



Full wwPDB X-ray Structure Validation Report ⓘ

Nov 2, 2023 – 02:33 PM EDT

PDB ID : 3W1J
Title : Crystal structure of the N-terminal truncated selenocysteine synthase SelA in complex with thiosulfate
Authors : Itoh, Y.; Sekine, S.; Yokoyama, S.
Deposited on : 2012-11-15
Resolution : 3.25 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 : 4.02b-467
Mogul : 1.8.5 (274361), CSD as541be (2020)
Xtriage (Phenix) : 1.13
EDS : 2.36
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac : 5.8.0158
CCP4 : 7.0.044 (Gargrove)
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.36

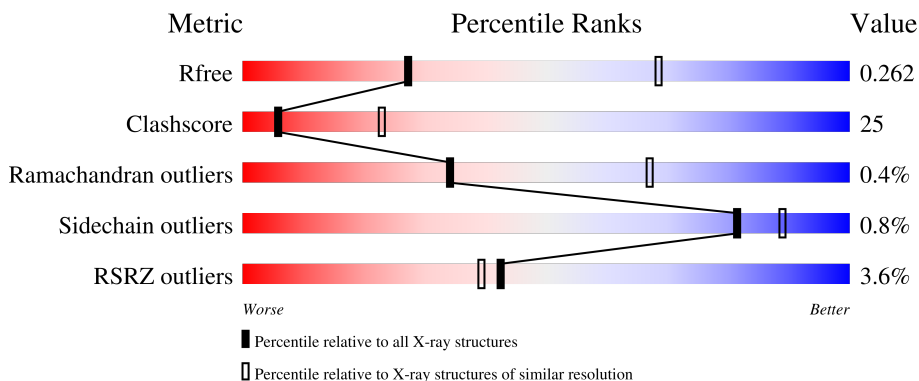
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 3.25 Å.

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



Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R_{free}	130704	1191 (3.30-3.22)
Clashscore	141614	1251 (3.30-3.22)
Ramachandran outliers	138981	1229 (3.30-3.22)
Sidechain outliers	138945	1228 (3.30-3.22)
RSRZ outliers	127900	1154 (3.30-3.22)

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	392	
1	B	392	
1	C	392	
1	D	392	
1	E	392	

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Mol	Chain	Length	Quality of chain	
1	F	392	7%	59% 41%
1	G	392	8%	56% 43%
1	H	392	3%	52% 47%
1	I	392	6%	54% 45%
1	J	392	%	62% 36%

The following table lists non-polymeric compounds, carbohydrate monomers and non-standard residues in protein, DNA, RNA chains that are outliers for geometric or electron-density-fit criteria:

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
1	LLP	B	285	-	-	X	-
1	LLP	E	285	-	-	X	-
2	K	G	501	-	-	-	X
3	THJ	A	2003	-	-	X	-
3	THJ	E	502	-	-	X	-
3	THJ	H	501	-	-	X	-
3	THJ	J	501	-	-	X	-

2 Entry composition

There are 3 unique types of molecules in this entry. The entry contains 30888 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 L-seryl-tRNA(Sec) selenium transferase.

Mol	Chain	Residues	Atoms						ZeroOcc	AltConf	Trace
			Total	C	N	O	P	S			
1	A	392	3086	1962	535	577	1	11	0	0	0
1	B	390	3069	1951	532	575	1	10	0	0	0
1	C	392	3086	1962	535	577	1	11	0	0	0
1	D	390	3069	1951	532	575	1	10	0	0	0
1	E	392	3086	1962	535	577	1	11	0	0	0
1	F	392	3086	1962	535	577	1	11	0	0	0
1	G	389	3063	1948	531	573	1	10	0	0	0
1	H	392	3086	1962	535	577	1	11	0	0	0
1	I	392	3086	1962	535	577	1	11	0	0	0
1	J	392	3086	1962	535	577	1	11	0	0	0

There are 10 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	61	MET	-	expression tag	UNP O67140
B	61	MET	-	expression tag	UNP O67140
C	61	MET	-	expression tag	UNP O67140
D	61	MET	-	expression tag	UNP O67140
E	61	MET	-	expression tag	UNP O67140
F	61	MET	-	expression tag	UNP O67140
G	61	MET	-	expression tag	UNP O67140
H	61	MET	-	expression tag	UNP O67140
I	61	MET	-	expression tag	UNP O67140

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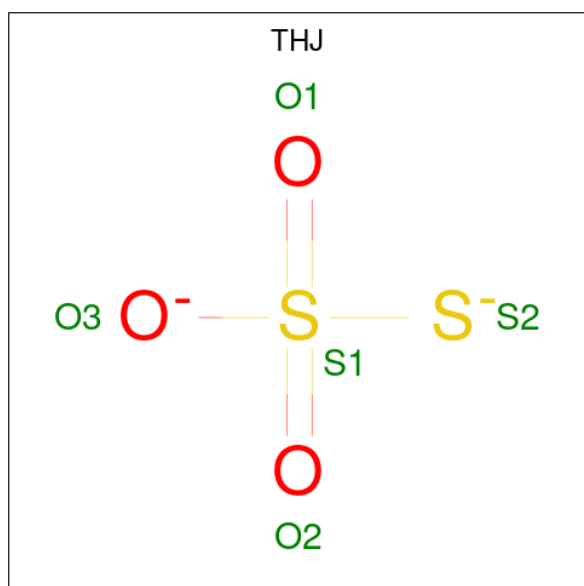
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Chain	Residue	Modelled	Actual	Comment	Reference
J	61	MET	-	expression tag	UNP O67140

- Molecule 2 is POTASSIUM ION (three-letter code: K) (formula: K).

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
2	A	1	Total K 1 1	0	0
2	D	1	Total K 1 1	0	0
2	E	1	Total K 1 1	0	0
2	G	1	Total K 1 1	0	0
2	I	1	Total K 1 1	0	0

- Molecule 3 is THIOSULFATE (three-letter code: THJ) (formula: O₃S₂).



Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
3	A	1	Total O S 5 3 2	0	0
3	A	1	Total O S 5 3 2	0	0
3	A	1	Total O S 5 3 2	0	0
3	B	1	Total O S 5 3 2	0	0

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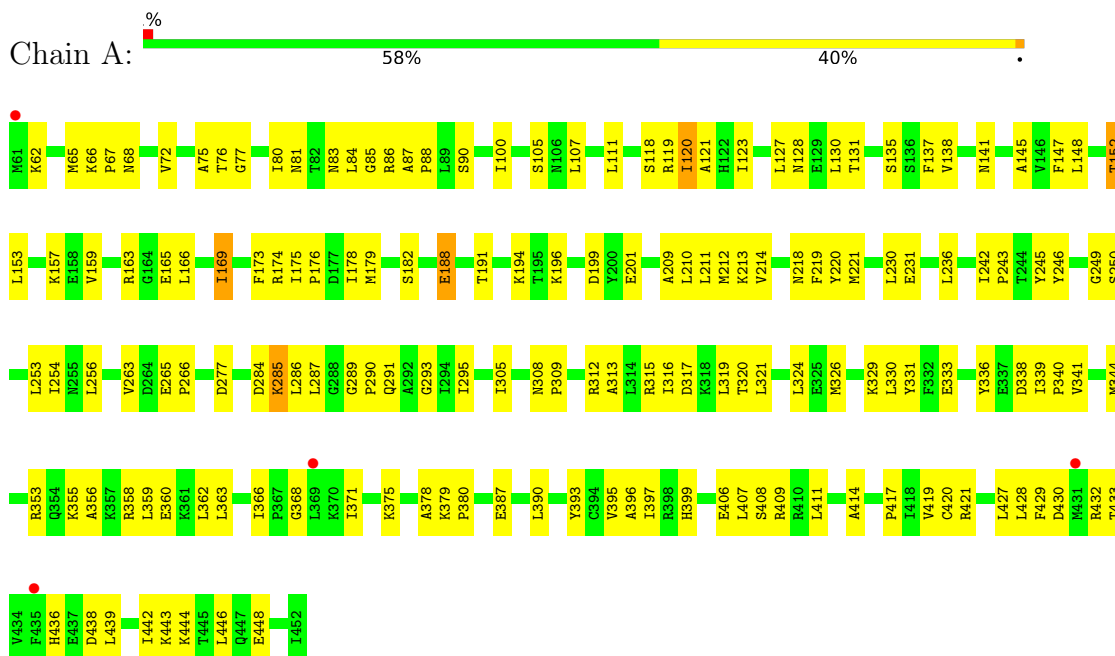
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Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
3	C	1	Total 5	O 3	S 2	0	0
3	D	1	Total 5	O 3	S 2	0	0
3	D	1	Total 5	O 3	S 2	0	0
3	E	1	Total 5	O 3	S 2	0	0
3	E	1	Total 5	O 3	S 2	0	0
3	E	1	Total 5	O 3	S 2	0	0
3	H	1	Total 5	O 3	S 2	0	0
3	I	1	Total 5	O 3	S 2	0	0
3	I	1	Total 5	O 3	S 2	0	0
3	J	1	Total 5	O 3	S 2	0	0
3	J	1	Total 5	O 3	S 2	0	0
3	J	1	Total 5	O 3	S 2	0	0

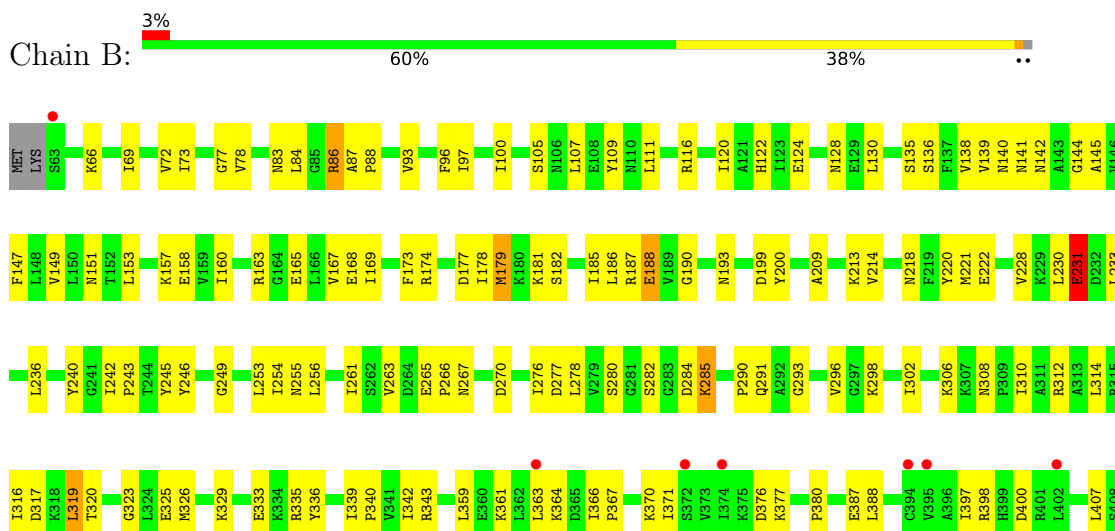
3 Residue-property plots

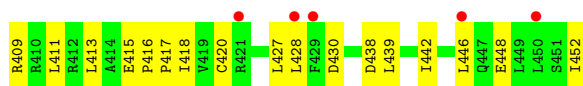
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and electron density. 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: L-seryl-tRNA(Sec) selenium transferase

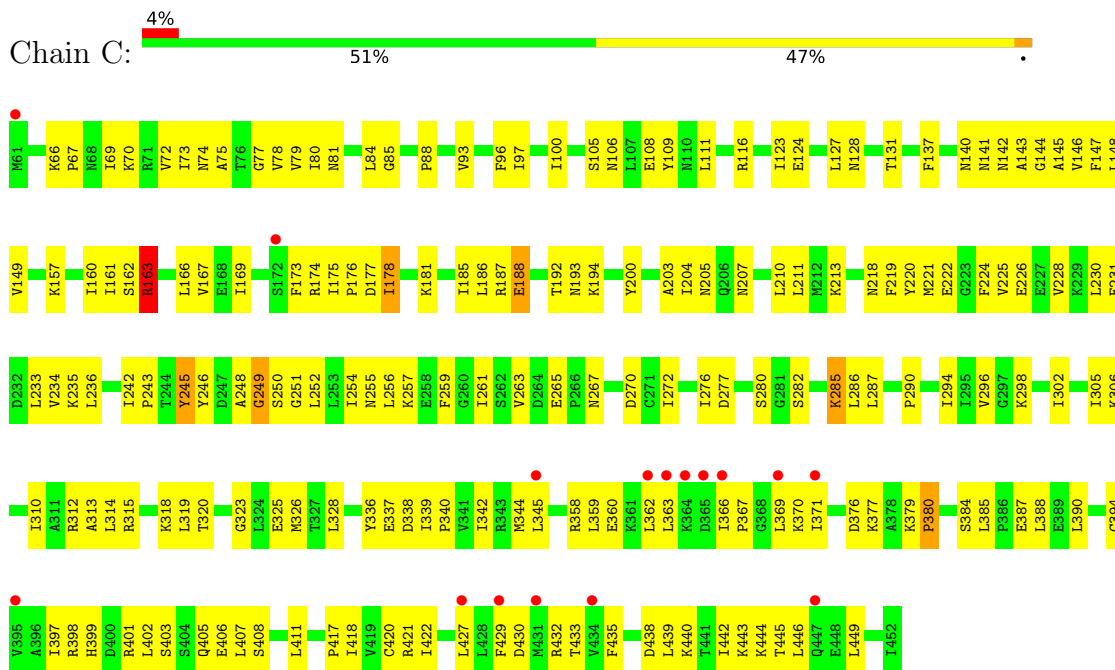


- Molecule 1: L-seryl-tRNA(Sec) selenium transferase

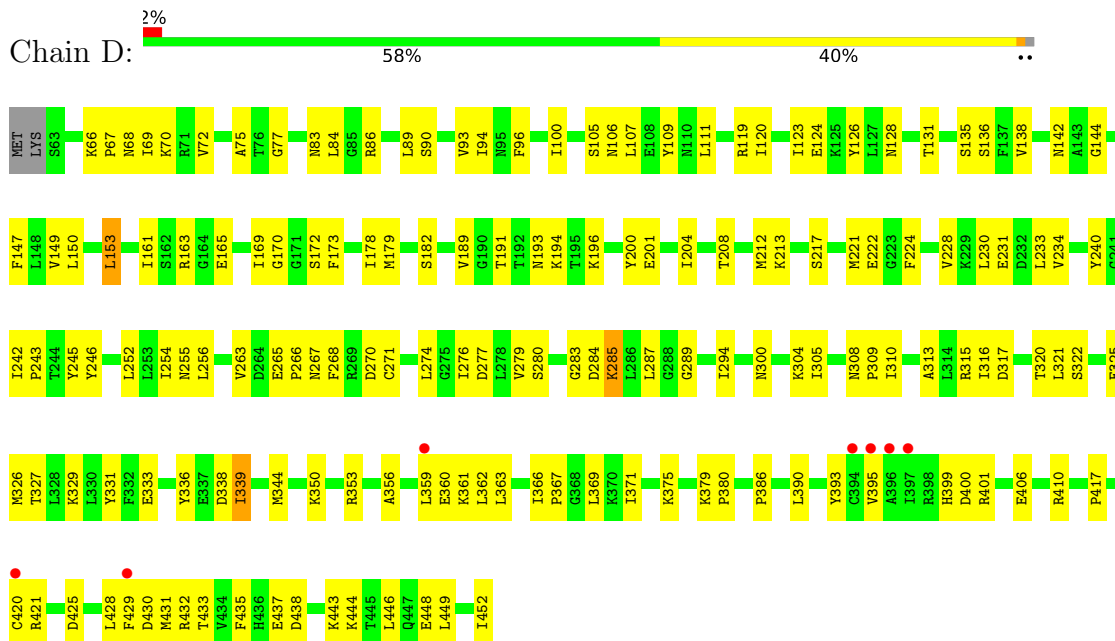




• Molecule 1: L-seryl-tRNA(Sec) selenium transferase

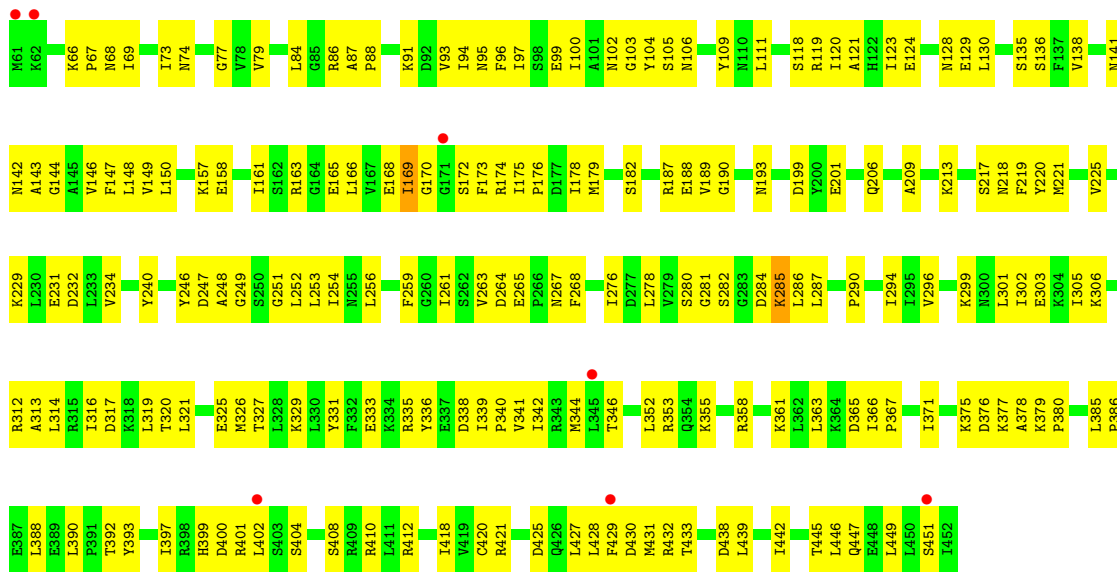


• Molecule 1: L-seryl-tRNA(Sec) selenium transferase

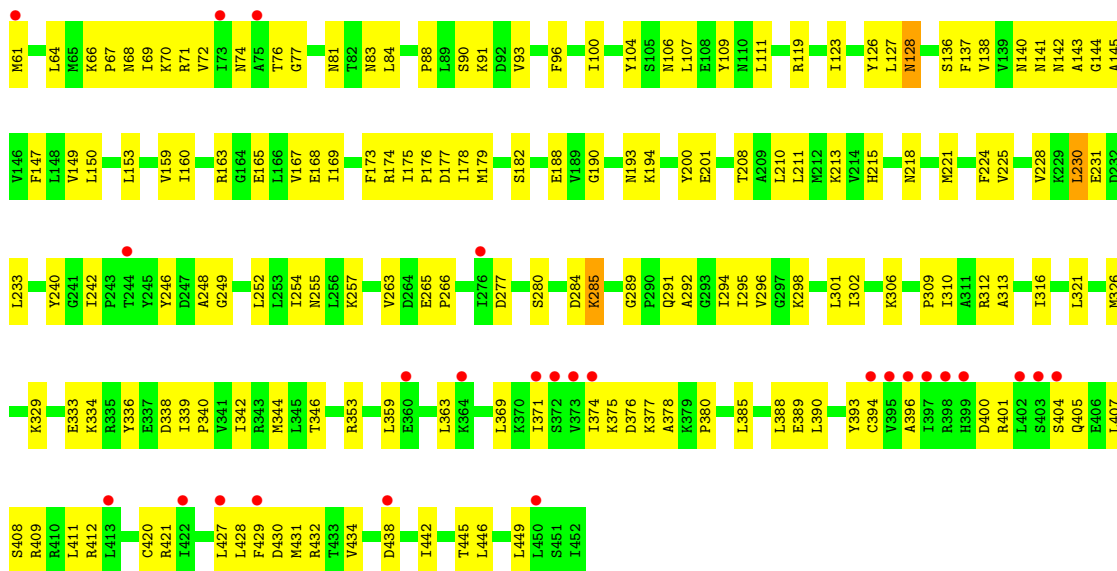


• Molecule 1: L-seryl-tRNA(Sec) selenium transferase

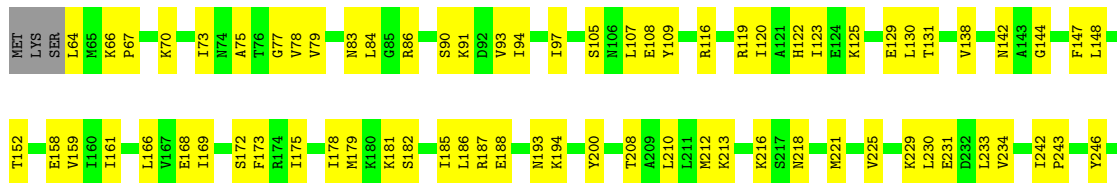


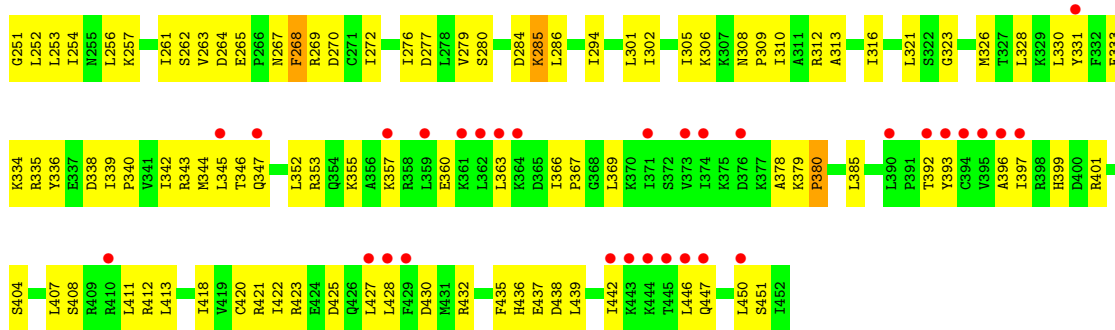


• Molecule 1: L-seryl-tRNA(Sec) selenium transferase

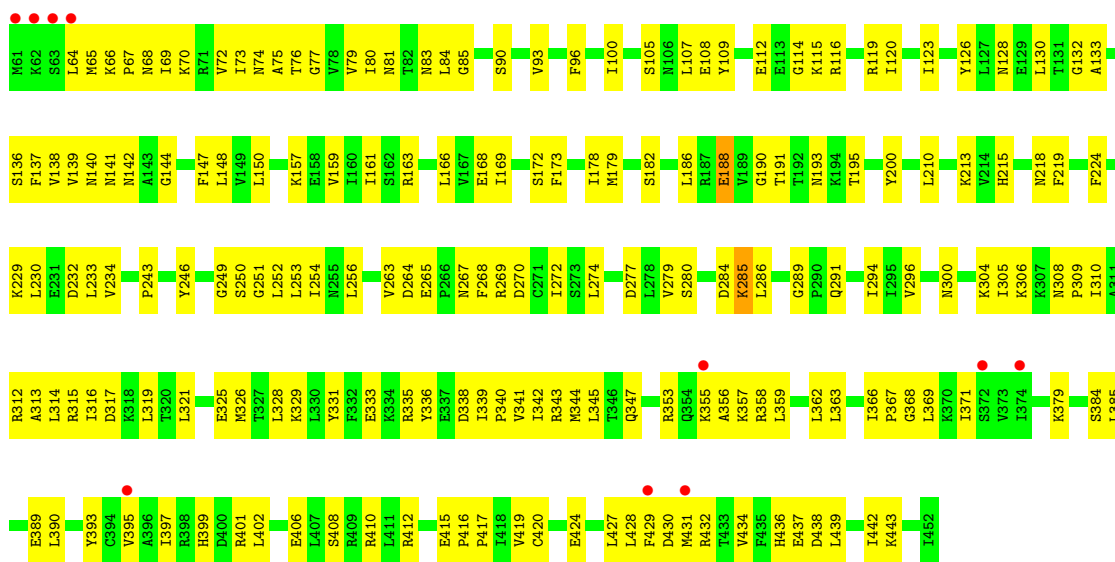


• Molecule 1: L-seryl-tRNA(Sec) selenium transferase

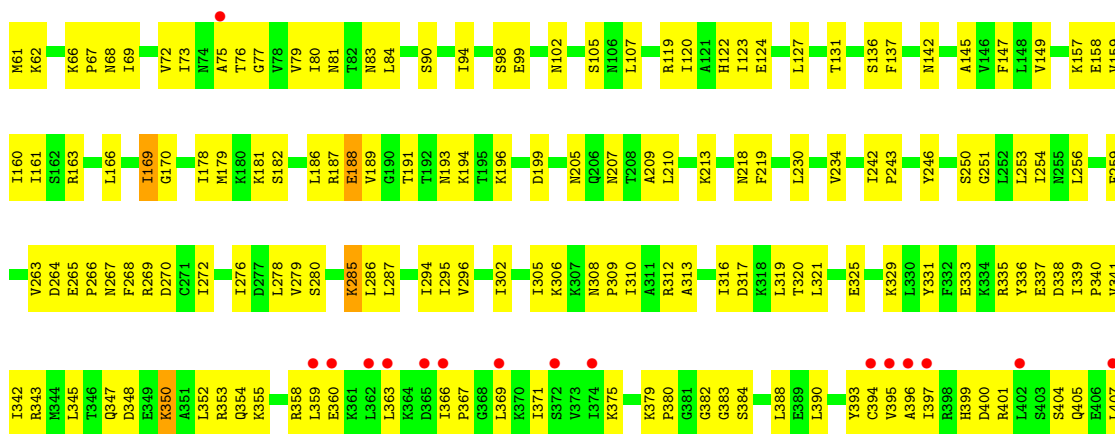


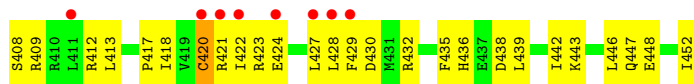


• Molecule 1: L-seryl-tRNA(Sec) selenium transferase

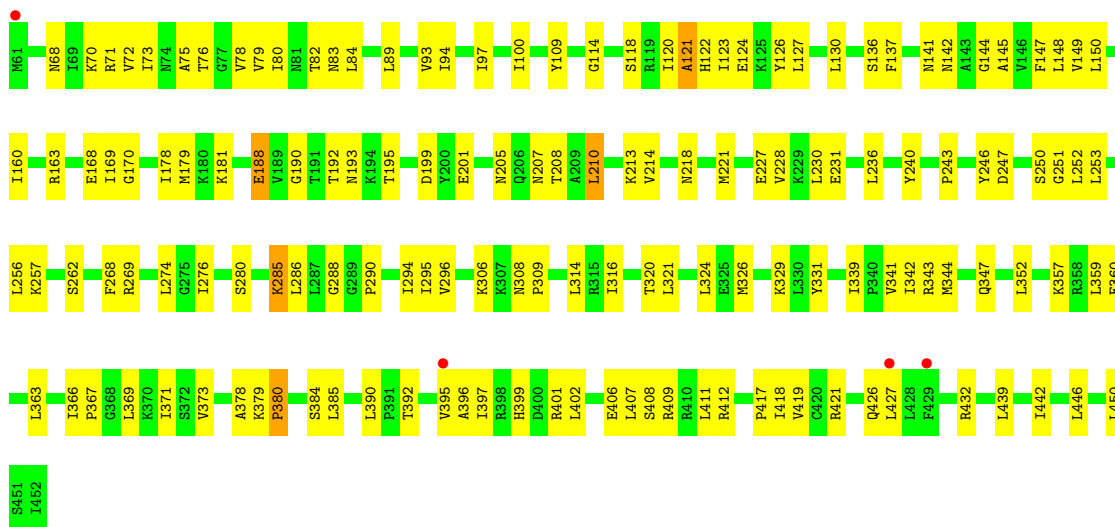


• Molecule 1: L-seryl-tRNA(Sec) selenium transferase





- Molecule 1: L-seryl-tRNA(Sec) selenium transferase



4 Data and refinement statistics

Property	Value	Source
Space group	P 1	Depositor
Cell constants a, b, c, α , β , γ	92.44Å 116.37Å 124.79Å 102.09° 93.39° 106.06°	Depositor
Resolution (Å)	38.52 – 3.25 49.84 – 3.25	Depositor EDS
% Data completeness (in resolution range)	98.9 (38.52-3.25) 99.0 (49.84-3.25)	Depositor EDS
R_{merge}	0.13	Depositor
R_{sym}	0.13	Depositor
$\langle I/\sigma(I) \rangle$ ¹	2.01 (at 3.25Å)	Xtrriage
Refinement program	PHENIX 1.7.1_743	Depositor
R, R_{free}	0.200 , 0.266 0.196 , 0.262	Depositor DCC
R_{free} test set	3814 reflections (5.05%)	wwPDB-VP
Wilson B-factor (Å ²)	91.5	Xtrriage
Anisotropy	0.708	Xtrriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.26 , 58.2	EDS
L-test for twinning ²	$\langle L \rangle = 0.49$, $\langle L^2 \rangle = 0.32$	Xtrriage
Estimated twinning fraction	No twinning to report.	Xtrriage
F_o, F_c correlation	0.94	EDS
Total number of atoms	30888	wwPDB-VP
Average B, all atoms (Å ²)	123.0	wwPDB-VP

Xtrriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 3.59% of the height of the origin peak. No significant pseudotranslation is detected.*

¹Intensities estimated from amplitudes.

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

5 Model quality [i](#)

5.1 Standard geometry [i](#)

Bond lengths and bond angles in the following residue types are not validated in this section: LLP, THJ, K

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	0.47	0/3101	0.67	0/4165
1	B	0.50	0/3084	0.70	3/4144 (0.1%)
1	C	0.48	0/3101	0.69	1/4165 (0.0%)
1	D	0.47	0/3084	0.69	1/4144 (0.0%)
1	E	0.43	0/3101	0.63	0/4165
1	F	0.42	0/3101	0.60	1/4165 (0.0%)
1	G	0.42	0/3078	0.57	0/4136
1	H	0.41	0/3101	0.60	0/4165
1	I	0.41	0/3101	0.59	0/4165
1	J	0.45	0/3101	0.65	1/4165 (0.0%)
All	All	0.45	0/30953	0.64	7/41579 (0.0%)

There are no bond length outliers.

All (7) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	D	153	LEU	CB-CG-CD2	-5.97	100.85	111.00
1	B	319	LEU	CA-CB-CG	-5.54	102.56	115.30
1	B	312	ARG	NE-CZ-NH2	-5.50	117.55	120.30
1	C	163	ARG	NE-CZ-NH1	-5.18	117.71	120.30
1	F	230	LEU	CA-CB-CG	-5.15	103.45	115.30
1	J	210	LEU	CB-CG-CD1	-5.13	102.27	111.00
1	B	312	ARG	NE-CZ-NH1	5.08	122.84	120.30

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts [i](#)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	3086	0	3237	178	0
1	B	3069	0	3215	159	0
1	C	3086	0	3237	187	0
1	D	3069	0	3215	166	0
1	E	3086	0	3237	196	0
1	F	3086	0	3237	167	0
1	G	3063	0	3210	175	0
1	H	3086	0	3237	178	0
1	I	3086	0	3237	186	0
1	J	3086	0	3237	161	0
2	A	1	0	0	0	0
2	D	1	0	0	0	0
2	E	1	0	0	0	0
2	G	1	0	0	0	0
2	I	1	0	0	0	0
3	A	15	0	0	5	0
3	B	5	0	0	1	0
3	C	5	0	0	0	0
3	D	10	0	0	1	0
3	E	15	0	0	4	0
3	H	5	0	0	4	0
3	I	10	0	0	2	0
3	J	15	0	0	4	0
All	All	30888	0	32299	1585	0

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 25.

All (1585) 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:405:GLN:HE22	1:C:422:ILE:HG21	0.92	1.04
1:C:405:GLN:NE2	1:C:422:ILE:HG21	1.73	1.03
1:I:102:ASN:HB3	1:J:71:ARG:HH22	1.25	1.02
1:I:61:MET:HG2	1:I:62:LYS:H	1.25	1.01

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:J:72:VAL:HG22	1:J:417:PRO:HG2	1.40	1.01
1:F:147:PHE:HB2	1:F:178:ILE:HD11	1.42	1.00
1:A:407:LEU:HD23	1:A:427:LEU:HD22	1.43	0.99
1:C:200:TYR:HE2	1:C:228:VAL:HG21	1.24	0.99
1:J:230:LEU:HD22	1:J:276:ILE:HD11	1.44	0.99
1:B:256:LEU:HD23	1:B:263:VAL:HG22	1.44	0.96
1:G:423:ARG:HH12	1:G:428:LEU:HD11	1.27	0.96
1:J:290:PRO:HB2	1:J:320:THR:HG22	1.49	0.94
1:I:405:GLN:HE22	1:I:422:ILE:HG21	1.31	0.94
1:G:125:LYS:HB2	1:H:64:LEU:HD21	1.50	0.93
1:C:200:TYR:CE2	1:C:228:VAL:HG21	2.03	0.93
1:G:408:SER:HB3	1:G:422:ILE:HD11	1.50	0.93
1:A:221:MET:HG2	1:J:221:MET:HG2	1.52	0.92
1:A:100:ILE:HD12	1:B:69:ILE:HG22	1.47	0.92
1:I:369:LEU:HD11	1:I:397:ILE:HB	1.52	0.91
1:G:147:PHE:HB2	1:G:178:ILE:HD11	1.54	0.90
1:I:66:LYS:HG2	1:I:67:PRO:HD2	1.51	0.90
1:F:316:ILE:HD11	1:F:321:LEU:HD13	1.55	0.89
1:D:350:LYS:HE3	1:D:353:ARG:HH21	1.34	0.89
1:G:363:LEU:HD21	1:G:446:LEU:HD12	1.54	0.89
1:E:102:ASN:HB3	1:F:71:ARG:HH22	1.35	0.89
1:H:359:LEU:HD23	1:H:395:VAL:HG21	1.54	0.88
1:B:221:MET:HG2	1:C:221:MET:HG2	1.54	0.87
1:B:147:PHE:HB2	1:B:178:ILE:HD11	1.56	0.87
1:H:93:VAL:HA	1:H:326:MET:HG2	1.55	0.86
1:I:102:ASN:CB	1:J:71:ARG:HH22	1.89	0.86
1:A:290:PRO:HB2	1:A:320:THR:HG22	1.57	0.85
1:D:77:GLY:HA2	1:D:433:THR:HG23	1.57	0.85
1:I:355:LYS:HD2	1:I:436:HIS:CE1	2.12	0.85
1:D:224:PHE:HD1	1:E:218:ASN:HB2	1.42	0.84
1:E:259:PHE:HE2	1:E:336:TYR:CD2	1.95	0.84
1:G:423:ARG:NH1	1:G:428:LEU:HD11	1.91	0.84
1:D:375:LYS:HB2	1:D:393:TYR:HE2	1.42	0.84
1:J:93:VAL:HA	1:J:326:MET:HG2	1.58	0.84
1:A:159:VAL:HG22	1:A:210:LEU:HB3	1.60	0.84
1:B:231:GLU:OE2	1:B:231:GLU:N	2.10	0.84
1:A:375:LYS:HB2	1:A:393:TYR:HE1	1.41	0.83
1:F:224:PHE:HB2	1:G:218:ASN:HD22	1.43	0.83
1:G:420:CYS:SG	1:G:427:LEU:HD11	2.17	0.83
1:G:423:ARG:HH22	1:G:428:LEU:HD21	1.42	0.83
1:H:130:LEU:HD13	1:H:253:LEU:HD21	1.60	0.83

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:312:ARG:HD3	1:D:172:SER:OG	1.79	0.83
1:E:420:CYS:SG	1:E:427:LEU:HD11	2.18	0.82
1:B:86:ARG:NH2	1:B:285:LLP:HE2	1.95	0.82
1:D:161:ILE:HD11	1:D:212:MET:SD	2.19	0.82
1:B:439:LEU:HA	1:B:442:ILE:HD12	1.61	0.82
1:C:66:LYS:HG3	1:C:67:PRO:HD2	1.62	0.81
1:A:359:LEU:HD23	1:A:395:VAL:HG11	1.62	0.81
1:D:350:LYS:CE	1:D:353:ARG:HH21	1.94	0.81
1:C:402:LEU:HD11	1:C:406:GLU:HB3	1.63	0.81
1:G:169:ILE:HG22	1:G:218:ASN:OD1	1.81	0.81
1:E:252:LEU:HD13	1:E:286:LEU:HD13	1.61	0.81
1:C:173:PHE:HE1	1:C:178:ILE:HD12	1.44	0.81
1:A:309:PRO:HG2	1:B:181:LYS:HG3	1.61	0.81
1:H:420:CYS:SG	1:H:427:LEU:HD11	2.21	0.80
1:A:118:SER:OG	1:A:120:ILE:HG12	1.81	0.80
1:A:316:ILE:HD11	1:A:321:LEU:HD13	1.63	0.80
1:J:316:ILE:HD11	1:J:321:LEU:HD13	1.63	0.80
1:E:142:ASN:HB3	1:E:285:LLP:OP4	1.80	0.80
1:G:159:VAL:HG22	1:G:210:LEU:HB3	1.60	0.80
1:C:169:ILE:HG13	1:C:173:PHE:HD2	1.47	0.80
1:H:108:GLU:O	1:H:116:ARG:HG3	1.82	0.80
1:D:119:ARG:HD2	1:D:315:ARG:HD2	1.63	0.79
1:G:73:ILE:HB	1:G:418:ILE:HG12	1.65	0.79
1:C:96:PHE:O	1:C:100:ILE:HG12	1.83	0.79
1:H:353:ARG:HE	1:H:357:LYS:HE3	1.47	0.79
1:B:138:VAL:HG12	1:B:316:ILE:HG21	1.64	0.79
1:H:371:ILE:HG12	1:H:397:ILE:HG22	1.64	0.79
1:H:141:ASN:HB3	1:H:291:GLN:HE21	1.48	0.79
1:J:201:GLU:HG3	1:J:236:LEU:HD11	1.65	0.78
1:I:339:ILE:HD11	1:I:342:ILE:HG13	1.65	0.78
1:J:137:PHE:CD1	1:J:306:LYS:HG2	2.18	0.78
1:A:166:LEU:HD13	1:A:176:PRO:HG3	1.65	0.78
1:G:439:LEU:HA	1:G:442:ILE:HD12	1.66	0.78
1:A:147:PHE:HB2	1:A:178:ILE:HD11	1.66	0.78
1:F:163:ARG:HD2	1:F:190:GLY:O	1.84	0.78
1:C:325:GLU:OE1	1:D:69:ILE:HG13	1.84	0.77
1:E:73:ILE:HB	1:E:418:ILE:HG12	1.66	0.77
1:A:326:MET:O	1:A:330:LEU:HG	1.85	0.77
1:B:263:VAL:HG23	1:B:265:GLU:H	1.50	0.77
1:C:376:ASP:OD1	1:C:377:LYS:N	2.18	0.77
1:C:167:VAL:H	1:C:175:ILE:HG13	1.48	0.77

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:131:THR:HG22	1:D:268:PHE:HB3	1.67	0.77
1:E:130:LEU:HD13	1:E:253:LEU:HD21	1.64	0.77
1:B:96:PHE:O	1:B:100:ILE:HG12	1.85	0.76
1:C:440:LYS:O	1:C:444:LYS:HG3	1.85	0.76
1:D:353:ARG:HB2	1:D:393:TYR:CE1	2.20	0.76
1:I:73:ILE:HB	1:I:418:ILE:HG12	1.66	0.76
1:E:147:PHE:HB2	1:E:178:ILE:HD11	1.68	0.76
1:H:168:GLU:OE2	1:I:194:LYS:HE3	1.87	0.75
1:E:363:LEU:HB3	1:E:371:ILE:HD11	1.69	0.75
1:D:359:LEU:HD23	1:D:395:VAL:HG21	1.68	0.75
1:E:86:ARG:NH2	3:E:502:THJ:S2	2.59	0.75
1:A:312:ARG:HH22	1:B:285:LLP:P	2.10	0.75
1:I:76:THR:O	1:I:421:ARG:NE	2.20	0.74
1:B:285:LLP:H4'1	1:B:285:LLP:OP4	1.86	0.74
1:F:420:CYS:SG	1:F:427:LEU:HD11	2.27	0.74
1:I:99:GLU:O	1:J:71:ARG:NH2	2.20	0.74
1:C:445:THR:O	1:C:449:LEU:HG	1.85	0.74
1:D:390:LEU:HB3	1:D:432:ARG:HH22	1.53	0.74
1:H:408:SER:O	1:H:412:ARG:HG3	1.87	0.74
1:I:131:THR:HG22	1:I:268:PHE:HB3	1.69	0.74
1:A:375:LYS:HB2	1:A:393:TYR:CE1	2.22	0.74
1:B:174:ARG:HG3	1:B:177:ASP:HB2	1.68	0.74
1:J:344:MET:O	1:J:432:ARG:HD2	1.88	0.74
1:C:181:LYS:HG3	1:D:309:PRO:HG2	1.68	0.73
1:A:173:PHE:HE1	1:A:178:ILE:HD12	1.51	0.73
1:B:420:CYS:HB2	1:B:428:LEU:O	1.87	0.73
1:G:363:LEU:CD2	1:G:446:LEU:HD12	2.19	0.73
1:I:81:ASN:ND2	3:I:503:THJ:S2	2.60	0.73
1:J:169:ILE:HA	1:J:218:ASN:HD21	1.52	0.73
1:E:106:ASN:ND2	1:F:68:ASN:O	2.20	0.73
1:G:93:VAL:HA	1:G:326:MET:HG2	1.71	0.73
1:C:285:LLP:H4'1	1:C:285:LLP:OP4	1.87	0.73
1:F:378:ALA:CB	1:F:421:ARG:HH12	2.00	0.73
1:I:102:ASN:HB3	1:J:71:ARG:NH2	2.02	0.73
1:E:93:VAL:HG22	1:E:326:MET:HG3	1.70	0.73
1:J:210:LEU:HD23	1:J:243:PRO:HG2	1.70	0.73
1:I:408:SER:O	1:I:412:ARG:HG3	1.89	0.72
1:D:437:GLU:N	1:D:437:GLU:OE1	2.21	0.72
1:C:360:GLU:HG3	1:C:371:ILE:HG21	1.72	0.72
1:D:336:TYR:O	1:D:339:ILE:HG12	1.90	0.72
1:J:366:ILE:HG23	1:J:367:PRO:HD2	1.71	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:88:PRO:O	1:A:340:PRO:HG2	1.90	0.72
1:C:69:ILE:HG13	1:D:325:GLU:OE1	1.89	0.72
1:D:375:LYS:HB2	1:D:393:TYR:CE2	2.24	0.71
1:C:193:ASN:ND2	1:C:194:LYS:HG3	2.06	0.71
1:I:169:ILE:HD11	1:I:285:LLP:H5'1	1.72	0.71
1:A:83:ASN:ND2	3:A:2003:THJ:O3	2.20	0.71
1:B:145:ALA:O	1:B:149:VAL:HG23	1.89	0.71
1:B:165:GLU:O	1:B:167:VAL:HG13	1.89	0.71
1:G:138:VAL:HG12	1:G:316:ILE:HG21	1.72	0.71
1:A:147:PHE:HE1	1:A:182:SER:HA	1.56	0.71
1:D:267:ASN:OD1	1:D:270:ASP:HB2	1.91	0.71
1:G:378:ALA:CB	1:G:421:ARG:HH12	2.03	0.71
1:J:402:LEU:HD22	1:J:406:GLU:HG2	1.72	0.71
1:E:229:LYS:HB3	1:E:231:GLU:OE1	1.90	0.71
1:B:109:TYR:CD1	1:B:111:LEU:HD23	2.25	0.70
1:B:255:ASN:N	1:B:267:ASN:HD22	1.89	0.70
1:J:339:ILE:HD11	1:J:342:ILE:HG13	1.73	0.70
1:E:302:ILE:HG22	1:E:306:LYS:HE2	1.73	0.70
1:I:397:ILE:HD11	1:I:427:LEU:HD23	1.73	0.70
1:H:66:LYS:HG3	1:H:67:PRO:HD2	1.74	0.70
1:H:169:ILE:HD11	1:H:285:LLP:H5'1	1.74	0.70
1:J:360:GLU:HG3	1:J:371:ILE:HG21	1.73	0.70
1:D:147:PHE:HB2	1:D:178:ILE:HD11	1.73	0.70
1:F:179:MET:O	1:F:182:SER:HB3	1.92	0.70
1:E:102:ASN:HB3	1:F:71:ARG:NH2	2.06	0.70
1:H:75:ALA:N	1:H:419:VAL:O	2.22	0.70
1:C:77:GLY:HA3	1:C:430:ASP:OD2	1.92	0.70
1:D:165:GLU:OE1	1:D:213:LYS:HG3	1.92	0.70
1:E:375:LYS:HB2	1:E:393:TYR:CE2	2.27	0.70
1:G:179:MET:O	1:G:182:SER:HB3	1.91	0.70
1:C:405:GLN:HE22	1:C:422:ILE:CG2	1.87	0.70
1:D:72:VAL:HG22	1:D:417:PRO:HG2	1.74	0.70
1:G:253:LEU:HA	1:G:268:PHE:HD2	1.56	0.70
1:I:68:ASN:HB2	1:J:122:HIS:CD2	2.26	0.70
1:A:360:GLU:HG3	1:A:371:ILE:HG21	1.73	0.70
1:C:127:LEU:O	1:C:131:THR:HG23	1.92	0.70
1:G:252:LEU:HG	1:G:267:ASN:HB3	1.74	0.70
1:E:358:ARG:HG3	1:E:361:LYS:HE2	1.72	0.69
1:I:69:ILE:HG22	1:J:100:ILE:HD12	1.72	0.69
1:I:420:CYS:SG	1:I:427:LEU:HD11	2.32	0.69
1:J:230:LEU:HD22	1:J:276:ILE:CD1	2.22	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:218:ASN:HB2	1:C:224:PHE:HD1	1.57	0.69
1:I:308:ASN:OD1	1:I:310:ILE:N	2.23	0.69
1:B:407:LEU:HD23	1:B:427:LEU:HD22	1.74	0.69
1:A:81:ASN:ND2	3:A:2003:THJ:S2	2.64	0.69
1:I:61:MET:HG2	1:I:62:LYS:N	2.03	0.69
1:A:312:ARG:NH2	1:B:285:LLP:OP3	2.26	0.69
1:I:181:LYS:HG3	1:J:309:PRO:HG2	1.75	0.68
1:C:66:LYS:CG	1:C:67:PRO:HD2	2.23	0.68
1:H:402:LEU:HD22	1:H:406:GLU:HG2	1.74	0.68
1:J:170:GLY:HA3	3:J:501:THJ:S1	2.33	0.68
1:D:90:SER:HB2	1:D:338:ASP:O	1.93	0.68
1:D:96:PHE:HD2	1:D:326:MET:HB2	1.58	0.68
1:A:72:VAL:HG22	1:A:417:PRO:HG2	1.75	0.68
1:D:75:ALA:HB3	1:D:420:CYS:HB3	1.73	0.68
1:G:286:LEU:HD11	1:G:385:LEU:HD21	1.76	0.68
1:F:221:MET:HG2	1:G:221:MET:HG2	1.75	0.68
1:C:344:MET:HE3	1:C:435:PHE:HE1	1.58	0.68
1:E:93:VAL:HA	1:E:326:MET:HG2	1.76	0.68
1:J:213:LYS:HG2	1:J:246:TYR:CE1	2.28	0.68
1:C:213:LYS:HD3	1:C:230:LEU:HD21	1.75	0.68
1:I:369:LEU:HG	1:I:371:ILE:HG13	1.76	0.68
1:G:161:ILE:HD12	1:G:212:MET:HG2	1.76	0.68
1:I:61:MET:CG	1:I:62:LYS:H	2.04	0.68
1:A:123:ILE:HG12	1:A:321:LEU:HD11	1.76	0.67
1:B:397:ILE:HD11	1:B:427:LEU:HD23	1.76	0.67
1:G:97:ILE:HD11	1:G:323:GLY:HA3	1.77	0.67
1:I:251:GLY:HA2	1:I:268:PHE:CZ	2.30	0.67
1:B:109:TYR:HD1	1:B:111:LEU:HD23	1.60	0.67
1:E:169:ILE:HD11	1:E:285:LLP:C5'	2.24	0.67
1:F:81:ASN:ND2	1:F:84:LEU:HG	2.09	0.67
1:G:408:SER:HB3	1:G:422:ILE:CD1	2.25	0.67
1:B:254:ILE:C	1:B:267:ASN:HD22	1.98	0.67
1:C:66:LYS:HG3	1:C:67:PRO:CD	2.25	0.67
1:E:333:GLU:OE1	1:E:335:ARG:HD2	1.95	0.67
1:G:308:ASN:OD1	1:G:310:ILE:N	2.27	0.67
1:C:344:MET:CE	1:C:435:PHE:HE1	2.08	0.67
1:A:359:LEU:HD13	1:A:439:LEU:HD22	1.76	0.67
1:A:312:ARG:CZ	1:A:315:ARG:HH21	2.08	0.67
1:I:120:ILE:HD12	1:I:316:ILE:HD11	1.77	0.67
1:C:267:ASN:OD1	1:C:270:ASP:HB2	1.94	0.67
1:E:438:ASP:O	1:E:442:ILE:HG13	1.94	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:344:MET:O	1:G:432:ARG:HD2	1.95	0.66
1:H:439:LEU:HA	1:H:442:ILE:HD12	1.76	0.66
1:A:169:ILE:HD11	1:A:285:LLP:H5'1	1.76	0.66
1:C:147:PHE:HB2	1:C:178:ILE:HD11	1.76	0.66
1:E:173:PHE:HB2	1:F:312:ARG:HG2	1.75	0.66
1:F:407:LEU:O	1:F:411:LEU:HG	1.95	0.66
1:J:72:VAL:HG22	1:J:417:PRO:CG	2.22	0.66
1:E:252:LEU:HD13	1:E:286:LEU:CD1	2.25	0.66
1:F:445:THR:O	1:F:449:LEU:HG	1.96	0.66
1:G:125:LYS:HB3	1:H:64:LEU:HD11	1.78	0.66
1:H:246:TYR:HB3	1:H:279:VAL:HG22	1.77	0.66
1:I:423:ARG:CZ	1:I:428:LEU:HD11	2.26	0.66
1:A:317:ASP:OD2	1:A:319:LEU:HB2	1.96	0.66
1:E:352:LEU:HD13	1:E:392:THR:OG1	1.96	0.66
1:I:179:MET:O	1:I:182:SER:HB3	1.94	0.66
1:A:308:ASN:OD1	1:A:309:PRO:HD2	1.96	0.66
1:A:163:ARG:NH1	1:J:188:GLU:OE1	2.29	0.66
1:C:397:ILE:HD11	1:C:427:LEU:HD23	1.76	0.66
1:G:147:PHE:CE1	1:H:310:ILE:HG12	2.31	0.66
1:H:148:LEU:HG	1:H:305:ILE:HG23	1.78	0.66
1:G:186:LEU:HD12	1:G:187:ARG:N	2.11	0.65
1:J:170:GLY:HA3	3:J:501:THJ:O1	1.95	0.65
1:A:359:LEU:CD2	1:A:395:VAL:HG11	2.26	0.65
1:D:96:PHE:CD2	1:D:326:MET:HB2	2.31	0.65
1:D:149:VAL:HG22	1:D:305:ILE:HD11	1.77	0.65
1:D:224:PHE:CD1	1:E:218:ASN:HB2	2.29	0.65
1:E:355:LYS:HG3	1:E:358:ARG:HH12	1.61	0.65
1:F:141:ASN:OD1	1:F:143:ALA:HB3	1.96	0.65
1:H:136:SER:HB3	1:H:296:VAL:HG12	1.79	0.65
1:A:75:ALA:HB3	1:A:420:CYS:HB3	1.77	0.65
1:B:179:MET:O	1:B:182:SER:HB3	1.95	0.65
1:F:150:LEU:HD13	1:F:179:MET:HG3	1.79	0.65
1:I:159:VAL:HG22	1:I:210:LEU:HB3	1.78	0.65
1:I:399:HIS:HE1	1:I:401:ARG:HD3	1.61	0.65
1:J:80:ILE:HG13	1:J:384:SER:OG	1.96	0.65
1:J:373:VAL:HG22	1:J:395:VAL:HG22	1.77	0.65
1:H:270:ASP:O	1:H:274:LEU:HG	1.97	0.65
1:A:141:ASN:HB3	1:A:291:GLN:HE21	1.60	0.65
1:E:259:PHE:HE2	1:E:336:TYR:CE2	2.15	0.65
1:C:290:PRO:HB2	1:C:320:THR:HG22	1.78	0.65
1:D:123:ILE:O	1:D:126:TYR:HB2	1.96	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:246:TYR:HE2	1:E:248:ALA:HA	1.60	0.65
1:D:128:ASN:HD21	1:D:135:SER:HA	1.62	0.65
1:A:147:PHE:CE1	1:A:182:SER:HA	2.32	0.65
1:G:122:HIS:CD2	1:H:68:ASN:HB3	2.32	0.65
1:I:147:PHE:HB2	1:I:178:ILE:HD11	1.78	0.65
1:F:263:VAL:HG12	1:F:265:GLU:H	1.61	0.64
1:G:83:ASN:OD1	1:H:116:ARG:HD3	1.98	0.64
1:C:370:LYS:HD2	1:C:398:ARG:HH21	1.61	0.64
1:E:313:ALA:HB1	1:F:144:GLY:HA2	1.79	0.64
1:A:380:PRO:HG2	1:A:390:LEU:HD12	1.79	0.64
1:D:230:LEU:HD21	1:D:246:TYR:CD1	2.32	0.64
1:D:359:LEU:HD23	1:D:395:VAL:HG11	1.79	0.64
1:F:340:PRO:O	1:F:344:MET:HG3	1.97	0.64
1:F:380:PRO:HG2	1:F:390:LEU:HD12	1.79	0.64
1:H:83:ASN:HB2	3:H:501:THJ:O3	1.98	0.64
1:B:220:TYR:CD1	1:B:387:GLU:HG2	2.32	0.64
1:J:169:ILE:HD11	1:J:285:LLP:H5'1	1.80	0.64
1:A:85:GLY:HA2	1:B:107:LEU:HD23	1.80	0.64
1:F:280:SER:HA	1:F:294:ILE:O	1.98	0.64
1:F:145:ALA:O	1:F:149:VAL:HG23	1.98	0.64
1:H:355:LYS:NZ	1:H:431:MET:O	2.27	0.64
1:I:263:VAL:HG12	1:I:264:ASP:N	2.13	0.64
1:C:186:LEU:HD12	1:C:187:ARG:N	2.13	0.64
1:G:254:ILE:HG22	1:G:269:ARG:HE	1.63	0.64
1:J:407:LEU:O	1:J:411:LEU:HG	1.98	0.64
1:D:246:TYR:HB3	1:D:279:VAL:HG22	1.79	0.64
1:E:136:SER:HB3	1:E:296:VAL:HG12	1.80	0.64
1:G:90:SER:HB3	1:G:338:ASP:O	1.97	0.64
1:J:378:ALA:HB1	1:J:421:ARG:HH12	1.63	0.64
1:A:148:LEU:HG	1:A:305:ILE:HG23	1.81	0.63
1:D:128:ASN:ND2	1:D:135:SER:HA	2.14	0.63
1:H:96:PHE:O	1:H:100:ILE:HG12	1.98	0.63
1:I:76:THR:O	1:I:421:ARG:NH2	2.31	0.63
1:I:287:LEU:HD23	1:I:287:LEU:O	1.98	0.63
1:I:405:GLN:OE1	1:I:422:ILE:HD13	1.98	0.63
1:C:167:VAL:O	1:C:175:ILE:HG12	1.98	0.63
1:C:231:GLU:O	1:C:235:LYS:HG3	1.98	0.63
1:F:374:ILE:HD11	1:F:428:LEU:HD22	1.79	0.63
1:G:378:ALA:HB1	1:G:421:ARG:HH12	1.63	0.63
1:C:193:ASN:O	1:C:225:VAL:HG13	1.98	0.63
1:C:210:LEU:HD12	1:C:243:PRO:O	1.97	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:H:254:ILE:HG22	1:H:269:ARG:HE	1.62	0.63
1:I:119:ARG:HG3	1:I:120:ILE:HG12	1.79	0.63
1:E:397:ILE:HD11	1:E:427:LEU:HD23	1.79	0.63
1:H:123:ILE:HG23	1:H:328:LEU:HD11	1.79	0.63
1:E:339:ILE:HD11	1:E:342:ILE:HG13	1.79	0.63
1:G:108:GLU:O	1:G:116:ARG:HG3	1.99	0.63
1:E:252:LEU:HD22	1:E:265:GLU:CG	2.29	0.62
1:E:445:THR:O	1:E:449:LEU:HG	1.97	0.62
1:E:363:LEU:HB3	1:E:371:ILE:CD1	2.29	0.62
1:G:252:LEU:HD11	1:G:254:ILE:O	1.99	0.62
1:B:243:PRO:HA	1:B:277:ASP:OD1	1.99	0.62
1:E:158:GLU:OE1	1:E:187:ARG:NH1	2.32	0.62
1:G:357:LYS:NZ	1:G:360:GLU:OE1	2.32	0.62
1:C:399:HIS:HE1	1:C:401:ARG:HD3	1.64	0.62
1:J:122:HIS:CE1	1:J:126:TYR:CE2	2.87	0.62
1:G:173:PHE:HB2	1:H:312:ARG:HG2	1.82	0.62
1:E:234:VAL:CG2	1:E:276:ILE:HD13	2.30	0.62
1:G:312:ARG:NH2	1:H:285:LLP:OP3	2.24	0.62
1:A:256:LEU:HD12	1:A:263:VAL:CG2	2.30	0.61
1:E:358:ARG:O	1:E:361:LYS:HG2	2.00	0.61
1:G:66:LYS:HG2	1:G:67:PRO:HD2	1.82	0.61
1:H:355:LYS:HE2	1:H:431:MET:HB3	1.81	0.61
1:C:358:ARG:NH2	1:C:439:LEU:HD12	2.16	0.61
1:D:169:ILE:HD11	1:D:285:LLP:H5'1	1.81	0.61
1:G:83:ASN:HB3	1:H:109:TYR:HD2	1.65	0.61
1:G:321:LEU:HG	1:H:69:ILE:HD11	1.81	0.61
1:G:442:ILE:O	1:G:446:LEU:HG	2.00	0.61
1:C:169:ILE:CG1	1:C:173:PHE:HD2	2.13	0.61
1:D:107:LEU:HD21	1:D:119:ARG:NH2	2.15	0.61
1:F:221:MET:CG	1:G:221:MET:HG2	2.29	0.61
1:A:353:ARG:HB2	1:A:393:TYR:CE2	2.35	0.61
1:E:335:ARG:NH1	1:E:338:ASP:OD2	2.33	0.61
1:G:253:LEU:HD23	1:G:331:TYR:CD1	2.36	0.61
1:B:285:LLP:OP4	1:B:285:LLP:C4'	2.49	0.61
1:F:66:LYS:HD2	1:F:67:PRO:HD2	1.83	0.61
1:H:138:VAL:HG12	1:H:316:ILE:HG21	1.82	0.61
1:H:161:ILE:CG2	1:H:186:LEU:HD11	2.31	0.61
1:B:267:ASN:ND2	1:B:270:ASP:OD2	2.33	0.61
1:E:169:ILE:HD11	1:E:285:LLP:H5'1	1.82	0.61
1:C:84:LEU:HA	1:D:105:SER:O	2.01	0.61
1:D:222:GLU:HB3	1:E:220:TYR:CE2	2.35	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:120:ILE:HG22	1:E:124:GLU:HG3	1.82	0.61
1:G:343:ARG:O	1:G:347:GLN:HG3	1.99	0.61
1:H:108:GLU:OE2	1:H:119:ARG:NH2	2.32	0.61
1:I:329:LYS:HE2	1:I:333:GLU:OE2	2.00	0.61
1:A:253:LEU:HD23	1:A:331:TYR:CD1	2.36	0.61
1:I:263:VAL:HG12	1:I:265:GLU:H	1.65	0.61
1:C:109:TYR:CD1	1:C:111:LEU:HD23	2.35	0.61
1:C:246:TYR:CE1	1:C:248:ALA:HB2	2.36	0.61
1:H:169:ILE:HG13	1:H:173:PHE:HD2	1.64	0.61
1:A:317:ASP:HA	1:B:291:GLN:OE1	2.01	0.60
1:A:329:LYS:HE2	1:A:333:GLU:OE2	2.01	0.60
1:C:145:ALA:O	1:C:149:VAL:HG23	2.02	0.60
1:C:169:ILE:HA	1:C:218:ASN:ND2	2.15	0.60
1:C:173:PHE:CE1	1:C:178:ILE:HD12	2.33	0.60
1:D:420:CYS:HG	1:D:429:PHE:HE1	1.48	0.60
1:F:165:GLU:OE2	1:F:213:LYS:NZ	2.29	0.60
1:G:242:ILE:HG23	1:G:243:PRO:HD2	1.83	0.60
1:A:169:ILE:O	1:A:169:ILE:HG13	2.01	0.60
1:A:265:GLU:OE1	1:A:265:GLU:HA	2.01	0.60
1:E:144:GLY:HA2	1:F:313:ALA:HB1	1.83	0.60
1:F:90:SER:HB3	1:F:338:ASP:O	2.02	0.60
1:H:243:PRO:HA	1:H:277:ASP:OD2	2.01	0.60
1:J:122:HIS:CE1	1:J:126:TYR:HE2	2.18	0.60
1:J:316:ILE:CD1	1:J:321:LEU:HD13	2.31	0.60
1:A:250:SER:HB2	1:A:286:LEU:HD12	1.83	0.60
1:A:406:GLU:O	1:A:406:GLU:HG3	1.99	0.60
1:E:169:ILE:HD13	1:E:285:LLP:C4	2.32	0.60
1:D:135:SER:OG	1:D:136:SER:N	2.33	0.60
1:E:119:ARG:NH1	1:E:316:ILE:O	2.35	0.60
1:E:329:LYS:NZ	1:E:333:GLU:OE2	2.25	0.60
1:G:408:SER:HA	1:G:411:LEU:HD12	1.83	0.60
1:B:246:TYR:OH	1:B:266:PRO:HG3	2.01	0.60
1:C:325:GLU:OE2	1:D:68:ASN:N	2.32	0.60
1:D:437:GLU:CD	1:D:437:GLU:H	2.02	0.60
1:H:141:ASN:HB3	1:H:291:GLN:NE2	2.17	0.60
1:C:420:CYS:SG	1:C:427:LEU:HD11	2.41	0.60
1:D:369:LEU:HD23	1:D:399:HIS:HD2	1.66	0.60
1:D:400:ASP:OD1	1:D:401:ARG:N	2.34	0.60
1:E:163:ARG:NH1	1:E:188:GLU:HG3	2.17	0.60
1:G:119:ARG:O	1:G:122:HIS:ND1	2.32	0.60
1:I:230:LEU:O	1:I:234:VAL:HG23	2.01	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:402:LEU:HD11	1:C:406:GLU:CB	2.32	0.60
1:E:111:LEU:CD1	1:F:70:LYS:HE2	2.32	0.60
1:E:259:PHE:CE2	1:E:336:TYR:CD2	2.84	0.60
1:E:263:VAL:HG12	1:E:265:GLU:H	1.66	0.60
1:F:353:ARG:HB2	1:F:393:TYR:CE1	2.37	0.60
1:H:340:PRO:O	1:H:344:MET:HG3	2.02	0.60
1:A:355:LYS:HD3	1:A:436:HIS:NE2	2.17	0.59
1:B:188:GLU:OE1	1:C:163:ARG:NH1	2.34	0.59
1:B:72:VAL:HG22	1:B:417:PRO:HG2	1.84	0.59
1:G:408:SER:O	1:G:412:ARG:HG3	2.01	0.59
1:I:69:ILE:HG22	1:J:100:ILE:CD1	2.32	0.59
1:I:423:ARG:NH2	1:I:428:LEU:HD11	2.17	0.59
1:J:378:ALA:CB	1:J:421:ARG:HH12	2.15	0.59
1:F:168:GLU:CD	1:G:194:LYS:HE3	2.22	0.59
1:I:355:LYS:HD2	1:I:436:HIS:HE1	1.63	0.59
1:A:175:ILE:HB	1:A:176:PRO:HD3	1.85	0.59
1:A:359:LEU:HD23	1:A:395:VAL:HG21	1.84	0.59
1:B:120:ILE:HG22	1:B:124:GLU:HG3	1.84	0.59
1:B:256:LEU:HG	1:B:261:ILE:HB	1.83	0.59
1:C:109:TYR:HD1	1:C:111:LEU:HD23	1.66	0.59
1:D:149:VAL:HG22	1:D:305:ILE:CD1	2.33	0.59
1:E:69:ILE:HG22	1:F:100:ILE:HD12	1.85	0.59
1:G:181:LYS:HG3	1:H:309:PRO:HG2	1.83	0.59
1:H:66:LYS:CG	1:H:67:PRO:HD2	2.31	0.59
1:E:84:LEU:HG	3:E:503:THJ:S2	2.42	0.59
1:E:375:LYS:HB2	1:E:393:TYR:HE2	1.65	0.59
1:H:179:MET:O	1:H:182:SER:HB3	2.01	0.59
1:E:161:ILE:HG21	1:E:166:LEU:HD21	1.85	0.59
1:J:313:ALA:HB1	1:J:144:GLY:HA2	1.84	0.59
1:B:361:LYS:HA	1:B:364:LYS:HE3	1.85	0.59
1:C:256:LEU:HD12	1:C:265:GLU:HB3	1.85	0.59
1:J:121:ALA:O	1:J:124:GLU:HG2	2.03	0.59
1:A:65:MET:O	1:B:329:LYS:HE2	2.03	0.59
1:C:97:ILE:HD11	1:C:323:GLY:HA3	1.85	0.59
1:D:208:THR:HG21	1:D:242:ILE:HD13	1.85	0.59
1:F:375:LYS:HB2	1:F:393:TYR:HE2	1.66	0.59
1:H:66:LYS:NZ	1:H:415:GLU:OE2	2.36	0.59
1:A:77:GLY:HA2	1:A:433:THR:HG23	1.84	0.58
1:A:344:MET:O	1:A:432:ARG:HD2	2.03	0.58
1:C:254:ILE:HD12	1:C:259:PHE:CZ	2.38	0.58
1:E:136:SER:CB	1:E:296:VAL:HG12	2.32	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:141:ASN:HB2	1:E:285:LLP:OP2	2.03	0.58
1:I:353:ARG:HB2	1:I:393:TYR:CE1	2.38	0.58
1:B:169:ILE:CG1	1:B:173:PHE:HD2	2.16	0.58
1:B:339:ILE:O	1:B:339:ILE:HG13	2.02	0.58
1:D:270:ASP:O	1:D:274:LEU:HG	2.03	0.58
1:G:147:PHE:HE1	1:H:310:ILE:HG12	1.67	0.58
1:H:200:TYR:CE1	1:H:233:LEU:HD21	2.38	0.58
1:I:280:SER:HA	1:I:294:ILE:O	2.03	0.58
1:J:280:SER:HA	1:J:294:ILE:O	2.03	0.58
1:A:242:ILE:CG2	1:A:243:PRO:HD2	2.32	0.58
1:E:342:ILE:O	1:E:346:THR:HG23	2.03	0.58
1:A:243:PRO:HA	1:A:277:ASP:OD2	2.03	0.58
1:G:313:ALA:O	1:H:140:ASN:ND2	2.36	0.58
1:I:77:GLY:HA3	1:I:430:ASP:CG	2.23	0.58
1:J:122:HIS:ND1	1:J:126:TYR:HE2	2.01	0.58
1:C:124:GLU:O	1:C:128:ASN:ND2	2.36	0.58
1:E:102:ASN:HB3	1:F:71:ARG:HH12	1.67	0.58
1:F:142:ASN:ND2	1:F:249:GLY:HA2	2.19	0.58
1:E:247:ASP:OD2	1:E:285:LLP:H2'2	2.03	0.58
1:A:285:LLP:OP4	1:A:285:LLP:H4'1	2.04	0.58
1:A:309:PRO:CG	1:B:181:LYS:HG3	2.33	0.58
1:C:230:LEU:HD11	1:C:246:TYR:CE2	2.39	0.58
1:G:75:ALA:HB3	1:G:420:CYS:HB3	1.84	0.58
1:G:84:LEU:HA	1:H:105:SER:O	2.03	0.58
1:G:256:LEU:HD12	1:G:265:GLU:HB3	1.86	0.58
1:B:256:LEU:HD23	1:B:263:VAL:CG2	2.26	0.58
1:B:317:ASP:OD1	1:B:319:LEU:HB2	2.04	0.58
1:E:149:VAL:HG22	1:E:305:ILE:CD1	2.34	0.58
1:H:263:VAL:HG12	1:H:265:GLU:H	1.69	0.58
1:I:412:ARG:NH1	1:J:114:GLY:HA3	2.19	0.58
1:J:399:HIS:HE1	1:J:401:ARG:HD3	1.68	0.58
1:A:174:ARG:NH2	1:J:199:ASP:OD2	2.30	0.57
1:C:73:ILE:HB	1:C:418:ILE:HG12	1.85	0.57
1:G:413:LEU:HD21	1:H:112:GLU:OE2	2.03	0.57
1:C:359:LEU:HD13	1:C:439:LEU:HD22	1.85	0.57
1:E:254:ILE:HD11	1:E:259:PHE:HZ	1.70	0.57
1:F:265:GLU:OE1	1:F:266:PRO:HD2	2.04	0.57
1:D:89:LEU:HB2	1:D:94:ILE:HD11	1.87	0.57
1:H:142:ASN:HB3	1:H:285:LLP:OP4	2.04	0.57
1:H:252:LEU:HG	1:H:267:ASN:HB3	1.86	0.57
1:A:75:ALA:HB1	1:A:429:PHE:HD2	1.69	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:124:GLU:O	1:B:128:ASN:ND2	2.37	0.57
1:B:255:ASN:N	1:B:267:ASN:ND2	2.52	0.57
1:B:376:ASP:OD1	1:B:377:LYS:N	2.38	0.57
1:C:137:PHE:CD1	1:C:306:LYS:HG2	2.40	0.57
1:D:280:SER:HA	1:D:294:ILE:O	2.04	0.57
1:G:64:LEU:HD13	1:H:126:TYR:CD1	2.40	0.57
1:G:79:VAL:HG21	1:G:345:LEU:CD2	2.34	0.57
1:I:145:ALA:HB1	1:I:295:ILE:HD11	1.85	0.57
1:D:353:ARG:HB2	1:D:393:TYR:HE1	1.67	0.57
1:A:128:ASN:HD21	1:A:135:SER:HA	1.69	0.57
1:C:169:ILE:HA	1:C:218:ASN:HD21	1.69	0.57
1:C:358:ARG:HH21	1:C:439:LEU:HD12	1.70	0.57
1:E:399:HIS:CE1	1:E:401:ARG:HB2	2.40	0.57
1:F:390:LEU:HB2	1:F:432:ARG:NH2	2.20	0.57
1:H:168:GLU:HB2	1:I:191:THR:HG21	1.87	0.57
1:B:169:ILE:HD11	1:B:285:LLP:H5'1	1.87	0.57
1:I:169:ILE:HD13	1:I:285:LLP:C4	2.35	0.57
1:B:163:ARG:NH1	1:C:188:GLU:OE1	2.37	0.57
1:B:265:GLU:OE1	1:B:266:PRO:HD2	2.05	0.57
1:H:344:MET:O	1:H:432:ARG:HD2	2.05	0.57
1:H:399:HIS:CE1	1:H:401:ARG:HB2	2.40	0.57
1:B:245:TYR:HH	1:B:280:SER:HG	1.52	0.57
1:D:147:PHE:HB2	1:D:178:ILE:CD1	2.35	0.57
1:E:103:GLY:HA2	1:F:88:PRO:HB3	1.87	0.57
1:F:336:TYR:O	1:F:339:ILE:HG12	2.05	0.57
1:G:144:GLY:HA2	1:H:313:ALA:HB1	1.87	0.57
1:G:421:ARG:HH21	1:G:430:ASP:HB2	1.69	0.57
1:D:77:GLY:CA	1:D:433:THR:HG23	2.32	0.56
1:E:172:SER:OG	1:F:312:ARG:HD3	2.05	0.56
1:F:137:PHE:CE1	1:F:306:LYS:HG2	2.40	0.56
1:F:376:ASP:OD1	1:F:377:LYS:N	2.37	0.56
1:G:109:TYR:HE2	3:H:501:THJ:O2	1.87	0.56
1:C:336:TYR:O	1:C:339:ILE:HG12	2.05	0.56
1:J:230:LEU:HD11	1:J:246:TYR:CE1	2.41	0.56
1:A:90:SER:HB3	1:A:338:ASP:O	2.05	0.56
1:F:339:ILE:HD11	1:F:342:ILE:HG13	1.86	0.56
1:I:435:PHE:O	1:I:438:ASP:HB2	2.06	0.56
1:J:169:ILE:CD1	1:J:285:LLP:H5'1	2.35	0.56
1:B:83:ASN:HB2	3:B:501:THJ:O3	2.05	0.56
1:E:105:SER:O	1:F:84:LEU:HA	2.05	0.56
1:E:317:ASP:HB2	1:F:291:GLN:HB3	1.88	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:107:LEU:HD23	1:H:85:GLY:HA2	1.87	0.56
1:I:122:HIS:CG	1:J:68:ASN:HB2	2.40	0.56
1:B:73:ILE:HB	1:B:418:ILE:HG12	1.87	0.56
1:C:408:SER:OG	1:C:422:ILE:HD11	2.05	0.56
1:J:73:ILE:HB	1:J:418:ILE:HG23	1.85	0.56
1:D:316:ILE:HD11	1:D:321:LEU:HD13	1.87	0.56
1:E:408:SER:O	1:E:412:ARG:HG3	2.06	0.56
1:F:213:LYS:CD	1:F:230:LEU:HD21	2.36	0.56
1:G:109:TYR:HD2	1:H:83:ASN:HB3	1.71	0.56
1:I:80:ILE:HG22	1:I:383:GLY:H	1.71	0.56
1:E:280:SER:HA	1:E:294:ILE:O	2.05	0.56
1:E:363:LEU:HD21	1:E:446:LEU:CD1	2.36	0.56
1:A:213:LYS:HD3	1:A:230:LEU:HD21	1.88	0.56
1:B:165:GLU:OE2	1:B:213:LYS:HE3	2.06	0.56
1:F:145:ALA:HB1	1:F:295:ILE:HD11	1.87	0.56
1:G:251:GLY:HA2	1:G:268:PHE:CZ	2.41	0.56
1:G:397:ILE:HD11	1:G:427:LEU:HD23	1.86	0.56
1:G:399:HIS:NE2	1:G:450:LEU:HD13	2.21	0.56
1:E:96:PHE:O	1:E:100:ILE:HG12	2.05	0.56
1:F:159:VAL:HG22	1:F:210:LEU:HB3	1.87	0.56
1:C:169:ILE:HG22	1:C:218:ASN:ND2	2.21	0.56
1:D:86:ARG:NH1	1:D:284:ASP:OD1	2.39	0.56
1:E:128:ASN:OD1	1:E:135:SER:HA	2.05	0.56
1:A:316:ILE:CD1	1:A:321:LEU:HD13	2.35	0.55
1:H:126:TYR:HE2	1:H:325:GLU:HG3	1.70	0.55
1:B:222:GLU:HB3	1:C:220:TYR:CE2	2.42	0.55
1:D:213:LYS:HD3	1:D:246:TYR:HE1	1.72	0.55
1:H:355:LYS:NZ	1:H:434:VAL:O	2.39	0.55
1:I:363:LEU:HD21	1:I:446:LEU:CD1	2.35	0.55
1:D:163:ARG:NH1	1:E:188:GLU:OE1	2.39	0.55
1:G:312:ARG:HG2	1:H:173:PHE:HB2	1.88	0.55
1:I:170:GLY:HA3	3:I:502:THJ:O2	2.07	0.55
1:A:213:LYS:O	1:A:246:TYR:HD1	1.89	0.55
1:E:256:LEU:HD23	1:E:263:VAL:HB	1.89	0.55
1:E:447:GLN:O	1:E:451:SER:HB2	2.06	0.55
1:F:363:LEU:HB2	1:F:371:ILE:HD13	1.87	0.55
1:I:149:VAL:HG22	1:I:305:ILE:CD1	2.37	0.55
1:I:405:GLN:HE22	1:I:422:ILE:CG2	2.11	0.55
1:J:145:ALA:O	1:J:149:VAL:HG23	2.06	0.55
1:A:390:LEU:HB3	1:A:432:ARG:HH22	1.72	0.55
1:H:424:GLU:HG3	1:H:424:GLU:O	2.07	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:142:ASN:ND2	1:C:249:GLY:HA2	2.21	0.55
1:D:255:ASN:HA	1:D:267:ASN:ND2	2.21	0.55
1:H:390:LEU:CB	1:H:432:ARG:HH22	2.20	0.55
1:I:336:TYR:O	1:I:339:ILE:HG12	2.06	0.55
1:J:148:LEU:HD22	1:J:314:LEU:HD12	1.87	0.55
1:J:169:ILE:HD13	1:J:285:LLP:C4	2.37	0.55
1:C:248:ALA:O	1:C:250:SER:N	2.38	0.55
1:D:268:PHE:HE2	1:D:294:ILE:HG21	1.72	0.55
1:G:122:HIS:HD2	1:H:68:ASN:HB3	1.68	0.55
1:I:268:PHE:HD1	1:I:279:VAL:HG11	1.72	0.55
1:C:160:ILE:CG2	1:C:200:TYR:HD1	2.20	0.55
1:A:130:LEU:HD13	1:A:253:LEU:HD21	1.88	0.55
1:B:193:ASN:HB3	1:C:219:PHE:CE2	2.42	0.55
1:E:86:ARG:NH2	1:E:285:LLP:HE2	2.22	0.55
1:E:282:SER:HB2	1:E:285:LLP:HD3	1.88	0.55
1:J:366:ILE:HB	1:J:369:LEU:CD1	2.37	0.55
1:D:193:ASN:ND2	1:E:168:GLU:O	2.40	0.55
1:D:284:ASP:HA	1:D:289:GLY:O	2.07	0.55
1:E:252:LEU:HD22	1:E:265:GLU:HG2	1.89	0.55
1:F:342:ILE:O	1:F:346:THR:HG23	2.07	0.55
1:H:280:SER:HA	1:H:294:ILE:O	2.07	0.55
1:I:309:PRO:HG2	1:J:181:LYS:HG3	1.89	0.55
1:D:410:ARG:HB3	1:D:449:LEU:HD13	1.88	0.54
1:F:224:PHE:HB2	1:G:218:ASN:ND2	2.18	0.54
1:G:86:ARG:HD2	1:G:284:ASP:OD2	2.07	0.54
1:G:308:ASN:OD1	1:G:310:ILE:HB	2.06	0.54
1:I:363:LEU:HD21	1:I:446:LEU:HD12	1.88	0.54
1:J:326:MET:CE	1:J:329:LYS:HD3	2.36	0.54
1:A:191:THR:HG21	1:J:168:GLU:HB2	1.88	0.54
1:G:243:PRO:HA	1:G:277:ASP:OD2	2.06	0.54
1:C:439:LEU:HA	1:C:442:ILE:HD12	1.89	0.54
1:J:137:PHE:CE1	1:J:306:LYS:HG2	2.41	0.54
1:B:308:ASN:OD1	1:B:310:ILE:N	2.23	0.54
1:A:355:LYS:HD3	1:A:436:HIS:CD2	2.42	0.54
1:A:438:ASP:O	1:A:442:ILE:HG13	2.08	0.54
1:C:66:LYS:CD	1:C:67:PRO:HD2	2.37	0.54
1:D:90:SER:HB3	1:D:93:VAL:HG23	1.90	0.54
1:D:194:LYS:HD3	1:E:168:GLU:OE2	2.08	0.54
1:D:200:TYR:CD2	1:D:228:VAL:HG21	2.43	0.54
1:F:396:ALA:HA	1:F:427:LEU:O	2.07	0.54
1:H:70:LYS:O	1:H:72:VAL:HG23	2.07	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:I:354:GLN:O	1:I:358:ARG:HG3	2.08	0.54
1:B:302:ILE:HG22	1:B:306:LYS:HD2	1.90	0.54
1:D:256:LEU:HD12	1:D:263:VAL:CG2	2.38	0.54
1:E:251:GLY:HA2	1:E:268:PHE:CE2	2.42	0.54
1:I:119:ARG:HG3	1:I:120:ILE:N	2.23	0.54
1:A:68:ASN:N	1:B:325:GLU:OE2	2.41	0.54
1:B:407:LEU:O	1:B:411:LEU:HG	2.08	0.54
1:E:170:GLY:HA3	3:E:502:THJ:O3	2.08	0.54
1:H:65:MET:HG3	1:H:66:LYS:N	2.23	0.54
1:J:137:PHE:HD1	1:J:306:LYS:HE2	1.73	0.54
1:J:201:GLU:OE2	1:J:240:TYR:OH	2.26	0.54
1:A:83:ASN:OD1	1:B:116:ARG:HG3	2.08	0.54
1:E:344:MET:O	1:E:432:ARG:HD2	2.08	0.54
1:J:231:GLU:HG3	1:J:274:LEU:HD11	1.88	0.54
1:C:167:VAL:HG12	1:C:219:PHE:HE2	1.73	0.54
1:G:79:VAL:HG21	1:G:345:LEU:HD21	1.90	0.54
1:G:333:GLU:HB3	1:G:335:ARG:HG3	1.90	0.54
1:F:329:LYS:O	1:F:333:GLU:HG3	2.08	0.53
1:I:124:GLU:OE2	1:I:306:LYS:HE2	2.08	0.53
1:A:444:LYS:NZ	1:A:448:GLU:OE1	2.42	0.53
1:D:120:ILE:O	1:D:124:GLU:HG2	2.09	0.53
1:D:329:LYS:HE2	1:D:333:GLU:OE2	2.08	0.53
1:E:77:GLY:HA2	1:E:433:THR:HG23	1.91	0.53
1:F:138:VAL:HG12	1:F:316:ILE:HG21	1.90	0.53
1:F:169:ILE:HG13	1:F:173:PHE:HD2	1.72	0.53
1:H:80:ILE:HD11	1:H:341:VAL:HG11	1.89	0.53
1:I:161:ILE:HG23	1:I:166:LEU:HD21	1.89	0.53
1:I:205:ASN:HD21	1:I:207:ASN:HB2	1.72	0.53
1:B:218:ASN:HB2	1:C:224:PHE:CD1	2.42	0.53
1:D:353:ARG:HB2	1:D:393:TYR:CD1	2.43	0.53
1:G:246:TYR:HB3	1:G:279:VAL:HG22	1.89	0.53
1:H:406:GLU:O	1:H:410:ARG:HG3	2.09	0.53
1:I:79:VAL:N	1:I:380:PRO:O	2.36	0.53
1:A:329:LYS:CE	1:A:333:GLU:OE2	2.57	0.53
1:E:246:TYR:CE2	1:E:248:ALA:HA	2.43	0.53
1:I:120:ILE:CD1	1:I:316:ILE:HD11	2.39	0.53
1:A:100:ILE:HD12	1:B:69:ILE:CG2	2.30	0.53
1:E:252:LEU:HD22	1:E:265:GLU:HG3	1.90	0.53
1:F:200:TYR:CE2	1:F:228:VAL:HG21	2.44	0.53
1:J:130:LEU:HD22	1:J:253:LEU:HD21	1.91	0.53
1:J:169:ILE:HD11	1:J:285:LLP:C5'	2.38	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:79:VAL:N	1:E:380:PRO:O	2.38	0.53
1:F:257:LYS:HE3	1:F:263:VAL:O	2.08	0.53
1:I:72:VAL:HG22	1:I:417:PRO:HG2	1.90	0.53
1:A:166:LEU:HD12	1:J:163:ARG:HD3	1.91	0.53
1:A:375:LYS:HD2	1:A:393:TYR:CE1	2.44	0.53
1:B:240:TYR:HB2	1:B:242:ILE:HD12	1.90	0.53
1:E:141:ASN:OD1	1:E:143:ALA:HB3	2.09	0.53
1:F:153:LEU:HD11	1:F:301:LEU:HD22	1.91	0.53
1:F:169:ILE:HG22	1:F:218:ASN:ND2	2.24	0.53
1:G:91:LYS:HA	1:G:94:ILE:HD12	1.90	0.53
1:I:339:ILE:HD11	1:I:342:ILE:CG1	2.36	0.53
1:J:142:ASN:HB3	1:J:285:LLP:OP4	2.08	0.53
1:A:395:VAL:HG12	1:A:395:VAL:O	2.08	0.53
1:E:87:ALA:HB2	1:E:341:VAL:HG21	1.90	0.53
1:E:129:GLU:OE2	1:F:61:MET:N	2.41	0.53
1:F:231:GLU:CD	1:F:231:GLU:H	2.12	0.53
1:H:300:ASN:O	1:H:304:LYS:HG3	2.08	0.53
1:I:142:ASN:HB3	1:I:285:LLP:OP4	2.09	0.53
1:B:97:ILE:HD11	1:B:323:GLY:HA3	1.90	0.53
1:E:142:ASN:HD22	1:E:285:LLP:C5	2.21	0.53
1:G:316:ILE:HD11	1:G:321:LEU:HD13	1.91	0.53
1:G:334:LYS:NZ	1:G:336:TYR:OH	2.35	0.53
1:I:234:VAL:HG22	1:I:276:ILE:HD13	1.91	0.53
1:C:116:ARG:HG3	1:D:83:ASN:OD1	2.09	0.53
1:C:390:LEU:HB2	1:C:432:ARG:NH2	2.24	0.53
1:H:133:ALA:HB2	1:H:272:ILE:HD12	1.90	0.53
1:H:353:ARG:HB2	1:H:393:TYR:CE1	2.44	0.53
1:I:339:ILE:O	1:I:339:ILE:HG13	2.09	0.53
1:J:169:ILE:HA	1:J:218:ASN:ND2	2.22	0.53
1:J:257:LYS:HE3	1:J:262:SER:HB2	1.91	0.53
1:I:66:LYS:CG	1:I:67:PRO:HD2	2.33	0.52
1:C:246:TYR:HE1	1:C:248:ALA:HB2	1.74	0.52
1:D:100:ILE:HG13	1:D:322:SER:OG	2.09	0.52
1:D:255:ASN:HA	1:D:267:ASN:HD22	1.75	0.52
1:J:75:ALA:HB3	1:J:419:VAL:O	2.09	0.52
1:C:254:ILE:HD12	1:C:259:PHE:CE1	2.45	0.52
1:E:263:VAL:HG12	1:E:264:ASP:N	2.24	0.52
1:H:169:ILE:HA	1:H:218:ASN:ND2	2.24	0.52
1:J:79:VAL:HG12	1:J:341:VAL:HG13	1.92	0.52
1:J:122:HIS:HD1	1:J:126:TYR:HE2	1.56	0.52
1:G:148:LEU:HG	1:G:305:ILE:HG23	1.92	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:312:ARG:HD3	1:H:172:SER:OG	2.08	0.52
1:A:368:GLY:O	1:A:399:HIS:HD2	1.92	0.52
1:D:252:LEU:HD21	1:D:256:LEU:HG	1.92	0.52
1:E:169:ILE:CD1	1:E:285:LLP:C5	2.88	0.52
1:H:90:SER:HB3	1:H:338:ASP:O	2.10	0.52
1:A:360:GLU:HG3	1:A:371:ILE:CG2	2.38	0.52
1:B:380:PRO:HG2	1:B:388:LEU:HD23	1.92	0.52
1:C:72:VAL:HG22	1:C:417:PRO:HG2	1.91	0.52
1:G:404:SER:OG	1:G:425:ASP:HA	2.08	0.52
1:H:251:GLY:HA2	1:H:268:PHE:CE2	2.45	0.52
1:B:109:TYR:HD1	1:B:111:LEU:CD2	2.22	0.52
1:D:208:THR:CG2	1:D:242:ILE:HD13	2.39	0.52
1:D:448:GLU:O	1:D:452:ILE:HB	2.10	0.52
1:F:145:ALA:CB	1:F:295:ILE:HD11	2.39	0.52
1:B:200:TYR:CE2	1:B:228:VAL:HG21	2.45	0.52
1:G:301:LEU:O	1:G:305:ILE:HG13	2.10	0.52
1:H:215:HIS:HB2	1:H:246:TYR:OH	2.10	0.52
1:I:123:ILE:HD11	1:I:325:GLU:HB2	1.92	0.52
1:J:73:ILE:HG13	1:J:418:ILE:HG12	1.92	0.52
1:J:218:ASN:OD1	1:J:218:ASN:N	2.38	0.52
1:G:439:LEU:O	1:G:442:ILE:HB	2.10	0.52
1:A:100:ILE:CD1	1:B:69:ILE:HG22	2.30	0.51
1:A:141:ASN:HB3	1:A:291:GLN:NE2	2.26	0.51
1:F:213:LYS:HB3	1:F:246:TYR:HD1	1.74	0.51
1:F:265:GLU:OE1	1:F:265:GLU:HA	2.10	0.51
1:A:84:LEU:HA	1:B:105:SER:O	2.10	0.51
1:C:200:TYR:HE2	1:C:228:VAL:CG2	2.11	0.51
1:B:139:VAL:HG23	1:B:293:GLY:HA3	1.91	0.51
1:C:147:PHE:HE2	1:C:310:ILE:HG21	1.76	0.51
1:C:169:ILE:HG22	1:C:218:ASN:HD21	1.74	0.51
1:C:312:ARG:HG2	1:D:173:PHE:HB2	1.92	0.51
1:C:336:TYR:C	1:C:338:ASP:H	2.14	0.51
1:H:75:ALA:HB3	1:H:419:VAL:O	2.11	0.51
1:I:142:ASN:HD22	1:I:285:LLP:C5	2.23	0.51
1:J:150:LEU:HD13	1:J:179:MET:HG3	1.92	0.51
1:C:362:LEU:HB3	1:C:443:LYS:HD2	1.91	0.51
1:G:267:ASN:ND2	1:G:270:ASP:HB2	2.25	0.51
1:I:81:ASN:OD1	1:I:83:ASN:N	2.43	0.51
1:J:82:THR:N	3:J:503:THJ:S2	2.67	0.51
1:J:286:LEU:HD21	1:J:384:SER:OG	2.10	0.51
1:J:326:MET:HE3	1:J:329:LYS:HD3	1.91	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:186:LEU:HD12	1:B:187:ARG:N	2.25	0.51
1:D:317:ASP:OD1	1:D:320:THR:OG1	2.27	0.51
1:E:252:LEU:O	1:E:267:ASN:HB2	2.09	0.51
1:E:313:ALA:HB1	1:F:144:GLY:CA	2.40	0.51
1:F:96:PHE:O	1:F:100:ILE:HG12	2.11	0.51
1:H:161:ILE:HG21	1:H:186:LEU:HD11	1.93	0.51
1:H:359:LEU:HD23	1:H:395:VAL:CG2	2.34	0.51
1:J:268:PHE:HD1	1:J:296:VAL:HG21	1.76	0.51
1:C:267:ASN:ND2	1:C:270:ASP:OD2	2.34	0.51
1:G:78:VAL:HG13	1:G:380:PRO:O	2.11	0.51
1:I:131:THR:HG22	1:I:268:PHE:CB	2.39	0.51
1:I:161:ILE:CG2	1:I:166:LEU:HD21	2.41	0.51
1:J:251:GLY:HA2	1:J:268:PHE:HE2	1.75	0.51
1:A:120:ILE:HG21	1:A:137:PHE:HD1	1.76	0.51
1:B:193:ASN:HB3	1:C:219:PHE:CZ	2.46	0.51
1:C:286:LEU:HG	1:C:384:SER:OG	2.10	0.51
1:G:342:ILE:O	1:G:346:THR:HG23	2.11	0.51
1:H:317:ASP:OD1	1:H:319:LEU:HB2	2.11	0.51
1:J:360:GLU:HG3	1:J:371:ILE:CG2	2.39	0.51
1:C:75:ALA:HB1	1:C:429:PHE:HA	1.91	0.51
1:C:280:SER:HA	1:C:294:ILE:O	2.11	0.51
1:I:263:VAL:CG1	1:I:264:ASP:N	2.74	0.51
1:I:360:GLU:HG3	1:I:371:ILE:HG21	1.93	0.51
1:A:291:GLN:OE1	1:B:317:ASP:HA	2.10	0.51
1:E:251:GLY:O	1:E:287:LEU:HB2	2.10	0.51
1:F:396:ALA:HB2	1:F:428:LEU:HD23	1.93	0.51
1:G:200:TYR:CD1	1:G:233:LEU:HD21	2.46	0.51
1:I:163:ARG:HG3	1:I:189:VAL:O	2.11	0.51
1:I:359:LEU:HD23	1:I:395:VAL:HG21	1.93	0.51
1:A:340:PRO:O	1:A:344:MET:HG3	2.11	0.51
1:D:255:ASN:N	1:D:267:ASN:ND2	2.59	0.51
1:G:169:ILE:HD11	1:G:285:LLP:C5	2.41	0.51
1:H:163:ARG:NH1	1:H:188:GLU:HG3	2.25	0.51
1:I:285:LLP:NZ	1:I:285:LLP:O3	2.39	0.51
1:B:78:VAL:HA	1:B:380:PRO:O	2.11	0.50
1:B:165:GLU:HG2	1:B:214:VAL:O	2.11	0.50
1:E:102:ASN:HD21	1:F:91:LYS:HG2	1.76	0.50
1:E:142:ASN:O	1:E:146:VAL:HG23	2.12	0.50
1:A:67:PRO:HD3	1:B:329:LYS:CE	2.41	0.50
1:B:169:ILE:HG13	1:B:173:PHE:HD2	1.76	0.50
1:I:253:LEU:HD23	1:I:331:TYR:CD1	2.46	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:219:PHE:CE1	1:J:193:ASN:HB3	2.46	0.50
1:C:175:ILE:HB	1:C:176:PRO:CD	2.41	0.50
1:F:378:ALA:HB1	1:F:421:ARG:HH12	1.76	0.50
1:G:123:ILE:HG23	1:G:328:LEU:CD1	2.42	0.50
1:G:130:LEU:HD13	1:G:253:LEU:HD21	1.92	0.50
1:H:200:TYR:CD1	1:H:233:LEU:HD21	2.46	0.50
1:I:68:ASN:HB2	1:J:122:HIS:CG	2.46	0.50
1:I:397:ILE:CD1	1:I:427:LEU:HD23	2.39	0.50
1:A:284:ASP:HA	1:A:289:GLY:O	2.12	0.50
1:C:407:LEU:O	1:C:411:LEU:HG	2.11	0.50
1:F:168:GLU:OE1	1:G:194:LYS:HB2	2.10	0.50
1:C:88:PRO:O	1:C:340:PRO:HG2	2.12	0.50
1:D:221:MET:HG2	1:E:221:MET:HG2	1.93	0.50
1:E:88:PRO:HG3	1:F:104:TYR:CE1	2.46	0.50
1:F:160:ILE:HB	1:F:211:LEU:HD23	1.93	0.50
1:G:435:PHE:HB3	1:G:437:GLU:OE1	2.11	0.50
1:C:245:TYR:HD2	1:C:246:TYR:N	2.09	0.50
1:I:205:ASN:ND2	1:I:207:ASN:HB2	2.26	0.50
1:J:357:LYS:NZ	1:J:360:GLU:OE1	2.44	0.50
1:J:359:LEU:HD23	1:J:395:VAL:HG11	1.93	0.50
1:E:144:GLY:CA	1:F:313:ALA:HB1	2.41	0.50
1:F:136:SER:CB	1:F:296:VAL:HG12	2.42	0.50
1:H:437:GLU:OE1	1:H:437:GLU:N	2.42	0.50
1:J:136:SER:HB3	1:J:296:VAL:HG12	1.93	0.50
1:A:107:LEU:HD21	1:A:119:ARG:NH2	2.27	0.50
1:C:175:ILE:HB	1:C:176:PRO:HD3	1.93	0.50
1:E:104:TYR:HB3	1:F:84:LEU:HB3	1.94	0.50
1:F:77:GLY:HA3	1:F:430:ASP:CG	2.31	0.50
1:G:208:THR:HG22	1:G:242:ILE:HD13	1.94	0.50
1:G:333:GLU:OE1	1:G:335:ARG:HD3	2.10	0.50
1:A:355:LYS:CD	1:A:436:HIS:CD2	2.95	0.50
1:B:147:PHE:HB2	1:B:178:ILE:CD1	2.36	0.50
1:C:109:TYR:HD2	1:D:83:ASN:HB3	1.76	0.50
1:D:163:ARG:HG3	1:D:189:VAL:O	2.12	0.50
1:D:204:ILE:HG21	1:D:240:TYR:CD1	2.46	0.50
1:H:230:LEU:O	1:H:234:VAL:HG23	2.12	0.50
1:B:245:TYR:CD2	1:B:246:TYR:N	2.80	0.49
1:C:402:LEU:HD12	1:C:403:SER:H	1.76	0.49
1:H:437:GLU:CD	1:H:437:GLU:H	2.15	0.49
1:I:397:ILE:CG1	1:I:427:LEU:HD23	2.42	0.49
1:J:190:GLY:HA3	1:J:195:THR:HG23	1.94	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:99:GLU:O	1:F:71:ARG:NH2	2.44	0.49
1:E:179:MET:O	1:E:182:SER:HB3	2.12	0.49
1:E:217:SER:O	1:E:386:PRO:HD3	2.12	0.49
1:I:263:VAL:HG21	1:I:388:LEU:HD13	1.94	0.49
1:D:444:LYS:NZ	1:D:448:GLU:OE1	2.28	0.49
1:I:325:GLU:OE2	1:J:68:ASN:N	2.40	0.49
1:I:407:LEU:CD2	1:I:427:LEU:HD22	2.42	0.49
1:J:286:LEU:HD11	1:J:385:LEU:HD21	1.94	0.49
1:J:359:LEU:HD13	1:J:439:LEU:HD23	1.94	0.49
1:C:174:ARG:HD3	1:C:177:ASP:OD2	2.13	0.49
1:C:204:ILE:HG23	1:C:242:ILE:HD11	1.94	0.49
1:F:169:ILE:HD11	1:F:285:LLP:H5'1	1.94	0.49
1:G:125:LYS:CB	1:H:64:LEU:HD11	2.43	0.49
1:H:312:ARG:CZ	1:H:315:ARG:NH2	2.75	0.49
1:I:335:ARG:NH1	1:I:338:ASP:OD2	2.36	0.49
1:I:396:ALA:HB2	1:I:428:LEU:HD23	1.94	0.49
1:J:366:ILE:CG2	1:J:367:PRO:HD2	2.43	0.49
1:A:219:PHE:CD1	1:J:193:ASN:HB3	2.47	0.49
1:B:370:LYS:HG3	1:B:398:ARG:O	2.13	0.49
1:C:161:ILE:CG2	1:C:166:LEU:HD21	2.42	0.49
1:D:161:ILE:CG1	1:D:212:MET:HB3	2.42	0.49
1:E:190:GLY:HA2	1:E:199:ASP:OD2	2.13	0.49
1:G:193:ASN:HA	1:G:221:MET:CE	2.42	0.49
1:I:76:THR:O	1:I:421:ARG:CZ	2.59	0.49
1:I:169:ILE:HG13	1:I:169:ILE:O	2.13	0.49
1:J:343:ARG:O	1:J:347:GLN:HG3	2.12	0.49
1:A:256:LEU:HD12	1:A:263:VAL:HG21	1.94	0.49
1:F:353:ARG:HB2	1:F:393:TYR:CD1	2.47	0.49
1:G:399:HIS:HE1	1:G:401:ARG:HD3	1.77	0.49
1:H:137:PHE:CD1	1:H:306:LYS:HG2	2.47	0.49
1:H:362:LEU:HB3	1:H:443:LYS:HD2	1.94	0.49
1:H:390:LEU:HB2	1:H:432:ARG:HH22	1.78	0.49
1:I:285:LLP:OP4	1:I:285:LLP:H4'1	2.13	0.49
1:J:163:ARG:NH1	1:J:188:GLU:HG3	2.27	0.49
1:B:290:PRO:HB2	1:B:320:THR:HG22	1.95	0.49
1:D:243:PRO:HA	1:D:277:ASP:OD2	2.13	0.49
1:E:102:ASN:CB	1:F:71:ARG:HH22	2.17	0.49
1:F:141:ASN:HB2	1:F:285:LLP:OP1	2.13	0.49
1:F:409:ARG:HA	1:F:412:ARG:HG3	1.94	0.49
1:I:407:LEU:HD23	1:I:427:LEU:HD22	1.94	0.49
1:C:79:VAL:HG21	1:C:345:LEU:HD23	1.93	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:268:PHE:HE2	1:D:294:ILE:CG2	2.26	0.49
1:D:366:ILE:HG23	1:D:367:PRO:HD2	1.94	0.49
1:I:157:LYS:HB2	1:I:209:ALA:HB2	1.95	0.49
1:I:256:LEU:HD12	1:I:265:GLU:HB3	1.95	0.49
1:A:152:THR:HG22	1:A:153:LEU:HD23	1.93	0.49
1:B:77:GLY:HA3	1:B:430:ASP:CG	2.34	0.49
1:B:169:ILE:HG12	1:B:173:PHE:HD2	1.78	0.49
1:C:245:TYR:C	1:C:245:TYR:CD2	2.87	0.49
1:I:160:ILE:HA	1:I:187:ARG:O	2.12	0.49
1:B:333:GLU:OE1	1:B:335:ARG:HD2	2.13	0.48
1:D:429:PHE:HB3	1:D:431:MET:HE2	1.95	0.48
1:G:397:ILE:HG13	1:G:427:LEU:HB3	1.95	0.48
1:I:80:ILE:HG22	1:I:80:ILE:O	2.12	0.48
1:I:394:CYS:HA	1:I:429:PHE:O	2.13	0.48
1:B:135:SER:OG	1:B:136:SER:N	2.45	0.48
1:C:363:LEU:HD22	1:C:446:LEU:HD12	1.95	0.48
1:C:402:LEU:HD21	1:C:406:GLU:HG3	1.94	0.48
1:G:407:LEU:O	1:G:411:LEU:HG	2.13	0.48
1:J:439:LEU:HA	1:J:442:ILE:HD12	1.94	0.48
1:E:169:ILE:HD11	1:E:285:LLP:C5	2.43	0.48
1:H:366:ILE:HB	1:H:369:LEU:CD1	2.43	0.48
1:H:438:ASP:O	1:H:442:ILE:HG13	2.13	0.48
1:I:137:PHE:CD1	1:I:306:LYS:HG2	2.48	0.48
1:J:252:LEU:HD21	1:J:256:LEU:HG	1.96	0.48
1:A:188:GLU:OE1	1:J:163:ARG:NH1	2.47	0.48
1:B:233:LEU:O	1:B:236:LEU:HB3	2.13	0.48
1:C:77:GLY:HA3	1:C:430:ASP:CG	2.34	0.48
1:C:149:VAL:HG11	1:C:245:TYR:CD1	2.48	0.48
1:C:255:ASN:N	1:C:267:ASN:HD22	2.11	0.48
1:C:263:VAL:HG23	1:C:265:GLU:H	1.78	0.48
1:D:390:LEU:HB3	1:D:432:ARG:NH2	2.25	0.48
1:E:102:ASN:HB3	1:F:71:ARG:NH1	2.29	0.48
1:H:76:THR:HG21	3:H:501:THJ:S2	2.54	0.48
1:H:133:ALA:HB2	1:H:272:ILE:CD1	2.44	0.48
1:I:77:GLY:HA3	1:I:430:ASP:CB	2.44	0.48
1:J:76:THR:HA	1:J:421:ARG:HG3	1.95	0.48
1:C:186:LEU:HD12	1:C:186:LEU:C	2.32	0.48
1:E:102:ASN:ND2	1:F:91:LYS:HG2	2.28	0.48
1:E:148:LEU:HD13	1:E:314:LEU:HD12	1.95	0.48
1:G:313:ALA:HB1	1:H:144:GLY:HA2	1.95	0.48
1:G:399:HIS:CD2	1:G:450:LEU:HD13	2.49	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:H:316:ILE:HD11	1:H:321:LEU:HD13	1.95	0.48
1:I:127:LEU:O	1:I:131:THR:OG1	2.28	0.48
1:B:151:ASN:ND2	1:B:310:ILE:HD12	2.28	0.48
1:B:169:ILE:HG13	1:B:169:ILE:O	2.14	0.48
1:B:409:ARG:O	1:B:413:LEU:HG	2.14	0.48
1:C:285:LLP:OP4	1:C:285:LLP:C4'	2.58	0.48
1:D:406:GLU:O	1:D:410:ARG:HD2	2.13	0.48
1:F:81:ASN:OD1	1:F:81:ASN:C	2.52	0.48
1:F:277:ASP:OD1	1:F:298:LYS:HE2	2.14	0.48
1:H:114:GLY:O	1:H:115:LYS:HG3	2.13	0.48
1:H:420:CYS:HB2	1:H:428:LEU:O	2.14	0.48
1:A:68:ASN:HB2	1:B:122:HIS:CD2	2.49	0.48
1:G:193:ASN:O	1:G:225:VAL:HG13	2.13	0.48
1:I:77:GLY:HA3	1:I:430:ASP:HB3	1.96	0.48
1:A:105:SER:O	1:B:84:LEU:HA	2.13	0.48
1:A:165:GLU:HG2	1:A:214:VAL:O	2.14	0.48
1:B:141:ASN:HB3	1:B:291:GLN:HE21	1.79	0.48
1:E:74:ASN:O	1:E:433:THR:OG1	2.25	0.48
1:E:105:SER:HA	1:F:72:VAL:HG23	1.94	0.48
1:F:61:MET:HB2	1:F:64:LEU:HG	1.94	0.48
1:F:175:ILE:N	1:F:176:PRO:HD2	2.29	0.48
1:G:77:GLY:HA3	1:G:430:ASP:HB3	1.95	0.48
1:H:79:VAL:CG1	1:H:341:VAL:HG13	2.44	0.48
1:H:263:VAL:HG12	1:H:264:ASP:N	2.28	0.48
1:I:157:LYS:CB	1:I:209:ALA:HB2	2.43	0.48
1:I:169:ILE:HD11	1:I:285:LLP:C5'	2.42	0.48
1:J:250:SER:HB2	1:J:286:LEU:HG	1.95	0.48
1:B:157:LYS:HB3	1:B:209:ALA:HB2	1.95	0.48
1:E:118:SER:HB3	1:E:121:ALA:HB2	1.96	0.48
1:F:147:PHE:HE2	1:F:310:ILE:HG21	1.79	0.48
1:G:366:ILE:HB	1:G:369:LEU:HD12	1.96	0.48
1:H:213:LYS:HB3	1:H:246:TYR:HD2	1.79	0.48
1:A:119:ARG:C	1:A:121:ALA:H	2.17	0.48
1:D:90:SER:O	1:D:94:ILE:HG13	2.14	0.48
1:D:379:LYS:HA	1:D:380:PRO:HD3	1.56	0.48
1:E:358:ARG:HH11	1:E:439:LEU:HD11	1.78	0.48
1:H:329:LYS:NZ	1:H:333:GLU:OE2	2.44	0.48
1:A:157:LYS:CB	1:A:209:ALA:HB2	2.44	0.47
1:A:212:MET:HE2	1:A:245:TYR:CE1	2.49	0.47
1:D:231:GLU:CD	1:D:231:GLU:H	2.18	0.47
1:D:234:VAL:CG2	1:D:276:ILE:HD13	2.44	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:267:ASN:O	1:D:271:CYS:HB2	2.13	0.47
1:E:138:VAL:HG12	1:E:316:ILE:HG21	1.96	0.47
1:E:363:LEU:HD21	1:E:446:LEU:HD13	1.96	0.47
1:E:425:ASP:O	1:E:425:ASP:CG	2.52	0.47
1:F:127:LEU:O	1:F:128:ASN:C	2.52	0.47
1:I:253:LEU:CD2	1:I:331:TYR:CD1	2.97	0.47
1:C:70:LYS:N	1:D:106:ASN:OD1	2.42	0.47
1:C:163:ARG:HG3	1:C:188:GLU:HB2	1.96	0.47
1:F:137:PHE:CD1	1:F:306:LYS:HG2	2.49	0.47
1:F:213:LYS:HD2	1:F:230:LEU:HD21	1.95	0.47
1:J:169:ILE:HD13	1:J:285:LLP:C5	2.43	0.47
1:D:212:MET:HE3	1:D:245:TYR:HE1	1.78	0.47
1:D:360:GLU:HG3	1:D:371:ILE:HG21	1.96	0.47
1:E:123:ILE:HG13	1:E:321:LEU:CD1	2.44	0.47
1:I:448:GLU:O	1:I:452:ILE:HB	2.14	0.47
1:J:205:ASN:OD1	1:J:207:ASN:HB2	2.14	0.47
1:B:96:PHE:CE1	1:B:100:ILE:HD11	2.49	0.47
1:B:220:TYR:CD1	1:B:387:GLU:CG	2.97	0.47
1:C:231:GLU:OE1	1:C:231:GLU:N	2.41	0.47
1:D:86:ARG:HH11	1:D:284:ASP:CG	2.18	0.47
1:D:285:LLP:NZ	1:D:285:LLP:O3	2.46	0.47
1:H:427:LEU:HD12	1:H:428:LEU:N	2.29	0.47
1:I:256:LEU:CD1	1:I:265:GLU:HB3	2.45	0.47
1:J:145:ALA:HB1	1:J:295:ILE:HD11	1.96	0.47
1:J:236:LEU:HD12	1:J:240:TYR:CE2	2.48	0.47
1:A:336:TYR:O	1:A:339:ILE:HG12	2.14	0.47
1:B:359:LEU:HD13	1:B:439:LEU:CD2	2.45	0.47
1:C:108:GLU:HB2	1:D:83:ASN:HA	1.96	0.47
1:D:420:CYS:SG	1:D:429:PHE:HE1	2.36	0.47
1:E:246:TYR:HE2	1:E:248:ALA:CA	2.27	0.47
1:F:213:LYS:HD3	1:F:230:LEU:HD21	1.96	0.47
1:G:93:VAL:HG22	1:G:326:MET:CG	2.45	0.47
1:H:229:LYS:HB2	1:H:232:ASP:OD2	2.14	0.47
1:I:312:ARG:HD2	1:I:312:ARG:O	2.14	0.47
1:A:420:CYS:HB2	1:A:428:LEU:O	2.15	0.47
1:C:252:LEU:HD21	1:C:256:LEU:HG	1.96	0.47
1:C:257:LYS:HE3	1:C:263:VAL:N	2.30	0.47
1:D:353:ARG:N	1:D:393:TYR:HD1	2.12	0.47
1:E:178:ILE:HG12	1:E:178:ILE:O	2.15	0.47
1:F:400:ASP:OD1	1:F:401:ARG:N	2.47	0.47
1:H:190:GLY:HA3	1:H:195:THR:HG23	1.97	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:H:218:ASN:OD1	1:H:219:PHE:HD2	1.98	0.47
1:J:390:LEU:HB3	1:J:432:ARG:HH22	1.78	0.47
1:C:261:ILE:HD11	1:C:345:LEU:O	2.15	0.47
1:C:302:ILE:HA	1:C:305:ILE:HD12	1.96	0.47
1:C:394:CYS:SG	1:C:421:ARG:NH2	2.87	0.47
1:D:179:MET:HE2	1:D:179:MET:HB2	1.73	0.47
1:D:359:LEU:CD2	1:D:395:VAL:HG11	2.44	0.47
1:D:425:ASP:OD1	1:D:425:ASP:O	2.32	0.47
1:E:138:VAL:HG12	1:E:316:ILE:HD13	1.97	0.47
1:F:408:SER:O	1:F:412:ARG:HG3	2.14	0.47
1:F:438:ASP:O	1:F:442:ILE:HG13	2.14	0.47
1:G:138:VAL:HG12	1:G:316:ILE:CG2	2.43	0.47
1:G:339:ILE:HG13	1:G:342:ILE:HG12	1.97	0.47
1:H:284:ASP:HA	1:H:289:GLY:O	2.15	0.47
1:I:122:HIS:ND1	1:J:68:ASN:HB2	2.30	0.47
1:J:78:VAL:HA	1:J:380:PRO:O	2.14	0.47
1:A:174:ARG:HH22	1:J:199:ASP:CG	2.18	0.47
1:B:66:LYS:NZ	1:B:415:GLU:HG2	2.29	0.47
1:D:170:GLY:HA3	3:D:502:THJ:S1	2.55	0.47
1:D:234:VAL:HG23	1:D:276:ILE:HD13	1.97	0.47
1:E:234:VAL:HG22	1:E:276:ILE:HD13	1.97	0.47
1:E:355:LYS:NZ	1:E:431:MET:O	2.36	0.47
1:G:308:ASN:CG	1:G:309:PRO:HD2	2.35	0.47
1:I:179:MET:SD	1:I:186:LEU:HB2	2.55	0.47
1:A:77:GLY:CA	1:A:430:ASP:HB3	2.45	0.47
1:A:127:LEU:O	1:A:131:THR:HG23	2.15	0.47
1:A:212:MET:CE	1:A:245:TYR:CE1	2.97	0.47
1:F:265:GLU:CD	1:F:266:PRO:HD2	2.35	0.47
1:F:431:MET:CE	1:F:434:VAL:HG21	2.44	0.47
1:H:191:THR:HB	1:I:166:LEU:O	2.15	0.47
1:I:149:VAL:HG22	1:I:305:ILE:HD11	1.96	0.47
1:A:363:LEU:HD21	1:A:446:LEU:HD12	1.97	0.47
1:B:86:ARG:NH2	1:B:285:LLP:CE	2.73	0.47
1:C:251:GLY:O	1:C:287:LEU:HB2	2.14	0.47
1:D:283:GLY:O	1:D:287:LEU:HB3	2.15	0.47
1:E:67:PRO:HD3	1:F:329:LYS:HE3	1.97	0.47
1:E:149:VAL:HG22	1:E:305:ILE:HD11	1.96	0.47
1:E:201:GLU:HG3	1:E:240:TYR:CE2	2.50	0.47
1:G:257:LYS:HD3	1:G:262:SER:HA	1.97	0.47
1:G:421:ARG:NH2	1:G:430:ASP:OD2	2.48	0.47
1:H:139:VAL:HB	1:H:314:LEU:HB3	1.97	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:242:ILE:HG23	1:A:243:PRO:HD2	1.96	0.46
1:A:363:LEU:HB3	1:A:371:ILE:HD11	1.96	0.46
1:A:368:GLY:O	1:A:399:HIS:CD2	2.67	0.46
1:H:150:LEU:HB3	1:H:182:SER:OG	2.14	0.46
1:I:250:SER:HB2	1:I:286:LEU:HD12	1.97	0.46
1:J:288:GLY:HA2	1:J:341:VAL:HG21	1.98	0.46
1:C:366:ILE:HG23	1:C:367:PRO:HD2	1.96	0.46
1:F:123:ILE:O	1:F:126:TYR:HB2	2.15	0.46
1:G:86:ARG:NH1	1:G:285:LLP:OP3	2.30	0.46
1:H:126:TYR:HD2	1:H:328:LEU:HD12	1.80	0.46
1:I:265:GLU:CD	1:I:266:PRO:HD2	2.35	0.46
1:I:409:ARG:O	1:I:413:LEU:HG	2.15	0.46
1:A:75:ALA:CB	1:A:420:CYS:HB3	2.44	0.46
1:B:230:LEU:O	1:B:231:GLU:C	2.52	0.46
1:C:93:VAL:HA	1:C:326:MET:HG2	1.97	0.46
1:C:144:GLY:HA2	1:D:313:ALA:HB1	1.97	0.46
1:E:378:ALA:CB	1:E:421:ARG:HH12	2.27	0.46
1:F:193:ASN:O	1:F:225:VAL:HG13	2.16	0.46
1:F:404:SER:OG	1:F:405:GLN:NE2	2.48	0.46
1:A:308:ASN:OD1	1:A:309:PRO:CD	2.64	0.46
1:C:225:VAL:HG12	1:C:226:GLU:N	2.31	0.46
1:D:336:TYR:N	1:D:336:TYR:CD1	2.82	0.46
1:E:165:GLU:OE1	1:E:213:LYS:HG3	2.15	0.46
1:F:284:ASP:HA	1:F:289:GLY:O	2.16	0.46
1:G:97:ILE:HD11	1:G:323:GLY:CA	2.44	0.46
1:J:236:LEU:HD12	1:J:240:TYR:HE2	1.80	0.46
1:A:169:ILE:HA	1:A:218:ASN:ND2	2.31	0.46
1:C:379:LYS:HA	1:C:380:PRO:HD3	1.73	0.46
1:E:392:THR:HG21	1:E:430:ASP:OD2	2.16	0.46
1:E:402:LEU:HD11	1:E:410:ARG:NH1	2.30	0.46
1:H:137:PHE:CE1	1:H:306:LYS:HG2	2.50	0.46
1:H:353:ARG:HE	1:H:357:LYS:CE	2.24	0.46
1:C:106:ASN:HD21	1:D:69:ILE:HA	1.81	0.46
1:C:147:PHE:HB2	1:C:178:ILE:CD1	2.46	0.46
1:D:150:LEU:HD13	1:D:179:MET:HE2	1.97	0.46
1:F:378:ALA:O	1:F:380:PRO:HD3	2.15	0.46
1:H:120:ILE:HG21	1:H:137:PHE:CD1	2.51	0.46
1:H:420:CYS:HG	1:H:427:LEU:HD11	1.79	0.46
1:I:79:VAL:HG12	1:I:341:VAL:HG13	1.98	0.46
1:I:254:ILE:HD11	1:I:259:PHE:CZ	2.50	0.46
1:J:169:ILE:CD1	1:J:285:LLP:C5	2.93	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:173:PHE:CE2	1:A:285:LLP:H6	2.51	0.46
1:B:140:ASN:N	1:B:314:LEU:O	2.48	0.46
1:B:277:ASP:OD2	1:B:298:LYS:HE2	2.16	0.46
1:C:245:TYR:CD2	1:C:246:TYR:N	2.83	0.46
1:C:312:ARG:CZ	1:C:315:ARG:NH2	2.78	0.46
1:E:325:GLU:OE2	1:F:69:ILE:HG13	2.16	0.46
1:E:404:SER:HB3	1:E:425:ASP:OD1	2.16	0.46
1:E:420:CYS:HB2	1:E:428:LEU:O	2.15	0.46
1:F:165:GLU:O	1:F:167:VAL:HG13	2.16	0.46
1:G:83:ASN:HB3	1:H:109:TYR:CD2	2.48	0.46
1:G:334:LYS:HD3	1:G:336:TYR:HE2	1.81	0.46
1:H:336:TYR:O	1:H:339:ILE:HG12	2.15	0.46
1:H:368:GLY:O	1:H:399:HIS:HD2	1.99	0.46
1:A:353:ARG:O	1:A:356:ALA:N	2.48	0.46
1:A:379:LYS:HA	1:A:380:PRO:HD3	1.67	0.46
1:B:213:LYS:HG2	1:B:246:TYR:CD2	2.51	0.46
1:B:213:LYS:HG2	1:B:246:TYR:CE2	2.51	0.46
1:C:390:LEU:HB2	1:C:432:ARG:HH22	1.81	0.46
1:E:252:LEU:HD13	1:E:286:LEU:HB3	1.98	0.46
1:F:255:ASN:HD21	1:F:257:LYS:HB2	1.79	0.46
1:I:337:GLU:H	1:I:337:GLU:CD	2.19	0.46
1:C:80:ILE:HD11	1:C:286:LEU:HD23	1.98	0.46
1:E:253:LEU:HD23	1:E:331:TYR:CD1	2.51	0.46
1:F:107:LEU:HD21	1:F:119:ARG:CZ	2.46	0.46
1:G:316:ILE:HD12	1:G:321:LEU:HB2	1.97	0.46
1:J:251:GLY:HA2	1:J:268:PHE:CE2	2.51	0.46
1:B:448:GLU:O	1:B:452:ILE:HB	2.16	0.46
1:C:402:LEU:CD1	1:C:406:GLU:HB3	2.41	0.46
1:G:229:LYS:HB3	1:G:231:GLU:OE1	2.15	0.46
1:H:356:ALA:O	1:H:359:LEU:HB3	2.16	0.46
1:B:267:ASN:OD1	1:B:270:ASP:HB2	2.16	0.45
1:B:282:SER:HB2	1:B:285:LLP:HD3	1.98	0.45
1:C:181:LYS:HG3	1:D:309:PRO:CG	2.43	0.45
1:D:179:MET:O	1:D:182:SER:HB3	2.16	0.45
1:D:363:LEU:HB2	1:D:371:ILE:CD1	2.45	0.45
1:E:379:LYS:HA	1:E:380:PRO:HD3	1.67	0.45
1:F:334:LYS:O	1:F:336:TYR:CD2	2.69	0.45
1:F:375:LYS:HB2	1:F:393:TYR:CE2	2.48	0.45
1:I:105:SER:O	1:J:84:LEU:HA	2.17	0.45
1:I:179:MET:HE3	1:I:179:MET:HB2	1.89	0.45
1:J:120:ILE:CD1	1:J:316:ILE:HD11	2.46	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:J:359:LEU:HB2	1:J:439:LEU:HD22	1.98	0.45
1:J:408:SER:O	1:J:412:ARG:HG3	2.16	0.45
1:D:390:LEU:CB	1:D:432:ARG:NH2	2.79	0.45
1:E:256:LEU:HG	1:E:261:ILE:HB	1.97	0.45
1:E:376:ASP:OD1	1:E:377:LYS:N	2.49	0.45
1:H:343:ARG:O	1:H:347:GLN:HG3	2.16	0.45
1:I:317:ASP:OD1	1:I:319:LEU:N	2.50	0.45
1:A:178:ILE:HG23	1:A:179:MET:N	2.31	0.45
1:E:229:LYS:HB2	1:E:232:ASP:OD2	2.16	0.45
1:E:333:GLU:OE1	1:E:335:ARG:CD	2.64	0.45
1:F:169:ILE:HG22	1:F:218:ASN:CG	2.37	0.45
1:G:216:LYS:H	1:G:216:LYS:HG2	1.58	0.45
1:G:254:ILE:HD11	1:G:336:TYR:CE1	2.51	0.45
1:G:366:ILE:HG23	1:G:367:PRO:HD2	1.98	0.45
1:I:267:ASN:HD21	1:I:270:ASP:CG	2.20	0.45
1:I:430:ASP:OD1	1:I:432:ARG:HB3	2.15	0.45
1:C:78:VAL:HA	1:C:380:PRO:O	2.16	0.45
1:E:91:LYS:O	1:E:95:ASN:ND2	2.50	0.45
1:E:175:ILE:HB	1:E:176:PRO:HD3	1.98	0.45
1:E:312:ARG:HG2	1:F:173:PHE:HB2	1.98	0.45
1:F:394:CYS:HA	1:F:429:PHE:O	2.16	0.45
1:I:268:PHE:CD1	1:I:279:VAL:HG11	2.50	0.45
1:B:97:ILE:HG23	1:B:319:LEU:HD22	1.98	0.45
1:C:213:LYS:HG2	1:C:246:TYR:CE2	2.51	0.45
1:E:106:ASN:HD21	1:F:69:ILE:HA	1.80	0.45
1:J:359:LEU:HB2	1:J:439:LEU:CD2	2.46	0.45
1:A:166:LEU:HD13	1:A:176:PRO:CG	2.41	0.45
1:A:211:LEU:CD1	1:A:236:LEU:HD23	2.46	0.45
1:B:200:TYR:HE2	1:B:228:VAL:HG21	1.81	0.45
1:C:73:ILE:HD13	1:C:438:ASP:HB3	1.98	0.45
1:C:85:GLY:HA2	1:D:107:LEU:CD2	2.47	0.45
1:C:123:ILE:HG23	1:C:328:LEU:CD1	2.47	0.45
1:C:157:LYS:O	1:C:185:ILE:HB	2.17	0.45
1:C:233:LEU:HD23	1:C:233:LEU:HA	1.68	0.45
1:D:77:GLY:HA3	1:D:430:ASP:HB3	1.98	0.45
1:D:217:SER:O	1:D:386:PRO:HD3	2.17	0.45
1:D:267:ASN:OD1	1:D:270:ASP:CB	2.62	0.45
1:E:278:LEU:HG	1:E:301:LEU:HD12	1.98	0.45
1:H:79:VAL:HG21	1:H:345:LEU:CD2	2.46	0.45
1:A:75:ALA:HB3	1:A:419:VAL:O	2.17	0.45
1:A:313:ALA:HB1	1:B:144:GLY:HA2	1.97	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:375:LYS:CB	1:A:393:TYR:CE1	2.97	0.45
1:B:130:LEU:HD13	1:B:253:LEU:HD21	1.97	0.45
1:B:168:GLU:OE1	1:B:174:ARG:NH2	2.50	0.45
1:B:242:ILE:HG23	1:B:243:PRO:HD2	1.99	0.45
1:C:277:ASP:OD1	1:C:298:LYS:HE3	2.17	0.45
1:E:77:GLY:HA3	1:E:430:ASP:HB3	1.99	0.45
1:F:224:PHE:CD1	1:G:218:ASN:HB2	2.52	0.45
1:G:339:ILE:HA	1:G:340:PRO:HD3	1.82	0.45
1:H:173:PHE:HE1	1:H:178:ILE:HD13	1.80	0.45
1:I:137:PHE:CE1	1:I:306:LYS:HG2	2.52	0.45
1:A:178:ILE:CG2	1:A:179:MET:N	2.79	0.45
1:D:435:PHE:O	1:D:438:ASP:HB2	2.17	0.45
1:G:172:SER:OG	1:H:312:ARG:HD3	2.17	0.45
1:H:339:ILE:HD11	1:H:342:ILE:HG13	1.98	0.45
1:A:230:LEU:HD23	1:A:230:LEU:HA	1.83	0.45
1:C:359:LEU:HD13	1:C:439:LEU:CD2	2.46	0.45
1:D:142:ASN:HD22	1:D:285:LLP:C6	2.30	0.45
1:D:150:LEU:CD1	1:D:179:MET:HE2	2.47	0.45
1:E:87:ALA:CB	1:E:341:VAL:HG21	2.46	0.45
1:G:326:MET:O	1:G:330:LEU:HG	2.17	0.45
1:I:375:LYS:HB2	1:I:393:TYR:CE2	2.52	0.45
1:A:68:ASN:HB2	1:B:122:HIS:CG	2.52	0.45
1:B:73:ILE:HD12	1:B:418:ILE:HG12	1.99	0.45
1:B:438:ASP:O	1:B:442:ILE:HG13	2.17	0.45
1:C:385:LEU:HD13	1:C:388:LEU:HD22	1.99	0.45
1:E:302:ILE:CG2	1:E:306:LYS:HE2	2.42	0.45
1:E:385:LEU:HD13	1:E:388:LEU:HD22	1.99	0.45
1:F:339:ILE:HA	1:F:340:PRO:HD3	1.76	0.45
1:G:261:ILE:HG22	1:G:263:VAL:HG23	1.97	0.45
1:G:355:LYS:HE3	1:G:436:HIS:ND1	2.32	0.45
1:G:435:PHE:O	1:G:438:ASP:HB2	2.16	0.45
1:H:427:LEU:HD12	1:H:428:LEU:H	1.82	0.45
1:A:123:ILE:CG1	1:A:321:LEU:HD11	2.46	0.44
1:C:74:ASN:O	1:C:433:THR:OG1	2.35	0.44
1:D:446:LEU:HD23	1:D:446:LEU:HA	1.77	0.44
1:F:411:LEU:HD11	1:F:427:LEU:HD21	1.99	0.44
1:I:80:ILE:O	1:I:382:GLY:HA3	2.17	0.44
1:J:147:PHE:CD1	1:J:178:ILE:HD11	2.52	0.44
1:E:147:PHE:HB2	1:E:178:ILE:CD1	2.44	0.44
1:I:119:ARG:NH1	1:I:316:ILE:O	2.50	0.44
1:J:145:ALA:CB	1:J:295:ILE:HD11	2.47	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:77:GLY:HA3	1:A:430:ASP:HB3	2.00	0.44
1:A:87:ALA:HA	1:A:88:PRO:HD2	1.79	0.44
1:A:249:GLY:HA3	1:A:285:LLP:C3	2.47	0.44
1:C:123:ILE:CD1	1:C:325:GLU:HB2	2.47	0.44
1:D:153:LEU:HA	1:D:153:LEU:HD23	1.55	0.44
1:G:122:HIS:HD2	1:H:68:ASN:CB	2.30	0.44
1:H:159:VAL:HG22	1:H:210:LEU:HB3	1.98	0.44
1:H:169:ILE:HG13	1:H:173:PHE:CD2	2.50	0.44
1:H:173:PHE:HE1	1:H:178:ILE:CD1	2.30	0.44
1:I:254:ILE:HD11	1:I:259:PHE:HZ	1.81	0.44
1:J:352:LEU:HD13	1:J:392:THR:OG1	2.17	0.44
1:A:81:ASN:HA	3:A:2004:THJ:O3	2.18	0.44
1:A:194:LYS:HD2	1:J:168:GLU:HG2	2.00	0.44
1:A:211:LEU:HD13	1:A:236:LEU:HD23	1.98	0.44
1:A:363:LEU:CD2	1:A:446:LEU:HD12	2.47	0.44
1:B:188:GLU:H	1:B:188:GLU:HG2	1.17	0.44
1:B:249:GLY:O	1:B:285:LLP:HD3	2.17	0.44
1:C:75:ALA:HB3	1:C:420:CYS:HA	1.98	0.44
1:C:188:GLU:H	1:C:188:GLU:HG2	1.59	0.44
1:D:256:LEU:CD1	1:D:263:VAL:HG21	2.48	0.44
1:G:252:LEU:HD21	1:G:256:LEU:HG	2.00	0.44
1:H:77:GLY:HA3	1:H:430:ASP:HB3	2.00	0.44
1:I:379:LYS:HA	1:I:380:PRO:HD3	1.44	0.44
1:J:213:LYS:HB3	1:J:246:TYR:CD1	2.53	0.44
1:A:86:ARG:NH2	3:A:2002:THJ:S2	2.90	0.44
1:B:278:LEU:HD23	1:B:278:LEU:HA	1.78	0.44
1:C:79:VAL:HG21	1:C:345:LEU:CD2	2.47	0.44
1:C:140:ASN:N	1:C:314:LEU:O	2.51	0.44
1:C:160:ILE:HG21	1:C:200:TYR:HD1	1.83	0.44
1:D:196:LYS:NZ	1:E:174:ARG:HH21	2.16	0.44
1:F:167:VAL:H	1:F:175:ILE:HG13	1.82	0.44
1:H:399:HIS:CE1	1:H:401:ARG:HD3	2.52	0.44
1:I:310:ILE:HG22	1:I:310:ILE:O	2.16	0.44
1:A:119:ARG:O	1:A:121:ALA:N	2.51	0.44
1:A:265:GLU:CD	1:A:266:PRO:HD2	2.37	0.44
1:A:329:LYS:NZ	1:A:333:GLU:OE2	2.51	0.44
1:B:93:VAL:HA	1:B:326:MET:HG2	1.99	0.44
1:B:135:SER:O	1:B:136:SER:HB3	2.17	0.44
1:B:178:ILE:CG2	1:B:179:MET:N	2.80	0.44
1:B:339:ILE:HD11	1:B:342:ILE:CG1	2.48	0.44
1:D:66:LYS:HG2	1:D:67:PRO:HD2	1.98	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:252:LEU:HG	1:D:267:ASN:HB3	1.98	0.44
1:E:102:ASN:HD21	1:F:91:LYS:CG	2.31	0.44
1:F:201:GLU:OE2	1:F:240:TYR:HE2	2.01	0.44
1:G:352:LEU:HD13	1:G:392:THR:HA	2.00	0.44
1:H:188:GLU:H	1:H:188:GLU:HG2	1.39	0.44
1:H:379:LYS:HG2	1:H:389:GLU:HG3	1.99	0.44
1:J:331:TYR:CZ	1:J:339:ILE:CD1	3.00	0.44
1:B:86:ARG:HB3	1:B:87:ALA:H	1.66	0.44
1:B:302:ILE:H	1:B:302:ILE:HG12	1.59	0.44
1:E:175:ILE:HB	1:E:176:PRO:CD	2.47	0.44
1:E:287:LEU:O	1:E:287:LEU:HD23	2.18	0.44
1:F:153:LEU:HD23	1:F:153:LEU:HA	1.71	0.44
1:I:188:GLU:H	1:I:188:GLU:HG2	1.57	0.44
1:I:423:ARG:HG2	1:I:424:GLU:HG3	2.00	0.44
1:B:363:LEU:HD21	1:B:446:LEU:HD12	1.99	0.44
1:C:267:ASN:OD1	1:C:267:ASN:O	2.35	0.44
1:D:131:THR:CG2	1:D:268:PHE:HB3	2.44	0.44
1:I:404:SER:O	1:I:407:LEU:HB3	2.17	0.44
1:A:111:LEU:HD23	1:A:111:LEU:N	2.31	0.44
1:A:120:ILE:HG21	1:A:137:PHE:CD1	2.52	0.44
1:A:242:ILE:HG22	1:A:243:PRO:HD2	1.99	0.44
1:E:249:GLY:HA2	1:E:281:GLY:HA2	2.00	0.44
1:F:188:GLU:H	1:F:188:GLU:HG2	1.51	0.44
1:G:234:VAL:CG2	1:G:276:ILE:HD13	2.48	0.44
1:H:384:SER:O	1:H:385:LEU:HD23	2.18	0.44
1:I:136:SER:HB3	1:I:296:VAL:HG12	1.99	0.44
1:J:71:ARG:HG2	1:J:72:VAL:N	2.32	0.44
1:A:77:GLY:HA3	1:A:430:ASP:CG	2.38	0.43
1:A:86:ARG:HB3	1:A:87:ALA:H	1.71	0.43
1:D:344:MET:CE	1:D:435:PHE:CE1	3.01	0.43
1:E:290:PRO:HB2	1:E:320:THR:HG22	2.00	0.43
1:F:74:ASN:ND2	1:F:84:LEU:HD12	2.33	0.43
1:F:109:TYR:HD1	1:F:111:LEU:HD23	1.83	0.43
1:F:169:ILE:HD11	1:F:285:LLP:C5	2.48	0.43
1:F:390:LEU:CB	1:F:432:ARG:NH2	2.81	0.43
1:I:423:ARG:NH1	1:I:428:LEU:HD11	2.33	0.43
1:B:86:ARG:HD3	1:B:284:ASP:CG	2.39	0.43
1:C:69:ILE:HG22	1:D:100:ILE:HD12	2.00	0.43
1:D:230:LEU:HD21	1:D:246:TYR:HD1	1.82	0.43
1:D:344:MET:O	1:D:432:ARG:HD2	2.18	0.43
1:E:146:VAL:HG12	1:E:150:LEU:HD12	2.00	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:259:PHE:CE2	1:E:336:TYR:CE2	3.03	0.43
1:F:390:LEU:CB	1:F:432:ARG:HH22	2.31	0.43
1:G:66:LYS:CG	1:G:67:PRO:HD2	2.47	0.43
1:I:396:ALA:HB2	1:I:428:LEU:CD2	2.48	0.43
1:J:379:LYS:HA	1:J:380:PRO:HD3	1.69	0.43
1:A:363:LEU:HD22	1:A:366:ILE:HD12	2.01	0.43
1:A:411:LEU:HD23	1:A:411:LEU:HA	1.89	0.43
1:D:265:GLU:HA	1:D:266:PRO:HD2	1.87	0.43
1:F:430:ASP:C	1:F:431:MET:HE2	2.39	0.43
1:G:125:LYS:CB	1:H:64:LEU:HD21	2.34	0.43
1:J:366:ILE:HB	1:J:369:LEU:HD12	1.99	0.43
1:J:369:LEU:HD21	1:J:450:LEU:HD13	2.00	0.43
1:A:397:ILE:HG12	1:A:427:LEU:HD23	2.00	0.43
1:B:86:ARG:CZ	1:B:285:LLP:HE2	2.49	0.43
1:C:318:LYS:HG2	1:C:319:LEU:HD23	2.00	0.43
1:F:363:LEU:HD22	1:F:446:LEU:HD12	2.00	0.43
1:G:142:ASN:HB3	1:G:285:LLP:OP4	2.19	0.43
1:G:447:GLN:O	1:G:451:SER:HB2	2.17	0.43
1:I:348:ASP:OD2	1:I:350:LYS:HE3	2.19	0.43
1:I:400:ASP:OD1	1:I:400:ASP:N	2.43	0.43
1:J:122:HIS:ND1	1:J:126:TYR:CE2	2.84	0.43
1:A:390:LEU:CB	1:A:432:ARG:NH2	2.82	0.43
1:B:190:GLY:HA2	1:B:199:ASP:OD2	2.19	0.43
1:E:170:GLY:HA2	3:E:502:THJ:O1	2.19	0.43
1:E:319:LEU:HD23	1:E:319:LEU:N	2.32	0.43
1:F:230:LEU:HD23	1:F:230:LEU:HA	1.66	0.43
1:G:366:ILE:CD1	1:G:447:GLN:HB3	2.48	0.43
1:H:169:ILE:HA	1:H:218:ASN:HD21	1.83	0.43
1:H:193:ASN:HB3	1:I:219:PHE:CZ	2.53	0.43
1:H:399:HIS:HE1	1:H:401:ARG:HB2	1.83	0.43
1:I:390:LEU:HB3	1:I:432:ARG:HH22	1.84	0.43
1:J:70:LYS:HE2	1:J:70:LYS:HB3	1.88	0.43
1:A:427:LEU:C	1:A:428:LEU:HD23	2.39	0.43
1:D:193:ASN:HB3	1:E:219:PHE:CE2	2.53	0.43
1:D:200:TYR:CE2	1:D:228:VAL:HG21	2.54	0.43
1:E:327:THR:O	1:E:331:TYR:HD2	2.02	0.43
1:E:378:ALA:HB1	1:E:421:ARG:HH12	1.83	0.43
1:G:144:GLY:CA	1:H:313:ALA:HB1	2.49	0.43
1:G:423:ARG:CZ	1:G:423:ARG:HB3	2.47	0.43
1:H:142:ASN:ND2	1:H:249:GLY:HA2	2.33	0.43
1:I:90:SER:HB3	1:I:340:PRO:HD3	2.00	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:I:412:ARG:O	1:I:417:PRO:HB3	2.17	0.43
1:J:213:LYS:HE3	1:J:246:TYR:HE1	1.83	0.43
1:A:201:GLU:HB2	1:A:236:LEU:HD11	2.00	0.43
1:A:230:LEU:HD11	1:A:246:TYR:CE2	2.54	0.43
1:A:396:ALA:HA	1:A:427:LEU:O	2.18	0.43
1:A:420:CYS:SG	1:A:429:PHE:CE2	3.11	0.43
1:B:153:LEU:HA	1:B:153:LEU:HD23	1.73	0.43
1:B:160:ILE:HG22	1:B:200:TYR:CD1	2.53	0.43
1:D:256:LEU:HD12	1:D:263:VAL:HG21	1.99	0.43
1:D:308:ASN:OD1	1:D:310:ILE:HB	2.18	0.43
1:E:188:GLU:H	1:E:188:GLU:HG2	1.66	0.43
1:E:189:VAL:HB	1:E:199:ASP:HB3	1.99	0.43
1:F:93:VAL:HA	1:F:326:MET:HG2	2.00	0.43
1:F:194:LYS:HD2	1:G:168:GLU:OE2	2.18	0.43
1:G:105:SER:O	1:H:84:LEU:HA	2.18	0.43
1:B:245:TYR:HD2	1:B:246:TYR:N	2.15	0.43
1:E:142:ASN:HD22	1:E:285:LLP:C6	2.30	0.43
1:G:64:LEU:HD22	1:H:126:TYR:CE1	2.53	0.43
1:G:122:HIS:HB3	1:H:68:ASN:HB3	2.01	0.43
1:H:253:LEU:HD23	1:H:331:TYR:CD1	2.54	0.43
1:I:193:ASN:OD1	1:I:193:ASN:N	2.49	0.43
1:J:227:GLU:CG	1:J:228:VAL:N	2.81	0.43
1:A:80:ILE:HD11	1:A:341:VAL:HG11	2.01	0.43
1:B:366:ILE:HA	1:B:367:PRO:HD2	1.86	0.43
1:D:228:VAL:HG11	1:D:233:LEU:HG	2.00	0.43
1:D:421:ARG:NH2	1:D:430:ASP:OD2	2.52	0.43
1:F:104:TYR:CD1	1:F:104:TYR:N	2.87	0.43
1:H:77:GLY:CA	1:H:430:ASP:HB3	2.48	0.43
1:H:390:LEU:HB3	1:H:432:ARG:HH22	1.83	0.43
1:I:263:VAL:CG1	1:I:264:ASP:H	2.32	0.43
1:I:352:LEU:HD21	1:I:432:ARG:HA	2.00	0.43
1:J:201:GLU:HG3	1:J:236:LEU:CD1	2.44	0.43
1:B:96:PHE:CZ	1:B:100:ILE:HD11	2.54	0.43
1:C:439:LEU:O	1:C:442:ILE:HB	2.19	0.43
1:D:353:ARG:CA	1:D:393:TYR:HD1	2.31	0.43
1:F:208:THR:O	1:F:208:THR:HG22	2.19	0.43
1:G:125:LYS:O	1:G:129:GLU:HG2	2.19	0.43
1:G:442:ILE:HG22	1:G:446:LEU:HD11	2.01	0.43
1:H:250:SER:HB2	1:H:286:LEU:HD12	2.00	0.43
1:I:80:ILE:CG2	1:I:383:GLY:H	2.32	0.43
1:I:268:PHE:O	1:I:269:ARG:C	2.56	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:J:89:LEU:HA	1:J:89:LEU:HD23	1.77	0.43
1:J:339:ILE:O	1:J:339:ILE:HG13	2.18	0.43
1:J:396:ALA:HB1	1:J:426:GLN:HG3	2.01	0.43
1:A:230:LEU:O	1:A:231:GLU:C	2.58	0.42
1:C:397:ILE:HD13	1:C:429:PHE:HE2	1.83	0.42
1:D:362:LEU:HB3	1:D:443:LYS:HD2	2.00	0.42
1:F:359:LEU:O	1:F:363:LEU:HG	2.19	0.42
1:G:252:LEU:HD12	1:G:253:LEU:N	2.34	0.42
1:H:193:ASN:HB3	1:I:219:PHE:CE2	2.54	0.42
1:I:102:ASN:HB2	1:J:71:ARG:HH22	1.81	0.42
1:I:354:GLN:HE21	1:I:358:ARG:HH21	1.67	0.42
1:B:178:ILE:HG23	1:B:179:MET:N	2.34	0.42
1:B:343:ARG:HG2	1:B:343:ARG:HH21	1.84	0.42
1:D:353:ARG:O	1:D:356:ALA:N	2.52	0.42
1:E:213:LYS:HG2	1:E:246:TYR:CE1	2.54	0.42
1:E:390:LEU:HB3	1:E:432:ARG:HH22	1.83	0.42
1:F:233:LEU:HD23	1:F:233:LEU:HA	1.74	0.42
1:F:302:ILE:HG22	1:F:306:LYS:HE3	2.01	0.42
1:G:131:THR:HG22	1:G:268:PHE:HB3	2.01	0.42
1:G:316:ILE:CD1	1:G:321:LEU:HB2	2.48	0.42
1:G:378:ALA:HB2	1:G:421:ARG:HH12	1.80	0.42
1:H:150:LEU:HD13	1:H:179:MET:HG3	2.01	0.42
1:I:287:LEU:HD23	1:I:287:LEU:C	2.38	0.42
1:J:73:ILE:HG12	1:J:417:PRO:O	2.19	0.42
1:J:193:ASN:OD1	1:J:193:ASN:N	2.49	0.42
1:B:336:TYR:O	1:B:339:ILE:HG12	2.18	0.42
1:C:105:SER:O	1:D:84:LEU:HA	2.19	0.42
1:C:359:LEU:HB2	1:C:439:LEU:HD22	2.02	0.42
1:D:131:THR:HG22	1:D:268:PHE:CB	2.43	0.42
1:D:327:THR:O	1:D:331:TYR:HD2	2.02	0.42
1:F:81:ASN:OD1	1:F:83:ASN:N	2.52	0.42
1:G:119:ARG:HG3	1:G:120:ILE:N	2.35	0.42
1:G:193:ASN:HA	1:G:221:MET:HE1	2.01	0.42
1:H:79:VAL:HG11	1:H:341:VAL:HG13	2.01	0.42
1:H:147:PHE:HB2	1:H:178:ILE:HD11	2.00	0.42
1:H:397:ILE:CD1	1:H:429:PHE:HE1	2.32	0.42
1:H:415:GLU:HA	1:H:416:PRO:HA	1.87	0.42
1:I:98:SER:OG	1:J:94:ILE:HG21	2.19	0.42
1:A:358:ARG:O	1:A:362:LEU:HG	2.19	0.42
1:B:245:TYR:OH	1:B:280:SER:OG	2.30	0.42
1:C:81:ASN:OD1	1:C:81:ASN:C	2.58	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:160:ILE:HD12	1:C:211:LEU:CD2	2.49	0.42
1:C:167:VAL:CG1	1:C:219:PHE:HE2	2.31	0.42
1:D:138:VAL:HG12	1:D:316:ILE:HG21	2.01	0.42
1:D:254:ILE:C	1:D:267:ASN:HD22	2.22	0.42
1:D:300:ASN:O	1:D:304:LYS:HG3	2.18	0.42
1:E:206:GLN:CD	1:E:206:GLN:H	2.22	0.42
1:F:140:ASN:O	1:F:292:ALA:HA	2.19	0.42
1:F:215:HIS:HB3	1:F:248:ALA:O	2.19	0.42
1:G:90:SER:O	1:G:94:ILE:HG13	2.19	0.42
1:G:411:LEU:HD11	1:G:427:LEU:HD21	2.01	0.42
1:H:342:ILE:HD12	1:H:342:ILE:HG23	1.79	0.42
1:I:169:ILE:HD11	1:I:285:LLP:C5	2.50	0.42
1:I:196:LYS:N	1:I:199:ASP:OD2	2.42	0.42
1:I:302:ILE:CG2	1:I:306:LYS:HE3	2.49	0.42
1:J:230:LEU:HD21	1:J:246:TYR:CD1	2.54	0.42
1:A:62:LYS:O	1:A:65:MET:HG3	2.18	0.42
1:B:339:ILE:HD11	1:B:342:ILE:HG12	2.01	0.42
1:C:256:LEU:CD1	1:C:265:GLU:HB3	2.47	0.42
1:C:272:ILE:HD11	1:C:296:VAL:HG23	2.01	0.42
1:C:377:LYS:HB3	1:C:377:LYS:HE2	1.89	0.42
1:I:158:GLU:OE2	1:I:187:ARG:HD3	2.19	0.42
1:I:339:ILE:HA	1:I:340:PRO:HD3	1.79	0.42
1:I:366:ILE:HG23	1:I:367:PRO:HD2	2.02	0.42
1:C:81:ASN:ND2	1:C:84:LEU:HG	2.34	0.42
1:C:369:LEU:HD23	1:C:369:LEU:HA	1.89	0.42
1:D:390:LEU:CB	1:D:432:ARG:HH22	2.26	0.42
1:G:268:PHE:O	1:G:272:ILE:HG12	2.18	0.42
1:G:379:LYS:HA	1:G:380:PRO:HD3	1.78	0.42
1:H:358:ARG:NH2	1:H:436:HIS:ND1	2.68	0.42
1:H:366:ILE:HG23	1:H:367:PRO:HD2	2.01	0.42
1:J:118:SER:HB3	1:J:121:ALA:HB2	2.01	0.42
1:A:67:PRO:HD3	1:B:329:LYS:HD2	2.01	0.42
1:C:234:VAL:CG2	1:C:276:ILE:HD13	2.49	0.42
1:C:407:LEU:CD2	1:C:427:LEU:HD22	2.50	0.42
1:E:86:ARG:HD3	1:E:284:ASP:OD2	2.20	0.42
1:G:396:ALA:HA	1:G:427:LEU:O	2.20	0.42
1:J:148:LEU:HD22	1:J:314:LEU:CD1	2.50	0.42
1:J:268:PHE:O	1:J:269:ARG:C	2.58	0.42
1:A:77:GLY:HA3	1:A:430:ASP:CB	2.49	0.42
1:A:353:ARG:HB2	1:A:393:TYR:CD2	2.55	0.42
1:A:408:SER:OG	1:A:409:ARG:N	2.51	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:148:LEU:HD13	1:C:310:ILE:HG22	2.01	0.42
1:D:201:GLU:HA	1:D:204:ILE:HD12	2.02	0.42
1:E:68:ASN:O	1:F:106:ASN:ND2	2.43	0.42
1:F:211:LEU:HD23	1:F:211:LEU:HA	1.89	0.42
1:G:399:HIS:CE1	1:G:401:ARG:HD3	2.53	0.42
1:H:128:ASN:O	1:H:132:GLY:N	2.45	0.42
1:H:161:ILE:HD13	1:H:166:LEU:HD23	2.01	0.42
1:J:397:ILE:HD11	1:J:427:LEU:HD23	2.02	0.42
1:A:66:LYS:HG2	1:A:67:PRO:HD2	2.01	0.42
1:B:319:LEU:HA	1:B:319:LEU:HD23	1.50	0.42
1:C:141:ASN:OD1	1:C:143:ALA:HB3	2.19	0.42
1:F:385:LEU:HD23	1:F:385:LEU:HA	1.85	0.42
1:F:394:CYS:SG	1:F:421:ARG:NH2	2.90	0.42
1:H:366:ILE:HB	1:H:369:LEU:HD12	2.02	0.42
1:I:83:ASN:HB3	1:J:109:TYR:HD2	1.84	0.42
1:I:443:LYS:HE2	1:I:447:GLN:OE1	2.19	0.42
1:J:94:ILE:HA	1:J:97:ILE:HD12	2.02	0.42
1:J:141:ASN:HB2	1:J:285:LLP:OP2	2.19	0.42
1:B:245:TYR:CD2	1:B:245:TYR:C	2.93	0.42
1:C:230:LEU:HD23	1:C:230:LEU:HA	1.90	0.42
1:D:406:GLU:O	1:D:406:GLU:HG3	2.20	0.42
1:E:193:ASN:O	1:E:225:VAL:HG13	2.20	0.42
1:F:178:ILE:O	1:F:182:SER:N	2.51	0.42
1:G:285:LLP:NZ	1:G:285:LLP:O3	2.39	0.42
1:H:72:VAL:HG22	1:H:417:PRO:HG2	2.01	0.42
1:I:278:LEU:HD23	1:I:278:LEU:HA	1.87	0.42
1:J:268:PHE:HD1	1:J:296:VAL:CG2	2.32	0.42
1:J:363:LEU:HD21	1:J:446:LEU:HD12	2.01	0.42
1:A:212:MET:CE	1:A:245:TYR:HE1	2.33	0.41
1:E:163:ARG:HH11	1:E:188:GLU:HG3	1.85	0.41
1:E:366:ILE:HA	1:E:367:PRO:HD2	1.83	0.41
1:F:221:MET:HB3	1:F:225:VAL:HG21	2.01	0.41
1:J:192:THR:HG22	1:J:193:ASN:N	2.35	0.41
1:B:339:ILE:HA	1:B:340:PRO:HD3	1.82	0.41
1:C:187:ARG:HE	1:C:203:ALA:HB1	1.84	0.41
1:C:320:THR:HG23	1:D:317:ASP:OD2	2.19	0.41
1:D:285:LLP:C	1:D:287:LEU:H	2.32	0.41
1:E:302:ILE:O	1:E:306:LYS:HG3	2.20	0.41
1:F:136:SER:HB3	1:F:296:VAL:HG12	2.02	0.41
1:F:224:PHE:HD1	1:G:218:ASN:O	2.03	0.41
1:H:73:ILE:HG12	1:H:438:ASP:OD1	2.19	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:205:ASN:OD1	1:C:207:ASN:N	2.49	0.41
1:C:302:ILE:H	1:C:302:ILE:HG12	1.67	0.41
1:E:363:LEU:CB	1:E:371:ILE:CD1	2.97	0.41
1:F:66:LYS:CD	1:F:67:PRO:HD2	2.49	0.41
1:F:76:THR:HA	1:F:421:ARG:HG3	2.03	0.41
1:F:388:LEU:HD12	1:F:389:GLU:N	2.35	0.41
1:G:70:LYS:HB3	1:G:70:LYS:HE2	1.82	0.41
1:G:169:ILE:HD11	1:G:285:LLP:H5'1	2.01	0.41
1:I:81:ASN:OD1	1:I:84:LEU:N	2.53	0.41
1:J:188:GLU:H	1:J:188:GLU:HG2	1.50	0.41
1:B:169:ILE:HG12	1:B:173:PHE:CD2	2.54	0.41
1:C:313:ALA:HB1	1:D:144:GLY:CA	2.51	0.41
1:D:191:THR:HG21	1:E:168:GLU:N	2.35	0.41
1:E:157:LYS:HE2	1:E:209:ALA:HB2	2.03	0.41
1:I:75:ALA:HB3	1:I:420:CYS:HB3	2.03	0.41
1:A:157:LYS:HB2	1:A:209:ALA:HB2	2.01	0.41
1:B:276:ILE:HD13	1:B:276:ILE:HA	1.86	0.41
1:C:220:TYR:CE1	1:C:387:GLU:HG3	2.55	0.41
1:C:282:SER:HB2	1:C:285:LLP:HD3	2.01	0.41
1:E:109:TYR:HD2	1:F:83:ASN:HB3	1.85	0.41
1:E:340:PRO:O	1:E:344:MET:HG3	2.20	0.41
1:F:230:LEU:O	1:F:231:GLU:C	2.58	0.41
1:G:166:LEU:HD23	1:G:175:ILE:HG21	2.01	0.41
1:G:263:VAL:HG12	1:G:264:ASP:N	2.35	0.41
1:G:353:ARG:HB2	1:G:393:TYR:CE1	2.55	0.41
1:J:123:ILE:HG22	1:J:127:LEU:CD1	2.50	0.41
1:A:138:VAL:HA	1:A:293:GLY:O	2.19	0.41
1:A:287:LEU:HD23	1:A:287:LEU:C	2.40	0.41
1:A:355:LYS:HD2	1:A:436:HIS:HD2	1.86	0.41
1:E:136:SER:HB2	1:E:296:VAL:HG12	2.01	0.41
1:F:208:THR:CG2	1:F:242:ILE:HD13	2.49	0.41
1:H:74:ASN:OD1	1:H:76:THR:HG23	2.20	0.41
1:I:90:SER:O	1:I:94:ILE:HG13	2.19	0.41
1:I:242:ILE:HG23	1:I:243:PRO:HD2	2.03	0.41
1:I:439:LEU:O	1:I:442:ILE:HB	2.21	0.41
1:A:312:ARG:NH1	1:B:141:ASN:ND2	2.68	0.41
1:B:142:ASN:ND2	1:B:249:GLY:HA2	2.35	0.41
1:C:160:ILE:HG22	1:C:200:TYR:CD1	2.56	0.41
1:E:77:GLY:CA	1:E:430:ASP:HB3	2.50	0.41
1:E:94:ILE:HA	1:E:97:ILE:HD12	2.03	0.41
1:H:213:LYS:HE3	1:H:230:LEU:HD21	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:I:272:ILE:HD13	1:I:272:ILE:HA	1.94	0.41
1:J:79:VAL:N	1:J:380:PRO:O	2.51	0.41
1:A:76:THR:HG21	3:A:2003:THJ:S2	2.60	0.41
1:A:145:ALA:HB1	1:A:295:ILE:HD11	2.02	0.41
1:A:359:LEU:HD23	1:A:395:VAL:CG1	2.43	0.41
1:C:80:ILE:CD1	1:C:286:LEU:HD23	2.51	0.41
1:C:236:LEU:HD12	1:C:236:LEU:HA	1.68	0.41
1:D:285:LLP:C	1:D:287:LEU:N	2.83	0.41
1:D:361:LYS:HG3	1:D:361:LYS:O	2.21	0.41
1:E:397:ILE:CD1	1:E:429:PHE:HE1	2.34	0.41
1:F:88:PRO:O	1:F:340:PRO:HG2	2.20	0.41
1:F:174:ARG:HB2	1:F:177:ASP:HB2	2.02	0.41
1:F:369:LEU:HG	1:F:371:ILE:CG1	2.51	0.41
1:H:363:LEU:HB3	1:H:371:ILE:CD1	2.51	0.41
1:I:77:GLY:CA	1:I:430:ASP:HB3	2.51	0.41
1:I:107:LEU:HD11	1:I:321:LEU:HD23	2.02	0.41
1:J:163:ARG:HH12	1:J:188:GLU:HG3	1.84	0.41
1:A:196:LYS:N	1:A:199:ASP:OD2	2.49	0.41
1:A:378:ALA:HB1	1:A:421:ARG:HH12	1.85	0.41
1:A:414:ALA:HB3	1:A:417:PRO:HA	2.03	0.41
1:A:427:LEU:HD12	1:A:427:LEU:HA	1.80	0.41
1:B:158:GLU:HA	1:B:185:ILE:O	2.20	0.41
1:B:160:ILE:HG22	1:B:200:TYR:HD1	1.86	0.41
1:B:329:LYS:NZ	1:B:333:GLU:OE2	2.32	0.41
1:D:109:TYR:CD1	1:D:111:LEU:HD23	2.56	0.41
1:D:255:ASN:CA	1:D:267:ASN:ND2	2.83	0.41
1:D:420:CYS:HB2	1:D:428:LEU:O	2.20	0.41
1:E:84:LEU:HD23	1:E:84:LEU:HA	1.82	0.41
1:E:138:VAL:CG1	1:E:316:ILE:HD13	2.50	0.41
1:E:358:ARG:HD2	1:E:439:LEU:HD13	2.03	0.41
1:E:365:ASP:OD1	1:E:365:ASP:N	2.54	0.41
1:E:400:ASP:N	1:E:400:ASP:OD1	2.54	0.41
1:F:174:ARG:O	1:F:178:ILE:HG22	2.21	0.41
1:F:252:LEU:HD11	1:F:254:ILE:O	2.21	0.41
1:G:152:THR:HG21	1:G:305:ILE:HG12	2.03	0.41
1:G:158:GLU:HA	1:G:185:ILE:O	2.21	0.41
1:H:81:ASN:ND2	3:H:501:THJ:S2	2.91	0.41
1:H:169:ILE:CD1	1:H:285:LLP:H5'1	2.45	0.41
1:H:308:ASN:HA	1:H:309:PRO:HD2	1.95	0.41
1:I:343:ARG:O	1:I:347:GLN:HG3	2.20	0.41
1:J:83:ASN:ND2	3:J:502:THJ:O3	2.46	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:J:120:ILE:HD13	1:J:316:ILE:HD11	2.01	0.41
1:J:308:ASN:HA	1:J:309:PRO:HD2	1.80	0.41
1:J:326:MET:HE1	1:J:329:LYS:HD3	2.03	0.41
1:J:331:TYR:OH	1:J:339:ILE:HD12	2.21	0.41
1:A:254:ILE:HD13	1:A:336:TYR:CE1	2.56	0.41
1:B:86:ARG:HB3	1:B:284:ASP:O	2.21	0.41
1:B:163:ARG:O	1:C:192:THR:OG1	2.38	0.41
1:B:169:ILE:CD1	1:B:285:LLP:H5'1	2.51	0.41
1:D:254:ILE:C	1:D:267:ASN:ND2	2.74	0.41
1:E:313:ALA:CB	1:F:144:GLY:HA2	2.50	0.41
1:F:169:ILE:HD11	1:F:285:LLP:C5'	2.51	0.41
1:F:200:TYR:CD2	1:F:228:VAL:HG21	2.56	0.41
1:G:233:LEU:HD23	1:G:233:LEU:HA	1.81	0.41
1:G:285:LLP:OP4	1:G:285:LLP:H4'1	2.20	0.41
1:H:256:LEU:HD12	1:H:265:GLU:HB3	2.03	0.41
1:I:163:ARG:NH1	1:I:188:GLU:HG3	2.36	0.41
1:J:160:ILE:HD12	1:J:208:THR:HG21	2.03	0.41
1:J:366:ILE:HB	1:J:369:LEU:HD11	2.02	0.41
1:A:67:PRO:HD3	1:B:329:LYS:HE3	2.03	0.40
1:B:73:ILE:HD12	1:B:418:ILE:CG1	2.51	0.40
1:B:363:LEU:HB3	1:B:371:ILE:CD1	2.52	0.40
1:D:212:MET:CE	1:D:245:TYR:CE1	3.04	0.40
1:E:66:LYS:HG3	1:E:67:PRO:HD2	2.03	0.40
1:F:363:LEU:CD2	1:F:446:LEU:HD12	2.50	0.40
1:G:280:SER:HA	1:G:294:ILE:O	2.22	0.40
1:H:390:LEU:HB2	1:H:432:ARG:NH2	2.36	0.40
1:J:409:ARG:HG3	1:J:412:ARG:NH2	2.36	0.40
1:A:169:ILE:HD13	1:A:285:LLP:C4	2.51	0.40
1:A:287:LEU:HD23	1:A:287:LEU:O	2.21	0.40
1:C:161:ILE:HG23	1:C:166:LEU:HD21	2.03	0.40
1:C:261:ILE:HG22	1:C:263:VAL:HG13	2.03	0.40
1:C:336:TYR:C	1:C:338:ASP:N	2.74	0.40
1:D:268:PHE:CE2	1:D:294:ILE:CG2	3.04	0.40
1:F:136:SER:HB2	1:F:296:VAL:HG12	2.04	0.40
1:H:157:LYS:HE2	1:H:157:LYS:HB3	1.95	0.40
1:H:224:PHE:CD1	1:I:218:ASN:HB2	2.56	0.40
1:H:335:ARG:NE	1:H:338:ASP:OD2	2.54	0.40
1:I:363:LEU:CD2	1:I:446:LEU:CD1	3.00	0.40
1:J:214:VAL:HG22	1:J:247:ASP:HB3	2.03	0.40
1:B:88:PRO:O	1:B:340:PRO:HG2	2.21	0.40
1:B:415:GLU:HA	1:B:416:PRO:HA	1.94	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:429:PHE:HB3	1:D:431:MET:CE	2.51	0.40
1:E:87:ALA:CB	1:E:341:VAL:CG2	3.00	0.40
1:E:353:ARG:HB2	1:E:393:TYR:CE1	2.54	0.40
1:G:200:TYR:CE1	1:G:233:LEU:HD21	2.57	0.40
1:G:252:LEU:HG	1:G:267:ASN:CB	2.46	0.40
1:G:268:PHE:O	1:G:269:ARG:C	2.60	0.40
1:I:79:VAL:HG21	1:I:345:LEU:CD2	2.52	0.40
1:I:149:VAL:HG22	1:I:305:ILE:HD13	2.03	0.40
1:A:165:GLU:HB3	1:A:214:VAL:HB	2.03	0.40
1:A:220:TYR:CE1	1:A:387:GLU:HG3	2.57	0.40
1:B:400:ASP:OD1	1:B:400:ASP:N	2.48	0.40
1:G:213:LYS:HE2	1:G:230:LEU:CD2	2.52	0.40
1:H:107:LEU:CD1	1:H:321:LEU:HD23	2.52	0.40
1:H:263:VAL:CG1	1:H:264:ASP:N	2.85	0.40
1:H:369:LEU:HD13	1:H:371:ILE:HD11	2.03	0.40
1:I:213:LYS:HG2	1:I:246:TYR:CE1	2.57	0.40
1:I:313:ALA:HB1	1:J:144:GLY:CA	2.51	0.40
1:J:320:THR:O	1:J:324:LEU:HB2	2.21	0.40
1:E:73:ILE:CB	1:E:418:ILE:HG12	2.45	0.40
1:E:299:LYS:O	1:E:303:GLU:HG2	2.22	0.40
1:F:167:VAL:HG22	1:F:175:ILE:CG1	2.50	0.40
1:G:302:ILE:HG22	1:G:306:LYS:HE2	2.04	0.40
1:I:319:LEU:O	1:I:320:THR:C	2.59	0.40

There are no symmetry-related clashes.

5.3 Torsion angles [i](#)

5.3.1 Protein backbone [i](#)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
1	A	389/392 (99%)	362 (93%)	24 (6%)	3 (1%)	19 52
1	B	387/392 (99%)	369 (95%)	16 (4%)	2 (0%)	29 62

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	C	389/392 (99%)	369 (95%)	16 (4%)	4 (1%)	15	47
1	D	387/392 (99%)	359 (93%)	28 (7%)	0	100	100
1	E	389/392 (99%)	374 (96%)	15 (4%)	0	100	100
1	F	389/392 (99%)	376 (97%)	12 (3%)	1 (0%)	41	72
1	G	386/392 (98%)	372 (96%)	12 (3%)	2 (0%)	29	62
1	H	389/392 (99%)	371 (95%)	18 (5%)	0	100	100
1	I	389/392 (99%)	376 (97%)	13 (3%)	0	100	100
1	J	389/392 (99%)	371 (95%)	16 (4%)	2 (0%)	29	62
All	All	3883/3920 (99%)	3699 (95%)	170 (4%)	14 (0%)	34	67

All (14) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	120	ILE
1	C	337	GLU
1	B	86	ARG
1	A	152	THR
1	C	249	GLY
1	F	128	ASN
1	G	268	PHE
1	J	121	ALA
1	A	443	LYS
1	B	231	GLU
1	C	380	PRO
1	J	380	PRO
1	C	146	VAL
1	G	380	PRO

5.3.2 Protein sidechains [i](#)

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	A	339/339 (100%)	336 (99%)	3 (1%)	78	87

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	B	337/339 (99%)	333 (99%)	4 (1%)	71	83
1	C	339/339 (100%)	332 (98%)	7 (2%)	53	75
1	D	337/339 (99%)	335 (99%)	2 (1%)	86	91
1	E	339/339 (100%)	338 (100%)	1 (0%)	92	96
1	F	339/339 (100%)	338 (100%)	1 (0%)	92	96
1	G	336/339 (99%)	335 (100%)	1 (0%)	92	96
1	H	339/339 (100%)	338 (100%)	1 (0%)	92	96
1	I	339/339 (100%)	334 (98%)	5 (2%)	65	80
1	J	339/339 (100%)	338 (100%)	1 (0%)	92	96
All	All	3383/3390 (100%)	3357 (99%)	26 (1%)	81	89

All (26) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	169	ILE
1	A	188	GLU
1	A	324	LEU
1	B	179	MET
1	B	188	GLU
1	B	231	GLU
1	B	296	VAL
1	C	162	SER
1	C	163	ARG
1	C	178	ILE
1	C	188	GLU
1	C	222	GLU
1	C	245	TYR
1	C	342	ILE
1	D	70	LYS
1	D	339	ILE
1	E	169	ILE
1	F	309	PRO
1	G	188	GLU
1	H	188	GLU
1	I	169	ILE
1	I	188	GLU
1	I	350	LYS
1	I	384	SER
1	I	420	CYS

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Mol	Chain	Res	Type
1	J	188	GLU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (24) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	399	HIS
1	C	68	ASN
1	C	122	HIS
1	C	218	ASN
1	C	405	GLN
1	D	140	ASN
1	D	347	GLN
1	D	399	HIS
1	E	95	ASN
1	E	102	ASN
1	E	142	ASN
1	F	405	GLN
1	F	426	GLN
1	G	218	ASN
1	G	399	HIS
1	H	291	GLN
1	H	399	HIS
1	I	142	ASN
1	I	354	GLN
1	I	399	HIS
1	I	405	GLN
1	I	436	HIS
1	J	122	HIS
1	J	399	HIS

5.3.3 RNA [i](#)

There are no RNA molecules in this entry.

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

10 non-standard protein/DNA/RNA residues are modelled in this entry.

In the following table, the Counts columns list the number of bonds (or angles) for which Mogul statistics could be retrieved, the number of bonds (or angles) that are observed in the model and the number of bonds (or angles) that are defined in the Chemical Component Dictionary. The

Link column lists molecule types, if any, to which the group is linked. The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with $|Z| > 2$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
1	LLP	C	285	1	23,24,25	1.79	5 (21%)	25,32,34	1.44	3 (12%)
1	LLP	E	285	1	23,24,25	1.66	6 (26%)	25,32,34	1.60	3 (12%)
1	LLP	D	285	1	23,24,25	1.59	4 (17%)	25,32,34	1.11	3 (12%)
1	LLP	H	285	1	23,24,25	1.54	5 (21%)	25,32,34	1.21	2 (8%)
1	LLP	G	285	1	23,24,25	1.74	6 (26%)	25,32,34	1.27	3 (12%)
1	LLP	A	285	1	23,24,25	1.55	4 (17%)	25,32,34	1.40	5 (20%)
1	LLP	J	285	1	23,24,25	1.53	5 (21%)	25,32,34	1.46	5 (20%)
1	LLP	F	285	1	23,24,25	1.64	5 (21%)	25,32,34	1.34	3 (12%)
1	LLP	B	285	1	23,24,25	1.90	8 (34%)	25,32,34	1.34	3 (12%)
1	LLP	I	285	1	23,24,25	1.60	5 (21%)	25,32,34	1.17	2 (8%)

In the following table, the Chirals column lists the number of chiral outliers, the number of chiral centers analysed, the number of these observed in the model and the number defined in the Chemical Component Dictionary. Similar counts are reported in the Torsion and Rings columns. '-' means no outliers of that kind were identified.

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
1	LLP	C	285	1	-	6/16/17/19	0/1/1/1
1	LLP	E	285	1	-	4/16/17/19	0/1/1/1
1	LLP	D	285	1	-	5/16/17/19	0/1/1/1
1	LLP	H	285	1	-	1/16/17/19	0/1/1/1
1	LLP	G	285	1	-	5/16/17/19	0/1/1/1
1	LLP	A	285	1	-	3/16/17/19	0/1/1/1
1	LLP	J	285	1	-	2/16/17/19	0/1/1/1
1	LLP	F	285	1	-	2/16/17/19	0/1/1/1
1	LLP	B	285	1	-	5/16/17/19	0/1/1/1
1	LLP	I	285	1	-	3/16/17/19	0/1/1/1

All (53) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	C	285	LLP	C4-C4'	3.98	1.54	1.46
1	F	285	LLP	C2'-C2	3.94	1.57	1.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	F	285	LLP	C4-C4'	3.86	1.54	1.46
1	G	285	LLP	C2'-C2	3.60	1.56	1.50
1	D	285	LLP	C2'-C2	3.56	1.56	1.50
1	J	285	LLP	C2'-C2	3.53	1.56	1.50
1	I	285	LLP	C4-C4'	3.50	1.53	1.46
1	B	285	LLP	C4-C4'	3.47	1.53	1.46
1	B	285	LLP	C4'-NZ	3.47	1.38	1.27
1	C	285	LLP	C2'-C2	3.44	1.56	1.50
1	J	285	LLP	C4-C4'	3.43	1.53	1.46
1	B	285	LLP	CE-NZ	-3.42	1.39	1.46
1	E	285	LLP	C4-C4'	3.29	1.52	1.46
1	C	285	LLP	CE-NZ	-3.27	1.39	1.46
1	G	285	LLP	C3-C2	-3.27	1.37	1.40
1	H	285	LLP	C4-C4'	3.25	1.52	1.46
1	E	285	LLP	C2'-C2	3.21	1.55	1.50
1	A	285	LLP	C4-C4'	3.18	1.52	1.46
1	I	285	LLP	CE-NZ	-3.11	1.40	1.46
1	D	285	LLP	C4-C4'	3.05	1.52	1.46
1	G	285	LLP	C4-C4'	3.02	1.52	1.46
1	G	285	LLP	CE-NZ	-3.00	1.40	1.46
1	C	285	LLP	C4'-NZ	2.93	1.37	1.27
1	I	285	LLP	C4'-NZ	2.89	1.37	1.27
1	I	285	LLP	C2'-C2	2.86	1.55	1.50
1	A	285	LLP	C2'-C2	2.85	1.55	1.50
1	H	285	LLP	C3-C2	-2.83	1.38	1.40
1	B	285	LLP	C2'-C2	2.83	1.55	1.50
1	D	285	LLP	C4'-NZ	2.80	1.36	1.27
1	H	285	LLP	C2'-C2	2.75	1.55	1.50
1	A	285	LLP	C4'-NZ	2.70	1.36	1.27
1	F	285	LLP	CE-NZ	-2.61	1.41	1.46
1	E	285	LLP	CE-NZ	-2.60	1.41	1.46
1	H	285	LLP	CE-NZ	-2.55	1.41	1.46
1	E	285	LLP	C4'-NZ	2.53	1.35	1.27
1	B	285	LLP	C3-C2	-2.50	1.38	1.40
1	H	285	LLP	C4'-NZ	2.49	1.35	1.27
1	B	285	LLP	C4-C3	-2.49	1.37	1.40
1	J	285	LLP	OP4-C5'	-2.48	1.35	1.45
1	E	285	LLP	CB-CA	2.42	1.56	1.53
1	G	285	LLP	CB-CA	2.41	1.56	1.53
1	A	285	LLP	CE-NZ	-2.37	1.41	1.46
1	B	285	LLP	OP4-C5'	-2.37	1.36	1.45
1	F	285	LLP	C4'-NZ	2.25	1.34	1.27

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	J	285	LLP	C4'-NZ	2.24	1.34	1.27
1	D	285	LLP	CE-NZ	-2.18	1.42	1.46
1	F	285	LLP	OP4-C5'	-2.17	1.36	1.45
1	C	285	LLP	OP4-C5'	-2.16	1.36	1.45
1	J	285	LLP	CE-NZ	-2.14	1.42	1.46
1	E	285	LLP	OP4-C5'	-2.11	1.37	1.45
1	B	285	LLP	C4-C5	-2.10	1.39	1.42
1	I	285	LLP	OP4-C5'	-2.09	1.37	1.45
1	G	285	LLP	OP4-C5'	-2.07	1.37	1.45

All (32) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	E	285	LLP	OP4-C5'-C5	5.79	120.38	109.35
1	C	285	LLP	OP4-C5'-C5	4.00	116.98	109.35
1	A	285	LLP	OP4-C5'-C5	3.88	116.74	109.35
1	B	285	LLP	C5-C6-N1	-3.71	117.63	123.82
1	J	285	LLP	OP4-C5'-C5	3.48	115.99	109.35
1	J	285	LLP	C4-C3-C2	-3.30	118.15	120.19
1	F	285	LLP	C4-C3-C2	-3.09	118.27	120.19
1	G	285	LLP	C5-C6-N1	-2.89	119.00	123.82
1	J	285	LLP	C5-C6-N1	-2.89	119.01	123.82
1	C	285	LLP	C5-C6-N1	-2.83	119.11	123.82
1	A	285	LLP	C5-C6-N1	-2.79	119.17	123.82
1	F	285	LLP	C5-C6-N1	-2.78	119.18	123.82
1	H	285	LLP	OP4-C5'-C5	2.75	114.59	109.35
1	H	285	LLP	C5-C6-N1	-2.73	119.27	123.82
1	I	285	LLP	C5-C6-N1	-2.55	119.58	123.82
1	J	285	LLP	CG-CD-CE	2.54	122.39	113.57
1	A	285	LLP	C4-C3-C2	-2.49	118.65	120.19
1	E	285	LLP	C4-C3-C2	-2.49	118.65	120.19
1	F	285	LLP	OP4-C5'-C5	2.48	114.09	109.35
1	D	285	LLP	OP4-C5'-C5	2.43	113.98	109.35
1	B	285	LLP	C6-C5-C4	2.40	122.56	118.15
1	E	285	LLP	C5-C6-N1	-2.34	119.92	123.82
1	D	285	LLP	C5-C6-N1	-2.27	120.03	123.82
1	D	285	LLP	O3-C3-C2	2.24	122.37	117.49
1	G	285	LLP	C4-C3-C2	-2.17	118.85	120.19
1	C	285	LLP	C6-C5-C4	2.15	122.11	118.15
1	A	285	LLP	CD-CG-CB	-2.11	106.16	113.62
1	A	285	LLP	O3-C3-C2	2.11	122.09	117.49
1	I	285	LLP	C4-C3-C2	-2.06	118.91	120.19

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	J	285	LLP	O3-C3-C2	2.03	121.92	117.49
1	B	285	LLP	C4-C3-C2	-2.01	118.94	120.19
1	G	285	LLP	C2'-C2-C3	-2.00	118.42	120.89

There are no chirality outliers.

All (36) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
1	A	285	LLP	C4-C5-C5'-OP4
1	A	285	LLP	C6-C5-C5'-OP4
1	A	285	LLP	O-C-CA-CB
1	B	285	LLP	C4-C5-C5'-OP4
1	B	285	LLP	C6-C5-C5'-OP4
1	B	285	LLP	C5'-OP4-P-OP2
1	B	285	LLP	C5'-OP4-P-OP3
1	B	285	LLP	O-C-CA-CB
1	C	285	LLP	C4-C5-C5'-OP4
1	C	285	LLP	C6-C5-C5'-OP4
1	C	285	LLP	C5'-OP4-P-OP1
1	C	285	LLP	C5'-OP4-P-OP2
1	C	285	LLP	C5'-OP4-P-OP3
1	C	285	LLP	O-C-CA-CB
1	D	285	LLP	C4-C5-C5'-OP4
1	D	285	LLP	O-C-CA-CB
1	D	285	LLP	CG-CD-CE-NZ
1	E	285	LLP	O-C-CA-CB
1	F	285	LLP	O-C-CA-CB
1	G	285	LLP	C4-C5-C5'-OP4
1	G	285	LLP	C6-C5-C5'-OP4
1	G	285	LLP	C5'-OP4-P-OP2
1	G	285	LLP	C5'-OP4-P-OP3
1	G	285	LLP	O-C-CA-CB
1	H	285	LLP	O-C-CA-CB
1	I	285	LLP	C4-C5-C5'-OP4
1	I	285	LLP	C6-C5-C5'-OP4
1	I	285	LLP	O-C-CA-CB
1	J	285	LLP	O-C-CA-CB
1	E	285	LLP	C-CA-CB-CG
1	E	285	LLP	CA-CB-CG-CD
1	D	285	LLP	C6-C5-C5'-OP4
1	E	285	LLP	CG-CD-CE-NZ
1	F	285	LLP	C-CA-CB-CG

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Mol	Chain	Res	Type	Atoms
1	J	285	LLP	C5'-OP4-P-OP2
1	D	285	LLP	CD-CE-NZ-C4'

There are no ring outliers.

10 monomers are involved in 66 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
1	C	285	LLP	3	0
1	E	285	LLP	12	0
1	D	285	LLP	5	0
1	H	285	LLP	4	0
1	G	285	LLP	6	0
1	A	285	LLP	5	0
1	J	285	LLP	8	0
1	F	285	LLP	4	0
1	B	285	LLP	11	0
1	I	285	LLP	8	0

5.5 Carbohydrates [i](#)

There are no monosaccharides in this entry.

5.6 Ligand geometry [i](#)

Of 21 ligands modelled in this entry, 5 are monoatomic - leaving 16 for Mogul analysis.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\# Z > 2$	Counts	RMSZ	$\# Z > 2$
3	THJ	B	501	-	2,4,4	0.15	0	2,6,6	0.54	0
3	THJ	A	2003	-	2,4,4	0.16	0	2,6,6	0.51	0
3	THJ	C	501	-	2,4,4	0.10	0	2,6,6	0.39	0
3	THJ	J	502	-	2,4,4	0.15	0	2,6,6	0.44	0
3	THJ	D	502	-	2,4,4	0.16	0	2,6,6	0.65	0
3	THJ	E	504	-	2,4,4	0.16	0	2,6,6	0.54	0

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
3	THJ	D	503	-	2,4,4	0.09	0	2,6,6	0.37	0
3	THJ	J	501	-	2,4,4	0.05	0	2,6,6	0.37	0
3	THJ	J	503	-	2,4,4	0.10	0	2,6,6	0.50	0
3	THJ	I	502	-	2,4,4	0.07	0	2,6,6	0.43	0
3	THJ	A	2004	-	2,4,4	0.02	0	2,6,6	0.27	0
3	THJ	A	2002	-	2,4,4	0.12	0	2,6,6	0.35	0
3	THJ	H	501	-	2,4,4	0.07	0	2,6,6	0.56	0
3	THJ	I	503	-	2,4,4	0.16	0	2,6,6	0.52	0
3	THJ	E	502	-	2,4,4	0.15	0	2,6,6	0.69	0
3	THJ	E	503	-	2,4,4	0.08	0	2,6,6	0.42	0

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

13 monomers are involved in 21 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
3	B	501	THJ	1	0
3	A	2003	THJ	3	0
3	J	502	THJ	1	0
3	D	502	THJ	1	0
3	J	501	THJ	2	0
3	J	503	THJ	1	0
3	I	502	THJ	1	0
3	A	2004	THJ	1	0
3	A	2002	THJ	1	0
3	H	501	THJ	4	0
3	I	503	THJ	1	0
3	E	502	THJ	3	0
3	E	503	THJ	1	0

5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues

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	391/392 (99%)	-0.22	4 (1%) 82 82	56, 93, 146, 182	0
1	B	389/392 (99%)	-0.11	12 (3%) 49 47	52, 97, 178, 213	0
1	C	391/392 (99%)	-0.05	16 (4%) 37 34	55, 106, 194, 235	0
1	D	389/392 (99%)	-0.06	7 (1%) 68 65	75, 110, 165, 195	0
1	E	391/392 (99%)	-0.03	7 (1%) 68 65	73, 116, 176, 204	0
1	F	391/392 (99%)	0.17	26 (6%) 18 17	73, 124, 202, 235	0
1	G	388/392 (98%)	0.32	31 (7%) 12 11	83, 142, 208, 251	0
1	H	391/392 (99%)	0.01	10 (2%) 56 52	85, 135, 196, 236	0
1	I	391/392 (99%)	0.19	24 (6%) 21 20	62, 122, 196, 221	0
1	J	391/392 (99%)	-0.18	4 (1%) 82 82	58, 102, 175, 212	0
All	All	3903/3920 (99%)	0.00	141 (3%) 42 39	52, 115, 191, 251	0

All (141) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	F	395	VAL	7.7
1	H	61	MET	7.6
1	G	443	LYS	6.0
1	C	363	LEU	5.7
1	I	429	PHE	5.5
1	I	427	LEU	5.3
1	F	373	VAL	5.2
1	G	450	LEU	5.0
1	F	402	LEU	4.9
1	G	395	VAL	4.9
1	F	372	SER	4.8
1	H	62	LYS	4.8
1	B	450	LEU	4.7

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Mol	Chain	Res	Type	RSRZ
1	I	359	LEU	4.7
1	F	371	ILE	4.6
1	B	63	SER	4.6
1	F	429	PHE	4.5
1	G	397	ILE	4.3
1	F	396	ALA	4.2
1	I	374	ILE	4.1
1	F	61	MET	4.1
1	E	451	SER	4.1
1	B	372	SER	4.1
1	G	374	ILE	4.0
1	B	395	VAL	3.9
1	G	392	THR	3.8
1	I	366	ILE	3.7
1	I	372	SER	3.7
1	D	395	VAL	3.6
1	C	365	ASP	3.6
1	J	61	MET	3.5
1	G	429	PHE	3.5
1	G	446	LEU	3.5
1	G	362	LEU	3.4
1	J	429	PHE	3.4
1	G	390	LEU	3.4
1	G	393	TYR	3.4
1	H	374	ILE	3.4
1	G	394	CYS	3.4
1	C	429	PHE	3.4
1	F	73	ILE	3.3
1	D	359	LEU	3.3
1	F	394	CYS	3.3
1	C	395	VAL	3.3
1	B	394	CYS	3.2
1	D	429	PHE	3.2
1	F	398	ARG	3.2
1	C	431	MET	3.2
1	I	397	ILE	3.1
1	G	345	LEU	3.1
1	F	397	ILE	3.1
1	B	402	LEU	3.1
1	G	361	LYS	3.1
1	I	363	LEU	3.1
1	F	244	THR	3.0

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Mol	Chain	Res	Type	RSRZ
1	A	61	MET	3.0
1	D	396	ALA	3.0
1	G	427	LEU	3.0
1	I	407	LEU	2.9
1	H	64	LEU	2.9
1	I	428	LEU	2.9
1	C	61	MET	2.9
1	F	413	LEU	2.9
1	G	347	GLN	2.9
1	C	364	LYS	2.9
1	I	395	VAL	2.9
1	F	450	LEU	2.9
1	G	376	ASP	2.9
1	G	444	LYS	2.8
1	I	365	ASP	2.8
1	F	438	ASP	2.8
1	C	362	LEU	2.8
1	G	396	ALA	2.8
1	I	396	ALA	2.8
1	E	61	MET	2.8
1	F	403	SER	2.8
1	G	410	ARG	2.8
1	I	411	LEU	2.7
1	C	345	LEU	2.7
1	H	63	SER	2.7
1	I	394	CYS	2.7
1	G	428	LEU	2.7
1	H	395	VAL	2.6
1	G	364	LYS	2.6
1	J	395	VAL	2.6
1	F	427	LEU	2.6
1	G	363	LEU	2.6
1	B	446	LEU	2.6
1	I	402	LEU	2.6
1	G	373	VAL	2.6
1	I	369	LEU	2.5
1	B	374	ILE	2.5
1	H	431	MET	2.5
1	E	62	LYS	2.5
1	C	172	SER	2.5
1	F	374	ILE	2.5
1	E	345	LEU	2.4

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Mol	Chain	Res	Type	RSRZ
1	C	371	ILE	2.4
1	I	362	LEU	2.4
1	C	447	GLN	2.4
1	I	421	ARG	2.4
1	I	75	ALA	2.4
1	I	422	ILE	2.4
1	C	434	VAL	2.3
1	E	171	GLY	2.3
1	A	431	MET	2.3
1	G	445	THR	2.3
1	I	360	GLU	2.3
1	G	357	LYS	2.3
1	C	369	LEU	2.3
1	A	369	LEU	2.3
1	D	397	ILE	2.2
1	D	420	CYS	2.2
1	H	429	PHE	2.2
1	G	331	TYR	2.2
1	B	428	LEU	2.2
1	G	359	LEU	2.2
1	I	420	CYS	2.2
1	B	429	PHE	2.2
1	G	442	ILE	2.2
1	E	429	PHE	2.2
1	A	435	PHE	2.2
1	J	427	LEU	2.2
1	F	364	LYS	2.1
1	F	75	ALA	2.1
1	F	404	SER	2.1
1	F	360	GLU	2.1
1	G	371	ILE	2.1
1	B	421	ARG	2.1
1	H	355	LYS	2.1
1	G	447	GLN	2.1
1	F	422	ILE	2.1
1	B	363	LEU	2.1
1	C	427	LEU	2.1
1	F	399	HIS	2.1
1	H	372	SER	2.0
1	C	366	ILE	2.0
1	F	276	ILE	2.0
1	D	394	CYS	2.0

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Mol	Chain	Res	Type	RSRZ
1	I	424	GLU	2.0
1	E	402	LEU	2.0

6.2 Non-standard residues in protein, DNA, RNA chains [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(Å ²)	Q<0.9
1	LLP	G	285	24/25	0.93	0.21	97,107,129,165	0
1	LLP	F	285	24/25	0.94	0.22	80,96,111,118	0
1	LLP	E	285	24/25	0.94	0.25	69,98,126,134	0
1	LLP	D	285	24/25	0.95	0.21	61,89,117,130	0
1	LLP	B	285	24/25	0.96	0.22	51,71,90,97	0
1	LLP	C	285	24/25	0.96	0.24	67,83,106,112	0
1	LLP	H	285	24/25	0.96	0.23	96,114,127,131	0
1	LLP	I	285	24/25	0.96	0.22	76,94,111,120	0
1	LLP	J	285	24/25	0.96	0.23	56,77,98,145	0
1	LLP	A	285	24/25	0.97	0.19	46,74,89,91	0

6.3 Carbohydrates [i](#)

There are no monosaccharides in this entry.

6.4 Ligands [i](#)

In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 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(Å ²)	Q<0.9
3	THJ	E	502	5/5	0.73	0.35	173,175,178,333	0
2	K	G	501	1/1	0.75	0.58	170,170,170,170	0
2	K	E	501	1/1	0.85	0.53	142,142,142,142	0
3	THJ	E	503	5/5	0.85	0.24	123,135,148,148	0
3	THJ	J	501	5/5	0.85	0.30	182,184,187,187	0
3	THJ	I	503	5/5	0.86	0.37	188,189,192,226	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(\AA^2)	Q<0.9
2	K	I	501	1/1	0.87	0.72	136,136,136,136	0
3	THJ	A	2003	5/5	0.89	0.33	113,168,172,175	0
3	THJ	H	501	5/5	0.89	0.15	137,207,207,208	0
3	THJ	C	501	5/5	0.89	0.27	152,161,167,168	0
2	K	D	501	1/1	0.89	0.48	140,140,140,140	0
3	THJ	E	504	5/5	0.90	0.17	143,181,184,186	0
3	THJ	A	2004	5/5	0.90	0.28	171,175,180,224	0
3	THJ	J	503	5/5	0.90	0.21	148,157,160,161	0
2	K	A	2001	1/1	0.91	0.25	117,117,117,117	0
3	THJ	D	502	5/5	0.93	0.12	117,130,149,151	0
3	THJ	B	501	5/5	0.94	0.14	112,125,134,139	0
3	THJ	A	2002	5/5	0.94	0.16	127,139,151,160	0
3	THJ	J	502	5/5	0.95	0.28	115,121,128,168	0
3	THJ	D	503	5/5	0.97	0.28	78,94,109,110	0
3	THJ	I	502	5/5	0.97	0.24	164,190,194,196	0

6.5 Other polymers [i](#)

There are no such residues in this entry.