0.73
1:B:296:GLY:O	1:B:299:THR:HG23	1.89	0.72
1:D:314:THR:HG22	1:D:315:ALA:H	1.51	0.72
1:A:367:GLY:O	1:A:395:VAL:HG22	1.89	0.72
1:C:107:TYR:CE2	1:C:111:LEU:HD12	2.22	0.72
1:C:266:VAL:HG11	1:D:337:LEU:CD2	2.16	0.72
1:C:320:VAL:H	1:C:321:PRO:CD	2.02	0.72
1:C:337:LEU:HD21	1:D:266:VAL:HG21	1.71	0.72
1:C:337:LEU:CG	1:D:266:VAL:HG21	2.19	0.72
1:D:386:LEU:HD21	1:D:447:LEU:HG	1.69	0.72
1:D:146:ARG:NH1	1:D:176:GLU:HA	2.04	0.72
1:B:85:LEU:HB3	1:B:115:LEU:HD11	1.70	0.72
1:A:424:ASN:HB2	1:A:425:PRO:HD3	1.71	0.72
1:B:314:THR:CG2	1:B:315:ALA:N	2.51	0.72
1:C:366:LEU:HD23	1:D:286:VAL:HB	1.70	0.72
1:D:296:GLY:O	1:D:299:THR:HG23	1.88	0.72
1:D:319:TYR:HB2	1:D:439:TYR:OH	1.89	0.72
1:A:260:ILE:HD12	1:B:340:ARG:NH2	2.05	0.72
1:A:378:VAL:CG2	1:A:390:VAL:HG11	2.11	0.71
1:B:374:LEU:O	1:B:378:VAL:HG23	1.89	0.71
1:D:50:THR:HA	1:D:80:ARG:NE	2.04	0.71
1:C:172:TYR:OH	1:C:229:VAL:HG12	1.90	0.71
1:C:329:ASN:OD1	1:D:292:LEU:HD23	1.89	0.71
1:A:340:ARG:NH1	1:B:261:HIS:NE2	2.38	0.71
1:C:320:VAL:N	1:C:321:PRO:HD3	2.05	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:321:PRO:HG2	1:B:322:VAL:H	1.56	0.71
1:C:425:PRO:HG3	1:D:332:ASN:ND2	2.04	0.71
1:B:374:LEU:CD2	1:B:394:LEU:HD22	2.21	0.71
1:C:9:LEU:O	1:C:9:LEU:HD23	1.89	0.71
1:C:133:GLU:HB3	1:C:212:ASP:HA	1.72	0.71
1:C:224:ASP:HB3	1:D:31:GLN:NE2	2.05	0.71
1:D:330:THR:CG2	1:D:402:ASN:HB2	2.21	0.71
1:A:265:ALA:HB3	1:B:333:GLN:HG2	1.73	0.71
1:B:303:LEU:HD23	1:B:436:LEU:CD1	2.21	0.71
1:C:168:ILE:HD11	1:D:187:ARG:HA	1.72	0.71
1:C:364:LEU:O	1:C:368:LEU:HG	1.90	0.71
1:C:320:VAL:N	1:C:321:PRO:CD	2.54	0.71
1:B:72:TYR:O	1:B:76:LEU:HD23	1.90	0.70
1:B:339:ILE:HD11	1:B:422:VAL:HB	1.73	0.70
1:C:394:LEU:O	1:C:398:VAL:HG23	1.91	0.70
1:B:320:VAL:N	1:B:321:PRO:CD	2.53	0.70
1:D:400:PHE:O	1:D:404:VAL:HG23	1.90	0.70
1:C:180:LEU:HD23	1:C:181:LYS:H	1.56	0.70
1:A:132:ASP:O	1:A:215:GLN:HG3	1.91	0.70
1:B:132:ASP:HA	1:B:215:GLN:HE21	1.56	0.70
1:C:293:ILE:HD12	1:D:326:THR:OG1	1.90	0.70
1:C:374:LEU:O	1:C:378:VAL:HG23	1.91	0.70
1:C:424:ASN:HB2	1:C:425:PRO:HD3	1.73	0.70
1:A:338:ILE:HG21	1:A:410:PHE:CE1	2.26	0.70
1:C:215:GLN:HB3	1:C:251:VAL:CG1	2.22	0.70
1:C:303:LEU:HD13	1:C:310:LEU:HD11	1.73	0.70
1:D:183:VAL:HG12	1:D:203:ASN:HB2	1.74	0.70
1:A:396:LEU:O	1:A:400:PHE:HD1	1.74	0.70
1:B:424:ASN:HB2	1:B:425:PRO:HD3	1.73	0.70
1:A:324:LEU:CD2	1:A:436:LEU:HG	2.22	0.70
1:C:352:TRP:O	1:C:355:VAL:HG22	1.91	0.70
1:A:412:LEU:HB3	1:A:417:VAL:HG23	1.73	0.70
1:B:307:GLU:HA	1:B:310:LEU:HB3	1.74	0.70
1:C:21:LEU:HD21	1:C:51:LEU:CD1	2.21	0.70
1:C:265:ALA:HB1	1:C:288:TRP:CB	2.22	0.70
1:C:317:ALA:O	1:C:320:VAL:HG23	1.92	0.70
1:D:422:VAL:HA	1:D:426:LEU:HD23	1.74	0.70
1:A:427:VAL:C	1:A:429:THR:H	1.99	0.69
1:C:293:ILE:HG13	1:D:326:THR:CG2	2.22	0.69
1:A:326:THR:CG2	1:B:293:ILE:HG13	2.22	0.69
1:C:340:ARG:HH22	1:D:260:ILE:C	2.00	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:400:PHE:O	1:C:404:VAL:HG23	1.92	0.69
1:D:364:LEU:CD2	1:D:368:LEU:HD21	2.22	0.69
1:B:80:ARG:HG2	1:B:84:ILE:HD11	1.73	0.69
1:C:15:GLU:HG2	1:C:17:ASP:HB2	1.73	0.69
1:D:442:VAL:O	1:D:442:VAL:HG12	1.92	0.69
1:A:15:GLU:CD	1:A:15:GLU:H	2.00	0.69
1:D:378:VAL:HG21	1:D:390:VAL:CG1	2.09	0.69
1:A:307:GLU:HA	1:A:310:LEU:HB3	1.75	0.69
1:B:107:TYR:CE2	1:B:111:LEU:HD12	2.28	0.69
1:C:293:ILE:O	1:C:297:MET:HG3	1.92	0.69
1:D:52:LEU:HD22	1:D:53:PRO:HD2	1.73	0.69
1:A:361:GLY:O	1:A:365:LEU:HB2	1.92	0.69
1:C:25:LEU:HB3	1:C:52:LEU:HD23	1.74	0.69
1:A:338:ILE:HG21	1:A:410:PHE:HE1	1.57	0.69
1:A:133:GLU:HB3	1:A:212:ASP:HA	1.74	0.69
1:A:174:VAL:HG12	1:A:180:LEU:HA	1.74	0.69
1:A:273:TYR:CE1	1:A:281:LEU:HD21	2.28	0.68
1:A:316:LEU:O	1:A:317:ALA:HB3	1.93	0.68
1:D:279:VAL:O	1:D:283:LEU:HG	1.91	0.68
1:A:279:VAL:HG22	1:D:388:PRO:HG3	1.74	0.68
1:D:318:PHE:H	1:D:318:PHE:HD2	1.37	0.68
1:C:427:VAL:C	1:C:429:THR:H	2.00	0.68
1:A:400:PHE:O	1:A:404:VAL:HG23	1.93	0.68
1:C:289:LEU:O	1:C:293:ILE:HG12	1.92	0.68
1:C:338:ILE:HD12	1:C:410:PHE:CE1	2.28	0.68
1:D:52:LEU:CD2	1:D:53:PRO:HD2	2.23	0.68
1:D:215:GLN:HB3	1:D:251:VAL:CG1	2.23	0.68
1:C:365:LEU:HD13	1:D:282:TRP:HB2	1.75	0.68
1:A:138:MET:SD	1:A:232:VAL:HG11	2.33	0.68
1:B:314:THR:O	1:B:316:LEU:N	2.26	0.68
1:B:387:LEU:N	1:B:388:PRO:HD2	2.09	0.68
1:C:15:GLU:CD	1:C:15:GLU:H	2.01	0.68
1:C:61:LEU:HD12	1:C:64:LEU:HD12	1.75	0.68
1:D:143:VAL:HG21	1:D:168:ILE:HA	1.75	0.68
1:A:95:ASP:HA	1:A:98:GLN:OE1	1.94	0.68
1:B:180:LEU:HD22	1:B:206:VAL:HG11	1.76	0.68
1:C:340:ARG:HD3	1:D:257:THR:HG23	1.75	0.68
1:C:387:LEU:N	1:C:388:PRO:HD2	2.08	0.68
1:A:320:VAL:N	1:A:321:PRO:CD	2.57	0.68
1:A:326:THR:HG23	1:B:293:ILE:HG13	1.76	0.68
1:C:366:LEU:HD11	1:D:285:ARG:CD	2.24	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:225:TYR:O	1:A:227:PHE:HD1	1.78	0.67
1:B:387:LEU:N	1:B:388:PRO:CD	2.57	0.67
1:D:427:VAL:C	1:D:429:THR:H	2.02	0.67
1:B:427:VAL:C	1:B:429:THR:H	2.01	0.67
1:A:187:ARG:NH2	1:B:165:ALA:O	2.26	0.67
1:B:340:ARG:C	1:B:340:ARG:HD3	2.20	0.67
1:C:303:LEU:HD23	1:C:436:LEU:HD11	1.75	0.67
1:D:129:TYR:HB3	1:D:135:GLY:HA3	1.76	0.67
1:D:293:ILE:O	1:D:297:MET:HG3	1.95	0.67
1:B:374:LEU:HD22	1:B:394:LEU:HD22	1.77	0.67
1:D:374:LEU:O	1:D:378:VAL:HG23	1.94	0.67
1:C:265:ALA:HB3	1:D:333:GLN:NE2	2.09	0.67
1:C:54:LYS:HE2	1:C:87:GLU:HB2	1.77	0.67
1:C:146:ARG:HG3	1:C:148:GLY:H	1.59	0.67
1:C:174:VAL:HG12	1:C:180:LEU:HA	1.75	0.67
1:C:438:ILE:O	1:C:442:VAL:HB	1.93	0.67
1:D:352:TRP:O	1:D:355:VAL:HG23	1.94	0.67
1:A:133:GLU:HG2	1:A:212:ASP:C	2.19	0.67
1:A:133:GLU:HG2	1:A:212:ASP:CA	2.25	0.67
1:A:351:ASP:O	1:A:355:VAL:HG22	1.94	0.67
1:B:186:LEU:O	1:B:190:ILE:HG13	1.95	0.67
1:B:308:SER:O	1:B:311:GLU:HG2	1.95	0.67
1:C:242:ILE:HG12	1:C:243:VAL:N	2.10	0.67
1:C:359:GLU:HA	1:C:362:VAL:HG23	1.77	0.67
1:A:312:ALA:C	1:A:314:THR:N	2.50	0.67
1:C:340:ARG:NE	1:D:261:HIS:CD2	2.63	0.66
1:D:107:TYR:CE2	1:D:111:LEU:HD12	2.30	0.66
1:D:364:LEU:HD23	1:D:368:LEU:HD21	1.77	0.66
1:D:314:THR:C	1:D:316:LEU:H	2.01	0.66
1:C:361:GLY:O	1:C:365:LEU:HB2	1.96	0.66
1:B:386:LEU:C	1:B:388:PRO:HD2	2.21	0.66
1:C:442:VAL:O	1:C:442:VAL:CG1	2.44	0.66
1:D:215:GLN:HB3	1:D:251:VAL:HG13	1.78	0.66
1:D:280:ALA:HA	1:D:283:LEU:HD12	1.77	0.66
1:C:309:VAL:O	1:C:312:ALA:HB3	1.96	0.66
1:D:130:GLU:HB2	1:D:133:GLU:HG3	1.77	0.66
1:C:333:GLN:CD	1:D:265:ALA:HB3	2.20	0.66
1:B:344:THR:HG22	1:B:344:THR:O	1.96	0.66
1:D:138:MET:HB3	1:D:232:VAL:HG21	1.78	0.66
1:D:215:GLN:OE1	1:D:251:VAL:HG13	1.95	0.66
1:A:281:LEU:HD12	1:A:281:LEU:N	2.09	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:324:LEU:HD21	1:A:436:LEU:HG	1.77	0.65
1:B:316:LEU:O	1:B:317:ALA:HB3	1.95	0.65
1:C:338:ILE:HD12	1:C:410:PHE:CZ	2.31	0.65
1:D:155:LEU:O	1:D:159:ARG:HG2	1.96	0.65
1:D:385:LEU:H	1:D:385:LEU:HD12	1.60	0.65
1:A:54:LYS:HG2	1:A:83:GLU:OE1	1.96	0.65
1:A:282:TRP:CD1	1:B:365:LEU:HD22	2.30	0.65
1:A:299:THR:HG23	1:A:300:SER:N	2.12	0.65
1:A:427:VAL:O	1:A:429:THR:N	2.29	0.65
1:D:316:LEU:HA	1:D:318:PHE:CE2	2.32	0.65
1:D:317:ALA:C	1:D:319:TYR:H	2.03	0.65
1:B:81:LEU:O	1:B:85:LEU:HD13	1.97	0.65
1:C:336:THR:CG2	1:C:340:ARG:HH21	2.04	0.65
1:A:90:LEU:HD13	1:A:140:PRO:CG	2.27	0.65
1:A:387:LEU:N	1:A:388:PRO:CD	2.59	0.65
1:C:312:ALA:C	1:C:314:THR:H	2.05	0.65
1:C:319:TYR:HB2	1:C:439:TYR:OH	1.97	0.65
1:C:377:LYS:HB2	1:D:297:MET:HE1	1.78	0.65
1:C:316:LEU:CG	1:C:317:ALA:N	2.56	0.65
1:D:249:LEU:O	1:D:249:LEU:HD23	1.95	0.65
1:A:94:ALA:O	1:A:98:GLN:HG3	1.96	0.65
1:A:273:TYR:HE1	1:A:281:LEU:HD21	1.62	0.65
1:B:222:MET:HE2	1:B:229:VAL:N	2.11	0.65
1:A:285:ARG:NH1	1:B:402:ASN:HD21	1.84	0.65
1:A:359:GLU:HA	1:A:362:VAL:CG2	2.27	0.65
1:A:386:LEU:C	1:A:388:PRO:HD2	2.22	0.65
1:B:279:VAL:O	1:B:283:LEU:HD23	1.97	0.65
1:C:183:VAL:CG2	1:C:184:LEU:H	2.03	0.65
1:D:31:GLN:OE1	1:D:34:LEU:HD12	1.97	0.65
1:A:338:ILE:O	1:A:342:LEU:HD12	1.97	0.64
1:A:339:ILE:HG23	1:A:340:ARG:N	2.13	0.64
1:C:72:TYR:O	1:C:76:LEU:HD23	1.97	0.64
1:C:220:ARG:HH11	1:C:220:ARG:HG3	1.62	0.64
1:D:22:ARG:NH1	1:D:51:LEU:HG	2.11	0.64
1:B:107:TYR:HE2	1:B:111:LEU:HD12	1.63	0.64
1:B:340:ARG:HD3	1:B:340:ARG:O	1.97	0.64
1:B:162:ALA:N	1:B:163:PRO:HD2	2.12	0.64
1:C:316:LEU:O	1:C:317:ALA:HB3	1.96	0.64
1:C:344:THR:O	1:C:344:THR:HG22	1.97	0.64
1:D:323:LEU:HD13	1:D:439:TYR:CE1	2.32	0.64
1:D:44:HIS:O	1:D:48:VAL:HG23	1.97	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:86:GLU:C	1:D:88:LEU:H	2.05	0.64
1:C:215:GLN:HB3	1:C:251:VAL:HG11	1.80	0.64
1:C:248:VAL:HA	1:C:251:VAL:HG23	1.80	0.64
1:D:78:PRO:HA	1:D:81:LEU:HG	1.77	0.64
1:C:190:ILE:O	1:D:159:ARG:HD3	1.98	0.64
1:D:320:VAL:HG13	1:D:436:LEU:HD21	1.78	0.64
1:A:86:GLU:C	1:A:88:LEU:H	2.04	0.64
1:C:155:LEU:O	1:C:159:ARG:HG2	1.98	0.64
1:B:174:VAL:HG12	1:B:180:LEU:HA	1.80	0.63
1:D:12:ALA:O	1:D:21:LEU:HD13	1.97	0.63
1:D:309:VAL:O	1:D:313:VAL:CG2	2.44	0.63
1:D:387:LEU:N	1:D:388:PRO:HD2	2.14	0.63
1:A:333:GLN:NE2	1:B:265:ALA:CB	2.62	0.63
1:B:136:GLY:O	1:B:137:LEU:HD23	1.96	0.63
1:D:91:ASP:HB3	1:D:139:THR:HG22	1.80	0.63
1:A:375:VAL:HG13	1:A:387:LEU:CD1	2.24	0.63
1:C:333:GLN:HG2	1:D:265:ALA:H	1.62	0.63
1:D:80:ARG:HD3	1:D:84:ILE:HD11	1.80	0.63
1:C:326:THR:OG1	1:D:293:ILE:HD12	1.98	0.63
1:C:337:LEU:CD2	1:D:266:VAL:HG21	2.27	0.63
1:A:209:VAL:HG21	1:A:218:VAL:HG22	1.78	0.63
1:A:359:GLU:O	1:A:362:VAL:HG23	1.97	0.63
1:A:378:VAL:HG21	1:A:390:VAL:CG1	2.14	0.63
1:B:86:GLU:C	1:B:88:LEU:H	2.06	0.63
1:D:351:ASP:O	1:D:355:VAL:HG22	1.99	0.63
1:D:386:LEU:CD1	1:D:447:LEU:HD21	2.29	0.63
1:A:29:HIS:ND1	1:A:30:PRO:HD2	2.12	0.63
1:B:77:PRO:HB2	1:B:79:TRP:CD1	2.34	0.63
1:C:352:TRP:CD1	1:C:352:TRP:H	2.16	0.63
1:C:58:ALA:HB1	1:C:88:LEU:HD13	1.81	0.63
1:C:316:LEU:HD23	1:C:317:ALA:H	1.60	0.63
1:C:322:VAL:HG13	1:D:296:GLY:C	2.24	0.63
1:C:370:LEU:HD12	1:C:398:VAL:HG21	1.79	0.63
1:C:387:LEU:N	1:C:388:PRO:CD	2.62	0.63
1:A:337:LEU:HD21	1:B:266:VAL:CG1	2.27	0.62
1:A:447:LEU:O	1:A:447:LEU:HD13	1.99	0.62
1:B:130:GLU:HB2	1:B:133:GLU:CG	2.25	0.62
1:D:207:VAL:HG21	1:D:227:PHE:HE2	1.60	0.62
1:D:210:ARG:HG3	1:D:210:ARG:HH11	1.64	0.62
1:D:318:PHE:CD2	1:D:318:PHE:N	2.63	0.62
1:C:186:LEU:HB3	1:D:169:TYR:HE2	1.64	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:191:VAL:HG12	1:D:159:ARG:O	1.99	0.62
1:B:427:VAL:O	1:B:429:THR:N	2.31	0.62
1:C:274:SER:HB2	1:D:354:ARG:HH22	1.62	0.62
1:C:297:MET:HE3	1:D:374:LEU:HA	1.81	0.62
1:D:22:ARG:HG2	1:D:22:ARG:HH11	1.64	0.62
1:D:342:LEU:HD22	1:D:413:ARG:HD2	1.81	0.62
1:A:408:LEU:O	1:A:411:LEU:HB3	2.00	0.62
1:D:310:LEU:HA	1:D:313:VAL:CG2	2.29	0.62
1:A:138:MET:HB3	1:A:232:VAL:HG21	1.81	0.62
1:A:367:GLY:HA3	1:A:395:VAL:HG13	1.80	0.62
1:C:111:LEU:HD23	1:C:111:LEU:C	2.24	0.62
1:D:107:TYR:HE2	1:D:111:LEU:HD12	1.65	0.62
1:A:90:LEU:HD23	1:A:90:LEU:C	2.25	0.62
1:C:37:TRP:HE1	1:C:45:ARG:HH21	1.45	0.62
1:B:49:LEU:HB3	1:B:76:LEU:HD11	1.80	0.62
1:B:277:GLY:O	1:B:279:VAL:N	2.33	0.62
1:D:446:LEU:O	1:D:447:LEU:HG	1.99	0.62
1:A:289:LEU:HD12	1:B:370:LEU:HD21	1.80	0.62
1:A:374:LEU:O	1:A:378:VAL:HG23	1.99	0.62
1:B:277:GLY:O	1:B:280:ALA:N	2.33	0.62
1:D:427:VAL:O	1:D:429:THR:N	2.33	0.62
1:A:332:ASN:ND2	1:A:424:ASN:HB3	2.14	0.62
1:A:339:ILE:CG2	1:A:340:ARG:N	2.62	0.62
1:B:314:THR:C	1:B:316:LEU:N	2.58	0.62
1:B:412:LEU:HD12	1:B:422:VAL:HG23	1.81	0.62
1:C:329:ASN:O	1:C:332:ASN:HB2	2.00	0.62
1:D:386:LEU:HD21	1:D:447:LEU:CG	2.30	0.62
1:B:138:MET:SD	1:B:232:VAL:HG11	2.40	0.61
1:B:196:THR:HB	1:B:200:GLU:OE1	1.99	0.61
1:B:294:LEU:HD23	1:B:295:THR:N	2.15	0.61
1:C:88:LEU:HD23	1:C:93:LEU:CD1	2.27	0.61
1:D:316:LEU:CD1	1:D:317:ALA:H	2.13	0.61
1:A:77:PRO:HB2	1:A:79:TRP:HD1	1.65	0.61
1:A:257:THR:OG1	1:B:340:ARG:NH1	2.33	0.61
1:A:266:VAL:HG21	1:B:337:LEU:HG	1.82	0.61
1:B:111:LEU:O	1:B:111:LEU:HD23	2.01	0.61
1:C:385:LEU:O	1:C:386:LEU:C	2.43	0.61
1:D:370:LEU:HD12	1:D:398:VAL:HG21	1.83	0.61
1:D:387:LEU:N	1:D:388:PRO:CD	2.63	0.61
1:A:348:ASP:H	1:A:351:ASP:HB2	1.65	0.61
1:A:402:ASN:OD1	1:B:285:ARG:NH2	2.33	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:193:ASP:O	1:B:196:THR:HG23	2.00	0.61
1:B:309:VAL:O	1:B:312:ALA:HB3	1.99	0.61
1:C:337:LEU:HD11	1:D:266:VAL:CG2	2.29	0.61
1:D:69:GLN:OE1	1:D:96:ALA:HB1	2.01	0.61
1:C:210:ARG:HD2	1:C:212:ASP:OD1	2.01	0.61
1:D:209:VAL:HG12	1:D:230:LEU:HD22	1.82	0.61
1:D:338:ILE:HG21	1:D:410:PHE:HE1	1.63	0.61
1:A:272:VAL:HG12	1:A:273:TYR:H	1.66	0.61
1:B:9:LEU:HD23	1:B:9:LEU:C	2.26	0.61
1:B:334:SER:HB2	1:B:402:ASN:HD22	1.65	0.61
1:B:352:TRP:O	1:B:355:VAL:HG23	2.00	0.61
1:C:352:TRP:H	1:C:352:TRP:HD1	1.49	0.61
1:C:77:PRO:HB2	1:C:79:TRP:CD1	2.36	0.61
1:C:186:LEU:HD12	1:C:189:LEU:HD12	1.81	0.61
1:D:177:LYS:HA	1:D:177:LYS:HE2	1.81	0.61
1:A:180:LEU:CD2	1:A:206:VAL:HG21	2.30	0.61
1:C:292:LEU:HD23	1:D:329:ASN:OD1	2.01	0.61
1:C:427:VAL:O	1:C:429:THR:N	2.34	0.61
1:D:97:LEU:CD1	1:D:123:VAL:HG11	2.31	0.61
1:A:44:HIS:O	1:A:48:VAL:HG23	2.01	0.61
1:A:143:VAL:HG21	1:A:168:ILE:HG22	1.82	0.61
1:B:293:ILE:HG22	1:B:293:ILE:O	1.99	0.61
1:B:385:LEU:O	1:B:386:LEU:C	2.43	0.61
1:D:397:ILE:HG13	1:D:438:ILE:HG21	1.83	0.61
1:C:249:LEU:O	1:C:249:LEU:HD23	2.01	0.60
1:A:347:LEU:HD11	1:B:273:TYR:CD2	2.37	0.60
1:B:146:ARG:NH2	1:B:176:GLU:HB3	2.16	0.60
1:C:202:MET:HG2	1:C:203:ASN:N	2.15	0.60
1:D:112:LYS:NZ	1:D:120:ARG:HH21	1.98	0.60
1:A:211:THR:HG23	1:A:234:ASP:HA	1.84	0.60
1:B:104:ASP:CG	1:B:107:TYR:HB2	2.26	0.60
1:B:245:VAL:HA	1:B:248:VAL:HG12	1.83	0.60
1:C:383:HIS:NE2	1:D:304:GLN:NE2	2.49	0.60
1:D:320:VAL:CG1	1:D:436:LEU:HD21	2.30	0.60
1:D:408:LEU:O	1:D:411:LEU:HB3	2.02	0.60
1:C:183:VAL:HG12	1:C:203:ASN:HB2	1.84	0.60
1:D:364:LEU:HD23	1:D:364:LEU:O	2.02	0.60
1:A:66:PRO:O	1:A:99:ALA:HB1	2.00	0.60
1:A:280:ALA:O	1:A:283:LEU:HG	2.00	0.60
1:A:324:LEU:HG	1:A:432:ASP:OD1	2.00	0.60
1:A:326:THR:HA	1:A:329:ASN:HD22	1.65	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:97:LEU:HD23	1:B:97:LEU:C	2.27	0.60
1:B:101:ARG:HD2	1:B:108:PHE:CD2	2.36	0.60
1:B:290:VAL:HG12	1:B:291:ILE:N	2.15	0.60
1:A:293:ILE:O	1:A:293:ILE:HG22	2.02	0.60
1:B:320:VAL:HG13	1:B:324:LEU:HD13	1.84	0.60
1:C:408:LEU:CD1	1:C:411:LEU:HD23	2.31	0.60
1:A:101:ARG:HH11	1:A:101:ARG:HG3	1.64	0.60
1:C:365:LEU:HD22	1:D:282:TRP:CD1	2.37	0.60
1:D:89:SER:HB2	1:D:92:ASP:OD2	2.02	0.60
1:A:282:TRP:NE1	1:B:365:LEU:HD22	2.17	0.60
1:C:260:ILE:HD12	1:D:340:ARG:NH1	2.17	0.60
1:A:31:GLN:HA	1:A:34:LEU:HD12	1.83	0.60
1:B:378:VAL:CG1	1:B:390:VAL:HG21	2.19	0.60
1:C:86:GLU:C	1:C:88:LEU:H	2.10	0.60
1:A:90:LEU:HD13	1:A:140:PRO:HG3	1.84	0.60
1:B:150:THR:OG1	1:B:153:GLU:HB2	2.01	0.60
1:B:330:THR:HG23	1:B:402:ASN:OD1	2.02	0.60
1:C:340:ARG:CG	1:C:341:ALA:N	2.65	0.60
1:B:330:THR:HG22	1:B:331:GLY:N	2.17	0.59
1:B:446:LEU:HD13	1:B:446:LEU:O	2.02	0.59
1:C:333:GLN:HB2	1:D:285:ARG:NH1	2.16	0.59
1:B:265:ALA:HB1	1:B:288:TRP:CB	2.31	0.59
1:C:378:VAL:HG12	1:C:387:LEU:CD1	2.32	0.59
1:D:280:ALA:HA	1:D:283:LEU:CD1	2.32	0.59
1:D:307:GLU:HA	1:D:310:LEU:HB2	1.84	0.59
1:C:337:LEU:HD23	1:D:261:HIS:CD2	2.37	0.59
1:C:378:VAL:HG11	1:C:390:VAL:CG2	2.20	0.59
1:D:329:ASN:O	1:D:332:ASN:HB2	2.02	0.59
1:D:394:LEU:HD23	1:D:394:LEU:C	2.26	0.59
1:B:34:LEU:HD11	1:B:63:HIS:CB	2.29	0.59
1:A:385:LEU:O	1:A:386:LEU:C	2.46	0.59
1:B:277:GLY:C	1:B:279:VAL:N	2.59	0.59
1:D:310:LEU:HA	1:D:313:VAL:HG23	1.84	0.59
1:D:316:LEU:CG	1:D:317:ALA:N	2.45	0.59
1:A:157:PHE:O	1:A:157:PHE:HD1	1.85	0.59
1:C:11:GLU:HG3	1:C:12:ALA:H	1.67	0.59
1:C:378:VAL:HG12	1:C:387:LEU:HD11	1.85	0.59
1:D:261:HIS:C	1:D:263:LEU:H	2.10	0.59
1:D:364:LEU:O	1:D:368:LEU:HG	2.02	0.59
1:A:412:LEU:CD1	1:A:422:VAL:HG23	2.32	0.59
1:B:193:ASP:HB3	1:B:196:THR:HG23	1.85	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:330:THR:HG23	1:B:402:ASN:CG	2.28	0.59
1:C:156:ARG:HA	1:C:159:ARG:HG3	1.84	0.59
1:C:412:LEU:HD12	1:C:422:VAL:HG23	1.85	0.59
1:D:317:ALA:C	1:D:319:TYR:N	2.56	0.59
1:A:328:GLY:HA2	1:A:431:SER:OG	2.03	0.59
1:B:296:GLY:HA2	1:B:299:THR:HG23	1.83	0.59
1:C:185:SER:HB2	1:C:188:ASP:OD2	2.02	0.59
1:C:275:GLU:O	1:C:276:ALA:HB2	2.02	0.59
1:C:408:LEU:O	1:C:411:LEU:HB3	2.02	0.59
1:A:133:GLU:HG2	1:A:212:ASP:HA	1.84	0.59
1:C:303:LEU:CD1	1:C:310:LEU:HD11	2.33	0.59
1:B:40:LEU:HB2	1:B:45:ARG:HD2	1.85	0.59
1:C:397:ILE:HD11	1:C:438:ILE:HB	1.85	0.59
1:A:171:ILE:HD12	1:A:171:ILE:N	2.18	0.58
1:A:290:VAL:HG12	1:A:291:ILE:N	2.17	0.58
1:A:326:THR:OG1	1:B:293:ILE:HG13	2.03	0.58
1:B:183:VAL:HG13	1:B:184:LEU:N	2.16	0.58
1:B:235:GLU:H	1:B:235:GLU:CD	2.11	0.58
1:C:34:LEU:HG	1:C:60:VAL:HG13	1.85	0.58
1:C:142:TYR:CD1	1:C:142:TYR:C	2.81	0.58
1:D:377:LYS:C	1:D:379:TYR:H	2.11	0.58
1:A:339:ILE:CD1	1:A:420:ALA:HA	2.32	0.58
1:B:77:PRO:HB2	1:B:79:TRP:NE1	2.18	0.58
1:B:346:ASP:O	1:B:347:LEU:HB2	2.02	0.58
1:D:22:ARG:NH1	1:D:22:ARG:HG2	2.18	0.58
1:A:150:THR:OG1	1:A:153:GLU:HB2	2.03	0.58
1:A:249:LEU:HD23	1:B:249:LEU:HD12	1.85	0.58
1:A:347:LEU:HD11	1:B:273:TYR:HD2	1.68	0.58
1:B:356:PHE:CE2	1:B:403:LEU:HD12	2.38	0.58
1:C:351:ASP:OD1	1:C:354:ARG:HD2	2.03	0.58
1:C:442:VAL:O	1:C:442:VAL:HG12	2.03	0.58
1:A:249:LEU:O	1:A:249:LEU:HD13	2.03	0.58
1:A:339:ILE:HD11	1:A:420:ALA:CA	2.31	0.58
1:B:370:LEU:HD12	1:B:398:VAL:HG21	1.83	0.58
1:C:56:LYS:O	1:C:60:VAL:HG23	2.03	0.58
1:C:337:LEU:HD21	1:D:266:VAL:CG1	2.33	0.58
1:C:340:ARG:HH11	1:D:257:THR:HG23	1.67	0.58
1:C:370:LEU:HD11	1:D:289:LEU:HD12	1.85	0.58
1:A:245:VAL:HA	1:A:248:VAL:HG12	1.85	0.58
1:C:257:THR:HA	1:D:340:ARG:NH1	2.18	0.58
1:D:58:ALA:O	1:D:61:LEU:HG	2.03	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:272:VAL:HG12	1:D:273:TYR:N	2.18	0.58
1:B:211:THR:HG21	1:B:235:GLU:OE2	2.03	0.58
1:D:66:PRO:O	1:D:99:ALA:HB1	2.03	0.58
1:B:352:TRP:CD1	1:B:352:TRP:H	2.20	0.58
1:C:150:THR:O	1:C:154:VAL:HG23	2.03	0.58
1:D:149:MET:O	1:D:198:VAL:HG23	2.04	0.58
1:D:340:ARG:CZ	1:D:340:ARG:HB2	2.33	0.58
1:A:15:GLU:HG2	1:A:17:ASP:HB2	1.84	0.58
1:A:27:GLU:O	1:B:205:LYS:HE2	2.03	0.58
1:A:386:LEU:CD1	1:A:447:LEU:HD23	2.34	0.58
1:B:319:TYR:HB2	1:B:439:TYR:OH	2.04	0.58
1:B:338:ILE:HG21	1:B:410:PHE:CE1	2.38	0.58
1:B:371:SER:HA	1:B:394:LEU:HD23	1.86	0.58
1:C:90:LEU:HD23	1:C:90:LEU:O	2.02	0.58
1:C:159:ARG:O	1:D:191:VAL:HG12	2.04	0.58
1:D:146:ARG:HH12	1:D:176:GLU:HA	1.69	0.58
1:A:289:LEU:HD23	1:B:333:GLN:NE2	2.18	0.57
1:B:29:HIS:ND1	1:B:30:PRO:HD2	2.18	0.57
1:C:81:LEU:O	1:C:85:LEU:HG	2.04	0.57
1:D:303:LEU:CD2	1:D:436:LEU:HD13	2.32	0.57
1:D:332:ASN:O	1:D:333:GLN:C	2.46	0.57
1:A:13:LEU:HD23	1:A:13:LEU:O	2.02	0.57
1:B:74:LYS:HA	1:B:107:TYR:OH	2.04	0.57
1:C:66:PRO:O	1:C:99:ALA:HB1	2.04	0.57
1:C:171:ILE:HD12	1:C:171:ILE:N	2.19	0.57
1:C:187:ARG:HA	1:D:168:ILE:HD11	1.87	0.57
1:C:245:VAL:HG11	1:D:245:VAL:HG11	1.86	0.57
1:D:162:ALA:HB3	1:D:163:PRO:HD3	1.87	0.57
1:D:385:LEU:O	1:D:386:LEU:C	2.48	0.57
1:A:260:ILE:HD12	1:B:340:ARG:HH22	1.69	0.57
1:B:318:PHE:CD2	1:B:318:PHE:N	2.71	0.57
1:C:425:PRO:HG3	1:D:332:ASN:HD22	1.66	0.57
1:A:275:GLU:O	1:A:276:ALA:HB2	2.04	0.57
1:A:364:LEU:O	1:A:368:LEU:HG	2.04	0.57
1:C:334:SER:OG	1:C:406:ALA:HB2	2.05	0.57
1:D:171:ILE:N	1:D:171:ILE:HD12	2.19	0.57
1:D:344:THR:O	1:D:344:THR:HG22	2.03	0.57
1:D:359:GLU:HA	1:D:362:VAL:CG2	2.34	0.57
1:A:289:LEU:HD23	1:B:333:GLN:CD	2.29	0.57
1:B:222:MET:HG2	1:B:245:VAL:HG22	1.87	0.57
1:C:326:THR:HG23	1:D:293:ILE:CG1	2.33	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:350:ARG:CB	1:A:350:ARG:HH11	2.17	0.57
1:B:306:PHE:O	1:B:310:LEU:HB2	2.04	0.57
1:A:183:VAL:HG22	1:A:184:LEU:N	2.12	0.57
1:B:36:LEU:O	1:B:40:LEU:HG	2.05	0.57
1:A:80:ARG:O	1:A:84:ILE:HG13	2.05	0.57
1:A:81:LEU:HD12	1:A:111:LEU:CD2	2.35	0.57
1:B:193:ASP:OD2	1:B:195:ARG:HG2	2.04	0.57
1:D:397:ILE:O	1:D:398:VAL:C	2.48	0.57
1:C:138:MET:HB3	1:C:232:VAL:HG21	1.87	0.57
1:A:261:HIS:C	1:A:263:LEU:H	2.12	0.57
1:A:355:VAL:HG21	1:A:410:PHE:CZ	2.40	0.57
1:A:365:LEU:HD22	1:B:282:TRP:CD1	2.40	0.57
1:A:397:ILE:O	1:A:398:VAL:C	2.45	0.57
1:B:9:LEU:C	1:B:11:GLU:H	2.12	0.57
1:C:337:LEU:HG	1:D:266:VAL:HG21	1.86	0.57
1:A:245:VAL:HG11	1:B:245:VAL:HG11	1.87	0.56
1:B:312:ALA:C	1:B:314:THR:H	2.13	0.56
1:C:296:GLY:HA2	1:C:299:THR:HG23	1.85	0.56
1:D:293:ILE:O	1:D:293:ILE:HG22	2.05	0.56
1:B:215:GLN:HB3	1:B:251:VAL:HG13	1.86	0.56
1:B:314:THR:C	1:B:316:LEU:H	2.12	0.56
1:C:177:LYS:HE2	1:C:177:LYS:HA	1.86	0.56
1:A:111:LEU:C	1:A:111:LEU:HD13	2.30	0.56
1:A:272:VAL:HG12	1:A:273:TYR:N	2.19	0.56
1:A:285:ARG:NH1	1:B:402:ASN:OD1	2.38	0.56
1:B:85:LEU:HD21	1:B:111:LEU:HD21	1.88	0.56
1:B:248:VAL:HA	1:B:251:VAL:HG23	1.88	0.56
1:B:275:GLU:O	1:B:276:ALA:HB2	2.05	0.56
1:B:334:SER:OG	1:B:406:ALA:HB2	2.05	0.56
1:C:116:ASP:OD2	1:C:118:ARG:HB2	2.05	0.56
1:C:245:VAL:CG1	1:D:245:VAL:HG21	2.35	0.56
1:C:293:ILE:CG1	1:D:326:THR:HG23	2.34	0.56
1:D:111:LEU:HD23	1:D:114:LEU:HD12	1.86	0.56
1:D:245:VAL:HG13	1:D:246:ASP:N	2.20	0.56
1:D:261:HIS:O	1:D:263:LEU:N	2.38	0.56
1:D:272:VAL:HG12	1:D:273:TYR:H	1.71	0.56
1:A:319:TYR:HB2	1:A:439:TYR:OH	2.05	0.56
1:A:323:LEU:HD13	1:A:439:TYR:CE1	2.40	0.56
1:C:48:VAL:HA	1:C:51:LEU:HD12	1.88	0.56
1:C:371:SER:HA	1:C:394:LEU:CD2	2.34	0.56
1:D:377:LYS:C	1:D:379:TYR:N	2.63	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:261:HIS:C	1:B:263:LEU:H	2.14	0.56
1:C:11:GLU:HG3	1:C:12:ALA:N	2.20	0.56
1:C:326:THR:OG1	1:D:293:ILE:CD1	2.53	0.56
1:D:97:LEU:HD13	1:D:123:VAL:HG11	1.86	0.56
1:D:265:ALA:HB1	1:D:288:TRP:CB	2.34	0.56
1:A:282:TRP:CE2	1:B:365:LEU:HD22	2.41	0.56
1:A:371:SER:HB2	1:A:395:VAL:HG22	1.85	0.56
1:B:408:LEU:O	1:B:411:LEU:HB3	2.06	0.56
1:C:268:VAL:CG2	1:C:271:LEU:HD11	2.29	0.56
1:C:261:HIS:C	1:C:263:LEU:H	2.13	0.56
1:C:397:ILE:HG13	1:C:438:ILE:HG21	1.87	0.56
1:D:330:THR:HG22	1:D:402:ASN:HB2	1.87	0.56
1:A:36:LEU:O	1:A:40:LEU:HG	2.06	0.56
1:B:97:LEU:HD23	1:B:97:LEU:O	2.05	0.56
1:B:323:LEU:CD1	1:B:324:LEU:HD12	2.36	0.56
1:C:149:MET:O	1:C:198:VAL:HG23	2.06	0.56
1:C:330:THR:OG1	1:D:289:LEU:HD11	2.05	0.56
1:C:446:LEU:O	1:C:447:LEU:HD23	2.06	0.56
1:D:328:GLY:HA2	1:D:431:SER:OG	2.06	0.56
1:B:146:ARG:HH22	1:B:176:GLU:HB3	1.70	0.56
1:C:142:TYR:C	1:C:142:TYR:HD1	2.13	0.56
1:C:365:LEU:HD22	1:D:282:TRP:CG	2.40	0.56
1:C:422:VAL:HA	1:C:426:LEU:HD23	1.88	0.56
1:D:34:LEU:HG	1:D:60:VAL:HG13	1.88	0.56
1:A:230:LEU:HD23	1:A:231:PRO:HD2	1.88	0.56
1:A:370:LEU:HA	1:A:373:LEU:HD12	1.87	0.56
1:D:306:PHE:O	1:D:310:LEU:HB2	2.06	0.56
1:A:61:LEU:HA	1:A:64:LEU:HD12	1.86	0.55
1:A:257:THR:CB	1:B:340:ARG:NH1	2.69	0.55
1:B:37:TRP:HZ2	1:B:72:TYR:CE2	2.24	0.55
1:C:186:LEU:O	1:C:190:ILE:HG13	2.05	0.55
1:D:217:GLU:O	1:D:221:LEU:HD12	2.06	0.55
1:D:221:LEU:HD12	1:D:221:LEU:H	1.70	0.55
1:A:195:ARG:HH11	1:A:195:ARG:CB	2.15	0.55
1:A:257:THR:CA	1:B:340:ARG:NH1	2.69	0.55
1:A:332:ASN:HD21	1:A:424:ASN:HB3	1.70	0.55
1:B:343:ALA:C	1:B:345:ARG:H	2.14	0.55
1:B:348:ASP:OD1	1:B:349:LEU:N	2.32	0.55
1:C:345:ARG:NH2	1:D:35:ALA:HA	2.21	0.55
1:B:116:ASP:OD2	1:B:118:ARG:HD3	2.06	0.55
1:B:155:LEU:O	1:B:159:ARG:HG2	2.07	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:9:LEU:C	1:C:11:GLU:H	2.14	0.55
1:C:348:ASP:OD1	1:C:349:LEU:N	2.25	0.55
1:D:248:VAL:HA	1:D:251:VAL:HG23	1.87	0.55
1:D:348:ASP:H	1:D:351:ASP:HB2	1.72	0.55
1:A:155:LEU:O	1:A:159:ARG:HG2	2.05	0.55
1:A:329:ASN:OD1	1:B:425:PRO:HB3	2.06	0.55
1:A:388:PRO:HG3	1:A:446:LEU:HD11	1.88	0.55
1:C:356:PHE:O	1:C:360:MET:HG3	2.07	0.55
1:C:366:LEU:HD11	1:D:285:ARG:HD2	1.86	0.55
1:C:427:VAL:C	1:C:429:THR:N	2.65	0.55
1:B:180:LEU:CD2	1:B:206:VAL:HG11	2.36	0.55
1:C:90:LEU:CD2	1:C:123:VAL:HG22	2.28	0.55
1:A:48:VAL:C	1:A:50:THR:H	2.15	0.55
1:A:349:LEU:CD1	1:A:414:ARG:HG2	2.37	0.55
1:A:442:VAL:O	1:A:442:VAL:CG1	2.53	0.55
1:B:123:VAL:C	1:B:125:ALA:H	2.13	0.55
1:C:37:TRP:NE1	1:C:45:ARG:NH2	2.55	0.55
1:C:220:ARG:HG3	1:C:220:ARG:NH1	2.22	0.55
1:C:303:LEU:CD2	1:C:436:LEU:HD11	2.37	0.55
1:C:350:ARG:HD2	1:C:350:ARG:C	2.31	0.55
1:D:25:LEU:HD12	1:D:51:LEU:HB3	1.88	0.55
1:A:332:ASN:O	1:A:333:GLN:C	2.49	0.55
1:A:392:VAL:HG12	1:A:396:LEU:HD12	1.88	0.55
1:A:396:LEU:O	1:A:400:PHE:CD1	2.58	0.55
1:B:112:LYS:HD2	1:B:120:ARG:HD3	1.87	0.55
1:A:292:LEU:HD23	1:B:329:ASN:OD1	2.07	0.55
1:A:311:GLU:O	1:A:314:THR:CB	2.53	0.55
1:C:190:ILE:HD11	1:D:186:LEU:HD21	1.88	0.55
1:C:215:GLN:HB3	1:C:251:VAL:HG13	1.89	0.55
1:A:321:PRO:HG2	1:A:322:VAL:H	1.71	0.55
1:C:322:VAL:HG11	1:D:297:MET:HA	1.88	0.55
1:A:265:ALA:HB3	1:B:333:GLN:HE21	1.72	0.55
1:B:320:VAL:O	1:B:324:LEU:HB2	2.06	0.55
1:C:257:THR:HG23	1:D:340:ARG:NH1	2.21	0.55
1:C:282:TRP:CD1	1:D:365:LEU:HB3	2.42	0.55
1:D:378:VAL:CG2	1:D:390:VAL:HG11	2.12	0.55
1:D:386:LEU:C	1:D:388:PRO:HD2	2.32	0.55
1:A:31:GLN:HA	1:A:31:GLN:NE2	2.21	0.54
1:A:281:LEU:H	1:A:281:LEU:CD1	2.18	0.54
1:A:326:THR:OG1	1:B:293:ILE:CD1	2.55	0.54
1:B:57:ALA:O	1:B:60:VAL:HG12	2.06	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:67:GLU:HG3	1:B:103:GLU:OE1	2.07	0.54
1:C:162:ALA:N	1:C:163:PRO:CD	2.70	0.54
1:D:296:GLY:HA2	1:D:299:THR:HG23	1.89	0.54
1:D:318:PHE:HD2	1:D:318:PHE:N	2.03	0.54
1:D:408:LEU:HD12	1:D:411:LEU:HD23	1.89	0.54
1:D:77:PRO:HB2	1:D:79:TRP:CD1	2.41	0.54
1:B:11:GLU:O	1:B:11:GLU:OE1	2.25	0.54
1:B:364:LEU:CD1	1:D:392:VAL:HG13	2.38	0.54
1:C:7:VAL:O	1:C:7:VAL:HG12	2.08	0.54
1:C:36:LEU:O	1:C:40:LEU:HG	2.06	0.54
1:C:397:ILE:O	1:C:398:VAL:C	2.50	0.54
1:D:349:LEU:HD12	1:D:349:LEU:O	2.07	0.54
1:B:427:VAL:C	1:B:429:THR:N	2.65	0.54
1:C:340:ARG:HD3	1:D:257:THR:CG2	2.37	0.54
1:C:366:LEU:CD2	1:D:286:VAL:HB	2.35	0.54
1:A:389:VAL:HG12	1:A:443:ALA:HA	1.88	0.54
1:B:48:VAL:C	1:B:50:THR:H	2.16	0.54
1:B:66:PRO:O	1:B:99:ALA:HB1	2.07	0.54
1:B:293:ILE:O	1:B:297:MET:HG3	2.07	0.54
1:C:257:THR:HG23	1:D:340:ARG:HD2	1.88	0.54
1:C:332:ASN:O	1:C:333:GLN:C	2.50	0.54
1:C:350:ARG:HD2	1:C:351:ASP:N	2.23	0.54
1:C:424:ASN:O	1:C:427:VAL:HB	2.06	0.54
1:D:361:GLY:O	1:D:365:LEU:HB2	2.07	0.54
1:A:87:GLU:HG3	1:A:87:GLU:O	2.07	0.54
1:C:159:ARG:HD3	1:D:190:ILE:O	2.08	0.54
1:C:364:LEU:N	1:C:399:PHE:HD1	2.06	0.54
1:A:93:LEU:O	1:A:94:ALA:C	2.50	0.54
1:A:397:ILE:HG12	1:A:438:ILE:HD12	1.90	0.54
1:B:340:ARG:HG2	1:B:340:ARG:HH11	1.72	0.54
1:C:52:LEU:HD13	1:C:56:LYS:HB3	1.90	0.54
1:C:273:TYR:CE1	1:C:281:LEU:HD21	2.43	0.54
1:C:367:GLY:O	1:C:395:VAL:HG22	2.08	0.54
1:D:138:MET:SD	1:D:232:VAL:HG11	2.48	0.54
1:A:49:LEU:HD21	1:A:61:LEU:HD13	1.89	0.54
1:A:171:ILE:HD12	1:A:171:ILE:H	1.73	0.54
1:A:352:TRP:O	1:A:355:VAL:HG23	2.07	0.54
1:B:85:LEU:N	1:B:85:LEU:HD12	2.23	0.54
1:D:275:GLU:O	1:D:276:ALA:HB2	2.07	0.54
1:A:85:LEU:HD22	1:A:93:LEU:CD1	2.38	0.54
1:B:332:ASN:O	1:B:333:GLN:C	2.50	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:343:ALA:C	1:C:345:ARG:H	2.16	0.54
1:D:93:LEU:HG	1:D:97:LEU:HD12	1.89	0.54
1:A:261:HIS:O	1:A:263:LEU:N	2.41	0.54
1:B:356:PHE:HE2	1:B:403:LEU:HD12	1.71	0.54
1:C:207:VAL:HG11	1:C:225:TYR:CE2	2.43	0.54
1:D:156:ARG:HA	1:D:159:ARG:HG2	1.89	0.54
1:A:222:MET:CE	1:A:230:LEU:HB2	2.38	0.53
1:A:268:VAL:HG13	1:A:269:PRO:HD2	1.89	0.53
1:B:67:GLU:O	1:B:71:GLU:HB2	2.08	0.53
1:B:323:LEU:HD12	1:B:324:LEU:CD1	2.37	0.53
1:B:397:ILE:O	1:B:398:VAL:C	2.52	0.53
1:D:9:LEU:C	1:D:11:GLU:H	2.16	0.53
1:D:360:MET:HA	1:D:399:PHE:CE1	2.43	0.53
1:A:387:LEU:N	1:A:388:PRO:HD2	2.23	0.53
1:D:286:VAL:O	1:D:290:VAL:HG23	2.09	0.53
1:A:12:ALA:O	1:A:21:LEU:HD13	2.09	0.53
1:B:111:LEU:HD23	1:B:111:LEU:C	2.32	0.53
1:B:162:ALA:N	1:B:163:PRO:CD	2.71	0.53
1:C:338:ILE:O	1:C:341:ALA:HB3	2.09	0.53
1:A:355:VAL:CG1	1:B:273:TYR:HE2	2.22	0.53
1:B:185:SER:OG	1:B:187:ARG:HG2	2.08	0.53
1:C:123:VAL:C	1:C:125:ALA:H	2.16	0.53
1:C:202:MET:CG	1:C:203:ASN:N	2.72	0.53
1:B:261:HIS:O	1:B:263:LEU:N	2.42	0.53
1:B:171:ILE:HD12	1:B:189:LEU:CD1	2.37	0.53
1:C:9:LEU:HD23	1:C:9:LEU:C	2.33	0.53
1:C:272:VAL:HG12	1:C:273:TYR:H	1.72	0.53
1:C:393:SER:HB3	1:C:442:VAL:CG1	2.32	0.53
1:D:58:ALA:HA	1:D:61:LEU:HD23	1.90	0.53
1:B:40:LEU:HB2	1:B:45:ARG:CD	2.38	0.53
1:C:386:LEU:C	1:C:388:PRO:HD2	2.34	0.53
1:A:65:SER:HB3	1:A:68:GLU:HG3	1.90	0.53
1:A:157:PHE:O	1:A:157:PHE:CD1	2.60	0.53
1:B:314:THR:HG22	1:B:315:ALA:CA	2.39	0.53
1:B:370:LEU:HD12	1:B:398:VAL:HG11	1.90	0.53
1:C:48:VAL:C	1:C:50:THR:H	2.17	0.53
1:C:85:LEU:HD11	1:C:111:LEU:HD21	1.90	0.53
1:C:229:VAL:HG13	1:C:242:ILE:CD1	2.37	0.53
1:C:374:LEU:HD22	1:C:394:LEU:HD22	1.90	0.53
1:D:255:GLU:OE1	1:D:255:GLU:HA	2.08	0.53
1:D:288:TRP:O	1:D:290:VAL:N	2.42	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:112:LYS:O	1:B:115:LEU:HB2	2.09	0.53
1:B:193:ASP:HB3	1:B:196:THR:CG2	2.39	0.53
1:B:207:VAL:HG11	1:B:225:TYR:CE2	2.44	0.53
1:C:37:TRP:NE1	1:C:45:ARG:HH21	2.06	0.53
1:D:72:TYR:O	1:D:76:LEU:HD23	2.09	0.53
1:D:185:SER:HB2	1:D:188:ASP:OD2	2.08	0.53
1:A:81:LEU:HD12	1:A:111:LEU:HD21	1.90	0.53
1:A:133:GLU:CB	1:A:212:ASP:HA	2.39	0.53
1:B:288:TRP:O	1:B:290:VAL:N	2.41	0.53
1:B:397:ILE:HG12	1:B:438:ILE:HD12	1.90	0.53
1:C:41:LYS:HB2	1:C:44:HIS:ND1	2.24	0.53
1:C:151:VAL:O	1:C:155:LEU:HG	2.08	0.53
1:C:337:LEU:O	1:C:340:ARG:HG2	2.09	0.53
1:D:149:MET:C	1:D:198:VAL:HG23	2.34	0.53
1:D:427:VAL:C	1:D:429:THR:N	2.65	0.53
1:A:299:THR:CG2	1:B:322:VAL:CG2	2.81	0.52
1:A:377:LYS:C	1:A:379:TYR:N	2.66	0.52
1:B:352:TRP:H	1:B:352:TRP:HD1	1.57	0.52
1:B:378:VAL:HB	1:B:387:LEU:HD11	1.91	0.52
1:B:408:LEU:N	1:B:409:PRO:HD2	2.24	0.52
1:C:117:PRO:HA	1:C:120:ARG:HB3	1.92	0.52
1:D:230:LEU:HD23	1:D:231:PRO:N	2.24	0.52
1:A:377:LYS:C	1:A:379:TYR:H	2.15	0.52
1:A:408:LEU:N	1:A:409:PRO:HD2	2.25	0.52
1:A:423:SER:HB2	1:A:425:PRO:HD2	1.91	0.52
1:B:64:LEU:HD22	1:B:68:GLU:CB	2.36	0.52
1:C:180:LEU:HD12	1:C:239:LEU:HD13	1.92	0.52
1:A:316:LEU:O	1:A:317:ALA:CB	2.56	0.52
1:C:50:THR:HA	1:C:80:ARG:HD2	1.90	0.52
1:C:209:VAL:HG12	1:C:230:LEU:HD22	1.91	0.52
1:A:370:LEU:HD12	1:A:398:VAL:HG21	1.92	0.52
1:C:297:MET:HE1	1:D:377:LYS:HB2	1.91	0.52
1:D:364:LEU:HD21	1:D:368:LEU:HD21	1.91	0.52
1:A:293:ILE:HG13	1:B:326:THR:HG23	1.91	0.52
1:B:183:VAL:HG22	1:B:184:LEU:N	2.20	0.52
1:B:359:GLU:OE1	1:B:362:VAL:HB	2.09	0.52
1:C:80:ARG:HG3	1:C:80:ARG:HH11	1.74	0.52
1:C:367:GLY:HA3	1:C:395:VAL:HG13	1.90	0.52
1:A:215:GLN:HB3	1:A:251:VAL:HG13	1.91	0.52
1:A:329:ASN:O	1:A:332:ASN:HB2	2.09	0.52
1:C:299:THR:HG1	1:D:321:PRO:HB2	1.74	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:323:LEU:HD13	1:C:439:TYR:CE1	2.43	0.52
1:C:332:ASN:ND2	1:D:425:PRO:HG3	2.24	0.52
1:D:48:VAL:C	1:D:50:THR:H	2.17	0.52
1:D:129:TYR:CB	1:D:135:GLY:HA3	2.39	0.52
1:D:338:ILE:HD13	1:D:410:PHE:HE1	1.75	0.52
1:D:355:VAL:HG21	1:D:410:PHE:CZ	2.44	0.52
1:A:216:GLU:O	1:A:219:ALA:HB3	2.09	0.52
1:A:338:ILE:O	1:A:341:ALA:HB3	2.08	0.52
1:A:339:ILE:HD11	1:A:419:PRO:O	2.10	0.52
1:C:117:PRO:HG3	1:C:120:ARG:CZ	2.40	0.52
1:C:318:PHE:HB3	1:D:303:LEU:HB3	1.92	0.52
1:D:33:LEU:HD23	1:D:60:VAL:HG11	1.92	0.52
1:D:370:LEU:CD1	1:D:398:VAL:HG21	2.40	0.52
1:D:442:VAL:O	1:D:442:VAL:CG1	2.57	0.52
1:A:31:GLN:CA	1:A:31:GLN:HE21	2.22	0.52
1:B:19:ARG:NH1	1:B:19:ARG:HB2	2.25	0.52
1:B:185:SER:O	1:B:188:ASP:HB2	2.10	0.52
1:B:346:ASP:OD1	1:B:347:LEU:HG	2.09	0.52
1:B:351:ASP:O	1:B:355:VAL:HG22	2.09	0.52
1:C:280:ALA:O	1:C:283:LEU:HG	2.09	0.52
1:C:290:VAL:HG12	1:C:291:ILE:N	2.23	0.52
1:C:312:ALA:C	1:C:314:THR:N	2.66	0.52
1:C:11:GLU:CG	1:C:12:ALA:N	2.72	0.52
1:C:182:GLY:HA2	1:C:203:ASN:O	2.10	0.52
1:D:199:ALA:HA	1:D:202:MET:SD	2.50	0.52
1:A:111:LEU:HD13	1:A:111:LEU:O	2.10	0.52
1:A:299:THR:CG2	1:A:300:SER:N	2.73	0.52
1:A:424:ASN:O	1:A:427:VAL:HB	2.10	0.52
1:A:424:ASN:N	1:A:425:PRO:CD	2.73	0.52
1:C:36:LEU:N	1:C:36:LEU:HD12	2.25	0.52
1:C:293:ILE:O	1:C:293:ILE:HG22	2.09	0.52
1:A:412:LEU:HD11	1:A:422:VAL:CG2	2.36	0.51
1:C:245:VAL:HG11	1:D:245:VAL:HG21	1.93	0.51
1:C:288:TRP:O	1:C:290:VAL:N	2.43	0.51
1:C:336:THR:CG2	1:C:340:ARG:NH2	2.67	0.51
1:C:342:LEU:HB3	1:C:413:ARG:HH11	1.72	0.51
1:C:345:ARG:O	1:C:345:ARG:HG2	2.10	0.51
1:A:180:LEU:HD22	1:A:206:VAL:HG21	1.92	0.51
1:A:396:LEU:CD2	1:A:400:PHE:HE1	2.23	0.51
1:B:170:TYR:CD1	1:B:229:VAL:HG21	2.45	0.51
1:B:296:GLY:C	1:B:299:THR:HG23	2.34	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:234:ASP:OD1	1:C:238:ARG:HG3	2.10	0.51
1:C:346:ASP:O	1:C:347:LEU:HB2	2.10	0.51
1:D:46:TYR:HE1	1:D:76:LEU:HA	1.75	0.51
1:D:50:THR:O	1:D:50:THR:HG22	2.10	0.51
1:B:132:ASP:O	1:B:215:GLN:HG3	2.09	0.51
1:C:326:THR:HA	1:D:293:ILE:HD11	1.92	0.51
1:C:332:ASN:ND2	1:C:424:ASN:HB3	2.25	0.51
1:C:355:VAL:HG23	1:C:356:PHE:N	2.25	0.51
1:C:374:LEU:CD2	1:C:390:VAL:HG12	2.41	0.51
1:D:34:LEU:HD11	1:D:63:HIS:HB2	1.91	0.51
1:D:72:TYR:HB3	1:D:76:LEU:HD23	1.93	0.51
1:C:261:HIS:O	1:C:263:LEU:N	2.42	0.51
1:C:345:ARG:HH22	1:D:35:ALA:HA	1.75	0.51
1:D:37:TRP:CD1	1:D:37:TRP:C	2.88	0.51
1:D:86:GLU:OE1	1:D:86:GLU:HA	2.11	0.51
1:A:50:THR:HA	1:A:80:ARG:HD2	1.93	0.51
1:A:222:MET:HG3	1:A:227:PHE:HB2	1.93	0.51
1:A:318:PHE:HE1	1:A:383:HIS:NE2	2.08	0.51
1:A:320:VAL:CG1	1:A:436:LEU:HD21	2.40	0.51
1:C:130:GLU:HG3	1:C:133:GLU:OE2	2.09	0.51
1:C:224:ASP:C	1:C:226:ASP:H	2.19	0.51
1:A:316:LEU:HA	1:A:318:PHE:CE2	2.46	0.51
1:A:343:ALA:C	1:A:345:ARG:H	2.18	0.51
1:B:182:GLY:HA2	1:B:203:ASN:O	2.10	0.51
1:B:424:ASN:CB	1:B:425:PRO:HD3	2.40	0.51
1:D:156:ARG:HA	1:D:159:ARG:CG	2.41	0.51
1:D:268:VAL:CB	1:D:271:LEU:HD11	2.27	0.51
1:A:31:GLN:HA	1:A:31:GLN:HE21	1.76	0.51
1:A:268:VAL:O	1:A:269:PRO:O	2.29	0.51
1:A:293:ILE:HG13	1:B:326:THR:CG2	2.41	0.51
1:A:326:THR:OG1	1:B:293:ILE:HD12	2.11	0.51
1:D:356:PHE:O	1:D:360:MET:HG3	2.11	0.51
1:A:180:LEU:O	1:A:181:LYS:HG3	2.10	0.51
1:A:213:THR:O	1:A:214:ASP:C	2.54	0.51
1:B:213:THR:O	1:B:214:ASP:C	2.54	0.51
1:C:339:ILE:HG23	1:C:419:PRO:HB2	1.93	0.51
1:C:388:PRO:CG	1:C:446:LEU:HD11	2.41	0.51
1:A:293:ILE:O	1:A:297:MET:HG3	2.11	0.51
1:B:149:MET:O	1:B:198:VAL:HG23	2.11	0.51
1:B:228:THR:HA	1:B:245:VAL:HG21	1.88	0.51
1:C:273:TYR:CD2	1:D:347:LEU:HD11	2.45	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:289:LEU:HD23	1:D:333:GLN:CD	2.36	0.51
1:D:87:GLU:O	1:D:87:GLU:HG3	2.10	0.51
1:A:29:HIS:CE1	1:A:30:PRO:HD2	2.46	0.51
1:A:43:GLU:O	1:A:47:VAL:HG23	2.11	0.51
1:A:135:GLY:C	1:A:137:LEU:H	2.18	0.51
1:A:265:ALA:CB	1:B:333:GLN:HE21	2.23	0.51
1:C:88:LEU:CD2	1:C:93:LEU:HD12	2.30	0.51
1:A:219:ALA:HB1	1:A:252:LEU:HD21	1.93	0.50
1:A:289:LEU:O	1:A:293:ILE:HG12	2.11	0.50
1:A:315:ALA:O	1:A:318:PHE:CZ	2.64	0.50
1:B:15:GLU:OE1	1:B:17:ASP:HB2	2.11	0.50
1:B:138:MET:HB3	1:B:232:VAL:HG21	1.92	0.50
1:B:442:VAL:O	1:B:442:VAL:CG1	2.58	0.50
1:B:444:ARG:CG	1:B:445:LEU:N	2.74	0.50
1:D:182:GLY:HA2	1:D:203:ASN:O	2.11	0.50
1:D:386:LEU:HD21	1:D:447:LEU:CD2	2.40	0.50
1:A:9:LEU:C	1:A:11:GLU:H	2.19	0.50
1:A:265:ALA:HB1	1:A:288:TRP:HB2	1.93	0.50
1:A:427:VAL:C	1:A:429:THR:N	2.63	0.50
1:B:54:LYS:CE	1:B:87:GLU:HB2	2.39	0.50
1:C:52:LEU:HD22	1:C:53:PRO:HD2	1.93	0.50
1:C:326:THR:OG1	1:D:293:ILE:HG13	2.11	0.50
1:A:147:GLU:HB2	1:A:199:ALA:HB2	1.93	0.50
1:A:338:ILE:CG2	1:A:410:PHE:CE1	2.93	0.50
1:A:387:LEU:HD12	1:A:387:LEU:O	2.11	0.50
1:B:154:VAL:O	1:B:158:LEU:HG	2.10	0.50
1:B:216:GLU:O	1:B:219:ALA:HB3	2.11	0.50
1:C:216:GLU:O	1:C:219:ALA:HB3	2.11	0.50
1:C:272:VAL:HG12	1:C:273:TYR:N	2.26	0.50
1:D:70:ALA:HB3	1:D:103:GLU:OE2	2.12	0.50
1:D:104:ASP:CG	1:D:107:TYR:HB2	2.36	0.50
1:D:180:LEU:HD23	1:D:182:GLY:H	1.77	0.50
1:D:268:VAL:O	1:D:269:PRO:O	2.29	0.50
1:D:320:VAL:O	1:D:320:VAL:HG12	2.10	0.50
1:A:34:LEU:HG	1:A:60:VAL:HG13	1.92	0.50
1:A:408:LEU:HD12	1:A:411:LEU:HD23	1.93	0.50
1:A:428:ALA:O	1:A:432:ASP:OD2	2.29	0.50
1:C:318:PHE:O	1:D:300:SER:OG	2.30	0.50
1:C:330:THR:CG2	1:C:402:ASN:HB2	2.42	0.50
1:D:180:LEU:O	1:D:181:LYS:HG3	2.11	0.50
1:A:335:ALA:O	1:A:339:ILE:HB	2.11	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:330:THR:HA	1:B:333:GLN:OE1	2.11	0.50
1:C:34:LEU:HD11	1:C:63:HIS:HB2	1.93	0.50
1:C:245:VAL:CG1	1:C:246:ASP:N	2.73	0.50
1:D:261:HIS:C	1:D:263:LEU:N	2.69	0.50
1:A:30:PRO:O	1:A:34:LEU:HD12	2.11	0.50
1:A:111:LEU:HD22	1:A:114:LEU:HD12	1.93	0.50
1:C:377:LYS:C	1:C:379:TYR:H	2.18	0.50
1:C:430:LEU:HA	1:C:433:VAL:HG23	1.94	0.50
1:D:70:ALA:HA	1:D:73:LEU:HD12	1.93	0.50
1:D:343:ALA:C	1:D:345:ARG:H	2.19	0.50
1:D:367:GLY:HA3	1:D:395:VAL:HG13	1.94	0.50
1:C:337:LEU:HD11	1:D:266:VAL:HG21	1.93	0.50
1:D:338:ILE:HD12	1:D:406:ALA:HA	1.94	0.50
1:B:93:LEU:O	1:B:94:ALA:C	2.52	0.50
1:B:316:LEU:O	1:B:317:ALA:CB	2.59	0.50
1:C:228:THR:HG23	1:C:229:VAL:CG2	2.28	0.50
1:D:210:ARG:HG3	1:D:210:ARG:NH1	2.25	0.50
1:A:225:TYR:O	1:A:227:PHE:CD1	2.62	0.50
1:A:418:ASP:O	1:A:421:LEU:HD22	2.12	0.50
1:B:94:ALA:O	1:B:98:GLN:HG3	2.12	0.50
1:B:294:LEU:O	1:B:297:MET:HB2	2.12	0.50
1:B:377:LYS:C	1:B:379:TYR:H	2.18	0.50
1:C:285:ARG:NH1	1:D:333:GLN:HB2	2.27	0.50
1:C:316:LEU:O	1:C:317:ALA:CB	2.60	0.50
1:C:365:LEU:HB3	1:D:282:TRP:CD1	2.47	0.50
1:C:377:LYS:O	1:C:381:ASP:HB2	2.12	0.50
1:A:26:GLU:HA	1:A:26:GLU:OE2	2.12	0.49
1:A:356:PHE:CE2	1:A:403:LEU:HD12	2.47	0.49
1:B:199:ALA:HA	1:B:202:MET:HE2	1.93	0.49
1:C:274:SER:HA	1:D:354:ARG:HH12	1.77	0.49
1:C:365:LEU:HD22	1:D:282:TRP:CD2	2.47	0.49
1:D:61:LEU:C	1:D:61:LEU:HD12	2.38	0.49
1:D:176:GLU:HG3	1:D:177:LYS:N	2.26	0.49
1:D:397:ILE:CG1	1:D:438:ILE:HG21	2.41	0.49
1:A:202:MET:CG	1:A:203:ASN:N	2.74	0.49
1:B:24:VAL:HG12	1:B:28:ILE:HD13	1.94	0.49
1:B:225:TYR:O	1:B:227:PHE:HD1	1.95	0.49
1:B:340:ARG:C	1:B:340:ARG:CD	2.84	0.49
1:C:171:ILE:HD12	1:C:171:ILE:H	1.77	0.49
1:C:337:LEU:HD11	1:D:266:VAL:HG22	1.93	0.49
1:C:385:LEU:H	1:C:385:LEU:HD12	1.77	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:393:SER:O	1:C:394:LEU:C	2.54	0.49
1:D:25:LEU:HB3	1:D:52:LEU:HD23	1.93	0.49
1:D:50:THR:HA	1:D:80:ARG:HE	1.73	0.49
1:D:396:LEU:O	1:D:396:LEU:HD23	2.12	0.49
1:A:320:VAL:HG11	1:A:436:LEU:HD21	1.94	0.49
1:A:371:SER:HA	1:A:394:LEU:CD2	2.38	0.49
1:A:424:ASN:CB	1:A:425:PRO:HD3	2.42	0.49
1:B:21:LEU:HD12	1:B:21:LEU:O	2.12	0.49
1:B:97:LEU:HD21	1:B:108:PHE:CD1	2.47	0.49
1:B:224:ASP:C	1:B:226:ASP:H	2.19	0.49
1:C:70:ALA:CB	1:C:100:VAL:HG22	2.42	0.49
1:C:315:ALA:O	1:C:318:PHE:CZ	2.65	0.49
1:C:340:ARG:NH2	1:D:260:ILE:C	2.70	0.49
1:D:123:VAL:C	1:D:125:ALA:H	2.18	0.49
1:D:289:LEU:O	1:D:293:ILE:HG12	2.12	0.49
1:D:296:GLY:C	1:D:299:THR:HG23	2.37	0.49
1:A:388:PRO:CG	1:A:446:LEU:HD11	2.42	0.49
1:B:258:GLU:HG2	1:B:258:GLU:O	2.12	0.49
1:B:377:LYS:C	1:B:379:TYR:N	2.68	0.49
1:A:289:LEU:HD23	1:B:333:GLN:OE1	2.12	0.49
1:C:93:LEU:O	1:C:94:ALA:C	2.56	0.49
1:C:169:TYR:CE1	1:D:169:TYR:HB3	2.48	0.49
1:C:377:LYS:C	1:C:379:TYR:N	2.68	0.49
1:D:91:ASP:CB	1:D:139:THR:HG22	2.41	0.49
1:B:280:ALA:O	1:B:283:LEU:HG	2.13	0.49
1:C:24:VAL:HG12	1:C:28:ILE:HD13	1.95	0.49
1:D:112:LYS:HZ3	1:D:120:ARG:HH21	1.58	0.49
1:A:48:VAL:O	1:A:52:LEU:HD23	2.13	0.49
1:B:306:PHE:CG	1:B:440:LEU:HD13	2.46	0.49
1:B:359:GLU:HA	1:B:362:VAL:HG23	1.94	0.49
1:C:389:VAL:HG12	1:C:443:ALA:HA	1.94	0.49
1:C:425:PRO:CG	1:D:332:ASN:HD22	2.25	0.49
1:A:48:VAL:HG12	1:A:52:LEU:CD2	2.42	0.49
1:B:408:LEU:CD1	1:B:411:LEU:HD23	2.43	0.49
1:C:296:GLY:C	1:C:299:THR:HG23	2.38	0.49
1:D:314:THR:HG22	1:D:315:ALA:CA	2.37	0.49
1:D:378:VAL:HG11	1:D:390:VAL:CG2	2.30	0.49
1:A:69:GLN:OE1	1:A:96:ALA:HB1	2.13	0.49
1:A:72:TYR:HB3	1:A:76:LEU:CD2	2.43	0.49
1:A:359:GLU:HA	1:A:362:VAL:HG23	1.95	0.49
1:A:378:VAL:O	1:A:378:VAL:HG12	2.12	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:272:VAL:HG12	1:B:273:TYR:H	1.78	0.49
1:B:296:GLY:CA	1:B:299:THR:HG23	2.43	0.49
1:C:32:ASP:O	1:C:36:LEU:HD13	2.11	0.49
1:C:313:VAL:HG12	1:C:313:VAL:O	2.13	0.49
1:C:367:GLY:C	1:C:395:VAL:HG13	2.37	0.49
1:D:267:ASP:O	1:D:267:ASP:CG	2.55	0.49
1:D:408:LEU:CD1	1:D:411:LEU:HD23	2.42	0.49
1:A:285:ARG:HH12	1:B:402:ASN:CG	2.18	0.49
1:C:9:LEU:HD12	1:C:28:ILE:CD1	2.43	0.49
1:C:216:GLU:HG3	1:C:255:GLU:HG3	1.94	0.49
1:A:299:THR:HG23	1:B:322:VAL:HG22	1.87	0.48
1:B:85:LEU:HD12	1:B:85:LEU:H	1.78	0.48
1:C:213:THR:O	1:C:214:ASP:C	2.54	0.48
1:C:289:LEU:HD23	1:D:333:GLN:NE2	2.28	0.48
1:C:366:LEU:HD11	1:D:285:ARG:HD3	1.93	0.48
1:C:424:ASN:ND2	1:D:424:ASN:ND2	2.62	0.48
1:C:439:TYR:C	1:C:440:LEU:HD23	2.37	0.48
1:D:22:ARG:HH22	1:D:51:LEU:HA	1.78	0.48
1:D:377:LYS:O	1:D:381:ASP:HB2	2.13	0.48
1:A:29:HIS:CG	1:A:30:PRO:HD2	2.47	0.48
1:A:31:GLN:HA	1:A:34:LEU:CD1	2.43	0.48
1:A:300:SER:HB2	1:B:322:VAL:HG23	1.95	0.48
1:B:181:LYS:HE2	1:B:202:MET:HE1	1.94	0.48
1:B:371:SER:HB2	1:B:395:VAL:HG23	1.92	0.48
1:C:208:TYR:HD1	1:C:208:TYR:H	1.60	0.48
1:C:294:LEU:O	1:C:297:MET:HB2	2.13	0.48
1:D:34:LEU:CD1	1:D:63:HIS:HB2	2.43	0.48
1:D:282:TRP:O	1:D:286:VAL:HG12	2.14	0.48
1:A:162:ALA:N	1:A:163:PRO:CD	2.77	0.48
1:B:222:MET:HE1	1:B:230:LEU:N	2.28	0.48
1:B:225:TYR:N	1:B:225:TYR:HD1	2.11	0.48
1:C:149:MET:C	1:C:198:VAL:HG23	2.38	0.48
1:D:224:ASP:C	1:D:226:ASP:H	2.21	0.48
1:D:411:LEU:O	1:D:411:LEU:HD12	2.13	0.48
1:A:123:VAL:C	1:A:125:ALA:H	2.20	0.48
1:A:358:LYS:HE3	1:B:276:ALA:O	2.13	0.48
1:A:383:HIS:NE2	1:B:304:GLN:NE2	2.58	0.48
1:C:250:ASP:O	1:C:251:VAL:C	2.56	0.48
1:C:250:ASP:C	1:C:252:LEU:N	2.71	0.48
1:D:312:ALA:C	1:D:314:THR:N	2.50	0.48
1:D:389:VAL:O	1:D:393:SER:OG	2.23	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:41:LYS:HB3	1:A:44:HIS:ND1	2.28	0.48
1:A:70:ALA:HA	1:A:73:LEU:HD12	1.94	0.48
1:A:396:LEU:HD23	1:A:400:PHE:CE1	2.48	0.48
1:C:77:PRO:HB2	1:C:79:TRP:HD1	1.76	0.48
1:C:316:LEU:CD2	1:C:317:ALA:N	2.65	0.48
1:C:412:LEU:CD1	1:C:422:VAL:HG23	2.43	0.48
1:D:424:ASN:O	1:D:427:VAL:HB	2.13	0.48
1:A:72:TYR:O	1:A:76:LEU:HD23	2.14	0.48
1:A:160:ARG:O	1:A:161:ALA:HB3	2.14	0.48
1:A:351:ASP:O	1:A:355:VAL:CG2	2.60	0.48
1:B:250:ASP:C	1:B:252:LEU:N	2.71	0.48
1:B:273:TYR:O	1:B:275:GLU:N	2.47	0.48
1:B:397:ILE:HG12	1:B:438:ILE:CD1	2.44	0.48
1:C:374:LEU:CD2	1:C:394:LEU:HD22	2.44	0.48
1:B:288:TRP:C	1:B:290:VAL:N	2.70	0.48
1:C:337:LEU:CD1	1:D:266:VAL:HG21	2.44	0.48
1:A:133:GLU:CG	1:A:212:ASP:HA	2.44	0.48
1:A:159:ARG:HH11	1:A:159:ARG:HG3	1.79	0.48
1:A:306:PHE:CG	1:A:440:LEU:HD13	2.49	0.48
1:B:135:GLY:C	1:B:137:LEU:H	2.22	0.48
1:B:261:HIS:C	1:B:263:LEU:N	2.71	0.48
1:C:326:THR:OG1	1:D:293:ILE:CG1	2.61	0.48
1:A:157:PHE:CD1	1:A:157:PHE:C	2.92	0.48
1:A:397:ILE:HG12	1:A:438:ILE:CD1	2.43	0.48
1:B:317:ALA:O	1:B:320:VAL:HG23	2.14	0.48
1:C:306:PHE:O	1:C:310:LEU:HD12	2.14	0.48
1:C:320:VAL:O	1:C:324:LEU:HB2	2.14	0.48
1:D:74:LYS:HA	1:D:107:TYR:OH	2.14	0.48
1:D:288:TRP:C	1:D:290:VAL:N	2.70	0.48
1:D:352:TRP:CE2	1:D:414:ARG:NH2	2.82	0.48
1:A:49:LEU:HD11	1:A:61:LEU:HD12	1.96	0.48
1:A:203:ASN:C	1:A:203:ASN:OD1	2.57	0.48
1:A:288:TRP:O	1:A:290:VAL:N	2.47	0.48
1:B:208:TYR:CD1	1:B:208:TYR:N	2.82	0.48
1:B:225:TYR:N	1:B:225:TYR:CD1	2.80	0.48
1:C:307:GLU:HA	1:C:310:LEU:HB2	1.95	0.48
1:D:134:ALA:O	1:D:135:GLY:C	2.57	0.48
1:D:393:SER:O	1:D:394:LEU:C	2.55	0.48
1:B:215:GLN:OE1	1:B:251:VAL:HG13	2.14	0.47
1:C:333:GLN:CG	1:D:265:ALA:HB3	2.43	0.47
1:C:352:TRP:CB	1:C:407:MET:HE1	2.38	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:219:ALA:HA	1:D:248:VAL:HG21	1.96	0.47
1:B:43:GLU:O	1:B:47:VAL:HG23	2.14	0.47
1:D:323:LEU:HD13	1:D:439:TYR:CD1	2.49	0.47
1:A:90:LEU:HD22	1:A:140:PRO:CD	2.45	0.47
1:A:211:THR:HG23	1:A:233:VAL:O	2.14	0.47
1:A:424:ASN:H	1:A:425:PRO:CD	2.27	0.47
1:C:358:LYS:O	1:D:278:PRO:HG3	2.14	0.47
1:D:22:ARG:NH2	1:D:51:LEU:HD12	2.29	0.47
1:D:25:LEU:CD1	1:D:51:LEU:HB3	2.43	0.47
1:B:24:VAL:O	1:B:28:ILE:HG12	2.13	0.47
1:B:244:THR:CG2	1:B:246:ASP:OD1	2.62	0.47
1:B:338:ILE:HG22	1:B:342:LEU:CD1	2.44	0.47
1:C:117:PRO:HG3	1:C:120:ARG:NH1	2.30	0.47
1:C:135:GLY:C	1:C:137:LEU:H	2.22	0.47
1:C:333:GLN:HG2	1:D:265:ALA:HB3	1.96	0.47
1:C:388:PRO:HG3	1:C:446:LEU:HD11	1.96	0.47
1:D:262:LYS:HD3	1:D:421:LEU:CD1	2.44	0.47
1:A:292:LEU:CD2	1:B:329:ASN:OD1	2.62	0.47
1:A:340:ARG:HB3	1:A:340:ARG:CZ	2.44	0.47
1:B:446:LEU:O	1:B:446:LEU:CD1	2.61	0.47
1:D:91:ASP:HB3	1:D:139:THR:CG2	2.45	0.47
1:D:93:LEU:HD23	1:D:123:VAL:HG21	1.97	0.47
1:D:402:ASN:HD22	1:D:403:LEU:HD22	1.78	0.47
1:A:393:SER:O	1:A:394:LEU:C	2.57	0.47
1:A:424:ASN:ND2	1:B:424:ASN:ND2	2.62	0.47
1:B:193:ASP:OD2	1:B:193:ASP:C	2.57	0.47
1:C:29:HIS:ND1	1:C:30:PRO:HD2	2.29	0.47
1:C:137:LEU:HD11	1:C:215:GLN:HG2	1.95	0.47
1:C:365:LEU:HD13	1:D:282:TRP:CB	2.42	0.47
1:D:138:MET:HA	1:D:242:ILE:O	2.15	0.47
1:D:402:ASN:ND2	1:D:403:LEU:HD22	2.28	0.47
1:A:129:TYR:HB3	1:A:135:GLY:HA3	1.97	0.47
1:A:273:TYR:C	1:A:275:GLU:N	2.72	0.47
1:A:309:VAL:O	1:A:312:ALA:HB3	2.14	0.47
1:A:324:LEU:HD11	1:A:432:ASP:HA	1.97	0.47
1:A:339:ILE:CG2	1:A:340:ARG:H	2.27	0.47
1:B:21:LEU:HD11	1:B:25:LEU:HD11	1.97	0.47
1:B:37:TRP:CE2	1:B:45:ARG:HG2	2.50	0.47
1:B:341:ALA:O	1:B:342:LEU:C	2.57	0.47
1:B:388:PRO:HG3	1:B:446:LEU:HD11	1.92	0.47
1:C:37:TRP:HE1	1:C:45:ARG:NH2	2.11	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:138:MET:HA	1:C:242:ILE:O	2.15	0.47
1:C:213:THR:HG22	1:C:217:GLU:HB3	1.96	0.47
1:C:261:HIS:C	1:C:263:LEU:N	2.72	0.47
1:C:340:ARG:HH12	1:D:260:ILE:CG2	2.27	0.47
1:C:396:LEU:HD23	1:C:396:LEU:O	2.15	0.47
1:D:314:THR:O	1:D:315:ALA:C	2.45	0.47
1:A:31:GLN:NE2	1:A:34:LEU:HD13	2.29	0.47
1:A:134:ALA:O	1:A:135:GLY:C	2.56	0.47
1:A:326:THR:OG1	1:B:293:ILE:CG1	2.62	0.47
1:D:94:ALA:O	1:D:98:GLN:HG3	2.15	0.47
1:A:172:TYR:OH	1:A:229:VAL:HG12	2.15	0.47
1:A:329:ASN:ND2	1:B:293:ILE:HD11	2.29	0.47
1:B:147:GLU:HB2	1:B:199:ALA:HB2	1.97	0.47
1:C:52:LEU:CD2	1:C:53:PRO:HD2	2.45	0.47
1:C:257:THR:HG23	1:D:340:ARG:CD	2.44	0.47
1:C:268:VAL:HG12	1:C:269:PRO:HD2	1.96	0.47
1:C:360:MET:O	1:C:399:PHE:HE1	1.98	0.47
1:A:13:LEU:HD23	1:A:13:LEU:C	2.41	0.47
1:A:154:VAL:O	1:A:158:LEU:HG	2.15	0.47
1:A:260:ILE:HG12	1:B:260:ILE:HG12	1.97	0.47
1:B:81:LEU:C	1:B:83:GLU:H	2.23	0.47
1:B:273:TYR:C	1:B:275:GLU:N	2.73	0.47
1:D:324:LEU:CG	1:D:432:ASP:HA	2.45	0.47
1:A:230:LEU:CD2	1:A:231:PRO:HD2	2.46	0.46
1:A:340:ARG:NH1	1:A:340:ARG:HB3	2.30	0.46
1:B:222:MET:HE3	1:B:230:LEU:CG	2.43	0.46
1:B:250:ASP:O	1:B:251:VAL:C	2.58	0.46
1:B:285:ARG:NH1	1:B:285:ARG:CB	2.70	0.46
1:B:304:GLN:O	1:B:307:GLU:HB3	2.15	0.46
1:C:324:LEU:HG	1:C:432:ASP:HA	1.97	0.46
1:D:230:LEU:HD23	1:D:231:PRO:CD	2.45	0.46
1:A:71:GLU:HB3	1:A:72:TYR:CD1	2.50	0.46
1:A:82:ARG:HG3	1:A:82:ARG:HH11	1.79	0.46
1:A:322:VAL:HG23	1:B:299:THR:OG1	2.16	0.46
1:A:358:LYS:CE	1:B:276:ALA:O	2.64	0.46
1:B:352:TRP:CD1	1:B:352:TRP:N	2.83	0.46
1:C:337:LEU:HD21	1:D:266:VAL:CG2	2.41	0.46
1:C:393:SER:CB	1:C:442:VAL:HG11	2.36	0.46
1:D:91:ASP:OD2	1:D:247:ASP:OD2	2.33	0.46
1:D:309:VAL:HG11	1:D:444:ARG:HG3	1.97	0.46
1:B:242:ILE:HG13	1:B:243:VAL:N	2.30	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:306:PHE:N	1:B:306:PHE:CD1	2.84	0.46
1:B:371:SER:HB2	1:B:395:VAL:HG21	1.96	0.46
1:B:393:SER:O	1:B:394:LEU:C	2.58	0.46
1:D:86:GLU:C	1:D:88:LEU:N	2.73	0.46
1:A:245:VAL:CG1	1:A:246:ASP:N	2.78	0.46
1:A:291:ILE:O	1:A:294:LEU:HB3	2.15	0.46
1:A:293:ILE:HD12	1:B:326:THR:OG1	2.15	0.46
1:A:330:THR:OG1	1:B:289:LEU:HD21	2.15	0.46
1:C:21:LEU:CD2	1:C:51:LEU:HD13	2.36	0.46
1:C:72:TYR:HB3	1:C:76:LEU:CD2	2.44	0.46
1:C:351:ASP:O	1:C:355:VAL:HG13	2.15	0.46
1:C:365:LEU:HD22	1:D:282:TRP:CE2	2.51	0.46
1:D:7:VAL:O	1:D:7:VAL:HG12	2.14	0.46
1:D:213:THR:O	1:D:214:ASP:C	2.58	0.46
1:D:338:ILE:CG2	1:D:410:PHE:CE1	2.97	0.46
1:A:313:VAL:O	1:A:313:VAL:HG12	2.16	0.46
1:B:208:TYR:N	1:B:208:TYR:HD1	2.13	0.46
1:C:183:VAL:HG13	1:C:184:LEU:N	2.30	0.46
1:C:378:VAL:CG2	1:C:390:VAL:HG11	2.22	0.46
1:D:384:PRO:C	1:D:385:LEU:O	2.56	0.46
1:A:273:TYR:O	1:A:275:GLU:N	2.49	0.46
1:B:37:TRP:CZ2	1:B:45:ARG:HG2	2.51	0.46
1:B:48:VAL:HA	1:B:51:LEU:HD12	1.96	0.46
1:C:266:VAL:CG1	1:D:337:LEU:HD21	2.24	0.46
1:C:340:ARG:NH2	1:D:261:HIS:HA	2.30	0.46
1:D:342:LEU:HD23	1:D:413:ARG:HH11	1.81	0.46
1:D:426:LEU:HD12	1:D:426:LEU:O	2.16	0.46
1:A:186:LEU:C	1:A:188:ASP:N	2.74	0.46
1:A:213:THR:HG22	1:A:217:GLU:HB3	1.97	0.46
1:C:116:ASP:OD1	1:C:118:ARG:HG3	2.16	0.46
1:C:180:LEU:CD2	1:C:182:GLY:H	2.29	0.46
1:A:72:TYR:CD1	1:A:72:TYR:N	2.83	0.46
1:A:183:VAL:O	1:A:184:LEU:HB2	2.14	0.46
1:A:186:LEU:HD12	1:A:189:LEU:HB2	1.98	0.46
1:A:338:ILE:HD12	1:A:406:ALA:CA	2.37	0.46
1:B:317:ALA:C	1:B:319:TYR:H	2.23	0.46
1:D:40:LEU:HB2	1:D:45:ARG:CD	2.46	0.46
1:D:117:PRO:HA	1:D:120:ARG:HB3	1.98	0.46
1:A:77:PRO:HB2	1:A:79:TRP:CD1	2.48	0.46
1:A:202:MET:HG2	1:A:203:ASN:N	2.31	0.46
1:A:288:TRP:C	1:A:290:VAL:N	2.74	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:389:VAL:HG13	1:B:446:LEU:HD12	1.98	0.46
1:C:268:VAL:O	1:C:269:PRO:O	2.34	0.46
1:C:274:SER:CA	1:D:354:ARG:HH22	2.28	0.46
1:C:340:ARG:HG2	1:C:341:ALA:N	2.30	0.46
1:A:312:ALA:O	1:A:314:THR:N	2.42	0.46
1:B:268:VAL:O	1:B:269:PRO:O	2.32	0.46
1:C:162:ALA:N	1:C:163:PRO:HD3	2.31	0.46
1:A:329:ASN:HD22	1:B:293:ILE:HD11	1.81	0.45
1:A:333:GLN:HE21	1:B:265:ALA:CB	2.10	0.45
1:B:408:LEU:HD12	1:B:411:LEU:HD23	1.96	0.45
1:C:248:VAL:HG23	1:C:251:VAL:HG21	1.98	0.45
1:A:49:LEU:HD11	1:A:61:LEU:CD1	2.47	0.45
1:A:224:ASP:C	1:A:226:ASP:H	2.25	0.45
1:B:155:LEU:HD21	1:B:189:LEU:HB3	1.99	0.45
1:B:338:ILE:HG22	1:B:342:LEU:HD11	1.99	0.45
1:B:342:LEU:HB3	1:B:413:ARG:HH11	1.81	0.45
1:B:437:LEU:N	1:B:437:LEU:HD23	2.30	0.45
1:C:30:PRO:O	1:C:33:LEU:HB3	2.16	0.45
1:C:70:ALA:HB1	1:C:100:VAL:HG22	1.98	0.45
1:C:208:TYR:N	1:C:208:TYR:CD1	2.84	0.45
1:C:209:VAL:CG1	1:C:230:LEU:HD22	2.46	0.45
1:D:52:LEU:HD13	1:D:56:LYS:HB3	1.98	0.45
1:D:364:LEU:HD23	1:D:368:LEU:CD2	2.45	0.45
1:D:438:ILE:C	1:D:440:LEU:H	2.24	0.45
1:A:61:LEU:HD21	1:A:73:LEU:HD21	1.98	0.45
1:B:7:VAL:O	1:B:7:VAL:HG12	2.14	0.45
1:B:31:GLN:O	1:B:32:ASP:C	2.60	0.45
1:B:64:LEU:HD21	1:B:68:GLU:CD	2.42	0.45
1:B:146:ARG:NH2	1:B:176:GLU:CB	2.79	0.45
1:B:146:ARG:HD2	1:B:174:VAL:O	2.16	0.45
1:B:162:ALA:H	1:B:163:PRO:HD2	1.81	0.45
1:B:252:LEU:C	1:B:254:ALA:N	2.74	0.45
1:B:364:LEU:HD11	1:D:392:VAL:HG13	1.97	0.45
1:B:379:TYR:HD1	1:B:384:PRO:HB3	1.82	0.45
1:B:424:ASN:O	1:B:427:VAL:HB	2.16	0.45
1:C:95:ASP:HA	1:C:98:GLN:OE1	2.16	0.45
1:C:302:ILE:C	1:C:304:GLN:N	2.74	0.45
1:C:408:LEU:HB3	1:C:409:PRO:HD3	1.97	0.45
1:D:29:HIS:ND1	1:D:30:PRO:HD2	2.30	0.45
1:D:149:MET:HB2	1:D:198:VAL:HG21	1.98	0.45
1:C:34:LEU:HD21	1:C:60:VAL:O	2.17	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:256:ALA:O	1:C:260:ILE:HG13	2.16	0.45
1:C:300:SER:HB2	1:D:322:VAL:HG23	1.98	0.45
1:D:15:GLU:HG3	1:D:17:ASP:HB2	1.99	0.45
1:D:347:LEU:O	1:D:348:ASP:OD1	2.34	0.45
1:B:28:ILE:CD1	1:B:33:LEU:HD11	2.26	0.45
1:B:112:LYS:CD	1:B:120:ARG:HD3	2.47	0.45
1:B:334:SER:HB2	1:B:402:ASN:HD21	1.79	0.45
1:C:146:ARG:HG3	1:C:147:GLU:N	2.32	0.45
1:C:338:ILE:CG2	1:C:410:PHE:CE1	3.00	0.45
1:C:342:LEU:CB	1:C:413:ARG:NH1	2.75	0.45
1:C:352:TRP:O	1:C:355:VAL:CG2	2.63	0.45
1:D:135:GLY:C	1:D:137:LEU:H	2.25	0.45
1:D:209:VAL:HG12	1:D:230:LEU:CD2	2.44	0.45
1:D:342:LEU:CD2	1:D:413:ARG:HH11	2.30	0.45
1:D:424:ASN:N	1:D:425:PRO:CD	2.78	0.45
1:A:65:SER:HB3	1:A:68:GLU:CG	2.46	0.45
1:A:352:TRP:HA	1:A:355:VAL:HG23	1.97	0.45
1:B:134:ALA:O	1:B:135:GLY:C	2.58	0.45
1:B:199:ALA:CB	1:B:202:MET:HE2	2.47	0.45
1:B:222:MET:HG2	1:B:245:VAL:CG2	2.46	0.45
1:C:186:LEU:HD21	1:D:190:ILE:HD11	1.99	0.45
1:C:207:VAL:CG2	1:C:227:PHE:HE2	2.30	0.45
1:C:340:ARG:HB3	1:C:340:ARG:CZ	2.46	0.45
1:D:22:ARG:CZ	1:D:51:LEU:HG	2.47	0.45
1:D:41:LYS:C	1:D:43:GLU:H	2.25	0.45
1:D:311:GLU:O	1:D:314:THR:OG1	2.18	0.45
1:D:412:LEU:HD12	1:D:422:VAL:HG23	1.99	0.45
1:A:158:LEU:C	1:A:160:ARG:N	2.74	0.45
1:A:182:GLY:HA2	1:A:203:ASN:O	2.16	0.45
1:A:260:ILE:HD12	1:B:340:ARG:CZ	2.45	0.45
1:A:296:GLY:O	1:A:299:THR:CG2	2.41	0.45
1:A:317:ALA:C	1:A:319:TYR:H	2.23	0.45
1:A:364:LEU:O	1:A:364:LEU:HD23	2.17	0.45
1:C:24:VAL:O	1:C:28:ILE:HG12	2.17	0.45
1:C:260:ILE:HG12	1:D:260:ILE:HG12	1.99	0.45
1:C:268:VAL:HB	1:C:271:LEU:HD21	1.99	0.45
1:C:391:GLY:O	1:C:395:VAL:HG23	2.17	0.45
1:D:93:LEU:O	1:D:94:ALA:C	2.60	0.45
1:A:219:ALA:HA	1:A:248:VAL:HG21	1.98	0.45
1:A:307:GLU:HG3	1:A:308:SER:N	2.31	0.45
1:B:302:ILE:C	1:B:304:GLN:N	2.74	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:316:LEU:HB3	1:B:317:ALA:H	1.51	0.45
1:B:418:ASP:OD2	1:B:420:ALA:HB3	2.16	0.45
1:C:134:ALA:O	1:C:135:GLY:C	2.60	0.45
1:C:208:TYR:HD1	1:C:208:TYR:N	2.15	0.45
1:C:299:THR:OG1	1:C:300:SER:N	2.50	0.45
1:D:136:GLY:O	1:D:137:LEU:HD23	2.16	0.45
1:D:183:VAL:CG2	1:D:184:LEU:H	2.06	0.45
1:D:317:ALA:O	1:D:319:TYR:N	2.50	0.45
1:A:81:LEU:CD1	1:A:111:LEU:HD21	2.47	0.45
1:A:211:THR:CG2	1:A:234:ASP:HA	2.46	0.45
1:B:65:SER:OG	1:B:68:GLU:HB2	2.17	0.45
1:B:213:THR:CG2	1:B:218:VAL:HG22	2.47	0.45
1:B:403:LEU:CD2	1:B:403:LEU:N	2.80	0.45
1:C:81:LEU:C	1:C:83:GLU:H	2.24	0.45
1:C:214:ASP:O	1:C:218:VAL:HG23	2.17	0.45
1:C:248:VAL:C	1:C:250:ASP:N	2.74	0.45
1:D:324:LEU:HD21	1:D:432:ASP:CA	2.47	0.45
1:A:15:GLU:CD	1:A:15:GLU:N	2.73	0.45
1:A:210:ARG:HH12	1:A:235:GLU:HA	1.81	0.45
1:B:312:ALA:C	1:B:314:THR:N	2.75	0.45
1:B:374:LEU:C	1:B:378:VAL:HG23	2.42	0.45
1:C:132:ASP:HA	1:C:215:GLN:NE2	2.19	0.45
1:C:208:TYR:CD2	1:C:233:VAL:HG21	2.52	0.45
1:C:257:THR:HA	1:D:340:ARG:HH12	1.80	0.45
1:C:288:TRP:C	1:C:290:VAL:N	2.73	0.45
1:D:273:TYR:O	1:D:275:GLU:N	2.50	0.45
1:D:288:TRP:C	1:D:290:VAL:H	2.25	0.45
1:D:306:PHE:CG	1:D:440:LEU:HD13	2.52	0.45
1:D:334:SER:OG	1:D:406:ALA:HB2	2.17	0.45
1:D:393:SER:HB3	1:D:442:VAL:HG11	1.99	0.45
1:A:15:GLU:CG	1:A:17:ASP:HB2	2.47	0.44
1:A:438:ILE:C	1:A:440:LEU:H	2.25	0.44
1:B:225:TYR:HD1	1:B:225:TYR:H	1.64	0.44
1:C:242:ILE:CG1	1:C:243:VAL:N	2.79	0.44
1:C:296:GLY:CA	1:C:299:THR:HG23	2.46	0.44
1:C:316:LEU:HG	1:C:317:ALA:N	2.21	0.44
1:C:322:VAL:HG23	1:D:300:SER:HB2	1.98	0.44
1:D:54:LYS:HE3	1:D:83:GLU:CG	2.34	0.44
1:D:180:LEU:CD2	1:D:182:GLY:H	2.30	0.44
1:A:19:ARG:HB3	1:A:19:ARG:CZ	2.47	0.44
1:A:56:LYS:O	1:A:60:VAL:HG23	2.17	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:227:PHE:HB3	1:A:228:THR:H	1.65	0.44
1:B:314:THR:O	1:B:315:ALA:C	2.57	0.44
1:B:323:LEU:HD13	1:B:323:LEU:C	2.42	0.44
1:D:395:VAL:C	1:D:397:ILE:N	2.74	0.44
1:A:285:ARG:HG2	1:B:333:GLN:NE2	2.32	0.44
1:A:385:LEU:H	1:A:385:LEU:HD12	1.82	0.44
1:A:50:THR:HA	1:A:80:ARG:CD	2.46	0.44
1:A:272:VAL:HG12	1:B:346:ASP:OD2	2.17	0.44
1:B:317:ALA:C	1:B:319:TYR:N	2.76	0.44
1:B:338:ILE:HD11	1:B:355:VAL:HG11	2.00	0.44
1:C:274:SER:HB2	1:D:354:ARG:NH2	2.28	0.44
1:C:334:SER:OG	1:C:406:ALA:N	2.51	0.44
1:C:424:ASN:CG	1:D:424:ASN:ND2	2.75	0.44
1:D:98:GLN:O	1:D:101:ARG:HB3	2.17	0.44
1:D:268:VAL:HB	1:D:271:LEU:CG	2.46	0.44
1:A:26:GLU:C	1:A:56:LYS:HZ1	2.26	0.44
1:A:46:TYR:O	1:A:46:TYR:HD1	2.01	0.44
1:A:135:GLY:O	1:A:137:LEU:N	2.51	0.44
1:A:341:ALA:O	1:A:342:LEU:C	2.60	0.44
1:B:207:VAL:HG11	1:B:225:TYR:CD2	2.53	0.44
1:C:40:LEU:HB2	1:C:45:ARG:HD2	2.00	0.44
1:D:81:LEU:C	1:D:83:GLU:H	2.26	0.44
1:D:386:LEU:HD21	1:D:447:LEU:HD21	2.00	0.44
1:B:424:ASN:N	1:B:425:PRO:CD	2.81	0.44
1:C:292:LEU:HD11	1:C:426:LEU:HA	1.98	0.44
1:C:317:ALA:C	1:C:319:TYR:H	2.26	0.44
1:D:245:VAL:HA	1:D:248:VAL:HG12	2.00	0.44
1:D:357:LEU:O	1:D:358:LYS:C	2.60	0.44
1:A:69:GLN:OE1	1:A:96:ALA:CB	2.66	0.44
1:A:248:VAL:C	1:A:250:ASP:N	2.74	0.44
1:A:265:ALA:O	1:A:266:VAL:C	2.60	0.44
1:B:280:ALA:HA	1:B:283:LEU:HD21	1.98	0.44
1:B:302:ILE:HD12	1:B:302:ILE:HA	1.90	0.44
1:B:329:ASN:O	1:B:332:ASN:HB2	2.17	0.44
1:D:213:THR:HG22	1:D:217:GLU:HB3	1.99	0.44
1:A:250:ASP:C	1:A:252:LEU:N	2.75	0.44
1:A:266:VAL:HG21	1:B:337:LEU:CD1	2.47	0.44
1:A:366:LEU:CD2	1:B:286:VAL:HB	2.47	0.44
1:B:98:GLN:O	1:B:99:ALA:C	2.61	0.44
1:B:288:TRP:C	1:B:290:VAL:H	2.25	0.44
1:C:177:LYS:HB3	1:C:179:ARG:NH1	2.33	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:244:THR:HB	1:C:247:ASP:HB2	2.00	0.44
1:D:199:ALA:HA	1:D:202:MET:HG2	1.99	0.44
1:D:302:ILE:C	1:D:304:GLN:H	2.26	0.44
1:A:34:LEU:HD21	1:A:63:HIS:HB2	1.99	0.44
1:C:73:LEU:HD22	1:C:111:LEU:CD1	2.28	0.44
1:C:86:GLU:C	1:C:88:LEU:N	2.76	0.44
1:C:209:VAL:HG21	1:C:218:VAL:HG13	1.98	0.44
1:D:81:LEU:O	1:D:85:LEU:HG	2.18	0.44
1:D:228:THR:HA	1:D:245:VAL:HB	2.00	0.44
1:D:273:TYR:C	1:D:275:GLU:N	2.74	0.44
1:D:332:ASN:ND2	1:D:424:ASN:HB3	2.32	0.44
1:A:133:GLU:HG2	1:A:213:THR:N	2.33	0.43
1:B:62:SER:HA	1:B:69:GLN:NE2	2.32	0.43
1:C:219:ALA:HA	1:C:248:VAL:HG21	2.00	0.43
1:C:338:ILE:HG21	1:C:410:PHE:CE1	2.53	0.43
1:C:410:PHE:O	1:C:414:ARG:HG3	2.18	0.43
1:D:34:LEU:CD2	1:D:60:VAL:HG13	2.48	0.43
1:D:222:MET:HG2	1:D:227:PHE:HB2	1.99	0.43
1:A:40:LEU:HD12	1:A:45:ARG:HG2	1.99	0.43
1:A:340:ARG:NH2	1:A:341:ALA:CB	2.76	0.43
1:B:91:ASP:OD1	1:B:92:ASP:N	2.51	0.43
1:B:110:ARG:O	1:B:113:ASP:HB2	2.18	0.43
1:C:439:TYR:O	1:C:439:TYR:CD2	2.71	0.43
1:D:54:LYS:HG2	1:D:83:GLU:OE2	2.18	0.43
1:D:208:TYR:N	1:D:208:TYR:CD1	2.86	0.43
1:D:250:ASP:O	1:D:251:VAL:C	2.59	0.43
1:D:374:LEU:HD23	1:D:390:VAL:HG12	2.00	0.43
1:A:250:ASP:O	1:A:251:VAL:C	2.60	0.43
1:A:285:ARG:NH1	1:B:402:ASN:ND2	2.49	0.43
1:B:149:MET:C	1:B:198:VAL:HG23	2.44	0.43
1:B:208:TYR:HD1	1:B:208:TYR:H	1.65	0.43
1:C:77:PRO:HA	1:C:78:PRO:HD2	1.83	0.43
1:C:82:ARG:HH11	1:C:82:ARG:HG3	1.83	0.43
1:C:257:THR:OG1	1:D:340:ARG:CZ	2.67	0.43
1:C:354:ARG:NH1	1:D:274:SER:OG	2.51	0.43
1:C:378:VAL:CG1	1:C:390:VAL:HG21	2.22	0.43
1:D:273:TYR:O	1:D:274:SER:C	2.61	0.43
1:D:318:PHE:HE1	1:D:383:HIS:HE2	1.65	0.43
1:D:324:LEU:HD21	1:D:432:ASP:HA	2.00	0.43
1:A:31:GLN:O	1:A:32:ASP:C	2.61	0.43
1:A:388:PRO:HG2	1:A:389:VAL:N	2.33	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:50:THR:HA	1:B:80:ARG:HD2	1.99	0.43
1:B:80:ARG:O	1:B:83:GLU:HB3	2.18	0.43
1:C:54:LYS:CE	1:C:87:GLU:HB2	2.47	0.43
1:C:176:GLU:HG3	1:C:177:LYS:HD2	2.01	0.43
1:D:217:GLU:O	1:D:221:LEU:CD1	2.66	0.43
1:B:50:THR:O	1:B:51:LEU:HD23	2.18	0.43
1:B:306:PHE:N	1:B:306:PHE:HD1	2.17	0.43
1:D:49:LEU:O	1:D:76:LEU:HD11	2.19	0.43
1:D:111:LEU:CD2	1:D:114:LEU:HD12	2.49	0.43
1:A:228:THR:C	1:A:229:VAL:HG23	2.43	0.43
1:A:285:ARG:NH1	1:B:402:ASN:CG	2.76	0.43
1:A:298:VAL:O	1:A:298:VAL:HG12	2.17	0.43
1:A:396:LEU:CD2	1:A:400:PHE:CE1	3.01	0.43
1:B:222:MET:HE2	1:B:228:THR:C	2.43	0.43
1:B:268:VAL:HG23	1:B:284:ALA:HB1	2.01	0.43
1:B:302:ILE:HG21	1:B:437:LEU:CD2	2.49	0.43
1:B:379:TYR:CD1	1:B:384:PRO:HB3	2.53	0.43
1:A:113:ASP:C	1:A:115:LEU:N	2.75	0.43
1:A:319:TYR:CB	1:A:439:TYR:OH	2.67	0.43
1:D:164:ASP:O	1:D:164:ASP:OD1	2.36	0.43
1:D:400:PHE:HD2	1:D:400:PHE:HA	1.69	0.43
1:A:72:TYR:HB3	1:A:76:LEU:HD23	2.01	0.43
1:A:268:VAL:HB	1:A:271:LEU:CG	2.49	0.43
1:A:302:ILE:C	1:A:304:GLN:N	2.75	0.43
1:B:28:ILE:O	1:B:28:ILE:HG13	2.17	0.43
1:C:250:ASP:O	1:C:252:LEU:N	2.52	0.43
1:C:338:ILE:HD12	1:C:410:PHE:HE1	1.78	0.43
1:A:143:VAL:CG2	1:A:168:ILE:HG22	2.48	0.43
1:A:256:ALA:O	1:A:260:ILE:HG13	2.18	0.43
1:B:245:VAL:HA	1:B:248:VAL:CG1	2.47	0.43
1:C:359:GLU:HA	1:C:359:GLU:OE2	2.19	0.43
1:D:250:ASP:C	1:D:252:LEU:N	2.75	0.43
1:D:447:LEU:HD23	1:D:447:LEU:HA	1.93	0.43
1:A:180:LEU:HD23	1:A:180:LEU:C	2.44	0.43
1:A:280:ALA:HA	1:A:283:LEU:HD21	2.01	0.43
1:A:357:LEU:O	1:A:358:LYS:C	2.62	0.43
1:A:386:LEU:CD2	1:A:446:LEU:HD12	2.49	0.43
1:B:142:TYR:CD1	1:B:142:TYR:C	2.96	0.43
1:B:315:ALA:O	1:B:318:PHE:CZ	2.72	0.43
1:C:25:LEU:CD1	1:C:51:LEU:HB2	2.48	0.43
1:C:265:ALA:O	1:C:266:VAL:C	2.61	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:323:LEU:HD13	1:C:439:TYR:HE1	1.84	0.43
1:D:216:GLU:O	1:D:219:ALA:HB3	2.19	0.43
1:D:296:GLY:CA	1:D:299:THR:HG23	2.49	0.43
1:D:436:LEU:HD23	1:D:436:LEU:HA	1.87	0.43
1:A:183:VAL:HG13	1:A:184:LEU:N	2.33	0.42
1:A:322:VAL:CG2	1:B:296:GLY:O	2.49	0.42
1:A:338:ILE:HG22	1:A:342:LEU:CD1	2.49	0.42
1:B:258:GLU:O	1:B:262:LYS:HG3	2.19	0.42
1:D:215:GLN:HB3	1:D:251:VAL:HG11	1.98	0.42
1:D:316:LEU:HA	1:D:318:PHE:HE2	1.80	0.42
1:D:438:ILE:C	1:D:440:LEU:N	2.77	0.42
1:A:28:ILE:O	1:A:28:ILE:HG13	2.19	0.42
1:A:85:LEU:HD11	1:A:111:LEU:HD11	2.00	0.42
1:A:290:VAL:HG22	1:B:373:LEU:HD13	2.01	0.42
1:A:395:VAL:C	1:A:397:ILE:N	2.76	0.42
1:B:219:ALA:O	1:B:220:ARG:C	2.62	0.42
1:B:346:ASP:O	1:B:347:LEU:CB	2.64	0.42
1:C:15:GLU:CG	1:C:17:ASP:HB2	2.43	0.42
1:C:147:GLU:HB2	1:C:199:ALA:HB2	2.01	0.42
1:C:274:SER:HA	1:D:354:ARG:HH22	1.84	0.42
1:C:307:GLU:HA	1:C:310:LEU:CB	2.48	0.42
1:D:268:VAL:HB	1:D:271:LEU:HD21	2.01	0.42
1:D:286:VAL:O	1:D:286:VAL:HG22	2.19	0.42
1:A:317:ALA:C	1:A:319:TYR:N	2.75	0.42
1:A:340:ARG:HD2	1:B:257:THR:OG1	2.19	0.42
1:A:397:ILE:C	1:A:399:PHE:N	2.77	0.42
1:B:84:ILE:HG13	1:B:84:ILE:H	1.67	0.42
1:B:97:LEU:HD21	1:B:108:PHE:CE1	2.55	0.42
1:C:245:VAL:HG13	1:D:245:VAL:HG21	2.00	0.42
1:C:273:TYR:C	1:C:275:GLU:N	2.77	0.42
1:C:302:ILE:C	1:C:304:GLN:H	2.27	0.42
1:C:371:SER:CB	1:C:395:VAL:CG2	2.94	0.42
1:C:397:ILE:HG12	1:C:438:ILE:HD13	1.96	0.42
1:D:227:PHE:HB3	1:D:228:THR:H	1.74	0.42
1:D:359:GLU:O	1:D:360:MET:C	2.62	0.42
1:D:424:ASN:H	1:D:425:PRO:CD	2.33	0.42
1:A:330:THR:HG22	1:A:331:GLY:N	2.32	0.42
1:A:354:ARG:NH2	1:B:274:SER:HA	2.15	0.42
1:B:339:ILE:HG12	1:B:409:PRO:HB3	2.02	0.42
1:B:384:PRO:C	1:B:385:LEU:O	2.60	0.42
1:C:143:VAL:HG12	1:C:171:ILE:HG23	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:335:ALA:O	1:C:339:ILE:CG1	2.63	0.42
1:C:366:LEU:HD23	1:D:286:VAL:CB	2.46	0.42
1:D:244:THR:HB	1:D:247:ASP:HB2	2.02	0.42
1:D:302:ILE:C	1:D:304:GLN:N	2.75	0.42
1:D:339:ILE:HD11	1:D:422:VAL:HB	2.02	0.42
1:D:346:ASP:O	1:D:347:LEU:CB	2.65	0.42
1:D:360:MET:O	1:D:399:PHE:HE1	2.02	0.42
1:D:408:LEU:HB3	1:D:409:PRO:HD3	2.00	0.42
1:A:81:LEU:C	1:A:83:GLU:H	2.27	0.42
1:A:266:VAL:CG1	1:B:337:LEU:HD11	2.49	0.42
1:B:244:THR:HG22	1:B:246:ASP:OD1	2.19	0.42
1:C:9:LEU:C	1:C:11:GLU:N	2.77	0.42
1:C:225:TYR:O	1:C:226:ASP:C	2.62	0.42
1:D:315:ALA:O	1:D:318:PHE:HE2	2.03	0.42
1:A:302:ILE:C	1:A:304:GLN:H	2.27	0.42
1:A:365:LEU:HD22	1:B:282:TRP:NE1	2.34	0.42
1:B:81:LEU:C	1:B:83:GLU:N	2.78	0.42
1:B:328:GLY:HA2	1:B:431:SER:OG	2.19	0.42
1:C:341:ALA:O	1:C:342:LEU:C	2.63	0.42
1:D:50:THR:HA	1:D:80:ARG:CD	2.49	0.42
1:D:171:ILE:HD12	1:D:171:ILE:H	1.83	0.42
1:D:329:ASN:N	1:D:329:ASN:HD22	2.17	0.42
1:A:90:LEU:O	1:A:93:LEU:HB3	2.19	0.42
1:A:245:VAL:O	1:A:248:VAL:HG12	2.18	0.42
1:A:337:LEU:O	1:A:340:ARG:NH2	2.52	0.42
1:A:355:VAL:O	1:A:356:PHE:C	2.62	0.42
1:B:54:LYS:HE2	1:B:87:GLU:CB	2.42	0.42
1:B:106:ALA:O	1:B:107:TYR:C	2.62	0.42
1:B:135:GLY:O	1:B:137:LEU:N	2.52	0.42
1:B:273:TYR:O	1:B:274:SER:C	2.62	0.42
1:B:302:ILE:C	1:B:304:GLN:H	2.26	0.42
1:B:357:LEU:O	1:B:358:LYS:C	2.62	0.42
1:C:168:ILE:CD1	1:D:187:ARG:HG3	2.50	0.42
1:C:338:ILE:O	1:C:342:LEU:HG	2.19	0.42
1:C:367:GLY:CA	1:C:395:VAL:HG13	2.49	0.42
1:D:392:VAL:O	1:D:396:LEU:CB	2.63	0.42
1:D:438:ILE:O	1:D:442:VAL:HB	2.20	0.42
1:A:301:SER:O	1:A:304:GLN:HB3	2.18	0.42
1:B:45:ARG:C	1:B:47:VAL:H	2.28	0.42
1:B:53:PRO:O	1:B:54:LYS:C	2.63	0.42
1:B:418:ASP:HA	1:B:419:PRO:HD2	1.84	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:41:LYS:C	1:C:43:GLU:H	2.27	0.42
1:C:342:LEU:O	1:C:413:ARG:NH2	2.53	0.42
1:D:183:VAL:O	1:D:184:LEU:HB2	2.19	0.42
1:D:209:VAL:HG21	1:D:218:VAL:CG2	2.40	0.42
1:D:312:ALA:O	1:D:314:THR:N	2.48	0.42
1:A:81:LEU:HD23	1:A:81:LEU:N	2.35	0.42
1:A:135:GLY:HA2	1:A:138:MET:HG2	2.02	0.42
1:A:203:ASN:OD1	1:A:205:LYS:N	2.53	0.42
1:C:273:TYR:O	1:C:275:GLU:N	2.53	0.42
1:C:432:ASP:O	1:C:436:LEU:HB2	2.20	0.42
1:D:69:GLN:O	1:D:73:LEU:HG	2.19	0.42
1:D:200:GLU:HG3	1:D:201:ILE:HG23	2.01	0.42
1:D:295:THR:O	1:D:298:VAL:HG23	2.19	0.42
1:D:388:PRO:HG3	1:D:446:LEU:HD11	2.01	0.42
1:A:261:HIS:C	1:A:263:LEU:N	2.73	0.42
1:A:266:VAL:CG2	1:B:337:LEU:HD11	2.49	0.42
1:A:346:ASP:O	1:A:347:LEU:CB	2.68	0.42
1:B:210:ARG:HH11	1:B:210:ARG:HG3	1.85	0.42
1:B:339:ILE:CG1	1:B:409:PRO:HB3	2.50	0.42
1:C:80:ARG:HG3	1:C:80:ARG:NH1	2.35	0.42
1:C:300:SER:HG	1:D:318:PHE:C	2.26	0.42
1:C:396:LEU:HD13	1:C:442:VAL:HG21	2.01	0.42
1:C:424:ASN:N	1:C:425:PRO:CD	2.82	0.42
1:D:45:ARG:C	1:D:47:VAL:H	2.27	0.42
1:D:310:LEU:C	1:D:312:ALA:N	2.76	0.42
1:A:157:PHE:HD1	1:A:157:PHE:C	2.27	0.41
1:A:359:GLU:OE2	1:B:273:TYR:OH	2.38	0.41
1:A:367:GLY:CA	1:A:395:VAL:HG13	2.47	0.41
1:B:41:LYS:C	1:B:43:GLU:H	2.28	0.41
1:B:45:ARG:C	1:B:47:VAL:N	2.77	0.41
1:B:321:PRO:HG2	1:B:322:VAL:N	2.30	0.41
1:C:81:LEU:C	1:C:83:GLU:N	2.78	0.41
1:D:69:GLN:OE1	1:D:96:ALA:CB	2.67	0.41
1:A:45:ARG:C	1:A:47:VAL:H	2.28	0.41
1:A:180:LEU:HD23	1:A:182:GLY:H	1.84	0.41
1:A:180:LEU:HD21	1:A:206:VAL:HG21	2.00	0.41
1:A:222:MET:HE1	1:A:230:LEU:HB2	2.02	0.41
1:A:334:SER:OG	1:A:406:ALA:HB2	2.19	0.41
1:A:436:LEU:O	1:A:439:TYR:N	2.54	0.41
1:B:113:ASP:C	1:B:115:LEU:H	2.28	0.41
1:B:146:ARG:CD	1:B:174:VAL:O	2.69	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:180:LEU:HD23	1:B:182:GLY:H	1.86	0.41
1:B:250:ASP:O	1:B:252:LEU:N	2.53	0.41
1:B:324:LEU:HB3	1:B:432:ASP:OD1	2.20	0.41
1:B:349:LEU:HD21	1:B:414:ARG:HA	2.01	0.41
1:C:340:ARG:HG2	1:C:341:ALA:H	1.85	0.41
1:C:378:VAL:CG1	1:C:387:LEU:HD11	2.50	0.41
1:C:415:LEU:HD22	1:C:415:LEU:HA	1.81	0.41
1:D:31:GLN:OE1	1:D:31:GLN:HA	2.20	0.41
1:D:54:LYS:HG2	1:D:83:GLU:CD	2.45	0.41
1:D:111:LEU:HD23	1:D:111:LEU:O	2.19	0.41
1:D:143:VAL:HG11	1:D:158:LEU:HD21	2.03	0.41
1:D:172:TYR:CD2	1:D:180:LEU:HD11	2.55	0.41
1:D:245:VAL:CG1	1:D:246:ASP:N	2.83	0.41
1:D:306:PHE:CD2	1:D:440:LEU:HD13	2.55	0.41
1:D:324:LEU:HD12	1:D:324:LEU:HA	1.84	0.41
1:B:13:LEU:CD2	1:B:44:HIS:HD2	2.33	0.41
1:B:86:GLU:C	1:B:88:LEU:N	2.72	0.41
1:C:62:SER:OG	1:C:92:ASP:OD1	2.38	0.41
1:C:160:ARG:O	1:C:161:ALA:HB3	2.20	0.41
1:A:45:ARG:C	1:A:47:VAL:N	2.77	0.41
1:A:113:ASP:C	1:A:115:LEU:H	2.29	0.41
1:B:183:VAL:O	1:B:184:LEU:HB2	2.20	0.41
1:B:219:ALA:HA	1:B:248:VAL:HG21	2.01	0.41
1:B:316:LEU:HA	1:B:318:PHE:CE2	2.56	0.41
1:B:416:GLY:C	1:B:417:VAL:HG23	2.46	0.41
1:C:213:THR:CG2	1:C:218:VAL:HG22	2.50	0.41
1:C:357:LEU:O	1:C:358:LYS:C	2.63	0.41
1:A:252:LEU:C	1:A:254:ALA:N	2.78	0.41
1:B:265:ALA:O	1:B:266:VAL:C	2.63	0.41
1:C:45:ARG:C	1:C:47:VAL:N	2.79	0.41
1:C:65:SER:HB3	1:C:68:GLU:HB2	2.02	0.41
1:C:135:GLY:O	1:C:137:LEU:N	2.54	0.41
1:C:222:MET:HG2	1:C:227:PHE:HB2	2.03	0.41
1:C:342:LEU:N	1:C:342:LEU:HD23	2.36	0.41
1:A:318:PHE:O	1:A:321:PRO:HD2	2.20	0.41
1:A:324:LEU:CD1	1:A:432:ASP:HA	2.50	0.41
1:A:371:SER:HB2	1:A:395:VAL:HG21	1.99	0.41
1:B:355:VAL:O	1:B:356:PHE:C	2.62	0.41
1:C:169:TYR:HE1	1:D:170:TYR:CE1	2.38	0.41
1:C:288:TRP:O	1:C:289:LEU:C	2.63	0.41
1:C:322:VAL:CG1	1:D:297:MET:HA	2.49	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:160:ARG:O	1:D:161:ALA:HB3	2.19	0.41
1:D:209:VAL:CG2	1:D:218:VAL:HG22	2.37	0.41
1:D:209:VAL:CG1	1:D:230:LEU:HD22	2.49	0.41
1:D:296:GLY:O	1:D:297:MET:C	2.64	0.41
1:D:338:ILE:HD13	1:D:410:PHE:CE1	2.55	0.41
1:D:355:VAL:O	1:D:356:PHE:C	2.63	0.41
1:A:149:MET:O	1:A:198:VAL:HG23	2.20	0.41
1:B:355:VAL:HG23	1:B:407:MET:HE1	2.02	0.41
1:C:31:GLN:O	1:C:32:ASP:C	2.63	0.41
1:C:50:THR:HG23	1:C:76:LEU:CD1	2.51	0.41
1:C:293:ILE:CD1	1:D:326:THR:OG1	2.64	0.41
1:C:374:LEU:HD21	1:C:390:VAL:HG12	2.01	0.41
1:D:31:GLN:O	1:D:32:ASP:C	2.63	0.41
1:D:40:LEU:CD1	1:D:45:ARG:HG3	2.50	0.41
1:D:40:LEU:HD12	1:D:45:ARG:HG3	2.02	0.41
1:D:304:GLN:O	1:D:307:GLU:HB3	2.19	0.41
1:D:386:LEU:O	1:D:389:VAL:HG22	2.20	0.41
1:D:393:SER:O	1:D:397:ILE:HG13	2.21	0.41
1:A:384:PRO:C	1:A:385:LEU:O	2.60	0.41
1:B:281:LEU:O	1:B:285:ARG:HG3	2.20	0.41
1:C:207:VAL:HG21	1:C:227:PHE:HE2	1.84	0.41
1:C:266:VAL:HG23	1:C:266:VAL:O	2.20	0.41
1:C:273:TYR:O	1:C:274:SER:C	2.64	0.41
1:D:25:LEU:HD12	1:D:51:LEU:HD23	2.01	0.41
1:D:37:TRP:O	1:D:45:ARG:HD2	2.21	0.41
1:D:55:ALA:N	1:D:87:GLU:HG2	2.35	0.41
1:D:289:LEU:HD22	1:D:289:LEU:HA	1.87	0.41
1:D:314:THR:C	1:D:316:LEU:N	2.60	0.41
1:A:19:ARG:NH1	1:A:19:ARG:HB2	2.36	0.41
1:A:285:ARG:CG	1:B:333:GLN:NE2	2.84	0.41
1:A:286:VAL:HB	1:B:366:LEU:CD2	2.50	0.41
1:A:318:PHE:CD2	1:A:318:PHE:N	2.88	0.41
1:A:377:LYS:N	1:A:377:LYS:HD2	2.36	0.41
1:A:418:ASP:HA	1:A:419:PRO:HD2	1.83	0.41
1:B:129:TYR:CD1	1:B:135:GLY:HA3	2.56	0.41
1:B:129:TYR:HD1	1:B:135:GLY:HA3	1.84	0.41
1:B:324:LEU:HD23	1:B:432:ASP:OD1	2.20	0.41
1:B:386:LEU:HD22	1:B:446:LEU:CD1	2.51	0.41
1:B:424:ASN:H	1:B:425:PRO:CD	2.34	0.41
1:B:447:LEU:O	1:B:447:LEU:HG	2.21	0.41
1:C:429:THR:O	1:C:432:ASP:HB2	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:50:THR:HG21	1:D:77:PRO:HG3	2.02	0.41
1:D:186:LEU:C	1:D:188:ASP:N	2.78	0.41
1:D:248:VAL:C	1:D:250:ASP:N	2.77	0.41
1:D:324:LEU:HD22	1:D:436:LEU:HG	2.02	0.41
1:D:374:LEU:C	1:D:378:VAL:HG23	2.45	0.41
1:D:384:PRO:O	1:D:385:LEU:O	2.39	0.41
1:D:388:PRO:CG	1:D:446:LEU:HD11	2.51	0.41
1:A:41:LYS:C	1:A:43:GLU:H	2.28	0.41
1:B:50:THR:HG22	1:B:76:LEU:CD1	2.50	0.41
1:C:397:ILE:CG1	1:C:438:ILE:HG21	2.49	0.41
1:D:30:PRO:HB3	1:D:60:VAL:HG23	2.02	0.41
1:A:273:TYR:O	1:A:274:SER:C	2.62	0.40
1:A:397:ILE:O	1:A:400:PHE:N	2.54	0.40
1:C:210:ARG:HG2	1:C:211:THR:N	2.36	0.40
1:C:303:LEU:HD12	1:D:318:PHE:HB3	2.03	0.40
1:D:230:LEU:HD23	1:D:231:PRO:HD2	2.03	0.40
1:A:37:TRP:HA	1:A:40:LEU:CD1	2.51	0.40
1:A:294:LEU:O	1:A:297:MET:HB2	2.21	0.40
1:A:337:LEU:HD21	1:B:266:VAL:HG21	2.04	0.40
1:A:410:PHE:O	1:A:411:LEU:C	2.64	0.40
1:B:389:VAL:HG23	1:B:390:VAL:N	2.35	0.40
1:B:395:VAL:C	1:B:397:ILE:N	2.78	0.40
1:C:165:ALA:O	1:D:187:ARG:NH2	2.55	0.40
1:C:172:TYR:CD2	1:C:231:PRO:HB3	2.55	0.40
1:C:304:GLN:O	1:C:307:GLU:HB3	2.20	0.40
1:C:418:ASP:HA	1:C:419:PRO:HD2	1.90	0.40
1:D:135:GLY:O	1:D:137:LEU:N	2.54	0.40
1:D:152:GLU:OE1	1:D:152:GLU:O	2.38	0.40
1:D:303:LEU:HD22	1:D:303:LEU:HA	1.80	0.40
1:A:138:MET:HA	1:A:242:ILE:O	2.21	0.40
1:A:265:ALA:CB	1:B:333:GLN:HG2	2.48	0.40
1:A:265:ALA:HB1	1:A:288:TRP:CB	2.52	0.40
1:A:281:LEU:N	1:A:281:LEU:CD1	2.80	0.40
1:A:326:THR:HA	1:A:329:ASN:ND2	2.35	0.40
1:A:364:LEU:CD2	1:A:368:LEU:HD11	2.51	0.40
1:B:90:LEU:HD12	1:B:126:LEU:HD11	2.04	0.40
1:B:136:GLY:C	1:B:137:LEU:HD23	2.47	0.40
1:B:186:LEU:C	1:B:188:ASP:N	2.76	0.40
1:B:307:GLU:HG3	1:B:308:SER:N	2.37	0.40
1:B:412:LEU:HD12	1:B:422:VAL:CG2	2.47	0.40
1:B:422:VAL:HA	1:B:426:LEU:HD23	2.03	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:322:VAL:HG13	1:D:297:MET:N	2.36	0.40
1:D:288:TRP:O	1:D:289:LEU:C	2.65	0.40
1:B:69:GLN:C	1:B:71:GLU:N	2.80	0.40
1:B:291:ILE:O	1:B:294:LEU:HB3	2.21	0.40
1:C:126:LEU:HD23	1:C:126:LEU:HA	1.92	0.40
1:C:326:THR:CB	1:D:293:ILE:HG13	2.51	0.40
1:C:340:ARG:HD2	1:D:261:HIS:NE2	2.36	0.40
1:D:245:VAL:O	1:D:248:VAL:HG12	2.21	0.40
1:A:101:ARG:HG3	1:A:101:ARG:NH1	2.34	0.40
1:A:266:VAL:HG21	1:B:337:LEU:CG	2.49	0.40
1:B:85:LEU:HB3	1:B:115:LEU:CD1	2.48	0.40
1:B:252:LEU:O	1:B:254:ALA:N	2.54	0.40
1:B:280:ALA:HA	1:B:283:LEU:CD2	2.52	0.40
1:C:80:ARG:HG3	1:C:80:ARG:O	2.21	0.40
1:C:252:LEU:C	1:C:254:ALA:N	2.78	0.40
1:D:82:ARG:HH11	1:D:82:ARG:HG3	1.86	0.40
1:D:83:GLU:OE1	1:D:83:GLU:C	2.64	0.40
1:D:180:LEU:CD1	1:D:239:LEU:HD13	2.47	0.40
1:D:228:THR:C	1:D:229:VAL:HG23	2.47	0.40

All (1) symmetry-related close contacts are listed below. The label for Atom-2 includes the symmetry operator and encoded unit-cell translations to be applied.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:109:GLN:NE2	1:D:109:GLN:NE2[3_656]	1.97	0.23

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	440/473 (93%)	310 (70%)	100 (23%)	30 (7%)	1 10

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	B	440/473 (93%)	312 (71%)	96 (22%)	32 (7%)	1	9
1	C	440/473 (93%)	315 (72%)	98 (22%)	27 (6%)	1	12
1	D	440/473 (93%)	307 (70%)	103 (23%)	30 (7%)	1	10
All	All	1760/1892 (93%)	1244 (71%)	397 (23%)	119 (7%)	1	10

All (119) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	184	LEU
1	A	266	VAL
1	A	269	PRO
1	A	386	LEU
1	A	428	ALA
1	B	266	VAL
1	B	269	PRO
1	B	315	ALA
1	B	386	LEU
1	B	423	SER
1	C	184	LEU
1	C	266	VAL
1	C	269	PRO
1	C	386	LEU
1	D	184	LEU
1	D	266	VAL
1	D	269	PRO
1	D	315	ALA
1	D	386	LEU
1	D	428	ALA
1	A	19	ARG
1	A	136	GLY
1	A	262	LYS
1	A	276	ALA
1	A	289	LEU
1	A	423	SER
1	B	136	GLY
1	B	184	LEU
1	B	262	LYS
1	B	276	ALA
1	B	428	ALA
1	C	19	ARG
1	C	136	GLY

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Mol	Chain	Res	Type
1	C	228	THR
1	C	262	LYS
1	C	276	ALA
1	C	289	LEU
1	C	423	SER
1	C	428	ALA
1	D	19	ARG
1	D	136	GLY
1	D	262	LYS
1	D	276	ALA
1	D	289	LEU
1	D	314	THR
1	D	423	SER
1	A	10	GLN
1	A	225	TYR
1	A	228	THR
1	A	313	VAL
1	A	321	PRO
1	A	433	VAL
1	B	10	GLN
1	B	87	GLU
1	B	225	TYR
1	B	228	THR
1	B	289	LEU
1	B	313	VAL
1	B	321	PRO
1	B	385	LEU
1	C	10	GLN
1	C	18	THR
1	C	225	TYR
1	C	313	VAL
1	C	321	PRO
1	D	10	GLN
1	D	18	THR
1	D	225	TYR
1	D	228	THR
1	D	313	VAL
1	D	321	PRO
1	D	385	LEU
1	A	17	ASP
1	A	18	THR
1	A	46	TYR

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Mol	Chain	Res	Type
1	A	49	LEU
1	A	87	GLU
1	A	385	LEU
1	B	17	ASP
1	B	18	THR
1	B	19	ARG
1	B	49	LEU
1	B	274	SER
1	B	344	THR
1	B	437	LEU
1	C	17	ASP
1	C	87	GLU
1	C	344	THR
1	C	437	LEU
1	D	17	ASP
1	D	49	LEU
1	D	87	GLU
1	A	135	GLY
1	A	334	SER
1	A	344	THR
1	A	437	LEU
1	B	46	TYR
1	B	433	VAL
1	C	13	LEU
1	C	49	LEU
1	C	385	LEU
1	D	13	LEU
1	D	344	THR
1	D	437	LEU
1	A	13	LEU
1	C	433	VAL
1	D	274	SER
1	B	194	PRO
1	C	135	GLY
1	D	433	VAL
1	A	320	VAL
1	B	135	GLY
1	D	135	GLY
1	B	278	PRO
1	B	320	VAL
1	D	320	VAL
1	A	387	LEU

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Mol	Chain	Res	Type
1	C	320	VAL
1	B	387	LEU

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	376/400 (94%)	327 (87%)	49 (13%)	4	21
1	B	376/400 (94%)	320 (85%)	56 (15%)	3	17
1	C	376/400 (94%)	324 (86%)	52 (14%)	3	19
1	D	376/400 (94%)	329 (88%)	47 (12%)	4	22
All	All	1504/1600 (94%)	1300 (86%)	204 (14%)	3	19

All (204) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	18	THR
1	A	49	LEU
1	A	52	LEU
1	A	81	LEU
1	A	109	GLN
1	A	115	LEU
1	A	130	GLU
1	A	133	GLU
1	A	139	THR
1	A	181	LYS
1	A	193	ASP
1	A	195	ARG
1	A	228	THR
1	A	230	LEU
1	A	236	GLU
1	A	244	THR
1	A	245	VAL
1	A	247	ASP
1	A	253	GLU

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Mol	Chain	Res	Type
1	A	263	LEU
1	A	270	ASP
1	A	278	PRO
1	A	289	LEU
1	A	290	VAL
1	A	294	LEU
1	A	297	MET
1	A	302	ILE
1	A	303	LEU
1	A	316	LEU
1	A	318	PHE
1	A	324	LEU
1	A	330	THR
1	A	340	ARG
1	A	348	ASP
1	A	350	ARG
1	A	355	VAL
1	A	362	VAL
1	A	364	LEU
1	A	365	LEU
1	A	369	THR
1	A	380	TRP
1	A	381	ASP
1	A	390	VAL
1	A	417	VAL
1	A	418	ASP
1	A	421	LEU
1	A	429	THR
1	A	446	LEU
1	A	447	LEU
1	B	50	THR
1	B	61	LEU
1	B	64	LEU
1	B	65	SER
1	B	75	THR
1	B	90	LEU
1	B	113	ASP
1	B	115	LEU
1	B	133	GLU
1	B	139	THR
1	B	143	VAL
1	B	146	ARG

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Mol	Chain	Res	Type
1	B	184	LEU
1	B	188	ASP
1	B	195	ARG
1	B	208	TYR
1	B	209	VAL
1	B	211	THR
1	B	217	GLU
1	B	222	MET
1	B	225	TYR
1	B	228	THR
1	B	242	ILE
1	B	244	THR
1	B	245	VAL
1	B	247	ASP
1	B	249	LEU
1	B	250	ASP
1	B	257	THR
1	B	270	ASP
1	B	278	PRO
1	B	283	LEU
1	B	285	ARG
1	B	290	VAL
1	B	294	LEU
1	B	295	THR
1	B	297	MET
1	B	302	ILE
1	B	303	LEU
1	B	306	PHE
1	B	314	THR
1	B	316	LEU
1	B	318	PHE
1	B	322	VAL
1	B	330	THR
1	B	339	ILE
1	B	340	ARG
1	B	355	VAL
1	B	359	GLU
1	B	362	VAL
1	B	364	LEU
1	B	365	LEU
1	B	380	TRP
1	B	396	LEU

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Mol	Chain	Res	Type
1	B	402	ASN
1	B	403	LEU
1	C	11	GLU
1	C	15	GLU
1	C	18	THR
1	C	71	GLU
1	C	90	LEU
1	C	93	LEU
1	C	97	LEU
1	C	130	GLU
1	C	142	TYR
1	C	146	ARG
1	C	164	ASP
1	C	177	LYS
1	C	207	VAL
1	C	208	TYR
1	C	211	THR
1	C	214	ASP
1	C	234	ASP
1	C	235	GLU
1	C	236	GLU
1	C	242	ILE
1	C	245	VAL
1	C	247	ASP
1	C	253	GLU
1	C	263	LEU
1	C	268	VAL
1	C	270	ASP
1	C	289	LEU
1	C	290	VAL
1	C	298	VAL
1	C	302	ILE
1	C	303	LEU
1	C	310	LEU
1	C	318	PHE
1	C	322	VAL
1	C	324	LEU
1	C	349	LEU
1	C	350	ARG
1	C	351	ASP
1	C	359	GLU
1	C	362	VAL

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Mol	Chain	Res	Type
1	C	364	LEU
1	C	365	LEU
1	C	369	THR
1	C	380	TRP
1	C	402	ASN
1	C	415	LEU
1	C	429	THR
1	C	432	ASP
1	C	436	LEU
1	C	440	LEU
1	C	442	VAL
1	C	446	LEU
1	D	29	HIS
1	D	43	GLU
1	D	61	LEU
1	D	83	GLU
1	D	109	GLN
1	D	111	LEU
1	D	118	ARG
1	D	139	THR
1	D	152	GLU
1	D	164	ASP
1	D	177	LYS
1	D	216	GLU
1	D	224	ASP
1	D	233	VAL
1	D	234	ASP
1	D	258	GLU
1	D	261	HIS
1	D	267	ASP
1	D	270	ASP
1	D	283	LEU
1	D	289	LEU
1	D	298	VAL
1	D	303	LEU
1	D	310	LEU
1	D	314	THR
1	D	318	PHE
1	D	340	ARG
1	D	345	ARG
1	D	348	ASP
1	D	349	LEU

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Mol	Chain	Res	Type
1	D	351	ASP
1	D	355	VAL
1	D	362	VAL
1	D	364	LEU
1	D	365	LEU
1	D	368	LEU
1	D	369	THR
1	D	380	TRP
1	D	381	ASP
1	D	385	LEU
1	D	396	LEU
1	D	400	PHE
1	D	417	VAL
1	D	418	ASP
1	D	421	LEU
1	D	429	THR
1	D	446	LEU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (23) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	31	GLN
1	A	63	HIS
1	A	109	GLN
1	A	215	GLN
1	A	424	ASN
1	B	31	GLN
1	B	44	HIS
1	B	332	ASN
1	B	333	GLN
1	B	424	ASN
1	C	10	GLN
1	C	31	GLN
1	C	215	GLN
1	C	329	ASN
1	C	332	ASN
1	C	333	GLN
1	C	424	ASN
1	D	261	HIS
1	D	304	GLN
1	D	332	ASN
1	D	333	GLN

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Mol	Chain	Res	Type
1	D	402	ASN
1	D	424	ASN

5.3.3 RNA [i](#)

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

5.6 Ligand geometry [i](#)

Of 18 ligands modelled in this entry, 18 are monoatomic - leaving 0 for Mogul analysis.

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

No monomer is involved in short contacts.

5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

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	442/473 (93%)	-0.09	5 (1%)	78 54	41, 99, 150, 167	0
1	B	442/473 (93%)	-0.17	4 (0%)	81 58	51, 95, 135, 161	0
1	C	442/473 (93%)	0.11	8 (1%)	67 42	61, 122, 167, 194	0
1	D	442/473 (93%)	0.14	7 (1%)	70 45	63, 141, 188, 203	0
All	All	1768/1892 (93%)	-0.00	24 (1%)	73 48	41, 108, 174, 203	0

All (24) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	C	144	ALA	5.6
1	C	248	VAL	3.6
1	B	7	VAL	3.0
1	D	276	ALA	2.7
1	B	299	THR	2.7
1	C	161	ALA	2.6
1	C	143	VAL	2.5
1	C	145	VAL	2.5
1	D	143	VAL	2.4
1	D	242	ILE	2.4
1	D	144	ALA	2.4
1	A	49	LEU	2.3
1	B	446	LEU	2.3
1	A	448	GLU	2.3
1	C	167	THR	2.3
1	D	428	ALA	2.3
1	A	97	LEU	2.2
1	C	392	VAL	2.2
1	D	97	LEU	2.2
1	D	145	VAL	2.1
1	B	388	PRO	2.1

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Mol	Chain	Res	Type	RSRZ
1	C	239	LEU	2.1
1	A	74	LYS	2.1
1	A	388	PRO	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($\text{\AA}^2$)	Q<0.9
2	MG	C	453	1/1	0.77	0.13	60,60,60,60	0
2	MG	B	455	1/1	0.81	0.28	60,60,60,60	0
2	MG	A	454	1/1	0.81	0.23	68,68,68,68	0
2	MG	C	451	1/1	0.82	0.31	33,33,33,33	0
2	MG	C	455	1/1	0.84	0.13	67,67,67,67	0
2	MG	B	451	1/1	0.86	0.40	34,34,34,34	0
2	MG	D	452	1/1	0.87	0.09	61,61,61,61	0
2	MG	D	454	1/1	0.87	0.23	78,78,78,78	0
2	MG	A	453	1/1	0.90	0.16	40,40,40,40	0
2	MG	D	451	1/1	0.94	0.12	61,61,61,61	0
2	MG	A	451	1/1	0.94	0.15	46,46,46,46	0
2	MG	C	452	1/1	0.94	0.13	38,38,38,38	0
2	MG	B	452	1/1	0.95	0.14	39,39,39,39	0
2	MG	C	454	1/1	0.96	0.07	53,53,53,53	0
2	MG	B	454	1/1	0.97	0.07	33,33,33,33	0
2	MG	B	453	1/1	0.97	0.09	40,40,40,40	0
2	MG	D	453	1/1	0.98	0.10	40,40,40,40	0
2	MG	A	452	1/1	0.98	0.11	36,36,36,36	0

6.5 Other polymers [i](#)

There are no such residues in this entry.