



Full wwPDB X-ray Structure Validation Report ⓘ

Apr 15, 2026 – 02:05 AM UTC

PDB ID : 1ZY8 / pdb_00001zy8
Title : The crystal structure of dihydrolipoamide dehydrogenase and dihydrolipoamide dehydrogenase-binding protein (didomain) subcomplex of human pyruvate dehydrogenase complex.
Authors : Ciszak, E.M.; Makal, A.; Hong, Y.S.; Vettaikkorumakankauv, A.K.; Korotchkina, L.G.; Patel, M.S.
Deposited on : 2005-06-09
Resolution : 2.59 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](#) ①) were used in the production of this report:

MolProbity	:	4-5-2 with Phenix2.0
Mogul	:	2022.3.0, CSD as543be (2022)
Xtriage (Phenix)	:	2.0
EDS	:	3.0
Buster-report	:	wwPDB partial adaption of 1.1.7 (2018)
Percentile statistics	:	20250101.v01 (using entries in the PDB archive January 1st 2025)
CCP4	:	9.0.010 (Gargrove)
Density-Fitness	:	1.0.12
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.49

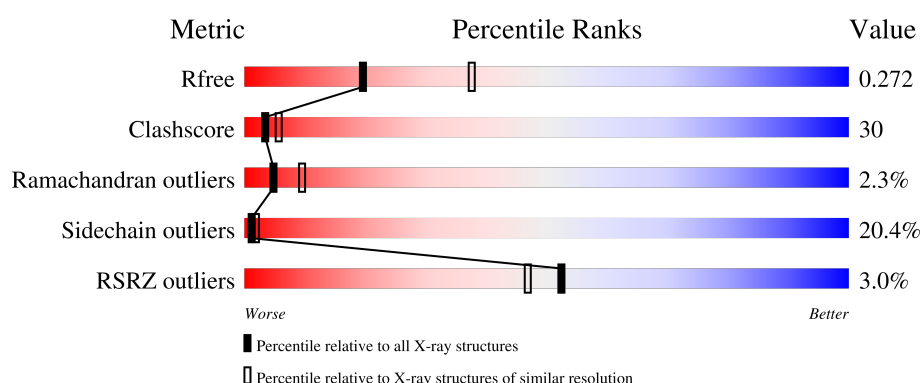
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 2.59 Å.

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



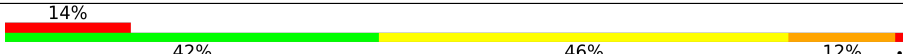
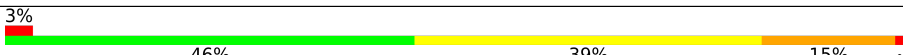
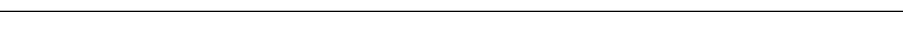
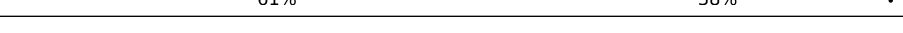
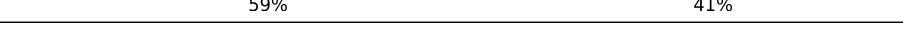
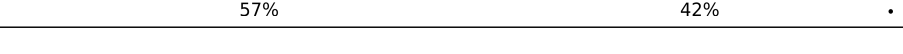
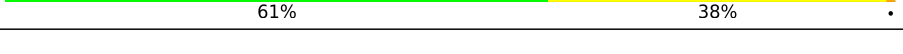
Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R_{free}	180053	4008 (2.60-2.60)
Clashscore	190562	4347 (2.60-2.60)
Ramachandran outliers	187476	4277 (2.60-2.60)
Sidechain outliers	187428	4277 (2.60-2.60)
RSRZ outliers	180081	4008 (2.60-2.60)

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	1-A	474	
1	1-B	474	
1	1-C	474	
1	1-D	474	
1	1-E	474	

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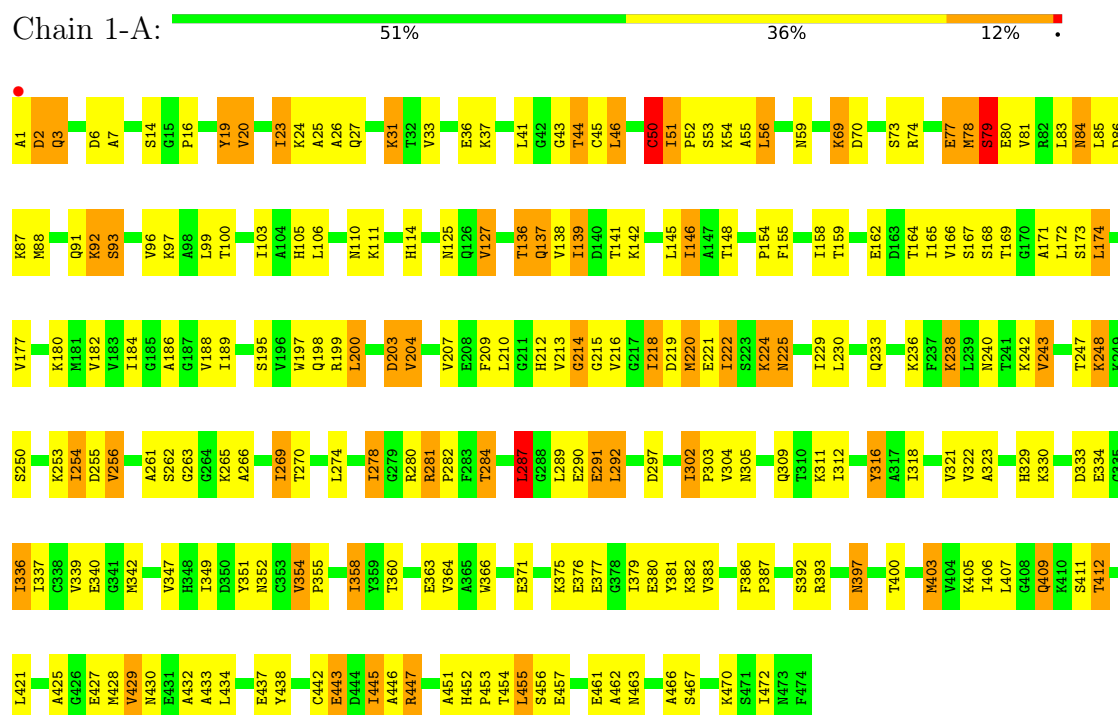
Mol	Chain	Length	Quality of chain
1	1-F	474	
1	1-G	474	
1	1-H	474	
1	1-I	474	
1	1-J	474	
1	2-A	474	
1	2-B	474	
1	2-C	474	
1	2-D	474	
1	2-E	474	
1	2-F	474	
1	2-G	474	
1	2-H	474	
1	2-I	474	
1	2-J	474	
2	1-K	229	
2	1-L	229	
2	1-M	229	
2	1-N	229	
2	1-O	229	
2	2-K	229	
2	2-L	229	
2	2-M	229	
2	2-N	229	
2	2-O	229	

ENTRY-COMPOSITION INFOmissingINFO

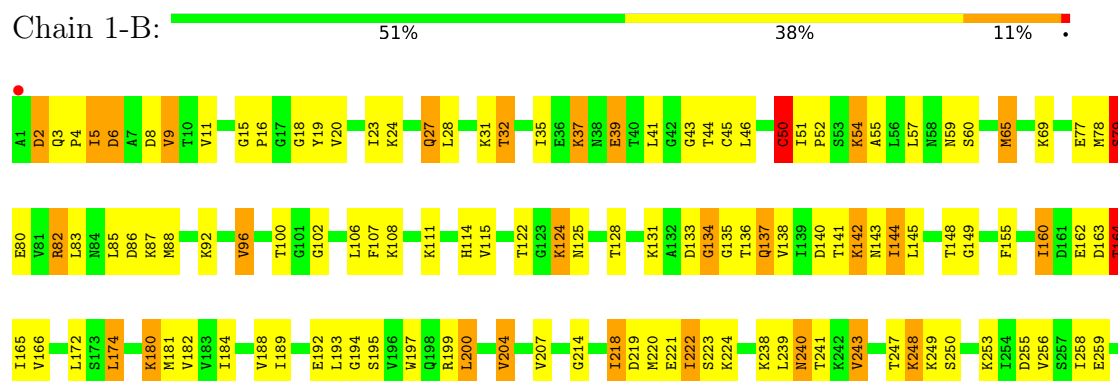
2 Residue-property plots

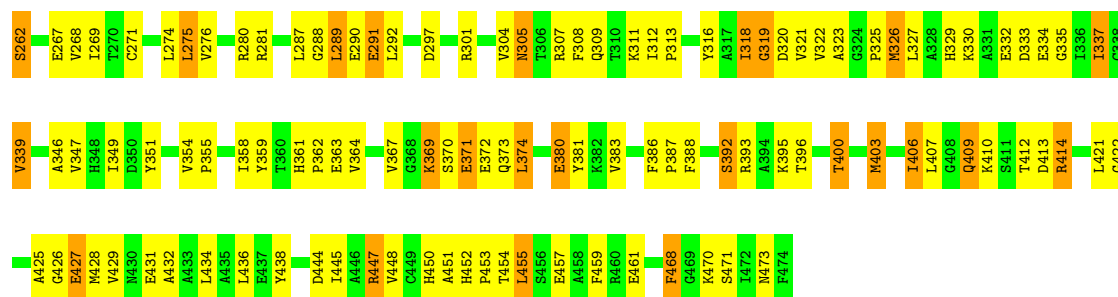
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and electron density.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



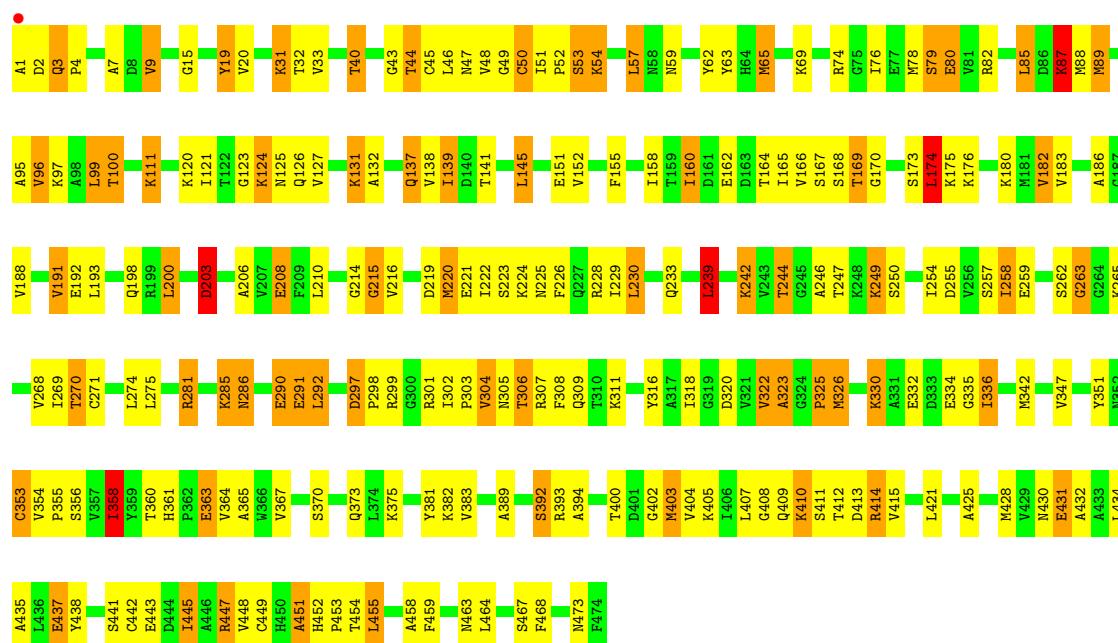
- Molecule 1: Dihydrolipoyl dehydrogenase, mitochondrial





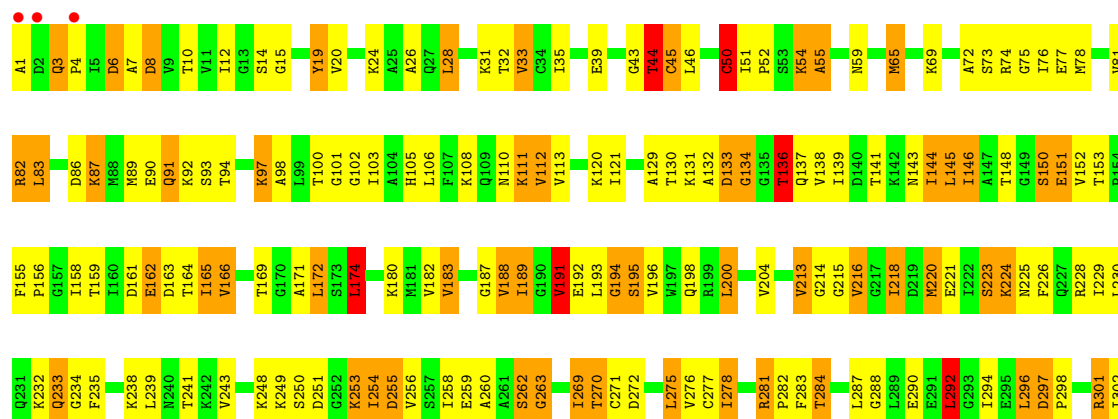
• Molecule 1: Dihydrolipoyl dehydrogenase, mitochondrial

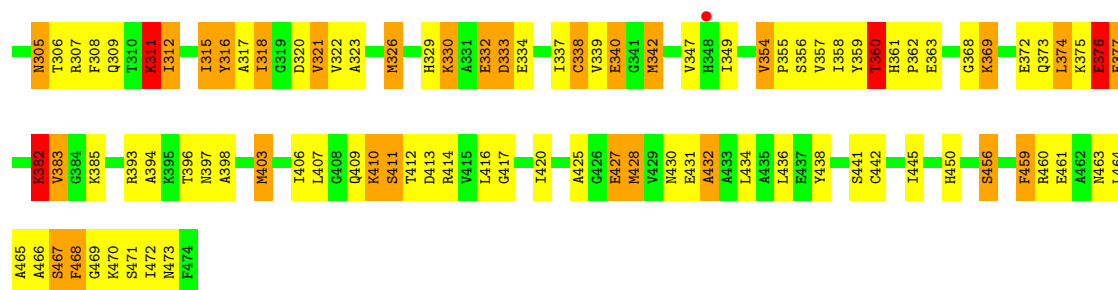
Chain 1-C: 52% 33% 14%



• Molecule 1: Dihydrolipoyl dehydrogenase, mitochondrial

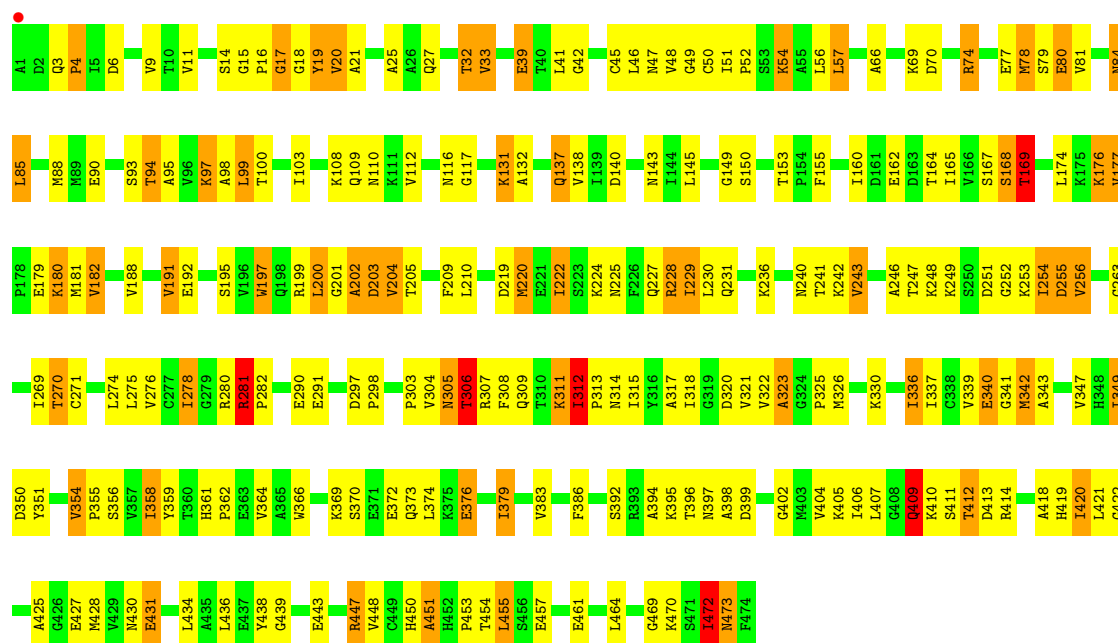
Chain 1-D: 44% 36% 18%





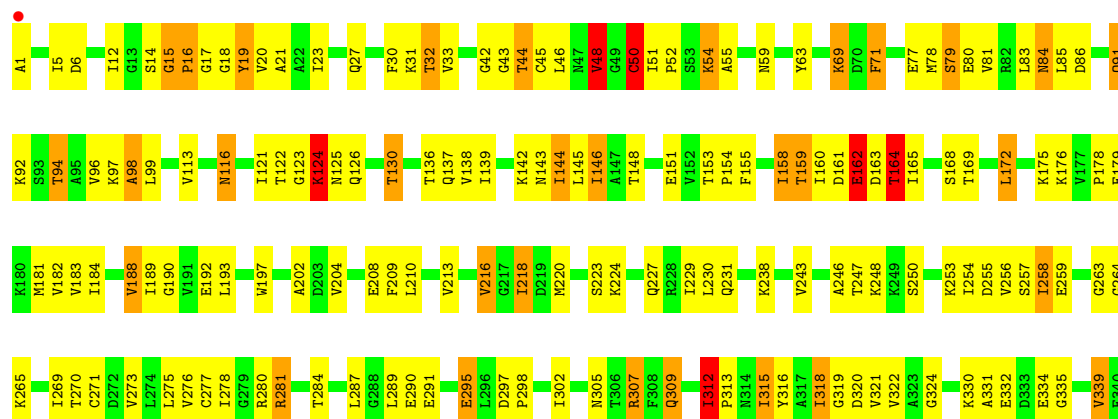
- Molecule 1: Dihydrolipoyl dehydrogenase, mitochondrial

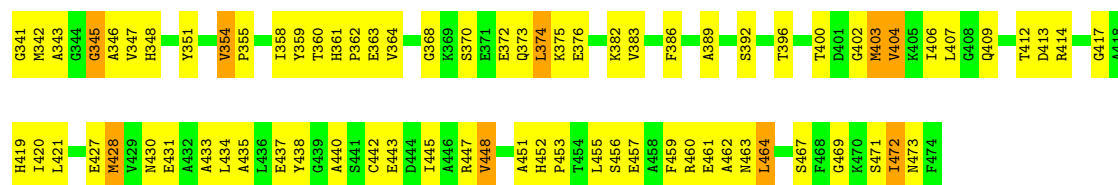
Chain 1-E: 51% 36% 12% .



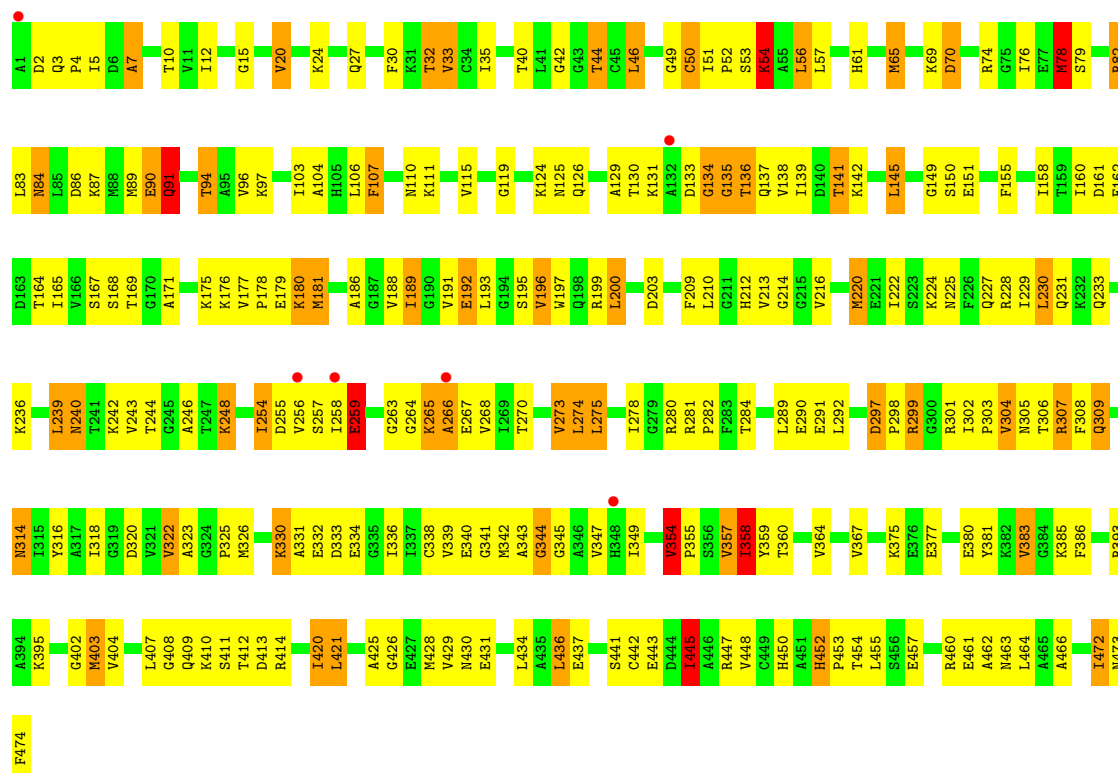
- Molecule 1: Dihydrolipoyl dehydrogenase, mitochondrial

Chain 1-F: 49% 41% 8% .

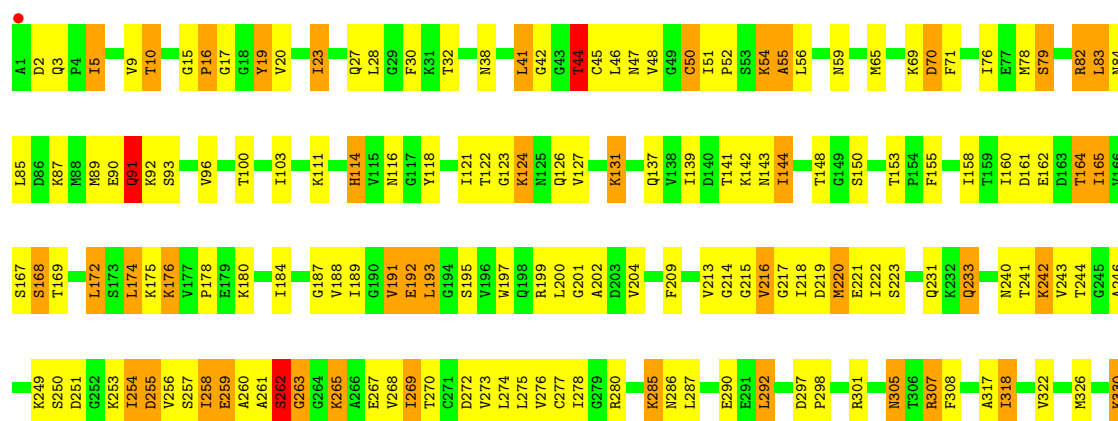


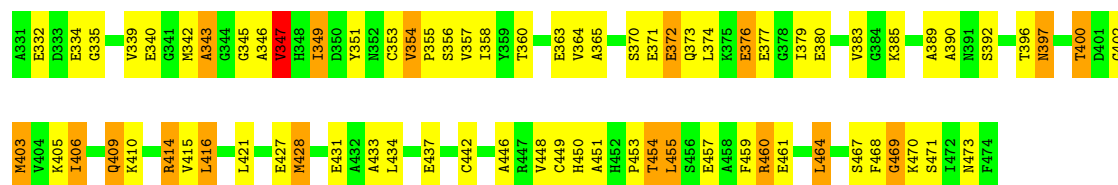


• Molecule 1: Dihydrolipoyl dehydrogenase, mitochondrial

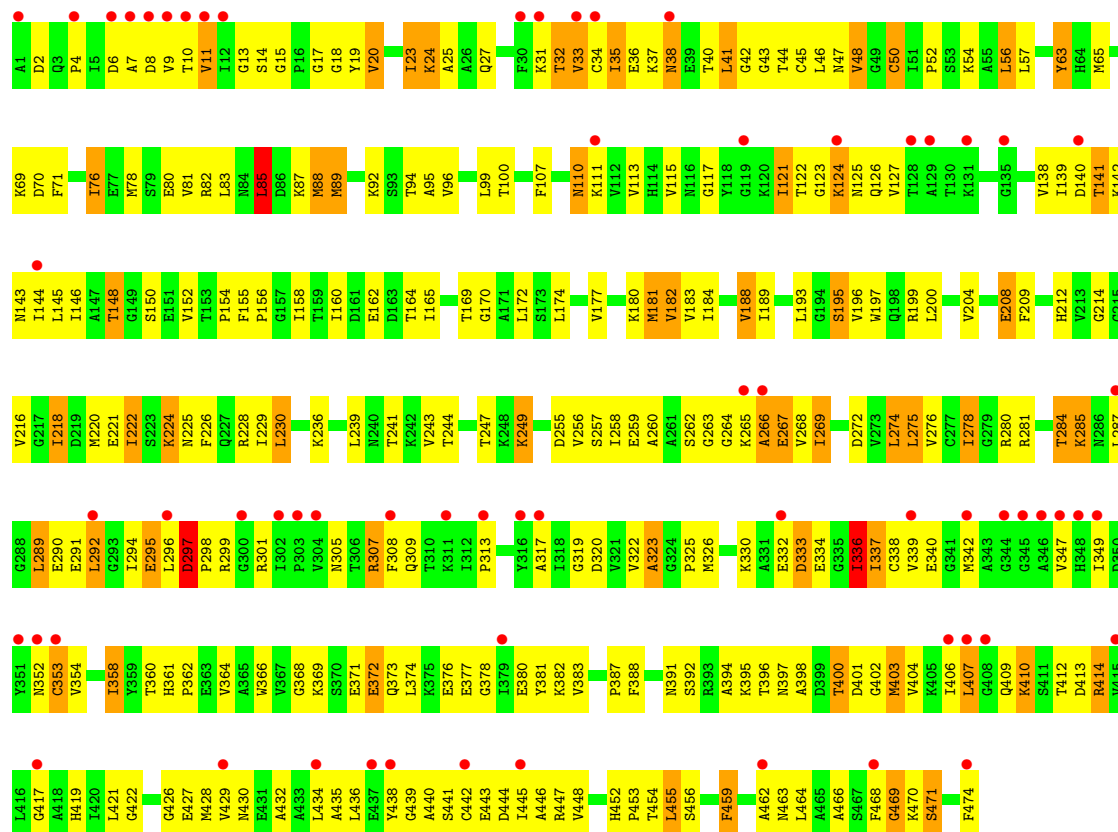
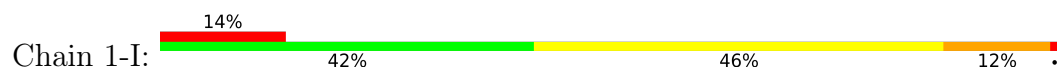


• Molecule 1: Dihydrolipoyl dehydrogenase, mitochondrial

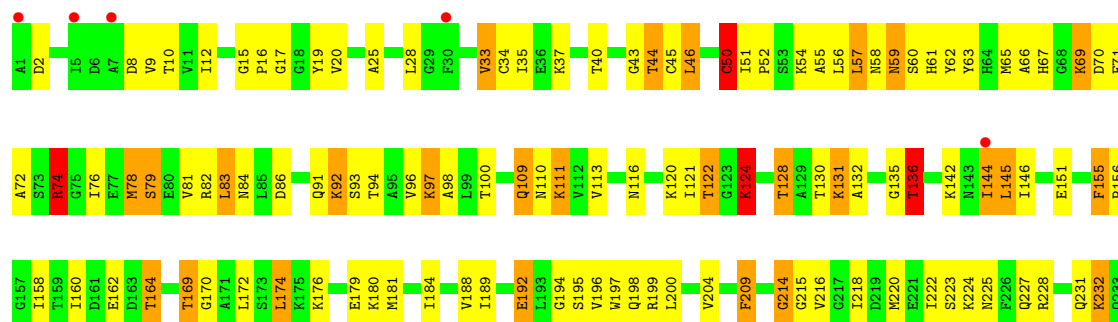


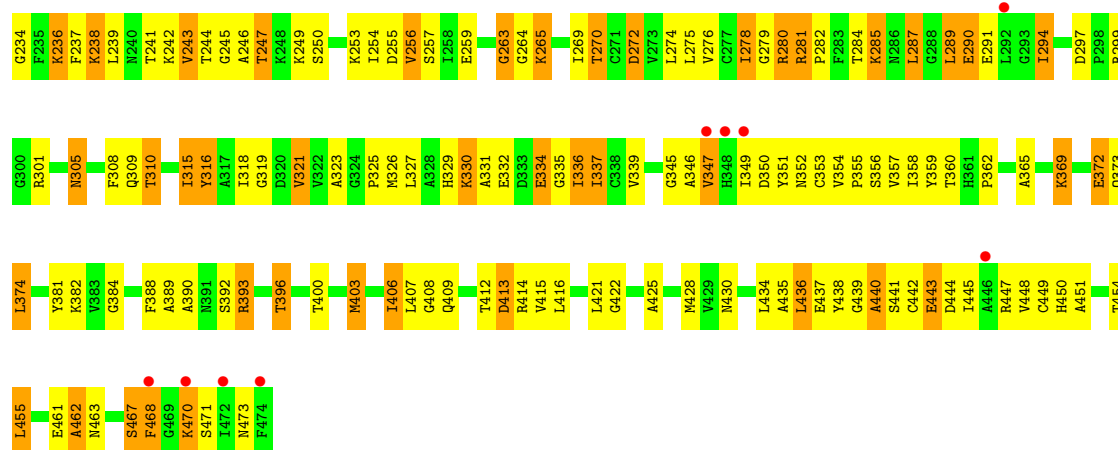


• Molecule 1: Dihydrolipoyl dehydrogenase, mitochondrial



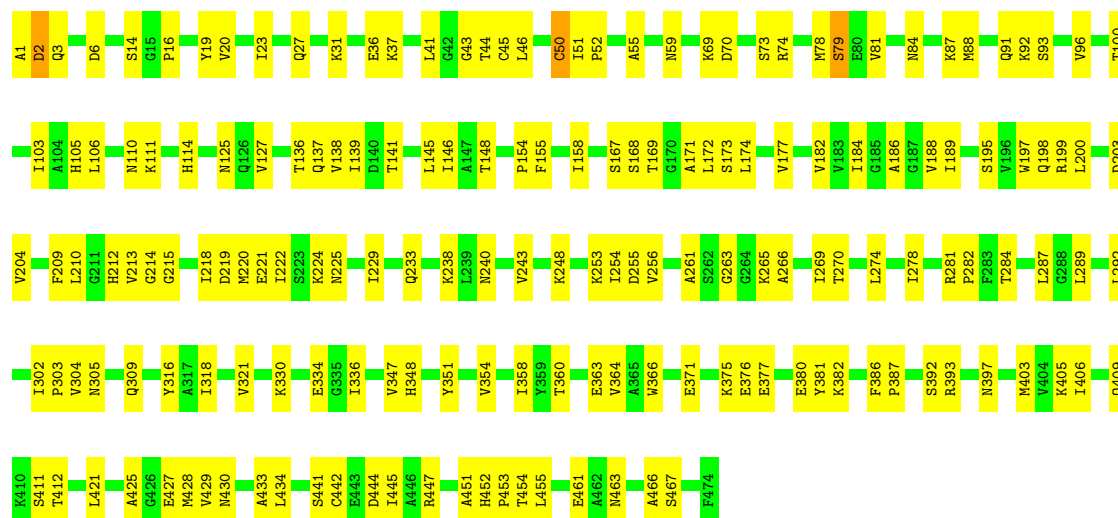
• Molecule 1: Dihydrolipoyl dehydrogenase, mitochondrial





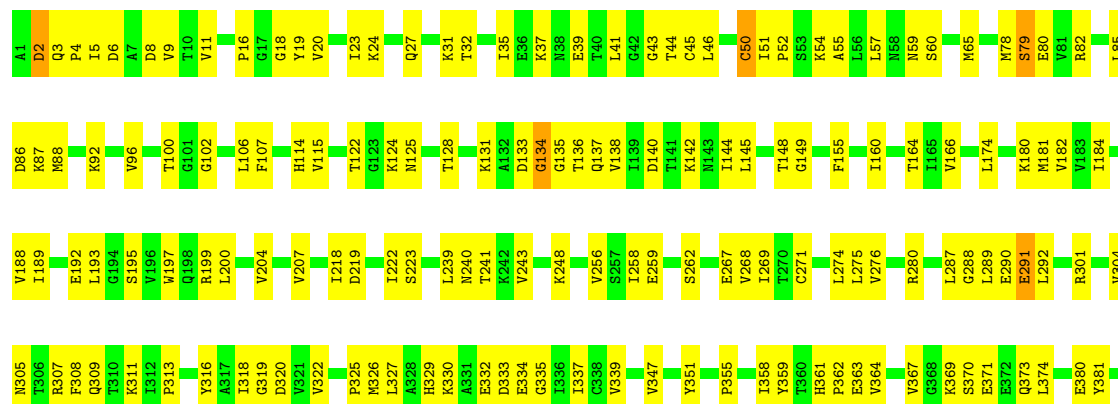
- Molecule 1: Dihydrolipoyl dehydrogenase, mitochondrial

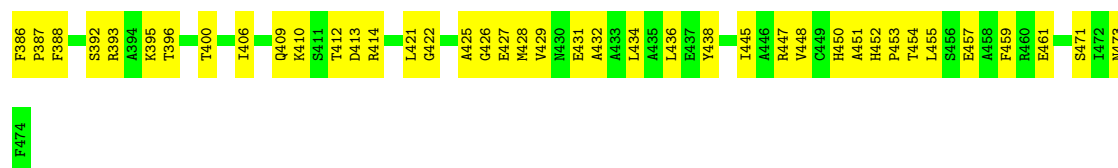
Chain 2-A: 63% 36% .



- Molecule 1: Dihydrolipoyl dehydrogenase, mitochondrial

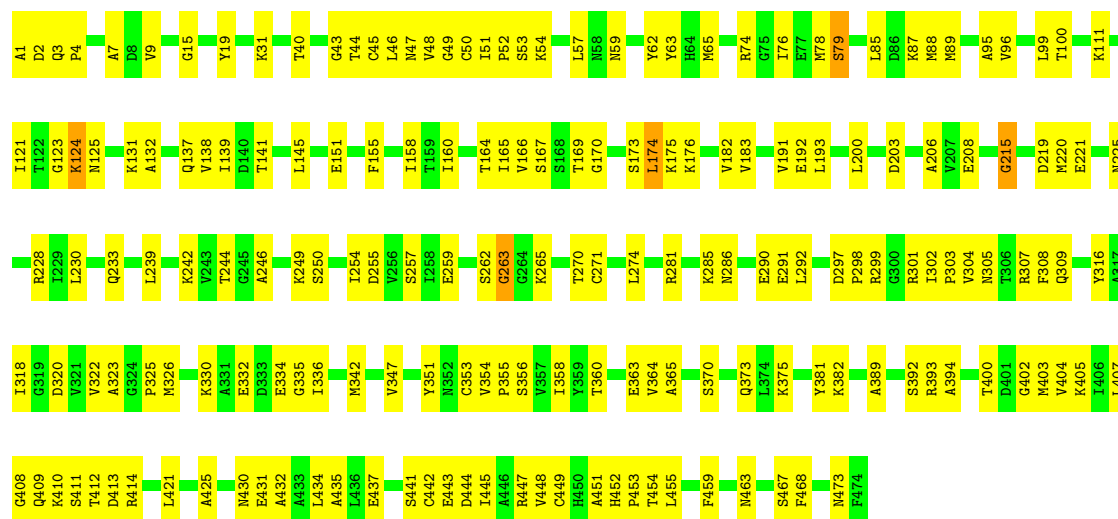
Chain 2-B: 59% 40% .





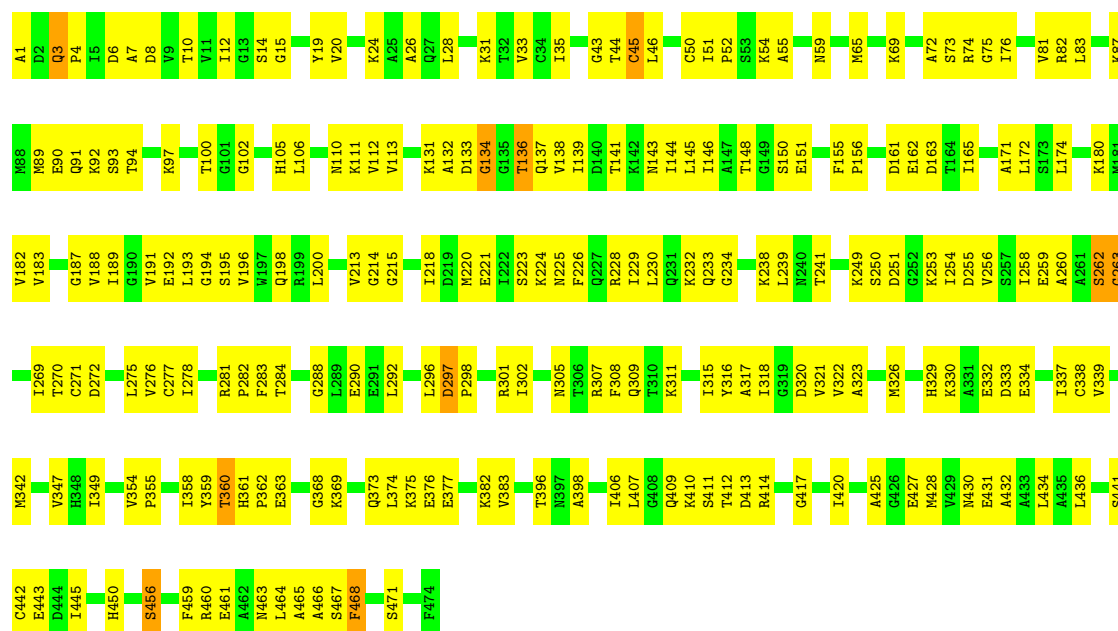
- Molecule 1: Dihydrolipoyl dehydrogenase, mitochondrial

Chain 2-C: 61% 38% .



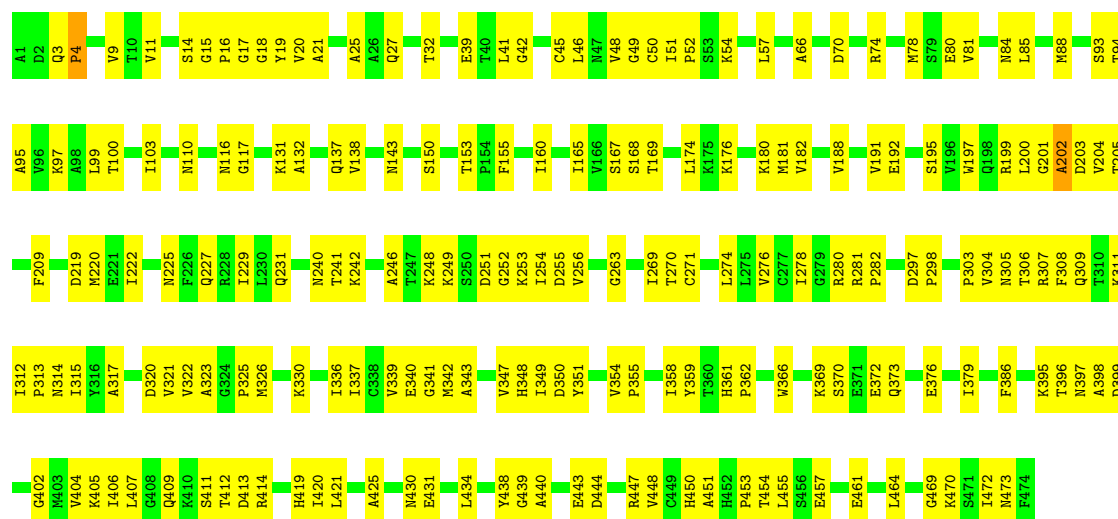
- Molecule 1: Dihydrolipoyl dehydrogenase, mitochondrial

Chain 2-D: 53% 45% .



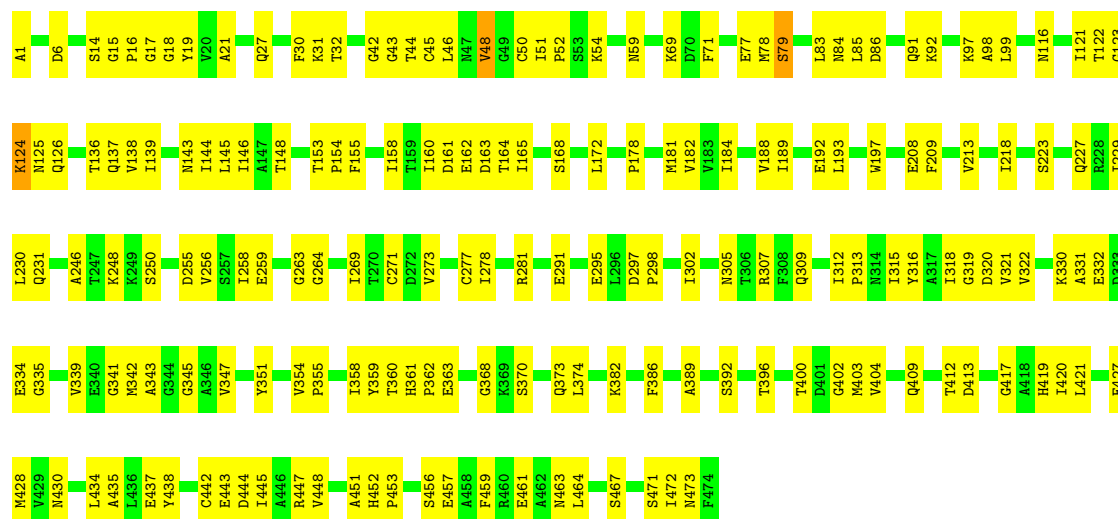
- Molecule 1: Dihydrolipoyl dehydrogenase, mitochondrial

Chain 2-E:  59% 41%



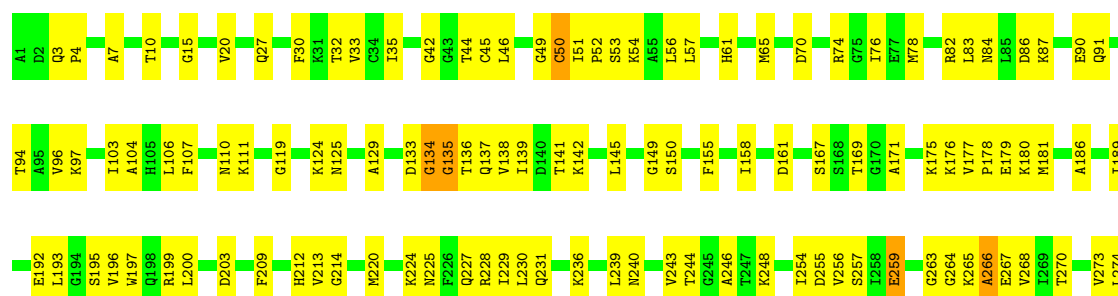
• Molecule 1: Dihydrolipoyl dehydrogenase, mitochondrial

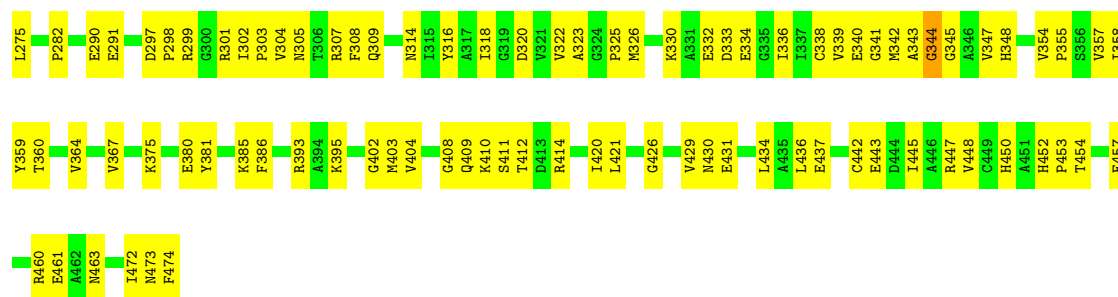
Chain 2-F:  62% 38%



• Molecule 1: Dihydrolipoyl dehydrogenase, mitochondrial

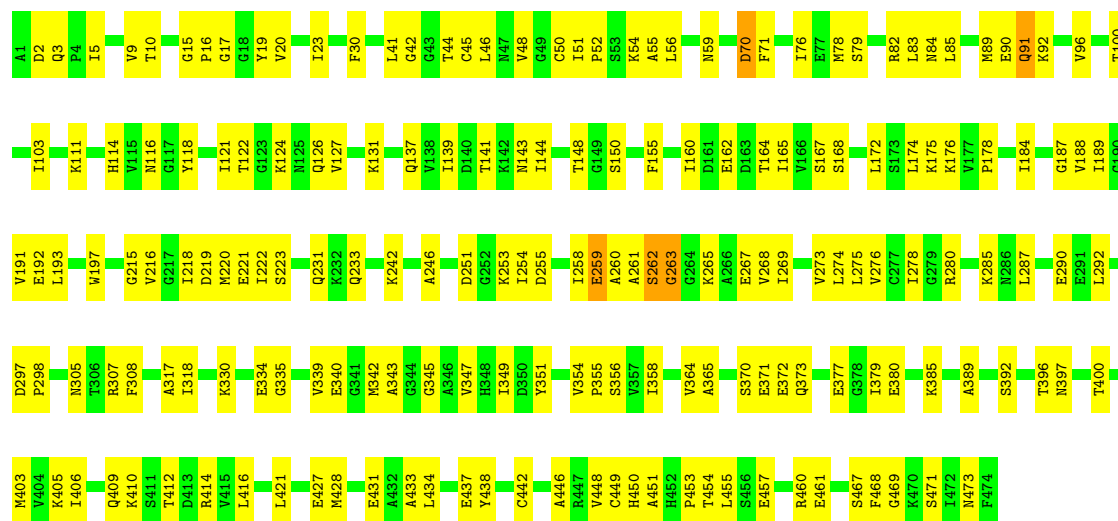
Chain 2-G:  57% 42%





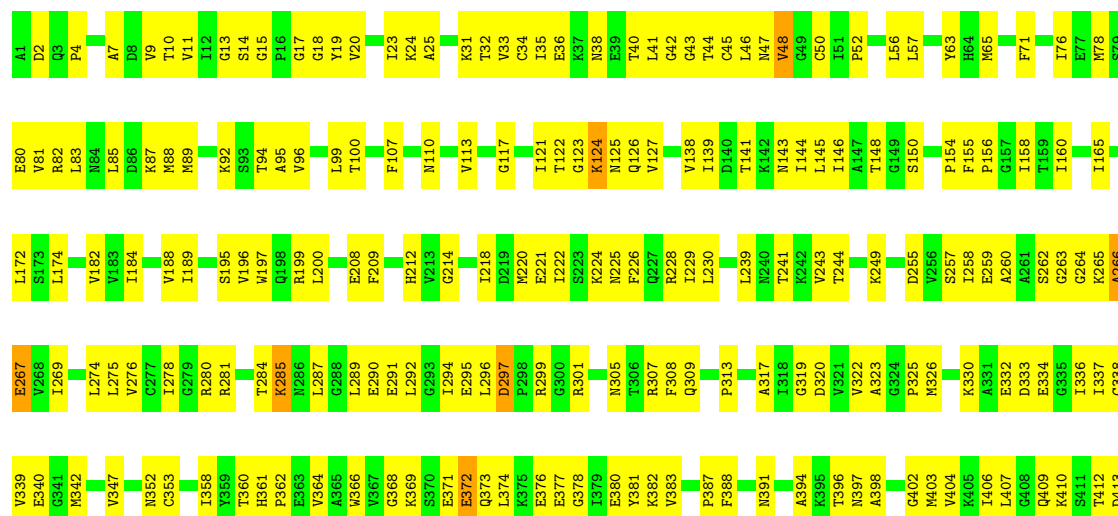
• Molecule 1: Dihydrolipoyl dehydrogenase, mitochondrial

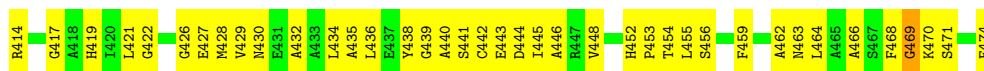
Chain 2-H: 61% 38% .



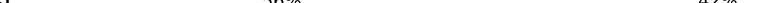
• Molecule 1: Dihydrolipoyl dehydrogenase, mitochondrial

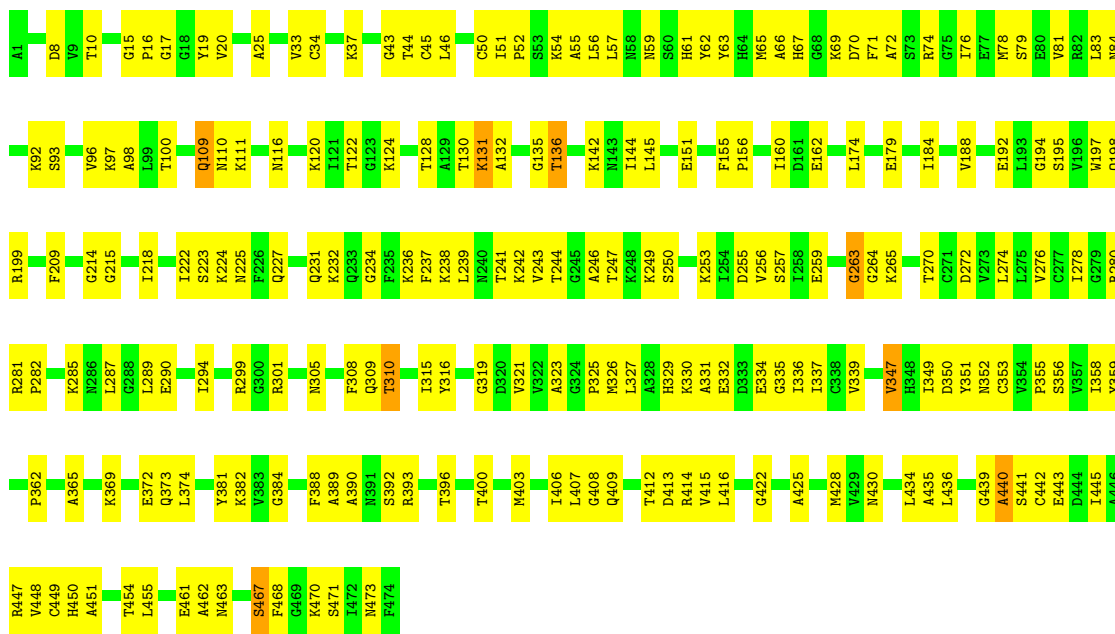
Chain 2-I: 49% 49% .



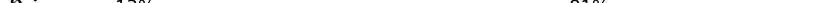


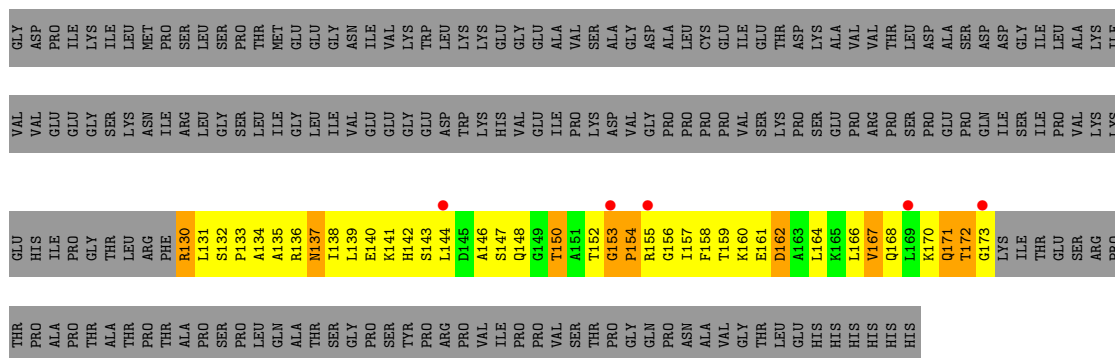
- Molecule 1: Dihydrolipoyl dehydrogenase, mitochondrial

Chain 2-J:  56% 42%

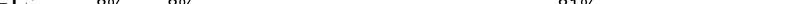


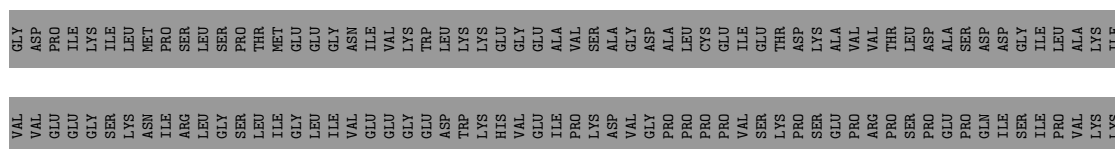
- Molecule 2: Pyruvate dehydrogenase protein X component, mitochondrial

Chain 1-K: 



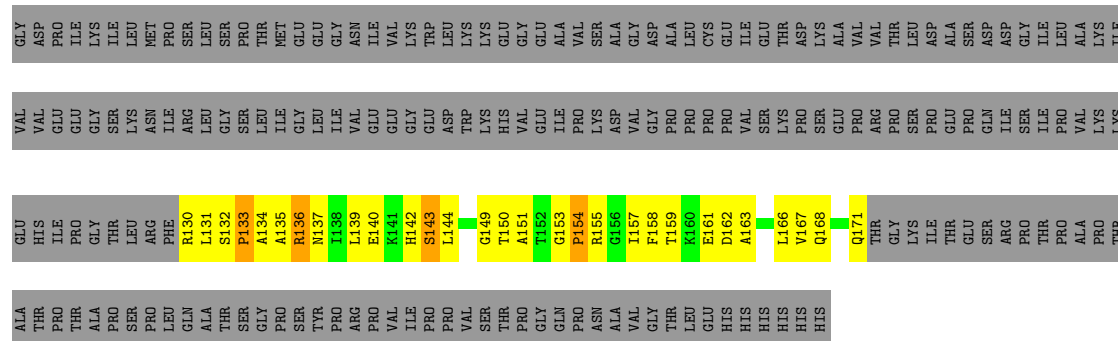
- Molecule 2: Pyruvate dehydrogenase protein X component, mitochondrial

Chain 1-L: 



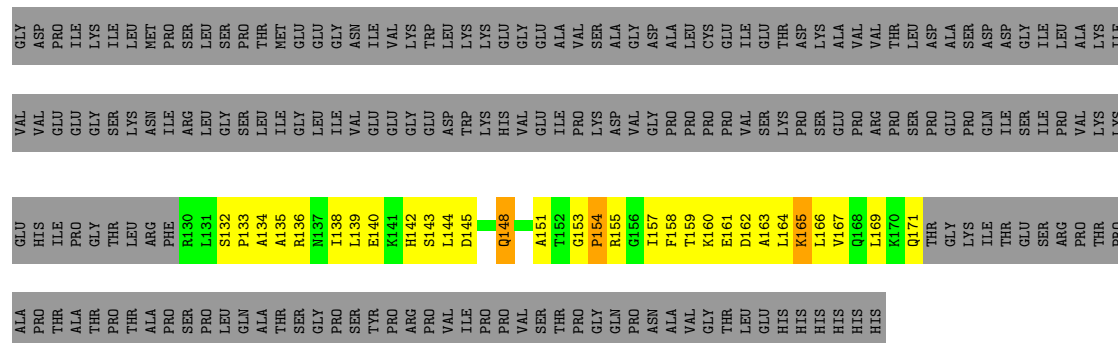
- Molecule 2: Pyruvate dehydrogenase protein X component, mitochondrial

Chain 2-K: 6% 11% 82%

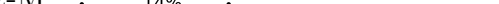


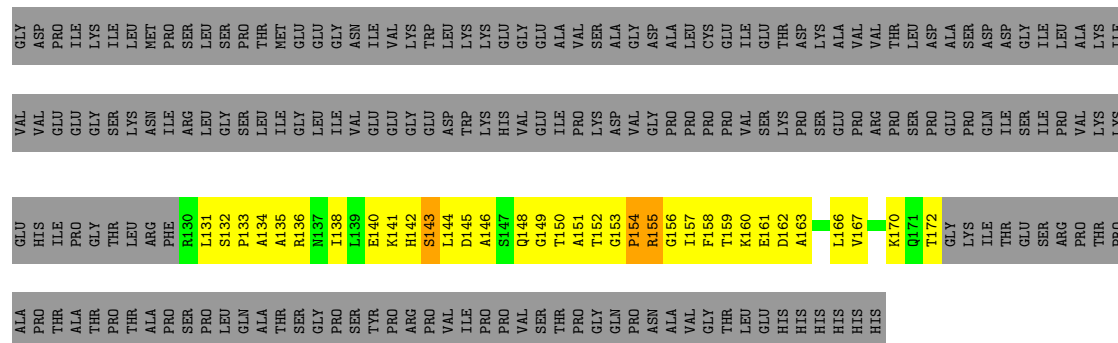
- Molecule 2: Pyruvate dehydrogenase protein X component, mitochondrial

Chain 2-L: 5% 12% . 82%

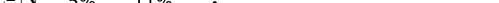


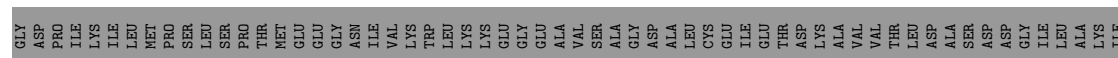
- Molecule 2: Pyruvate dehydrogenase protein X component, mitochondrial

Chain 2-M:  14% 81%



- Molecule 2: Pyruvate dehydrogenase protein X component, mitochondrial

Chain 2-N:  5% 11% . 82%



VAL VAL
GLU GLU
THR THR
GLY GLY
SER SER
LYS LYS
ASN ASN
ILE ILE
LEU LEU
ARG ARG
GLY GLY
SER SER
LEU LEU
ILE ILE
LEU LEU
VAL VAL
GLU GLU
GLY GLY
ASP ASP
TRP TRP
LYS LYS
HIS HIS
VAL VAL
GLU GLU
ILE ILE
ILE ILE
PRO PRO
LYS LYS

GLU HIS
ILE ILE
PRO PRO
THR THR
ALA ALA
GLY GLY
SER SER
LEU LEU
ARG ARG
PHE PHE
R130
L131
S132
P133
A134
A135
R136
N137
I138
H142
A146
S147
Q148
G149
T152
G153
P154
R155
G156
T157
F158
T159
K160
E161
D162
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L164
K165
L166
V167
Q168
L169
K170
Q171
THR
GLY
LYS
ILE
THR
GLU
THR
SER
GLN
ARG
ILE
THR
PRO
ALA
LYS
THR

ALA THR
THR THR
THR THR
ALA ALA
PRO PRO
SER SER
LEU LEU
GLN GLN
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PRO PRO
SER SER
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GLY GLY
ASN ASN
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ASP ASP
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VAL VAL
VAL VAL
THR THR
LEU LEU
ASP ASP
ALA ALA
SER SER
THR THR
GLN GLN
ASP ASP
GLY GLY
ILE ILE
LEU LEU
ALA ALA
LYS LYS
ILE ILE

- Molecule 2: Pyruvate dehydrogenase protein X component, mitochondrial

Chain 2-O: 100%

GLY ASP
PRO PRO
ILE ILE
LYS LYS
ILE ILE
LEU LEU
MET MET
PRO PRO
SER SER
LEU LEU
SER SER
PRO PRO
THR THR
MET MET
GLY GLY
GLU GLU
LEU LEU
GLY GLY
ASN ASN
ILE ILE
VAL VAL
GLU GLU
VAL VAL
LYS LYS
TRP TRP
LEU LEU
ASP ASP
LYS LYS
LYS LYS
GLU GLU
GLY GLY
GLU GLU
ALA ALA
VAL VAL
SER SER
ALA ALA
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ASP ASP
ALA ALA
LEU LEU
CYS CYS
LEU LEU
GLU GLU
ILE ILE
THR THR
GLY GLY
THR THR
ASP ASP
LYS LYS
ALA ALA
VAL VAL
VAL VAL
THR THR
LEU LEU
ASP ASP
LYS LYS
SER SER
GLU GLU
PRO PRO
VAL VAL
THR THR
LEU LEU
ASP ASP
LYS LYS
ALA ALA
SER SER
THR THR
GLN GLN
ASP ASP
GLY GLY
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ALA ALA
LYS LYS
ILE ILE

VAL VAL
GLU GLU
THR THR
SER SER
LYS LYS
ASN ASN
ILE ILE
LEU LEU
ARG ARG
GLY GLY
SER SER
PRO PRO
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THR THR
ASP ASP
LEU LEU
VAL VAL
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ILE ILE
PRO PRO
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PRO PRO
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PRO PRO
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VAL VAL
SER SER
THR THR
PRO PRO
GLY GLY
GLN GLN
PRO PRO
PRO PRO
ASN ASN
ALA ALA
VAL VAL
THR THR
GLY GLY
LEU LEU
ASP ASP
LYS LYS
HIS HIS
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HIS HIS
HIS HIS
HIS HIS
HIS HIS

3 Data and refinement statistics

Property	Value	Source
Space group	P 21 21 21	Depositor
Cell constants a, b, c, α , β , γ	168.79Å 186.91Å 217.54Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	45.64 – 2.59 45.64 – 2.59	Depositor EDS
% Data completeness (in resolution range)	88.5 (45.64-2.59) 78.1 (45.64-2.59)	Depositor EDS
R_{merge}	0.16	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	1.32 (at 2.58Å)	Xtriage
Refinement program	REFMAC 5.1.19, CNS	Depositor
R, R_{free}	0.208 , 0.276 0.205 , 0.272	Depositor DCC
R_{free} test set	9410 reflections (5.00%)	wwPDB-VP
Wilson B-factor (Å ²)	34.2	Xtriage
Anisotropy	0.649	Xtriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.15 , 41.3	EDS
L-test for twinning ²	$\langle L \rangle = 0.48$, $\langle L^2 \rangle = 0.31$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o, F_c correlation	0.92	EDS
Total number of atoms	75406	wwPDB-VP
Average B, all atoms (Å ²)	36.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 2.04% 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.

4 Model quality ⓘ

4.1 Standard geometry ⓘ

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

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	1-A	1.31	14/3581 (0.4%)	1.39	24/4836 (0.5%)
1	1-B	1.28	6/3581 (0.2%)	1.38	19/4836 (0.4%)
1	1-C	1.44	14/3581 (0.4%)	1.48	43/4836 (0.9%)
1	1-D	1.34	17/3581 (0.5%)	1.45	44/4836 (0.9%)
1	1-E	1.39	15/3581 (0.4%)	1.49	33/4836 (0.7%)
1	1-F	1.31	19/3581 (0.5%)	1.40	25/4836 (0.5%)
1	1-G	1.24	15/3581 (0.4%)	1.38	21/4836 (0.4%)
1	1-H	1.41	13/3581 (0.4%)	1.42	35/4836 (0.7%)
1	1-I	1.06	5/3581 (0.1%)	1.28	18/4836 (0.4%)
1	1-J	1.09	5/3581 (0.1%)	1.32	27/4836 (0.6%)
2	1-K	0.49	0/334	0.70	0/448
2	1-L	0.49	0/334	0.70	0/448
2	1-M	0.47	0/334	0.74	0/448
2	1-N	0.48	0/334	0.73	0/448
2	1-O	0.90	0/334	1.21	2/448 (0.4%)
All	All	1.27	123/37480 (0.3%)	1.38	291/50600 (0.6%)

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

Mol	Chain	#Chirality outliers	#Planarity outliers
2	1-L	0	1
2	2-K	0	1
All	All	0	2

All (123) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	1-A	220[A]	MET	SD-CE	17.45	2.23	1.79

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	1-H	50[A]	CYS	CB-SG	-14.12	1.34	1.81
1	1-H	50[B]	CYS	CB-SG	-14.12	1.34	1.81
1	1-C	220[A]	MET	SD-CE	13.99	2.14	1.79
1	1-D	326[A]	MET	SD-CE	12.84	2.11	1.79
1	1-H	220[A]	MET	SD-CE	12.39	2.10	1.79
1	1-F	403[A]	MET	SD-CE	11.82	2.09	1.79
1	1-C	326[A]	MET	SD-CE	11.59	2.08	1.79
1	1-B	65[A]	MET	SD-CE	11.39	2.08	1.79
1	1-D	65[A]	MET	SD-CE	9.96	2.04	1.79
1	1-B	326[A]	MET	SD-CE	9.94	2.04	1.79
1	1-D	220[A]	MET	SD-CE	9.51	2.03	1.79
1	1-G	65[A]	MET	SD-CE	9.49	2.03	1.79
1	1-A	50[A]	CYS	CB-SG	-9.23	1.50	1.81
1	1-A	50[B]	CYS	CB-SG	-9.23	1.50	1.81
1	1-F	50[A]	CYS	CB-SG	-9.16	1.51	1.81
1	1-F	50[B]	CYS	CB-SG	-9.16	1.51	1.81
1	1-A	51[A]	ILE	CA-CB	-9.11	1.49	1.54
1	1-C	65[A]	MET	SD-CE	9.09	2.02	1.79
1	1-E	220[A]	MET	SD-CE	8.83	2.01	1.79
1	1-G	50[A]	CYS	CB-SG	-8.30	1.53	1.81
1	1-G	50[B]	CYS	CB-SG	-8.30	1.53	1.81
1	1-A	403[A]	MET	SD-CE	8.28	2.00	1.79
1	1-E	418[A]	ALA	CA-CB	-7.91	1.40	1.53
1	1-J	220[A]	MET	SD-CE	7.84	1.99	1.79
1	1-G	445[A]	ILE	CA-CB	7.73	1.65	1.54
1	1-D	98[A]	ALA	CA-CB	-7.70	1.41	1.53
1	1-G	89[A]	MET	SD-CE	-7.68	1.60	1.79
1	1-G	78[A]	MET	SD-CE	7.57	1.98	1.79
1	1-F	23[A]	ILE	CA-CB	-7.41	1.45	1.54
1	1-F	81[A]	VAL	CA-CB	-7.37	1.45	1.54
1	1-A	302[A]	ILE	CA-CB	-7.32	1.45	1.54
1	1-G	331[A]	ALA	CA-CB	-7.32	1.42	1.53
1	1-A	354[A]	VAL	CA-CB	-7.30	1.46	1.53
1	1-E	50[A]	CYS	CB-SG	-7.29	1.57	1.81
1	1-E	50[B]	CYS	CB-SG	-7.29	1.57	1.81
1	1-H	326[A]	MET	SD-CE	6.89	1.96	1.79
1	1-B	50[A]	CYS	CB-SG	-6.80	1.58	1.81
1	1-B	50[B]	CYS	CB-SG	-6.80	1.58	1.81
1	1-C	127[A]	VAL	CA-CB	-6.71	1.46	1.54
1	1-A	462[A]	ALA	CA-CB	-6.68	1.42	1.53
1	1-F	462[A]	ALA	CA-C	-6.65	1.44	1.52
1	1-F	404[A]	VAL	CA-CB	-6.61	1.46	1.54

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	1-D	189[A]	ILE	C-O	-6.59	1.16	1.24
1	1-D	315[A]	ILE	CA-CB	-6.57	1.46	1.54
1	1-I	89[A]	MET	SD-CE	6.56	1.96	1.79
1	1-C	323[A]	ALA	CA-CB	-6.48	1.42	1.53
1	1-D	394[A]	ALA	CA-CB	-6.40	1.42	1.53
1	1-F	276[A]	VAL	CA-CB	-6.38	1.46	1.53
1	1-F	98[A]	ALA	CA-CB	-6.29	1.43	1.53
1	1-E	33[A]	VAL	CA-CB	6.29	1.63	1.54
1	1-I	204[A]	VAL	CA-C	-6.26	1.45	1.52
1	1-H	65[A]	MET	SD-CE	6.26	1.95	1.79
1	1-I	50[A]	CYS	CB-SG	-6.23	1.60	1.81
1	1-I	50[B]	CYS	CB-SG	-6.23	1.60	1.81
1	1-F	220[A]	MET	SD-CE	6.10	1.94	1.79
1	1-C	403[A]	MET	SD-CE	6.07	1.94	1.79
1	1-A	400[A]	THR	CA-CB	-6.06	1.44	1.53
1	1-G	428[A]	MET	SD-CE	6.06	1.94	1.79
1	1-E	342[A]	MET	SD-CE	-6.01	1.64	1.79
1	1-D	403[A]	MET	SD-CE	6.00	1.94	1.79
1	1-C	50[A]	CYS	CB-SG	-6.00	1.61	1.81
1	1-C	50[B]	CYS	CB-SG	-6.00	1.61	1.81
1	1-A	432[A]	ALA	CA-CB	-6.00	1.43	1.53
1	1-C	415[A]	VAL	CA-CB	-5.95	1.47	1.54
1	1-F	448[A]	VAL	CA-CB	-5.95	1.48	1.54
1	1-H	286[A]	ASN	CA-C	-5.93	1.45	1.53
1	1-H	44[A]	THR	CA-CB	5.92	1.62	1.53
1	1-H	202[A]	ALA	CA-CB	-5.82	1.43	1.53
1	1-D	103[A]	ILE	CA-C	-5.74	1.45	1.52
1	1-E	364[A]	VAL	C-O	-5.70	1.18	1.24
1	1-J	181[A]	MET	SD-CE	-5.69	1.65	1.79
1	1-E	228[A]	ARG	NE-CZ	5.67	1.39	1.33
1	1-G	216[A]	VAL	CA-CB	-5.63	1.47	1.54
1	1-G	358[A]	ILE	CA-CB	5.60	1.61	1.54
1	1-F	216[A]	VAL	CA-CB	5.58	1.62	1.54
1	1-F	428[A]	MET	SD-CE	-5.56	1.65	1.79
1	1-D	432[A]	ALA	CA-CB	-5.56	1.44	1.53
1	1-F	159[A]	THR	CA-CB	5.52	1.60	1.53
1	1-E	112[A]	VAL	CA-CB	-5.51	1.47	1.54
1	1-D	55[A]	ALA	CA-CB	-5.47	1.44	1.53
1	1-H	357[A]	VAL	CA-CB	-5.46	1.46	1.54
1	1-F	202[A]	ALA	CA-CB	-5.46	1.44	1.53
1	1-A	26[A]	ALA	CA-CB	-5.46	1.44	1.53
1	1-F	130[A]	THR	CA-CB	5.42	1.61	1.53

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	1-F	55[A]	ALA	CA-CB	-5.42	1.44	1.53
1	1-C	336[A]	ILE	CA-CB	-5.38	1.48	1.54
1	1-E	409[A]	GLN	CA-C	5.38	1.59	1.52
1	1-C	358[A]	ILE	CA-CB	5.37	1.60	1.53
1	1-G	354[A]	VAL	CA-C	5.37	1.57	1.53
1	1-C	361[A]	HIS	C-O	-5.32	1.20	1.25
1	1-G	220[A]	MET	SD-CE	5.29	1.92	1.79
1	1-A	379[A]	ILE	CA-CB	-5.28	1.48	1.54
1	1-D	360[A]	THR	CA-CB	-5.27	1.44	1.53
1	1-F	204[A]	VAL	CA-CB	-5.26	1.47	1.54
1	1-B	403[A]	MET	SD-CE	5.26	1.92	1.79
1	1-I	222[A]	ILE	CA-CB	5.26	1.61	1.54
1	1-H	55[A]	ALA	CA-CB	-5.25	1.45	1.53
1	1-D	50[A]	CYS	CB-SG	-5.22	1.64	1.81
1	1-D	50[B]	CYS	CB-SG	-5.22	1.64	1.81
1	1-G	12[A]	ILE	CA-CB	-5.21	1.48	1.54
1	1-D	223[A]	SER	C-O	-5.20	1.18	1.24
1	1-G	466[A]	ALA	CA-C	-5.20	1.45	1.52
1	1-E	243[A]	VAL	CA-CB	5.20	1.60	1.54
1	1-C	304[A]	VAL	N-CA	-5.19	1.40	1.46
1	1-C	451[A]	ALA	CA-CB	-5.18	1.45	1.53
1	1-H	343[A]	ALA	CA-CB	-5.18	1.45	1.53
1	1-B	96[A]	VAL	CA-CB	-5.14	1.48	1.54
1	1-E	379[A]	ILE	CA-CB	-5.14	1.48	1.54
1	1-H	258[A]	ILE	CA-CB	-5.13	1.47	1.54
1	1-G	462[A]	ALA	CA-CB	-5.11	1.45	1.53
1	1-D	438[A]	TYR	CA-C	-5.10	1.46	1.52
1	1-F	113[A]	VAL	CA-CB	-5.10	1.48	1.54
1	1-D	472[A]	ILE	CA-CB	-5.08	1.48	1.54
1	1-E	394[A]	ALA	CA-CB	-5.08	1.45	1.53
1	1-H	428[A]	MET	SD-CE	5.07	1.92	1.79
1	1-E	428[A]	MET	SD-CE	5.04	1.92	1.79
1	1-E	140[A]	ASP	CA-C	5.04	1.59	1.52
1	1-A	127[A]	VAL	CA-CB	-5.04	1.47	1.54
1	1-J	196[A]	VAL	CA-CB	-5.03	1.48	1.54
1	1-J	50[A]	CYS	CB-SG	5.03	1.97	1.81
1	1-J	50[B]	CYS	CB-SG	5.03	1.97	1.81
1	1-A	472[A]	ILE	CA-CB	-5.00	1.48	1.54

All (291) bond angle outliers are listed below:

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	1-J	279[A]	GLY	N-CA-C	10.79	126.98	110.91
1	1-J	214[A]	GLY	N-CA-C	-10.62	101.21	112.04
1	1-F	462[A]	ALA	N-CA-C	-10.39	98.73	111.40
1	1-C	258[A]	ILE	N-CA-CB	-9.50	100.34	112.60
1	1-J	287[A]	LEU	N-CA-C	-9.11	101.88	113.72
1	1-A	56[A]	LEU	N-CA-C	8.95	121.04	111.28
1	1-D	50[A]	CYS	CA-CB-SG	8.93	134.94	114.40
1	1-D	50[B]	CYS	CA-CB-SG	8.93	134.94	114.40
1	1-A	342[A]	MET	N-CA-C	-8.81	101.64	111.07
1	1-E	290[A]	GLU	N-CA-C	-8.52	101.93	111.14
1	1-J	164[A]	THR	N-CA-C	-8.20	103.40	113.41
1	1-J	192[A]	GLU	N-CA-C	-8.16	102.33	111.14
1	1-C	464[A]	LEU	N-CA-C	-8.14	102.38	111.82
1	1-I	298[A]	PRO	N-CA-C	-7.98	103.68	113.98
1	1-G	354[A]	VAL	N-CA-C	7.89	115.73	107.76
1	1-F	431[A]	GLU	N-CA-C	-7.85	102.72	111.82
1	1-D	101[A]	GLY	N-CA-C	-7.64	103.00	112.77
1	1-H	376[A]	GLU	N-CA-C	-7.62	102.92	111.07
1	1-F	469[A]	GLY	N-CA-C	7.58	123.34	114.16
1	1-B	321[A]	VAL	N-CA-C	-7.58	105.32	112.83
1	1-G	115[A]	VAL	CB-CA-C	-7.43	103.73	111.23
1	1-C	306[A]	THR	N-CA-C	-7.40	104.14	113.02
1	1-J	272[A]	ASP	N-CA-C	-7.39	103.88	113.12
1	1-I	400[A]	THR	N-CA-C	7.28	122.34	113.17
2	1-O	131[A]	LEU	N-CA-C	7.22	120.18	108.34
1	1-C	410[A]	LYS	N-CA-C	7.18	119.72	111.11
1	1-H	50[A]	CYS	CA-CB-SG	7.17	130.88	114.40
1	1-H	50[B]	CYS	CA-CB-SG	7.17	130.88	114.40
1	1-E	472[A]	ILE	CB-CA-C	7.14	117.35	111.06
1	1-B	37[A]	LYS	N-CA-C	7.09	119.09	111.36
1	1-I	181[A]	MET	CA-C-N	-6.99	114.08	123.10
1	1-I	181[A]	MET	C-N-CA	-6.99	114.08	123.10
1	1-D	357[A]	VAL	N-CA-C	6.98	118.86	108.46
1	1-H	214[A]	GLY	N-CA-C	-6.97	103.90	112.33
1	1-C	191[A]	VAL	N-CA-CB	6.95	118.22	110.51
1	1-J	2[A]	ASP	N-CA-C	6.94	120.55	109.24
1	1-C	80[A]	GLU	N-CA-C	-6.94	97.65	109.24
1	1-C	216[A]	VAL	N-CA-C	-6.93	98.36	108.89
1	1-C	9[A]	VAL	N-CA-C	6.91	117.78	108.11
1	1-C	223[A]	SER	N-CA-C	6.85	118.40	111.07
1	1-C	292[A]	LEU	N-CA-C	-6.77	104.22	113.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	1-A	25[A]	ALA	N-CA-C	-6.76	103.99	111.36
1	1-B	392[A]	SER	N-CA-C	6.71	118.25	111.07
1	1-D	278[A]	ILE	CB-CA-C	-6.69	101.26	112.16
1	1-D	216[A]	VAL	N-CA-C	-6.68	98.86	108.48
1	1-F	287[A]	LEU	N-CA-C	-6.68	105.70	114.31
1	1-I	70[A]	ASP	N-CA-C	6.66	118.19	111.07
1	1-D	340[A]	GLU	N-CA-C	-6.66	103.20	112.45
1	1-J	124[A]	LYS	N-CA-C	-6.65	105.70	113.88
1	1-D	338[A]	CYS	N-CA-C	6.63	118.17	111.07
1	1-A	407[A]	LEU	CA-C-N	-6.63	117.61	122.18
1	1-A	407[A]	LEU	C-N-CA	-6.63	117.61	122.18
1	1-J	57[A]	LEU	N-CA-C	-6.57	104.04	111.07
1	1-H	349[A]	ILE	N-CA-C	6.57	117.76	108.17
1	1-F	15[A]	GLY	N-CA-C	-6.53	99.01	112.34
1	1-F	276[A]	VAL	CB-CA-C	-6.53	103.45	111.88
1	1-D	233[A]	GLN	N-CA-C	-6.53	105.38	113.15
1	1-C	168[A]	SER	N-CA-C	-6.50	104.04	112.23
1	1-B	194[A]	GLY	N-CA-C	-6.48	104.47	112.77
1	1-A	312[A]	ILE	CA-C-O	6.47	122.97	119.15
1	1-H	16[A]	PRO	CA-C-N	-6.44	108.79	121.41
1	1-H	16[A]	PRO	C-N-CA	-6.44	108.79	121.41
1	1-E	431[A]	GLU	N-CA-C	-6.43	104.13	112.23
1	1-G	425[A]	ALA	N-CA-C	-6.42	104.37	111.82
1	1-D	428[A]	MET	N-CA-C	-6.39	104.52	112.90
1	1-D	174[A]	LEU	N-CA-C	-6.38	102.56	110.41
1	1-D	469[A]	GLY	N-CA-C	6.37	119.89	112.50
1	1-I	307[A]	ARG	N-CA-C	-6.37	104.67	112.88
1	1-C	214[A]	GLY	N-CA-C	-6.35	105.56	112.04
1	1-H	217[A]	GLY	N-CA-C	-6.35	107.16	115.47
1	1-A	323[A]	ALA	N-CA-C	6.33	118.72	110.43
2	1-O	167[A]	VAL	N-CA-C	-6.32	104.69	110.82
1	1-E	323[A]	ALA	N-CA-C	6.31	119.19	110.35
1	1-A	146[A]	ILE	N-CA-C	6.30	117.66	108.58
1	1-H	277[A]	CYS	N-CA-C	6.29	117.99	110.44
1	1-A	214[A]	GLY	N-CA-C	-6.27	103.53	112.81
1	1-J	357[A]	VAL	N-CA-C	6.26	117.31	108.17
1	1-C	87[A]	LYS	N-CA-C	-6.25	104.38	111.07
1	1-E	17[A]	GLY	N-CA-C	-6.23	102.98	112.51
1	1-D	146[A]	ILE	CB-CA-C	-6.23	103.79	111.08
1	1-E	168[A]	SER	N-CA-C	-6.22	104.56	111.71
1	1-J	403[A]	MET	N-CA-C	6.22	116.78	108.38
1	1-D	438[A]	TYR	N-CA-C	-6.19	104.21	112.94

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	1-J	74[A]	ARG	N-CA-C	-6.18	104.22	112.94
1	1-F	460[A]	ARG	N-CA-C	-6.17	104.48	111.14
1	1-A	7[A]	ALA	N-CA-C	6.15	118.77	109.23
1	1-C	304[A]	VAL	N-CA-C	6.15	117.97	108.44
1	1-B	15[A]	GLY	N-CA-C	-6.14	99.82	112.34
1	1-J	245[A]	GLY	N-CA-C	6.13	118.35	111.85
1	1-E	379[A]	ILE	N-CA-C	6.11	117.58	108.23
1	1-I	183[A]	VAL	CB-CA-C	-6.10	103.34	110.91
1	1-F	94[A]	THR	N-CA-C	-6.10	104.55	111.14
1	1-C	458[A]	ALA	N-CA-C	-6.04	104.03	111.40
1	1-C	325[A]	PRO	CB-CA-C	-6.03	104.04	111.64
1	1-E	149[A]	GLY	N-CA-C	6.02	122.22	111.02
1	1-E	472[A]	ILE	N-CA-C	-6.00	106.96	112.96
1	1-F	162[A]	GLU	N-CA-C	-5.98	105.94	113.23
1	1-A	339[A]	VAL	N-CA-C	5.96	116.14	110.42
1	1-C	268[A]	VAL	CA-C-N	-5.96	114.39	122.91
1	1-C	268[A]	VAL	C-N-CA	-5.96	114.39	122.91
1	1-F	190[A]	GLY	N-CA-C	5.94	119.83	112.64
1	1-D	301[A]	ARG	CA-C-N	-5.92	118.33	122.59
1	1-D	301[A]	ARG	C-N-CA	-5.92	118.33	122.59
1	1-F	16[A]	PRO	N-CA-C	-5.91	102.89	111.33
1	1-C	336[A]	ILE	N-CA-C	5.86	116.51	110.36
1	1-I	336[A]	ILE	N-CA-C	-5.84	105.42	110.74
1	1-D	65[A]	MET	N-CA-C	-5.84	104.51	111.69
1	1-D	166[A]	VAL	N-CA-C	5.82	117.23	108.96
1	1-G	54[A]	LYS	N-CA-C	-5.82	105.02	111.71
1	1-H	322[A]	VAL	CB-CA-C	-5.81	103.23	111.19
1	1-D	191[A]	VAL	CB-CA-C	-5.80	104.43	112.02
1	1-I	323[A]	ALA	N-CA-C	5.79	117.77	110.24
1	1-D	191[A]	VAL	N-CA-C	5.79	115.97	110.53
1	1-C	229[A]	ILE	CB-CA-C	-5.77	104.35	112.14
1	1-H	464[A]	LEU	N-CA-C	-5.77	104.91	111.14
1	1-E	281[A]	ARG	CA-C-N	5.76	125.69	119.76
1	1-E	281[A]	ARG	C-N-CA	5.76	125.69	119.76
1	1-D	397[A]	ASN	N-CA-C	-5.75	106.24	113.20
1	1-H	201[A]	GLY	N-CA-C	5.75	123.05	114.95
1	1-C	198[A]	GLN	N-CA-C	-5.74	104.92	111.07
1	1-H	240[A]	ASN	CB-CA-C	-5.73	103.43	111.80
1	1-C	226[A]	PHE	N-CA-C	-5.73	104.73	110.97
1	1-H	192[A]	GLU	N-CA-C	-5.72	104.95	111.07
1	1-J	330[A]	LYS	N-CA-C	-5.72	103.86	111.24
1	1-B	214[A]	GLY	N-CA-C	-5.71	105.48	112.68

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	1-C	203[A]	ASP	N-CA-C	-5.70	98.44	108.20
1	1-E	340[A]	GLU	N-CA-C	-5.70	105.15	111.71
1	1-F	204[A]	VAL	N-CA-C	5.70	117.21	108.71
1	1-G	452[A]	HIS	CB-CA-C	-5.70	102.75	109.47
1	1-E	57[A]	LEU	N-CA-C	-5.69	105.16	111.36
1	1-F	23[A]	ILE	N-CA-C	5.69	115.88	110.42
1	1-C	431[A]	GLU	N-CA-C	-5.68	105.01	111.14
1	1-H	469[A]	GLY	N-CA-C	5.67	119.08	112.50
1	1-E	80[A]	GLU	N-CA-C	-5.67	99.18	108.76
1	1-E	243[A]	VAL	N-CA-CB	5.65	117.44	111.00
1	1-H	123[A]	GLY	CA-C-O	-5.64	116.09	121.62
1	1-J	181[A]	MET	CA-C-N	-5.63	115.83	123.10
1	1-J	181[A]	MET	C-N-CA	-5.63	115.83	123.10
1	1-G	383[A]	VAL	N-CA-C	5.63	116.39	108.17
1	1-I	401[A]	ASP	N-CA-C	5.61	118.58	110.28
1	1-D	332[A]	GLU	N-CA-C	-5.60	105.71	112.54
1	1-D	44[A]	THR	OG1-CB-CG2	-5.59	98.12	109.30
1	1-J	155[A]	PHE	CA-C-N	5.59	126.83	119.84
1	1-J	155[A]	PHE	C-N-CA	5.59	126.83	119.84
1	1-A	355[A]	PRO	N-CD-CG	-5.58	94.82	103.20
1	1-E	204[A]	VAL	CB-CA-C	-5.57	102.32	110.62
1	1-H	244[A]	THR	CB-CA-C	-5.57	102.05	111.02
1	1-B	407[A]	LEU	CA-C-N	-5.57	118.27	122.33
1	1-B	407[A]	LEU	C-N-CA	-5.57	118.27	122.33
1	1-C	353[A]	CYS	CA-C-N	-5.56	118.58	122.59
1	1-C	353[A]	CYS	C-N-CA	-5.56	118.58	122.59
1	1-F	312[A]	ILE	CA-C-N	5.56	125.40	119.28
1	1-F	312[A]	ILE	C-N-CA	5.56	125.40	119.28
1	1-B	371[A]	GLU	N-CA-C	-5.55	105.23	111.28
1	1-E	451[A]	ALA	N-CA-C	5.55	117.45	110.24
1	1-C	363[A]	GLU	N-CA-C	-5.54	102.28	110.48
1	1-G	240[A]	ASN	N-CA-C	-5.54	104.26	111.74
1	1-D	403[A]	MET	N-CA-C	5.54	116.64	107.73
1	1-J	462[A]	ALA	N-CA-C	-5.53	104.65	111.40
1	1-H	199[A]	ARG	N-CA-C	-5.53	104.89	111.69
1	1-G	188[A]	VAL	N-CA-C	5.53	115.98	110.23
1	1-E	203[A]	ASP	CA-C-N	-5.52	115.44	123.06
1	1-E	203[A]	ASP	C-N-CA	-5.52	115.44	123.06
1	1-G	354[A]	VAL	CA-C-O	5.52	122.41	119.15
1	1-B	160[A]	ILE	CB-CA-C	-5.50	105.35	111.35
1	1-E	312[A]	ILE	CB-CA-C	5.50	117.33	110.95
1	1-J	438[A]	TYR	N-CA-C	-5.49	106.59	113.72

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	1-D	129[A]	ALA	CA-C-N	-5.47	115.73	122.84
1	1-D	129[A]	ALA	C-N-CA	-5.47	115.73	122.84
1	1-F	324[A]	GLY	CA-C-N	5.46	125.39	119.76
1	1-F	324[A]	GLY	C-N-CA	5.46	125.39	119.76
1	1-H	402[A]	GLY	N-CA-C	5.46	121.47	112.84
1	1-D	287[A]	LEU	N-CA-C	-5.45	105.37	112.23
1	1-G	7[A]	ALA	N-CA-C	5.44	117.53	108.99
1	1-J	214[A]	GLY	CA-C-O	-5.43	118.54	122.45
1	1-J	289[A]	LEU	N-CA-C	-5.43	106.32	113.17
1	1-F	80[A]	GLU	N-CA-C	-5.42	99.85	109.06
1	1-I	188[A]	VAL	N-CA-C	-5.40	105.06	110.30
1	1-E	32[A]	THR	OG1-CB-CG2	-5.40	98.51	109.30
1	1-E	356[A]	SER	N-CA-C	-5.40	100.23	109.24
1	1-I	459[A]	PHE	N-CA-C	-5.39	106.54	113.01
1	1-J	60[A]	SER	N-CA-C	-5.39	105.57	111.82
1	1-D	312[A]	ILE	N-CA-C	5.38	113.19	107.76
1	1-H	272[A]	ASP	N-CA-C	-5.37	105.86	112.90
1	1-I	85[A]	LEU	N-CA-C	-5.37	105.60	111.82
1	1-G	50[A]	CYS	CA-CB-SG	5.36	126.73	114.40
1	1-G	50[B]	CYS	CA-CB-SG	5.36	126.73	114.40
1	1-D	194[A]	GLY	N-CA-C	-5.36	106.29	112.83
1	1-D	459[A]	PHE	N-CA-C	-5.35	105.11	111.69
1	1-D	292[A]	LEU	N-CA-C	-5.35	105.80	114.09
1	1-E	47[A]	ASN	N-CA-C	5.34	118.27	111.69
1	1-F	96[A]	VAL	CB-CA-C	-5.34	105.13	111.97
1	1-H	204[A]	VAL	N-CA-C	5.34	116.28	108.53
1	1-D	473[A]	ASN	N-CA-C	5.34	119.54	113.19
1	1-C	239[A]	LEU	N-CA-C	5.33	117.41	110.53
1	1-C	50[A]	CYS	CA-CB-SG	5.33	126.66	114.40
1	1-C	50[B]	CYS	CA-CB-SG	5.33	126.66	114.40
1	1-G	70[A]	ASP	N-CA-C	5.32	116.77	110.97
1	1-D	164[A]	THR	CA-C-N	-5.32	115.97	122.93
1	1-D	164[A]	THR	C-N-CA	-5.32	115.97	122.93
1	1-H	44[A]	THR	N-CA-CB	5.31	117.93	110.12
1	1-A	329[A]	HIS	N-CA-C	-5.30	105.67	111.82
1	1-A	77[A]	GLU	N-CA-C	5.29	117.70	108.76
1	1-H	209[A]	PHE	N-CA-C	5.29	116.73	111.07
1	1-D	306[A]	THR	N-CA-C	5.28	118.82	112.38
1	1-G	164[A]	THR	N-CA-C	-5.27	107.51	114.31
1	1-B	468[A]	PHE	N-CA-C	-5.27	102.68	110.48
1	1-B	427[A]	GLU	N-CA-C	-5.27	105.21	111.69
1	1-C	152[A]	VAL	CB-CA-C	-5.27	104.27	111.33

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	1-D	376[A]	GLU	N-CA-C	-5.26	104.60	111.02
1	1-G	115[A]	VAL	N-CA-C	5.26	114.36	106.42
1	1-G	192[A]	GLU	N-CA-C	-5.26	105.19	111.03
1	1-I	170[A]	GLY	N-CA-C	-5.26	107.80	114.16
1	1-A	225[A]	ASN	N-CA-C	-5.25	105.64	111.36
1	1-I	353[A]	CYS	CA-C-N	-5.24	118.22	123.04
1	1-I	353[A]	CYS	C-N-CA	-5.24	118.22	123.04
1	1-E	422[A]	GLY	CA-C-N	5.24	126.39	119.84
1	1-E	422[A]	GLY	C-N-CA	5.24	126.39	119.84
1	1-C	270[A]	THR	N-CA-C	5.24	118.60	110.17
1	1-B	319[A]	GLY	CA-C-N	-5.22	114.15	122.66
1	1-B	319[A]	GLY	C-N-CA	-5.22	114.15	122.66
1	1-C	428[A]	MET	N-CA-C	-5.22	105.76	111.82
1	1-C	367[A]	VAL	N-CA-C	-5.21	100.37	108.44
1	1-D	311[A]	LYS	CA-C-N	-5.21	118.84	122.59
1	1-D	311[A]	LYS	C-N-CA	-5.21	118.84	122.59
1	1-G	91[A]	GLN	N-CA-C	-5.21	104.67	111.02
1	1-C	286[A]	ASN	CB-CA-C	-5.21	103.49	111.66
1	1-C	57[A]	LEU	N-CA-C	-5.20	105.61	111.28
1	1-G	357[A]	VAL	N-CA-C	5.20	116.15	108.45
1	1-A	280[A]	ARG	NE-CZ-NH1	-5.20	116.30	121.50
1	1-F	164[A]	THR	N-CA-C	-5.20	107.32	113.97
1	1-F	183[A]	VAL	CB-CA-C	-5.20	103.41	110.42
1	1-B	143[A]	ASN	CA-C-N	-5.18	115.91	123.06
1	1-B	143[A]	ASN	C-N-CA	-5.18	115.91	123.06
1	1-H	10[A]	THR	OG1-CB-CG2	-5.18	98.94	109.30
1	1-C	100[A]	THR	N-CA-C	-5.17	105.82	111.82
1	1-J	145[A]	LEU	N-CA-C	5.17	116.95	108.52
1	1-A	287[A]	LEU	N-CA-C	-5.17	106.13	112.90
1	1-H	47[A]	ASN	N-CA-C	5.17	118.85	112.54
1	1-D	382[A]	LYS	N-CA-C	-5.17	101.44	109.24
1	1-I	395[A]	LYS	N-CA-C	5.16	117.65	111.71
1	1-E	473[A]	ASN	N-CA-C	5.16	119.67	113.17
1	1-J	58[A]	ASN	N-CA-C	5.16	117.32	111.02
1	1-E	374[A]	LEU	N-CA-C	-5.16	105.78	111.71
1	1-B	323[A]	ALA	N-CA-C	5.15	117.36	110.35
1	1-A	340[A]	GLU	N-CA-C	-5.15	105.79	111.71
1	1-C	186[A]	ALA	CA-C-N	-5.15	114.86	121.96
1	1-C	186[A]	ALA	C-N-CA	-5.15	114.86	121.96
1	1-G	464[A]	LEU	N-CA-C	-5.14	105.56	111.07
1	1-I	63[A]	TYR	N-CA-C	-5.14	105.56	111.07
1	1-D	136[A]	THR	N-CA-C	5.14	121.74	110.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	1-A	446[A]	ALA	N-CA-C	5.14	116.88	111.28
1	1-H	459[A]	PHE	N-CA-C	-5.13	106.17	112.90
1	1-A	23[A]	ILE	CB-CA-C	-5.13	105.21	112.14
1	1-C	188[A]	VAL	N-CA-C	5.13	116.47	110.62
1	1-G	233[A]	GLN	N-CA-C	-5.13	107.02	113.28
1	1-F	63[A]	TYR	N-CA-C	-5.13	105.81	111.71
1	1-A	51[A]	ILE	CA-C-O	5.12	122.12	118.69
1	1-H	27[A]	GLN	N-CA-C	5.12	119.00	112.34
1	1-H	131[A]	LYS	N-CA-C	-5.12	104.11	110.41
1	1-H	390[A]	ALA	N-CA-C	5.12	119.16	113.02
1	1-D	150[A]	SER	N-CA-C	5.12	116.08	108.86
1	1-A	53[A]	SER	N-CA-C	-5.11	106.30	112.54
1	1-C	191[A]	VAL	CB-CA-C	-5.11	105.34	111.88
1	1-A	269[A]	ILE	CB-CA-C	-5.11	104.06	111.68
1	1-E	169[A]	THR	N-CA-CB	5.11	118.17	110.30
1	1-D	86[A]	ASP	CB-CA-C	-5.11	102.36	110.84
1	1-H	353[A]	CYS	CB-CA-C	-5.11	102.80	111.02
1	1-J	169[A]	THR	N-CA-C	5.11	116.92	111.36
1	1-J	170[A]	GLY	N-CA-C	-5.10	106.53	113.37
1	1-D	467[A]	SER	CB-CA-C	-5.09	105.04	115.28
1	1-C	392[A]	SER	N-CA-C	5.09	119.72	111.37
1	1-H	38[A]	ASN	N-CA-C	5.08	117.66	110.50
1	1-H	153[A]	THR	N-CA-C	-5.08	103.25	109.65
1	1-E	98[A]	ALA	N-CA-C	-5.07	105.83	111.36
1	1-E	376[A]	GLU	N-CA-C	-5.07	106.61	112.89
1	1-C	31[A]	LYS	N-CA-C	-5.06	101.86	109.15
1	1-G	168[A]	SER	N-CA-C	-5.06	105.77	111.28
1	1-F	220[A]	MET	N-CA-C	5.05	116.48	111.07
1	1-F	146[A]	ILE	CB-CA-C	-5.04	104.59	111.15
1	1-F	433[A]	ALA	N-CA-C	-5.04	105.97	111.82
1	1-E	306[A]	THR	OG1-CB-CG2	-5.04	99.22	109.30
1	1-H	161[A]	ASP	N-CA-C	-5.04	105.93	113.89
1	1-B	165[A]	ILE	N-CA-C	-5.03	99.28	107.28
1	1-A	291[A]	GLU	N-CA-C	5.03	118.67	112.54
1	1-E	197[A]	TRP	N-CA-C	-5.03	106.66	112.89
1	1-B	164[A]	THR	N-CA-C	-5.02	108.18	114.56
1	1-D	330[A]	LYS	N-CA-C	-5.01	105.72	111.14
1	1-H	347[A]	VAL	CA-C-N	-5.01	116.09	123.00
1	1-H	347[A]	VAL	C-N-CA	-5.01	116.09	123.00
1	1-E	177[A]	VAL	N-CA-CB	5.01	114.74	110.08

There are no chirality outliers.

All (2) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
2	1-L	136[A]	ARG	Sidechain
2	2-K	136[C]	ARG	Sidechain

4.2 Too-close contacts

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	1-A	3521	0	3577	190	0
1	1-B	3521	0	3577	195	0
1	1-C	3521	0	3577	199	0
1	1-D	3521	0	3577	218	0
1	1-E	3521	0	3577	203	0
1	1-F	3521	0	3577	184	0
1	1-G	3521	0	3577	222	0
1	1-H	3521	0	3577	196	0
1	1-I	3521	0	3577	270	0
1	1-J	3521	0	3577	235	0
1	2-A	3521	0	3577	187	0
1	2-B	3521	0	3577	196	0
1	2-C	3521	0	3577	200	0
1	2-D	3521	0	3577	225	0
1	2-E	3521	0	3577	208	0
1	2-F	3521	0	3577	176	0
1	2-G	3521	0	3577	225	0
1	2-H	3521	0	3577	200	0
1	2-I	3521	0	3577	270	0
1	2-J	3521	0	3577	229	0
2	1-K	331	0	347	68	0
2	1-L	331	0	346	58	0
2	1-M	331	0	347	80	0
2	1-N	331	0	347	60	0
2	1-O	331	0	347	36	0
2	2-K	320	0	337	40	0
2	2-L	320	0	337	49	0
2	2-M	327	0	344	55	0
2	2-N	320	0	337	59	0
3	1-A	53	0	31	6	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
3	1-B	53	0	31	9	0
3	1-C	53	0	31	7	0
3	1-D	53	0	31	5	0
3	1-E	53	0	31	4	0
3	1-F	53	0	31	8	0
3	1-G	53	0	30	3	0
3	1-H	53	0	31	4	0
3	1-I	53	0	31	8	0
3	1-J	53	0	0	0	0
3	2-A	53	0	31	9	0
3	2-B	53	0	31	6	0
3	2-C	53	0	31	5	0
3	2-D	53	0	31	4	0
3	2-E	53	0	31	8	0
3	2-F	53	0	30	3	0
3	2-G	53	0	31	4	0
3	2-H	53	0	31	6	0
3	2-I	53	0	31	14	0
3	2-O	53	0	31	6	0
4	1-A	39	0	0	4	0
4	1-B	50	0	0	2	0
4	1-C	76	0	0	8	0
4	1-D	63	0	0	6	0
4	1-E	68	0	0	6	0
4	1-F	42	0	0	9	0
4	1-G	35	0	0	1	0
4	1-H	67	0	0	12	0
4	1-I	18	0	0	6	0
4	1-J	30	0	31	18	0
4	1-M	2	0	0	0	0
4	1-O	2	0	0	0	0
4	2-A	50	0	0	2	0
4	2-B	76	0	0	9	0
4	2-C	63	0	0	6	0
4	2-D	67	0	0	6	0
4	2-E	42	0	0	9	0
4	2-F	34	0	0	1	0
4	2-G	66	0	0	12	0
4	2-H	19	0	0	8	0
4	2-I	31	0	0	4	0
4	2-J	42	0	0	4	0
4	2-M	2	0	0	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
All	All	75406	0	75247	4475	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 30.

All (4475) 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)
2:M:172[C]:THR:CB	2:M:172[C]:THR:CG2	1.77	1.61
1:E:220[A]:MET:CE	1:E:220[A]:MET:SD	2.01	1.48
1:E:220[C]:MET:SD	1:E:220[C]:MET:CE	2.01	1.48
1:C:65[A]:MET:CE	1:C:65[A]:MET:SD	2.02	1.47
1:C:65[C]:MET:CE	1:C:65[C]:MET:SD	2.02	1.47
1:D:65[A]:MET:CE	1:D:65[A]:MET:SD	2.04	1.46
1:D:65[C]:MET:CE	1:D:65[C]:MET:SD	2.04	1.46
1:G:65[A]:MET:CE	1:G:65[A]:MET:SD	2.03	1.45
1:G:65[C]:MET:CE	1:G:65[C]:MET:SD	2.03	1.45
1:D:220[A]:MET:CE	1:D:220[A]:MET:SD	2.03	1.45
1:D:220[C]:MET:CE	1:D:220[C]:MET:SD	2.03	1.45
1:B:326[A]:MET:CE	1:B:326[A]:MET:SD	2.04	1.44
1:B:326[C]:MET:CE	1:B:326[C]:MET:SD	2.04	1.44
1:B:65[A]:MET:CE	1:B:65[A]:MET:SD	2.08	1.41
1:B:65[C]:MET:CE	1:B:65[C]:MET:SD	2.08	1.41
1:F:403[A]:MET:CE	1:F:403[A]:MET:SD	2.09	1.40
1:F:403[C]:MET:SD	1:F:403[C]:MET:CE	2.09	1.40
1:C:326[A]:MET:SD	1:C:326[A]:MET:CE	2.08	1.40
1:C:326[C]:MET:CE	1:C:326[C]:MET:SD	2.08	1.40
1:H:220[A]:MET:CE	1:H:220[A]:MET:SD	2.10	1.40
1:H:220[C]:MET:CE	1:H:220[C]:MET:SD	2.10	1.40
1:D:326[A]:MET:CE	1:D:326[A]:MET:SD	2.11	1.39
1:D:326[C]:MET:CE	1:D:326[C]:MET:SD	2.11	1.39
1:C:220[A]:MET:CE	1:C:220[A]:MET:SD	2.14	1.35
1:C:220[C]:MET:CE	1:C:220[C]:MET:SD	2.14	1.35
1:I:305[A]:ASN:HB3	4:I:4763[A]:HOH:O	1.30	1.30
4:H:4763[C]:HOH:O	1:I:305[C]:ASN:HB3	1.30	1.30
1:A:220[A]:MET:CE	1:A:220[A]:MET:SD	2.23	1.27
1:A:220[C]:MET:CE	1:A:220[C]:MET:SD	2.23	1.27
1:E:255[A]:ASP:OD1	1:E:270[A]:THR:HB	1.38	1.22
1:E:255[C]:ASP:OD1	1:E:270[C]:THR:HB	1.38	1.22
1:G:348[C]:HIS:CE1	2:N:136[C]:ARG:HD2	1.78	1.17
1:D:69[A]:LYS:HB3	4:D:4792[A]:HOH:O	1.44	1.16

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:C:4792[C]:HOH:O	1:D:69[C]:LYS:HB3	1.44	1.16
1:G:445[A]:ILE:HD13	1:G:445[A]:ILE:O	1.46	1.15
1:G:445[C]:ILE:O	1:G:445[C]:ILE:HD13	1.46	1.15
1:F:348[A]:HIS:CD2	2:M:136[A]:ARG:HH11	1.66	1.14
1:B:3[A]:GLN:HG2	1:B:4[A]:PRO:HD2	1.29	1.13
1:B:3[C]:GLN:HG2	1:B:4[C]:PRO:HD2	1.29	1.13
1:G:445[A]:ILE:HD13	1:G:445[A]:ILE:C	1.73	1.13
1:G:445[C]:ILE:HD13	1:G:445[C]:ILE:C	1.73	1.13
2:N:168[A]:GLN:HA	2:N:168[A]:GLN:NE2	1.52	1.12
1:F:345[A]:GLY:HA2	2:M:141[A]:LYS:HD3	1.31	1.10
1:H:46[A]:LEU:HD21	1:H:100[A]:THR:HG22	1.33	1.10
1:H:46[C]:LEU:HD21	1:H:100[C]:THR:HG22	1.33	1.10
1:G:348[C]:HIS:HE1	2:N:136[C]:ARG:HD2	0.98	1.10
2:N:170[C]:LYS:O	2:N:171[C]:GLN:HB2	1.47	1.10
1:J:346[A]:ALA:HB1	2:O:140[A]:GLU:OE1	1.52	1.09
2:K:152[A]:THR:HG22	2:K:153[A]:GLY:H	1.17	1.09
1:D:406[A]:ILE:HD11	1:D:463[A]:ASN:HA	1.11	1.09
1:D:406[C]:ILE:HD11	1:D:463[C]:ASN:HA	1.11	1.09
2:M:145[C]:ASP:O	2:M:148[C]:GLN:HG2	1.55	1.06
2:N:168[C]:GLN:HE21	2:N:168[C]:GLN:HA	0.94	1.06
2:M:159[A]:THR:HG22	2:M:161[A]:GLU:H	1.08	1.06
1:C:74[A]:ARG:HD3	1:D:59[A]:ASN:OD1	1.56	1.06
1:C:74[C]:ARG:HD3	1:D:59[C]:ASN:OD1	1.56	1.06
1:I:11[A]:VAL:HG13	1:I:145[A]:LEU:HD23	1.37	1.05
1:I:11[C]:VAL:HG13	1:I:145[C]:LEU:HD23	1.37	1.05
1:H:124[A]:LYS:HD3	1:H:124[A]:LYS:H	1.21	1.05
1:H:124[C]:LYS:H	1:H:124[C]:LYS:HD3	1.21	1.05
1:I:218[A]:ILE:H	1:I:218[A]:ILE:HD13	1.18	1.05
1:I:218[C]:ILE:HD13	1:I:218[C]:ILE:H	1.18	1.05
2:N:160[C]:LYS:HE3	2:N:164[C]:LEU:HD11	1.38	1.04
2:M:131[A]:LEU:HD13	2:M:136[A]:ARG:HE	0.93	1.04
1:G:339[A]:VAL:HG12	1:G:342[A]:MET:HE3	1.36	1.04
1:G:339[C]:VAL:HG12	1:G:342[C]:MET:HE3	1.36	1.04
1:A:1[A]:ALA:HB2	1:A:136[A]:THR:HG23	1.39	1.04
2:M:159[A]:THR:HG22	2:M:161[A]:GLU:N	1.71	1.04
1:A:1[C]:ALA:HB2	1:A:136[C]:THR:HG23	1.39	1.04
1:I:65[A]:MET:HE2	1:I:71[A]:PHE:HE1	1.23	1.03
1:I:409[A]:GLN:HG2	1:I:412[A]:THR:OG1	1.58	1.03
2:L:144[A]:LEU:HD11	2:L:166[A]:LEU:HB3	1.39	1.03
1:I:65[C]:MET:HE2	1:I:71[C]:PHE:HE1	1.23	1.03
1:I:409[C]:GLN:HG2	1:I:412[C]:THR:OG1	1.58	1.03

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:78[A]:MET:H	1:E:78[A]:MET:HE2	1.19	1.03
1:F:312[A]:ILE:HG12	1:F:315[A]:ILE:HG13	1.40	1.03
1:E:78[C]:MET:H	1:E:78[C]:MET:HE2	1.19	1.03
1:F:312[C]:ILE:HG12	1:F:315[C]:ILE:HG13	1.40	1.03
1:F:44[A]:THR:CG2	3:F:4755[A]:FAD:O2A	2.07	1.02
3:E:4755[C]:FAD:O2A	1:F:44[C]:THR:CG2	2.07	1.02
2:M:159[C]:THR:HG22	2:M:162[C]:ASP:H	1.21	1.02
1:E:409[A]:GLN:NE2	1:E:411[A]:SER:H	1.56	1.02
1:E:409[C]:GLN:NE2	1:E:411[C]:SER:H	1.56	1.02
2:N:133[A]:PRO:HA	2:N:136[A]:ARG:HE	1.21	1.02
2:N:168[A]:GLN:HE21	2:N:168[A]:GLN:CA	1.72	1.02
2:M:131[A]:LEU:HD13	2:M:136[A]:ARG:NE	1.74	1.02
1:I:320[A]:ASP:HB3	1:I:326[A]:MET:HE3	1.43	1.01
1:I:320[C]:ASP:HB3	1:I:326[C]:MET:HE3	1.43	1.01
1:F:44[A]:THR:HG23	3:F:4755[A]:FAD:PA	2.01	1.00
1:J:51[A]:ILE:HB	1:J:52[A]:PRO:HD3	1.42	1.00
3:E:4755[C]:FAD:PA	1:F:44[C]:THR:HG23	2.01	1.00
1:J:51[C]:ILE:HB	1:J:52[C]:PRO:HD3	1.42	1.00
1:I:110[A]:ASN:HD22	1:I:110[A]:ASN:N	1.57	1.00
1:I:110[C]:ASN:HD22	1:I:110[C]:ASN:N	1.57	1.00
2:N:159[C]:THR:CG2	2:N:161[C]:GLU:HB2	1.91	1.00
2:N:136[A]:ARG:HG3	2:N:137[A]:ASN:N	1.74	1.00
1:I:448[A]:VAL:HG21	1:J:434[A]:LEU:HD13	1.39	0.99
1:I:448[C]:VAL:HG21	1:J:434[C]:LEU:HD13	1.39	0.99
1:G:96[A]:VAL:HG12	1:G:97[A]:LYS:HD3	1.44	0.99
1:G:96[C]:VAL:HG12	1:G:97[C]:LYS:HD3	1.44	0.99
1:A:44[A]:THR:HG23	3:A:4750[A]:FAD:PA	2.02	0.99
1:A:44[C]:THR:HG23	3:O:4750[C]:FAD:PA	2.02	0.99
1:G:358[A]:ILE:HD11	1:G:360[A]:THR:HG23	1.42	0.98
1:J:289[A]:LEU:HD22	1:J:294[A]:ILE:HD12	1.46	0.98
1:G:358[C]:ILE:HD11	1:G:360[C]:THR:HG23	1.42	0.98
1:J:289[C]:LEU:HD22	1:J:294[C]:ILE:HD12	1.46	0.98
1:I:41[A]:LEU:H	1:I:41[A]:LEU:HD12	1.27	0.98
1:I:41[C]:LEU:H	1:I:41[C]:LEU:HD12	1.27	0.98
1:J:345[A]:GLY:HA2	2:O:141[A]:LYS:HD2	1.45	0.96
1:A:44[A]:THR:HG23	3:A:4750[A]:FAD:O2A	1.63	0.96
1:E:447[A]:ARG:HG2	1:E:447[A]:ARG:HH11	1.29	0.96
1:A:44[C]:THR:HG23	3:O:4750[C]:FAD:O2A	1.63	0.96
1:E:447[C]:ARG:HG2	1:E:447[C]:ARG:HH11	1.29	0.96
2:K:159[A]:THR:HG22	2:K:161[A]:GLU:N	1.81	0.96
2:K:159[A]:THR:HG22	2:K:161[A]:GLU:H	1.30	0.96

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:M:131[A]:LEU:CD1	2:M:136[A]:ARG:HE	1.77	0.96
1:C:9[A]:VAL:CG2	1:C:342[A]:MET:HE1	1.96	0.96
1:C:9[C]:VAL:CG2	1:C:342[C]:MET:HE1	1.96	0.96
1:F:348[A]:HIS:HD2	2:M:136[A]:ARG:HH11	0.98	0.95
1:D:69[A]:LYS:CB	4:D:4792[A]:HOH:O	2.06	0.95
1:E:312[A]:ILE:HD13	1:E:312[A]:ILE:C	1.92	0.95
4:C:4792[C]:HOH:O	1:D:69[C]:LYS:CB	2.06	0.95
1:E:312[C]:ILE:HD13	1:E:312[C]:ILE:C	1.92	0.95
2:N:131[C]:LEU:HD21	2:N:146[C]:ALA:CB	1.96	0.95
1:C:414[A]:ARG:HH11	1:C:414[A]:ARG:CG	1.80	0.94
1:C:414[C]:ARG:CG	1:C:414[C]:ARG:HH11	1.80	0.94
2:M:159[C]:THR:HG22	2:M:162[C]:ASP:N	1.81	0.94
1:E:80[A]:GLU:H	1:F:79[A]:SER:HB2	1.33	0.94
1:E:80[C]:GLU:H	1:F:79[C]:SER:HB2	1.33	0.94
2:L:134[C]:ALA:O	2:L:138[C]:ILE:HG22	1.67	0.93
1:E:169[A]:THR:HG22	4:E:4759[A]:HOH:O	1.68	0.93
1:I:45[A]:CYS:HG	1:I:50[A]:CYS:HG	1.00	0.93
4:D:4759[C]:HOH:O	1:E:169[C]:THR:HG22	1.68	0.93
1:I:45[C]:CYS:HG	1:I:50[C]:CYS:HG	1.00	0.93
1:E:188[A]:VAL:HG22	1:E:358[A]:ILE:CD1	1.99	0.93
1:E:188[C]:VAL:HG22	1:E:358[C]:ILE:CD1	1.99	0.93
1:E:88[A]:MET:HE1	1:E:200[A]:LEU:HD21	1.51	0.93
1:E:88[C]:MET:HE1	1:E:200[C]:LEU:HD21	1.51	0.93
1:G:358[A]:ILE:HG23	1:G:364[A]:VAL:HB	1.49	0.92
1:J:406[A]:ILE:HD13	1:J:406[A]:ILE:H	1.33	0.92
2:N:141[A]:LYS:O	2:N:142[A]:HIS:HD2	1.51	0.92
1:G:358[C]:ILE:HG23	1:G:364[C]:VAL:HB	1.49	0.92
1:J:406[C]:ILE:HD13	1:J:406[C]:ILE:H	1.33	0.92
2:K:136[C]:ARG:HG2	2:K:136[C]:ARG:O	1.66	0.92
2:N:130[A]:ARG:N	2:N:157[A]:ILE:HG22	1.84	0.92
1:G:339[A]:VAL:HG12	1:G:342[A]:MET:CE	1.98	0.92
1:G:339[C]:VAL:HG12	1:G:342[C]:MET:CE	1.98	0.92
1:I:218[A]:ILE:HD13	1:I:218[A]:ILE:N	1.81	0.92
1:I:218[C]:ILE:HD13	1:I:218[C]:ILE:N	1.81	0.92
1:D:409[A]:GLN:HE21	1:D:411[A]:SER:H	1.08	0.92
2:K:152[A]:THR:HG22	2:K:153[A]:GLY:N	1.84	0.92
1:D:409[C]:GLN:HE21	1:D:411[C]:SER:H	1.08	0.92
1:F:44[A]:THR:HG23	3:F:4755[A]:FAD:O2A	1.67	0.92
3:E:4755[C]:FAD:O2A	1:F:44[C]:THR:HG23	1.67	0.92
1:D:51[A]:ILE:HB	1:D:52[A]:PRO:HD3	1.51	0.92
1:D:51[C]:ILE:HB	1:D:52[C]:PRO:HD3	1.51	0.92

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:N:168[C]:GLN:HE21	2:N:168[C]:GLN:CA	1.79	0.91
1:G:57[A]:LEU:HD11	1:G:192[A]:GLU:HG2	1.52	0.91
1:J:406[A]:ILE:HD12	1:J:462[A]:ALA:HB1	1.52	0.91
1:G:57[C]:LEU:HD11	1:G:192[C]:GLU:HG2	1.52	0.91
1:J:406[C]:ILE:HD12	1:J:462[C]:ALA:HB1	1.52	0.91
2:N:168[C]:GLN:HA	2:N:168[C]:GLN:NE2	1.78	0.91
1:D:406[A]:ILE:CD1	1:D:463[A]:ASN:HA	1.99	0.91
1:F:124[A]:LYS:HG2	1:F:312[A]:ILE:CD1	2.01	0.91
1:D:406[C]:ILE:CD1	1:D:463[C]:ASN:HA	1.99	0.91
1:F:124[C]:LYS:HG2	1:F:312[C]:ILE:CD1	2.01	0.91
1:D:406[A]:ILE:HD11	1:D:463[A]:ASN:CA	1.99	0.91
1:D:406[C]:ILE:HD11	1:D:463[C]:ASN:CA	1.99	0.91
1:J:345[A]:GLY:HA2	2:O:141[A]:LYS:CD	2.01	0.91
2:N:141[A]:LYS:O	2:N:142[A]:HIS:CD2	2.24	0.90
2:K:130[A]:ARG:HG2	2:K:130[A]:ARG:HH11	1.36	0.90
1:I:266[A]:ALA:O	1:I:267[A]:GLU:HB2	1.66	0.90
1:I:266[C]:ALA:O	1:I:267[C]:GLU:HB2	1.66	0.90
1:G:445[A]:ILE:C	1:G:445[A]:ILE:CD1	2.45	0.90
1:G:445[C]:ILE:C	1:G:445[C]:ILE:CD1	2.45	0.90
1:B:46[A]:LEU:HD12	1:B:46[A]:LEU:O	1.72	0.90
1:B:46[C]:LEU:HD12	1:B:46[C]:LEU:O	1.72	0.90
1:B:137[A]:GLN:HE21	1:B:137[A]:GLN:C	1.78	0.90
1:G:442[A]:CYS:HA	1:G:463[A]:ASN:HD22	1.36	0.90
1:B:137[C]:GLN:HE21	1:B:137[C]:GLN:C	1.78	0.90
1:G:442[C]:CYS:HA	1:G:463[C]:ASN:HD22	1.36	0.90
1:B:45[A]:CYS:HG	1:B:50[A]:CYS:HG	1.18	0.90
1:H:127[A]:VAL:HG21	1:H:144[A]:ILE:HD12	1.51	0.90
1:B:45[C]:CYS:HG	1:B:50[C]:CYS:HG	1.18	0.90
1:H:127[C]:VAL:HG21	1:H:144[C]:ILE:HD12	1.51	0.90
1:G:177[A]:VAL:HG11	1:G:200[A]:LEU:HB3	1.54	0.89
1:G:472[A]:ILE:C	1:G:472[A]:ILE:HD13	1.97	0.89
1:G:177[C]:VAL:HG11	1:G:200[C]:LEU:HB3	1.54	0.89
1:G:472[C]:ILE:C	1:G:472[C]:ILE:HD13	1.97	0.89
2:N:136[A]:ARG:HG3	2:N:137[A]:ASN:H	1.32	0.89
1:F:42[A]:GLY:HA3	1:F:46[A]:LEU:HD23	1.54	0.89
1:F:42[C]:GLY:HA3	1:F:46[C]:LEU:HD23	1.54	0.89
1:G:137[A]:GLN:HE21	1:G:138[A]:VAL:H	1.17	0.89
2:N:168[A]:GLN:HA	2:N:168[A]:GLN:HE21	0.77	0.89
1:G:137[C]:GLN:HE21	1:G:138[C]:VAL:H	1.17	0.89
1:C:3[A]:GLN:HG3	1:C:4[A]:PRO:HD2	1.54	0.89
1:I:372[A]:GLU:O	1:I:374[A]:LEU:N	2.06	0.89

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:J:67[A]:HIS:HA	1:J:81[A]:VAL:HG11	1.55	0.89
1:C:3[C]:GLN:HG3	1:C:4[C]:PRO:HD2	1.54	0.89
1:I:372[C]:GLU:O	1:I:374[C]:LEU:N	2.06	0.89
1:J:67[C]:HIS:HA	1:J:81[C]:VAL:HG11	1.55	0.89
2:N:153[C]:GLY:O	2:N:154[C]:PRO:O	1.91	0.89
1:I:358[A]:ILE:HG23	1:I:364[A]:VAL:HB	1.53	0.88
1:I:358[C]:ILE:HG23	1:I:364[C]:VAL:HB	1.53	0.88
2:M:150[A]:THR:CG2	2:M:151[A]:ALA:N	2.36	0.88
1:C:51[A]:ILE:HB	1:C:52[A]:PRO:HD3	1.56	0.88
1:C:137[A]:GLN:HE21	1:C:137[A]:GLN:C	1.81	0.88
1:C:51[C]:ILE:HB	1:C:52[C]:PRO:HD3	1.56	0.88
1:C:137[C]:GLN:C	1:C:137[C]:GLN:HE21	1.81	0.88
1:I:9[A]:VAL:HG21	1:I:342[A]:MET:HE1	1.54	0.88
1:I:9[C]:VAL:HG21	1:I:342[C]:MET:HE1	1.54	0.88
1:G:409[A]:GLN:HE21	1:G:411[A]:SER:H	1.19	0.88
1:G:409[C]:GLN:HE21	1:G:411[C]:SER:H	1.19	0.88
2:M:159[C]:THR:HG23	2:M:161[C]:GLU:H	1.39	0.88
1:I:319[A]:GLY:HA3	3:I:4759[A]:HOH:O	1.73	0.87
4:H:4759[C]:HOH:O	1:I:319[C]:GLY:HA3	1.73	0.87
1:A:46[A]:LEU:O	1:A:46[A]:LEU:HD12	1.73	0.87
1:I:428[A]:MET:HE1	1:I:455[A]:LEU:HB3	1.57	0.87
2:N:133[A]:PRO:HA	2:N:136[A]:ARG:NE	1.90	0.87
1:A:46[C]:LEU:HD12	1:A:46[C]:LEU:O	1.73	0.87
1:I:428[C]:MET:HE1	1:I:455[C]:LEU:HB3	1.57	0.87
1:H:305[A]:ASN:C	1:H:305[A]:ASN:HD22	1.80	0.87
1:H:305[C]:ASN:C	1:H:305[C]:ASN:HD22	1.80	0.87
1:F:392[A]:SER:HB2	4:F:4793[A]:HOH:O	1.74	0.87
1:I:14[A]:SER:HB3	1:I:42[A]:GLY:H	1.39	0.87
1:I:249[A]:LYS:HD3	1:I:255[A]:ASP:OD2	1.75	0.87
1:I:448[A]:VAL:HG21	1:J:434[A]:LEU:CD1	2.03	0.87
2:L:151[A]:ALA:CB	2:L:158[A]:PHE:HA	2.05	0.87
4:E:4793[C]:HOH:O	1:F:392[C]:SER:HB2	1.74	0.87
1:I:14[C]:SER:HB3	1:I:42[C]:GLY:H	1.39	0.87
1:I:249[C]:LYS:HD3	1:I:255[C]:ASP:OD2	1.75	0.87
1:I:448[C]:VAL:HG21	1:J:434[C]:LEU:CD1	2.03	0.87
2:L:148[C]:GLN:HB2	2:L:166[C]:LEU:HD11	1.56	0.87
1:D:162[A]:GLU:OE1	1:D:162[A]:GLU:HA	1.75	0.86
1:I:9[A]:VAL:CG2	1:I:342[A]:MET:HE1	2.05	0.86
1:D:162[C]:GLU:OE1	1:D:162[C]:GLU:HA	1.75	0.86
1:I:9[C]:VAL:CG2	1:I:342[C]:MET:HE1	2.05	0.86
1:A:358[A]:ILE:CD1	1:A:360[A]:THR:HG23	2.05	0.86

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:358[C]:ILE:CD1	1:A:360[C]:THR:HG23	2.05	0.86
1:D:44[A]:THR:HG23	3:D:4753[A]:FAD:O2A	1.75	0.86
1:G:54[A]:LYS:HE2	1:G:359[A]:TYR:CD2	2.10	0.86
1:G:314[A]:ASN:H	1:G:314[A]:ASN:HD22	1.21	0.86
3:C:4753[C]:FAD:O2A	1:D:44[C]:THR:HG23	1.75	0.86
1:G:54[C]:LYS:HE2	1:G:359[C]:TYR:CD2	2.10	0.86
1:G:314[C]:ASN:H	1:G:314[C]:ASN:HD22	1.21	0.86
1:I:297[A]:ASP:OD2	1:I:301[A]:ARG:HG3	1.74	0.86
1:I:297[C]:ASP:OD2	1:I:301[C]:ARG:HG3	1.74	0.86
2:K:131[A]:LEU:HD23	2:K:136[A]:ARG:CB	2.06	0.86
1:H:127[A]:VAL:CG2	1:H:144[A]:ILE:HD12	2.04	0.85
1:H:127[C]:VAL:CG2	1:H:144[C]:ILE:HD12	2.04	0.85
2:M:150[A]:THR:HG23	2:M:151[A]:ALA:H	1.38	0.85
2:N:160[C]:LYS:CE	2:N:164[C]:LEU:HD11	2.05	0.85
1:A:44[A]:THR:CG2	3:A:4750[A]:FAD:O2A	2.24	0.85
1:A:44[C]:THR:CG2	3:O:4750[C]:FAD:O2A	2.24	0.85
2:N:131[C]:LEU:HD21	2:N:146[C]:ALA:HB2	1.55	0.85
1:C:444[C]:ASP:OD1	2:L:155[C]:ARG:HD3	1.75	0.85
1:G:358[A]:ILE:HD11	1:G:360[A]:THR:CG2	2.06	0.85
2:K:144[A]:LEU:HD13	2:K:166[A]:LEU:HD23	1.58	0.85
1:G:358[C]:ILE:HD11	1:G:360[C]:THR:CG2	2.06	0.85
1:D:330[A]:LYS:HE2	1:D:334[A]:GLU:OE2	1.76	0.85
1:D:330[C]:LYS:HE2	1:D:334[C]:GLU:OE2	1.76	0.85
1:B:406[A]:ILE:C	1:B:406[A]:ILE:HD12	2.02	0.85
2:K:136[A]:ARG:HA	2:K:139[A]:LEU:HD12	1.59	0.85
1:B:406[C]:ILE:C	1:B:406[C]:ILE:HD12	2.02	0.85
1:B:291[A]:GLU:CD	1:B:291[A]:GLU:H	1.84	0.85
1:H:19[A]:TYR:O	1:H:23[A]:ILE:HG13	1.76	0.85
1:H:42[A]:GLY:HA3	1:H:46[A]:LEU:HD23	1.59	0.85
1:B:291[C]:GLU:CD	1:B:291[C]:GLU:H	1.84	0.85
1:H:19[C]:TYR:O	1:H:23[C]:ILE:HG13	1.76	0.85
1:H:42[C]:GLY:HA3	1:H:46[C]:LEU:HD23	1.59	0.85
1:A:45[A]:CYS:HG	1:A:50[A]:CYS:CB	1.88	0.84
1:A:45[C]:CYS:HG	1:A:50[C]:CYS:CB	1.88	0.84
1:C:250[A]:SER:HB3	1:E:304[A]:VAL:HG23	1.57	0.84
1:C:250[C]:SER:HB3	1:E:304[C]:VAL:HG23	1.57	0.84
1:F:45[A]:CYS:HG	1:F:50[A]:CYS:HG	1.05	0.84
1:G:44[A]:THR:HG23	3:G:4756[A]:FAD:O2A	1.77	0.84
1:G:358[A]:ILE:HD13	1:G:358[A]:ILE:C	2.02	0.84
1:F:45[C]:CYS:HG	1:F:50[C]:CYS:HG	1.05	0.84
3:F:4756[C]:FAD:O2A	1:G:44[C]:THR:HG23	1.77	0.84

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:358[C]:ILE:C	1:G:358[C]:ILE:HD13	2.02	0.84
1:C:430[A]:ASN:HD22	1:D:456[A]:SER:CB	1.89	0.84
1:C:430[C]:ASN:HD22	1:D:456[C]:SER:CB	1.89	0.84
2:N:141[A]:LYS:O	2:N:141[A]:LYS:CG	2.26	0.84
1:F:144[A]:ILE:HD11	1:F:146[A]:ILE:HD13	1.58	0.83
1:G:110[A]:ASN:O	1:G:111[A]:LYS:HG3	1.77	0.83
1:F:144[C]:ILE:HD11	1:F:146[C]:ILE:HD13	1.58	0.83
1:G:110[C]:ASN:O	1:G:111[C]:LYS:HG3	1.77	0.83
1:E:137[A]:GLN:HE21	1:E:137[A]:GLN:CA	1.87	0.83
1:F:348[A]:HIS:CD2	2:M:136[A]:ARG:NH1	2.46	0.83
1:J:305[A]:ASN:HD21	1:J:309[A]:GLN:CG	1.91	0.83
1:E:137[C]:GLN:HE21	1:E:137[C]:GLN:CA	1.87	0.83
1:J:305[C]:ASN:HD21	1:J:309[C]:GLN:CG	1.91	0.83
2:L:151[A]:ALA:HB1	2:L:162[A]:ASP:OD2	1.79	0.83
1:E:409[A]:GLN:HE21	1:E:411[A]:SER:H	1.21	0.83
1:E:409[C]:GLN:HE21	1:E:411[C]:SER:H	1.21	0.83
1:B:137[A]:GLN:HE21	1:B:137[A]:GLN:CA	1.92	0.83
1:B:137[C]:GLN:HE21	1:B:137[C]:GLN:CA	1.92	0.83
2:N:159[C]:THR:HG22	2:N:161[C]:GLU:HB2	1.58	0.83
1:H:150[A]:SER:OG	1:H:280[A]:ARG:NH1	2.11	0.83
1:H:150[C]:SER:OG	1:H:280[C]:ARG:NH1	2.11	0.83
1:F:348[A]:HIS:HD2	2:M:136[A]:ARG:NH1	1.77	0.83
2:K:130[C]:ARG:O	2:K:157[C]:ILE:HG23	1.79	0.82
1:G:169[A]:THR:HB	4:G:4760[A]:HOH:O	1.79	0.82
2:N:141[A]:LYS:O	2:N:141[A]:LYS:HG2	1.78	0.82
4:F:4760[C]:HOH:O	1:G:169[C]:THR:HB	1.79	0.82
1:B:39[A]:GLU:H	1:B:39[A]:GLU:CD	1.86	0.82
2:L:132[A]:SER:O	2:L:134[A]:ALA:N	2.12	0.82
1:B:39[C]:GLU:CD	1:B:39[C]:GLU:H	1.86	0.82
1:J:406[A]:ILE:HD13	1:J:406[A]:ILE:N	1.93	0.82
1:J:406[C]:ILE:HD13	1:J:406[C]:ILE:N	1.93	0.82
1:H:222[A]:ILE:HD11	4:H:4775[A]:HOH:O	1.79	0.82
1:I:319[A]:GLY:O	1:I:330[A]:LYS:NZ	2.12	0.82
4:G:4775[C]:HOH:O	1:H:222[C]:ILE:HD11	1.79	0.82
1:I:319[C]:GLY:O	1:I:330[C]:LYS:NZ	2.12	0.82
1:D:238[A]:LYS:HZ2	1:D:269[A]:ILE:HD11	1.42	0.82
1:D:238[C]:LYS:HZ2	1:D:269[C]:ILE:HD11	1.42	0.82
1:C:9[A]:VAL:HG21	1:C:342[A]:MET:HE1	1.58	0.82
2:N:131[A]:LEU:HD23	2:N:136[A]:ARG:HA	1.62	0.82
1:C:9[C]:VAL:HG21	1:C:342[C]:MET:HE1	1.58	0.82
1:A:188[A]:VAL:HG23	1:A:189[A]:ILE:HD12	1.60	0.82

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:H:220[A]:MET:CE	1:H:220[A]:MET:HB3	2.10	0.82
1:A:188[C]:VAL:HG23	1:A:189[C]:ILE:HD12	1.60	0.82
1:H:220[C]:MET:CE	1:H:220[C]:MET:HB3	2.10	0.82
2:M:159[C]:THR:HG23	2:M:161[C]:GLU:N	1.94	0.82
2:K:131[A]:LEU:HD23	2:K:136[A]:ARG:HB3	1.60	0.81
1:B:137[A]:GLN:HE21	1:B:138[A]:VAL:N	1.77	0.81
1:B:137[C]:GLN:HE21	1:B:138[C]:VAL:N	1.77	0.81
1:B:51[A]:ILE:HB	1:B:52[A]:PRO:HD3	1.61	0.81
1:C:430[A]:ASN:ND2	1:D:456[A]:SER:HB2	1.96	0.81
1:J:305[A]:ASN:HD21	1:J:309[A]:GLN:HG2	1.44	0.81
1:B:51[C]:ILE:HB	1:B:52[C]:PRO:HD3	1.61	0.81
1:C:430[C]:ASN:ND2	1:D:456[C]:SER:HB2	1.96	0.81
1:J:305[C]:ASN:HD21	1:J:309[C]:GLN:HG2	1.44	0.81
1:A:79[A]:SER:HB3	1:B:79[A]:SER:HB3	1.61	0.81
1:A:79[C]:SER:HB3	1:B:79[C]:SER:HB3	1.61	0.81
1:D:193[A]:LEU:HD12	1:D:193[A]:LEU:N	1.96	0.81
1:J:406[A]:ILE:CD1	1:J:462[A]:ALA:HB1	2.11	0.81
1:D:193[C]:LEU:HD12	1:D:193[C]:LEU:N	1.96	0.81
1:J:406[C]:ILE:CD1	1:J:462[C]:ALA:HB1	2.11	0.81
1:E:366[A]:TRP:HB2	1:E:419[A]:HIS:CD2	2.16	0.81
1:E:366[C]:TRP:HB2	1:E:419[C]:HIS:CD2	2.16	0.81
1:D:188[A]:VAL:HG22	1:D:358[A]:ILE:HG12	1.62	0.81
1:D:188[C]:VAL:HG22	1:D:358[C]:ILE:HG12	1.62	0.81
2:N:170[C]:LYS:O	2:N:171[C]:GLN:CB	2.29	0.81
1:C:3[A]:GLN:HA	1:C:3[A]:GLN:HE21	1.46	0.81
1:J:188[A]:VAL:HG22	1:J:358[A]:ILE:HG12	1.61	0.81
1:C:3[C]:GLN:HE21	1:C:3[C]:GLN:HA	1.46	0.81
1:J:188[C]:VAL:HG22	1:J:358[C]:ILE:HG12	1.61	0.81
2:O:149[A]:GLY:H	2:O:166[A]:LEU:HD11	1.45	0.81
1:C:78[A]:MET:HE2	1:D:81[A]:VAL:HG22	1.63	0.80
2:L:132[A]:SER:O	2:L:133[A]:PRO:C	2.23	0.80
1:C:78[C]:MET:HE2	1:D:81[C]:VAL:HG22	1.63	0.80
1:I:110[A]:ASN:HD22	1:I:110[A]:ASN:H	1.27	0.80
1:I:110[C]:ASN:HD22	1:I:110[C]:ASN:H	1.27	0.80
1:B:431[A]:GLU:OE2	1:B:450[A]:HIS:HE1	1.63	0.80
1:B:431[C]:GLU:OE2	1:B:450[C]:HIS:HE1	1.63	0.80
1:C:1[A]:ALA:O	1:C:3[A]:GLN:N	2.14	0.80
1:E:255[A]:ASP:OD1	1:E:270[A]:THR:CB	2.26	0.80
1:C:1[C]:ALA:O	1:C:3[C]:GLN:N	2.14	0.80
1:E:255[C]:ASP:OD1	1:E:270[C]:THR:CB	2.26	0.80
2:N:158[C]:PHE:HE2	2:N:163[C]:ALA:HA	1.47	0.80

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:409[A]:GLN:HE21	1:A:411[A]:SER:H	1.30	0.80
4:D:4784[A]:HOH:O	1:G:375[A]:LYS:HE2	1.81	0.80
1:G:227[A]:GLN:O	1:G:231[A]:GLN:HG3	1.82	0.80
1:A:409[C]:GLN:HE21	1:A:411[C]:SER:H	1.30	0.80
4:C:4784[C]:HOH:O	1:G:375[C]:LYS:HE2	1.81	0.80
1:G:227[C]:GLN:O	1:G:231[C]:GLN:HG3	1.82	0.80
1:J:468[A]:PHE:HD2	1:J:470[A]:LYS:HZ1	1.28	0.80
1:J:468[C]:PHE:HD2	1:J:470[C]:LYS:HZ1	1.28	0.80
1:C:219[A]:ASP:OD2	1:C:405[A]:LYS:NZ	2.15	0.80
1:D:307[A]:ARG:O	1:D:308[A]:PHE:HB2	1.80	0.80
1:F:124[A]:LYS:HG2	1:F:312[A]:ILE:HD12	1.64	0.80
2:L:139[A]:LEU:O	2:L:141[A]:LYS:N	2.15	0.80
1:C:219[C]:ASP:OD2	1:C:405[C]:LYS:NZ	2.15	0.80
1:D:307[C]:ARG:O	1:D:308[C]:PHE:HB2	1.80	0.80
1:F:124[C]:LYS:HG2	1:F:312[C]:ILE:HD12	1.64	0.80
2:N:148[C]:GLN:O	2:N:149[C]:GLY:O	1.99	0.79
2:M:159[A]:THR:CG2	2:M:161[A]:GLU:H	1.92	0.79
1:J:20[A]:VAL:HG11	1:J:332[A]:GLU:HG3	1.63	0.79
1:J:20[C]:VAL:HG11	1:J:332[C]:GLU:HG3	1.63	0.79
1:H:10[A]:THR:HG23	1:H:141[A]:THR:OG1	1.83	0.79
1:H:10[C]:THR:HG23	1:H:141[C]:THR:OG1	1.83	0.79
1:B:392[A]:SER:O	1:B:396[A]:THR:HG22	1.83	0.79
1:J:330[A]:LYS:HE2	1:J:334[A]:GLU:OE2	1.81	0.79
2:M:135[A]:ALA:HA	2:M:138[A]:ILE:HD11	1.65	0.79
1:B:392[C]:SER:O	1:B:396[C]:THR:HG22	1.83	0.79
1:J:330[C]:LYS:HE2	1:J:334[C]:GLU:OE2	1.81	0.79
1:E:137[A]:GLN:HE21	1:E:137[A]:GLN:C	1.89	0.79
1:E:137[C]:GLN:HE21	1:E:137[C]:GLN:C	1.89	0.79
2:N:135[A]:ALA:O	2:N:136[A]:ARG:C	2.26	0.79
1:E:137[A]:GLN:HE21	1:E:138[A]:VAL:N	1.81	0.79
1:G:442[A]:CYS:HA	1:G:463[A]:ASN:ND2	1.97	0.79
1:I:435[A]:ALA:HB1	1:I:445[A]:ILE:HD11	1.65	0.79
1:D:412[C]:THR:HB	2:L:161[C]:GLU:HG3	1.65	0.79
1:E:137[C]:GLN:HE21	1:E:138[C]:VAL:N	1.81	0.79
1:G:442[C]:CYS:HA	1:G:463[C]:ASN:ND2	1.97	0.79
1:I:435[C]:ALA:HB1	1:I:445[C]:ILE:HD11	1.65	0.79
1:A:430[A]:ASN:HD21	1:B:451[A]:ALA:H	1.29	0.78
1:A:430[C]:ASN:HD21	1:B:451[C]:ALA:H	1.29	0.78
1:H:9[A]:VAL:HG22	1:H:342[A]:MET:HE1	1.63	0.78
1:I:353[A]:CYS:HB3	1:I:436[A]:LEU:HD23	1.65	0.78
1:E:440[C]:ALA:HA	2:M:155[C]:ARG:NH1	1.98	0.78

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:H:9[C]:VAL:HG22	1:H:342[C]:MET:HE1	1.63	0.78
1:I:353[C]:CYS:HB3	1:I:436[C]:LEU:HD23	1.65	0.78
1:C:414[A]:ARG:HH11	1:C:414[A]:ARG:HG3	1.48	0.78
1:C:414[C]:ARG:HH11	1:C:414[C]:ARG:HG3	1.48	0.78
1:F:44[A]:THR:HG23	3:F:4755[A]:FAD:O1A	1.82	0.78
3:E:4755[C]:FAD:O1A	1:F:44[C]:THR:HG23	1.82	0.78
1:G:145[A]:LEU:HD23	1:G:316[A]:TYR:HB2	1.62	0.78
1:G:145[C]:LEU:HD23	1:G:316[C]:TYR:HB2	1.62	0.78
2:K:144[A]:LEU:CD1	2:K:166[A]:LEU:HD23	2.14	0.78
2:K:144[A]:LEU:HD13	2:K:166[A]:LEU:CD2	2.14	0.78
1:C:290[A]:GLU:H	1:C:290[A]:GLU:CD	1.92	0.78
1:E:447[A]:ARG:HH11	1:E:447[A]:ARG:CG	1.96	0.78
1:C:290[C]:GLU:H	1:C:290[C]:GLU:CD	1.92	0.78
1:E:447[C]:ARG:HH11	1:E:447[C]:ARG:CG	1.96	0.78
1:I:184[A]:ILE:HG22	1:I:278[A]:ILE:HD11	1.65	0.78
2:K:134[A]:ALA:O	2:K:138[A]:ILE:HG12	1.83	0.78
1:I:184[C]:ILE:HG22	1:I:278[C]:ILE:HD11	1.65	0.78
1:C:325[A]:PRO:O	1:C:330[A]:LYS:HE2	1.84	0.77
2:K:152[A]:THR:HB	2:K:162[A]:ASP:OD1	1.84	0.77
1:C:325[C]:PRO:O	1:C:330[C]:LYS:HE2	1.84	0.77
1:H:370[A]:SER:OG	1:H:373[A]:GLN:HG3	1.84	0.77
1:H:370[C]:SER:OG	1:H:373[C]:GLN:HG3	1.84	0.77
1:H:265[A]:LYS:HB2	1:H:265[A]:LYS:HZ2	1.48	0.77
1:I:65[A]:MET:HE2	1:I:71[A]:PHE:CE1	2.15	0.77
1:H:265[C]:LYS:HB2	1:H:265[C]:LYS:HZ2	1.48	0.77
1:I:65[C]:MET:HE2	1:I:71[C]:PHE:CE1	2.15	0.77
2:L:162[C]:ASP:HA	2:L:165[C]:LYS:HG3	1.65	0.77
1:I:82[A]:ARG:HD2	4:I:4772[A]:HOH:O	1.84	0.77
4:H:4772[C]:HOH:O	1:I:82[C]:ARG:HD2	1.84	0.77
1:D:82[A]:ARG:NE	1:D:82[A]:ARG:HA	1.97	0.77
1:H:297[A]:ASP:HB2	1:H:298[A]:PRO:HD2	1.66	0.77
1:D:82[C]:ARG:NE	1:D:82[C]:ARG:HA	1.97	0.77
1:H:297[C]:ASP:HB2	1:H:298[C]:PRO:HD2	1.66	0.77
1:C:158[A]:ILE:H	1:C:158[A]:ILE:HD12	1.48	0.77
1:J:301[A]:ARG:HH11	1:J:323[A]:ALA:HA	1.50	0.77
1:C:158[C]:ILE:H	1:C:158[C]:ILE:HD12	1.48	0.77
1:J:301[C]:ARG:HH11	1:J:323[C]:ALA:HA	1.50	0.77
1:G:282[A]:PRO:HG3	1:G:301[A]:ARG:HG2	1.66	0.77
1:G:282[C]:PRO:HG3	1:G:301[C]:ARG:HG2	1.66	0.77
2:M:163[C]:ALA:O	2:M:167[C]:VAL:HG23	1.85	0.77
2:O:158[A]:PHE:HZ	2:O:166[A]:LEU:HD12	1.49	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:45[A]:CYS:HG	1:C:50[A]:CYS:HG	1.31	0.76
1:C:45[C]:CYS:HG	1:C:50[C]:CYS:HG	1.31	0.76
1:E:472[A]:ILE:O	1:E:472[A]:ILE:HD13	1.84	0.76
1:I:23[A]:ILE:HD11	1:I:107[A]:PHE:HD1	1.51	0.76
1:J:259[A]:GLU:HG2	1:J:264[A]:GLY:HA2	1.67	0.76
1:E:472[C]:ILE:O	1:E:472[C]:ILE:HD13	1.84	0.76
1:I:23[C]:ILE:HD11	1:I:107[C]:PHE:HD1	1.51	0.76
1:J:259[C]:GLU:HG2	1:J:264[C]:GLY:HA2	1.67	0.76
1:A:248[A]:LYS:HB2	1:A:248[A]:LYS:HZ2	1.50	0.76
1:F:123[A]:GLY:O	1:F:125[A]:ASN:N	2.19	0.76
1:A:248[C]:LYS:HB2	1:A:248[C]:LYS:HZ2	1.50	0.76
1:F:123[C]:GLY:O	1:F:125[C]:ASN:N	2.19	0.76
1:B:3[A]:GLN:HG2	1:B:4[A]:PRO:CD	2.13	0.76
1:B:3[C]:GLN:HG2	1:B:4[C]:PRO:CD	2.13	0.76
2:M:159[C]:THR:CG2	2:M:162[C]:ASP:H	1.99	0.76
1:C:88[A]:MET:HE1	1:C:200[A]:LEU:HD21	1.67	0.76
2:K:152[A]:THR:CG2	2:K:153[A]:GLY:H	1.96	0.76
1:C:88[C]:MET:HE1	1:C:200[C]:LEU:HD21	1.67	0.76
2:L:142[C]:HIS:O	2:L:144[C]:LEU:HD22	1.86	0.76
1:D:238[A]:LYS:NZ	1:D:269[A]:ILE:HD11	2.01	0.76
1:G:46[A]:LEU:HD12	1:G:46[A]:LEU:O	1.85	0.76
1:D:238[C]:LYS:NZ	1:D:269[C]:ILE:HD11	2.01	0.76
1:G:46[C]:LEU:O	1:G:46[C]:LEU:HD12	1.85	0.76
1:E:451[A]:ALA:H	1:F:430[A]:ASN:HD21	1.32	0.75
1:E:451[C]:ALA:H	1:F:430[C]:ASN:HD21	1.32	0.75
1:D:20[A]:VAL:HG21	1:D:332[A]:GLU:HG3	1.67	0.75
1:D:20[C]:VAL:HG21	1:D:332[C]:GLU:HG3	1.67	0.75
1:D:414[C]:ARG:HD3	2:L:161[C]:GLU:OE2	1.84	0.75
1:C:305[A]:ASN:HB3	1:C:307[A]:ARG:H	1.49	0.75
2:K:130[A]:ARG:HG2	2:K:130[A]:ARG:NH1	2.00	0.75
2:L:151[A]:ALA:HB2	2:L:158[A]:PHE:HA	1.66	0.75
2:N:146[A]:ALA:O	2:N:147[A]:SER:C	2.28	0.75
1:C:305[C]:ASN:HB3	1:C:307[C]:ARG:H	1.49	0.75
1:H:124[A]:LYS:H	1:H:124[A]:LYS:CD	1.99	0.75
1:H:124[C]:LYS:H	1:H:124[C]:LYS:CD	1.99	0.75
1:A:434[A]:LEU:HD23	1:B:434[A]:LEU:HD23	1.68	0.75
1:H:155[A]:PHE:CD2	1:H:278[A]:ILE:HD11	2.22	0.75
1:A:434[C]:LEU:HD23	1:B:434[C]:LEU:HD23	1.68	0.75
1:H:155[C]:PHE:CD2	1:H:278[C]:ILE:HD11	2.22	0.75
1:A:81[A]:VAL:HG22	1:B:78[A]:MET:HG2	1.68	0.75
1:H:111[A]:LYS:CE	4:H:4823[A]:HOH:O	2.33	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:J:44[A]:THR:HG23	4:J:4759[A]:FAD:O2A	1.87	0.75
2:L:162[A]:ASP:HA	2:L:165[A]:LYS:HD2	1.67	0.75
1:A:81[C]:VAL:HG22	1:B:78[C]:MET:HG2	1.68	0.75
4:G:4822[C]:HOH:O	1:H:111[C]:LYS:CE	2.33	0.75
3:I:4759[C]:FAD:O2A	1:J:44[C]:THR:HG23	1.87	0.75
1:C:370[A]:SER:OG	1:C:373[A]:GLN:HG3	1.86	0.75
1:C:370[C]:SER:OG	1:C:373[C]:GLN:HG3	1.86	0.75
1:A:79[A]:SER:CB	1:B:79[A]:SER:HB3	2.17	0.75
2:M:150[A]:THR:HG23	2:M:151[A]:ALA:N	2.00	0.75
1:A:79[C]:SER:CB	1:B:79[C]:SER:HB3	2.17	0.75
1:C:49[A]:GLY:O	1:C:53[A]:SER:HB2	1.86	0.74
1:D:35[A]:ILE:HD11	1:D:139[A]:ILE:HD13	1.68	0.74
1:I:138[A]:VAL:C	1:I:139[A]:ILE:HD12	2.12	0.74
1:I:218[A]:ILE:H	1:I:218[A]:ILE:CD1	1.86	0.74
1:J:406[A]:ILE:HD12	1:J:462[A]:ALA:CB	2.16	0.74
1:C:49[C]:GLY:O	1:C:53[C]:SER:HB2	1.86	0.74
1:D:35[C]:ILE:HD11	1:D:139[C]:ILE:HD13	1.68	0.74
1:F:443[C]:GLU:OE1	2:M:134[C]:ALA:HB1	1.87	0.74
1:I:138[C]:VAL:C	1:I:139[C]:ILE:HD12	2.12	0.74
1:I:218[C]:ILE:H	1:I:218[C]:ILE:CD1	1.86	0.74
1:J:406[C]:ILE:HD12	1:J:462[C]:ALA:CB	2.16	0.74
1:E:447[A]:ARG:HG2	1:E:447[A]:ARG:NH1	1.94	0.74
1:J:384[A]:GLY:O	1:J:406[A]:ILE:HD13	1.87	0.74
1:E:447[C]:ARG:HG2	1:E:447[C]:ARG:NH1	1.94	0.74
1:J:384[C]:GLY:O	1:J:406[C]:ILE:HD13	1.87	0.74
1:F:144[A]:ILE:HD12	1:F:145[A]:LEU:N	2.02	0.74
1:F:144[C]:ILE:HD12	1:F:145[C]:LEU:N	2.02	0.74
2:N:136[A]:ARG:CG	2:N:137[A]:ASN:H	2.00	0.74
1:H:46[A]:LEU:HD21	1:H:100[A]:THR:CG2	2.16	0.74
1:H:46[C]:LEU:HD21	1:H:100[C]:THR:CG2	2.16	0.74
1:G:7[A]:ALA:HB3	1:G:141[A]:THR:HB	1.67	0.74
1:G:7[C]:ALA:HB3	1:G:141[C]:THR:HB	1.67	0.74
1:F:361[A]:HIS:HB2	4:F:4781[A]:HOH:O	1.87	0.74
2:L:159[A]:THR:O	2:L:162[A]:ASP:N	2.19	0.74
4:E:4782[C]:HOH:O	1:F:361[C]:HIS:HB2	1.87	0.74
1:B:256[A]:VAL:HG23	1:B:256[A]:VAL:O	1.88	0.74
1:I:65[A]:MET:HE1	1:J:62[A]:TYR:CZ	2.23	0.74
1:B:256[C]:VAL:O	1:B:256[C]:VAL:HG23	1.88	0.74
1:I:65[C]:MET:HE1	1:J:62[C]:TYR:CZ	2.23	0.74
1:D:262[A]:SER:OG	1:D:263[A]:GLY:N	2.19	0.74
1:J:239[A]:LEU:O	1:J:241[A]:THR:HG23	1.88	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:262[C]:SER:OG	1:D:263[C]:GLY:N	2.19	0.74
1:J:239[C]:LEU:O	1:J:241[C]:THR:HG23	1.88	0.74
1:C:358[A]:ILE:C	1:C:358[A]:ILE:HD12	2.13	0.73
2:K:171[A]:GLN:H	2:K:171[A]:GLN:CD	1.95	0.73
1:C:358[C]:ILE:C	1:C:358[C]:ILE:HD12	2.13	0.73
2:L:144[A]:LEU:HD22	2:L:145[A]:ASP:H	1.52	0.73
2:L:155[A]:ARG:HH21	2:L:157[A]:ILE:HG12	1.53	0.73
1:H:318[A]:ILE:HD12	1:H:335[A]:GLY:HA2	1.70	0.73
1:H:318[C]:ILE:HD12	1:H:335[C]:GLY:HA2	1.70	0.73
1:H:82[A]:ARG:HA	1:H:82[A]:ARG:HE	1.53	0.73
1:H:82[C]:ARG:HA	1:H:82[C]:ARG:HE	1.53	0.73
1:A:43[A]:GLY:HA2	3:A:4750[A]:FAD:O3B	1.88	0.73
1:H:461[A]:GLU:OE1	1:H:471[A]:SER:HB2	1.88	0.73
1:A:43[C]:GLY:HA2	3:O:4750[C]:FAD:O3B	1.88	0.73
1:H:461[C]:GLU:OE1	1:H:471[C]:SER:HB2	1.88	0.73
1:H:414[A]:ARG:HG2	1:H:414[A]:ARG:HH11	1.53	0.73
1:H:414[C]:ARG:HG2	1:H:414[C]:ARG:HH11	1.53	0.73
1:I:76[A]:ILE:HD13	1:J:63[A]:TYR:HA	1.71	0.73
1:I:76[C]:ILE:HD13	1:J:63[C]:TYR:HA	1.71	0.73
1:A:455[A]:LEU:H	1:A:455[A]:LEU:HD22	1.54	0.73
1:E:430[A]:ASN:HD21	1:F:451[A]:ALA:H	1.35	0.73
1:F:192[A]:GLU:OE2	4:F:4766[A]:HOH:O	2.07	0.73
1:I:241[A]:THR:HG22	1:I:260[A]:ALA:HA	1.71	0.73
1:A:455[C]:LEU:H	1:A:455[C]:LEU:HD22	1.54	0.73
1:E:430[C]:ASN:HD21	1:F:451[C]:ALA:H	1.35	0.73
4:E:4766[C]:HOH:O	1:F:192[C]:GLU:OE2	2.07	0.73
1:I:241[C]:THR:HG22	1:I:260[C]:ALA:HA	1.71	0.73
1:E:27[A]:GLN:HE21	1:E:110[A]:ASN:HD21	1.37	0.72
1:G:84[A]:ASN:C	1:G:84[A]:ASN:HD22	1.94	0.72
1:G:339[A]:VAL:HA	1:G:342[A]:MET:HG3	1.71	0.72
1:I:430[A]:ASN:HD21	1:J:451[A]:ALA:H	1.37	0.72
1:E:27[C]:GLN:HE21	1:E:110[C]:ASN:HD21	1.37	0.72
1:G:84[C]:ASN:C	1:G:84[C]:ASN:HD22	1.94	0.72
1:G:339[C]:VAL:HA	1:G:342[C]:MET:HG3	1.71	0.72
1:I:430[C]:ASN:HD21	1:J:451[C]:ALA:H	1.37	0.72
1:E:174[A]:LEU:HD12	1:E:197[A]:TRP:CE2	2.24	0.72
1:E:174[C]:LEU:HD12	1:E:197[C]:TRP:CE2	2.24	0.72
1:H:46[A]:LEU:CD2	1:H:100[A]:THR:HG22	2.16	0.72
2:M:142[A]:HIS:HD2	2:M:167[A]:VAL:HG13	1.52	0.72
2:N:136[A]:ARG:CG	2:N:137[A]:ASN:N	2.49	0.72
1:H:46[C]:LEU:CD2	1:H:100[C]:THR:HG22	2.16	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:78[A]:MET:H	1:E:78[A]:MET:CE	1.99	0.72
1:H:370[A]:SER:H	1:H:373[A]:GLN:HE21	1.36	0.72
1:E:78[C]:MET:H	1:E:78[C]:MET:CE	1.99	0.72
1:H:370[C]:SER:H	1:H:373[C]:GLN:HE21	1.36	0.72
1:B:45[C]:CYS:SG	1:B:50[C]:CYS:SG	2.85	0.72
2:N:159[C]:THR:HB	2:N:162[C]:ASP:OD2	1.89	0.72
1:D:373[A]:GLN:O	1:D:377[A]:GLU:HG2	1.89	0.72
1:D:373[C]:GLN:O	1:D:377[C]:GLU:HG2	1.89	0.72
2:N:163[C]:ALA:O	2:N:167[C]:VAL:HG23	1.89	0.72
2:N:170[C]:LYS:O	2:N:171[C]:GLN:OE1	2.08	0.72
1:C:44[A]:THR:HG23	3:C:4752[A]:FAD:O1A	1.89	0.72
1:I:292[A]:LEU:O	1:I:294[A]:ILE:HG13	1.89	0.72
2:L:142[A]:HIS:O	2:L:144[A]:LEU:N	2.22	0.72
2:M:152[A]:THR:HG22	2:M:153[A]:GLY:N	2.05	0.72
3:B:4752[C]:FAD:O1A	1:C:44[C]:THR:HG23	1.89	0.72
1:I:292[C]:LEU:O	1:I:294[C]:ILE:HG13	1.89	0.72
2:K:132[C]:SER:O	2:K:133[C]:PRO:C	2.31	0.72
2:N:130[C]:ARG:O	2:N:157[C]:ILE:HG23	1.89	0.72
1:G:246[A]:ALA:HB1	1:G:254[A]:ILE:HD11	1.71	0.72
1:I:11[A]:VAL:CG1	1:I:145[A]:LEU:HD23	2.17	0.72
1:G:246[C]:ALA:HB1	1:G:254[C]:ILE:HD11	1.71	0.72
1:I:11[C]:VAL:CG1	1:I:145[C]:LEU:HD23	2.17	0.72
1:B:41[A]:LEU:HD21	1:B:114[A]:HIS:CE1	2.25	0.72
1:C:137[A]:GLN:HE21	1:C:137[A]:GLN:CA	2.02	0.72
1:E:88[A]:MET:CE	1:E:200[A]:LEU:HD21	2.19	0.72
1:B:41[C]:LEU:HD21	1:B:114[C]:HIS:CE1	2.25	0.72
1:C:137[C]:GLN:HE21	1:C:137[C]:GLN:CA	2.02	0.72
1:E:88[C]:MET:CE	1:E:200[C]:LEU:HD21	2.19	0.72
1:G:347[A]:VAL:HG23	1:G:347[A]:VAL:O	1.90	0.71
1:J:468[A]:PHE:HD2	1:J:470[A]:LYS:NZ	1.87	0.71
1:G:347[C]:VAL:HG23	1:G:347[C]:VAL:O	1.90	0.71
1:J:468[C]:PHE:HD2	1:J:470[C]:LYS:NZ	1.87	0.71
2:M:155[A]:ARG:HH21	2:M:157[A]:ILE:CG2	2.03	0.71
2:K:132[C]:SER:O	2:K:134[C]:ALA:N	2.22	0.71
1:E:321[A]:VAL:HG13	1:E:322[A]:VAL:HG23	1.73	0.71
1:J:70[A]:ASP:OD1	1:J:74[A]:ARG:HD2	1.91	0.71
2:L:159[A]:THR:OG1	2:L:161[A]:GLU:HB2	1.89	0.71
1:E:321[C]:VAL:HG13	1:E:322[C]:VAL:HG23	1.73	0.71
1:H:438[C]:TYR:HE1	2:N:155[C]:ARG:HD3	1.54	0.71
1:J:70[C]:ASP:OD1	1:J:74[C]:ARG:HD2	1.91	0.71
2:M:145[C]:ASP:O	2:M:148[C]:GLN:CG	2.35	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:444[A]:ASP:OD2	2:K:155[A]:ARG:HD3	1.90	0.71
1:C:151[A]:GLU:OE2	1:C:281[A]:ARG:HD3	1.90	0.71
1:E:312[A]:ILE:C	1:E:312[A]:ILE:CD1	2.64	0.71
1:G:54[A]:LYS:HE2	1:G:359[A]:TYR:HD2	1.54	0.71
2:N:131[A]:LEU:HD23	2:N:136[A]:ARG:CA	2.20	0.71
1:C:151[C]:GLU:OE2	1:C:281[C]:ARG:HD3	1.90	0.71
1:E:312[C]:ILE:C	1:E:312[C]:ILE:CD1	2.64	0.71
1:G:54[C]:LYS:HE2	1:G:359[C]:TYR:HD2	1.54	0.71
1:H:222[A]:ILE:HG13	1:H:223[A]:SER:N	2.05	0.71
1:H:222[C]:ILE:HG13	1:H:223[C]:SER:N	2.05	0.71
2:K:142[C]:HIS:O	2:K:144[C]:LEU:HG	1.91	0.71
1:A:45[A]:CYS:HG	1:A:50[A]:CYS:HB2	1.55	0.71
1:F:438[A]:TYR:CE1	2:M:133[A]:PRO:HD2	2.25	0.71
1:A:45[C]:CYS:HG	1:A:50[C]:CYS:HB2	1.55	0.71
1:G:167[A]:SER:OG	1:G:169[A]:THR:HG22	1.90	0.71
1:I:309[A]:GLN:HB2	4:I:4763[A]:HOH:O	1.89	0.71
1:G:167[C]:SER:OG	1:G:169[C]:THR:HG22	1.90	0.71
4:H:4763[C]:HOH:O	1:I:309[C]:GLN:HB2	1.89	0.71
1:I:23[A]:ILE:HD11	1:I:107[A]:PHE:CD1	2.25	0.71
2:N:168[A]:GLN:NE2	2:N:168[A]:GLN:CA	2.41	0.71
1:I:23[C]:ILE:HD11	1:I:107[C]:PHE:CD1	2.25	0.71
2:M:141[C]:LYS:O	2:M:141[C]:LYS:CD	2.38	0.71
1:A:452[A]:HIS:H	1:B:329[A]:HIS:CD2	2.09	0.70
1:I:41[A]:LEU:H	1:I:41[A]:LEU:CD1	2.04	0.70
2:K:171[A]:GLN:O	2:K:173[A]:GLY:N	2.25	0.70
2:L:151[A]:ALA:CB	2:L:162[A]:ASP:OD2	2.38	0.70
1:A:452[C]:HIS:H	1:B:329[C]:HIS:CD2	2.09	0.70
1:I:41[C]:LEU:H	1:I:41[C]:LEU:CD1	2.04	0.70
1:D:297[A]:ASP:HB2	1:D:298[A]:PRO:HD2	1.73	0.70
1:F:461[A]:GLU:OE1	1:F:471[A]:SER:HB2	1.91	0.70
2:N:142[A]:HIS:HB2	2:N:144[A]:LEU:HD12	1.72	0.70
1:D:297[C]:ASP:HB2	1:D:298[C]:PRO:HD2	1.73	0.70
1:F:461[C]:GLU:OE1	1:F:471[C]:SER:HB2	1.91	0.70
2:M:141[C]:LYS:O	2:M:141[C]:LYS:HD2	1.90	0.70
2:N:167[A]:VAL:O	2:N:171[A]:GLN:HB2	1.92	0.70
1:A:182[A]:VAL:HG23	1:A:274[A]:LEU:CD1	2.21	0.70
1:A:255[A]:ASP:OD1	1:A:270[A]:THR:HB	1.91	0.70
1:G:267[A]:GLU:HG2	1:G:268[A]:VAL:H	1.55	0.70
1:I:225[A]:ASN:ND2	1:I:228[A]:ARG:HH12	1.90	0.70
1:A:182[C]:VAL:HG23	1:A:274[C]:LEU:CD1	2.21	0.70
1:A:255[C]:ASP:OD1	1:A:270[C]:THR:HB	1.91	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:267[C]:GLU:HG2	1:G:268[C]:VAL:H	1.55	0.70
1:I:225[C]:ASN:ND2	1:I:228[C]:ARG:HH12	1.90	0.70
1:F:437[A]:GLU:HB3	2:M:133[A]:PRO:HG3	1.73	0.70
1:H:397[A]:ASN:HD22	1:H:397[A]:ASN:N	1.88	0.70
1:H:397[C]:ASN:HD22	1:H:397[C]:ASN:N	1.88	0.70
2:K:142[C]:HIS:O	2:K:143[C]:SER:C	2.34	0.70
2:N:159[C]:THR:HG21	2:N:161[C]:GLU:HB2	1.74	0.70
1:G:358[A]:ILE:CD1	1:G:360[A]:THR:HG23	2.19	0.70
1:G:358[C]:ILE:CD1	1:G:360[C]:THR:HG23	2.19	0.70
1:E:308[A]:PHE:CE2	1:E:337[A]:ILE:HD11	2.26	0.70
1:I:19[A]:TYR:CE1	1:I:20[A]:VAL:HG12	2.27	0.70
1:E:308[C]:PHE:CE2	1:E:337[C]:ILE:HD11	2.26	0.70
1:I:19[C]:TYR:CE1	1:I:20[C]:VAL:HG12	2.27	0.70
1:F:472[A]:ILE:HD12	1:F:472[A]:ILE:N	2.07	0.70
1:G:431[A]:GLU:OE2	1:G:450[A]:HIS:CE1	2.45	0.70
1:F:472[C]:ILE:HD12	1:F:472[C]:ILE:N	2.07	0.70
1:G:431[C]:GLU:OE2	1:G:450[C]:HIS:CE1	2.45	0.70
1:C:215[A]:GLY:HA3	4:C:4818[A]:HOH:O	1.90	0.70
4:B:4818[C]:HOH:O	1:C:215[C]:GLY:HA3	1.90	0.70
1:A:438[A]:TYR:C	2:K:154[A]:PRO:HG3	2.17	0.70
2:K:130[C]:ARG:HD3	2:K:131[C]:LEU:HD22	1.74	0.70
1:B:305[A]:ASN:ND2	1:B:307[A]:ARG:H	1.90	0.69
1:I:10[A]:THR:HG23	1:I:33[A]:VAL:HG13	1.72	0.69
1:B:305[C]:ASN:ND2	1:B:307[C]:ARG:H	1.90	0.69
1:I:10[C]:THR:HG23	1:I:33[C]:VAL:HG13	1.72	0.69
1:B:256[A]:VAL:HG22	1:B:269[A]:ILE:O	1.92	0.69
1:E:27[A]:GLN:HE21	1:E:110[A]:ASN:ND2	1.90	0.69
1:B:256[C]:VAL:HG22	1:B:269[C]:ILE:O	1.92	0.69
1:E:27[C]:GLN:HE21	1:E:110[C]:ASN:ND2	1.90	0.69
2:K:155[C]:ARG:O	2:K:155[C]:ARG:HG2	1.92	0.69
1:E:305[A]:ASN:C	1:E:305[A]:ASN:HD22	2.00	0.69
1:F:229[A]:ILE:HG21	1:F:362[A]:PRO:HG3	1.72	0.69
1:J:37[A]:LYS:HE3	4:J:4759[A]:FAD:C4A	2.22	0.69
2:M:131[A]:LEU:CD1	2:M:136[A]:ARG:HH21	2.05	0.69
1:E:305[C]:ASN:C	1:E:305[C]:ASN:HD22	2.00	0.69
1:F:229[C]:ILE:HG21	1:F:362[C]:PRO:HG3	1.72	0.69
3:I:4759[C]:FAD:C4A	1:J:37[C]:LYS:HE3	2.22	0.69
1:E:448[A]:VAL:HG22	1:F:437[A]:GLU:HG3	1.74	0.69
1:A:348[C]:HIS:HB2	2:K:140[C]:GLU:OE2	1.93	0.69
1:E:448[C]:VAL:HG22	1:F:437[C]:GLU:HG3	1.74	0.69
2:M:141[C]:LYS:HD2	2:M:141[C]:LYS:C	2.17	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:339[A]:VAL:CG1	1:G:342[A]:MET:HE3	2.20	0.69
1:D:443[C]:GLU:HG2	2:L:134[C]:ALA:HB2	1.74	0.69
1:G:339[C]:VAL:CG1	1:G:342[C]:MET:HE3	2.20	0.69
1:C:9[A]:VAL:HG22	1:C:342[A]:MET:HE1	1.74	0.69
1:C:452[A]:HIS:CD2	1:C:453[A]:PRO:HB3	2.28	0.69
1:H:111[A]:LYS:HE2	4:H:4823[A]:HOH:O	1.90	0.69
1:H:442[A]:CYS:HB2	1:H:467[A]:SER:HB2	1.73	0.69
1:C:9[C]:VAL:HG22	1:C:342[C]:MET:HE1	1.74	0.69
1:C:452[C]:HIS:CD2	1:C:453[C]:PRO:HB3	2.28	0.69
4:G:4822[C]:HOH:O	1:H:111[C]:LYS:HE2	1.90	0.69
1:H:442[C]:CYS:HB2	1:H:467[C]:SER:HB2	1.73	0.69
2:N:131[C]:LEU:CD2	2:N:146[C]:ALA:HB2	2.23	0.69
1:A:79[A]:SER:HB3	1:B:79[A]:SER:CB	2.22	0.69
1:A:92[A]:LYS:HG3	1:A:93[A]:SER:N	2.05	0.69
1:G:51[A]:ILE:HG23	1:H:396[A]:THR:HG21	1.73	0.69
1:G:145[A]:LEU:HD21	1:G:338[A]:CYS:SG	2.32	0.69
1:G:180[A]:LYS:HG2	1:G:203[A]:ASP:HB3	1.74	0.69
1:H:290[A]:GLU:H	1:H:290[A]:GLU:CD	2.01	0.69
1:I:110[A]:ASN:N	1:I:110[A]:ASN:ND2	2.31	0.69
1:A:79[C]:SER:HB3	1:B:79[C]:SER:CB	2.22	0.69
1:A:92[C]:LYS:HG3	1:A:93[C]:SER:N	2.05	0.69
1:G:51[C]:ILE:HG23	1:H:396[C]:THR:HG21	1.73	0.69
1:G:145[C]:LEU:HD21	1:G:338[C]:CYS:SG	2.32	0.69
1:G:180[C]:LYS:HG2	1:G:203[C]:ASP:HB3	1.74	0.69
1:H:290[C]:GLU:H	1:H:290[C]:GLU:CD	2.01	0.69
1:I:110[C]:ASN:N	1:I:110[C]:ASN:ND2	2.31	0.69
1:C:44[A]:THR:CG2	3:C:4752[A]:FAD:O2A	2.41	0.69
1:C:473[A]:ASN:HA	1:D:106[A]:LEU:HD21	1.75	0.69
1:E:54[A]:LYS:HE2	1:E:359[A]:TYR:CD1	2.27	0.69
1:F:305[A]:ASN:ND2	1:F:309[A]:GLN:HG3	2.08	0.69
1:G:256[A]:VAL:O	1:G:256[A]:VAL:HG23	1.92	0.69
1:H:305[A]:ASN:ND2	1:H:307[A]:ARG:H	1.90	0.69
2:M:159[A]:THR:HG21	2:M:161[A]:GLU:HB2	1.74	0.69
3:B:4752[C]:FAD:O2A	1:C:44[C]:THR:CG2	2.41	0.69
1:C:473[C]:ASN:HA	1:D:106[C]:LEU:HD21	1.75	0.69
1:E:54[C]:LYS:HE2	1:E:359[C]:TYR:CD1	2.27	0.69
1:F:305[C]:ASN:ND2	1:F:309[C]:GLN:HG3	2.08	0.69
1:G:256[C]:VAL:HG23	1:G:256[C]:VAL:O	1.92	0.69
1:H:305[C]:ASN:ND2	1:H:307[C]:ARG:H	1.90	0.69
1:B:320[A]:ASP:HB3	4:B:4801[A]:HOH:O	1.93	0.69
1:F:256[A]:VAL:HG23	1:F:269[A]:ILE:HB	1.75	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:I:383[A]:VAL:HG23	1:I:407[A]:LEU:HD23	1.73	0.69
4:A:4801[C]:HOH:O	1:B:320[C]:ASP:HB3	1.93	0.69
1:F:256[C]:VAL:HG23	1:F:269[C]:ILE:HB	1.75	0.69
1:I:383[C]:VAL:HG23	1:I:407[C]:LEU:HD23	1.73	0.69
1:F:305[A]:ASN:HD21	1:F:309[A]:GLN:HG3	1.57	0.69
1:H:124[A]:LYS:HD3	1:H:124[A]:LYS:N	2.04	0.69
1:H:219[A]:ASP:HB3	1:H:222[A]:ILE:HG12	1.74	0.69
2:L:145[A]:ASP:OD1	2:L:147[A]:SER:HB2	1.93	0.69
1:F:305[C]:ASN:HD21	1:F:309[C]:GLN:HG3	1.57	0.69
1:H:124[C]:LYS:HD3	1:H:124[C]:LYS:N	2.04	0.69
1:H:219[C]:ASP:HB3	1:H:222[C]:ILE:HG12	1.74	0.69
1:B:133[A]:ASP:O	1:B:135[A]:GLY:N	2.25	0.68
1:D:1[A]:ALA:HA	1:D:136[A]:THR:HG23	1.76	0.68
2:L:142[A]:HIS:O	2:L:144[A]:LEU:HB2	1.92	0.68
2:L:144[A]:LEU:CD1	2:L:166[A]:LEU:HB3	2.19	0.68
1:B:133[C]:ASP:O	1:B:135[C]:GLY:N	2.25	0.68
1:D:1[C]:ALA:HA	1:D:136[C]:THR:HG23	1.76	0.68
1:F:181[A]:MET:CE	1:F:197[A]:TRP:HB2	2.23	0.68
1:F:181[C]:MET:CE	1:F:197[C]:TRP:HB2	2.23	0.68
2:K:149[C]:GLY:HA3	2:K:166[C]:LEU:HD21	1.73	0.68
1:C:414[A]:ARG:HH11	1:C:414[A]:ARG:HG2	1.57	0.68
1:H:373[A]:GLN:HB3	4:H:4787[A]:HOH:O	1.92	0.68
1:H:431[A]:GLU:OE2	1:H:450[A]:HIS:HE1	1.75	0.68
1:J:415[A]:VAL:HG22	1:J:440[A]:ALA:O	1.92	0.68
2:K:159[A]:THR:HG22	2:K:160[A]:LYS:N	2.07	0.68
1:C:414[C]:ARG:HH11	1:C:414[C]:ARG:HG2	1.57	0.68
4:G:4787[C]:HOH:O	1:H:373[C]:GLN:HB3	1.92	0.68
1:H:431[C]:GLU:OE2	1:H:450[C]:HIS:HE1	1.75	0.68
1:J:415[C]:VAL:HG22	1:J:440[C]:ALA:O	1.92	0.68
1:A:84[A]:ASN:ND2	1:A:87[A]:LYS:H	1.92	0.68
1:E:312[A]:ILE:HD13	1:E:313[A]:PRO:N	2.08	0.68
1:F:404[A]:VAL:HG21	1:F:428[A]:MET:HE1	1.75	0.68
1:G:297[A]:ASP:HB3	1:G:299[A]:ARG:H	1.56	0.68
1:A:84[C]:ASN:ND2	1:A:87[C]:LYS:H	1.92	0.68
1:E:312[C]:ILE:HD13	1:E:313[C]:PRO:N	2.08	0.68
1:F:404[C]:VAL:HG21	1:F:428[C]:MET:HE1	1.75	0.68
1:G:297[C]:ASP:HB3	1:G:299[C]:ARG:H	1.56	0.68
1:B:155[A]:PHE:CZ	1:B:243[A]:VAL:HG13	2.28	0.68
1:B:155[C]:PHE:CZ	1:B:243[C]:VAL:HG13	2.28	0.68
2:M:154[C]:PRO:O	2:M:156[C]:GLY:N	2.27	0.68
1:H:82[A]:ARG:HA	1:H:82[A]:ARG:NE	2.09	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:I:78[A]:MET:HE3	1:J:78[A]:MET:HE3	1.75	0.68
1:J:353[A]:CYS:SG	1:J:436[A]:LEU:HB3	2.34	0.68
2:K:137[A]:ASN:HD22	2:K:138[A]:ILE:N	1.90	0.68
2:O:162[A]:ASP:HA	2:O:165[A]:LYS:HD3	1.75	0.68
1:H:82[C]:ARG:HA	1:H:82[C]:ARG:NE	2.09	0.68
1:I:78[C]:MET:HE3	1:J:78[C]:MET:HE3	1.75	0.68
1:J:353[C]:CYS:SG	1:J:436[C]:LEU:HB3	2.34	0.68
2:M:131[C]:LEU:HD22	2:M:136[C]:ARG:HB2	1.76	0.68
1:I:20[A]:VAL:HG11	1:I:332[A]:GLU:HG2	1.74	0.68
1:I:307[A]:ARG:HG2	1:I:347[A]:VAL:HG21	1.75	0.68
1:I:20[C]:VAL:HG11	1:I:332[C]:GLU:HG2	1.74	0.68
1:I:307[C]:ARG:HG2	1:I:347[C]:VAL:HG21	1.75	0.68
1:A:347[A]:VAL:HG23	1:A:347[A]:VAL:O	1.94	0.68
1:E:308[A]:PHE:HE2	1:E:337[A]:ILE:HD11	1.58	0.68
1:E:409[A]:GLN:HE21	1:E:411[A]:SER:N	1.91	0.68
2:N:139[A]:LEU:HD11	2:N:158[A]:PHE:CE2	2.29	0.68
2:O:155[A]:ARG:N	2:O:157[A]:ILE:HD11	2.08	0.68
1:A:45[C]:CYS:SG	1:A:50[C]:CYS:SG	2.79	0.68
1:A:347[C]:VAL:HG23	1:A:347[C]:VAL:O	1.94	0.68
1:E:308[C]:PHE:HE2	1:E:337[C]:ILE:HD11	1.58	0.68
1:E:409[C]:GLN:HE21	1:E:411[C]:SER:N	1.91	0.68
1:J:305[A]:ASN:ND2	1:J:309[A]:GLN:HG3	2.09	0.68
1:J:409[A]:GLN:NE2	1:J:412[A]:THR:OG1	2.27	0.68
1:J:305[C]:ASN:ND2	1:J:309[C]:GLN:HG3	2.09	0.68
1:J:409[C]:GLN:NE2	1:J:412[C]:THR:OG1	2.27	0.68
1:G:453[A]:PRO:HA	1:G:457[A]:GLU:OE2	1.93	0.68
1:I:78[A]:MET:HG2	1:J:78[A]:MET:HG2	1.75	0.68
2:O:131[A]:LEU:CD2	2:O:135[A]:ALA:HB3	2.23	0.68
1:G:453[C]:PRO:HA	1:G:457[C]:GLU:OE2	1.93	0.68
1:I:78[C]:MET:HG2	1:J:78[C]:MET:HG2	1.75	0.68
1:C:307[A]:ARG:HA	1:C:347[A]:VAL:HG21	1.74	0.67
1:C:307[C]:ARG:HA	1:C:347[C]:VAL:HG21	1.74	0.67
1:C:192[A]:GLU:OE1	4:C:4823[A]:HOH:O	2.12	0.67
1:H:45[A]:CYS:HG	1:H:50[A]:CYS:HG	1.40	0.67
1:I:297[A]:ASP:HB3	1:I:299[A]:ARG:H	1.58	0.67
4:B:4823[C]:HOH:O	1:C:192[C]:GLU:OE1	2.12	0.67
1:H:45[C]:CYS:HG	1:H:50[C]:CYS:HG	1.40	0.67
1:I:297[C]:ASP:HB3	1:I:299[C]:ARG:H	1.58	0.67
2:N:159[C]:THR:HG22	2:N:161[C]:GLU:N	2.09	0.67
1:D:420[A]:ILE:HG12	1:D:428[A]:MET:HE2	1.77	0.67
1:G:137[A]:GLN:HE21	1:G:138[A]:VAL:N	1.90	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:420[C]:ILE:HG12	1:D:428[C]:MET:HE2	1.77	0.67
1:G:137[C]:GLN:HE21	1:G:138[C]:VAL:N	1.90	0.67
1:F:146[A]:ILE:HG22	1:F:148[A]:THR:HG23	1.77	0.67
1:I:464[A]:LEU:HD23	1:I:471[A]:SER:HA	1.75	0.67
1:J:122[A]:THR:HG21	1:J:128[A]:THR:HG21	1.75	0.67
1:F:146[C]:ILE:HG22	1:F:148[C]:THR:HG23	1.77	0.67
1:I:464[C]:LEU:HD23	1:I:471[C]:SER:HA	1.75	0.67
1:J:122[C]:THR:HG21	1:J:128[C]:THR:HG21	1.75	0.67
1:A:14[A]:SER:HB3	1:A:36[A]:GLU:HB2	1.77	0.67
1:E:78[A]:MET:HE2	1:E:78[A]:MET:N	2.03	0.67
1:A:14[C]:SER:HB3	1:A:36[C]:GLU:HB2	1.77	0.67
1:E:78[C]:MET:HE2	1:E:78[C]:MET:N	2.03	0.67
1:A:289[A]:LEU:HA	1:A:292[A]:LEU:HD12	1.77	0.67
1:F:1[A]:ALA:N	1:F:136[A]:THR:HG22	2.10	0.67
1:H:220[A]:MET:HB3	1:H:220[A]:MET:HE3	1.77	0.67
1:J:44[A]:THR:HG23	4:J:4759[A]:FAD:PA	2.34	0.67
1:J:393[A]:ARG:HB3	1:J:455[A]:LEU:HD13	1.76	0.67
1:A:289[C]:LEU:HA	1:A:292[C]:LEU:HD12	1.77	0.67
1:F:1[C]:ALA:N	1:F:136[C]:THR:HG22	2.10	0.67
1:H:220[C]:MET:HB3	1:H:220[C]:MET:HE3	1.77	0.67
3:I:4759[C]:FAD:PA	1:J:44[C]:THR:HG23	2.34	0.67
1:J:393[C]:ARG:HB3	1:J:455[C]:LEU:HD13	1.76	0.67
1:C:286[A]:ASN:OD1	4:C:4774[A]:HOH:O	2.13	0.67
1:H:10[A]:THR:HG21	1:H:139[A]:ILE:HG21	1.76	0.67
1:I:296[A]:LEU:O	1:I:297[A]:ASP:C	2.36	0.67
4:B:4774[C]:HOH:O	1:C:286[C]:ASN:OD1	2.13	0.67
1:H:10[C]:THR:HG21	1:H:139[C]:ILE:HG21	1.76	0.67
1:I:296[C]:LEU:O	1:I:297[C]:ASP:C	2.36	0.67
1:A:358[A]:ILE:HD12	1:A:360[A]:THR:HG23	1.75	0.67
1:B:432[A]:ALA:O	1:B:436[A]:LEU:HD23	1.94	0.67
1:C:76[A]:ILE:HG22	1:C:78[A]:MET:HE3	1.75	0.67
1:D:69[A]:LYS:HG3	1:D:69[A]:LYS:O	1.93	0.67
1:A:358[C]:ILE:HD12	1:A:360[C]:THR:HG23	1.75	0.67
1:B:432[C]:ALA:O	1:B:436[C]:LEU:HD23	1.94	0.67
1:C:76[C]:ILE:HG22	1:C:78[C]:MET:HE3	1.75	0.67
1:D:69[C]:LYS:HG3	1:D:69[C]:LYS:O	1.93	0.67
1:A:44[A]:THR:HG23	3:A:4750[A]:FAD:O1A	1.95	0.67
1:G:431[A]:GLU:OE2	1:G:450[A]:HIS:HE1	1.77	0.67
1:H:414[A]:ARG:HG2	1:H:414[A]:ARG:NH1	2.09	0.67
1:A:44[C]:THR:HG23	3:O:4750[C]:FAD:O1A	1.95	0.67
1:G:431[C]:GLU:OE2	1:G:450[C]:HIS:HE1	1.77	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:H:414[C]:ARG:HG2	1:H:414[C]:ARG:NH1	2.09	0.67
1:B:144[A]:ILE:HD12	1:B:145[A]:LEU:N	2.10	0.67
1:D:33[A]:VAL:HB	1:D:113[A]:VAL:HB	1.77	0.67
1:J:392[A]:SER:O	1:J:396[A]:THR:HB	1.95	0.67
1:B:144[C]:ILE:HD12	1:B:145[C]:LEU:N	2.10	0.67
1:D:33[C]:VAL:HB	1:D:113[C]:VAL:HB	1.77	0.67
1:J:392[C]:SER:O	1:J:396[C]:THR:HB	1.95	0.67
1:A:427[A]:GLU:OE2	1:B:454[A]:THR:HB	1.95	0.66
1:B:428[A]:MET:HE1	1:B:459[A]:PHE:HB2	1.77	0.66
1:G:248[A]:LYS:H	1:G:248[A]:LYS:CD	2.07	0.66
1:J:289[A]:LEU:CD2	1:J:294[A]:ILE:HD12	2.23	0.66
1:A:427[C]:GLU:OE2	1:B:454[C]:THR:HB	1.95	0.66
1:B:428[C]:MET:HE1	1:B:459[C]:PHE:HB2	1.77	0.66
1:G:248[C]:LYS:CD	1:G:248[C]:LYS:H	2.07	0.66
1:J:289[C]:LEU:CD2	1:J:294[C]:ILE:HD12	2.23	0.66
2:L:151[C]:ALA:HB1	2:L:162[C]:ASP:OD2	1.94	0.66
1:A:447[A]:ARG:NH2	2:K:137[A]:ASN:OD1	2.28	0.66
1:B:380[A]:GLU:HG2	1:J:84[A]:ASN:ND2	2.10	0.66
1:C:121[A]:ILE:HG21	1:C:292[A]:LEU:HD11	1.77	0.66
1:D:69[A]:LYS:HD2	1:D:72[A]:ALA:HB3	1.77	0.66
1:E:248[A]:LYS:HE3	1:E:252[A]:GLY:O	1.95	0.66
1:F:155[A]:PHE:CD1	1:F:158[A]:ILE:HG13	2.29	0.66
1:G:82[A]:ARG:NE	1:G:82[A]:ARG:HA	2.09	0.66
1:B:380[C]:GLU:HG2	1:J:84[C]:ASN:ND2	2.10	0.66
1:C:121[C]:ILE:HG21	1:C:292[C]:LEU:HD11	1.77	0.66
1:D:69[C]:LYS:HD2	1:D:72[C]:ALA:HB3	1.77	0.66
1:E:248[C]:LYS:HE3	1:E:252[C]:GLY:O	1.95	0.66
1:F:155[C]:PHE:CD1	1:F:158[C]:ILE:HG13	2.29	0.66
1:G:82[C]:ARG:NE	1:G:82[C]:ARG:HA	2.09	0.66
2:N:152[C]:THR:HG22	2:N:153[C]:GLY:H	1.59	0.66
1:B:428[A]:MET:CE	1:B:459[A]:PHE:HB2	2.26	0.66
1:H:121[A]:ILE:CD1	1:H:144[A]:ILE:HD11	2.25	0.66
1:J:280[A]:ARG:O	1:J:326[A]:MET:HE1	1.94	0.66
1:B:428[C]:MET:CE	1:B:459[C]:PHE:HB2	2.26	0.66
1:H:121[C]:ILE:CD1	1:H:144[C]:ILE:HD11	2.25	0.66
1:J:280[C]:ARG:O	1:J:326[C]:MET:HE1	1.94	0.66
2:N:159[C]:THR:HG22	2:N:161[C]:GLU:H	1.59	0.66
1:I:336[A]:ILE:HG22	1:I:337[A]:ILE:HG23	1.77	0.66
1:I:336[C]:ILE:HG22	1:I:337[C]:ILE:HG23	1.77	0.66
1:B:20[A]:VAL:HG21	1:B:332[A]:GLU:HG2	1.77	0.66
1:E:305[A]:ASN:C	1:E:305[A]:ASN:ND2	2.50	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:K:159[A]:THR:CG2	2:K:160[A]:LYS:N	2.58	0.66
1:B:20[C]:VAL:HG21	1:B:332[C]:GLU:HG2	1.77	0.66
1:E:305[C]:ASN:C	1:E:305[C]:ASN:ND2	2.50	0.66
1:B:330[A]:LYS:HE2	1:B:334[A]:GLU:OE2	1.94	0.66
1:G:259[A]:GLU:OE2	1:G:264[A]:GLY:HA2	1.95	0.66
1:B:330[C]:LYS:HE2	1:B:334[C]:GLU:OE2	1.94	0.66
1:G:259[C]:GLU:OE2	1:G:264[C]:GLY:HA2	1.95	0.66
1:A:248[A]:LYS:HB2	1:A:248[A]:LYS:NZ	2.09	0.66
1:E:312[A]:ILE:HG23	1:E:315[A]:ILE:HB	1.76	0.66
1:H:187[A]:GLY:O	1:H:191[A]:VAL:HG22	1.96	0.66
2:N:133[A]:PRO:CA	2:N:136[A]:ARG:HE	2.05	0.66
1:A:248[C]:LYS:HB2	1:A:248[C]:LYS:NZ	2.09	0.66
1:E:312[C]:ILE:HG23	1:E:315[C]:ILE:HB	1.76	0.66
1:H:187[C]:GLY:O	1:H:191[C]:VAL:HG22	1.96	0.66
2:L:151[C]:ALA:HB2	2:L:162[C]:ASP:HB2	1.78	0.66
1:A:364[A]:VAL:HG22	1:A:421[A]:LEU:HD13	1.78	0.66
1:B:180[A]:LYS:HZ3	1:B:180[A]:LYS:HB2	1.60	0.66
1:A:364[C]:VAL:HG22	1:A:421[C]:LEU:HD13	1.78	0.66
1:B:180[C]:LYS:HB2	1:B:180[C]:LYS:HZ3	1.60	0.66
1:A:363[A]:GLU:HB2	1:A:425[A]:ALA:HB3	1.77	0.66
1:D:183[A]:VAL:HG13	1:D:275[A]:LEU:HB3	1.77	0.66
1:F:50[A]:CYS:O	1:F:54[A]:LYS:HE2	1.95	0.66
2:M:131[A]:LEU:CD1	2:M:136[A]:ARG:NE	2.47	0.66
2:M:152[A]:THR:N	2:M:162[A]:ASP:OD2	2.28	0.66
1:A:363[C]:GLU:HB2	1:A:425[C]:ALA:HB3	1.77	0.66
1:D:183[C]:VAL:HG13	1:D:275[C]:LEU:HB3	1.77	0.66
1:F:50[C]:CYS:O	1:F:54[C]:LYS:HE2	1.95	0.66
2:K:139[C]:LEU:HD23	2:K:163[C]:ALA:HB1	1.78	0.66
1:A:84[A]:ASN:C	1:A:84[A]:ASN:HD22	2.04	0.66
1:B:137[A]:GLN:NE2	1:B:138[A]:VAL:N	2.44	0.66
1:A:84[C]:ASN:HD22	1:A:84[C]:ASN:C	2.04	0.66
1:B:137[C]:GLN:NE2	1:B:138[C]:VAL:N	2.44	0.66
1:A:182[A]:VAL:HG23	1:A:274[A]:LEU:HD12	1.78	0.65
1:A:406[A]:ILE:HG21	1:A:463[A]:ASN:ND2	2.11	0.65
1:A:182[C]:VAL:HG23	1:A:274[C]:LEU:HD12	1.78	0.65
1:A:406[C]:ILE:HG21	1:A:463[C]:ASN:ND2	2.11	0.65
1:B:363[A]:GLU:HB3	1:B:425[A]:ALA:HB3	1.78	0.65
1:E:14[A]:SER:O	1:E:19[A]:TYR:HB3	1.96	0.65
1:G:434[A]:LEU:HD13	1:H:448[A]:VAL:HG21	1.77	0.65
1:B:363[C]:GLU:HB3	1:B:425[C]:ALA:HB3	1.78	0.65
1:E:14[C]:SER:O	1:E:19[C]:TYR:HB3	1.96	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:434[C]:LEU:HD13	1:H:448[C]:VAL:HG21	1.77	0.65
1:E:464[A]:LEU:O	1:E:464[A]:LEU:HD23	1.97	0.65
1:J:155[A]:PHE:CZ	1:J:243[A]:VAL:HG22	2.31	0.65
1:E:464[C]:LEU:O	1:E:464[C]:LEU:HD23	1.97	0.65
1:J:155[C]:PHE:CZ	1:J:243[C]:VAL:HG22	2.31	0.65
1:B:370[A]:SER:OG	1:B:373[A]:GLN:HG3	1.96	0.65
1:C:305[A]:ASN:HB2	1:C:309[A]:GLN:H	1.61	0.65
1:H:330[A]:LYS:HD3	1:H:334[A]:GLU:CD	2.21	0.65
1:J:51[A]:ILE:HB	1:J:52[A]:PRO:CD	2.23	0.65
2:M:150[A]:THR:HG22	2:M:151[A]:ALA:N	2.11	0.65
1:B:370[C]:SER:OG	1:B:373[C]:GLN:HG3	1.96	0.65
1:C:305[C]:ASN:HB2	1:C:309[C]:GLN:H	1.61	0.65
1:H:330[C]:LYS:HD3	1:H:334[C]:GLU:CD	2.21	0.65
1:J:51[C]:ILE:HB	1:J:52[C]:PRO:CD	2.23	0.65
1:F:48[A]:VAL:HG23	1:F:48[A]:VAL:O	1.97	0.65
1:H:143[A]:ASN:CG	1:H:342[A]:MET:HE3	2.21	0.65
1:I:301[A]:ARG:HH11	1:I:323[A]:ALA:HA	1.61	0.65
1:F:48[C]:VAL:HG23	1:F:48[C]:VAL:O	1.97	0.65
1:H:143[C]:ASN:CG	1:H:342[C]:MET:HE3	2.21	0.65
1:I:301[C]:ARG:HH11	1:I:323[C]:ALA:HA	1.61	0.65
1:C:320[A]:ASP:CG	1:C:326[A]:MET:HG2	2.22	0.65
1:E:9[A]:VAL:HG22	1:E:342[A]:MET:HE1	1.79	0.65
1:H:385[A]:LYS:HE2	1:H:403[A]:MET:HE1	1.79	0.65
2:M:167[A]:VAL:O	2:M:170[A]:LYS:HG3	1.96	0.65
1:C:320[C]:ASP:CG	1:C:326[C]:MET:HG2	2.22	0.65
1:E:9[C]:VAL:HG22	1:E:342[C]:MET:HE1	1.79	0.65
1:H:385[C]:LYS:HE2	1:H:403[C]:MET:HE1	1.79	0.65
1:A:371[A]:GLU:HG2	1:A:381[A]:TYR:OH	1.94	0.65
1:C:318[A]:ILE:HD12	1:C:335[A]:GLY:CA	2.26	0.65
1:F:121[A]:ILE:HD11	1:F:146[A]:ILE:HD11	1.79	0.65
1:I:41[A]:LEU:HD12	1:I:41[A]:LEU:N	2.06	0.65
1:A:371[C]:GLU:HG2	1:A:381[C]:TYR:OH	1.94	0.65
1:C:318[C]:ILE:HD12	1:C:335[C]:GLY:CA	2.26	0.65
1:F:121[C]:ILE:HD11	1:F:146[C]:ILE:HD11	1.79	0.65
1:I:41[C]:LEU:HD12	1:I:41[C]:LEU:N	2.06	0.65
1:A:137[A]:GLN:HE21	1:A:138[A]:VAL:N	1.95	0.65
1:H:121[A]:ILE:HD11	1:H:144[A]:ILE:HD11	1.78	0.65
1:A:137[C]:GLN:HE21	1:A:138[C]:VAL:N	1.95	0.65
1:H:121[C]:ILE:HD11	1:H:144[C]:ILE:HD11	1.78	0.65
1:J:409[A]:GLN:HB2	1:J:416[A]:LEU:HD21	1.79	0.65
1:J:409[C]:GLN:HB2	1:J:416[C]:LEU:HD21	1.79	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:238[A]:LYS:CA	1:A:238[A]:LYS:HE3	2.26	0.65
1:C:182[A]:VAL:HG13	1:C:271[A]:CYS:SG	2.37	0.65
1:D:183[A]:VAL:HG13	1:D:275[A]:LEU:HD13	1.78	0.65
1:G:299[A]:ARG:H	1:G:299[A]:ARG:HD2	1.61	0.65
1:A:238[C]:LYS:CA	1:A:238[C]:LYS:HE3	2.26	0.65
1:C:182[C]:VAL:HG13	1:C:271[C]:CYS:SG	2.37	0.65
1:D:183[C]:VAL:HG13	1:D:275[C]:LEU:HD13	1.78	0.65
1:G:299[C]:ARG:H	1:G:299[C]:ARG:HD2	1.61	0.65
1:F:116[A]:ASN:C	1:F:116[A]:ASN:HD22	2.04	0.64
1:I:337[A]:ILE:HA	1:I:340[A]:GLU:HB2	1.78	0.64
1:F:116[C]:ASN:C	1:F:116[C]:ASN:HD22	2.04	0.64
1:I:337[C]:ILE:HA	1:I:340[C]:GLU:HB2	1.78	0.64
1:D:133[A]:ASP:CG	1:D:133[A]:ASP:O	2.40	0.64
2:M:131[A]:LEU:HB2	2:M:136[A]:ARG:HB2	1.79	0.64
1:D:133[C]:ASP:CG	1:D:133[C]:ASP:O	2.40	0.64
1:D:145[A]:LEU:HD21	1:D:318[A]:ILE:HD12	1.78	0.64
1:F:15[A]:GLY:HA2	1:F:43[A]:GLY:HA3	1.78	0.64
1:I:184[A]:ILE:HG22	1:I:278[A]:ILE:CD1	2.27	0.64
1:C:45[C]:CYS:SG	1:C:50[C]:CYS:SG	2.91	0.64
1:D:145[C]:LEU:HD21	1:D:318[C]:ILE:HD12	1.78	0.64
1:F:15[C]:GLY:HA2	1:F:43[C]:GLY:HA3	1.78	0.64
1:I:184[C]:ILE:HG22	1:I:278[C]:ILE:CD1	2.27	0.64
1:E:188[A]:VAL:HG22	1:E:358[A]:ILE:HD13	1.79	0.64
1:H:96[A]:VAL:O	1:H:100[A]:THR:HG23	1.98	0.64
1:H:189[A]:ILE:HB	4:H:4802[A]:HOH:O	1.97	0.64
1:I:381[A]:TYR:CD1	1:I:381[A]:TYR:C	2.76	0.64
1:J:280[A]:ARG:HH11	1:J:280[A]:ARG:CG	2.10	0.64
2:K:159[A]:THR:CG2	2:K:161[A]:GLU:H	2.06	0.64
1:E:188[C]:VAL:HG22	1:E:358[C]:ILE:HD13	1.79	0.64
4:G:4802[C]:HOH:O	1:H:189[C]:ILE:HB	1.97	0.64
1:H:96[C]:VAL:O	1:H:100[C]:THR:HG23	1.98	0.64
1:I:381[C]:TYR:C	1:I:381[C]:TYR:CD1	2.76	0.64
1:J:280[C]:ARG:HH11	1:J:280[C]:ARG:CG	2.10	0.64
1:D:369[A]:LYS:HE2	1:D:377[A]:GLU:OE2	1.97	0.64
1:E:305[A]:ASN:ND2	1:E:309[A]:GLN:H	1.95	0.64
1:I:372[A]:GLU:C	1:I:374[A]:LEU:H	2.04	0.64
1:D:369[C]:LYS:HE2	1:D:377[C]:GLU:OE2	1.97	0.64
1:E:305[C]:ASN:ND2	1:E:309[C]:GLN:H	1.95	0.64
1:I:372[C]:GLU:C	1:I:374[C]:LEU:H	2.04	0.64
1:H:122[A]:THR:OG1	1:H:126[A]:GLN:HG2	1.97	0.64
1:H:165[A]:ILE:HD11	1:H:254[A]:ILE:HD12	1.79	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:O:155[A]:ARG:H	2:O:157[A]:ILE:HD11	1.60	0.64
1:H:122[C]:THR:OG1	1:H:126[C]:GLN:HG2	1.97	0.64
1:H:165[C]:ILE:HD11	1:H:254[C]:ILE:HD12	1.79	0.64
1:E:372[A]:GLU:O	1:E:376[A]:GLU:HG3	1.98	0.64
1:J:122[A]:THR:CG2	1:J:128[A]:THR:CG2	2.75	0.64
1:J:209[A]:PHE:CD1	1:J:209[A]:PHE:C	2.76	0.64
1:E:372[C]:GLU:O	1:E:376[C]:GLU:HG3	1.98	0.64
1:J:122[C]:THR:CG2	1:J:128[C]:THR:CG2	2.75	0.64
1:J:209[C]:PHE:CD1	1:J:209[C]:PHE:C	2.76	0.64
2:L:172[A]:THR:O	2:L:173[A]:GLY:C	2.39	0.64
2:O:155[A]:ARG:O	2:O:155[A]:ARG:HD2	1.97	0.64
2:N:159[C]:THR:HG22	2:N:161[C]:GLU:CB	2.28	0.64
1:B:305[A]:ASN:C	1:B:305[A]:ASN:HD22	2.06	0.64
1:E:174[A]:LEU:HD12	1:E:197[A]:TRP:CZ2	2.33	0.64
1:E:182[A]:VAL:HG13	1:E:271[A]:CYS:SG	2.38	0.64
1:B:305[C]:ASN:HD22	1:B:305[C]:ASN:C	2.06	0.64
1:E:174[C]:LEU:HD12	1:E:197[C]:TRP:CZ2	2.33	0.64
1:E:182[C]:VAL:HG13	1:E:271[C]:CYS:SG	2.38	0.64
2:K:155[C]:ARG:O	2:K:155[C]:ARG:CG	2.43	0.64
1:D:187[A]:GLY:O	1:D:191[A]:VAL:HG23	1.98	0.64
1:J:305[A]:ASN:ND2	1:J:309[A]:GLN:CG	2.61	0.64
1:D:187[C]:GLY:O	1:D:191[C]:VAL:HG23	1.98	0.64
1:J:305[C]:ASN:ND2	1:J:309[C]:GLN:CG	2.61	0.64
1:E:188[A]:VAL:HG22	1:E:358[A]:ILE:HD11	1.78	0.63
1:I:24[A]:LYS:O	1:I:24[A]:LYS:HD3	1.98	0.63
1:E:188[C]:VAL:HG22	1:E:358[C]:ILE:HD11	1.78	0.63
1:I:24[C]:LYS:O	1:I:24[C]:LYS:HD3	1.98	0.63
1:D:320[A]:ASP:OD2	3:D:4753[A]:FAD:H5'1	1.98	0.63
1:H:188[A]:VAL:HG13	1:H:358[A]:ILE:HG23	1.78	0.63
3:C:4753[C]:FAD:H5'1	1:D:320[C]:ASP:OD2	1.98	0.63
1:H:188[C]:VAL:HG13	1:H:358[C]:ILE:HG23	1.78	0.63
1:B:180[A]:LYS:HB2	1:B:180[A]:LYS:NZ	2.14	0.63
1:C:451[A]:ALA:H	1:D:430[A]:ASN:HD21	1.46	0.63
1:B:180[C]:LYS:HB2	1:B:180[C]:LYS:NZ	2.14	0.63
1:C:451[C]:ALA:H	1:D:430[C]:ASN:HD21	1.46	0.63
1:J:461[A]:GLU:OE1	1:J:471[A]:SER:HB2	1.98	0.63
1:G:437[C]:GLU:HG3	2:N:136[C]:ARG:HH22	1.64	0.63
1:J:461[C]:GLU:OE1	1:J:471[C]:SER:HB2	1.98	0.63
1:C:44[A]:THR:HG23	3:C:4752[A]:FAD:PA	2.38	0.63
1:E:195[A]:SER:O	1:E:199[A]:ARG:HG3	1.98	0.63
1:F:44[A]:THR:CG2	3:F:4755[A]:FAD:PA	2.80	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:H:305[A]:ASN:C	1:H:305[A]:ASN:ND2	2.51	0.63
3:B:4752[C]:FAD:PA	1:C:44[C]:THR:HG23	2.38	0.63
1:E:195[C]:SER:O	1:E:199[C]:ARG:HG3	1.98	0.63
3:E:4755[C]:FAD:PA	1:F:44[C]:THR:CG2	2.80	0.63
1:H:305[C]:ASN:C	1:H:305[C]:ASN:ND2	2.51	0.63
1:C:52[A]:PRO:HG3	1:C:96[A]:VAL:HG21	1.80	0.63
4:C:4801[A]:HOH:O	1:D:427[A]:GLU:HG3	1.98	0.63
1:F:17[A]:GLY:O	1:F:21[A]:ALA:HB2	1.99	0.63
1:G:430[A]:ASN:HD21	1:H:451[A]:ALA:H	1.46	0.63
1:I:208[A]:GLU:HB3	1:I:239[A]:LEU:HD23	1.80	0.63
1:I:320[A]:ASP:CB	1:I:326[A]:MET:HE3	2.24	0.63
4:B:4801[C]:HOH:O	1:D:427[C]:GLU:HG3	1.98	0.63
1:C:52[C]:PRO:HG3	1:C:96[C]:VAL:HG21	1.80	0.63
1:F:17[C]:GLY:O	1:F:21[C]:ALA:HB2	1.99	0.63
1:G:430[C]:ASN:HD21	1:H:451[C]:ALA:H	1.46	0.63
1:I:208[C]:GLU:HB3	1:I:239[C]:LEU:HD23	1.80	0.63
1:I:320[C]:ASP:CB	1:I:326[C]:MET:HE3	2.24	0.63
1:B:380[A]:GLU:CG	1:J:84[A]:ASN:ND2	2.62	0.63
2:L:132[A]:SER:O	2:L:135[A]:ALA:N	2.31	0.63
1:B:380[C]:GLU:CG	1:J:84[C]:ASN:ND2	2.62	0.63
1:A:96[A]:VAL:O	1:A:100[A]:THR:HG23	1.97	0.63
1:I:33[A]:VAL:HA	1:I:113[A]:VAL:HG23	1.80	0.63
1:A:96[C]:VAL:O	1:A:100[C]:THR:HG23	1.97	0.63
1:G:348[C]:HIS:CE1	2:N:136[C]:ARG:CD	2.70	0.63
1:I:33[C]:VAL:HA	1:I:113[C]:VAL:HG23	1.80	0.63
1:B:60[A]:SER:HB2	1:B:200[A]:LEU:CD1	2.28	0.63
1:E:443[A]:GLU:O	1:E:447[A]:ARG:HB2	1.98	0.63
1:H:222[A]:ILE:HG13	1:H:223[A]:SER:H	1.63	0.63
1:I:57[A]:LEU:HD23	1:I:196[A]:VAL:HG22	1.80	0.63
1:B:60[C]:SER:HB2	1:B:200[C]:LEU:CD1	2.28	0.63
1:E:443[C]:GLU:O	1:E:447[C]:ARG:HB2	1.98	0.63
1:H:222[C]:ILE:HG13	1:H:223[C]:SER:H	1.63	0.63
1:I:57[C]:LEU:HD23	1:I:196[C]:VAL:HG22	1.80	0.63
1:G:239[A]:LEU:H	1:G:239[A]:LEU:HD12	1.62	0.62
2:K:137[A]:ASN:HD22	2:K:137[A]:ASN:C	2.07	0.62
1:G:239[C]:LEU:H	1:G:239[C]:LEU:HD12	1.62	0.62
2:N:134[C]:ALA:O	2:N:138[C]:ILE:HG13	1.98	0.62
1:A:278[A]:ILE:O	1:A:278[A]:ILE:HG12	1.98	0.62
1:B:142[A]:LYS:HE3	4:H:4814[A]:HOH:O	1.99	0.62
1:C:242[A]:LYS:HD3	1:C:259[A]:GLU:HG2	1.80	0.62
1:E:116[A]:ASN:HD22	1:E:117[A]:GLY:N	1.97	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:J:122[A]:THR:HG23	1:J:128[A]:THR:CG2	2.29	0.62
2:K:171[A]:GLN:O	2:K:172[A]:THR:C	2.39	0.62
1:A:278[C]:ILE:O	1:A:278[C]:ILE:HG12	1.98	0.62
1:B:142[C]:LYS:HE3	4:G:4814[C]:HOH:O	1.99	0.62
1:C:242[C]:LYS:HD3	1:C:259[C]:GLU:HG2	1.80	0.62
1:E:116[C]:ASN:HD22	1:E:117[C]:GLY:N	1.97	0.62
1:J:122[C]:THR:HG23	1:J:128[C]:THR:CG2	2.29	0.62
1:A:173[A]:SER:O	1:A:174[A]:LEU:C	2.41	0.62
1:H:258[A]:ILE:O	1:H:259[A]:GLU:HB2	1.99	0.62
1:J:135[A]:GLY:O	1:J:136[A]:THR:O	2.16	0.62
2:M:142[A]:HIS:CD2	2:M:167[A]:VAL:HG13	2.33	0.62
1:A:173[C]:SER:O	1:A:174[C]:LEU:C	2.41	0.62
1:H:258[C]:ILE:O	1:H:259[C]:GLU:HB2	1.99	0.62
1:J:135[C]:GLY:O	1:J:136[C]:THR:O	2.16	0.62
2:M:141[C]:LYS:CD	2:M:141[C]:LYS:C	2.72	0.62
1:A:46[A]:LEU:HD23	1:A:103[A]:ILE:CD1	2.28	0.62
1:C:409[A]:GLN:HG2	1:C:412[A]:THR:OG1	1.98	0.62
1:D:406[A]:ILE:HD13	1:D:463[A]:ASN:CG	2.23	0.62
1:F:84[A]:ASN:HD21	1:F:86[A]:ASP:HB2	1.64	0.62
3:I:4758[A]:FAD:O4'	3:I:4758[A]:FAD:O2'	2.16	0.62
1:A:46[C]:LEU:HD23	1:A:103[C]:ILE:CD1	2.28	0.62
1:C:409[C]:GLN:HG2	1:C:412[C]:THR:OG1	1.98	0.62
1:D:406[C]:ILE:HD13	1:D:463[C]:ASN:CG	2.23	0.62
1:F:84[C]:ASN:HD21	1:F:86[C]:ASP:HB2	1.64	0.62
2:N:155[C]:ARG:O	2:N:157[C]:ILE:N	2.32	0.62
1:B:431[A]:GLU:OE2	1:B:450[A]:HIS:CE1	2.51	0.62
1:C:3[A]:GLN:HE21	1:C:3[A]:GLN:CA	2.10	0.62
1:E:81[A]:VAL:HG22	1:F:78[A]:MET:HG2	1.81	0.62
1:H:265[A]:LYS:NZ	1:H:265[A]:LYS:CB	2.63	0.62
1:I:11[A]:VAL:HG13	1:I:145[A]:LEU:CD2	2.24	0.62
1:J:17[A]:GLY:H	1:J:20[A]:VAL:CG2	2.12	0.62
1:B:431[C]:GLU:OE2	1:B:450[C]:HIS:CE1	2.51	0.62
1:C:3[C]:GLN:HE21	1:C:3[C]:GLN:CA	2.10	0.62
1:E:81[C]:VAL:HG22	1:F:78[C]:MET:HG2	1.81	0.62
1:H:265[C]:LYS:NZ	1:H:265[C]:LYS:CB	2.63	0.62
1:I:11[C]:VAL:HG13	1:I:145[C]:LEU:CD2	2.24	0.62
1:J:17[C]:GLY:H	1:J:20[C]:VAL:CG2	2.12	0.62
1:C:448[A]:VAL:HG21	1:D:434[A]:LEU:HD12	1.81	0.62
1:D:333[A]:ASP:O	1:D:337[A]:ILE:HG12	1.99	0.62
1:I:45[A]:CYS:CB	1:I:50[A]:CYS:HG	2.13	0.62
1:C:448[C]:VAL:HG21	1:D:434[C]:LEU:HD12	1.81	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:333[C]:ASP:O	1:D:337[C]:ILE:HG12	1.99	0.62
1:I:45[C]:CYS:CB	1:I:50[C]:CYS:HG	2.13	0.62
1:I:45[C]:CYS:SG	1:I:50[C]:CYS:SG	2.78	0.62
1:G:189[A]:ILE:H	1:G:189[A]:ILE:HD13	1.62	0.62
1:I:376[A]:GLU:C	1:I:378[A]:GLY:H	2.08	0.62
1:G:189[C]:ILE:HD13	1:G:189[C]:ILE:H	1.62	0.62
1:I:376[C]:GLU:C	1:I:378[C]:GLY:H	2.08	0.62
2:L:167[C]:VAL:O	2:L:171[C]:GLN:HB3	2.00	0.62
1:H:265[A]:LYS:HB2	1:H:265[A]:LYS:NZ	2.13	0.62
1:I:184[A]:ILE:CG2	1:I:278[A]:ILE:HD11	2.29	0.62
1:J:209[A]:PHE:CD1	1:J:209[A]:PHE:O	2.53	0.62
2:M:170[A]:LYS:C	2:M:170[A]:LYS:HD3	2.25	0.62
1:H:265[C]:LYS:HB2	1:H:265[C]:LYS:NZ	2.13	0.62
1:I:184[C]:ILE:CG2	1:I:278[C]:ILE:HD11	2.29	0.62
1:J:209[C]:PHE:CD1	1:J:209[C]:PHE:O	2.53	0.62
2:K:137[A]:ASN:C	2:K:137[A]:ASN:ND2	2.58	0.62
2:M:144[A]:LEU:HD21	2:M:170[A]:LYS:HE3	1.82	0.62
1:A:51[A]:ILE:HB	1:A:52[A]:PRO:HD3	1.82	0.62
1:A:137[A]:GLN:HE21	1:A:137[A]:GLN:CA	2.13	0.62
1:A:351[A]:TYR:O	1:A:354[A]:VAL:HG12	2.00	0.62
1:H:392[A]:SER:O	1:H:396[A]:THR:HG23	2.00	0.62
1:J:439[A]:GLY:O	1:J:440[A]:ALA:O	2.17	0.62
1:A:51[C]:ILE:HB	1:A:52[C]:PRO:HD3	1.82	0.62
1:A:137[C]:GLN:HE21	1:A:137[C]:GLN:CA	2.13	0.62
1:A:351[C]:TYR:O	1:A:354[C]:VAL:HG12	2.00	0.62
1:H:392[C]:SER:O	1:H:396[C]:THR:HG23	2.00	0.62
1:J:439[C]:GLY:O	1:J:440[C]:ALA:O	2.17	0.62
2:N:131[C]:LEU:CD2	2:N:146[C]:ALA:CB	2.74	0.62
1:A:443[A]:GLU:HB2	2:K:160[A]:LYS:HZ3	1.64	0.61
1:H:438[C]:TYR:CD1	2:N:157[C]:ILE:HD11	2.34	0.61
1:D:144[A]:ILE:HG23	1:D:315[A]:ILE:HG12	1.82	0.61
1:D:410[A]:LYS:HG3	1:D:410[A]:LYS:O	2.00	0.61
1:J:244[A]:THR:OG1	1:J:257[A]:SER:HB3	1.99	0.61
1:D:144[C]:ILE:HG23	1:D:315[C]:ILE:HG12	1.82	0.61
1:D:410[C]:LYS:HG3	1:D:410[C]:LYS:O	2.00	0.61
1:J:244[C]:THR:OG1	1:J:257[C]:SER:HB3	1.99	0.61
1:C:7[A]:ALA:O	1:C:141[A]:THR:HA	2.00	0.61
1:C:137[A]:GLN:CA	1:C:137[A]:GLN:NE2	2.62	0.61
1:D:44[A]:THR:CG2	3:D:4753[A]:FAD:O2A	2.47	0.61
1:E:209[A]:PHE:HA	1:E:241[A]:THR:O	2.00	0.61
1:C:7[C]:ALA:O	1:C:141[C]:THR:HA	2.00	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:137[C]:GLN:CA	1:C:137[C]:GLN:NE2	2.62	0.61
3:C:4753[C]:FAD:O2A	1:D:44[C]:THR:CG2	2.47	0.61
1:E:209[C]:PHE:HA	1:E:241[C]:THR:O	2.00	0.61
1:G:139[A]:ILE:HD12	1:G:139[A]:ILE:N	2.14	0.61
1:I:244[A]:THR:HB	1:I:257[A]:SER:HB3	1.82	0.61
1:J:308[A]:PHE:O	1:J:316[A]:TYR:HB3	2.01	0.61
2:K:152[A]:THR:O	2:K:153[A]:GLY:O	2.17	0.61
2:M:152[A]:THR:H	2:M:162[A]:ASP:CG	2.08	0.61
1:G:139[C]:ILE:HD12	1:G:139[C]:ILE:N	2.14	0.61
1:I:244[C]:THR:HB	1:I:257[C]:SER:HB3	1.82	0.61
1:J:308[C]:PHE:O	1:J:316[C]:TYR:HB3	2.01	0.61
1:D:69[A]:LYS:O	1:D:69[A]:LYS:CG	2.48	0.61
1:F:51[A]:ILE:HB	1:F:52[A]:PRO:HD3	1.83	0.61
1:F:162[A]:GLU:OE1	1:F:162[A]:GLU:HA	2.00	0.61
1:I:297[A]:ASP:C	1:I:299[A]:ARG:N	2.56	0.61
1:D:69[C]:LYS:O	1:D:69[C]:LYS:CG	2.48	0.61
1:F:51[C]:ILE:HB	1:F:52[C]:PRO:HD3	1.83	0.61
1:F:162[C]:GLU:OE1	1:F:162[C]:GLU:HA	2.00	0.61
1:I:297[C]:ASP:C	1:I:299[C]:ARG:N	2.56	0.61
1:A:215[A]:GLY:HA3	4:A:4762[A]:HOH:O	2.00	0.61
1:A:442[A]:CYS:HB2	1:A:467[A]:SER:HB3	1.82	0.61
1:C:249[A]:LYS:HD3	1:C:255[A]:ASP:OD2	2.00	0.61
1:E:93[A]:SER:O	1:E:97[A]:LYS:HD3	2.00	0.61
1:F:382[A]:LYS:NZ	1:F:413[A]:ASP:OD1	2.29	0.61
1:G:209[A]:PHE:O	1:G:240[A]:ASN:HA	2.00	0.61
1:J:428[A]:MET:HE2	1:J:455[A]:LEU:HB3	1.82	0.61
2:O:131[A]:LEU:HD21	2:O:135[A]:ALA:HB3	1.82	0.61
1:A:215[C]:GLY:HA3	4:J:4762[C]:HOH:O	2.00	0.61
1:A:442[C]:CYS:HB2	1:A:467[C]:SER:HB3	1.82	0.61
1:C:249[C]:LYS:HD3	1:C:255[C]:ASP:OD2	2.00	0.61
1:E:93[C]:SER:O	1:E:97[C]:LYS:HD3	2.00	0.61
1:F:382[C]:LYS:NZ	1:F:413[C]:ASP:OD1	2.29	0.61
1:G:209[C]:PHE:O	1:G:240[C]:ASN:HA	2.00	0.61
1:J:428[C]:MET:HE2	1:J:455[C]:LEU:HB3	1.82	0.61
1:C:299[A]:ARG:HD3	1:C:301[A]:ARG:NH2	2.16	0.61
1:C:299[C]:ARG:HD3	1:C:301[C]:ARG:NH2	2.16	0.61
2:N:158[C]:PHE:CE2	2:N:163[C]:ALA:HA	2.33	0.61
1:G:51[A]:ILE:HG23	1:H:396[A]:THR:CG2	2.30	0.61
1:G:358[A]:ILE:CG2	1:G:364[A]:VAL:HB	2.27	0.61
1:H:397[A]:ASN:N	1:H:397[A]:ASN:ND2	2.47	0.61
2:K:142[A]:HIS:O	2:K:143[A]:SER:C	2.44	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:N:131[A]:LEU:CD2	2:N:136[A]:ARG:HA	2.30	0.61
1:G:51[C]:ILE:HG23	1:H:396[C]:THR:CG2	2.30	0.61
1:G:358[C]:ILE:CG2	1:G:364[C]:VAL:HB	2.27	0.61
1:H:397[C]:ASN:N	1:H:397[C]:ASN:ND2	2.47	0.61
1:C:347[A]:VAL:HG23	1:C:347[A]:VAL:O	1.99	0.61
1:C:442[A]:CYS:HA	1:C:463[A]:ASN:HD22	1.65	0.61
1:C:347[C]:VAL:HG23	1:C:347[C]:VAL:O	1.99	0.61
1:C:442[C]:CYS:HA	1:C:463[C]:ASN:HD22	1.65	0.61
1:A:248[A]:LYS:NZ	1:A:248[A]:LYS:CB	2.63	0.61
1:D:12[A]:ILE:CD1	1:D:144[A]:ILE:HD11	2.30	0.61
1:H:54[A]:LYS:HD3	1:H:54[A]:LYS:N	2.14	0.61
1:I:36[A]:GLU:OE2	1:I:38[A]:ASN:HB2	2.01	0.61
1:I:464[A]:LEU:HD23	1:I:470[A]:LYS:O	2.01	0.61
1:J:50[A]:CYS:O	1:J:54[A]:LYS:HE2	1.99	0.61
2:K:171[A]:GLN:CD	2:K:171[A]:GLN:N	2.58	0.61
1:A:248[C]:LYS:NZ	1:A:248[C]:LYS:CB	2.63	0.61
1:D:12[C]:ILE:CD1	1:D:144[C]:ILE:HD11	2.30	0.61
1:H:54[C]:LYS:HD3	1:H:54[C]:LYS:N	2.14	0.61
1:I:36[C]:GLU:OE2	1:I:38[C]:ASN:HB2	2.01	0.61
1:I:464[C]:LEU:HD23	1:I:470[C]:LYS:O	2.01	0.61
1:J:50[C]:CYS:O	1:J:54[C]:LYS:HE2	1.99	0.61
1:A:455[A]:LEU:HD22	1:A:455[A]:LEU:N	2.16	0.60
1:B:275[A]:LEU:CD2	1:B:275[A]:LEU:C	2.74	0.60
1:C:221[A]:GLU:OE2	1:C:403[A]:MET:HE1	2.01	0.60
1:D:431[A]:GLU:OE2	1:D:450[A]:HIS:HE1	1.84	0.60
1:F:181[A]:MET:HE1	1:F:197[A]:TRP:HB2	1.82	0.60
1:G:158[A]:ILE:CD1	1:G:246[A]:ALA:HB3	2.31	0.60
1:G:358[A]:ILE:HD13	1:G:360[A]:THR:H	1.65	0.60
1:H:5[A]:ILE:HG23	1:H:137[A]:GLN:NE2	2.16	0.60
1:H:267[A]:GLU:HG2	1:H:268[A]:VAL:H	1.66	0.60
1:I:7[A]:ALA:HB1	1:I:31[A]:LYS:O	2.00	0.60
1:A:455[C]:LEU:HD22	1:A:455[C]:LEU:N	2.16	0.60
1:B:275[C]:LEU:C	1:B:275[C]:LEU:CD2	2.74	0.60
1:C:221[C]:GLU:OE2	1:C:403[C]:MET:HE1	2.01	0.60
1:D:431[C]:GLU:OE2	1:D:450[C]:HIS:HE1	1.84	0.60
1:F:181[C]:MET:HE1	1:F:197[C]:TRP:HB2	1.82	0.60
1:G:158[C]:ILE:CD1	1:G:246[C]:ALA:HB3	2.31	0.60
1:G:358[C]:ILE:HD13	1:G:360[C]:THR:H	1.65	0.60
1:H:5[C]:ILE:HG23	1:H:137[C]:GLN:NE2	2.16	0.60
1:H:267[C]:GLU:HG2	1:H:268[C]:VAL:H	1.66	0.60
1:I:7[C]:ALA:HB1	1:I:31[C]:LYS:O	2.00	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:330[A]:LYS:O	1:A:334[A]:GLU:HG3	2.01	0.60
1:E:409[A]:GLN:CG	1:E:412[A]:THR:HG23	2.32	0.60
1:H:414[A]:ARG:HH11	1:H:414[A]:ARG:CG	2.14	0.60
2:O:131[A]:LEU:HD23	2:O:132[A]:SER:N	2.16	0.60
2:O:138[A]:ILE:O	2:O:141[A]:LYS:N	2.25	0.60
1:A:330[C]:LYS:O	1:A:334[C]:GLU:HG3	2.01	0.60
1:E:409[C]:GLN:CG	1:E:412[C]:THR:HG23	2.32	0.60
1:H:414[C]:ARG:HH11	1:H:414[C]:ARG:CG	2.14	0.60
1:A:46[A]:LEU:HD23	1:A:103[A]:ILE:HD11	1.81	0.60
1:D:165[A]:ILE:HD11	1:D:254[A]:ILE:HG12	1.81	0.60
1:E:116[A]:ASN:HD22	1:E:116[A]:ASN:C	2.09	0.60
1:I:380[A]:GLU:HG2	1:I:410[A]:LYS:HG3	1.83	0.60
1:J:62[A]:TYR:HD1	1:J:65[A]:MET:HE2	1.67	0.60
2:N:130[A]:ARG:O	2:N:158[A]:PHE:N	2.34	0.60
2:N:168[A]:GLN:O	2:N:171[A]:GLN:N	2.32	0.60
1:A:46[C]:LEU:HD23	1:A:103[C]:ILE:HD11	1.81	0.60
1:D:165[C]:ILE:HD11	1:D:254[C]:ILE:HG12	1.81	0.60
1:E:116[C]:ASN:HD22	1:E:116[C]:ASN:C	2.09	0.60
1:I:380[C]:GLU:HG2	1:I:410[C]:LYS:HG3	1.83	0.60
1:J:62[C]:TYR:HD1	1:J:65[C]:MET:HE2	1.67	0.60
1:C:375[A]:LYS:HE3	1:C:381[A]:TYR:OH	2.01	0.60
1:J:294[A]:ILE:HG21	1:J:310[A]:THR:HB	1.82	0.60
1:J:305[A]:ASN:HD21	1:J:309[A]:GLN:HG3	1.64	0.60
2:K:131[A]:LEU:HD23	2:K:136[A]:ARG:HB2	1.83	0.60
2:L:157[A]:ILE:HG22	2:L:158[A]:PHE:N	2.15	0.60
2:O:145[A]:ASP:HB3	2:O:148[A]:GLN:HG2	1.82	0.60
1:C:375[C]:LYS:HE3	1:C:381[C]:TYR:OH	2.01	0.60
1:J:294[C]:ILE:HG21	1:J:310[C]:THR:HB	1.82	0.60
1:J:305[C]:ASN:HD21	1:J:309[C]:GLN:HG3	1.64	0.60
1:A:334[A]:GLU:OE2	1:A:351[A]:TYR:OH	2.17	0.60
1:E:116[A]:ASN:C	1:E:116[A]:ASN:ND2	2.58	0.60
1:J:46[A]:LEU:HD12	1:J:46[A]:LEU:O	2.02	0.60
1:A:334[C]:GLU:OE2	1:A:351[C]:TYR:OH	2.17	0.60
1:E:116[C]:ASN:C	1:E:116[C]:ASN:ND2	2.58	0.60
1:J:46[C]:LEU:HD12	1:J:46[C]:LEU:O	2.02	0.60
1:A:304[A]:VAL:HG23	1:F:250[A]:SER:HB3	1.83	0.60
1:D:191[A]:VAL:O	1:D:195[A]:SER:HB2	2.02	0.60
1:E:46[A]:LEU:HD11	1:E:99[A]:LEU:HB3	1.82	0.60
1:H:121[A]:ILE:HG12	1:H:144[A]:ILE:CD1	2.32	0.60
1:A:304[C]:VAL:HG23	1:F:250[C]:SER:HB3	1.83	0.60
1:D:191[C]:VAL:O	1:D:195[C]:SER:HB2	2.02	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:46[C]:LEU:HD11	1:E:99[C]:LEU:HB3	1.82	0.60
1:H:121[C]:ILE:HG12	1:H:144[C]:ILE:CD1	2.32	0.60
1:A:16[A]:PRO:O	1:A:20[A]:VAL:HG13	2.02	0.60
1:A:23[A]:ILE:O	1:A:27[A]:GLN:HG3	2.01	0.60
1:G:125[A]:ASN:HD22	1:G:142[A]:LYS:HA	1.65	0.60
1:G:248[A]:LYS:H	1:G:248[A]:LYS:HD2	1.66	0.60
1:J:305[A]:ASN:H	1:J:305[A]:ASN:HD22	1.46	0.60
1:A:16[C]:PRO:O	1:A:20[C]:VAL:HG13	2.02	0.60
1:A:23[C]:ILE:O	1:A:27[C]:GLN:HG3	2.01	0.60
1:E:45[C]:CYS:SG	1:E:50[C]:CYS:SG	2.62	0.60
1:G:125[C]:ASN:HD22	1:G:142[C]:LYS:HA	1.65	0.60
1:G:248[C]:LYS:H	1:G:248[C]:LYS:HD2	1.66	0.60
1:J:305[C]:ASN:H	1:J:305[C]:ASN:HD22	1.46	0.60
2:L:138[C]:ILE:HD12	2:L:164[C]:LEU:HD23	1.82	0.60
1:E:297[A]:ASP:HB2	1:E:298[A]:PRO:HD2	1.83	0.60
1:F:44[A]:THR:HG21	3:F:4755[A]:FAD:O2A	1.99	0.60
1:J:301[A]:ARG:NH1	1:J:323[A]:ALA:HA	2.16	0.60
1:E:297[C]:ASP:HB2	1:E:298[C]:PRO:HD2	1.83	0.60
3:E:4755[C]:FAD:O2A	1:F:44[C]:THR:HG21	1.99	0.60
1:J:301[C]:ARG:NH1	1:J:323[C]:ALA:HA	2.16	0.60
1:C:414[A]:ARG:CG	1:C:414[A]:ARG:NH1	2.52	0.60
1:H:41[A]:LEU:HD13	1:H:103[A]:ILE:HG22	1.84	0.60
1:H:220[A]:MET:CE	1:H:220[A]:MET:CB	2.80	0.60
1:H:453[A]:PRO:HA	1:H:457[A]:GLU:OE1	2.02	0.60
1:J:122[A]:THR:CG2	1:J:128[A]:THR:HG21	2.31	0.60
1:C:414[C]:ARG:CG	1:C:414[C]:ARG:NH1	2.52	0.60
1:H:41[C]:LEU:HD13	1:H:103[C]:ILE:HG22	1.84	0.60
1:H:220[C]:MET:CE	1:H:220[C]:MET:CB	2.80	0.60
1:H:453[C]:PRO:HA	1:H:457[C]:GLU:OE1	2.02	0.60
1:J:122[C]:THR:CG2	1:J:128[C]:THR:HG21	2.31	0.60
2:N:133[C]:PRO:HA	2:N:136[C]:ARG:HH21	1.66	0.60
1:A:209[A]:PHE:O	1:A:240[A]:ASN:HA	2.02	0.60
1:A:451[A]:ALA:O	1:A:454[A]:THR:HG23	2.01	0.60
1:D:255[A]:ASP:OD1	1:D:270[A]:THR:HB	2.01	0.60
1:E:143[A]:ASN:HD22	1:E:342[A]:MET:HE3	1.66	0.60
1:E:180[A]:LYS:HD3	1:E:203[A]:ASP:O	2.02	0.60
1:H:83[A]:LEU:HD13	1:H:84[A]:ASN:H	1.67	0.60
1:H:162[A]:GLU:HA	1:H:162[A]:GLU:OE1	2.01	0.60
1:I:155[A]:PHE:CZ	1:I:243[A]:VAL:HG23	2.37	0.60
1:I:387[A]:PRO:HA	1:I:403[A]:MET:HB3	1.83	0.60
1:I:388[A]:PHE:CE2	1:I:422[A]:GLY:HA3	2.36	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:N:164[A]:LEU:O	2:N:167[A]:VAL:N	2.35	0.60
1:A:209[C]:PHE:O	1:A:240[C]:ASN:HA	2.02	0.60
1:A:451[C]:ALA:O	1:A:454[C]:THR:HG23	2.01	0.60
1:D:255[C]:ASP:OD1	1:D:270[C]:THR:HB	2.01	0.60
1:E:143[C]:ASN:HD22	1:E:342[C]:MET:HE3	1.66	0.60
1:E:180[C]:LYS:HD3	1:E:203[C]:ASP:O	2.02	0.60
1:H:83[C]:LEU:HD13	1:H:84[C]:ASN:H	1.67	0.60
1:H:162[C]:GLU:OE1	1:H:162[C]:GLU:HA	2.01	0.60
1:I:155[C]:PHE:CZ	1:I:243[C]:VAL:HG23	2.37	0.60
1:I:387[C]:PRO:HA	1:I:403[C]:MET:HB3	1.83	0.60
1:I:388[C]:PHE:CE2	1:I:422[C]:GLY:HA3	2.36	0.60
2:N:131[C]:LEU:HD21	2:N:146[C]:ALA:HB1	1.81	0.60
1:B:337[A]:ILE:HG13	1:B:347[A]:VAL:HG13	1.84	0.59
1:G:84[A]:ASN:C	1:G:84[A]:ASN:ND2	2.60	0.59
1:G:150[A]:SER:HB3	1:G:320[A]:ASP:OD2	2.02	0.59
1:G:299[A]:ARG:HH11	1:G:299[A]:ARG:HG3	1.67	0.59
1:I:218[A]:ILE:N	1:I:218[A]:ILE:CD1	2.53	0.59
1:I:284[A]:THR:O	1:I:285[A]:LYS:C	2.44	0.59
2:M:132[A]:SER:O	2:M:133[A]:PRO:C	2.43	0.59
1:B:337[C]:ILE:HG13	1:B:347[C]:VAL:HG13	1.84	0.59
1:G:84[C]:ASN:C	1:G:84[C]:ASN:ND2	2.60	0.59
1:G:150[C]:SER:HB3	1:G:320[C]:ASP:OD2	2.02	0.59
1:G:299[C]:ARG:HG3	1:G:299[C]:ARG:HH11	1.67	0.59
1:I:218[C]:ILE:N	1:I:218[C]:ILE:CD1	2.53	0.59
1:I:284[C]:THR:O	1:I:285[C]:LYS:C	2.44	0.59
1:G:178[A]:PRO:HB3	1:G:273[A]:VAL:CG2	2.31	0.59
1:G:305[A]:ASN:OD1	1:G:305[A]:ASN:C	2.45	0.59
1:H:370[A]:SER:H	1:H:373[A]:GLN:NE2	2.00	0.59
1:I:307[A]:ARG:NH1	1:I:347[A]:VAL:HG22	2.17	0.59
2:M:142[A]:HIS:CD2	2:M:167[A]:VAL:CG1	2.85	0.59
1:G:178[C]:PRO:HB3	1:G:273[C]:VAL:CG2	2.31	0.59
1:G:305[C]:ASN:C	1:G:305[C]:ASN:OD1	2.45	0.59
1:H:370[C]:SER:H	1:H:373[C]:GLN:NE2	2.00	0.59
1:I:307[C]:ARG:NH1	1:I:347[C]:VAL:HG22	2.17	0.59
1:A:105[A]:HIS:HD2	4:A:4772[A]:HOH:O	1.86	0.59
1:A:105[C]:HIS:HD2	4:J:4772[C]:HOH:O	1.86	0.59
2:N:159[C]:THR:CG2	2:N:161[C]:GLU:H	2.16	0.59
1:B:144[A]:ILE:HD12	1:B:144[A]:ILE:C	2.28	0.59
1:B:304[A]:VAL:HG23	1:J:250[A]:SER:HB3	1.84	0.59
1:G:239[A]:LEU:O	1:G:240[A]:ASN:HB2	2.02	0.59
1:I:244[A]:THR:HB	1:I:257[A]:SER:CB	2.32	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:J:325[A]:PRO:O	1:J:330[A]:LYS:HD2	2.02	0.59
1:B:144[C]:ILE:HD12	1:B:144[C]:ILE:C	2.28	0.59
1:B:304[C]:VAL:HG23	1:J:250[C]:SER:HB3	1.84	0.59
1:G:239[C]:LEU:O	1:G:240[C]:ASN:HB2	2.02	0.59
1:I:244[C]:THR:HB	1:I:257[C]:SER:CB	2.32	0.59
1:J:325[C]:PRO:O	1:J:330[C]:LYS:HD2	2.02	0.59
1:H:155[A]:PHE:HD2	1:H:278[A]:ILE:HD11	1.68	0.59
1:H:155[C]:PHE:HD2	1:H:278[C]:ILE:HD11	1.68	0.59
2:M:153[C]:GLY:O	2:M:154[C]:PRO:O	2.21	0.59
1:A:445[A]:ILE:HD13	1:A:445[A]:ILE:C	2.28	0.59
1:J:37[A]:LYS:HG2	4:J:4759[A]:FAD:N3A	2.16	0.59
1:A:445[C]:ILE:C	1:A:445[C]:ILE:HD13	2.28	0.59
3:I:4759[C]:FAD:N3A	1:J:37[C]:LYS:HG2	2.16	0.59
1:A:434[A]:LEU:HD12	1:B:448[A]:VAL:HG21	1.85	0.59
1:D:187[A]:GLY:O	1:D:191[A]:VAL:CG2	2.51	0.59
3:F:4755[A]:FAD:C4X	4:F:4797[A]:HOH:O	2.51	0.59
1:H:428[A]:MET:HE1	1:H:455[A]:LEU:HB3	1.83	0.59
1:A:434[C]:LEU:HD12	1:B:448[C]:VAL:HG21	1.85	0.59
1:D:187[C]:GLY:O	1:D:191[C]:VAL:CG2	2.51	0.59
3:E:4755[C]:FAD:C4X	4:E:4797[C]:HOH:O	2.51	0.59
1:H:428[C]:MET:HE1	1:H:455[C]:LEU:HB3	1.83	0.59
1:B:59[A]:ASN:HB3	1:B:88[A]:MET:HE2	1.84	0.59
2:K:167[A]:VAL:O	2:K:171[A]:GLN:NE2	2.35	0.59
2:M:142[A]:HIS:HD2	2:M:167[A]:VAL:CG1	2.15	0.59
1:B:59[C]:ASN:HB3	1:B:88[C]:MET:HE2	1.84	0.59
1:F:6[A]:ASP:O	1:F:31[A]:LYS:HE3	2.02	0.59
1:J:37[A]:LYS:NZ	4:J:4759[A]:FAD:O2B	2.32	0.59
1:F:6[C]:ASP:O	1:F:31[C]:LYS:HE3	2.02	0.59
3:I:4759[C]:FAD:O2B	1:J:37[C]:LYS:NZ	2.32	0.59
1:A:46[A]:LEU:HD12	1:A:46[A]:LEU:C	2.28	0.59
1:C:434[A]:LEU:O	1:C:434[A]:LEU:HD23	2.03	0.59
1:G:314[A]:ASN:HD22	1:G:314[A]:ASN:N	1.95	0.59
2:L:139[A]:LEU:O	2:L:140[A]:GLU:C	2.46	0.59
1:A:46[C]:LEU:HD12	1:A:46[C]:LEU:C	2.28	0.59
1:A:441[C]:SER:HB3	2:K:155[C]:ARG:HH22	1.68	0.59
1:C:434[C]:LEU:O	1:C:434[C]:LEU:HD23	2.03	0.59
1:G:314[C]:ASN:HD22	1:G:314[C]:ASN:N	1.95	0.59
2:K:134[C]:ALA:O	2:K:137[C]:ASN:HB3	2.03	0.59
1:E:409[A]:GLN:NE2	1:E:411[A]:SER:N	2.40	0.58
2:K:171[A]:GLN:C	2:K:173[A]:GLY:N	2.61	0.58
2:M:135[A]:ALA:HA	2:M:138[A]:ILE:CD1	2.32	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:409[C]:GLN:NE2	1:E:411[C]:SER:N	2.40	0.58
2:M:146[C]:ALA:O	2:M:149[C]:GLY:N	2.26	0.58
1:F:188[A]:VAL:HG22	1:F:358[A]:ILE:HG12	1.86	0.58
1:G:10[A]:THR:OG1	1:G:141[A]:THR:HG21	2.04	0.58
1:G:171[A]:ALA:HB3	1:G:193[A]:LEU:HD23	1.83	0.58
1:G:203[A]:ASP:OD1	1:G:236[A]:LYS:HE2	2.03	0.58
2:L:172[A]:THR:O	2:L:172[A]:THR:HG22	2.01	0.58
1:F:188[C]:VAL:HG22	1:F:358[C]:ILE:HG12	1.86	0.58
1:G:10[C]:THR:OG1	1:G:141[C]:THR:HG21	2.04	0.58
1:G:171[C]:ALA:HB3	1:G:193[C]:LEU:HD23	1.83	0.58
1:G:203[C]:ASP:OD1	1:G:236[C]:LYS:HE2	2.03	0.58
1:D:338[A]:CYS:O	1:D:342[A]:MET:HG3	2.03	0.58
1:I:372[A]:GLU:C	1:I:374[A]:LEU:N	2.60	0.58
1:J:8[A]:ASP:HB2	1:J:142[A]:LYS:HG3	1.85	0.58
2:L:131[A]:LEU:O	2:L:157[A]:ILE:CG2	2.52	0.58
2:N:155[A]:ARG:HG2	2:N:156[A]:GLY:H	1.68	0.58
1:D:338[C]:CYS:O	1:D:342[C]:MET:HG3	2.03	0.58
1:I:372[C]:GLU:C	1:I:374[C]:LEU:N	2.60	0.58
1:J:8[C]:ASP:HB2	1:J:142[C]:LYS:HG3	1.85	0.58
1:E:137[A]:GLN:NE2	1:E:138[A]:VAL:N	2.51	0.58
1:F:435[A]:ALA:HB1	1:F:445[A]:ILE:HD11	1.84	0.58
1:J:122[A]:THR:HG23	1:J:128[A]:THR:HG22	1.84	0.58
2:M:155[A]:ARG:HH21	2:M:157[A]:ILE:HG22	1.68	0.58
2:M:159[A]:THR:CG2	2:M:161[A]:GLU:HB2	2.33	0.58
1:E:137[C]:GLN:NE2	1:E:138[C]:VAL:N	2.51	0.58
1:F:435[C]:ALA:HB1	1:F:445[C]:ILE:HD11	1.84	0.58
1:J:122[C]:THR:HG23	1:J:128[C]:THR:HG22	1.84	0.58
2:N:167[C]:VAL:O	2:N:168[C]:GLN:C	2.45	0.58
1:C:413[A]:ASP:O	1:C:441[A]:SER:HB2	2.03	0.58
1:D:284[A]:THR:HG22	1:D:284[A]:THR:O	2.02	0.58
1:E:361[A]:HIS:HE1	1:E:399[A]:ASP:OD2	1.87	0.58
1:G:155[A]:PHE:CZ	1:G:243[A]:VAL:HG13	2.39	0.58
1:I:155[A]:PHE:CZ	1:I:243[A]:VAL:CG2	2.86	0.58
1:C:413[C]:ASP:O	1:C:441[C]:SER:HB2	2.03	0.58
1:D:284[C]:THR:O	1:D:284[C]:THR:HG22	2.02	0.58
1:E:361[C]:HIS:HE1	1:E:399[C]:ASP:OD2	1.87	0.58
1:G:155[C]:PHE:CZ	1:G:243[C]:VAL:HG13	2.39	0.58
1:I:155[C]:PHE:CZ	1:I:243[C]:VAL:CG2	2.86	0.58
1:E:143[A]:ASN:ND2	1:E:342[A]:MET:HE3	2.18	0.58
1:E:347[A]:VAL:HG23	1:E:347[A]:VAL:O	2.03	0.58
1:F:16[A]:PRO:O	1:F:18[A]:GLY:N	2.37	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:H:19[A]:TYR:C	1:H:19[A]:TYR:CD1	2.81	0.58
2:L:166[A]:LEU:O	2:L:167[A]:VAL:C	2.44	0.58
1:E:143[C]:ASN:ND2	1:E:342[C]:MET:HE3	2.18	0.58
1:E:347[C]:VAL:O	1:E:347[C]:VAL:HG23	2.03	0.58
1:F:16[C]:PRO:O	1:F:18[C]:GLY:N	2.37	0.58
1:H:19[C]:TYR:CD1	1:H:19[C]:TYR:C	2.81	0.58
1:B:409[A]:GLN:O	1:B:410[A]:LYS:C	2.44	0.58
1:D:450[A]:HIS:CD2	1:D:460[A]:ARG:HG3	2.38	0.58
1:E:434[A]:LEU:HD23	1:F:434[A]:LEU:HD23	1.86	0.58
1:G:248[A]:LYS:HD2	1:G:248[A]:LYS:N	2.19	0.58
1:J:388[A]:PHE:HZ	1:J:428[A]:MET:HE1	1.69	0.58
1:B:409[C]:GLN:O	1:B:410[C]:LYS:C	2.44	0.58
1:D:450[C]:HIS:CD2	1:D:460[C]:ARG:HG3	2.38	0.58
1:E:434[C]:LEU:HD23	1:F:434[C]:LEU:HD23	1.86	0.58
1:G:248[C]:LYS:HD2	1:G:248[C]:LYS:N	2.19	0.58
1:J:388[C]:PHE:HZ	1:J:428[C]:MET:HE1	1.69	0.58
1:B:60[A]:SER:HB2	1:B:200[A]:LEU:HD13	1.84	0.58
1:D:284[A]:THR:HB	4:D:4772[A]:HOH:O	2.04	0.58
1:G:74[A]:ARG:HE	1:H:59[A]:ASN:ND2	2.01	0.58
1:I:320[A]:ASP:OD2	3:I:4758[A]:FAD:H5'1	2.04	0.58
1:B:60[C]:SER:HB2	1:B:200[C]:LEU:HD13	1.84	0.58
4:C:4772[C]:HOH:O	1:D:284[C]:THR:HB	2.04	0.58
1:G:74[C]:ARG:HE	1:H:59[C]:ASN:ND2	2.01	0.58
3:H:4758[C]:FAD:H5'1	1:I:320[C]:ASP:OD2	2.04	0.58
2:K:159[C]:THR:HG22	2:K:161[C]:GLU:H	1.68	0.58
1:A:137[A]:GLN:HE21	1:A:137[A]:GLN:C	2.11	0.58
1:E:219[A]:ASP:HB3	1:E:222[A]:ILE:HG23	1.86	0.58
1:A:137[C]:GLN:HE21	1:A:137[C]:GLN:C	2.11	0.58
1:E:219[C]:ASP:HB3	1:E:222[C]:ILE:HG23	1.86	0.58
1:A:174[A]:LEU:HB2	1:A:197[A]:TRP:CZ2	2.38	0.58
1:C:363[A]:GLU:HB2	1:C:425[A]:ALA:HB3	1.86	0.58
1:D:193[A]:LEU:N	1:D:193[A]:LEU:CD1	2.66	0.58
1:I:336[A]:ILE:CG2	1:I:337[A]:ILE:N	2.67	0.58
1:A:174[C]:LEU:HB2	1:A:197[C]:TRP:CZ2	2.38	0.58
1:C:363[C]:GLU:HB2	1:C:425[C]:ALA:HB3	1.86	0.58
1:D:193[C]:LEU:N	1:D:193[C]:LEU:CD1	2.66	0.58
1:I:336[C]:ILE:CG2	1:I:337[C]:ILE:N	2.67	0.58
1:B:145[A]:LEU:HD11	1:B:318[A]:ILE:HD12	1.86	0.57
1:B:145[C]:LEU:HD11	1:B:318[C]:ILE:HD12	1.86	0.57
2:L:132[C]:SER:O	2:L:133[C]:PRO:C	2.47	0.57
2:L:138[C]:ILE:HD11	2:L:167[C]:VAL:HG21	1.86	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:3[A]:GLN:HA	1:C:3[A]:GLN:NE2	2.18	0.57
1:C:46[A]:LEU:CD2	1:C:100[A]:THR:HG22	2.35	0.57
1:C:307[A]:ARG:O	1:C:308[A]:PHE:HB2	2.04	0.57
1:I:336[A]:ILE:HG22	1:I:337[A]:ILE:N	2.18	0.57
1:J:384[A]:GLY:O	1:J:406[A]:ILE:CD1	2.52	0.57
2:M:131[A]:LEU:CD1	2:M:136[A]:ARG:NH2	2.67	0.57
2:M:132[A]:SER:O	2:M:135[A]:ALA:N	2.37	0.57
1:C:3[C]:GLN:HA	1:C:3[C]:GLN:NE2	2.18	0.57
1:C:46[C]:LEU:CD2	1:C:100[C]:THR:HG22	2.35	0.57
1:C:307[C]:ARG:O	1:C:308[C]:PHE:HB2	2.04	0.57
1:I:336[C]:ILE:HG22	1:I:337[C]:ILE:N	2.18	0.57
1:J:384[C]:GLY:O	1:J:406[C]:ILE:CD1	2.52	0.57
2:M:134[C]:ALA:O	2:M:138[C]:ILE:HG13	2.04	0.57
1:A:318[A]:ILE:C	1:A:318[A]:ILE:HD12	2.29	0.57
1:D:51[A]:ILE:HB	1:D:52[A]:PRO:CD	2.29	0.57
1:I:160[A]:ILE:HA	1:I:165[A]:ILE:HG22	1.86	0.57
1:I:396[A]:THR:C	1:I:398[A]:ALA:H	2.10	0.57
4:J:4759[A]:FAD:O4'	4:J:4759[A]:FAD:O2'	2.16	0.57
2:N:142[A]:HIS:C	2:N:144[A]:LEU:H	2.12	0.57
1:A:318[C]:ILE:C	1:A:318[C]:ILE:HD12	2.29	0.57
1:D:51[C]:ILE:HB	1:D:52[C]:PRO:CD	2.29	0.57
1:I:160[C]:ILE:HA	1:I:165[C]:ILE:HG22	1.86	0.57
1:I:396[C]:THR:C	1:I:398[C]:ALA:H	2.10	0.57
3:I:4759[C]:FAD:O4'	3:I:4759[C]:FAD:O2'	2.16	0.57
1:C:393[A]:ARG:HB3	1:C:455[A]:LEU:HD13	1.86	0.57
1:G:178[A]:PRO:HB3	1:G:273[A]:VAL:HG23	1.85	0.57
1:J:66[A]:ALA:HB1	1:J:78[A]:MET:HE1	1.87	0.57
1:C:393[C]:ARG:HB3	1:C:455[C]:LEU:HD13	1.86	0.57
1:G:178[C]:PRO:HB3	1:G:273[C]:VAL:HG23	1.85	0.57
1:J:66[C]:ALA:HB1	1:J:78[C]:MET:HE1	1.87	0.57
1:A:354[A]:VAL:HG13	1:A:354[A]:VAL:O	2.04	0.57
1:D:301[A]:ARG:NH1	1:D:323[A]:ALA:HA	2.19	0.57
1:F:84[A]:ASN:HD22	1:F:84[A]:ASN:C	2.13	0.57
1:I:441[A]:SER:O	1:I:444[A]:ASP:HB2	2.05	0.57
1:J:434[A]:LEU:O	1:J:434[A]:LEU:HD12	2.05	0.57
1:A:354[C]:VAL:HG13	1:A:354[C]:VAL:O	2.04	0.57
1:D:301[C]:ARG:NH1	1:D:323[C]:ALA:HA	2.19	0.57
1:F:84[C]:ASN:HD22	1:F:84[C]:ASN:C	2.13	0.57
1:I:441[C]:SER:O	1:I:444[C]:ASP:HB2	2.05	0.57
1:J:434[C]:LEU:HD12	1:J:434[C]:LEU:O	2.05	0.57
1:C:46[A]:LEU:HD23	1:C:100[A]:THR:HG22	1.86	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:330[A]:LYS:CE	1:D:334[A]:GLU:OE2	2.50	0.57
1:F:361[A]:HIS:HA	1:F:362[A]:PRO:C	2.29	0.57
1:J:25[A]:ALA:HB2	1:J:339[A]:VAL:HG11	1.86	0.57
1:J:413[A]:ASP:O	1:J:441[A]:SER:HB2	2.04	0.57
2:L:154[A]:PRO:C	2:L:156[A]:GLY:H	2.12	0.57
1:C:46[C]:LEU:HD23	1:C:100[C]:THR:HG22	1.86	0.57
1:D:330[C]:LYS:CE	1:D:334[C]:GLU:OE2	2.50	0.57
1:F:361[C]:HIS:HA	1:F:362[C]:PRO:C	2.29	0.57
1:J:25[C]:ALA:HB2	1:J:339[C]:VAL:HG11	1.86	0.57
1:J:413[C]:ASP:O	1:J:441[C]:SER:HB2	2.04	0.57
2:L:138[C]:ILE:HD11	2:L:167[C]:VAL:CG2	2.35	0.57
1:A:19[A]:TYR:CD1	1:A:19[A]:TYR:C	2.82	0.57
1:C:31[A]:LYS:NZ	4:C:4765[A]:HOH:O	2.37	0.57
1:C:208[A]:GLU:HB3	1:C:239[A]:LEU:HD12	1.86	0.57
1:H:385[A]:LYS:HG2	1:H:403[A]:MET:HE1	1.86	0.57
1:I:258[A]:ILE:C	1:I:258[A]:ILE:HD12	2.29	0.57
1:I:291[A]:GLU:O	1:I:292[A]:LEU:HD12	2.05	0.57
1:I:435[A]:ALA:CB	1:I:445[A]:ILE:HD11	2.34	0.57
1:J:345[A]:GLY:HA2	2:O:141[A]:LYS:HD3	1.85	0.57
1:A:19[C]:TYR:CD1	1:A:19[C]:TYR:C	2.82	0.57
4:B:4765[C]:HOH:O	1:C:31[C]:LYS:NZ	2.37	0.57
1:C:208[C]:GLU:HB3	1:C:239[C]:LEU:HD12	1.86	0.57
1:H:385[C]:LYS:HG2	1:H:403[C]:MET:HE1	1.86	0.57
1:I:258[C]:ILE:C	1:I:258[C]:ILE:HD12	2.29	0.57
1:I:291[C]:GLU:O	1:I:292[C]:LEU:HD12	2.05	0.57
1:I:435[C]:ALA:CB	1:I:445[C]:ILE:HD11	2.34	0.57
1:A:69[A]:LYS:HB2	1:A:69[A]:LYS:NZ	2.20	0.57
1:B:429[A]:VAL:O	1:B:432[A]:ALA:HB3	2.05	0.57
1:I:381[A]:TYR:C	1:I:381[A]:TYR:HD1	2.11	0.57
1:J:37[A]:LYS:HE3	4:J:4759[A]:FAD:C5A	2.35	0.57
2:O:152[A]:THR:HB	2:O:162[A]:ASP:OD1	2.05	0.57
1:A:69[C]:LYS:HB2	1:A:69[C]:LYS:NZ	2.20	0.57
1:A:441[C]:SER:N	2:K:155[C]:ARG:NH2	2.53	0.57
1:B:429[C]:VAL:O	1:B:432[C]:ALA:HB3	2.05	0.57
1:I:381[C]:TYR:C	1:I:381[C]:TYR:HD1	2.11	0.57
3:I:4759[C]:FAD:C5A	1:J:37[C]:LYS:HE3	2.35	0.57
1:B:290[A]:GLU:C	1:B:292[A]:LEU:H	2.12	0.57
1:G:70[A]:ASP:OD1	1:G:74[A]:ARG:NH1	2.37	0.57
1:G:322[A]:VAL:CG1	1:G:323[A]:ALA:N	2.68	0.57
1:H:172[A]:LEU:HD13	1:H:193[A]:LEU:HD11	1.86	0.57
1:J:232[A]:LYS:N	1:J:232[A]:LYS:HE3	2.20	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:290[C]:GLU:C	1:B:292[C]:LEU:H	2.12	0.57
1:G:70[C]:ASP:OD1	1:G:74[C]:ARG:NH1	2.37	0.57
1:G:322[C]:VAL:CG1	1:G:323[C]:ALA:N	2.68	0.57
1:H:172[C]:LEU:HD13	1:H:193[C]:LEU:HD11	1.86	0.57
1:J:232[C]:LYS:N	1:J:232[C]:LYS:HE3	2.20	0.57
1:A:430[A]:ASN:ND2	1:B:450[A]:HIS:HA	2.20	0.56
1:H:461[A]:GLU:OE2	1:H:473[A]:ASN:OD1	2.22	0.56
1:A:430[C]:ASN:ND2	1:B:450[C]:HIS:HA	2.20	0.56
1:H:461[C]:GLU:OE2	1:H:473[C]:ASN:OD1	2.22	0.56
2:N:153[C]:GLY:O	2:N:154[C]:PRO:C	2.47	0.56
1:E:453[A]:PRO:HA	1:E:457[A]:GLU:OE2	2.04	0.56
1:H:377[A]:GLU:HG3	1:H:379[A]:ILE:HD12	1.87	0.56
1:I:155[A]:PHE:HD2	1:I:158[A]:ILE:HG13	1.70	0.56
1:J:406[A]:ILE:C	1:J:407[A]:LEU:HD23	2.29	0.56
1:J:406[A]:ILE:HG21	1:J:463[A]:ASN:ND2	2.20	0.56
1:E:453[C]:PRO:HA	1:E:457[C]:GLU:OE2	2.04	0.56
1:H:377[C]:GLU:HG3	1:H:379[C]:ILE:HD12	1.87	0.56
1:I:155[C]:PHE:HD2	1:I:158[C]:ILE:HG13	1.70	0.56
1:J:406[C]:ILE:C	1:J:407[C]:LEU:HD23	2.29	0.56
1:J:406[C]:ILE:HG21	1:J:463[C]:ASN:ND2	2.20	0.56
1:B:188[A]:VAL:HG22	1:B:358[A]:ILE:HG12	1.87	0.56
1:C:88[A]:MET:CE	1:C:200[A]:LEU:HD21	2.35	0.56
1:D:161[A]:ASP:OD1	1:D:163[A]:ASP:HB3	2.06	0.56
1:E:41[A]:LEU:CD1	1:E:103[A]:ILE:HG22	2.35	0.56
1:F:320[A]:ASP:HA	4:F:4765[A]:HOH:O	2.03	0.56
1:F:438[A]:TYR:CD1	2:M:133[A]:PRO:HD2	2.39	0.56
1:G:137[A]:GLN:NE2	1:G:138[A]:VAL:H	1.97	0.56
1:H:165[A]:ILE:HG23	1:H:274[A]:LEU:HD23	1.87	0.56
1:I:63[A]:TYR:HA	1:J:76[A]:ILE:HD13	1.87	0.56
1:I:76[A]:ILE:HD13	1:J:63[A]:TYR:CA	2.35	0.56
1:I:297[A]:ASP:C	1:I:299[A]:ARG:H	2.12	0.56
1:J:305[A]:ASN:ND2	1:J:309[A]:GLN:H	2.03	0.56
2:L:170[A]:LYS:O	2:L:170[A]:LYS:HD3	2.04	0.56
2:N:133[A]:PRO:O	2:N:136[A]:ARG:HG2	2.05	0.56
2:N:158[A]:PHE:CE1	2:N:162[A]:ASP:HB3	2.41	0.56
1:B:188[C]:VAL:HG22	1:B:358[C]:ILE:HG12	1.87	0.56
1:C:88[C]:MET:CE	1:C:200[C]:LEU:HD21	2.35	0.56
1:D:161[C]:ASP:OD1	1:D:163[C]:ASP:HB3	2.06	0.56
1:E:41[C]:LEU:CD1	1:E:103[C]:ILE:HG22	2.35	0.56
4:E:4765[C]:HOH:O	1:F:320[C]:ASP:HA	2.03	0.56
1:G:137[C]:GLN:NE2	1:G:138[C]:VAL:H	1.97	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:H:165[C]:ILE:HG23	1:H:274[C]:LEU:HD23	1.87	0.56
1:I:63[C]:TYR:HA	1:J:76[C]:ILE:HD13	1.87	0.56
1:I:76[C]:ILE:HD13	1:J:63[C]:TYR:CA	2.35	0.56
1:I:297[C]:ASP:C	1:I:299[C]:ARG:H	2.12	0.56
1:J:305[C]:ASN:ND2	1:J:309[C]:GLN:H	2.03	0.56
1:B:137[A]:GLN:CA	1:B:137[A]:GLN:NE2	2.64	0.56
1:B:318[A]:ILE:HG12	1:B:319[A]:GLY:N	2.19	0.56
1:G:332[A]:GLU:O	1:G:333[A]:ASP:C	2.46	0.56
1:J:372[A]:GLU:CD	1:J:372[A]:GLU:H	2.11	0.56
1:J:388[A]:PHE:CZ	1:J:428[A]:MET:HE1	2.41	0.56
2:N:146[A]:ALA:O	2:N:148[A]:GLN:N	2.38	0.56
1:B:137[C]:GLN:CA	1:B:137[C]:GLN:NE2	2.64	0.56
1:B:318[C]:ILE:HG12	1:B:319[C]:GLY:N	2.19	0.56
1:G:332[C]:GLU:O	1:G:333[C]:ASP:C	2.46	0.56
1:J:372[C]:GLU:H	1:J:372[C]:GLU:CD	2.11	0.56
1:J:388[C]:PHE:CZ	1:J:428[C]:MET:HE1	2.41	0.56
1:E:137[A]:GLN:HE21	1:E:137[A]:GLN:HA	1.67	0.56
1:H:56[A]:LEU:HD12	1:H:172[A]:LEU:HD12	1.86	0.56
1:H:428[A]:MET:CE	1:H:455[A]:LEU:HB3	2.35	0.56
1:I:289[A]:LEU:HD12	1:I:289[A]:LEU:H	1.69	0.56
1:E:137[C]:GLN:HE21	1:E:137[C]:GLN:HA	1.67	0.56
1:H:56[C]:LEU:HD12	1:H:172[C]:LEU:HD12	1.86	0.56
1:H:428[C]:MET:CE	1:H:455[C]:LEU:HB3	2.35	0.56
1:I:289[C]:LEU:HD12	1:I:289[C]:LEU:H	1.69	0.56
2:M:142[C]:HIS:O	2:M:144[C]:LEU:HG	2.06	0.56
1:C:454[A]:THR:HB	1:D:427[A]:GLU:OE1	2.06	0.56
1:D:14[A]:SER:O	1:D:19[A]:TYR:HB3	2.05	0.56
1:I:434[A]:LEU:HD13	1:J:448[A]:VAL:HG21	1.87	0.56
1:C:454[C]:THR:HB	1:D:427[C]:GLU:OE1	2.06	0.56
1:D:14[C]:SER:O	1:D:19[C]:TYR:HB3	2.05	0.56
1:D:443[C]:GLU:OE2	2:L:134[C]:ALA:HB1	2.06	0.56
1:I:434[C]:LEU:HD13	1:J:448[C]:VAL:HG21	1.87	0.56
2:M:154[C]:PRO:C	2:M:156[C]:GLY:N	2.60	0.56
1:G:314[A]:ASN:H	1:G:314[A]:ASN:ND2	1.97	0.56
1:G:413[A]:ASP:HB3	2:N:160[A]:LYS:HE2	1.87	0.56
1:G:314[C]:ASN:H	1:G:314[C]:ASN:ND2	1.97	0.56
1:A:316[A]:TYR:N	1:A:316[A]:TYR:CD1	2.72	0.56
1:A:358[A]:ILE:HD11	1:A:360[A]:THR:OG1	2.06	0.56
1:C:291[A]:GLU:H	1:C:291[A]:GLU:CD	2.10	0.56
1:F:440[A]:ALA:HA	2:M:155[A]:ARG:NH1	2.20	0.56
1:J:56[A]:LEU:HD21	1:J:92[A]:LYS:HD3	1.87	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:316[C]:TYR:N	1:A:316[C]:TYR:CD1	2.72	0.56
1:A:358[C]:ILE:HD11	1:A:360[C]:THR:OG1	2.06	0.56
1:C:291[C]:GLU:H	1:C:291[C]:GLU:CD	2.10	0.56
1:F:412[C]:THR:HB	2:M:161[C]:GLU:HG2	1.87	0.56
1:H:45[C]:CYS:SG	1:H:50[C]:CYS:SG	2.98	0.56
1:J:56[C]:LEU:HD21	1:J:92[C]:LYS:HD3	1.87	0.56
2:M:132[C]:SER:O	2:M:133[C]:PRO:C	2.49	0.56
1:F:453[A]:PRO:HA	1:F:457[A]:GLU:OE2	2.06	0.56
1:J:51[A]:ILE:CB	1:J:52[A]:PRO:HD3	2.27	0.56
1:A:441[C]:SER:N	2:K:155[C]:ARG:HH21	2.04	0.56
1:F:453[C]:PRO:HA	1:F:457[C]:GLU:OE2	2.06	0.56
1:J:51[C]:ILE:CB	1:J:52[C]:PRO:HD3	2.27	0.56
1:F:188[A]:VAL:CG2	1:F:358[A]:ILE:HG12	2.36	0.56
1:G:330[A]:LYS:HD3	1:G:334[A]:GLU:OE2	2.06	0.56
1:I:44[A]:THR:HG23	3:I:4758[A]:FAD:O2A	2.05	0.56
2:O:131[A]:LEU:HD21	2:O:135[A]:ALA:CB	2.36	0.56
1:F:188[C]:VAL:CG2	1:F:358[C]:ILE:HG12	2.36	0.56
1:G:330[C]:LYS:HD3	1:G:334[C]:GLU:OE2	2.06	0.56
3:H:4758[C]:FAD:O2A	1:I:44[C]:THR:HG23	2.05	0.56
1:C:89[A]:MET:HE3	1:C:173[A]:SER:HA	1.88	0.55
1:D:43[A]:GLY:HA2	3:D:4753[A]:FAD:O3B	2.06	0.55
1:E:204[A]:VAL:HG12	1:E:205[A]:THR:N	2.19	0.55
1:E:412[A]:THR:O	1:E:413[A]:ASP:HB3	2.07	0.55
1:E:461[A]:GLU:OE2	1:E:472[A]:ILE:HG22	2.06	0.55
1:F:461[A]:GLU:OE2	1:F:473[A]:ASN:ND2	2.38	0.55
1:G:443[A]:GLU:O	1:G:447[A]:ARG:HG3	2.06	0.55
2:M:152[A]:THR:O	2:M:162[A]:ASP:OD2	2.24	0.55
1:C:89[C]:MET:HE3	1:C:173[C]:SER:HA	1.88	0.55
3:C:4753[C]:FAD:O3B	1:D:43[C]:GLY:HA2	2.06	0.55
1:E:204[C]:VAL:HG12	1:E:205[C]:THR:N	2.19	0.55
1:E:412[C]:THR:O	1:E:413[C]:ASP:HB3	2.07	0.55
1:E:461[C]:GLU:OE2	1:E:472[C]:ILE:HG22	2.06	0.55
1:F:461[C]:GLU:OE2	1:F:473[C]:ASN:ND2	2.38	0.55
1:G:443[C]:GLU:O	1:G:447[C]:ARG:HG3	2.06	0.55
2:M:154[C]:PRO:C	2:M:156[C]:GLY:H	2.14	0.55
1:B:355[A]:PRO:HA	1:B:367[A]:VAL:HG23	1.88	0.55
1:F:318[A]:ILE:HB	1:F:334[A]:GLU:HB3	1.87	0.55
1:H:305[A]:ASN:ND2	1:H:307[A]:ARG:N	2.54	0.55
1:I:15[A]:GLY:N	4:I:4760[A]:HOH:O	2.38	0.55
1:I:301[A]:ARG:HD2	1:I:323[A]:ALA:HA	1.89	0.55
2:M:152[A]:THR:CG2	2:M:153[A]:GLY:N	2.68	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:M:168[A]:GLN:O	2:M:171[A]:GLN:HG3	2.05	0.55
1:B:355[C]:PRO:HA	1:B:367[C]:VAL:HG23	1.88	0.55
1:F:318[C]:ILE:HB	1:F:334[C]:GLU:HB3	1.87	0.55
1:G:45[C]:CYS:SG	1:G:50[C]:CYS:SG	2.71	0.55
1:H:305[C]:ASN:ND2	1:H:307[C]:ARG:N	2.54	0.55
4:H:4760[C]:HOH:O	1:I:15[C]:GLY:N	2.38	0.55
1:I:301[C]:ARG:HD2	1:I:323[C]:ALA:HA	1.89	0.55
2:N:137[C]:ASN:O	2:N:138[C]:ILE:C	2.49	0.55
1:D:7[A]:ALA:O	1:D:141[A]:THR:HA	2.06	0.55
1:E:160[A]:ILE:HA	1:E:165[A]:ILE:HG22	1.89	0.55
1:I:80[A]:GLU:HG2	1:I:81[A]:VAL:N	2.22	0.55
1:D:7[C]:ALA:O	1:D:141[C]:THR:HA	2.06	0.55
1:E:160[C]:ILE:HA	1:E:165[C]:ILE:HG22	1.89	0.55
1:I:80[C]:GLU:HG2	1:I:81[C]:VAL:N	2.22	0.55
1:A:167[A]:SER:O	1:A:168[A]:SER:C	2.50	0.55
1:A:186[A]:ALA:HB1	1:A:213[A]:VAL:HG13	1.88	0.55
1:G:404[A]:VAL:HG22	1:G:420[A]:ILE:HG23	1.89	0.55
1:H:165[A]:ILE:CD1	1:H:254[A]:ILE:HD12	2.36	0.55
1:H:318[A]:ILE:HD12	1:H:335[A]:GLY:CA	2.35	0.55
1:I:92[A]:LYS:O	1:I:96[A]:VAL:HG23	2.06	0.55
1:A:167[C]:SER:O	1:A:168[C]:SER:C	2.50	0.55
1:A:186[C]:ALA:HB1	1:A:213[C]:VAL:HG13	1.88	0.55
1:G:404[C]:VAL:HG22	1:G:420[C]:ILE:HG23	1.89	0.55
1:H:165[C]:ILE:CD1	1:H:254[C]:ILE:HD12	2.36	0.55
1:H:318[C]:ILE:HD12	1:H:335[C]:GLY:CA	2.35	0.55
1:I:92[C]:LYS:O	1:I:96[C]:VAL:HG23	2.06	0.55
1:D:87[A]:LYS:HE3	1:D:90[A]:GLU:OE1	2.05	0.55
1:E:25[A]:ALA:HB3	1:E:32[A]:THR:HG21	1.88	0.55
1:F:184[A]:ILE:HG22	1:F:278[A]:ILE:CG2	2.37	0.55
1:G:10[A]:THR:HG23	1:G:33[A]:VAL:HG22	1.89	0.55
1:H:275[A]:LEU:HD12	1:H:276[A]:VAL:N	2.21	0.55
1:D:87[C]:LYS:HE3	1:D:90[C]:GLU:OE1	2.05	0.55
1:E:25[C]:ALA:HB3	1:E:32[C]:THR:HG21	1.88	0.55
1:F:184[C]:ILE:HG22	1:F:278[C]:ILE:CG2	2.37	0.55
1:G:10[C]:THR:HG23	1:G:33[C]:VAL:HG22	1.89	0.55
1:H:275[C]:LEU:HD12	1:H:276[C]:VAL:N	2.21	0.55
1:A:203[A]:ASP:C	1:A:203[A]:ASP:OD1	2.50	0.55
1:G:27[A]:GLN:HE21	1:G:110[A]:ASN:HD21	1.53	0.55
1:H:44[A]:THR:HG23	3:H:4757[A]:FAD:O2A	2.07	0.55
1:H:258[A]:ILE:HD13	1:H:269[A]:ILE:HD11	1.88	0.55
1:I:9[A]:VAL:HG22	1:I:143[A]:ASN:HB2	1.87	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:L:139[A]:LEU:O	2:L:142[A]:HIS:N	2.36	0.55
1:A:203[C]:ASP:C	1:A:203[C]:ASP:OD1	2.50	0.55
1:G:27[C]:GLN:HE21	1:G:110[C]:ASN:HD21	1.53	0.55
3:G:4757[C]:FAD:O2A	1:H:44[C]:THR:HG23	2.07	0.55
1:H:258[C]:ILE:HD13	1:H:269[C]:ILE:HD11	1.88	0.55
1:I:9[C]:VAL:HG22	1:I:143[C]:ASN:HB2	1.87	0.55
1:B:82[A]:ARG:HH11	1:B:82[A]:ARG:HG3	1.70	0.55
1:F:181[A]:MET:HE1	1:F:197[A]:TRP:CD1	2.41	0.55
1:H:449[A]:CYS:HA	1:H:460[A]:ARG:NH2	2.22	0.55
2:L:139[A]:LEU:C	2:L:141[A]:LYS:N	2.65	0.55
1:B:82[C]:ARG:HG3	1:B:82[C]:ARG:HH11	1.70	0.55
1:F:181[C]:MET:HE1	1:F:197[C]:TRP:CD1	2.41	0.55
1:H:449[C]:CYS:HA	1:H:460[C]:ARG:NH2	2.22	0.55
1:C:326[A]:MET:HE3	1:C:326[A]:MET:HB2	1.89	0.55
1:G:57[A]:LEU:HD23	1:G:196[A]:VAL:HG23	1.88	0.55
1:J:255[A]:ASP:OD1	1:J:270[A]:THR:HB	2.07	0.55
2:L:151[A]:ALA:HB1	2:L:158[A]:PHE:HA	1.85	0.55
1:B:438[C]:TYR:C	2:K:154[C]:PRO:HG2	2.32	0.55
1:C:326[C]:MET:HB2	1:C:326[C]:MET:HE3	1.89	0.55
1:G:57[C]:LEU:HD23	1:G:196[C]:VAL:HG23	1.88	0.55
1:J:255[C]:ASP:OD1	1:J:270[C]:THR:HB	2.07	0.55
1:A:443[A]:GLU:HB2	2:K:160[A]:LYS:NZ	2.21	0.55
1:B:280[A]:ARG:O	1:B:326[A]:MET:HE1	2.07	0.55
1:C:43[A]:GLY:O	1:C:47[A]:ASN:HB2	2.07	0.55
1:E:320[A]:ASP:OD2	3:E:4754[A]:FAD:H5'1	2.06	0.55
1:F:412[A]:THR:O	1:F:413[A]:ASP:HB3	2.06	0.55
1:G:3[A]:GLN:CB	1:G:4[A]:PRO:HD2	2.36	0.55
1:G:158[A]:ILE:HD11	1:G:246[A]:ALA:HB3	1.89	0.55
1:H:431[A]:GLU:OE2	1:H:450[A]:HIS:CE1	2.57	0.55
1:I:361[A]:HIS:HA	1:I:362[A]:PRO:C	2.30	0.55
1:I:383[A]:VAL:HG23	1:I:407[A]:LEU:CD2	2.36	0.55
1:I:396[A]:THR:O	1:I:398[A]:ALA:N	2.40	0.55
2:M:131[A]:LEU:HD11	2:M:136[A]:ARG:NH2	2.22	0.55
1:B:280[C]:ARG:O	1:B:326[C]:MET:HE1	2.07	0.55
1:C:43[C]:GLY:O	1:C:47[C]:ASN:HB2	2.07	0.55
3:D:4754[C]:FAD:H5'1	1:E:320[C]:ASP:OD2	2.06	0.55
1:F:412[C]:THR:O	1:F:413[C]:ASP:HB3	2.06	0.55
1:G:3[C]:GLN:CB	1:G:4[C]:PRO:HD2	2.36	0.55
1:G:158[C]:ILE:HD11	1:G:246[C]:ALA:HB3	1.89	0.55
1:H:431[C]:GLU:OE2	1:H:450[C]:HIS:CE1	2.57	0.55
1:I:361[C]:HIS:HA	1:I:362[C]:PRO:C	2.30	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:I:383[C]:VAL:HG23	1:I:407[C]:LEU:CD2	2.36	0.55
1:I:396[C]:THR:O	1:I:398[C]:ALA:N	2.40	0.55
2:L:159[C]:THR:O	2:L:160[C]:LYS:C	2.50	0.55
1:A:198[A]:GLN:HB2	1:A:204[A]:VAL:HG21	1.89	0.55
1:E:137[A]:GLN:NE2	1:E:137[A]:GLN:HA	2.21	0.55
1:F:146[A]:ILE:CG2	1:F:148[A]:THR:HG23	2.37	0.55
1:A:198[C]:GLN:HB2	1:A:204[C]:VAL:HG21	1.89	0.55
1:E:137[C]:GLN:NE2	1:E:137[C]:GLN:HA	2.21	0.55
1:F:146[C]:ILE:CG2	1:F:148[C]:THR:HG23	2.37	0.55
2:M:159[C]:THR:CG2	2:M:162[C]:ASP:N	2.61	0.55
1:A:46[A]:LEU:CD2	1:A:103[A]:ILE:HD11	2.37	0.54
1:C:3[A]:GLN:CG	1:C:4[A]:PRO:HD2	2.31	0.54
1:E:131[A]:LYS:NZ	1:E:132[A]:ALA:H	2.04	0.54
1:G:254[A]:ILE:HD12	1:G:255[A]:ASP:N	2.21	0.54
1:H:10[A]:THR:HG23	1:H:141[A]:THR:CB	2.36	0.54
1:A:46[C]:LEU:CD2	1:A:103[C]:ILE:HD11	2.37	0.54
1:C:3[C]:GLN:CG	1:C:4[C]:PRO:HD2	2.31	0.54
1:E:131[C]:LYS:NZ	1:E:132[C]:ALA:H	2.04	0.54
1:G:254[C]:ILE:HD12	1:G:255[C]:ASP:N	2.21	0.54
1:H:10[C]:THR:HG23	1:H:141[C]:THR:CB	2.36	0.54
2:L:142[C]:HIS:O	2:L:144[C]:LEU:CD2	2.55	0.54
2:N:157[C]:ILE:HG22	2:N:158[C]:PHE:N	2.22	0.54
1:A:182[A]:VAL:CG2	1:A:274[A]:LEU:HD13	2.37	0.54
1:B:44[A]:THR:HG23	3:B:4751[A]:FAD:O2A	2.07	0.54
1:C:259[A]:GLU:HA	1:C:265[A]:LYS:O	2.07	0.54
1:D:165[A]:ILE:CD1	1:D:254[A]:ILE:HG12	2.38	0.54
1:E:41[A]:LEU:HD13	1:E:103[A]:ILE:HG22	1.87	0.54
1:G:442[A]:CYS:CA	1:G:463[A]:ASN:HD22	2.15	0.54
1:H:184[A]:ILE:HD11	1:H:274[A]:LEU:HD11	1.88	0.54
1:I:456[A]:SER:HB2	1:J:430[A]:ASN:OD1	2.08	0.54
1:A:182[C]:VAL:CG2	1:A:274[C]:LEU:HD13	2.37	0.54
3:A:4751[C]:FAD:O2A	1:B:44[C]:THR:HG23	2.07	0.54
1:C:259[C]:GLU:HA	1:C:265[C]:LYS:O	2.07	0.54
1:D:165[C]:ILE:CD1	1:D:254[C]:ILE:HG12	2.38	0.54
1:E:41[C]:LEU:HD13	1:E:103[C]:ILE:HG22	1.87	0.54
1:G:442[C]:CYS:CA	1:G:463[C]:ASN:HD22	2.15	0.54
1:H:184[C]:ILE:HD11	1:H:274[C]:LEU:HD11	1.88	0.54
1:I:456[C]:SER:HB2	1:J:430[C]:ASN:OD1	2.08	0.54
2:M:153[C]:GLY:O	2:M:154[C]:PRO:C	2.51	0.54
2:M:172[C]:THR:CG2	2:M:172[C]:THR:CA	2.76	0.54
2:N:159[C]:THR:HG22	2:N:161[C]:GLU:CA	2.37	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:412[A]:THR:O	1:B:414[A]:ARG:N	2.40	0.54
1:D:12[A]:ILE:HD12	1:D:144[A]:ILE:HD11	1.88	0.54
1:G:358[A]:ILE:HD13	1:G:358[A]:ILE:O	2.07	0.54
1:G:472[A]:ILE:C	1:G:472[A]:ILE:CD1	2.70	0.54
1:H:267[A]:GLU:HG2	1:H:268[A]:VAL:N	2.22	0.54
1:I:265[A]:LYS:O	1:I:266[A]:ALA:O	2.25	0.54
1:I:391[A]:ASN:HB3	1:I:394[A]:ALA:HB3	1.90	0.54
1:J:225[A]:ASN:OD1	1:J:403[A]:MET:CE	2.55	0.54
1:J:227[A]:GLN:O	1:J:231[A]:GLN:HG3	2.07	0.54
1:J:365[A]:ALA:HB3	1:J:425[A]:ALA:O	2.08	0.54
1:B:412[C]:THR:O	1:B:414[C]:ARG:N	2.40	0.54
1:D:12[C]:ILE:HD12	1:D:144[C]:ILE:HD11	1.88	0.54
1:G:358[C]:ILE:HD13	1:G:358[C]:ILE:O	2.07	0.54
1:G:472[C]:ILE:C	1:G:472[C]:ILE:CD1	2.70	0.54
1:H:267[C]:GLU:HG2	1:H:268[C]:VAL:N	2.22	0.54
1:I:265[C]:LYS:O	1:I:266[C]:ALA:O	2.25	0.54
1:I:391[C]:ASN:HB3	1:I:394[C]:ALA:HB3	1.90	0.54
1:J:225[C]:ASN:OD1	1:J:403[C]:MET:CE	2.55	0.54
1:J:227[C]:GLN:O	1:J:231[C]:GLN:HG3	2.07	0.54
1:J:365[C]:ALA:HB3	1:J:425[C]:ALA:O	2.08	0.54
1:A:74[A]:ARG:HH21	1:B:59[A]:ASN:HD21	1.55	0.54
1:E:46[A]:LEU:HD23	1:E:100[A]:THR:HG22	1.87	0.54
1:E:220[A]:MET:CE	1:E:220[A]:MET:CG	2.85	0.54
1:F:139[A]:ILE:HD12	1:F:139[A]:ILE:N	2.23	0.54
1:F:256[A]:VAL:CG2	1:F:269[A]:ILE:HB	2.36	0.54
1:G:265[A]:LYS:O	1:G:266[A]:ALA:C	2.51	0.54
1:G:343[A]:ALA:O	1:G:344[A]:GLY:C	2.49	0.54
1:H:121[A]:ILE:HG12	1:H:144[A]:ILE:HD11	1.89	0.54
1:J:263[A]:GLY:HA3	1:J:265[A]:LYS:NZ	2.22	0.54
1:A:74[C]:ARG:HH21	1:B:59[C]:ASN:HD21	1.55	0.54
1:E:46[C]:LEU:HD23	1:E:100[C]:THR:HG22	1.87	0.54
1:E:220[C]:MET:CE	1:E:220[C]:MET:CG	2.85	0.54
1:F:139[C]:ILE:HD12	1:F:139[C]:ILE:N	2.23	0.54
1:F:256[C]:VAL:CG2	1:F:269[C]:ILE:HB	2.36	0.54
1:G:265[C]:LYS:O	1:G:266[C]:ALA:C	2.51	0.54
1:G:343[C]:ALA:O	1:G:344[C]:GLY:C	2.49	0.54
1:H:121[C]:ILE:HG12	1:H:144[C]:ILE:HD11	1.89	0.54
1:J:263[C]:GLY:HA3	1:J:265[C]:LYS:NZ	2.22	0.54
1:B:19[A]:TYR:CD1	1:B:19[A]:TYR:C	2.84	0.54
1:E:305[A]:ASN:ND2	1:E:307[A]:ARG:H	2.05	0.54
1:E:396[A]:THR:HG21	1:F:54[A]:LYS:HB3	1.90	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:H:10[A]:THR:HG21	1:H:139[A]:ILE:CG2	2.37	0.54
1:B:19[C]:TYR:CD1	1:B:19[C]:TYR:C	2.84	0.54
1:E:305[C]:ASN:ND2	1:E:307[C]:ARG:H	2.05	0.54
1:E:396[C]:THR:HG21	1:F:54[C]:LYS:HB3	1.90	0.54
1:E:440[C]:ALA:HA	2:M:155[C]:ARG:HH12	1.73	0.54
1:H:10[C]:THR:HG21	1:H:139[C]:ILE:CG2	2.37	0.54
1:D:318[A]:ILE:HB	1:D:334[A]:GLU:HB3	1.90	0.54
1:E:312[A]:ILE:HD11	1:E:314[A]:ASN:ND2	2.22	0.54
1:G:386[A]:PHE:O	1:G:403[A]:MET:HB2	2.07	0.54
2:K:132[A]:SER:O	2:K:133[A]:PRO:C	2.51	0.54
2:K:150[A]:THR:O	2:K:162[A]:ASP:OD2	2.25	0.54
1:D:318[C]:ILE:HB	1:D:334[C]:GLU:HB3	1.90	0.54
1:E:312[C]:ILE:HD11	1:E:314[C]:ASN:ND2	2.22	0.54
1:G:386[C]:PHE:O	1:G:403[C]:MET:HB2	2.07	0.54
1:A:213[A]:VAL:HG12	1:A:214[A]:GLY:N	2.22	0.54
1:E:150[A]:SER:OG	1:E:280[A]:ARG:NH1	2.41	0.54
1:E:204[A]:VAL:CG1	1:E:205[A]:THR:N	2.68	0.54
1:F:291[A]:GLU:OE1	1:F:291[A]:GLU:N	2.41	0.54
1:I:123[A]:GLY:O	1:I:125[A]:ASN:N	2.40	0.54
1:J:327[A]:LEU:HD13	1:J:329[A]:HIS:CE1	2.43	0.54
2:L:151[A]:ALA:HB1	2:L:157[A]:ILE:O	2.08	0.54
1:A:213[C]:VAL:HG12	1:A:214[C]:GLY:N	2.22	0.54
1:E:150[C]:SER:OG	1:E:280[C]:ARG:NH1	2.41	0.54
1:E:204[C]:VAL:CG1	1:E:205[C]:THR:N	2.68	0.54
1:F:291[C]:GLU:OE1	1:F:291[C]:GLU:N	2.41	0.54
1:I:123[C]:GLY:O	1:I:125[C]:ASN:N	2.40	0.54
1:J:327[C]:LEU:HD13	1:J:329[C]:HIS:CE1	2.43	0.54
2:K:167[C]:VAL:HG13	2:K:171[C]:GLN:OE1	2.07	0.54
1:A:182[A]:VAL:HG23	1:A:274[A]:LEU:HD13	1.90	0.54
1:D:305[A]:ASN:H	1:D:305[A]:ASN:HD22	1.54	0.54
1:F:123[A]:GLY:O	1:F:124[A]:LYS:C	2.51	0.54
1:J:413[A]:ASP:OD2	1:J:442[A]:CYS:HB2	2.08	0.54
1:A:182[C]:VAL:HG23	1:A:274[C]:LEU:HD13	1.90	0.54
1:D:305[C]:ASN:HD22	1:D:305[C]:ASN:H	1.54	0.54
1:F:123[C]:GLY:O	1:F:124[C]:LYS:C	2.51	0.54
1:J:413[C]:ASP:OD2	1:J:442[C]:CYS:HB2	2.08	0.54
1:C:262[A]:SER:O	1:C:263[A]:GLY:O	2.26	0.54
1:E:191[A]:VAL:O	1:E:195[A]:SER:HB2	2.08	0.54
1:F:84[A]:ASN:C	1:F:84[A]:ASN:ND2	2.64	0.54
1:I:150[A]:SER:OG	1:I:280[A]:ARG:NH1	2.41	0.54
1:J:160[A]:ILE:HD11	1:J:276[A]:VAL:HB	1.90	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:262[C]:SER:O	1:C:263[C]:GLY:O	2.26	0.54
1:E:191[C]:VAL:O	1:E:195[C]:SER:HB2	2.08	0.54
1:F:84[C]:ASN:C	1:F:84[C]:ASN:ND2	2.64	0.54
1:I:150[C]:SER:OG	1:I:280[C]:ARG:NH1	2.41	0.54
1:J:160[C]:ILE:HD11	1:J:276[C]:VAL:HB	1.90	0.54
1:B:291[A]:GLU:CD	1:B:291[A]:GLU:N	2.62	0.54
1:F:259[A]:GLU:HG2	1:F:264[A]:GLY:HA2	1.90	0.54
1:G:339[A]:VAL:C	1:G:341[A]:GLY:N	2.64	0.54
1:J:282[A]:PRO:HG2	1:J:301[A]:ARG:HG2	1.90	0.54
2:K:155[A]:ARG:NH1	2:K:157[A]:ILE:HD11	2.22	0.54
1:B:291[C]:GLU:CD	1:B:291[C]:GLU:N	2.62	0.54
1:F:259[C]:GLU:HG2	1:F:264[C]:GLY:HA2	1.90	0.54
1:G:339[C]:VAL:C	1:G:341[C]:GLY:N	2.64	0.54
1:J:282[C]:PRO:HG2	1:J:301[C]:ARG:HG2	1.90	0.54
2:K:168[C]:GLN:HG3	2:K:168[C]:GLN:O	2.07	0.54
1:E:137[A]:GLN:CA	1:E:137[A]:GLN:NE2	2.58	0.53
1:I:259[A]:GLU:HG3	1:I:264[A]:GLY:HA2	1.90	0.53
1:I:330[A]:LYS:O	1:I:334[A]:GLU:HG3	2.06	0.53
1:I:414[A]:ARG:HA	1:I:441[A]:SER:HA	1.90	0.53
1:J:16[A]:PRO:O	4:J:4759[A]:FAD:O1P	2.25	0.53
1:J:44[A]:THR:CG2	4:J:4759[A]:FAD:O2A	2.57	0.53
1:J:122[A]:THR:CG2	1:J:128[A]:THR:HG22	2.38	0.53
2:L:170[A]:LYS:HD3	2:L:170[A]:LYS:C	2.33	0.53
2:N:148[A]:GLN:HG3	2:N:148[A]:GLN:O	2.06	0.53
1:E:137[C]:GLN:CA	1:E:137[C]:GLN:NE2	2.58	0.53
1:I:259[C]:GLU:HG3	1:I:264[C]:GLY:HA2	1.90	0.53
1:I:330[C]:LYS:O	1:I:334[C]:GLU:HG3	2.06	0.53
1:I:414[C]:ARG:HA	1:I:441[C]:SER:HA	1.90	0.53
3:I:4759[C]:FAD:O2A	1:J:44[C]:THR:CG2	2.57	0.53
3:I:4759[C]:FAD:O1P	1:J:16[C]:PRO:O	2.25	0.53
1:J:122[C]:THR:CG2	1:J:128[C]:THR:HG22	2.38	0.53
2:M:141[C]:LYS:O	2:M:141[C]:LYS:HD3	2.06	0.53
2:M:154[C]:PRO:O	2:M:155[C]:ARG:C	2.50	0.53
2:N:166[C]:LEU:HA	2:N:169[C]:LEU:HD12	1.89	0.53
1:B:160[A]:ILE:CD1	1:B:276[A]:VAL:HB	2.38	0.53
1:E:225[A]:ASN:O	1:E:229[A]:ILE:HG12	2.09	0.53
1:E:386[A]:PHE:HZ	1:E:473[A]:ASN:HB2	1.73	0.53
1:G:133[A]:ASP:CG	1:G:134[A]:GLY:N	2.66	0.53
1:G:325[A]:PRO:O	1:G:330[A]:LYS:HE3	2.09	0.53
1:I:229[A]:ILE:HG21	1:I:362[A]:PRO:CG	2.38	0.53
1:I:364[A]:VAL:HG22	1:I:421[A]:LEU:HD12	1.89	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:160[C]:ILE:CD1	1:B:276[C]:VAL:HB	2.38	0.53
1:E:225[C]:ASN:O	1:E:229[C]:ILE:HG12	2.09	0.53
1:E:386[C]:PHE:HZ	1:E:473[C]:ASN:HB2	1.73	0.53
1:G:133[C]:ASP:CG	1:G:134[C]:GLY:N	2.66	0.53
1:G:325[C]:PRO:O	1:G:330[C]:LYS:HE3	2.09	0.53
1:I:229[C]:ILE:HG21	1:I:362[C]:PRO:CG	2.38	0.53
1:I:364[C]:VAL:HG22	1:I:421[C]:LEU:HD12	1.89	0.53
1:B:461[A]:GLU:OE1	1:B:471[A]:SER:HB2	2.08	0.53
1:C:137[A]:GLN:HE21	1:C:138[A]:VAL:N	2.06	0.53
1:C:434[A]:LEU:HD23	1:C:434[A]:LEU:C	2.33	0.53
1:G:357[A]:VAL:HG11	1:G:359[A]:TYR:CE1	2.44	0.53
1:B:461[C]:GLU:OE1	1:B:471[C]:SER:HB2	2.08	0.53
1:C:137[C]:GLN:HE21	1:C:138[C]:VAL:N	2.06	0.53
1:C:434[C]:LEU:HD23	1:C:434[C]:LEU:C	2.33	0.53
1:G:357[C]:VAL:HG11	1:G:359[C]:TYR:CE1	2.44	0.53
1:A:238[A]:LYS:HE3	1:A:238[A]:LYS:HA	1.90	0.53
1:C:191[A]:VAL:HG23	1:C:192[A]:GLU:N	2.23	0.53
1:D:133[A]:ASP:O	1:D:134[A]:GLY:C	2.52	0.53
1:D:198[A]:GLN:NE2	1:D:233[A]:GLN:O	2.40	0.53
1:G:87[A]:LYS:HA	1:G:90[A]:GLU:HB2	1.89	0.53
1:G:336[A]:ILE:O	1:G:340[A]:GLU:HB2	2.09	0.53
2:K:159[A]:THR:O	2:K:162[A]:ASP:HB2	2.08	0.53
2:O:154[A]:PRO:C	2:O:156[A]:GLY:H	2.17	0.53
1:A:238[C]:LYS:HE3	1:A:238[C]:LYS:HA	1.90	0.53
1:C:191[C]:VAL:HG23	1:C:192[C]:GLU:N	2.23	0.53
1:D:133[C]:ASP:O	1:D:134[C]:GLY:C	2.52	0.53
1:D:198[C]:GLN:NE2	1:D:233[C]:GLN:O	2.40	0.53
1:G:87[C]:LYS:HA	1:G:90[C]:GLU:HB2	1.89	0.53
1:G:336[C]:ILE:O	1:G:340[C]:GLU:HB2	2.09	0.53
2:M:159[C]:THR:HG22	2:M:162[C]:ASP:OD1	2.09	0.53
1:E:209[A]:PHE:O	1:E:240[A]:ASN:HA	2.08	0.53
1:F:227[A]:GLN:HE21	1:F:231[A]:GLN:NE2	2.06	0.53
1:G:299[A]:ARG:HD2	1:G:299[A]:ARG:N	2.23	0.53
1:I:24[A]:LYS:HG3	1:I:336[A]:ILE:HG13	1.90	0.53
1:J:439[A]:GLY:O	1:J:440[A]:ALA:C	2.52	0.53
2:K:159[A]:THR:HG21	2:K:161[A]:GLU:HB2	1.90	0.53
2:M:132[A]:SER:O	2:M:134[A]:ALA:N	2.42	0.53
2:M:159[A]:THR:HB	2:M:162[A]:ASP:CG	2.34	0.53
1:E:209[C]:PHE:O	1:E:240[C]:ASN:HA	2.08	0.53
1:F:227[C]:GLN:HE21	1:F:231[C]:GLN:NE2	2.06	0.53
1:G:299[C]:ARG:HD2	1:G:299[C]:ARG:N	2.23	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:I:24[C]:LYS:HG3	1:I:336[C]:ILE:HG13	1.90	0.53
1:J:439[C]:GLY:O	1:J:440[C]:ALA:C	2.52	0.53
2:L:151[C]:ALA:HB1	2:L:162[C]:ASP:CG	2.34	0.53
1:D:44[A]:THR:O	1:D:45[A]:CYS:C	2.51	0.53
1:D:256[A]:VAL:O	1:D:256[A]:VAL:HG23	2.07	0.53
1:E:434[A]:LEU:CD1	1:F:448[A]:VAL:HG21	2.39	0.53
1:I:439[A]:GLY:O	1:I:440[A]:ALA:C	2.49	0.53
1:D:44[C]:THR:O	1:D:45[C]:CYS:C	2.51	0.53
1:D:256[C]:VAL:HG23	1:D:256[C]:VAL:O	2.07	0.53
1:E:434[C]:LEU:CD1	1:F:448[C]:VAL:HG21	2.39	0.53
1:I:439[C]:GLY:O	1:I:440[C]:ALA:C	2.49	0.53
1:C:158[A]:ILE:H	1:C:158[A]:ILE:CD1	2.20	0.53
1:I:426[A]:GLY:O	1:I:429[A]:VAL:HG12	2.08	0.53
2:M:159[A]:THR:CG2	2:M:161[A]:GLU:OE1	2.57	0.53
1:C:158[C]:ILE:H	1:C:158[C]:ILE:CD1	2.20	0.53
1:I:426[C]:GLY:O	1:I:429[C]:VAL:HG12	2.08	0.53
1:A:229[A]:ILE:O	1:A:233[A]:GLN:HG3	2.08	0.53
1:C:46[A]:LEU:HD11	1:C:99[A]:LEU:HB3	1.90	0.53
1:H:127[A]:VAL:CG2	1:H:144[A]:ILE:CD1	2.82	0.53
1:H:251[A]:ASP:OD2	1:H:253[A]:LYS:HD2	2.08	0.53
1:J:415[A]:VAL:HG23	1:J:415[A]:VAL:O	2.08	0.53
1:A:229[C]:ILE:O	1:A:233[C]:GLN:HG3	2.08	0.53
1:C:46[C]:LEU:HD11	1:C:99[C]:LEU:HB3	1.90	0.53
1:H:127[C]:VAL:CG2	1:H:144[C]:ILE:CD1	2.82	0.53
1:H:251[C]:ASP:OD2	1:H:253[C]:LYS:HD2	2.08	0.53
1:J:415[C]:VAL:HG23	1:J:415[C]:VAL:O	2.08	0.53
1:A:78[A]:MET:HA	1:B:80[A]:GLU:O	2.09	0.53
3:A:4750[A]:FAD:O2'	3:A:4750[A]:FAD:O4'	2.16	0.53
1:B:414[A]:ARG:O	1:B:414[A]:ARG:HG3	2.07	0.53
1:D:213[A]:VAL:HG23	1:D:214[A]:GLY:N	2.24	0.53
1:E:454[A]:THR:HB	1:F:427[A]:GLU:OE2	2.09	0.53
1:H:262[A]:SER:O	1:H:263[A]:GLY:O	2.26	0.53
2:L:138[A]:ILE:HD11	2:L:160[A]:LYS:HE3	1.91	0.53
1:A:78[C]:MET:HA	1:B:80[C]:GLU:O	2.09	0.53
1:B:414[C]:ARG:O	1:B:414[C]:ARG:HG3	2.07	0.53
1:D:213[C]:VAL:HG23	1:D:214[C]:GLY:N	2.24	0.53
1:E:454[C]:THR:HB	1:F:427[C]:GLU:OE2	2.09	0.53
1:H:262[C]:SER:O	1:H:263[C]:GLY:O	2.26	0.53
3:O:4750[C]:FAD:O2'	3:O:4750[C]:FAD:O4'	2.16	0.53
1:C:409[A]:GLN:HB3	1:C:414[A]:ARG:H	1.74	0.53
1:D:224[A]:LYS:HB3	1:D:228[A]:ARG:HH22	1.74	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:409[A]:GLN:HG2	1:E:412[A]:THR:HG23	1.91	0.53
1:H:184[A]:ILE:CD1	1:H:274[A]:LEU:HD11	2.38	0.53
1:J:184[A]:ILE:HG22	1:J:278[A]:ILE:HG23	1.90	0.53
1:J:336[A]:ILE:HG22	1:J:337[A]:ILE:N	2.22	0.53
2:M:164[A]:LEU:O	2:M:165[A]:LYS:C	2.52	0.53
1:C:409[C]:GLN:HB3	1:C:414[C]:ARG:H	1.74	0.53
1:D:224[C]:LYS:HB3	1:D:228[C]:ARG:HH22	1.74	0.53
1:E:409[C]:GLN:HG2	1:E:412[C]:THR:HG23	1.91	0.53
1:H:184[C]:ILE:CD1	1:H:274[C]:LEU:HD11	2.38	0.53
1:J:184[C]:ILE:HG22	1:J:278[C]:ILE:HG23	1.90	0.53
1:J:336[C]:ILE:HG22	1:J:337[C]:ILE:N	2.22	0.53
1:A:210[A]:LEU:H	1:A:210[A]:LEU:HD22	1.74	0.52
1:A:447[A]:ARG:HH11	1:A:447[A]:ARG:HG3	1.73	0.52
1:B:23[A]:ILE:O	1:B:27[A]:GLN:HG2	2.08	0.52
1:C:330[A]:LYS:HD2	1:C:330[A]:LYS:C	2.34	0.52
1:E:305[A]:ASN:ND2	1:E:307[A]:ARG:N	2.57	0.52
1:G:3[A]:GLN:HB3	1:G:4[A]:PRO:HD2	1.91	0.52
1:H:218[A]:ILE:HG13	1:H:222[A]:ILE:HD11	1.89	0.52
1:I:290[A]:GLU:C	1:I:292[A]:LEU:H	2.16	0.52
1:I:376[A]:GLU:C	1:I:378[A]:GLY:N	2.65	0.52
1:I:396[A]:THR:C	1:I:398[A]:ALA:N	2.64	0.52
1:A:210[C]:LEU:HD22	1:A:210[C]:LEU:H	1.74	0.52
1:A:447[C]:ARG:HH11	1:A:447[C]:ARG:HG3	1.73	0.52
1:B:23[C]:ILE:O	1:B:27[C]:GLN:HG2	2.08	0.52
1:C:330[C]:LYS:HD2	1:C:330[C]:LYS:C	2.34	0.52
1:E:305[C]:ASN:ND2	1:E:307[C]:ARG:N	2.57	0.52
1:G:3[C]:GLN:HB3	1:G:4[C]:PRO:HD2	1.91	0.52
1:H:218[C]:ILE:HG13	1:H:222[C]:ILE:HD11	1.89	0.52
1:I:290[C]:GLU:C	1:I:292[C]:LEU:H	2.16	0.52
1:I:376[C]:GLU:C	1:I:378[C]:GLY:N	2.65	0.52
1:I:396[C]:THR:C	1:I:398[C]:ALA:N	2.64	0.52
1:D:305[A]:ASN:ND2	1:D:309[A]:GLN:H	2.07	0.52
1:E:361[A]:HIS:CE1	1:E:399[A]:ASP:OD2	2.63	0.52
2:L:144[A]:LEU:HD22	2:L:145[A]:ASP:N	2.23	0.52
1:D:305[C]:ASN:ND2	1:D:309[C]:GLN:H	2.07	0.52
1:E:361[C]:HIS:CE1	1:E:399[C]:ASP:OD2	2.63	0.52
1:F:43[A]:GLY:HA2	3:F:4755[A]:FAD:O3B	2.09	0.52
1:G:393[A]:ARG:HH11	1:G:454[A]:THR:HA	1.74	0.52
1:H:446[A]:ALA:O	1:H:460[A]:ARG:NH1	2.42	0.52
1:J:256[A]:VAL:HG11	1:J:274[A]:LEU:HD13	1.89	0.52
3:E:4755[C]:FAD:O3B	1:F:43[C]:GLY:HA2	2.09	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:393[C]:ARG:HH11	1:G:454[C]:THR:HA	1.74	0.52
1:H:446[C]:ALA:O	1:H:460[C]:ARG:NH1	2.42	0.52
1:J:256[C]:VAL:HG11	1:J:274[C]:LEU:HD13	1.89	0.52
1:C:297[A]:ASP:HB2	1:C:298[A]:PRO:HD2	1.90	0.52
1:D:171[A]:ALA:HA	1:D:174[A]:LEU:HD13	1.92	0.52
1:D:275[A]:LEU:HD23	1:D:276[A]:VAL:N	2.24	0.52
1:D:290[A]:GLU:CD	1:D:290[A]:GLU:H	2.17	0.52
1:E:20[A]:VAL:CG2	1:E:336[A]:ILE:HD12	2.39	0.52
1:E:46[A]:LEU:HD11	1:E:99[A]:LEU:CB	2.39	0.52
1:I:438[A]:TYR:OH	1:J:440[A]:ALA:HB2	2.10	0.52
1:J:61[A]:HIS:HB2	1:J:199[A]:ARG:NH1	2.25	0.52
1:J:329[A]:HIS:NE2	1:J:355[A]:PRO:O	2.42	0.52
1:C:297[C]:ASP:HB2	1:C:298[C]:PRO:HD2	1.90	0.52
1:D:171[C]:ALA:HA	1:D:174[C]:LEU:HD13	1.92	0.52
1:D:275[C]:LEU:HD23	1:D:276[C]:VAL:N	2.24	0.52
1:D:290[C]:GLU:CD	1:D:290[C]:GLU:H	2.17	0.52
1:E:20[C]:VAL:CG2	1:E:336[C]:ILE:HD12	2.39	0.52
1:E:46[C]:LEU:HD11	1:E:99[C]:LEU:CB	2.39	0.52
1:I:438[C]:TYR:OH	1:J:440[C]:ALA:HB2	2.10	0.52
1:J:61[C]:HIS:HB2	1:J:199[C]:ARG:NH1	2.25	0.52
1:J:329[C]:HIS:NE2	1:J:355[C]:PRO:O	2.42	0.52
1:E:469[A]:GLY:O	1:E:470[A]:LYS:HB3	2.09	0.52
1:H:221[A]:GLU:HB3	1:H:405[A]:LYS:NZ	2.25	0.52
1:J:195[A]:SER:O	1:J:199[A]:ARG:HG3	2.10	0.52
1:E:469[C]:GLY:O	1:E:470[C]:LYS:HB3	2.09	0.52
1:H:221[C]:GLU:HB3	1:H:405[C]:LYS:NZ	2.25	0.52
1:J:195[C]:SER:O	1:J:199[C]:ARG:HG3	2.10	0.52
1:B:46[A]:LEU:HD12	1:B:46[A]:LEU:C	2.28	0.52
1:C:309[A]:GLN:HG2	1:C:316[A]:TYR:CE2	2.45	0.52
1:C:358[A]:ILE:HG23	1:C:364[A]:VAL:HB	1.92	0.52
1:C:449[A]:CYS:HB3	4:D:4809[A]:HOH:O	2.09	0.52
1:F:404[A]:VAL:CG2	1:F:428[A]:MET:HE1	2.40	0.52
1:G:133[A]:ASP:CG	1:G:134[A]:GLY:H	2.17	0.52
1:G:297[A]:ASP:HB2	1:G:301[A]:ARG:H	1.74	0.52
1:G:448[A]:VAL:HG21	1:H:434[A]:LEU:HD13	1.91	0.52
1:G:454[A]:THR:HB	1:H:427[A]:GLU:OE1	2.08	0.52
1:J:97[A]:LYS:O	1:J:98[A]:ALA:C	2.49	0.52
2:M:144[A]:LEU:HD11	2:M:167[A]:VAL:HG22	1.91	0.52
1:B:46[C]:LEU:HD12	1:B:46[C]:LEU:C	2.28	0.52
1:C:309[C]:GLN:HG2	1:C:316[C]:TYR:CE2	2.45	0.52
1:C:358[C]:ILE:HG23	1:C:364[C]:VAL:HB	1.92	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:449[C]:CYS:HB3	4:C:4809[C]:HOH:O	2.09	0.52
1:F:404[C]:VAL:CG2	1:F:428[C]:MET:HE1	2.40	0.52
1:G:133[C]:ASP:CG	1:G:134[C]:GLY:H	2.17	0.52
1:G:297[C]:ASP:HB2	1:G:301[C]:ARG:H	1.74	0.52
1:G:448[C]:VAL:HG21	1:H:434[C]:LEU:HD13	1.91	0.52
1:G:454[C]:THR:HB	1:H:427[C]:GLU:OE1	2.08	0.52
1:J:97[C]:LYS:O	1:J:98[C]:ALA:C	2.49	0.52
2:L:144[C]:LEU:N	2:L:144[C]:LEU:HD23	2.24	0.52
1:A:59[A]:ASN:HB3	1:A:88[A]:MET:HE2	1.91	0.52
1:A:330[A]:LYS:HE2	1:A:334[A]:GLU:OE2	2.10	0.52
1:B:164[A]:THR:HG21	1:B:248[A]:LYS:NZ	2.25	0.52
1:B:218[A]:ILE:HD12	1:B:223[A]:SER:HB2	1.92	0.52
1:B:393[A]:ARG:HA	1:B:396[A]:THR:HG22	1.92	0.52
1:C:303[A]:PRO:C	1:C:304[A]:VAL:HG13	2.35	0.52
1:D:20[A]:VAL:HG21	1:D:332[A]:GLU:CG	2.37	0.52
1:H:83[A]:LEU:HD13	1:H:84[A]:ASN:N	2.25	0.52
1:H:85[A]:LEU:HD12	1:H:176[A]:LYS:HA	1.92	0.52
1:H:222[A]:ILE:CD1	4:H:4775[A]:HOH:O	2.49	0.52
1:H:406[A]:ILE:C	1:H:406[A]:ILE:HD12	2.34	0.52
1:I:296[A]:LEU:C	1:I:297[A]:ASP:O	2.52	0.52
1:A:59[C]:ASN:HB3	1:A:88[C]:MET:HE2	1.91	0.52
1:A:330[C]:LYS:HE2	1:A:334[C]:GLU:OE2	2.10	0.52
1:B:164[C]:THR:HG21	1:B:248[C]:LYS:NZ	2.25	0.52
1:B:218[C]:ILE:HD12	1:B:223[C]:SER:HB2	1.92	0.52
1:B:393[C]:ARG:HA	1:B:396[C]:THR:HG22	1.92	0.52
1:C:303[C]:PRO:C	1:C:304[C]:VAL:HG13	2.35	0.52
1:D:20[C]:VAL:HG21	1:D:332[C]:GLU:CG	2.37	0.52
4:G:4775[C]:HOH:O	1:H:222[C]:ILE:CD1	2.49	0.52
1:H:83[C]:LEU:HD13	1:H:84[C]:ASN:N	2.25	0.52
1:H:85[C]:LEU:HD12	1:H:176[C]:LYS:HA	1.92	0.52
1:H:406[C]:ILE:C	1:H:406[C]:ILE:HD12	2.34	0.52
3:H:4758[C]:FAD:O2'	3:H:4758[C]:FAD:O4'	2.16	0.52
1:I:296[C]:LEU:C	1:I:297[C]:ASP:O	2.52	0.52
2:K:142[C]:HIS:HB2	2:K:144[C]:LEU:HD12	1.92	0.52
1:B:164[A]:THR:CG2	1:B:248[A]:LYS:NZ	2.73	0.52
1:D:69[A]:LYS:HZ3	1:D:73[A]:SER:HB3	1.75	0.52
1:F:124[A]:LYS:HG2	1:F:312[A]:ILE:HD11	1.88	0.52
1:I:43[A]:GLY:O	1:I:47[A]:ASN:HB2	2.10	0.52
1:B:164[C]:THR:CG2	1:B:248[C]:LYS:NZ	2.73	0.52
1:D:69[C]:LYS:HZ3	1:D:73[C]:SER:HB3	1.75	0.52
1:F:124[C]:LYS:HG2	1:F:312[C]:ILE:HD11	1.88	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:I:43[C]:GLY:O	1:I:47[C]:ASN:HB2	2.10	0.52
1:G:110[A]:ASN:C	1:G:111[A]:LYS:CG	2.82	0.52
1:J:96[A]:VAL:O	1:J:100[A]:THR:HG23	2.10	0.52
1:E:348[C]:HIS:HB2	2:M:140[C]:GLU:OE1	2.09	0.52
1:G:110[C]:ASN:C	1:G:111[C]:LYS:CG	2.82	0.52
1:J:96[C]:VAL:O	1:J:100[C]:THR:HG23	2.10	0.52
1:A:137[A]:GLN:CA	1:A:137[A]:GLN:NE2	2.72	0.52
1:A:221[A]:GLU:O	1:A:225[A]:ASN:OD1	2.27	0.52
1:A:265[A]:LYS:O	1:A:266[A]:ALA:C	2.53	0.52
1:C:442[A]:CYS:HA	1:C:463[A]:ASN:ND2	2.25	0.52
1:J:10[A]:THR:HG23	1:J:33[A]:VAL:CG1	2.40	0.52
2:N:155[A]:ARG:HG2	2:N:156[A]:GLY:N	2.25	0.52
1:A:137[C]:GLN:CA	1:A:137[C]:GLN:NE2	2.72	0.52
1:A:221[C]:GLU:O	1:A:225[C]:ASN:OD1	2.27	0.52
1:A:265[C]:LYS:O	1:A:266[C]:ALA:C	2.53	0.52
1:C:442[C]:CYS:HA	1:C:463[C]:ASN:ND2	2.25	0.52
1:J:10[C]:THR:HG23	1:J:33[C]:VAL:CG1	2.40	0.52
1:C:297[A]:ASP:OD1	1:C:301[A]:ARG:HB2	2.10	0.51
1:E:414[A]:ARG:NH2	1:E:439[A]:GLY:HA2	2.25	0.51
1:H:76[A]:ILE:O	1:H:76[A]:ILE:HG22	2.09	0.51
1:J:249[A]:LYS:HE2	1:J:255[A]:ASP:OD1	2.10	0.51
2:K:154[A]:PRO:O	2:K:156[A]:GLY:N	2.43	0.51
1:C:297[C]:ASP:OD1	1:C:301[C]:ARG:HB2	2.10	0.51
1:E:414[C]:ARG:NH2	1:E:439[C]:GLY:HA2	2.25	0.51
1:H:76[C]:ILE:O	1:H:76[C]:ILE:HG22	2.09	0.51
1:J:249[C]:LYS:HE2	1:J:255[C]:ASP:OD1	2.10	0.51
1:C:230[A]:LEU:O	1:C:233[A]:GLN:HB2	2.09	0.51
1:E:70[A]:ASP:OD1	1:E:74[A]:ARG:HD2	2.09	0.51
1:F:442[A]:CYS:HB2	1:F:467[A]:SER:HB3	1.92	0.51
1:G:408[A]:GLY:HA2	1:G:414[A]:ARG:O	2.11	0.51
1:I:229[A]:ILE:HG21	1:I:362[A]:PRO:HG3	1.92	0.51
1:I:402[A]:GLY:HA3	1:I:421[A]:LEU:O	2.10	0.51
1:J:144[A]:ILE:C	1:J:144[A]:ILE:HD12	2.35	0.51
1:C:230[C]:LEU:O	1:C:233[C]:GLN:HB2	2.09	0.51
1:E:70[C]:ASP:OD1	1:E:74[C]:ARG:HD2	2.09	0.51
1:F:442[C]:CYS:HB2	1:F:467[C]:SER:HB3	1.92	0.51
1:G:408[C]:GLY:HA2	1:G:414[C]:ARG:O	2.11	0.51
1:I:229[C]:ILE:HG21	1:I:362[C]:PRO:HG3	1.92	0.51
1:I:402[C]:GLY:HA3	1:I:421[C]:LEU:O	2.10	0.51
1:J:144[C]:ILE:C	1:J:144[C]:ILE:HD12	2.35	0.51
2:L:132[C]:SER:OG	2:L:135[C]:ALA:N	2.32	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:125[A]:ASN:HB3	1:A:141[A]:THR:O	2.10	0.51
1:D:10[A]:THR:HG21	1:D:139[A]:ILE:HG21	1.92	0.51
1:G:358[A]:ILE:CD1	1:G:360[A]:THR:OG1	2.57	0.51
1:I:358[A]:ILE:O	1:I:358[A]:ILE:HG12	2.09	0.51
1:A:125[C]:ASN:HB3	1:A:141[C]:THR:O	2.10	0.51
1:A:444[C]:ASP:OD2	2:K:155[C]:ARG:NH2	2.43	0.51
1:B:438[C]:TYR:CE1	2:K:157[C]:ILE:HD11	2.46	0.51
1:D:10[C]:THR:HG21	1:D:139[C]:ILE:HG21	1.92	0.51
1:G:358[C]:ILE:CD1	1:G:360[C]:THR:OG1	2.57	0.51
1:I:358[C]:ILE:O	1:I:358[C]:ILE:HG12	2.09	0.51
1:B:6[A]:ASP:HA	1:B:140[A]:ASP:O	2.10	0.51
1:B:256[A]:VAL:CG2	1:B:269[A]:ILE:HB	2.40	0.51
1:D:461[A]:GLU:OE1	1:D:464[A]:LEU:HD23	2.10	0.51
1:G:35[A]:ILE:HD12	1:G:35[A]:ILE:N	2.26	0.51
1:I:208[A]:GLU:OE1	1:I:208[A]:GLU:HA	2.10	0.51
1:B:6[C]:ASP:HA	1:B:140[C]:ASP:O	2.10	0.51
1:B:256[C]:VAL:CG2	1:B:269[C]:ILE:HB	2.40	0.51
1:D:461[C]:GLU:OE1	1:D:464[C]:LEU:HD23	2.10	0.51
1:G:35[C]:ILE:HD12	1:G:35[C]:ILE:N	2.26	0.51
1:I:208[C]:GLU:OE1	1:I:208[C]:GLU:HA	2.10	0.51
1:A:145[A]:LEU:HD21	1:A:318[A]:ILE:CG1	2.41	0.51
1:C:166[A]:VAL:HB	1:C:170[A]:GLY:HA3	1.91	0.51
1:D:316[A]:TYR:N	1:D:316[A]:TYR:CD1	2.79	0.51
1:G:110[A]:ASN:C	1:G:111[A]:LYS:HG3	2.36	0.51
1:H:307[A]:ARG:O	1:H:308[A]:PHE:HB2	2.10	0.51
1:A:145[C]:LEU:HD21	1:A:318[C]:ILE:CG1	2.41	0.51
1:C:166[C]:VAL:HB	1:C:170[C]:GLY:HA3	1.91	0.51
1:D:316[C]:TYR:N	1:D:316[C]:TYR:CD1	2.79	0.51
1:G:110[C]:ASN:C	1:G:111[C]:LYS:HG3	2.36	0.51
1:H:307[C]:ARG:O	1:H:308[C]:PHE:HB2	2.10	0.51
2:K:162[C]:ASP:O	2:K:166[C]:LEU:HD23	2.11	0.51
1:A:46[A]:LEU:HG	1:A:100[A]:THR:HG22	1.93	0.51
1:B:256[A]:VAL:O	1:B:256[A]:VAL:CG2	2.58	0.51
1:D:102[A]:GLY:O	1:D:105[A]:HIS:HB3	2.11	0.51
1:D:368[A]:GLY:HA3	1:D:417[A]:GLY:HA2	1.93	0.51
1:E:420[A]:ILE:HB	1:E:425[A]:ALA:HB1	1.93	0.51
1:I:78[A]:MET:SD	1:J:78[A]:MET:CE	2.99	0.51
1:A:46[C]:LEU:HG	1:A:100[C]:THR:HG22	1.93	0.51
1:B:256[C]:VAL:O	1:B:256[C]:VAL:CG2	2.58	0.51
1:D:102[C]:GLY:O	1:D:105[C]:HIS:HB3	2.11	0.51
1:D:368[C]:GLY:HA3	1:D:417[C]:GLY:HA2	1.93	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:420[C]:ILE:HB	1:E:425[C]:ALA:HB1	1.93	0.51
1:I:78[C]:MET:SD	1:J:78[C]:MET:CE	2.99	0.51
1:D:183[A]:VAL:CG1	1:D:275[A]:LEU:HD13	2.40	0.51
1:E:431[A]:GLU:OE2	1:E:450[A]:HIS:NE2	2.26	0.51
1:G:51[A]:ILE:HB	1:G:52[A]:PRO:HD3	1.91	0.51
1:G:57[A]:LEU:HD13	1:G:359[A]:TYR:O	2.10	0.51
1:G:254[A]:ILE:HD12	1:G:255[A]:ASP:H	1.76	0.51
1:G:259[A]:GLU:OE2	1:G:264[A]:GLY:CA	2.59	0.51
1:H:45[A]:CYS:SG	1:H:50[A]:CYS:HB2	2.50	0.51
1:I:195[A]:SER:O	1:I:199[A]:ARG:HG3	2.10	0.51
2:O:158[A]:PHE:CZ	2:O:166[A]:LEU:HD12	2.39	0.51
1:D:183[C]:VAL:CG1	1:D:275[C]:LEU:HD13	2.40	0.51
1:E:431[C]:GLU:OE2	1:E:450[C]:HIS:NE2	2.26	0.51
1:G:51[C]:ILE:HB	1:G:52[C]:PRO:HD3	1.91	0.51
1:G:57[C]:LEU:HD13	1:G:359[C]:TYR:O	2.10	0.51
1:G:254[C]:ILE:HD12	1:G:255[C]:ASP:H	1.76	0.51
1:G:259[C]:GLU:OE2	1:G:264[C]:GLY:CA	2.59	0.51
1:H:45[C]:CYS:SG	1:H:50[C]:CYS:HB2	2.50	0.51
1:I:195[C]:SER:O	1:I:199[C]:ARG:HG3	2.10	0.51
1:B:124[A]:LYS:HG3	1:B:125[A]:ASN:ND2	2.26	0.51
1:C:392[A]:SER:HB2	4:C:4813[A]:HOH:O	2.11	0.51
1:E:276[A]:VAL:HG12	4:E:4762[A]:HOH:O	2.10	0.51
1:E:366[A]:TRP:CB	1:E:419[A]:HIS:CD2	2.91	0.51
1:F:143[A]:ASN:ND2	1:F:342[A]:MET:CE	2.73	0.51
1:H:52[A]:PRO:O	1:H:55[A]:ALA:HB3	2.11	0.51
1:H:349[A]:ILE:HG22	4:H:4803[A]:HOH:O	2.10	0.51
1:J:54[A]:LYS:HD2	1:J:359[A]:TYR:CD1	2.46	0.51
1:B:124[C]:LYS:HG3	1:B:125[C]:ASN:ND2	2.26	0.51
4:B:4813[C]:HOH:O	1:C:392[C]:SER:HB2	2.11	0.51
4:D:4762[C]:HOH:O	1:E:276[C]:VAL:HG12	2.10	0.51
1:E:366[C]:TRP:CB	1:E:419[C]:HIS:CD2	2.91	0.51
1:F:143[C]:ASN:ND2	1:F:342[C]:MET:CE	2.73	0.51
4:G:4803[C]:HOH:O	1:H:349[C]:ILE:HG22	2.10	0.51
1:H:52[C]:PRO:O	1:H:55[C]:ALA:HB3	2.11	0.51
1:J:54[C]:LYS:HD2	1:J:359[C]:TYR:CD1	2.46	0.51
2:L:132[C]:SER:OG	2:L:135[C]:ALA:HB2	2.11	0.51
2:L:132[C]:SER:CB	2:L:135[C]:ALA:HB2	2.41	0.51
1:A:253[A]:LYS:HE2	1:A:270[A]:THR:OG1	2.11	0.51
1:G:267[A]:GLU:HG2	1:G:268[A]:VAL:N	2.24	0.51
1:I:46[A]:LEU:CD2	1:I:100[A]:THR:HG22	2.41	0.51
1:J:222[A]:ILE:HG13	1:J:223[A]:SER:N	2.25	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:253[C]:LYS:HE2	1:A:270[C]:THR:OG1	2.11	0.51
1:D:443[C]:GLU:HG2	2:L:134[C]:ALA:CB	2.40	0.51
1:G:267[C]:GLU:HG2	1:G:268[C]:VAL:N	2.24	0.51
1:I:46[C]:LEU:CD2	1:I:100[C]:THR:HG22	2.41	0.51
1:J:222[C]:ILE:HG13	1:J:223[C]:SER:N	2.25	0.51
1:C:44[A]:THR:O	1:C:49[A]:GLY:N	2.44	0.51
1:C:225[A]:ASN:HA	1:C:228[A]:ARG:HH11	1.76	0.51
1:C:326[A]:MET:CE	1:C:326[A]:MET:CG	2.88	0.51
1:C:430[A]:ASN:HD22	1:D:456[A]:SER:HB3	1.74	0.51
1:E:46[A]:LEU:CD2	1:E:100[A]:THR:HG22	2.40	0.51
1:H:307[A]:ARG:HB3	1:H:347[A]:VAL:HG21	1.92	0.51
1:I:333[A]:ASP:O	1:I:334[A]:GLU:C	2.54	0.51
1:J:151[A]:GLU:OE2	1:J:281[A]:ARG:NH1	2.38	0.51
1:C:44[C]:THR:O	1:C:49[C]:GLY:N	2.44	0.51
1:C:225[C]:ASN:HA	1:C:228[C]:ARG:HH11	1.76	0.51
1:C:326[C]:MET:CE	1:C:326[C]:MET:CG	2.88	0.51
1:C:430[C]:ASN:HD22	1:D:456[C]:SER:HB3	1.74	0.51
1:E:46[C]:LEU:CD2	1:E:100[C]:THR:HG22	2.40	0.51
1:H:307[C]:ARG:HB3	1:H:347[C]:VAL:HG21	1.92	0.51
1:I:333[C]:ASP:O	1:I:334[C]:GLU:C	2.54	0.51
1:J:151[C]:GLU:OE2	1:J:281[C]:ARG:NH1	2.38	0.51
1:A:225[A]:ASN:ND2	1:A:403[A]:MET:HE1	2.26	0.50
1:B:122[A]:THR:HG21	1:B:128[A]:THR:OG1	2.11	0.50
1:C:409[A]:GLN:CG	1:C:412[A]:THR:OG1	2.59	0.50
1:E:366[A]:TRP:HB2	1:E:419[A]:HIS:HD2	1.75	0.50
1:F:1[A]:ALA:H1	1:F:136[A]:THR:HG22	1.74	0.50
1:H:409[A]:GLN:HB2	1:H:416[A]:LEU:HD11	1.93	0.50
1:I:409[A]:GLN:CG	1:I:412[A]:THR:OG1	2.45	0.50
2:L:145[A]:ASP:HB3	2:L:148[A]:GLN:OE1	2.11	0.50
1:A:225[C]:ASN:ND2	1:A:403[C]:MET:HE1	2.26	0.50
1:B:122[C]:THR:HG21	1:B:128[C]:THR:OG1	2.11	0.50
1:C:409[C]:GLN:CG	1:C:412[C]:THR:OG1	2.59	0.50
1:E:366[C]:TRP:HB2	1:E:419[C]:HIS:HD2	1.75	0.50
1:F:1[C]:ALA:H1	1:F:136[C]:THR:HG22	1.74	0.50
1:H:409[C]:GLN:HB2	1:H:416[C]:LEU:HD11	1.93	0.50
1:I:409[C]:GLN:CG	1:I:412[C]:THR:OG1	2.45	0.50
1:A:182[A]:VAL:HG21	1:A:256[A]:VAL:HG11	1.92	0.50
1:A:438[A]:TYR:CE1	2:K:157[A]:ILE:HD11	2.46	0.50
1:C:87[A]:LYS:HB3	1:D:75[A]:GLY:HA2	1.93	0.50
1:E:304[A]:VAL:CG1	1:E:317[A]:ALA:HB3	2.42	0.50
1:I:388[A]:PHE:CD2	1:I:422[A]:GLY:HA3	2.45	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:J:335[A]:GLY:O	1:J:339[A]:VAL:HG23	2.12	0.50
2:N:132[A]:SER:O	2:N:133[A]:PRO:C	2.54	0.50
1:A:182[C]:VAL:HG21	1:A:256[C]:VAL:HG11	1.92	0.50
1:C:87[C]:LYS:HB3	1:D:75[C]:GLY:HA2	1.93	0.50
1:E:304[C]:VAL:CG1	1:E:317[C]:ALA:HB3	2.42	0.50
1:I:388[C]:PHE:CD2	1:I:422[C]:GLY:HA3	2.45	0.50
1:J:335[C]:GLY:O	1:J:339[C]:VAL:HG23	2.12	0.50
1:A:218[A]:ILE:HG13	1:A:366[A]:TRP:CZ3	2.46	0.50
1:D:188[A]:VAL:HG12	1:D:189[A]:ILE:N	2.26	0.50
1:E:455[A]:LEU:N	1:F:427[A]:GLU:OE2	2.42	0.50
1:F:297[A]:ASP:O	1:F:298[A]:PRO:C	2.54	0.50
1:J:46[A]:LEU:HA	1:J:51[A]:ILE:HG12	1.94	0.50
1:J:69[A]:LYS:HB2	1:J:69[A]:LYS:HZ2	1.76	0.50
1:A:218[C]:ILE:HG13	1:A:366[C]:TRP:CZ3	2.46	0.50
1:D:188[C]:VAL:HG12	1:D:189[C]:ILE:N	2.26	0.50
1:E:455[C]:LEU:N	1:F:427[C]:GLU:OE2	2.42	0.50
1:F:297[C]:ASP:O	1:F:298[C]:PRO:C	2.54	0.50
1:J:46[C]:LEU:HA	1:J:51[C]:ILE:HG12	1.94	0.50
1:J:69[C]:LYS:HB2	1:J:69[C]:LYS:HZ2	1.76	0.50
2:M:152[C]:THR:N	2:M:162[C]:ASP:OD2	2.43	0.50
1:E:412[A]:THR:O	1:E:413[A]:ASP:CB	2.58	0.50
1:G:320[A]:ASP:HB3	1:G:326[A]:MET:HE2	1.93	0.50
1:H:339[A]:VAL:HG23	1:H:340[A]:GLU:N	2.25	0.50
1:I:284[A]:THR:CG2	1:I:289[A]:LEU:HD21	2.41	0.50
1:J:17[A]:GLY:H	1:J:20[A]:VAL:HG23	1.74	0.50
2:N:167[A]:VAL:HG12	2:N:168[A]:GLN:N	2.27	0.50
1:E:412[C]:THR:O	1:E:413[C]:ASP:CB	2.58	0.50
1:G:320[C]:ASP:HB3	1:G:326[C]:MET:HE2	1.93	0.50
1:H:339[C]:VAL:HG23	1:H:340[C]:GLU:N	2.25	0.50
1:I:284[C]:THR:CG2	1:I:289[C]:LEU:HD21	2.41	0.50
1:J:17[C]:GLY:H	1:J:20[C]:VAL:HG23	1.74	0.50
1:A:219[A]:ASP:HB3	1:A:222[A]:ILE:CD1	2.42	0.50
1:B:445[A]:ILE:H	1:B:445[A]:ILE:HD12	1.76	0.50
1:C:158[A]:ILE:HG13	1:C:246[A]:ALA:HB3	1.94	0.50
1:D:432[A]:ALA:O	1:D:436[A]:LEU:HD23	2.11	0.50
1:F:121[A]:ILE:HD11	1:F:146[A]:ILE:CD1	2.41	0.50
1:G:358[A]:ILE:HD11	1:G:360[A]:THR:OG1	2.11	0.50
1:H:178[A]:PRO:HB3	1:H:273[A]:VAL:CG2	2.42	0.50
1:J:308[A]:PHE:CE1	1:J:334[A]:GLU:HG2	2.47	0.50
2:N:142[A]:HIS:O	2:N:144[A]:LEU:N	2.44	0.50
1:A:219[C]:ASP:HB3	1:A:222[C]:ILE:CD1	2.42	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:445[C]:ILE:H	1:B:445[C]:ILE:HD12	1.76	0.50
1:C:158[C]:ILE:HG13	1:C:246[C]:ALA:HB3	1.94	0.50
1:D:432[C]:ALA:O	1:D:436[C]:LEU:HD23	2.11	0.50
1:F:121[C]:ILE:HD11	1:F:146[C]:ILE:CD1	2.41	0.50
1:G:358[C]:ILE:HD11	1:G:360[C]:THR:OG1	2.11	0.50
1:H:178[C]:PRO:HB3	1:H:273[C]:VAL:CG2	2.42	0.50
1:J:308[C]:PHE:CE1	1:J:334[C]:GLU:HG2	2.47	0.50
1:E:15[A]:GLY:O	1:E:17[A]:GLY:O	2.29	0.50
1:J:382[A]:LYS:HG2	1:J:408[A]:GLY:O	2.11	0.50
2:M:161[A]:GLU:N	2:M:161[A]:GLU:OE1	2.44	0.50
2:O:131[A]:LEU:HD23	2:O:135[A]:ALA:HB3	1.92	0.50
1:E:15[C]:GLY:O	1:E:17[C]:GLY:O	2.29	0.50
1:J:382[C]:LYS:HG2	1:J:408[C]:GLY:O	2.11	0.50
1:A:137[A]:GLN:NE2	1:A:137[A]:GLN:HA	2.27	0.50
1:B:288[A]:GLY:HA2	1:B:291[A]:GLU:OE1	2.11	0.50
1:B:393[A]:ARG:HD2	1:B:454[A]:THR:HA	1.94	0.50
1:C:431[A]:GLU:O	1:C:432[A]:ALA:C	2.54	0.50
1:E:325[A]:PRO:O	1:E:330[A]:LYS:HD2	2.12	0.50
1:G:213[A]:VAL:HG12	1:G:214[A]:GLY:H	1.77	0.50
1:G:305[A]:ASN:ND2	1:G:309[A]:GLN:HG3	2.26	0.50
1:H:143[A]:ASN:CB	1:H:342[A]:MET:HE3	2.42	0.50
1:H:364[A]:VAL:HG22	1:H:421[A]:LEU:HD13	1.93	0.50
2:L:132[A]:SER:HB2	2:L:135[A]:ALA:CB	2.42	0.50
2:O:156[A]:GLY:C	2:O:157[A]:ILE:HG13	2.35	0.50
1:A:137[C]:GLN:NE2	1:A:137[C]:GLN:HA	2.27	0.50
1:B:288[C]:GLY:HA2	1:B:291[C]:GLU:OE1	2.11	0.50
1:B:393[C]:ARG:HD2	1:B:454[C]:THR:HA	1.94	0.50
1:C:431[C]:GLU:O	1:C:432[C]:ALA:C	2.54	0.50
1:E:325[C]:PRO:O	1:E:330[C]:LYS:HD2	2.12	0.50
1:G:213[C]:VAL:HG12	1:G:214[C]:GLY:H	1.77	0.50
1:G:305[C]:ASN:ND2	1:G:309[C]:GLN:HG3	2.26	0.50
1:H:143[C]:ASN:CB	1:H:342[C]:MET:HE3	2.42	0.50
1:H:364[C]:VAL:HG22	1:H:421[C]:LEU:HD13	1.93	0.50
1:B:174[A]:LEU:HB2	1:B:197[A]:TRP:CZ2	2.47	0.50
1:D:89[A]:MET:HE3	1:D:92[A]:LYS:HE2	1.93	0.50
1:D:249[A]:LYS:HD3	1:D:255[A]:ASP:HB2	1.94	0.50
1:E:85[A]:LEU:HD13	1:E:176[A]:LYS:HA	1.93	0.50
1:F:17[A]:GLY:O	1:F:21[A]:ALA:CB	2.59	0.50
1:G:474[A]:PHE:CD2	1:G:474[A]:PHE:O	2.64	0.50
1:I:78[A]:MET:CE	1:J:78[A]:MET:HE3	2.42	0.50
1:I:296[A]:LEU:O	1:I:297[A]:ASP:O	2.30	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:J:319[A]:GLY:HA3	4:J:4760[A]:HOH:O	2.11	0.50
2:K:136[A]:ARG:O	2:K:137[A]:ASN:C	2.54	0.50
2:O:162[A]:ASP:HB3	2:O:165[A]:LYS:HZ3	1.76	0.50
1:B:174[C]:LEU:HB2	1:B:197[C]:TRP:CZ2	2.47	0.50
1:D:89[C]:MET:HE3	1:D:92[C]:LYS:HE2	1.93	0.50
1:D:249[C]:LYS:HD3	1:D:255[C]:ASP:HB2	1.94	0.50
1:E:85[C]:LEU:HD13	1:E:176[C]:LYS:HA	1.93	0.50
1:F:17[C]:GLY:O	1:F:21[C]:ALA:CB	2.59	0.50
1:G:474[C]:PHE:O	1:G:474[C]:PHE:CD2	2.64	0.50
1:I:78[C]:MET:CE	1:J:78[C]:MET:HE3	2.42	0.50
1:I:296[C]:LEU:O	1:I:297[C]:ASP:O	2.30	0.50
4:I:4760[C]:HOH:O	1:J:319[C]:GLY:HA3	2.11	0.50
1:A:177[A]:VAL:HG22	1:A:197[A]:TRP:CZ3	2.47	0.50
1:D:145[A]:LEU:HD12	1:D:316[A]:TYR:HB2	1.94	0.50
1:H:409[A]:GLN:N	1:H:416[A]:LEU:CD1	2.75	0.50
1:J:225[A]:ASN:OD1	1:J:403[A]:MET:HE1	2.12	0.50
2:L:142[A]:HIS:O	2:L:143[A]:SER:C	2.55	0.50
1:A:177[C]:VAL:HG22	1:A:197[C]:TRP:CZ3	2.47	0.50
1:D:145[C]:LEU:HD12	1:D:316[C]:TYR:HB2	1.94	0.50
1:H:409[C]:GLN:N	1:H:416[C]:LEU:CD1	2.75	0.50
1:J:225[C]:ASN:OD1	1:J:403[C]:MET:HE1	2.12	0.50
1:A:155[A]:PHE:CZ	1:A:243[A]:VAL:HG22	2.47	0.49
1:B:326[A]:MET:CE	1:B:326[A]:MET:CG	2.89	0.49
1:C:347[A]:VAL:O	1:C:347[A]:VAL:CG2	2.60	0.49
1:D:83[A]:LEU:HD11	1:D:200[A]:LEU:HG	1.93	0.49
1:E:84[A]:ASN:HB2	1:F:77[A]:GLU:HG2	1.93	0.49
1:E:336[A]:ILE:O	1:E:340[A]:GLU:HB2	2.11	0.49
1:F:335[A]:GLY:O	1:F:339[A]:VAL:HG13	2.12	0.49
1:G:322[A]:VAL:HG13	1:G:323[A]:ALA:N	2.27	0.49
1:H:121[A]:ILE:CG1	1:H:144[A]:ILE:HD11	2.41	0.49
1:I:330[A]:LYS:HE2	1:I:334[A]:GLU:OE2	2.11	0.49
2:M:168[A]:GLN:O	2:M:171[A]:GLN:CG	2.60	0.49
1:A:155[C]:PHE:CZ	1:A:243[C]:VAL:HG22	2.47	0.49
1:B:326[C]:MET:CE	1:B:326[C]:MET:CG	2.89	0.49
1:C:347[C]:VAL:O	1:C:347[C]:VAL:CG2	2.60	0.49
1:D:83[C]:LEU:HD11	1:D:200[C]:LEU:HG	1.93	0.49
1:E:84[C]:ASN:HB2	1:F:77[C]:GLU:HG2	1.93	0.49
1:E:336[C]:ILE:O	1:E:340[C]:GLU:HB2	2.11	0.49
1:F:335[C]:GLY:O	1:F:339[C]:VAL:HG13	2.12	0.49
1:G:322[C]:VAL:HG13	1:G:323[C]:ALA:N	2.27	0.49
1:H:121[C]:ILE:CG1	1:H:144[C]:ILE:HD11	2.41	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:I:330[C]:LYS:HE2	1:I:334[C]:GLU:OE2	2.11	0.49
1:C:285[A]:LYS:HB3	1:C:285[A]:LYS:NZ	2.27	0.49
1:D:1[A]:ALA:CB	1:D:136[A]:THR:HG23	2.42	0.49
1:H:260[A]:ALA:O	1:H:261[A]:ALA:C	2.55	0.49
1:I:150[A]:SER:HB2	1:I:281[A]:ARG:O	2.12	0.49
1:I:295[A]:GLU:OE1	1:I:295[A]:GLU:HA	2.11	0.49
2:O:167[A]:VAL:O	2:O:170[A]:LYS:HB3	2.12	0.49
1:C:285[C]:LYS:NZ	1:C:285[C]:LYS:HB3	2.27	0.49
1:D:1[C]:ALA:CB	1:D:136[C]:THR:HG23	2.42	0.49
1:H:260[C]:ALA:O	1:H:261[C]:ALA:C	2.55	0.49
1:I:150[C]:SER:HB2	1:I:281[C]:ARG:O	2.12	0.49
1:I:295[C]:GLU:OE1	1:I:295[C]:GLU:HA	2.11	0.49
1:A:219[A]:ASP:HB3	1:A:222[A]:ILE:HD13	1.94	0.49
1:B:453[A]:PRO:HA	1:B:457[A]:GLU:OE2	2.12	0.49
1:D:19[A]:TYR:CD1	1:D:19[A]:TYR:C	2.90	0.49
1:D:382[A]:LYS:HE2	1:D:466[A]:ALA:O	2.12	0.49
1:F:19[A]:TYR:CD1	1:F:19[A]:TYR:C	2.90	0.49
1:F:59[A]:ASN:OD1	1:F:91[A]:GLN:HG2	2.11	0.49
1:F:181[A]:MET:HE2	1:F:197[A]:TRP:HB2	1.93	0.49
1:J:92[A]:LYS:HG2	1:J:93[A]:SER:N	2.27	0.49
1:J:179[A]:GLU:HB3	1:J:272[A]:ASP:OD1	2.12	0.49
2:L:158[A]:PHE:HZ	2:L:166[A]:LEU:HD12	1.75	0.49
2:M:135[A]:ALA:HA	2:M:138[A]:ILE:CG1	2.42	0.49
2:M:151[A]:ALA:HB2	2:M:158[A]:PHE:CD1	2.46	0.49
2:M:159[A]:THR:CG2	2:M:161[A]:GLU:CD	2.85	0.49
1:A:219[C]:ASP:HB3	1:A:222[C]:ILE:HD13	1.94	0.49
1:B:453[C]:PRO:HA	1:B:457[C]:GLU:OE2	2.12	0.49
1:D:19[C]:TYR:CD1	1:D:19[C]:TYR:C	2.90	0.49
1:D:382[C]:LYS:HE2	1:D:466[C]:ALA:O	2.12	0.49
1:F:19[C]:TYR:C	1:F:19[C]:TYR:CD1	2.90	0.49
1:F:59[C]:ASN:OD1	1:F:91[C]:GLN:HG2	2.11	0.49
1:F:181[C]:MET:HE2	1:F:197[C]:TRP:HB2	1.93	0.49
1:F:444[C]:ASP:OD1	2:M:134[C]:ALA:HB3	2.11	0.49
1:J:92[C]:LYS:HG2	1:J:93[C]:SER:N	2.27	0.49
1:J:179[C]:GLU:HB3	1:J:272[C]:ASP:OD1	2.12	0.49
2:L:132[C]:SER:OG	2:L:135[C]:ALA:CB	2.60	0.49
2:L:144[C]:LEU:HD23	2:L:144[C]:LEU:H	1.77	0.49
1:C:203[A]:ASP:HA	4:C:4809[A]:HOH:O	2.11	0.49
1:C:290[A]:GLU:CD	1:C:290[A]:GLU:N	2.66	0.49
1:D:110[A]:ASN:O	1:D:111[A]:LYS:HB2	2.11	0.49
1:E:472[A]:ILE:HD13	1:E:472[A]:ILE:C	2.36	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:E:4754[A]:FAD:O2'	3:E:4754[A]:FAD:O4'	2.16	0.49
1:G:33[A]:VAL:HG21	1:G:139[A]:ILE:HG12	1.94	0.49
1:G:213[A]:VAL:HG12	1:G:214[A]:GLY:N	2.28	0.49
1:H:265[A]:LYS:HZ2	1:H:265[A]:LYS:CB	2.16	0.49
1:H:290[A]:GLU:CD	1:H:290[A]:GLU:N	2.70	0.49
4:B:4809[C]:HOH:O	1:C:203[C]:ASP:HA	2.11	0.49
1:C:290[C]:GLU:CD	1:C:290[C]:GLU:N	2.66	0.49
1:D:110[C]:ASN:O	1:D:111[C]:LYS:HB2	2.11	0.49
3:D:4754[C]:FAD:O2'	3:D:4754[C]:FAD:O4'	2.16	0.49
1:E:472[C]:ILE:HD13	1:E:472[C]:ILE:C	2.36	0.49
1:G:33[C]:VAL:HG21	1:G:139[C]:ILE:HG12	1.94	0.49
1:G:213[C]:VAL:HG12	1:G:214[C]:GLY:N	2.28	0.49
1:H:265[C]:LYS:HZ2	1:H:265[C]:LYS:CB	2.16	0.49
1:H:290[C]:GLU:CD	1:H:290[C]:GLU:N	2.70	0.49
2:M:146[C]:ALA:C	2:M:148[C]:GLN:N	2.67	0.49
1:B:181[A]:MET:O	1:B:204[A]:VAL:HA	2.12	0.49
1:B:207[A]:VAL:HG13	1:B:241[A]:THR:HB	1.94	0.49
1:C:131[A]:LYS:NZ	1:C:132[A]:ALA:HB3	2.27	0.49
1:C:394[A]:ALA:HB1	1:C:400[A]:THR:HG22	1.94	0.49
1:C:414[A]:ARG:HG2	1:C:414[A]:ARG:NH1	2.22	0.49
1:G:195[A]:SER:O	1:G:199[A]:ARG:HG3	2.13	0.49
1:J:69[A]:LYS:HB2	1:J:69[A]:LYS:NZ	2.27	0.49
1:J:327[A]:LEU:C	4:J:4759[A]:FAD:O3'	2.56	0.49
1:B:181[C]:MET:O	1:B:204[C]:VAL:HA	2.12	0.49
1:B:207[C]:VAL:HG13	1:B:241[C]:THR:HB	1.94	0.49
1:C:131[C]:LYS:NZ	1:C:132[C]:ALA:HB3	2.27	0.49
1:C:394[C]:ALA:HB1	1:C:400[C]:THR:HG22	1.94	0.49
1:C:414[C]:ARG:HG2	1:C:414[C]:ARG:NH1	2.22	0.49
1:G:195[C]:SER:O	1:G:199[C]:ARG:HG3	2.13	0.49
3:I:4759[C]:FAD:O3'	1:J:327[C]:LEU:C	2.56	0.49
1:J:69[C]:LYS:HB2	1:J:69[C]:LYS:NZ	2.27	0.49
1:A:358[A]:ILE:CD1	1:A:360[A]:THR:CG2	2.85	0.49
1:E:165[A]:ILE:HG22	1:E:165[A]:ILE:O	2.13	0.49
1:G:136[A]:THR:HG23	1:G:136[A]:THR:O	2.13	0.49
1:J:428[A]:MET:CE	1:J:455[A]:LEU:HB3	2.42	0.49
1:A:358[C]:ILE:CD1	1:A:360[C]:THR:CG2	2.85	0.49
1:E:165[C]:ILE:HG22	1:E:165[C]:ILE:O	2.13	0.49
1:G:136[C]:THR:HG23	1:G:136[C]:THR:O	2.13	0.49
1:J:428[C]:MET:CE	1:J:455[C]:LEU:HB3	2.42	0.49
2:L:159[C]:THR:OG1	2:L:162[C]:ASP:OD2	2.30	0.49
1:B:267[A]:GLU:HG2	1:B:268[A]:VAL:N	2.26	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:218[A]:ILE:HD13	1:D:223[A]:SER:HB2	1.95	0.49
1:D:221[A]:GLU:O	1:D:225[A]:ASN:ND2	2.46	0.49
1:G:291[A]:GLU:OE1	1:G:291[A]:GLU:N	2.43	0.49
1:G:430[A]:ASN:ND2	1:H:451[A]:ALA:H	2.11	0.49
1:H:121[A]:ILE:HG21	1:H:292[A]:LEU:HD21	1.94	0.49
1:I:40[A]:THR:CG2	1:I:100[A]:THR:HB	2.41	0.49
1:I:258[A]:ILE:HD11	1:I:267[A]:GLU:HB3	1.94	0.49
1:I:468[A]:PHE:O	1:I:469[A]:GLY:C	2.56	0.49
1:B:267[C]:GLU:HG2	1:B:268[C]:VAL:N	2.26	0.49
1:D:218[C]:ILE:HD13	1:D:223[C]:SER:HB2	1.95	0.49
1:D:221[C]:GLU:O	1:D:225[C]:ASN:ND2	2.46	0.49
1:G:291[C]:GLU:N	1:G:291[C]:GLU:OE1	2.43	0.49
1:G:430[C]:ASN:ND2	1:H:451[C]:ALA:H	2.11	0.49
1:H:121[C]:ILE:HG21	1:H:292[C]:LEU:HD21	1.94	0.49
1:I:40[C]:THR:CG2	1:I:100[C]:THR:HB	2.41	0.49
1:I:258[C]:ILE:HD11	1:I:267[C]:GLU:HB3	1.94	0.49
1:I:468[C]:PHE:O	1:I:469[C]:GLY:C	2.56	0.49
2:K:159[C]:THR:HG21	2:K:161[C]:GLU:CD	2.38	0.49
2:N:158[C]:PHE:HE2	2:N:163[C]:ALA:CA	2.21	0.49
1:A:69[A]:LYS:HB2	1:A:69[A]:LYS:HZ2	1.77	0.49
1:A:195[A]:SER:O	1:A:199[A]:ARG:HG3	2.12	0.49
1:B:406[A]:ILE:C	1:B:406[A]:ILE:CD1	2.78	0.49
1:C:138[A]:VAL:C	1:C:139[A]:ILE:HG12	2.38	0.49
1:E:406[A]:ILE:O	1:E:407[A]:LEU:HD23	2.13	0.49
1:F:97[A]:LYS:O	1:F:98[A]:ALA:C	2.55	0.49
1:G:256[A]:VAL:O	1:G:256[A]:VAL:CG2	2.59	0.49
1:H:308[A]:PHE:CZ	1:H:334[A]:GLU:HG2	2.48	0.49
2:L:159[A]:THR:O	2:L:162[A]:ASP:HB2	2.13	0.49
2:N:152[A]:THR:O	2:N:157[A]:ILE:O	2.31	0.49
1:A:69[C]:LYS:HB2	1:A:69[C]:LYS:HZ2	1.77	0.49
1:A:195[C]:SER:O	1:A:199[C]:ARG:HG3	2.12	0.49
1:B:406[C]:ILE:C	1:B:406[C]:ILE:CD1	2.78	0.49
1:C:138[C]:VAL:C	1:C:139[C]:ILE:HG12	2.38	0.49
1:E:406[C]:ILE:O	1:E:407[C]:LEU:HD23	2.13	0.49
1:F:97[C]:LYS:O	1:F:98[C]:ALA:C	2.55	0.49
1:G:256[C]:VAL:O	1:G:256[C]:VAL:CG2	2.59	0.49
1:H:308[C]:PHE:CZ	1:H:334[C]:GLU:HG2	2.48	0.49
2:K:130[C]:ARG:O	2:K:157[C]:ILE:CG2	2.56	0.49
1:B:43[A]:GLY:HA2	3:B:4751[A]:FAD:O3B	2.13	0.49
1:D:251[A]:ASP:OD1	1:D:253[A]:LYS:HG3	2.13	0.49
1:E:153[A]:THR:HB	1:E:278[A]:ILE:HG22	1.95	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:312[A]:ILE:HG21	1:E:315[A]:ILE:HD12	1.94	0.49
1:G:171[A]:ALA:CB	1:G:193[A]:LEU:HD23	2.42	0.49
1:I:226[A]:PHE:CZ	1:I:358[A]:ILE:HD11	2.47	0.49
1:I:353[A]:CYS:HB3	1:I:436[A]:LEU:CD2	2.38	0.49
2:M:167[A]:VAL:C	2:M:170[A]:LYS:HG3	2.38	0.49
2:N:168[A]:GLN:O	2:N:171[A]:GLN:CB	2.60	0.49
3:A:4751[C]:FAD:O3B	1:B:43[C]:GLY:HA2	2.13	0.49
1:D:251[C]:ASP:OD1	1:D:253[C]:LYS:HG3	2.13	0.49
1:E:153[C]:THR:HB	1:E:278[C]:ILE:HG22	1.95	0.49
1:E:312[C]:ILE:HG21	1:E:315[C]:ILE:HD12	1.94	0.49
1:G:171[C]:ALA:CB	1:G:193[C]:LEU:HD23	2.42	0.49
1:I:226[C]:PHE:CZ	1:I:358[C]:ILE:HD11	2.47	0.49
1:I:353[C]:CYS:HB3	1:I:436[C]:LEU:CD2	2.38	0.49
1:B:454[A]:THR:N	1:B:457[A]:GLU:OE2	2.42	0.49
1:C:438[A]:TYR:CD1	2:L:157[A]:ILE:HD11	2.47	0.49
1:D:1[A]:ALA:CA	1:D:136[A]:THR:HG23	2.41	0.49
1:D:308[A]:PHE:O	1:D:316[A]:TYR:HB3	2.13	0.49
1:E:51[A]:ILE:HG23	1:F:396[A]:THR:HG21	1.94	0.49
1:H:70[A]:ASP:C	1:H:70[A]:ASP:OD1	2.56	0.49
1:H:160[A]:ILE:HD13	1:H:167[A]:SER:HB3	1.95	0.49
1:I:225[A]:ASN:HD22	1:I:228[A]:ARG:HH12	1.60	0.49
1:I:383[A]:VAL:O	1:I:383[A]:VAL:HG13	2.13	0.49
1:J:43[A]:GLY:HA2	4:J:4759[A]:FAD:O3B	2.12	0.49
1:J:59[A]:ASN:HD22	1:J:59[A]:ASN:N	2.11	0.49
1:J:437[A]:GLU:O	2:O:136[A]:ARG:NH2	2.46	0.49
2:L:165[A]:LYS:O	2:L:166[A]:LEU:C	2.56	0.49
1:B:454[C]:THR:N	1:B:457[C]:GLU:OE2	2.42	0.49
1:D:1[C]:ALA:CA	1:D:136[C]:THR:HG23	2.41	0.49
1:D:308[C]:PHE:O	1:D:316[C]:TYR:HB3	2.13	0.49
1:E:51[C]:ILE:HG23	1:F:396[C]:THR:HG21	1.94	0.49
1:H:70[C]:ASP:C	1:H:70[C]:ASP:OD1	2.56	0.49
1:H:160[C]:ILE:HD13	1:H:167[C]:SER:HB3	1.95	0.49
1:I:225[C]:ASN:HD22	1:I:228[C]:ARG:HH12	1.60	0.49
1:I:383[C]:VAL:O	1:I:383[C]:VAL:HG13	2.13	0.49
3:I:4759[C]:FAD:O3B	1:J:43[C]:GLY:HA2	2.12	0.49
1:J:59[C]:ASN:HD22	1:J:59[C]:ASN:N	2.11	0.49
2:L:138[C]:ILE:O	2:L:138[C]:ILE:HG12	2.12	0.49
1:E:20[A]:VAL:HG23	1:E:336[A]:ILE:HD12	1.93	0.48
1:F:246[A]:ALA:HA	1:F:255[A]:ASP:O	2.12	0.48
2:L:159[A]:THR:O	2:L:160[A]:LYS:C	2.56	0.48
2:O:162[A]:ASP:HB3	2:O:165[A]:LYS:NZ	2.28	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:20[C]:VAL:HG23	1:E:336[C]:ILE:HD12	1.93	0.48
1:F:246[C]:ALA:HA	1:F:255[C]:ASP:O	2.12	0.48
1:A:171[A]:ALA:HA	1:A:174[A]:LEU:CD2	2.43	0.48
1:B:148[A]:THR:O	3:B:4751[A]:FAD:H8A	2.13	0.48
1:C:78[A]:MET:CE	1:D:81[A]:VAL:HG22	2.41	0.48
1:F:84[A]:ASN:ND2	1:F:86[A]:ASP:HB2	2.28	0.48
1:G:74[A]:ARG:HE	1:H:59[A]:ASN:HD21	1.59	0.48
1:I:65[A]:MET:HE1	1:J:62[A]:TYR:CE2	2.47	0.48
1:J:45[A]:CYS:SG	1:J:50[A]:CYS:SG	3.11	0.48
1:A:171[C]:ALA:HA	1:A:174[C]:LEU:CD2	2.43	0.48
3:A:4751[C]:FAD:H8A	1:B:148[C]:THR:O	2.13	0.48
1:C:78[C]:MET:CE	1:D:81[C]:VAL:HG22	2.41	0.48
1:F:84[C]:ASN:ND2	1:F:86[C]:ASP:HB2	2.28	0.48
1:G:74[C]:ARG:HE	1:H:59[C]:ASN:HD21	1.59	0.48
1:I:65[C]:MET:HE1	1:J:62[C]:TYR:CE2	2.47	0.48
1:J:45[C]:CYS:SG	1:J:50[C]:CYS:SG	3.11	0.48
1:A:148[A]:THR:HG21	1:A:287[A]:LEU:HD21	1.96	0.48
1:E:404[A]:VAL:HG22	1:E:420[A]:ILE:HG23	1.95	0.48
1:H:409[A]:GLN:CA	1:H:416[A]:LEU:HD11	2.44	0.48
1:J:280[A]:ARG:CG	1:J:280[A]:ARG:NH1	2.73	0.48
1:A:148[C]:THR:HG21	1:A:287[C]:LEU:HD21	1.96	0.48
1:E:404[C]:VAL:HG22	1:E:420[C]:ILE:HG23	1.95	0.48
1:H:409[C]:GLN:CA	1:H:416[C]:LEU:HD11	2.44	0.48
1:J:280[C]:ARG:CG	1:J:280[C]:ARG:NH1	2.73	0.48
1:B:195[A]:SER:O	1:B:199[A]:ARG:HG3	2.12	0.48
1:B:395[A]:LYS:HD3	1:B:400[A]:THR:HG21	1.95	0.48
1:D:69[A]:LYS:NZ	1:D:73[A]:SER:HB3	2.28	0.48
1:F:160[A]:ILE:HA	1:F:165[A]:ILE:HG22	1.95	0.48
1:F:297[A]:ASP:HB2	1:F:298[A]:PRO:HD2	1.95	0.48
1:F:339[A]:VAL:HA	1:F:342[A]:MET:HG3	1.96	0.48
1:F:392[A]:SER:O	1:F:396[A]:THR:HG23	2.14	0.48
1:G:76[A]:ILE:O	1:G:78[A]:MET:HE2	2.13	0.48
1:I:24[A]:LYS:HB3	1:I:339[A]:VAL:HG21	1.95	0.48
1:I:25[A]:ALA:HB3	1:I:32[A]:THR:HG21	1.95	0.48
1:I:45[A]:CYS:HG	1:I:50[A]:CYS:CB	2.20	0.48
1:J:10[A]:THR:HG23	1:J:33[A]:VAL:HG12	1.96	0.48
1:J:246[A]:ALA:C	1:J:247[A]:THR:HG22	2.37	0.48
2:K:161[A]:GLU:HA	2:K:164[A]:LEU:HD12	1.95	0.48
1:B:195[C]:SER:O	1:B:199[C]:ARG:HG3	2.12	0.48
1:B:395[C]:LYS:HD3	1:B:400[C]:THR:HG21	1.95	0.48
1:D:69[C]:LYS:NZ	1:D:73[C]:SER:HB3	2.28	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:160[C]:ILE:HA	1:F:165[C]:ILE:HG22	1.95	0.48
1:F:297[C]:ASP:HB2	1:F:298[C]:PRO:HD2	1.95	0.48
1:F:339[C]:VAL:HA	1:F:342[C]:MET:HG3	1.96	0.48
1:F:392[C]:SER:O	1:F:396[C]:THR:HG23	2.14	0.48
1:G:76[C]:ILE:O	1:G:78[C]:MET:HE2	2.13	0.48
1:I:24[C]:LYS:HB3	1:I:339[C]:VAL:HG21	1.95	0.48
1:I:25[C]:ALA:HB3	1:I:32[C]:THR:HG21	1.95	0.48
1:I:45[C]:CYS:HG	1:I:50[C]:CYS:CB	2.20	0.48
1:J:10[C]:THR:HG23	1:J:33[C]:VAL:HG12	1.96	0.48
1:J:246[C]:ALA:C	1:J:247[C]:THR:HG22	2.37	0.48
1:D:337[A]:ILE:HD13	1:D:349[A]:ILE:HB	1.95	0.48
1:D:445[A]:ILE:HG21	1:D:463[A]:ASN:ND2	2.28	0.48
1:F:443[A]:GLU:OE2	1:F:447[A]:ARG:NH1	2.46	0.48
1:G:119[A]:GLY:HA2	1:G:129[A]:ALA:HA	1.95	0.48
1:I:297[A]:ASP:CG	1:I:301[A]:ARG:HG3	2.38	0.48
1:D:337[C]:ILE:HD13	1:D:349[C]:ILE:HB	1.95	0.48
1:D:445[C]:ILE:HG21	1:D:463[C]:ASN:ND2	2.28	0.48
1:F:443[C]:GLU:OE2	1:F:447[C]:ARG:NH1	2.46	0.48
1:G:119[C]:GLY:HA2	1:G:129[C]:ALA:HA	1.95	0.48
1:I:297[C]:ASP:CG	1:I:301[C]:ARG:HG3	2.38	0.48
1:A:382[A]:LYS:HE3	1:A:466[A]:ALA:O	2.13	0.48
1:B:290[A]:GLU:HB2	1:B:291[A]:GLU:OE2	2.12	0.48
1:B:388[A]:PHE:CE2	1:B:422[A]:GLY:HA3	2.49	0.48
1:B:461[A]:GLU:OE2	1:B:473[A]:ASN:HB2	2.13	0.48
1:C:330[A]:LYS:HD3	1:C:334[A]:GLU:OE2	2.14	0.48
1:D:284[A]:THR:O	1:D:284[A]:THR:CG2	2.60	0.48
1:F:144[A]:ILE:HD11	1:F:146[A]:ILE:CD1	2.37	0.48
1:F:360[A]:THR:O	1:F:363[A]:GLU:HG2	2.13	0.48
1:F:368[A]:GLY:HA3	1:F:417[A]:GLY:HA2	1.95	0.48
1:G:341[A]:GLY:HA2	1:G:345[A]:GLY:HA2	1.96	0.48
1:G:410[A]:LYS:CG	1:G:410[A]:LYS:O	2.61	0.48
1:I:453[A]:PRO:C	1:I:454[A]:THR:CG2	2.87	0.48
2:M:139[A]:LEU:HD23	2:M:144[A]:LEU:HD12	1.95	0.48
1:A:382[C]:LYS:HE3	1:A:466[C]:ALA:O	2.13	0.48
1:B:290[C]:GLU:HB2	1:B:291[C]:GLU:OE2	2.12	0.48
1:B:388[C]:PHE:CE2	1:B:422[C]:GLY:HA3	2.49	0.48
1:B:461[C]:GLU:OE2	1:B:473[C]:ASN:HB2	2.13	0.48
1:C:330[C]:LYS:HD3	1:C:334[C]:GLU:OE2	2.14	0.48
1:D:284[C]:THR:O	1:D:284[C]:THR:CG2	2.60	0.48
1:F:144[C]:ILE:HD11	1:F:146[C]:ILE:CD1	2.37	0.48
1:F:360[C]:THR:O	1:F:363[C]:GLU:HG2	2.13	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:368[C]:GLY:HA3	1:F:417[C]:GLY:HA2	1.95	0.48
1:G:341[C]:GLY:HA2	1:G:345[C]:GLY:HA2	1.96	0.48
1:G:410[C]:LYS:CG	1:G:410[C]:LYS:O	2.61	0.48
1:H:412[C]:THR:HB	2:N:161[C]:GLU:HG3	1.96	0.48
1:I:453[C]:PRO:C	1:I:454[C]:THR:CG2	2.87	0.48
1:A:358[A]:ILE:HD12	1:A:360[A]:THR:H	1.77	0.48
1:A:409[A]:GLN:HG2	1:A:412[A]:THR:OG1	2.13	0.48
1:B:45[A]:CYS:SG	1:B:50[A]:CYS:HB2	2.53	0.48
1:B:380[A]:GLU:HG3	1:J:84[A]:ASN:ND2	2.29	0.48
1:C:44[A]:THR:HG23	3:C:4752[A]:FAD:O2A	2.13	0.48
1:D:226[A]:PHE:CZ	1:D:230[A]:LEU:HD11	2.49	0.48
1:G:409[A]:GLN:HG3	1:G:412[A]:THR:H	1.79	0.48
1:J:249[A]:LYS:HD3	1:J:255[A]:ASP:CG	2.38	0.48
1:J:389[A]:ALA:HA	1:J:400[A]:THR:HB	1.95	0.48
2:K:144[A]:LEU:C	2:K:144[A]:LEU:HD12	2.38	0.48
1:A:358[C]:ILE:HD12	1:A:360[C]:THR:H	1.77	0.48
1:A:409[C]:GLN:HG2	1:A:412[C]:THR:OG1	2.13	0.48
1:B:45[C]:CYS:SG	1:B:50[C]:CYS:HB2	2.53	0.48
1:B:380[C]:GLU:HG3	1:J:84[C]:ASN:ND2	2.29	0.48
3:B:4752[C]:FAD:O2A	1:C:44[C]:THR:HG23	2.13	0.48
1:D:226[C]:PHE:CZ	1:D:230[C]:LEU:HD11	2.49	0.48
1:G:409[C]:GLN:HG3	1:G:412[C]:THR:H	1.79	0.48
1:J:249[C]:LYS:HD3	1:J:255[C]:ASP:CG	2.38	0.48
1:J:389[C]:ALA:HA	1:J:400[C]:THR:HB	1.95	0.48
1:C:332[A]:GLU:O	1:C:336[A]:ILE:HG13	2.14	0.48
1:D:359[A]:TYR:C	1:D:360[A]:THR:O	2.53	0.48
1:G:402[A]:GLY:HA3	1:G:421[A]:LEU:O	2.14	0.48
1:J:188[A]:VAL:HG11	4:J:4785[A]:HOH:O	2.14	0.48
1:C:332[C]:GLU:O	1:C:336[C]:ILE:HG13	2.14	0.48
1:D:359[C]:TYR:C	1:D:360[C]:THR:O	2.53	0.48
1:G:402[C]:GLY:HA3	1:G:421[C]:LEU:O	2.14	0.48
4:I:4786[C]:HOH:O	1:J:188[C]:VAL:HG11	2.14	0.48
2:L:138[C]:ILE:CD1	2:L:163[C]:ALA:O	2.62	0.48
2:L:142[C]:HIS:HB2	2:L:144[C]:LEU:CD2	2.43	0.48
2:N:130[C]:ARG:O	2:N:157[C]:ILE:CG2	2.59	0.48
1:D:441[A]:SER:O	1:D:442[A]:CYS:C	2.56	0.48
1:E:366[A]:TRP:CB	1:E:419[A]:HIS:HD2	2.26	0.48
1:E:464[A]:LEU:HD23	1:E:464[A]:LEU:C	2.39	0.48
1:G:65[A]:MET:HE2	1:G:70[A]:ASP:OD2	2.14	0.48
1:G:186[A]:ALA:HB1	1:G:213[A]:VAL:HG13	1.95	0.48
1:H:90[A]:GLU:O	1:H:91[A]:GLN:C	2.56	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:I:212[A]:HIS:HB3	1:I:220[A]:MET:HE1	1.96	0.48
1:J:155[A]:PHE:HZ	1:J:243[A]:VAL:HG22	1.79	0.48
2:K:159[A]:THR:HB	2:K:162[A]:ASP:OD1	2.14	0.48
1:D:441[C]:SER:O	1:D:442[C]:CYS:C	2.56	0.48
1:E:366[C]:TRP:CB	1:E:419[C]:HIS:HD2	2.26	0.48
1:E:464[C]:LEU:HD23	1:E:464[C]:LEU:C	2.39	0.48
1:G:65[C]:MET:HE2	1:G:70[C]:ASP:OD2	2.14	0.48
1:G:186[C]:ALA:HB1	1:G:213[C]:VAL:HG13	1.95	0.48
1:H:90[C]:GLU:O	1:H:91[C]:GLN:C	2.56	0.48
1:I:212[C]:HIS:HB3	1:I:220[C]:MET:HE1	1.96	0.48
1:J:155[C]:PHE:HZ	1:J:243[C]:VAL:HG22	1.79	0.48
2:L:135[C]:ALA:HB2	2:L:158[C]:PHE:O	2.14	0.48
1:A:59[A]:ASN:ND2	1:A:91[A]:GLN:OE1	2.46	0.48
1:A:177[A]:VAL:HG22	1:A:197[A]:TRP:CE3	2.49	0.48
1:B:258[A]:ILE:O	1:B:259[A]:GLU:HB2	2.13	0.48
1:D:162[A]:GLU:OE1	1:D:162[A]:GLU:CA	2.56	0.48
1:D:250[A]:SER:HB3	1:G:304[A]:VAL:HG23	1.95	0.48
1:H:178[A]:PRO:HB3	1:H:273[A]:VAL:HG21	1.96	0.48
1:I:47[A]:ASN:C	1:I:48[A]:VAL:HG13	2.39	0.48
1:A:59[C]:ASN:ND2	1:A:91[C]:GLN:OE1	2.46	0.48
1:A:177[C]:VAL:HG22	1:A:197[C]:TRP:CE3	2.49	0.48
1:B:258[C]:ILE:O	1:B:259[C]:GLU:HB2	2.13	0.48
1:D:162[C]:GLU:OE1	1:D:162[C]:GLU:CA	2.56	0.48
1:D:250[C]:SER:HB3	1:G:304[C]:VAL:HG23	1.95	0.48
1:H:178[C]:PRO:HB3	1:H:273[C]:VAL:HG21	1.96	0.48
1:I:47[C]:ASN:C	1:I:48[C]:VAL:HG13	2.39	0.48
1:A:155[A]:PHE:HZ	1:A:243[A]:VAL:HG22	1.78	0.47
1:D:305[A]:ASN:HD21	1:D:309[A]:GLN:H	1.61	0.47
1:E:155[A]:PHE:CD1	1:E:155[A]:PHE:C	2.92	0.47
1:F:1[A]:ALA:H3	1:F:136[A]:THR:HG22	1.78	0.47
1:G:84[A]:ASN:HD21	1:G:86[A]:ASP:HB2	1.79	0.47
1:G:138[A]:VAL:C	1:G:139[A]:ILE:HD12	2.39	0.47
1:G:339[A]:VAL:C	1:G:341[A]:GLY:H	2.20	0.47
1:H:143[A]:ASN:CG	1:H:342[A]:MET:CE	2.87	0.47
1:H:389[A]:ALA:HA	1:H:400[A]:THR:CG2	2.44	0.47
1:I:438[A]:TYR:OH	1:J:440[A]:ALA:CB	2.62	0.47
1:J:71[A]:PHE:HA	1:J:74[A]:ARG:HG3	1.96	0.47
2:L:132[A]:SER:C	2:L:134[A]:ALA:N	2.72	0.47
2:M:154[A]:PRO:C	2:M:156[A]:GLY:H	2.21	0.47
2:O:149[A]:GLY:N	2:O:166[A]:LEU:HD11	2.20	0.47
1:A:155[C]:PHE:HZ	1:A:243[C]:VAL:HG22	1.78	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:305[C]:ASN:HD21	1:D:309[C]:GLN:H	1.61	0.47
1:E:155[C]:PHE:C	1:E:155[C]:PHE:CD1	2.92	0.47
1:F:1[C]:ALA:H3	1:F:136[C]:THR:HG22	1.78	0.47
1:G:84[C]:ASN:HD21	1:G:86[C]:ASP:HB2	1.79	0.47
1:G:138[C]:VAL:C	1:G:139[C]:ILE:HD12	2.39	0.47
1:G:339[C]:VAL:C	1:G:341[C]:GLY:H	2.20	0.47
1:H:143[C]:ASN:CG	1:H:342[C]:MET:CE	2.87	0.47
1:H:389[C]:ALA:HA	1:H:400[C]:THR:CG2	2.44	0.47
1:I:438[C]:TYR:OH	1:J:440[C]:ALA:CB	2.62	0.47
1:J:71[C]:PHE:HA	1:J:74[C]:ARG:HG3	1.96	0.47
1:B:137[A]:GLN:HE21	1:B:137[A]:GLN:HA	1.75	0.47
1:D:297[A]:ASP:OD1	1:D:301[A]:ARG:HB2	2.14	0.47
1:I:224[A]:LYS:HA	1:I:224[A]:LYS:HD2	1.78	0.47
1:J:308[A]:PHE:CZ	1:J:334[A]:GLU:HG2	2.49	0.47
1:J:468[A]:PHE:CD2	1:J:470[A]:LYS:NZ	2.76	0.47
2:L:146[A]:ALA:O	2:L:147[A]:SER:C	2.56	0.47
1:B:137[C]:GLN:HE21	1:B:137[C]:GLN:HA	1.75	0.47
1:B:438[C]:TYR:HE1	2:K:157[C]:ILE:HD11	1.79	0.47
1:D:297[C]:ASP:OD1	1:D:301[C]:ARG:HB2	2.14	0.47
1:I:224[C]:LYS:HA	1:I:224[C]:LYS:HD2	1.78	0.47
1:J:308[C]:PHE:CZ	1:J:334[C]:GLU:HG2	2.49	0.47
1:J:468[C]:PHE:CD2	1:J:470[C]:LYS:NZ	2.76	0.47
1:B:6[A]:ASP:O	1:B:31[A]:LYS:HD3	2.15	0.47
1:C:145[A]:LEU:HD21	1:C:318[A]:ILE:HG23	1.96	0.47
1:D:383[A]:VAL:HB	1:D:407[A]:LEU:HD23	1.96	0.47
1:D:406[A]:ILE:CD1	1:D:463[A]:ASN:CG	2.87	0.47
1:F:91[A]:GLN:HG3	1:F:92[A]:LYS:N	2.28	0.47
1:G:347[A]:VAL:O	1:G:347[A]:VAL:CG2	2.62	0.47
1:H:285[A]:LYS:HB2	4:H:4820[A]:HOH:O	2.14	0.47
1:I:184[A]:ILE:CD1	1:I:274[A]:LEU:HD11	2.43	0.47
1:I:320[A]:ASP:OD1	3:I:4758[A]:FAD:H5'2	2.13	0.47
1:J:67[A]:HIS:CA	1:J:81[A]:VAL:HG11	2.36	0.47
1:J:434[A]:LEU:HD12	1:J:434[A]:LEU:C	2.39	0.47
1:J:473[A]:ASN:OD1	4:J:4771[A]:HOH:O	2.20	0.47
2:O:150[A]:THR:HG22	2:O:151[A]:ALA:N	2.29	0.47
1:B:6[C]:ASP:O	1:B:31[C]:LYS:HD3	2.15	0.47
1:C:145[C]:LEU:HD21	1:C:318[C]:ILE:HG23	1.96	0.47
1:D:383[C]:VAL:HB	1:D:407[C]:LEU:HD23	1.96	0.47
1:D:406[C]:ILE:CD1	1:D:463[C]:ASN:CG	2.87	0.47
1:F:91[C]:GLN:HG3	1:F:92[C]:LYS:N	2.28	0.47
1:G:347[C]:VAL:O	1:G:347[C]:VAL:CG2	2.62	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:G:4820[C]:HOH:O	1:H:285[C]:LYS:HB2	2.14	0.47
3:H:4758[C]:FAD:H5'2	1:I:320[C]:ASP:OD1	2.13	0.47
1:I:184[C]:ILE:CD1	1:I:274[C]:LEU:HD11	2.43	0.47
4:I:4772[C]:HOH:O	1:J:473[C]:ASN:OD1	2.20	0.47
1:J:67[C]:HIS:CA	1:J:81[C]:VAL:HG11	2.36	0.47
1:J:434[C]:LEU:HD12	1:J:434[C]:LEU:C	2.39	0.47
2:L:164[C]:LEU:O	2:L:165[C]:LYS:C	2.57	0.47
2:M:145[C]:ASP:H	2:M:148[C]:GLN:HE21	1.62	0.47
1:B:386[A]:PHE:HA	1:B:387[A]:PRO:HD3	1.68	0.47
1:C:59[A]:ASN:ND2	1:D:74[A]:ARG:HE	2.13	0.47
1:D:396[A]:THR:C	1:D:398[A]:ALA:H	2.22	0.47
1:F:305[A]:ASN:C	1:F:305[A]:ASN:OD1	2.57	0.47
1:G:381[A]:TYR:CD1	1:G:381[A]:TYR:C	2.92	0.47
1:J:194[A]:GLY:O	1:J:198[A]:GLN:HB2	2.15	0.47
1:B:386[C]:PHE:HA	1:B:387[C]:PRO:HD3	1.68	0.47
1:C:59[C]:ASN:ND2	1:D:74[C]:ARG:HE	2.13	0.47
1:D:396[C]:THR:C	1:D:398[C]:ALA:H	2.22	0.47
1:F:305[C]:ASN:C	1:F:305[C]:ASN:OD1	2.57	0.47
1:G:381[C]:TYR:CD1	1:G:381[C]:TYR:C	2.92	0.47
1:J:194[C]:GLY:O	1:J:198[C]:GLN:HB2	2.15	0.47
1:B:131[A]:LYS:HG3	1:B:135[A]:GLY:O	2.15	0.47
1:D:97[A]:LYS:O	1:D:100[A]:THR:HG22	2.14	0.47
1:G:299[A]:ARG:HG2	1:G:301[A]:ARG:HG3	1.96	0.47
1:H:433[A]:ALA:O	1:H:437[A]:GLU:HG2	2.13	0.47
1:I:94[A]:THR:O	1:I:95[A]:ALA:C	2.57	0.47
1:I:230[A]:LEU:HD12	1:I:230[A]:LEU:HA	1.76	0.47
1:I:287[A]:LEU:HB3	1:I:289[A]:LEU:HG	1.95	0.47
1:I:404[A]:VAL:HG11	1:I:459[A]:PHE:HA	1.96	0.47
1:B:131[C]:LYS:HG3	1:B:135[C]:GLY:O	2.15	0.47
1:D:97[C]:LYS:O	1:D:100[C]:THR:HG22	2.14	0.47
1:G:299[C]:ARG:HG2	1:G:301[C]:ARG:HG3	1.96	0.47
1:H:433[C]:ALA:O	1:H:437[C]:GLU:HG2	2.13	0.47
1:I:94[C]:THR:O	1:I:95[C]:ALA:C	2.57	0.47
1:I:230[C]:LEU:HD12	1:I:230[C]:LEU:HA	1.76	0.47
1:I:287[C]:LEU:HB3	1:I:289[C]:LEU:HG	1.95	0.47
1:I:404[C]:VAL:HG11	1:I:459[C]:PHE:HA	1.96	0.47
2:K:159[C]:THR:CG2	2:K:161[C]:GLU:CD	2.87	0.47
1:A:184[A]:ILE:CD1	1:A:274[A]:LEU:HD11	2.44	0.47
1:C:389[A]:ALA:HA	1:C:400[A]:THR:HB	1.97	0.47
1:C:409[A]:GLN:HG3	1:C:412[A]:THR:H	1.79	0.47
1:D:354[A]:VAL:HA	1:D:355[A]:PRO:HD3	1.70	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:19[A]:TYR:CD1	1:E:19[A]:TYR:C	2.92	0.47
1:G:307[A]:ARG:O	1:G:308[A]:PHE:HB2	2.15	0.47
1:A:184[C]:ILE:CD1	1:A:274[C]:LEU:HD11	2.44	0.47
1:C:389[C]:ALA:HA	1:C:400[C]:THR:HB	1.97	0.47
1:C:409[C]:GLN:HG3	1:C:412[C]:THR:H	1.79	0.47
1:D:354[C]:VAL:HA	1:D:355[C]:PRO:HD3	1.70	0.47
1:E:19[C]:TYR:CD1	1:E:19[C]:TYR:C	2.92	0.47
1:G:307[C]:ARG:O	1:G:308[C]:PHE:HB2	2.15	0.47
2:N:131[C]:LEU:CD2	2:N:146[C]:ALA:HB1	2.44	0.47
1:B:2[A]:ASP:HB3	1:B:136[A]:THR:O	2.15	0.47
1:B:308[A]:PHE:CZ	1:B:334[A]:GLU:HG2	2.49	0.47
1:C:46[A]:LEU:HD21	1:C:100[A]:THR:N	2.30	0.47
1:D:8[A]:ASP:OD1	1:D:31[A]:LYS:O	2.31	0.47
1:D:54[A]:LYS:N	1:D:54[A]:LYS:HE3	2.30	0.47
1:D:428[A]:MET:HE3	1:D:459[A]:PHE:HB2	1.97	0.47
1:D:467[A]:SER:C	1:D:468[A]:PHE:O	2.57	0.47
1:E:182[A]:VAL:HG22	1:E:274[A]:LEU:CD1	2.44	0.47
1:E:307[A]:ARG:HA	1:E:347[A]:VAL:HG21	1.96	0.47
1:F:346[A]:ALA:CB	2:M:140[A]:GLU:HB3	2.45	0.47
1:G:106[A]:LEU:HD11	1:H:473[A]:ASN:HA	1.95	0.47
1:G:393[A]:ARG:NH1	1:G:454[A]:THR:HA	2.30	0.47
1:H:468[A]:PHE:CG	1:H:469[A]:GLY:N	2.83	0.47
1:I:33[A]:VAL:HB	1:I:113[A]:VAL:HG23	1.97	0.47
1:I:99[A]:LEU:HD23	1:I:99[A]:LEU:HA	1.53	0.47
1:J:388[A]:PHE:C	1:J:390[A]:ALA:N	2.72	0.47
1:J:450[A]:HIS:O	1:J:451[A]:ALA:C	2.57	0.47
2:K:131[A]:LEU:HD12	2:K:158[A]:PHE:HB3	1.96	0.47
2:L:131[A]:LEU:O	2:L:157[A]:ILE:HG21	2.14	0.47
2:N:158[A]:PHE:CE2	2:N:163[A]:ALA:N	2.83	0.47
1:B:2[C]:ASP:HB3	1:B:136[C]:THR:O	2.15	0.47
1:B:308[C]:PHE:CZ	1:B:334[C]:GLU:HG2	2.49	0.47
1:C:46[C]:LEU:HD21	1:C:100[C]:THR:N	2.30	0.47
1:D:8[C]:ASP:OD1	1:D:31[C]:LYS:O	2.31	0.47
1:D:54[C]:LYS:N	1:D:54[C]:LYS:HE3	2.30	0.47
1:D:428[C]:MET:HE3	1:D:459[C]:PHE:HB2	1.97	0.47
1:D:467[C]:SER:C	1:D:468[C]:PHE:O	2.57	0.47
1:E:182[C]:VAL:HG22	1:E:274[C]:LEU:CD1	2.44	0.47
1:E:307[C]:ARG:HA	1:E:347[C]:VAL:HG21	1.96	0.47
1:G:106[C]:LEU:HD11	1:H:473[C]:ASN:HA	1.95	0.47
1:G:393[C]:ARG:NH1	1:G:454[C]:THR:HA	2.30	0.47
1:H:468[C]:PHE:CG	1:H:469[C]:GLY:N	2.83	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:I:33[C]:VAL:HB	1:I:113[C]:VAL:HG23	1.97	0.47
1:I:99[C]:LEU:HD23	1:I:99[C]:LEU:HA	1.53	0.47
1:J:388[C]:PHE:C	1:J:390[C]:ALA:N	2.72	0.47
1:J:450[C]:HIS:O	1:J:451[C]:ALA:C	2.57	0.47
2:K:139[C]:LEU:HG	2:K:158[C]:PHE:HE2	1.79	0.47
2:L:142[C]:HIS:HB2	2:L:144[C]:LEU:HD22	1.96	0.47
2:N:135[C]:ALA:CB	2:N:163[C]:ALA:HB2	2.45	0.47
1:B:184[A]:ILE:HD13	1:B:243[A]:VAL:HG11	1.96	0.47
1:C:445[A]:ILE:HG21	1:C:463[A]:ASN:OD1	2.14	0.47
1:D:420[A]:ILE:HG21	1:D:428[A]:MET:HE2	1.97	0.47
1:E:57[A]:LEU:HD11	1:E:192[A]:GLU:HB3	1.97	0.47
1:F:452[A]:HIS:HA	1:F:453[A]:PRO:HA	1.73	0.47
1:I:9[A]:VAL:HG22	1:I:342[A]:MET:HE1	1.90	0.47
1:I:214[A]:GLY:HA3	1:I:218[A]:ILE:HG13	1.96	0.47
1:J:406[A]:ILE:O	1:J:407[A]:LEU:HD23	2.15	0.47
2:O:155[A]:ARG:N	2:O:157[A]:ILE:CD1	2.77	0.47
2:O:159[A]:THR:OG1	2:O:161[A]:GLU:HB2	2.15	0.47
1:B:184[C]:ILE:HD13	1:B:243[C]:VAL:HG11	1.96	0.47
1:C:445[C]:ILE:HG21	1:C:463[C]:ASN:OD1	2.14	0.47
1:D:420[C]:ILE:HG21	1:D:428[C]:MET:HE2	1.97	0.47
1:E:57[C]:LEU:HD11	1:E:192[C]:GLU:HB3	1.97	0.47
1:F:452[C]:HIS:HA	1:F:453[C]:PRO:HA	1.73	0.47
1:I:9[C]:VAL:HG22	1:I:342[C]:MET:HE1	1.90	0.47
1:I:214[C]:GLY:HA3	1:I:218[C]:ILE:HG13	1.96	0.47
1:J:406[C]:ILE:O	1:J:407[C]:LEU:HD23	2.15	0.47
1:A:70[A]:ASP:OD1	1:A:74[A]:ARG:HD2	2.13	0.47
1:C:123[A]:GLY:O	1:C:124[A]:LYS:C	2.58	0.47
1:E:251[A]:ASP:C	1:E:251[A]:ASP:OD1	2.58	0.47
1:J:174[A]:LEU:HD22	1:J:197[A]:TRP:CE2	2.50	0.47
2:M:162[A]:ASP:O	2:M:163[A]:ALA:C	2.58	0.47
1:A:70[C]:ASP:OD1	1:A:74[C]:ARG:HD2	2.13	0.47
1:C:123[C]:GLY:O	1:C:124[C]:LYS:C	2.58	0.47
1:E:251[C]:ASP:OD1	1:E:251[C]:ASP:C	2.58	0.47
1:J:174[C]:LEU:HD22	1:J:197[C]:TRP:CE2	2.50	0.47
1:B:164[A]:THR:CG2	1:B:248[A]:LYS:HZ2	2.28	0.47
1:C:326[A]:MET:CE	1:C:326[A]:MET:HB2	2.45	0.47
1:D:10[A]:THR:HG21	1:D:139[A]:ILE:CG2	2.44	0.47
1:F:154[A]:PRO:HD2	1:F:281[A]:ARG:NH2	2.30	0.47
1:B:164[C]:THR:CG2	1:B:248[C]:LYS:HZ2	2.28	0.47
1:C:326[C]:MET:CE	1:C:326[C]:MET:HB2	2.45	0.47
1:D:10[C]:THR:HG21	1:D:139[C]:ILE:CG2	2.44	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:154[C]:PRO:HD2	1:F:281[C]:ARG:NH2	2.30	0.47
2:N:152[C]:THR:O	2:N:157[C]:ILE:O	2.33	0.47
1:C:63[A]:TYR:HA	1:D:76[A]:ILE:HD13	1.96	0.46
1:E:450[A]:HIS:HA	1:F:430[A]:ASN:ND2	2.30	0.46
1:H:193[A]:LEU:HD12	1:H:193[A]:LEU:HA	1.64	0.46
1:I:88[A]:MET:CE	1:I:200[A]:LEU:HD11	2.44	0.46
1:I:155[A]:PHE:CD2	1:I:158[A]:ILE:HG13	2.49	0.46
1:J:372[A]:GLU:CD	1:J:372[A]:GLU:N	2.73	0.46
1:C:63[C]:TYR:HA	1:D:76[C]:ILE:HD13	1.96	0.46
1:E:450[C]:HIS:HA	1:F:430[C]:ASN:ND2	2.30	0.46
1:H:193[C]:LEU:HD12	1:H:193[C]:LEU:HA	1.64	0.46
1:I:88[C]:MET:CE	1:I:200[C]:LEU:HD11	2.44	0.46
1:I:155[C]:PHE:CD2	1:I:158[C]:ILE:HG13	2.49	0.46
1:J:372[C]:GLU:CD	1:J:372[C]:GLU:N	2.73	0.46
1:A:45[A]:CYS:SG	1:A:50[A]:CYS:HB2	2.53	0.46
1:A:69[A]:LYS:O	1:A:73[A]:SER:HB3	2.14	0.46
1:A:427[A]:GLU:OE2	1:B:455[A]:LEU:N	2.48	0.46
1:B:57[A]:LEU:HD11	1:B:192[A]:GLU:HG2	1.97	0.46
1:B:371[A]:GLU:OE1	1:B:381[A]:TYR:OH	2.27	0.46
1:D:275[A]:LEU:C	1:D:275[A]:LEU:CD2	2.87	0.46
1:D:450[A]:HIS:HD2	1:D:460[A]:ARG:HG3	1.80	0.46
1:A:45[C]:CYS:SG	1:A:50[C]:CYS:HB2	2.53	0.46
1:A:69[C]:LYS:O	1:A:73[C]:SER:HB3	2.14	0.46
1:A:427[C]:GLU:OE2	1:B:455[C]:LEU:N	2.48	0.46
1:B:57[C]:LEU:HD11	1:B:192[C]:GLU:HG2	1.97	0.46
1:B:371[C]:GLU:OE1	1:B:381[C]:TYR:OH	2.27	0.46
1:D:275[C]:LEU:C	1:D:275[C]:LEU:CD2	2.87	0.46
1:D:450[C]:HIS:HD2	1:D:460[C]:ARG:HG3	1.80	0.46
2:K:132[C]:SER:C	2:K:134[C]:ALA:N	2.73	0.46
2:L:136[C]:ARG:O	2:L:139[C]:LEU:HB2	2.16	0.46
2:L:138[C]:ILE:HD11	2:L:163[C]:ALA:O	2.14	0.46
2:M:157[C]:ILE:HG22	2:M:158[C]:PHE:H	1.79	0.46
1:C:435[A]:ALA:HB1	1:C:445[A]:ILE:HD11	1.96	0.46
1:E:297[A]:ASP:C	1:E:297[A]:ASP:OD1	2.56	0.46
1:G:452[A]:HIS:HA	1:G:457[A]:GLU:OE2	2.15	0.46
1:I:220[A]:MET:O	1:I:221[A]:GLU:C	2.57	0.46
1:C:435[C]:ALA:HB1	1:C:445[C]:ILE:HD11	1.96	0.46
1:E:297[C]:ASP:C	1:E:297[C]:ASP:OD1	2.56	0.46
1:G:452[C]:HIS:HA	1:G:457[C]:GLU:OE2	2.15	0.46
1:I:220[C]:MET:O	1:I:221[C]:GLU:C	2.57	0.46
1:A:52[A]:PRO:HB2	1:A:172[A]:LEU:HD13	1.96	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:69[A]:LYS:NZ	1:A:69[A]:LYS:CB	2.79	0.46
1:C:164[A]:THR:HB	1:C:254[A]:ILE:HD11	1.97	0.46
1:D:46[A]:LEU:HD12	1:D:46[A]:LEU:O	2.15	0.46
1:E:94[A]:THR:HG22	1:E:95[A]:ALA:N	2.27	0.46
1:E:180[A]:LYS:HD2	1:E:181[A]:MET:N	2.30	0.46
1:E:322[A]:VAL:HG12	1:E:323[A]:ALA:N	2.31	0.46
1:E:330[A]:LYS:NZ	4:E:4766[A]:HOH:O	2.47	0.46
1:F:17[A]:GLY:HA2	1:F:332[A]:GLU:HA	1.97	0.46
1:F:472[A]:ILE:N	1:F:472[A]:ILE:CD1	2.76	0.46
1:I:20[A]:VAL:HG23	1:I:336[A]:ILE:HD12	1.97	0.46
1:I:121[A]:ILE:HA	1:I:127[A]:VAL:HG12	1.97	0.46
1:J:124[A]:LYS:HB2	1:J:124[A]:LYS:HE3	1.49	0.46
1:A:52[C]:PRO:HB2	1:A:172[C]:LEU:HD13	1.96	0.46
1:A:69[C]:LYS:NZ	1:A:69[C]:LYS:CB	2.79	0.46
1:C:164[C]:THR:HB	1:C:254[C]:ILE:HD11	1.97	0.46
1:D:46[C]:LEU:O	1:D:46[C]:LEU:HD12	2.15	0.46
4:D:4766[C]:HOH:O	1:E:330[C]:LYS:NZ	2.47	0.46
1:E:94[C]:THR:HG22	1:E:95[C]:ALA:N	2.27	0.46
1:E:180[C]:LYS:HD2	1:E:181[C]:MET:N	2.30	0.46
1:E:322[C]:VAL:HG12	1:E:323[C]:ALA:N	2.31	0.46
1:F:17[C]:GLY:HA2	1:F:332[C]:GLU:HA	1.97	0.46
1:F:472[C]:ILE:N	1:F:472[C]:ILE:CD1	2.76	0.46
1:I:20[C]:VAL:HG23	1:I:336[C]:ILE:HD12	1.97	0.46
1:I:121[C]:ILE:HA	1:I:127[C]:VAL:HG12	1.97	0.46
1:J:124[C]:LYS:HB2	1:J:124[C]:LYS:HE3	1.49	0.46
2:N:152[C]:THR:HG22	2:N:153[C]:GLY:N	2.29	0.46
1:A:79[A]:SER:HB2	1:B:79[A]:SER:HB3	1.96	0.46
1:A:168[A]:SER:OG	1:A:169[A]:THR:N	2.48	0.46
1:B:160[A]:ILE:HD11	1:B:276[A]:VAL:HB	1.98	0.46
1:B:432[A]:ALA:O	1:B:436[A]:LEU:CD2	2.62	0.46
1:E:199[A]:ARG:NH2	1:E:361[A]:HIS:H	2.13	0.46
1:E:434[A]:LEU:HD13	1:F:448[A]:VAL:HG21	1.98	0.46
1:I:14[A]:SER:HB3	1:I:42[A]:GLY:N	2.21	0.46
1:I:297[A]:ASP:HB3	1:I:299[A]:ARG:N	2.29	0.46
1:J:214[A]:GLY:HA3	1:J:218[A]:ILE:HD13	1.98	0.46
2:K:155[A]:ARG:O	2:K:156[A]:GLY:C	2.58	0.46
2:M:131[A]:LEU:HD13	2:M:136[A]:ARG:CZ	2.43	0.46
1:A:79[C]:SER:HB2	1:B:79[C]:SER:HB3	1.96	0.46
1:A:168[C]:SER:OG	1:A:169[C]:THR:N	2.48	0.46
1:B:160[C]:ILE:HD11	1:B:276[C]:VAL:HB	1.98	0.46
1:B:432[C]:ALA:O	1:B:436[C]:LEU:CD2	2.62	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:199[C]:ARG:NH2	1:E:361[C]:HIS:H	2.13	0.46
1:E:434[C]:LEU:HD13	1:F:448[C]:VAL:HG21	1.98	0.46
1:I:14[C]:SER:HB3	1:I:42[C]:GLY:N	2.21	0.46
1:I:297[C]:ASP:HB3	1:I:299[C]:ARG:N	2.29	0.46
1:J:214[C]:GLY:HA3	1:J:218[C]:ILE:HD13	1.98	0.46
2:K:131[C]:LEU:HG	2:K:136[C]:ARG:HB2	1.96	0.46
1:A:428[A]:MET:HE1	1:A:455[A]:LEU:HB3	1.97	0.46
1:A:438[A]:TYR:C	2:K:154[A]:PRO:CG	2.89	0.46
3:B:4751[A]:FAD:O4'	3:B:4751[A]:FAD:O2'	2.16	0.46
1:D:165[A]:ILE:HD13	1:D:165[A]:ILE:N	2.30	0.46
1:E:339[A]:VAL:HG23	1:E:340[A]:GLU:N	2.30	0.46
1:F:15[A]:GLY:CA	1:F:43[A]:GLY:HA3	2.46	0.46
1:F:409[A]:GLN:HG2	1:F:412[A]:THR:HG23	1.97	0.46
1:H:175[A]:LYS:HD3	1:H:175[A]:LYS:HA	1.52	0.46
2:N:158[A]:PHE:HE2	2:N:163[A]:ALA:HB2	1.80	0.46
2:N:158[A]:PHE:CZ	2:N:163[A]:ALA:N	2.83	0.46
1:A:428[C]:MET:HE1	1:A:455[C]:LEU:HB3	1.97	0.46
3:A:4751[C]:FAD:O4'	3:A:4751[C]:FAD:O2'	2.16	0.46
1:D:165[C]:ILE:HD13	1:D:165[C]:ILE:N	2.30	0.46
1:E:339[C]:VAL:HG23	1:E:340[C]:GLU:N	2.30	0.46
1:F:15[C]:GLY:CA	1:F:43[C]:GLY:HA3	2.46	0.46
1:F:409[C]:GLN:HG2	1:F:412[C]:THR:HG23	1.97	0.46
1:H:175[C]:LYS:HD3	1:H:175[C]:LYS:HA	1.52	0.46
2:L:132[C]:SER:CB	2:L:135[C]:ALA:CB	2.94	0.46
1:B:41[A]:LEU:HD21	1:B:114[A]:HIS:NE2	2.31	0.46
1:C:53[A]:SER:HB3	1:C:54[A]:LYS:NZ	2.30	0.46
1:C:351[A]:TYR:O	1:C:354[A]:VAL:HG12	2.16	0.46
1:C:358[A]:ILE:HD11	1:C:360[A]:THR:HG23	1.98	0.46
1:C:393[A]:ARG:NH1	1:D:427[A]:GLU:OE2	2.49	0.46
1:C:473[A]:ASN:HA	1:D:106[A]:LEU:CD2	2.45	0.46
1:E:447[A]:ARG:HA	1:E:447[A]:ARG:HD3	1.55	0.46
1:G:56[A]:LEU:HA	1:G:56[A]:LEU:HD12	1.47	0.46
1:H:371[A]:GLU:OE2	1:H:405[A]:LYS:HE3	2.16	0.46
1:I:52[A]:PRO:HB2	1:I:172[A]:LEU:HD13	1.98	0.46
1:I:63[A]:TYR:CA	1:J:76[A]:ILE:HD13	2.46	0.46
1:I:122[A]:THR:OG1	1:I:126[A]:GLN:NE2	2.49	0.46
2:M:131[A]:LEU:CD1	2:M:136[A]:ARG:CZ	2.93	0.46
1:B:41[C]:LEU:HD21	1:B:114[C]:HIS:NE2	2.31	0.46
1:C:53[C]:SER:HB3	1:C:54[C]:LYS:NZ	2.30	0.46
1:C:351[C]:TYR:O	1:C:354[C]:VAL:HG12	2.16	0.46
1:C:358[C]:ILE:HD11	1:C:360[C]:THR:HG23	1.98	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:393[C]:ARG:NH1	1:D:427[C]:GLU:OE2	2.49	0.46
1:C:473[C]:ASN:HA	1:D:106[C]:LEU:CD2	2.45	0.46
1:E:447[C]:ARG:HD3	1:E:447[C]:ARG:HA	1.55	0.46
1:F:45[C]:CYS:SG	1:F:50[C]:CYS:SG	2.80	0.46
1:G:56[C]:LEU:HA	1:G:56[C]:LEU:HD12	1.47	0.46
1:H:371[C]:GLU:OE2	1:H:405[C]:LYS:HE3	2.16	0.46
1:I:52[C]:PRO:HB2	1:I:172[C]:LEU:HD13	1.98	0.46
1:I:63[C]:TYR:CA	1:J:76[C]:ILE:HD13	2.46	0.46
1:I:122[C]:THR:OG1	1:I:126[C]:GLN:NE2	2.49	0.46
1:A:200[A]:LEU:HA	1:A:200[A]:LEU:HD12	1.63	0.46
1:D:256[A]:VAL:HG22	1:D:269[A]:ILE:O	2.15	0.46
1:D:308[A]:PHE:CZ	1:D:334[A]:GLU:HG2	2.50	0.46
1:D:311[A]:LYS:HA	1:D:311[A]:LYS:HD3	1.82	0.46
1:E:251[A]:ASP:OD1	1:E:253[A]:LYS:HB2	2.16	0.46
1:F:172[A]:LEU:HD13	1:F:193[A]:LEU:HD21	1.97	0.46
1:F:330[A]:LYS:O	1:F:331[A]:ALA:C	2.59	0.46
1:G:15[A]:GLY:HA2	1:G:42[A]:GLY:C	2.41	0.46
1:G:472[A]:ILE:HD13	1:G:473[A]:ASN:N	2.31	0.46
1:I:41[A]:LEU:CD1	1:I:41[A]:LEU:N	2.73	0.46
1:I:305[A]:ASN:O	1:I:308[A]:PHE:N	2.45	0.46
2:L:142[A]:HIS:N	2:L:142[A]:HIS:ND1	2.64	0.46
1:A:200[C]:LEU:HA	1:A:200[C]:LEU:HD12	1.63	0.46
1:D:256[C]:VAL:HG22	1:D:269[C]:ILE:O	2.15	0.46
1:D:308[C]:PHE:CZ	1:D:334[C]:GLU:HG2	2.50	0.46
1:D:311[C]:LYS:HA	1:D:311[C]:LYS:HD3	1.82	0.46
1:E:251[C]:ASP:OD1	1:E:253[C]:LYS:HB2	2.16	0.46
1:F:172[C]:LEU:HD13	1:F:193[C]:LEU:HD21	1.97	0.46
1:F:330[C]:LYS:O	1:F:331[C]:ALA:C	2.59	0.46
1:G:15[C]:GLY:HA2	1:G:42[C]:GLY:C	2.41	0.46
1:G:472[C]:ILE:HD13	1:G:473[C]:ASN:N	2.31	0.46
1:I:41[C]:LEU:CD1	1:I:41[C]:LEU:N	2.73	0.46
1:I:305[C]:ASN:O	1:I:308[C]:PHE:N	2.45	0.46
2:K:159[C]:THR:HG21	2:K:161[C]:GLU:OE2	2.16	0.46
2:L:134[C]:ALA:O	2:L:138[C]:ILE:CG2	2.54	0.46
1:C:54[A]:LYS:HA	1:C:57[A]:LEU:HD12	1.96	0.46
1:D:191[A]:VAL:O	1:D:192[A]:GLU:C	2.59	0.46
1:G:49[A]:GLY:O	1:G:53[A]:SER:HB3	2.16	0.46
1:H:15[A]:GLY:O	1:H:16[A]:PRO:C	2.59	0.46
2:O:150[A]:THR:HG22	2:O:151[A]:ALA:H	1.81	0.46
1:C:54[C]:LYS:HA	1:C:57[C]:LEU:HD12	1.96	0.46
1:D:191[C]:VAL:O	1:D:192[C]:GLU:C	2.59	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:412[C]:THR:HB	2:L:161[C]:GLU:CG	2.40	0.46
1:G:49[C]:GLY:O	1:G:53[C]:SER:HB3	2.16	0.46
1:H:15[C]:GLY:O	1:H:16[C]:PRO:C	2.59	0.46
2:L:132[C]:SER:H	2:L:135[C]:ALA:HB3	1.81	0.46
2:N:135[C]:ALA:O	2:N:136[C]:ARG:C	2.58	0.46
1:A:145[A]:LEU:HD21	1:A:318[A]:ILE:HG12	1.98	0.46
1:B:9[A]:VAL:HG22	1:B:32[A]:THR:HB	1.98	0.46
1:C:155[A]:PHE:CD1	1:C:158[A]:ILE:HD13	2.51	0.46
1:H:54[A]:LYS:NZ	1:H:192[A]:GLU:OE1	2.48	0.46
1:J:407[A]:LEU:HD23	1:J:407[A]:LEU:N	2.31	0.46
2:K:137[A]:ASN:ND2	2:K:138[A]:ILE:HG23	2.30	0.46
2:M:135[A]:ALA:O	2:M:136[A]:ARG:C	2.58	0.46
1:A:145[C]:LEU:HD21	1:A:318[C]:ILE:HG12	1.98	0.46
1:B:9[C]:VAL:HG22	1:B:32[C]:THR:HB	1.98	0.46
1:C:155[C]:PHE:CD1	1:C:158[C]:ILE:HD13	2.51	0.46
1:H:54[C]:LYS:NZ	1:H:192[C]:GLU:OE1	2.48	0.46
1:J:407[C]:LEU:HD23	1:J:407[C]:LEU:N	2.31	0.46
1:A:127[A]:VAL:HG23	1:A:139[A]:ILE:HD12	1.97	0.45
1:A:386[A]:PHE:CD2	1:A:461[A]:GLU:HB3	2.51	0.45
1:B:45[A]:CYS:HG	1:B:50[A]:CYS:CB	2.24	0.45
1:B:96[A]:VAL:O	1:B:100[A]:THR:HG23	2.16	0.45
1:B:289[A]:LEU:HA	1:B:289[A]:LEU:HD12	1.56	0.45
1:B:438[A]:TYR:O	2:K:155[A]:ARG:NH2	2.48	0.45
1:C:51[A]:ILE:HB	1:C:52[A]:PRO:CD	2.37	0.45
1:F:27[A]:GLN:NE2	4:F:4758[A]:HOH:O	2.46	0.45
1:F:229[A]:ILE:HG21	1:F:362[A]:PRO:CG	2.43	0.45
1:F:438[A]:TYR:HE1	2:M:133[A]:PRO:HD2	1.78	0.45
1:H:155[A]:PHE:HB2	1:H:278[A]:ILE:HD11	1.99	0.45
1:I:35[A]:ILE:CG2	1:I:117[A]:GLY:O	2.64	0.45
1:I:443[A]:GLU:OE1	2:O:134[A]:ALA:HB1	2.15	0.45
1:J:369[A]:LYS:HB2	1:J:374[A]:LEU:HD13	1.98	0.45
2:L:157[A]:ILE:HG22	2:L:158[A]:PHE:H	1.80	0.45
1:A:127[C]:VAL:HG23	1:A:139[C]:ILE:HD12	1.97	0.45
1:A:386[C]:PHE:CD2	1:A:461[C]:GLU:HB3	2.51	0.45
1:B:45[C]:CYS:HG	1:B:50[C]:CYS:CB	2.24	0.45
1:B:96[C]:VAL:O	1:B:100[C]:THR:HG23	2.16	0.45
1:B:289[C]:LEU:HA	1:B:289[C]:LEU:HD12	1.56	0.45
1:C:51[C]:ILE:HB	1:C:52[C]:PRO:CD	2.37	0.45
4:E:4758[C]:HOH:O	1:F:27[C]:GLN:NE2	2.46	0.45
1:F:229[C]:ILE:HG21	1:F:362[C]:PRO:CG	2.43	0.45
1:H:155[C]:PHE:HB2	1:H:278[C]:ILE:HD11	1.99	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:I:35[C]:ILE:CG2	1:I:117[C]:GLY:O	2.64	0.45
1:J:369[C]:LYS:HB2	1:J:374[C]:LEU:HD13	1.98	0.45
1:B:124[A]:LYS:HB2	1:B:124[A]:LYS:HE2	1.60	0.45
1:D:146[A]:ILE:HG23	1:D:148[A]:THR:HG23	1.99	0.45
1:I:123[A]:GLY:O	1:I:124[A]:LYS:C	2.58	0.45
1:I:275[A]:LEU:HD22	1:I:276[A]:VAL:N	2.31	0.45
1:I:352[A]:ASN:ND2	1:I:369[A]:LYS:CG	2.79	0.45
2:N:167[A]:VAL:O	2:N:168[A]:GLN:C	2.60	0.45
1:B:124[C]:LYS:HB2	1:B:124[C]:LYS:HE2	1.60	0.45
1:D:146[C]:ILE:HG23	1:D:148[C]:THR:HG23	1.99	0.45
1:I:123[C]:GLY:O	1:I:124[C]:LYS:C	2.58	0.45
1:I:275[C]:LEU:HD22	1:I:276[C]:VAL:N	2.31	0.45
1:I:352[C]:ASN:ND2	1:I:369[C]:LYS:CG	2.79	0.45
2:N:133[C]:PRO:CA	2:N:136[C]:ARG:HH21	2.28	0.45
1:A:412[A]:THR:CG2	2:K:161[A]:GLU:HG3	2.46	0.45
1:B:364[A]:VAL:HG22	1:B:421[A]:LEU:HD13	1.97	0.45
1:B:447[A]:ARG:HA	1:B:447[A]:ARG:HD2	1.55	0.45
1:C:44[A]:THR:CG2	3:C:4752[A]:FAD:PA	3.04	0.45
1:D:259[A]:GLU:O	1:D:260[A]:ALA:C	2.59	0.45
1:E:246[A]:ALA:HB1	1:E:254[A]:ILE:HD11	1.99	0.45
1:H:351[A]:TYR:O	1:H:354[A]:VAL:HG13	2.17	0.45
1:J:144[A]:ILE:HD12	1:J:145[A]:LEU:N	2.31	0.45
2:K:130[A]:ARG:NH1	2:K:130[A]:ARG:CG	2.73	0.45
2:L:136[A]:ARG:HE	2:L:136[A]:ARG:HB2	1.35	0.45
2:M:131[A]:LEU:HD22	2:M:136[A]:ARG:HG3	1.98	0.45
1:B:364[C]:VAL:HG22	1:B:421[C]:LEU:HD13	1.97	0.45
1:B:447[C]:ARG:HA	1:B:447[C]:ARG:HD2	1.55	0.45
3:B:4752[C]:FAD:PA	1:C:44[C]:THR:CG2	3.04	0.45
1:D:259[C]:GLU:O	1:D:260[C]:ALA:C	2.59	0.45
1:E:246[C]:ALA:HB1	1:E:254[C]:ILE:HD11	1.99	0.45
1:H:351[C]:TYR:O	1:H:354[C]:VAL:HG13	2.17	0.45
1:J:144[C]:ILE:HD12	1:J:145[C]:LEU:N	2.31	0.45
2:M:131[C]:LEU:HD22	2:M:136[C]:ARG:HA	1.98	0.45
2:M:142[C]:HIS:O	2:M:143[C]:SER:C	2.58	0.45
1:A:254[A]:ILE:O	1:A:270[A]:THR:HA	2.16	0.45
1:A:284[A]:THR:HG22	1:A:287[A]:LEU:HD23	1.99	0.45
1:B:149[A]:GLY:HA3	3:B:4751[A]:FAD:H51A	1.97	0.45
1:D:278[A]:ILE:O	1:D:278[A]:ILE:HG22	2.12	0.45
1:F:137[A]:GLN:HE21	1:F:138[A]:VAL:N	2.13	0.45
1:G:436[A]:LEU:HD12	1:G:436[A]:LEU:HA	1.72	0.45
1:H:59[A]:ASN:OD1	1:H:91[A]:GLN:HG2	2.17	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:H:92[A]:LYS:NZ	4:H:4770[A]:HOH:O	2.49	0.45
1:J:45[A]:CYS:HG	1:J:50[A]:CYS:HG	1.63	0.45
2:N:167[A]:VAL:O	2:N:171[A]:GLN:N	2.50	0.45
2:O:152[A]:THR:O	2:O:152[A]:THR:HG22	2.15	0.45
1:A:254[C]:ILE:O	1:A:270[C]:THR:HA	2.16	0.45
1:A:284[C]:THR:HG22	1:A:287[C]:LEU:HD23	1.99	0.45
3:A:4751[C]:FAD:H51A	1:B:149[C]:GLY:HA3	1.97	0.45
1:D:278[C]:ILE:O	1:D:278[C]:ILE:HG22	2.12	0.45
1:F:137[C]:GLN:HE21	1:F:138[C]:VAL:N	2.13	0.45
1:G:436[C]:LEU:HD12	1:G:436[C]:LEU:HA	1.72	0.45
4:G:4770[C]:HOH:O	1:H:92[C]:LYS:NZ	2.49	0.45
1:H:59[C]:ASN:OD1	1:H:91[C]:GLN:HG2	2.17	0.45
1:J:45[C]:CYS:HG	1:J:50[C]:CYS:HG	1.63	0.45
1:C:160[A]:ILE:HA	1:C:165[A]:ILE:HG22	1.99	0.45
1:D:239[A]:LEU:O	1:D:241[A]:THR:HG23	2.16	0.45
1:E:370[A]:SER:OG	1:E:373[A]:GLN:HG3	2.17	0.45
1:I:17[A]:GLY:N	1:I:20[A]:VAL:HG13	2.32	0.45
1:I:275[A]:LEU:HD22	1:I:275[A]:LEU:C	2.41	0.45
1:C:160[C]:ILE:HA	1:C:165[C]:ILE:HG22	1.99	0.45
1:D:239[C]:LEU:O	1:D:241[C]:THR:HG23	2.16	0.45
1:E:370[C]:SER:OG	1:E:373[C]:GLN:HG3	2.17	0.45
1:I:17[C]:GLY:N	1:I:20[C]:VAL:HG13	2.32	0.45
1:I:275[C]:LEU:HD22	1:I:275[C]:LEU:C	2.41	0.45
1:A:155[A]:PHE:CE2	1:A:158[A]:ILE:HD12	2.51	0.45
1:A:209[A]:PHE:CE1	1:A:261[A]:ALA:HB1	2.52	0.45
1:C:87[A]:LYS:HD3	1:C:87[A]:LYS:HA	1.76	0.45
1:D:275[A]:LEU:CD2	1:D:276[A]:VAL:N	2.79	0.45
1:H:409[A]:GLN:N	1:H:416[A]:LEU:HD11	2.32	0.45
1:H:451[A]:ALA:O	1:H:454[A]:THR:OG1	2.33	0.45
1:I:225[A]:ASN:O	1:I:229[A]:ILE:HG12	2.17	0.45
2:N:139[A]:LEU:HD11	2:N:158[A]:PHE:CZ	2.52	0.45
2:N:142[A]:HIS:C	2:N:144[A]:LEU:N	2.75	0.45
1:A:155[C]:PHE:CE2	1:A:158[C]:ILE:HD12	2.51	0.45
1:A:209[C]:PHE:CE1	1:A:261[C]:ALA:HB1	2.52	0.45
1:C:87[C]:LYS:HD3	1:C:87[C]:LYS:HA	1.76	0.45
1:D:275[C]:LEU:CD2	1:D:276[C]:VAL:N	2.79	0.45
1:H:409[C]:GLN:N	1:H:416[C]:LEU:HD11	2.32	0.45
1:H:451[C]:ALA:O	1:H:454[C]:THR:OG1	2.33	0.45
1:I:225[C]:ASN:O	1:I:229[C]:ILE:HG12	2.17	0.45
2:M:172[C]:THR:CG2	2:M:172[C]:THR:OG1	2.61	0.45
1:A:238[A]:LYS:HA	1:A:238[A]:LYS:CE	2.47	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:87[A]:LYS:HE3	4:B:4786[A]:HOH:O	2.15	0.45
1:B:137[A]:GLN:NE2	1:B:137[A]:GLN:HA	2.31	0.45
1:B:361[A]:HIS:HA	1:B:362[A]:PRO:C	2.40	0.45
1:D:412[A]:THR:O	1:D:413[A]:ASP:HB3	2.17	0.45
1:E:461[A]:GLU:CD	1:E:472[A]:ILE:HG22	2.42	0.45
1:H:216[A]:VAL:C	1:H:218[A]:ILE:H	2.25	0.45
1:I:19[A]:TYR:HB2	1:I:107[A]:PHE:CZ	2.52	0.45
1:I:320[A]:ASP:N	3:I:4759[A]:HOH:O	2.50	0.45
1:I:428[A]:MET:HE2	1:I:456[A]:SER:HA	1.99	0.45
2:L:130[A]:ARG:N	2:L:155[A]:ARG:NH2	2.65	0.45
1:A:238[C]:LYS:HA	1:A:238[C]:LYS:CE	2.47	0.45
4:A:4786[C]:HOH:O	1:B:87[C]:LYS:HE3	2.15	0.45
1:B:137[C]:GLN:NE2	1:B:137[C]:GLN:HA	2.31	0.45
1:B:361[C]:HIS:HA	1:B:362[C]:PRO:C	2.40	0.45
1:D:412[C]:THR:O	1:D:413[C]:ASP:HB3	2.17	0.45
1:E:461[C]:GLU:CD	1:E:472[C]:ILE:HG22	2.42	0.45
1:H:216[C]:VAL:C	1:H:218[C]:ILE:H	2.25	0.45
4:H:4759[C]:HOH:O	1:I:320[C]:ASP:N	2.50	0.45
1:I:19[C]:TYR:HB2	1:I:107[C]:PHE:CZ	2.52	0.45
1:I:428[C]:MET:HE2	1:I:456[C]:SER:HA	1.99	0.45
2:N:135[C]:ALA:HB1	2:N:163[C]:ALA:HB2	1.98	0.45
1:A:20[A]:VAL:CG2	1:A:336[A]:ILE:HG12	2.46	0.45
1:A:305[A]:ASN:ND2	1:A:309[A]:GLN:HB2	2.32	0.45
1:B:85[A]:LEU:O	1:B:86[A]:ASP:C	2.59	0.45
1:B:409[A]:GLN:HG2	1:B:412[A]:THR:OG1	2.17	0.45
1:G:30[A]:PHE:O	1:G:32[A]:THR:CG2	2.65	0.45
1:I:121[A]:ILE:HD12	1:I:144[A]:ILE:HD12	1.98	0.45
1:I:376[A]:GLU:O	1:I:378[A]:GLY:N	2.49	0.45
1:I:396[A]:THR:HG22	1:J:55[A]:ALA:HB2	1.99	0.45
1:J:237[A]:PHE:O	1:J:238[A]:LYS:HD2	2.17	0.45
1:J:280[A]:ARG:NH1	1:J:280[A]:ARG:HG3	2.32	0.45
2:K:167[A]:VAL:HG12	2:K:168[A]:GLN:N	2.32	0.45
1:A:20[C]:VAL:CG2	1:A:336[C]:ILE:HG12	2.46	0.45
1:A:305[C]:ASN:ND2	1:A:309[C]:GLN:HB2	2.32	0.45
1:B:85[C]:LEU:O	1:B:86[C]:ASP:C	2.59	0.45
1:B:409[C]:GLN:HG2	1:B:412[C]:THR:OG1	2.17	0.45
1:G:30[C]:PHE:O	1:G:32[C]:THR:CG2	2.65	0.45
1:I:121[C]:ILE:HD12	1:I:144[C]:ILE:HD12	1.98	0.45
1:I:376[C]:GLU:O	1:I:378[C]:GLY:N	2.49	0.45
1:I:396[C]:THR:HG22	1:J:55[C]:ALA:HB2	1.99	0.45
1:J:237[C]:PHE:O	1:J:238[C]:LYS:HD2	2.17	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:J:280[C]:ARG:NH1	1:J:280[C]:ARG:HG3	2.32	0.45
2:L:142[C]:HIS:O	2:L:143[C]:SER:C	2.59	0.45
1:A:37[A]:LYS:NZ	4:A:4767[A]:HOH:O	2.50	0.45
1:C:95[A]:ALA:O	1:C:96[A]:VAL:C	2.60	0.45
1:C:145[A]:LEU:HD23	1:C:316[A]:TYR:HB2	1.98	0.45
1:C:244[A]:THR:HB	1:C:257[A]:SER:HB3	1.99	0.45
1:D:24[A]:LYS:O	1:D:28[A]:LEU:HD22	2.16	0.45
1:D:151[A]:GLU:HG2	1:D:283[A]:PHE:HD1	1.81	0.45
1:D:180[A]:LYS:HD2	1:D:270[A]:THR:O	2.17	0.45
1:F:277[A]:CYS:HB2	4:F:4792[A]:HOH:O	2.15	0.45
1:I:7[A]:ALA:O	1:I:141[A]:THR:HA	2.17	0.45
2:K:171[A]:GLN:C	2:K:173[A]:GLY:H	2.24	0.45
2:N:130[A]:ARG:CA	2:N:157[A]:ILE:HG22	2.46	0.45
1:A:37[C]:LYS:NZ	4:J:4767[C]:HOH:O	2.50	0.45
1:C:95[C]:ALA:O	1:C:96[C]:VAL:C	2.60	0.45
1:C:145[C]:LEU:HD23	1:C:316[C]:TYR:HB2	1.98	0.45
1:C:244[C]:THR:HB	1:C:257[C]:SER:HB3	1.99	0.45
1:D:24[C]:LYS:O	1:D:28[C]:LEU:HD22	2.16	0.45
1:D:151[C]:GLU:HG2	1:D:283[C]:PHE:HD1	1.81	0.45
1:D:180[C]:LYS:HD2	1:D:270[C]:THR:O	2.17	0.45
4:E:4792[C]:HOH:O	1:F:277[C]:CYS:HB2	2.15	0.45
1:I:7[C]:ALA:O	1:I:141[C]:THR:HA	2.17	0.45
1:A:92[A]:LYS:CG	1:A:93[A]:SER:N	2.76	0.45
1:C:111[A]:LYS:HB3	1:C:111[A]:LYS:HE3	1.75	0.45
1:C:392[A]:SER:O	1:C:393[A]:ARG:C	2.56	0.45
1:C:451[A]:ALA:H	1:D:430[A]:ASN:ND2	2.12	0.45
1:E:438[A]:TYR:CD2	1:F:438[A]:TYR:CD2	3.05	0.45
3:G:4756[A]:FAD:HM83	3:G:4756[A]:FAD:HM73	1.66	0.45
1:H:46[A]:LEU:HA	1:H:51[A]:ILE:HG12	1.98	0.45
1:H:346[A]:ALA:HB1	2:N:140[A]:GLU:HG2	1.98	0.45
1:I:148[A]:THR:O	3:I:4758[A]:FAD:H8A	2.17	0.45
1:I:382[A]:LYS:HD2	1:I:466[A]:ALA:O	2.17	0.45
1:I:413[A]:ASP:O	1:I:413[A]:ASP:CG	2.59	0.45
1:I:428[A]:MET:HE2	1:I:456[A]:SER:OG	2.17	0.45
1:J:443[A]:GLU:HB2	1:J:467[A]:SER:OG	2.17	0.45
2:M:167[A]:VAL:HA	2:M:170[A]:LYS:CG	2.46	0.45
1:A:92[C]:LYS:CG	1:A:93[C]:SER:N	2.76	0.45
1:C:111[C]:LYS:HB3	1:C:111[C]:LYS:HE3	1.75	0.45
1:C:392[C]:SER:O	1:C:393[C]:ARG:C	2.56	0.45
1:C:451[C]:ALA:H	1:D:430[C]:ASN:ND2	2.12	0.45
1:E:438[C]:TYR:CD2	1:F:438[C]:TYR:CD2	3.05	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:F:4756[C]:FAD:HM83	3:F:4756[C]:FAD:HM73	1.66	0.45
1:H:46[C]:LEU:HA	1:H:51[C]:ILE:HG12	1.98	0.45
3:H:4758[C]:FAD:H8A	1:I:148[C]:THR:O	2.17	0.45
1:I:382[C]:LYS:HD2	1:I:466[C]:ALA:O	2.17	0.45
1:I:413[C]:ASP:O	1:I:413[C]:ASP:CG	2.59	0.45
1:I:428[C]:MET:HE2	1:I:456[C]:SER:OG	2.17	0.45
1:J:443[C]:GLU:HB2	1:J:467[C]:SER:OG	2.17	0.45
2:L:153[C]:GLY:O	2:L:154[C]:PRO:C	2.60	0.45
1:A:430[A]:ASN:ND2	1:B:451[A]:ALA:H	2.08	0.44
1:G:49[A]:GLY:O	1:G:52[A]:PRO:HD2	2.17	0.44
1:G:178[A]:PRO:CB	1:G:273[A]:VAL:HG23	2.47	0.44
1:G:196[A]:VAL:O	1:G:200[A]:LEU:HD22	2.16	0.44
1:G:461[A]:GLU:OE1	1:G:473[A]:ASN:HB2	2.17	0.44
1:I:352[A]:ASN:ND2	1:I:369[A]:LYS:HG3	2.31	0.44
1:A:430[C]:ASN:ND2	1:B:451[C]:ALA:H	2.08	0.44
1:G:49[C]:GLY:O	1:G:52[C]:PRO:HD2	2.17	0.44
1:G:178[C]:PRO:CB	1:G:273[C]:VAL:HG23	2.47	0.44
1:G:196[C]:VAL:O	1:G:200[C]:LEU:HD22	2.16	0.44
1:G:461[C]:GLU:OE1	1:G:473[C]:ASN:HB2	2.17	0.44
1:I:352[C]:ASN:ND2	1:I:369[C]:LYS:HG3	2.31	0.44
1:A:380[A]:GLU:OE1	1:A:380[A]:GLU:HA	2.18	0.44
1:B:335[A]:GLY:O	1:B:339[A]:VAL:HG13	2.17	0.44
1:C:74[A]:ARG:CD	1:D:59[A]:ASN:OD1	2.45	0.44
1:C:364[A]:VAL:HG22	1:C:421[A]:LEU:HD13	1.99	0.44
1:C:382[A]:LYS:H	1:C:382[A]:LYS:HG2	1.66	0.44
1:D:278[A]:ILE:O	1:D:278[A]:ILE:CG2	2.64	0.44
1:E:249[A]:LYS:O	1:E:251[A]:ASP:O	2.34	0.44
1:E:312[A]:ILE:CG2	1:E:315[A]:ILE:HD12	2.48	0.44
1:F:46[A]:LEU:HD12	1:F:51[A]:ILE:HG13	1.98	0.44
1:G:448[A]:VAL:HG22	1:H:437[A]:GLU:HG3	1.99	0.44
1:H:242[A]:LYS:HG2	1:H:261[A]:ALA:HA	1.99	0.44
1:H:354[A]:VAL:HA	1:H:355[A]:PRO:HD3	1.72	0.44
1:I:83[A]:LEU:HD21	1:I:200[A]:LEU:HD13	1.98	0.44
1:I:442[A]:CYS:HA	1:I:463[A]:ASN:HD22	1.82	0.44
1:J:83[A]:LEU:HD22	1:J:84[A]:ASN:N	2.33	0.44
1:J:350[A]:ASP:C	1:J:352[A]:ASN:H	2.26	0.44
2:L:161[A]:GLU:O	2:L:165[A]:LYS:HG3	2.17	0.44
2:M:144[A]:LEU:CD2	2:M:170[A]:LYS:HE3	2.47	0.44
2:M:167[A]:VAL:HA	2:M:170[A]:LYS:HG2	2.00	0.44
1:A:380[C]:GLU:OE1	1:A:380[C]:GLU:HA	2.18	0.44
1:B:335[C]:GLY:O	1:B:339[C]:VAL:HG13	2.17	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:74[C]:ARG:CD	1:D:59[C]:ASN:OD1	2.45	0.44
1:C:364[C]:VAL:HG22	1:C:421[C]:LEU:HD13	1.99	0.44
1:C:382[C]:LYS:H	1:C:382[C]:LYS:HG2	1.66	0.44
1:D:278[C]:ILE:O	1:D:278[C]:ILE:CG2	2.64	0.44
1:E:249[C]:LYS:O	1:E:251[C]:ASP:O	2.34	0.44
1:E:312[C]:ILE:CG2	1:E:315[C]:ILE:HD12	2.48	0.44
1:F:46[C]:LEU:HD12	1:F:51[C]:ILE:HG13	1.98	0.44
1:G:448[C]:VAL:HG22	1:H:437[C]:GLU:HG3	1.99	0.44
1:H:242[C]:LYS:HG2	1:H:261[C]:ALA:HA	1.99	0.44
1:H:354[C]:VAL:HA	1:H:355[C]:PRO:HD3	1.72	0.44
1:I:83[C]:LEU:HD21	1:I:200[C]:LEU:HD13	1.98	0.44
1:I:442[C]:CYS:HA	1:I:463[C]:ASN:HD22	1.82	0.44
1:J:83[C]:LEU:HD22	1:J:84[C]:ASN:N	2.33	0.44
1:J:350[C]:ASP:C	1:J:352[C]:ASN:H	2.26	0.44
1:A:110[A]:ASN:O	1:A:111[A]:LYS:HB3	2.17	0.44
1:C:99[A]:LEU:HA	1:C:99[A]:LEU:HD12	1.68	0.44
1:D:81[A]:VAL:O	1:D:82[A]:ARG:HD2	2.17	0.44
1:E:320[A]:ASP:OD1	1:E:326[A]:MET:HB3	2.17	0.44
1:F:193[A]:LEU:HA	1:F:193[A]:LEU:HD23	1.79	0.44
1:F:374[A]:LEU:HA	1:F:374[A]:LEU:HD12	1.66	0.44
1:I:155[A]:PHE:HD1	1:I:278[A]:ILE:HG13	1.82	0.44
1:J:305[A]:ASN:HD22	1:J:305[A]:ASN:N	2.11	0.44
1:A:110[C]:ASN:O	1:A:111[C]:LYS:HB3	2.17	0.44
1:C:99[C]:LEU:HA	1:C:99[C]:LEU:HD12	1.68	0.44
1:D:81[C]:VAL:O	1:D:82[C]:ARG:HD2	2.17	0.44
1:E:320[C]:ASP:OD1	1:E:326[C]:MET:HB3	2.17	0.44
1:F:193[C]:LEU:HD23	1:F:193[C]:LEU:HA	1.79	0.44
1:F:374[C]:LEU:HD12	1:F:374[C]:LEU:HA	1.66	0.44
1:I:155[C]:PHE:HD1	1:I:278[C]:ILE:HG13	1.82	0.44
1:J:305[C]:ASN:HD22	1:J:305[C]:ASN:N	2.11	0.44
1:B:189[A]:ILE:O	1:B:193[A]:LEU:HD13	2.16	0.44
1:B:346[A]:ALA:HB1	2:K:140[A]:GLU:OE2	2.17	0.44
1:C:443[A]:GLU:OE2	1:C:447[A]:ARG:NH1	2.51	0.44
1:E:395[A]:LYS:HE2	1:F:98[A]:ALA:CB	2.47	0.44
1:G:44[A]:THR:CG2	3:G:4756[A]:FAD:O2A	2.58	0.44
1:G:110[A]:ASN:O	1:G:111[A]:LYS:CG	2.58	0.44
1:G:124[A]:LYS:HE2	1:G:124[A]:LYS:HB3	1.73	0.44
1:G:145[A]:LEU:HD23	1:G:145[A]:LEU:HA	1.73	0.44
1:I:334[A]:GLU:O	1:I:338[A]:CYS:HB2	2.17	0.44
1:I:427[A]:GLU:OE1	1:I:427[A]:GLU:HA	2.17	0.44
1:I:464[A]:LEU:CD2	1:I:471[A]:SER:HA	2.44	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:J:242[A]:LYS:HE3	1:J:259[A]:GLU:HB3	2.00	0.44
1:J:290[A]:GLU:H	1:J:290[A]:GLU:HG3	1.57	0.44
1:J:330[A]:LYS:O	1:J:331[A]:ALA:C	2.60	0.44
1:J:369[A]:LYS:HB3	1:J:373[A]:GLN:HE21	1.83	0.44
2:L:167[A]:VAL:O	2:L:171[A]:GLN:HG2	2.16	0.44
1:B:189[C]:ILE:O	1:B:193[C]:LEU:HD13	2.16	0.44
1:C:443[C]:GLU:OE2	1:C:447[C]:ARG:NH1	2.51	0.44
1:E:395[C]:LYS:HE2	1:F:98[C]:ALA:CB	2.47	0.44
3:F:4756[C]:FAD:O2A	1:G:44[C]:THR:CG2	2.58	0.44
1:G:110[C]:ASN:O	1:G:111[C]:LYS:CG	2.58	0.44
1:G:124[C]:LYS:HE2	1:G:124[C]:LYS:HB3	1.73	0.44
1:G:145[C]:LEU:HD23	1:G:145[C]:LEU:HA	1.73	0.44
1:I:334[C]:GLU:O	1:I:338[C]:CYS:HB2	2.17	0.44
1:I:427[C]:GLU:OE1	1:I:427[C]:GLU:HA	2.17	0.44
1:I:464[C]:LEU:CD2	1:I:471[C]:SER:HA	2.44	0.44
1:J:242[C]:LYS:HE3	1:J:259[C]:GLU:HB3	2.00	0.44
1:J:290[C]:GLU:H	1:J:290[C]:GLU:HG3	1.57	0.44
1:J:330[C]:LYS:O	1:J:331[C]:ALA:C	2.60	0.44
1:J:369[C]:LYS:HB3	1:J:373[C]:GLN:HE21	1.83	0.44
1:B:219[A]:ASP:OD2	1:B:222[A]:ILE:HG23	2.17	0.44
1:C:430[A]:ASN:ND2	1:D:456[A]:SER:CB	2.58	0.44
1:D:375[A]:LYS:O	1:D:376[A]:GLU:C	2.61	0.44
1:E:39[A]:GLU:OE1	1:E:39[A]:GLU:HA	2.16	0.44
1:H:246[A]:ALA:HA	1:H:255[A]:ASP:O	2.18	0.44
1:I:336[A]:ILE:HG22	1:I:337[A]:ILE:H	1.82	0.44
1:J:473[A]:ASN:HB3	4:J:4780[A]:HOH:O	2.18	0.44
1:B:219[C]:ASP:OD2	1:B:222[C]:ILE:HG23	2.17	0.44
1:C:430[C]:ASN:ND2	1:D:456[C]:SER:CB	2.58	0.44
1:D:375[C]:LYS:O	1:D:376[C]:GLU:C	2.61	0.44
1:E:39[C]:GLU:OE1	1:E:39[C]:GLU:HA	2.16	0.44
1:H:246[C]:ALA:HA	1:H:255[C]:ASP:O	2.18	0.44
1:I:336[C]:ILE:HG22	1:I:337[C]:ILE:H	1.82	0.44
4:I:4781[C]:HOH:O	1:J:473[C]:ASN:HB3	2.18	0.44
2:M:150[C]:THR:CG2	2:M:151[C]:ALA:N	2.81	0.44
1:A:375[A]:LYS:C	1:A:377[A]:GLU:N	2.73	0.44
1:D:59[A]:ASN:HD21	1:D:91[A]:GLN:CG	2.30	0.44
1:D:146[A]:ILE:O	1:D:317[A]:ALA:HA	2.18	0.44
1:D:150[A]:SER:HB2	1:D:281[A]:ARG:O	2.17	0.44
1:F:14[A]:SER:C	1:F:15[A]:GLY:O	2.60	0.44
1:G:177[A]:VAL:CG1	1:G:200[A]:LEU:HB3	2.36	0.44
1:I:11[A]:VAL:HB	1:I:34[A]:CYS:SG	2.58	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:I:218[A]:ILE:HD12	1:I:366[A]:TRP:CH2	2.53	0.44
1:J:46[A]:LEU:HA	1:J:51[A]:ILE:CG1	2.48	0.44
1:A:375[C]:LYS:C	1:A:377[C]:GLU:N	2.73	0.44
1:D:59[C]:ASN:HD21	1:D:91[C]:GLN:CG	2.30	0.44
1:D:146[C]:ILE:O	1:D:317[C]:ALA:HA	2.18	0.44
1:D:150[C]:SER:HB2	1:D:281[C]:ARG:O	2.17	0.44
1:F:14[C]:SER:C	1:F:15[C]:GLY:O	2.60	0.44
1:G:177[C]:VAL:CG1	1:G:200[C]:LEU:HB3	2.36	0.44
1:I:11[C]:VAL:HB	1:I:34[C]:CYS:SG	2.58	0.44
1:I:218[C]:ILE:HD12	1:I:366[C]:TRP:CH2	2.53	0.44
1:J:46[C]:LEU:HA	1:J:51[C]:ILE:CG1	2.48	0.44
1:A:79[A]:SER:HB2	1:B:80[A]:GLU:HG2	1.98	0.44
1:B:287[A]:LEU:HD12	1:B:287[A]:LEU:HA	1.82	0.44
1:B:305[A]:ASN:ND2	1:B:309[A]:GLN:H	2.15	0.44
1:C:322[A]:VAL:HG13	1:C:323[A]:ALA:N	2.32	0.44
1:C:353[A]:CYS:HB3	1:C:437[A]:GLU:OE1	2.18	0.44
1:D:137[A]:GLN:NE2	1:D:138[A]:VAL:O	2.49	0.44
1:D:145[A]:LEU:HD11	1:D:318[A]:ILE:HG23	1.98	0.44
1:D:165[A]:ILE:HD11	1:D:254[A]:ILE:CG1	2.46	0.44
1:E:219[A]:ASP:OD2	1:E:405[A]:LYS:NZ	2.39	0.44
1:E:227[A]:GLN:HE21	1:E:231[A]:GLN:NE2	2.16	0.44
1:G:228[A]:ARG:NH2	1:G:229[A]:ILE:HD11	2.33	0.44
1:H:231[A]:GLN:C	1:H:233[A]:GLN:N	2.73	0.44
1:H:285[A]:LYS:CB	4:H:4820[A]:HOH:O	2.66	0.44
1:H:356[A]:SER:O	1:H:365[A]:ALA:HA	2.17	0.44
1:I:295[A]:GLU:O	1:I:296[A]:LEU:HG	2.18	0.44
1:J:285[A]:LYS:HD3	1:J:285[A]:LYS:HA	1.80	0.44
2:K:155[A]:ARG:NH2	2:K:157[A]:ILE:HG12	2.33	0.44
2:N:168[A]:GLN:NE2	2:N:171[A]:GLN:OE1	2.45	0.44
1:A:79[C]:SER:HB2	1:B:80[C]:GLU:HG2	1.98	0.44
1:B:287[C]:LEU:HD12	1:B:287[C]:LEU:HA	1.82	0.44
1:B:305[C]:ASN:ND2	1:B:309[C]:GLN:H	2.15	0.44
1:C:322[C]:VAL:HG13	1:C:323[C]:ALA:N	2.32	0.44
1:C:353[C]:CYS:HB3	1:C:437[C]:GLU:OE1	2.18	0.44
1:D:137[C]:GLN:NE2	1:D:138[C]:VAL:O	2.49	0.44
1:D:145[C]:LEU:HD11	1:D:318[C]:ILE:HG23	1.98	0.44
1:D:165[C]:ILE:HD11	1:D:254[C]:ILE:CG1	2.46	0.44
1:E:219[C]:ASP:OD2	1:E:405[C]:LYS:NZ	2.39	0.44
1:E:227[C]:GLN:HE21	1:E:231[C]:GLN:NE2	2.16	0.44
1:G:228[C]:ARG:NH2	1:G:229[C]:ILE:HD11	2.33	0.44
4:G:4820[C]:HOH:O	1:H:285[C]:LYS:CB	2.66	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:H:231[C]:GLN:C	1:H:233[C]:GLN:N	2.73	0.44
1:H:356[C]:SER:O	1:H:365[C]:ALA:HA	2.17	0.44
1:I:295[C]:GLU:O	1:I:296[C]:LEU:HG	2.18	0.44
1:J:285[C]:LYS:HD3	1:J:285[C]:LYS:HA	1.80	0.44
1:B:164[A]:THR:HG21	1:B:248[A]:LYS:HZ1	1.83	0.44
1:B:369[A]:LYS:HB2	1:B:374[A]:LEU:HD13	2.00	0.44
1:C:318[A]:ILE:HD12	1:C:335[A]:GLY:HA2	2.00	0.44
1:J:57[A]:LEU:O	1:J:199[A]:ARG:NH1	2.51	0.44
1:J:259[A]:GLU:CG	1:J:264[A]:GLY:HA2	2.44	0.44
2:L:139[A]:LEU:C	2:L:141[A]:LYS:H	2.26	0.44
2:L:139[A]:LEU:HD23	2:L:144[A]:LEU:HD13	1.99	0.44
2:M:152[A]:THR:HB	2:M:162[A]:ASP:OD1	2.17	0.44
2:N:133[A]:PRO:HB3	2:N:136[A]:ARG:HH21	1.82	0.44
1:B:164[C]:THR:HG21	1:B:248[C]:LYS:HZ1	1.83	0.44
1:B:369[C]:LYS:HB2	1:B:374[C]:LEU:HD13	2.00	0.44
1:C:318[C]:ILE:HD12	1:C:335[C]:GLY:HA2	2.00	0.44
1:E:444[C]:ASP:OD1	2:M:155[C]:ARG:HD3	2.18	0.44
1:J:57[C]:LEU:O	1:J:199[C]:ARG:NH1	2.51	0.44
1:J:259[C]:GLU:CG	1:J:264[C]:GLY:HA2	2.44	0.44
2:K:150[C]:THR:HG22	2:K:151[C]:ALA:N	2.32	0.44
1:B:5[A]:ILE:HG21	1:B:5[A]:ILE:HD13	1.57	0.44
1:C:409[A]:GLN:NE2	1:C:411[A]:SER:H	2.16	0.44
1:D:89[A]:MET:HE3	1:D:89[A]:MET:HB3	1.69	0.44
1:D:143[A]:ASN:ND2	1:D:342[A]:MET:CE	2.81	0.44
1:E:241[A]:THR:HG22	1:E:242[A]:LYS:N	2.33	0.44
1:F:213[A]:VAL:HG22	4:F:4763[A]:HOH:O	2.17	0.44
1:G:314[A]:ASN:N	1:G:314[A]:ASN:ND2	2.59	0.44
1:G:354[A]:VAL:HA	1:G:355[A]:PRO:HD3	1.77	0.44
1:H:143[A]:ASN:CB	1:H:342[A]:MET:CE	2.96	0.44
1:H:275[A]:LEU:HD12	1:H:276[A]:VAL:H	1.83	0.44
1:I:78[A]:MET:SD	1:J:78[A]:MET:HE3	2.58	0.44
1:J:144[A]:ILE:HG23	1:J:315[A]:ILE:HG12	2.00	0.44
1:J:414[A]:ARG:HA	1:J:441[A]:SER:HA	1.99	0.44
2:M:139[A]:LEU:O	2:M:143[A]:SER:N	2.51	0.44
1:B:5[C]:ILE:HG21	1:B:5[C]:ILE:HD13	1.57	0.44
1:C:409[C]:GLN:NE2	1:C:411[C]:SER:H	2.16	0.44
1:D:89[C]:MET:HE3	1:D:89[C]:MET:HB3	1.69	0.44
1:D:143[C]:ASN:ND2	1:D:342[C]:MET:CE	2.81	0.44
1:E:241[C]:THR:HG22	1:E:242[C]:LYS:N	2.33	0.44
4:E:4763[C]:HOH:O	1:F:213[C]:VAL:HG22	2.17	0.44
1:G:314[C]:ASN:N	1:G:314[C]:ASN:ND2	2.59	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:354[C]:VAL:HA	1:G:355[C]:PRO:HD3	1.77	0.44
1:H:143[C]:ASN:CB	1:H:342[C]:MET:CE	2.96	0.44
1:H:275[C]:LEU:HD12	1:H:276[C]:VAL:H	1.83	0.44
1:I:78[C]:MET:SD	1:J:78[C]:MET:HE3	2.58	0.44
1:J:144[C]:ILE:HG23	1:J:315[C]:ILE:HG12	2.00	0.44
1:J:414[C]:ARG:HA	1:J:441[C]:SER:HA	1.99	0.44
2:L:138[C]:ILE:CG1	2:L:167[C]:VAL:HG21	2.48	0.44
1:A:45[A]:CYS:O	1:A:50[A]:CYS:HB2	2.17	0.43
1:B:145[A]:LEU:HD11	1:B:318[A]:ILE:HG23	1.98	0.43
1:D:172[A]:LEU:HD12	1:D:172[A]:LEU:HA	1.79	0.43
1:D:339[A]:VAL:HA	1:D:342[A]:MET:HG3	2.00	0.43
1:D:450[A]:HIS:CD2	1:D:460[A]:ARG:HB2	2.53	0.43
1:F:428[A]:MET:HE3	1:F:459[A]:PHE:HB2	2.00	0.43
1:G:181[A]:MET:HE2	1:G:275[A]:LEU:HB2	2.00	0.43
1:I:320[A]:ASP:C	1:I:322[A]:VAL:H	2.26	0.43
1:I:471[A]:SER:OG	1:I:474[A]:PHE:O	2.26	0.43
1:J:33[A]:VAL:CG1	1:J:34[A]:CYS:N	2.79	0.43
2:K:159[A]:THR:N	2:K:162[A]:ASP:HB2	2.32	0.43
1:A:45[C]:CYS:O	1:A:50[C]:CYS:HB2	2.17	0.43
1:B:145[C]:LEU:HD11	1:B:318[C]:ILE:HG23	1.98	0.43
1:D:172[C]:LEU:HD12	1:D:172[C]:LEU:HA	1.79	0.43
1:D:339[C]:VAL:HA	1:D:342[C]:MET:HG3	2.00	0.43
1:D:450[C]:HIS:CD2	1:D:460[C]:ARG:HB2	2.53	0.43
1:F:428[C]:MET:HE3	1:F:459[C]:PHE:HB2	2.00	0.43
1:G:181[C]:MET:HE2	1:G:275[C]:LEU:HB2	2.00	0.43
1:I:320[C]:ASP:C	1:I:322[C]:VAL:H	2.26	0.43
1:I:471[C]:SER:OG	1:I:474[C]:PHE:O	2.26	0.43
1:J:33[C]:VAL:CG1	1:J:34[C]:CYS:N	2.79	0.43
1:A:184[A]:ILE:HD11	1:A:274[A]:LEU:HD11	2.00	0.43
1:A:188[A]:VAL:HG23	1:A:189[A]:ILE:CD1	2.41	0.43
1:B:11[A]:VAL:HG22	1:B:145[A]:LEU:HD23	1.99	0.43
1:B:19[A]:TYR:HB2	1:B:107[A]:PHE:CZ	2.52	0.43
1:B:333[A]:ASP:O	1:B:337[A]:ILE:HG23	2.17	0.43
1:C:404[A]:VAL:HG11	1:C:459[A]:PHE:HA	2.00	0.43
1:D:409[A]:GLN:HE21	1:D:411[A]:SER:N	1.92	0.43
1:G:61[A]:HIS:HB2	1:G:199[A]:ARG:NH1	2.34	0.43
1:G:395[A]:LYS:HD2	1:G:395[A]:LYS:HA	1.83	0.43
1:H:167[A]:SER:O	1:H:168[A]:SER:C	2.59	0.43
1:J:463[A]:ASN:HD22	1:J:463[A]:ASN:HA	1.53	0.43
2:N:150[A]:THR:O	2:N:162[A]:ASP:OD1	2.37	0.43
1:A:184[C]:ILE:HD11	1:A:274[C]:LEU:HD11	2.00	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:188[C]:VAL:HG23	1:A:189[C]:ILE:CD1	2.41	0.43
1:B:11[C]:VAL:HG22	1:B:145[C]:LEU:HD23	1.99	0.43
1:B:19[C]:TYR:HB2	1:B:107[C]:PHE:CZ	2.52	0.43
1:B:333[C]:ASP:O	1:B:337[C]:ILE:HG23	2.17	0.43
1:C:404[C]:VAL:HG11	1:C:459[C]:PHE:HA	2.00	0.43
1:D:409[C]:GLN:HE21	1:D:411[C]:SER:N	1.92	0.43
1:G:61[C]:HIS:HB2	1:G:199[C]:ARG:NH1	2.34	0.43
1:G:395[C]:LYS:HD2	1:G:395[C]:LYS:HA	1.83	0.43
1:H:167[C]:SER:O	1:H:168[C]:SER:C	2.59	0.43
1:J:463[C]:ASN:HD22	1:J:463[C]:ASN:HA	1.53	0.43
2:M:131[C]:LEU:HB3	2:M:136[C]:ARG:HB2	2.00	0.43
2:N:158[C]:PHE:CE2	2:N:163[C]:ALA:CA	2.99	0.43
1:A:438[A]:TYR:O	2:K:154[A]:PRO:HG2	2.19	0.43
1:B:54[A]:LYS:HD2	1:B:359[A]:TYR:CG	2.53	0.43
1:C:410[A]:LYS:HE3	1:C:410[A]:LYS:HB2	1.79	0.43
1:D:329[A]:HIS:CD2	1:D:355[A]:PRO:HD2	2.53	0.43
1:E:182[A]:VAL:HG22	1:E:274[A]:LEU:HD13	1.99	0.43
1:E:369[A]:LYS:NZ	4:E:4792[A]:HOH:O	2.50	0.43
1:F:116[A]:ASN:C	1:F:116[A]:ASN:ND2	2.70	0.43
1:F:218[A]:ILE:HD12	1:F:223[A]:SER:HB2	2.00	0.43
1:G:302[A]:ILE:HA	1:G:303[A]:PRO:HD2	1.87	0.43
1:G:305[A]:ASN:CG	1:G:309[A]:GLN:HG3	2.43	0.43
1:G:320[A]:ASP:CB	1:G:326[A]:MET:HE2	2.49	0.43
1:G:441[A]:SER:OG	2:N:160[A]:LYS:HD3	2.18	0.43
1:I:284[A]:THR:HG21	1:I:289[A]:LEU:HD21	1.99	0.43
1:I:427[A]:GLU:OE1	1:J:454[A]:THR:HB	2.18	0.43
2:M:152[A]:THR:HG22	2:M:153[A]:GLY:H	1.81	0.43
1:B:54[C]:LYS:HD2	1:B:359[C]:TYR:CG	2.53	0.43
1:C:410[C]:LYS:HE3	1:C:410[C]:LYS:HB2	1.79	0.43
1:D:329[C]:HIS:CD2	1:D:355[C]:PRO:HD2	2.53	0.43
4:D:4792[C]:HOH:O	1:E:369[C]:LYS:NZ	2.50	0.43
1:E:182[C]:VAL:HG22	1:E:274[C]:LEU:HD13	1.99	0.43
1:F:116[C]:ASN:C	1:F:116[C]:ASN:ND2	2.70	0.43
1:F:218[C]:ILE:HD12	1:F:223[C]:SER:HB2	2.00	0.43
1:G:302[C]:ILE:HA	1:G:303[C]:PRO:HD2	1.87	0.43
1:G:305[C]:ASN:CG	1:G:309[C]:GLN:HG3	2.43	0.43
1:G:320[C]:ASP:CB	1:G:326[C]:MET:HE2	2.49	0.43
1:H:438[C]:TYR:CE1	2:N:155[C]:ARG:HD3	2.44	0.43
1:I:284[C]:THR:HG21	1:I:289[C]:LEU:HD21	1.99	0.43
1:I:427[C]:GLU:OE1	1:J:454[C]:THR:HB	2.18	0.43
2:L:132[C]:SER:HB3	2:L:135[C]:ALA:HB2	1.98	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:174[A]:LEU:HD12	1:B:174[A]:LEU:HA	1.77	0.43
1:B:393[A]:ARG:HA	1:B:396[A]:THR:CG2	2.47	0.43
1:C:15[A]:GLY:N	3:C:4753[A]:HOH:O	2.51	0.43
1:C:302[A]:ILE:O	1:C:304[A]:VAL:HG13	2.18	0.43
1:E:66[A]:ALA:HB2	1:F:71[A]:PHE:HE2	1.84	0.43
1:F:305[A]:ASN:OD1	1:F:307[A]:ARG:N	2.50	0.43
1:H:51[A]:ILE:HG23	1:H:51[A]:ILE:HD12	1.76	0.43
1:H:174[A]:LEU:HB2	1:H:197[A]:TRP:CZ2	2.53	0.43
1:I:13[A]:GLY:O	1:I:18[A]:GLY:HA3	2.18	0.43
1:I:43[A]:GLY:HA2	4:I:4761[A]:HOH:O	2.18	0.43
1:J:209[A]:PHE:C	1:J:209[A]:PHE:HD1	2.22	0.43
1:J:381[A]:TYR:CD1	1:J:381[A]:TYR:C	2.96	0.43
2:L:142[A]:HIS:C	2:L:144[A]:LEU:N	2.76	0.43
1:B:174[C]:LEU:HD12	1:B:174[C]:LEU:HA	1.77	0.43
1:B:393[C]:ARG:HA	1:B:396[C]:THR:CG2	2.47	0.43
4:B:4753[C]:HOH:O	1:C:15[C]:GLY:N	2.51	0.43
1:C:302[C]:ILE:O	1:C:304[C]:VAL:HG13	2.18	0.43
1:E:66[C]:ALA:HB2	1:F:71[C]:PHE:HE2	1.84	0.43
1:F:305[C]:ASN:OD1	1:F:307[C]:ARG:N	2.50	0.43
1:H:51[C]:ILE:HG23	1:H:51[C]:ILE:HD12	1.76	0.43
1:H:174[C]:LEU:HB2	1:H:197[C]:TRP:CZ2	2.53	0.43
4:H:4761[C]:HOH:O	1:I:43[C]:GLY:HA2	2.18	0.43
1:I:13[C]:GLY:O	1:I:18[C]:GLY:HA3	2.18	0.43
1:J:209[C]:PHE:C	1:J:209[C]:PHE:HD1	2.22	0.43
1:J:381[C]:TYR:CD1	1:J:381[C]:TYR:C	2.96	0.43
2:K:150[C]:THR:CG2	2:K:151[C]:ALA:N	2.82	0.43
2:M:159[C]:THR:HG22	2:M:162[C]:ASP:CG	2.43	0.43
1:B:60[A]:SER:HB2	1:B:200[A]:LEU:HD11	1.99	0.43
1:D:182[A]:VAL:HG23	1:D:271[A]:CYS:HB3	2.00	0.43
1:F:122[A]:THR:OG1	1:F:126[A]:GLN:HG2	2.19	0.43
1:F:188[A]:VAL:HG12	1:F:189[A]:ILE:N	2.33	0.43
1:G:10[A]:THR:OG1	1:G:141[A]:THR:CG2	2.67	0.43
1:H:116[A]:ASN:HB3	1:H:131[A]:LYS:NZ	2.33	0.43
1:H:231[A]:GLN:C	1:H:233[A]:GLN:H	2.27	0.43
1:H:380[A]:GLU:HG2	1:H:410[A]:LYS:HB3	2.00	0.43
1:I:265[A]:LYS:C	1:I:266[A]:ALA:O	2.61	0.43
1:J:69[A]:LYS:NZ	1:J:69[A]:LYS:CB	2.81	0.43
1:J:232[A]:LYS:HE3	1:J:232[A]:LYS:CA	2.48	0.43
1:B:60[C]:SER:HB2	1:B:200[C]:LEU:HD11	1.99	0.43
1:D:182[C]:VAL:HG23	1:D:271[C]:CYS:HB3	2.00	0.43
1:F:122[C]:THR:OG1	1:F:126[C]:GLN:HG2	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:188[C]:VAL:HG12	1:F:189[C]:ILE:N	2.33	0.43
1:G:10[C]:THR:OG1	1:G:141[C]:THR:CG2	2.67	0.43
1:H:116[C]:ASN:HB3	1:H:131[C]:LYS:NZ	2.33	0.43
1:H:231[C]:GLN:C	1:H:233[C]:GLN:H	2.27	0.43
1:H:380[C]:GLU:HG2	1:H:410[C]:LYS:HB3	2.00	0.43
1:I:265[C]:LYS:C	1:I:266[C]:ALA:O	2.61	0.43
1:J:69[C]:LYS:NZ	1:J:69[C]:LYS:CB	2.81	0.43
1:J:232[C]:LYS:HE3	1:J:232[C]:LYS:CA	2.48	0.43
2:K:153[C]:GLY:O	2:K:154[C]:PRO:C	2.62	0.43
2:M:132[C]:SER:O	2:M:134[C]:ALA:N	2.52	0.43
1:C:40[A]:THR:HG23	1:C:47[A]:ASN:ND2	2.33	0.43
1:C:407[A]:LEU:HD23	1:C:407[A]:LEU:HA	1.80	0.43
1:D:232[A]:LYS:C	1:D:234[A]:GLY:H	2.26	0.43
1:E:311[A]:LYS:HB2	1:E:311[A]:LYS:HE3	1.69	0.43
1:F:143[A]:ASN:CG	1:F:342[A]:MET:HE3	2.44	0.43
1:F:354[A]:VAL:HA	1:F:355[A]:PRO:HD3	1.75	0.43
1:I:182[A]:VAL:HG11	1:I:269[A]:ILE:HG21	1.99	0.43
1:J:15[A]:GLY:O	1:J:19[A]:TYR:CD2	2.71	0.43
1:J:109[A]:GLN:O	1:J:111[A]:LYS:N	2.51	0.43
2:L:154[A]:PRO:C	2:L:156[A]:GLY:N	2.76	0.43
2:N:164[A]:LEU:O	2:N:165[A]:LYS:C	2.61	0.43
1:C:40[C]:THR:HG23	1:C:47[C]:ASN:ND2	2.33	0.43
1:C:407[C]:LEU:HD23	1:C:407[C]:LEU:HA	1.80	0.43
1:D:232[C]:LYS:C	1:D:234[C]:GLY:H	2.26	0.43
1:E:311[C]:LYS:HB2	1:E:311[C]:LYS:HE3	1.69	0.43
1:E:444[C]:ASP:CG	2:M:155[C]:ARG:HD3	2.43	0.43
1:F:143[C]:ASN:CG	1:F:342[C]:MET:HE3	2.44	0.43
1:F:354[C]:VAL:HA	1:F:355[C]:PRO:HD3	1.75	0.43
1:I:182[C]:VAL:HG11	1:I:269[C]:ILE:HG21	1.99	0.43
1:J:15[C]:GLY:O	1:J:19[C]:TYR:CD2	2.71	0.43
1:J:109[C]:GLN:O	1:J:111[C]:LYS:N	2.51	0.43
2:M:166[C]:LEU:O	2:M:170[C]:LYS:HB2	2.19	0.43
1:A:174[A]:LEU:HA	1:A:174[A]:LEU:HD13	1.48	0.43
1:A:387[A]:PRO:HA	1:A:403[A]:MET:HA	1.99	0.43
1:B:16[A]:PRO:O	3:B:4751[A]:FAD:O1P	2.36	0.43
1:C:381[A]:TYR:CD1	1:C:381[A]:TYR:N	2.86	0.43
1:E:51[A]:ILE:O	1:E:52[A]:PRO:C	2.57	0.43
1:E:386[A]:PHE:CZ	1:E:473[A]:ASN:HB2	2.53	0.43
1:F:83[A]:LEU:HD13	1:F:85[A]:LEU:N	2.34	0.43
1:F:153[A]:THR:OG1	1:F:281[A]:ARG:HG2	2.18	0.43
1:F:168[A]:SER:O	1:F:172[A]:LEU:HD22	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:299[A]:ARG:N	1:G:299[A]:ARG:CD	2.81	0.43
1:G:437[A]:GLU:O	2:N:154[A]:PRO:HG3	2.18	0.43
1:J:57[A]:LEU:HD11	1:J:192[A]:GLU:HG2	2.00	0.43
2:K:142[A]:HIS:O	2:K:144[A]:LEU:HG	2.19	0.43
1:A:174[C]:LEU:HA	1:A:174[C]:LEU:HD13	1.48	0.43
1:A:387[C]:PRO:HA	1:A:403[C]:MET:HA	1.99	0.43
3:A:4751[C]:FAD:O1P	1:B:16[C]:PRO:O	2.36	0.43
1:C:381[C]:TYR:CD1	1:C:381[C]:TYR:N	2.86	0.43
1:E:51[C]:ILE:O	1:E:52[C]:PRO:C	2.57	0.43
1:E:386[C]:PHE:CZ	1:E:473[C]:ASN:HB2	2.53	0.43
1:F:83[C]:LEU:HD13	1:F:85[C]:LEU:N	2.34	0.43
1:F:153[C]:THR:OG1	1:F:281[C]:ARG:HG2	2.18	0.43
1:F:168[C]:SER:O	1:F:172[C]:LEU:HD22	2.19	0.43
1:G:299[C]:ARG:N	1:G:299[C]:ARG:CD	2.81	0.43
1:J:57[C]:LEU:HD11	1:J:192[C]:GLU:HG2	2.00	0.43
1:A:155[A]:PHE:CD2	1:A:158[A]:ILE:HD12	2.54	0.43
1:D:143[A]:ASN:ND2	1:D:342[A]:MET:HE3	2.34	0.43
1:D:229[A]:ILE:HD13	1:D:362[A]:PRO:HG3	1.99	0.43
1:E:453[A]:PRO:HD2	1:F:359[A]:TYR:CZ	2.54	0.43
1:I:188[A]:VAL:O	1:I:189[A]:ILE:C	2.60	0.43
1:I:208[A]:GLU:OE1	1:I:209[A]:PHE:N	2.51	0.43
1:J:356[A]:SER:O	1:J:365[A]:ALA:HA	2.19	0.43
1:J:393[A]:ARG:HB3	1:J:455[A]:LEU:CD1	2.48	0.43
1:A:155[C]:PHE:CD2	1:A:158[C]:ILE:HD12	2.54	0.43
1:D:143[C]:ASN:ND2	1:D:342[C]:MET:HE3	2.34	0.43
1:D:229[C]:ILE:HD13	1:D:362[C]:PRO:HG3	1.99	0.43
1:E:453[C]:PRO:HD2	1:F:359[C]:TYR:CZ	2.54	0.43
1:I:188[C]:VAL:O	1:I:189[C]:ILE:C	2.60	0.43
1:I:208[C]:GLU:OE1	1:I:209[C]:PHE:N	2.51	0.43
1:J:356[C]:SER:O	1:J:365[C]:ALA:HA	2.19	0.43
1:J:393[C]:ARG:HB3	1:J:455[C]:LEU:CD1	2.48	0.43
2:K:136[C]:ARG:O	2:K:136[C]:ARG:CG	2.52	0.43
2:M:146[C]:ALA:C	2:M:148[C]:GLN:H	2.26	0.43
1:B:35[A]:ILE:HA	1:B:115[A]:VAL:O	2.19	0.43
1:D:258[A]:ILE:C	1:D:258[A]:ILE:HD12	2.44	0.43
1:E:3[A]:GLN:HA	1:E:4[A]:PRO:HD2	1.89	0.43
1:E:350[A]:ASP:C	1:E:350[A]:ASP:OD1	2.61	0.43
1:E:397[A]:ASN:O	1:E:398[A]:ALA:HB3	2.19	0.43
1:E:434[A]:LEU:HD12	1:F:448[A]:VAL:HG21	2.01	0.43
1:E:448[A]:VAL:HG21	1:F:434[A]:LEU:HD12	2.01	0.43
1:F:259[A]:GLU:CG	1:F:264[A]:GLY:HA2	2.48	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:I:374[A]:LEU:HD12	1:I:407[A]:LEU:HD13	2.01	0.43
1:J:362[A]:PRO:HB2	1:J:422[A]:GLY:HA2	2.00	0.43
2:N:152[A]:THR:HG22	2:N:153[A]:GLY:H	1.84	0.43
1:B:35[C]:ILE:HA	1:B:115[C]:VAL:O	2.19	0.43
1:D:258[C]:ILE:C	1:D:258[C]:ILE:HD12	2.44	0.43
1:E:3[C]:GLN:HA	1:E:4[C]:PRO:HD2	1.89	0.43
1:E:350[C]:ASP:C	1:E:350[C]:ASP:OD1	2.61	0.43
1:E:397[C]:ASN:O	1:E:398[C]:ALA:HB3	2.19	0.43
1:E:434[C]:LEU:HD12	1:F:448[C]:VAL:HG21	2.01	0.43
1:E:448[C]:VAL:HG21	1:F:434[C]:LEU:HD12	2.01	0.43
1:F:259[C]:GLU:CG	1:F:264[C]:GLY:HA2	2.48	0.43
1:I:374[C]:LEU:HD12	1:I:407[C]:LEU:HD13	2.01	0.43
1:J:362[C]:PRO:HB2	1:J:422[C]:GLY:HA2	2.00	0.43
1:D:155[A]:PHE:HA	1:D:156[A]:PRO:HD3	1.91	0.43
1:E:11[A]:VAL:HG11	1:E:18[A]:GLY:HA2	2.01	0.43
1:F:54[A]:LYS:HD3	1:F:54[A]:LYS:HA	1.84	0.43
1:F:164[A]:THR:CG2	1:F:248[A]:LYS:HE3	2.49	0.43
1:F:370[A]:SER:H	1:F:373[A]:GLN:NE2	2.17	0.43
1:F:389[A]:ALA:HA	1:F:400[A]:THR:HB	2.01	0.43
1:G:155[A]:PHE:CD2	1:G:158[A]:ILE:HG13	2.54	0.43
1:G:161[A]:ASP:C	1:G:161[A]:ASP:OD1	2.60	0.43
1:G:380[A]:GLU:HA	1:G:380[A]:GLU:OE1	2.18	0.43
1:I:453[A]:PRO:C	1:I:454[A]:THR:HG23	2.44	0.43
1:J:37[A]:LYS:HE3	4:J:4759[A]:FAD:N9A	2.33	0.43
2:L:167[A]:VAL:HG12	2:L:168[A]:GLN:N	2.34	0.43
1:D:155[C]:PHE:HA	1:D:156[C]:PRO:HD3	1.91	0.43
1:E:11[C]:VAL:HG11	1:E:18[C]:GLY:HA2	2.01	0.43
1:F:54[C]:LYS:HD3	1:F:54[C]:LYS:HA	1.84	0.43
1:F:164[C]:THR:CG2	1:F:248[C]:LYS:HE3	2.49	0.43
1:F:370[C]:SER:H	1:F:373[C]:GLN:NE2	2.17	0.43
1:F:389[C]:ALA:HA	1:F:400[C]:THR:HB	2.01	0.43
1:G:155[C]:PHE:CD2	1:G:158[C]:ILE:HG13	2.54	0.43
1:G:161[C]:ASP:C	1:G:161[C]:ASP:OD1	2.60	0.43
1:G:380[C]:GLU:HA	1:G:380[C]:GLU:OE1	2.18	0.43
1:I:453[C]:PRO:C	1:I:454[C]:THR:HG23	2.44	0.43
3:I:4759[C]:FAD:N9A	1:J:37[C]:LYS:HE3	2.33	0.43
2:L:145[C]:ASP:O	2:L:148[C]:GLN:HG2	2.19	0.43
1:D:45[A]:CYS:HG	1:D:50[A]:CYS:HG	0.55	0.42
1:D:145[A]:LEU:HD21	1:D:318[A]:ILE:CD1	2.48	0.42
1:E:354[A]:VAL:HA	1:E:355[A]:PRO:HD3	1.81	0.42
1:F:392[A]:SER:CB	4:F:4793[A]:HOH:O	2.50	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:H:5[A]:ILE:HG23	1:H:137[A]:GLN:HE22	1.83	0.42
1:H:44[A]:THR:HG23	3:H:4757[A]:FAD:PA	2.59	0.42
1:I:43[A]:GLY:HA2	3:I:4758[A]:FAD:O3B	2.19	0.42
1:I:406[A]:ILE:HG21	1:I:462[A]:ALA:C	2.44	0.42
1:I:453[A]:PRO:O	1:I:454[A]:THR:HG22	2.20	0.42
1:J:388[A]:PHE:C	1:J:390[A]:ALA:H	2.25	0.42
2:M:159[A]:THR:HB	2:M:162[A]:ASP:OD2	2.18	0.42
1:D:45[C]:CYS:HG	1:D:50[C]:CYS:HG	0.55	0.42
1:D:145[C]:LEU:HD21	1:D:318[C]:ILE:CD1	2.48	0.42
1:E:354[C]:VAL:HA	1:E:355[C]:PRO:HD3	1.81	0.42
4:E:4793[C]:HOH:O	1:F:392[C]:SER:CB	2.50	0.42
3:G:4757[C]:FAD:PA	1:H:44[C]:THR:HG23	2.59	0.42
1:H:5[C]:ILE:HG23	1:H:137[C]:GLN:HE22	1.83	0.42
3:H:4758[C]:FAD:O3B	1:I:43[C]:GLY:HA2	2.19	0.42
1:I:406[C]:ILE:HG21	1:I:462[C]:ALA:C	2.44	0.42
1:I:453[C]:PRO:O	1:I:454[C]:THR:HG22	2.20	0.42
1:J:388[C]:PHE:C	1:J:390[C]:ALA:H	2.25	0.42
1:A:16[A]:PRO:HG2	1:A:45[A]:CYS:HB2	2.01	0.42
1:A:20[A]:VAL:HG23	1:A:336[A]:ILE:HG12	2.01	0.42
1:A:41[A]:LEU:HD21	1:A:114[A]:HIS:CE1	2.54	0.42
1:A:198[A]:GLN:C	1:A:200[A]:LEU:H	2.27	0.42
1:B:8[A]:ASP:HA	1:B:142[A]:LYS:HB2	2.01	0.42
1:C:173[A]:SER:O	1:C:174[A]:LEU:C	2.61	0.42
1:D:302[A]:ILE:HD12	1:D:321[A]:VAL:HG22	2.01	0.42
1:E:278[A]:ILE:HD12	1:E:278[A]:ILE:HA	1.26	0.42
1:E:409[A]:GLN:HE21	1:E:412[A]:THR:H	1.66	0.42
1:G:196[A]:VAL:HG12	1:G:197[A]:TRP:N	2.33	0.42
1:G:426[A]:GLY:O	1:G:429[A]:VAL:HG12	2.18	0.42
1:H:358[A]:ILE:HD13	1:H:358[A]:ILE:HG21	1.82	0.42
1:H:372[A]:GLU:CD	1:H:372[A]:GLU:H	2.27	0.42
1:I:40[A]:THR:HG21	1:I:100[A]:THR:HG21	2.00	0.42
1:I:244[A]:THR:HB	1:I:257[A]:SER:HB2	2.01	0.42
1:J:144[A]:ILE:O	1:J:144[A]:ILE:HG13	2.18	0.42
1:J:321[A]:VAL:O	1:J:321[A]:VAL:HG13	2.16	0.42
1:A:16[C]:PRO:HG2	1:A:45[C]:CYS:HB2	2.01	0.42
1:A:20[C]:VAL:HG23	1:A:336[C]:ILE:HG12	2.01	0.42
1:A:41[C]:LEU:HD21	1:A:114[C]:HIS:CE1	2.54	0.42
1:A:198[C]:GLN:C	1:A:200[C]:LEU:H	2.27	0.42
1:B:8[C]:ASP:HA	1:B:142[C]:LYS:HB2	2.01	0.42
1:C:173[C]:SER:O	1:C:174[C]:LEU:C	2.61	0.42
1:D:302[C]:ILE:HD12	1:D:321[C]:VAL:HG22	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:278[C]:ILE:HD12	1:E:278[C]:ILE:HA	1.26	0.42
1:E:409[C]:GLN:HE21	1:E:412[C]:THR:H	1.66	0.42
1:G:196[C]:VAL:HG12	1:G:197[C]:TRP:N	2.33	0.42
1:G:426[C]:GLY:O	1:G:429[C]:VAL:HG12	2.18	0.42
1:H:358[C]:ILE:HD13	1:H:358[C]:ILE:HG21	1.82	0.42
1:H:372[C]:GLU:CD	1:H:372[C]:GLU:H	2.27	0.42
1:I:40[C]:THR:HG21	1:I:100[C]:THR:HG21	2.00	0.42
1:I:244[C]:THR:HB	1:I:257[C]:SER:HB2	2.01	0.42
1:J:144[C]:ILE:O	1:J:144[C]:ILE:HG13	2.18	0.42
1:J:321[C]:VAL:O	1:J:321[C]:VAL:HG13	2.16	0.42
2:M:159[C]:THR:CG2	2:M:162[C]:ASP:OD1	2.66	0.42
1:A:2[A]:ASP:CG	1:A:3[A]:GLN:H	2.28	0.42
1:A:375[A]:LYS:O	1:A:376[A]:GLU:C	2.60	0.42
1:C:121[A]:ILE:CG2	1:C:292[A]:LEU:HD11	2.48	0.42
1:C:175[A]:LYS:HB2	1:C:175[A]:LYS:HE3	1.75	0.42
1:D:183[A]:VAL:HG13	1:D:275[A]:LEU:CD1	2.48	0.42
1:D:224[A]:LYS:HZ2	1:D:224[A]:LYS:HG2	1.52	0.42
1:D:249[A]:LYS:HA	1:D:249[A]:LYS:HD2	1.73	0.42
1:G:230[A]:LEU:HD12	1:G:230[A]:LEU:HA	1.87	0.42
1:H:174[A]:LEU:HD12	1:H:174[A]:LEU:HA	1.75	0.42
1:J:54[A]:LYS:HD2	1:J:359[A]:TYR:CG	2.53	0.42
1:A:2[C]:ASP:CG	1:A:3[C]:GLN:H	2.28	0.42
1:A:375[C]:LYS:O	1:A:376[C]:GLU:C	2.60	0.42
1:C:121[C]:ILE:CG2	1:C:292[C]:LEU:HD11	2.48	0.42
1:C:175[C]:LYS:HB2	1:C:175[C]:LYS:HE3	1.75	0.42
1:D:183[C]:VAL:HG13	1:D:275[C]:LEU:CD1	2.48	0.42
1:D:224[C]:LYS:HZ2	1:D:224[C]:LYS:HG2	1.52	0.42
1:D:249[C]:LYS:HA	1:D:249[C]:LYS:HD2	1.73	0.42
1:G:230[C]:LEU:HD12	1:G:230[C]:LEU:HA	1.87	0.42
1:H:174[C]:LEU:HD12	1:H:174[C]:LEU:HA	1.75	0.42
1:J:54[C]:LYS:HD2	1:J:359[C]:TYR:CG	2.53	0.42
2:L:145[C]:ASP:OD1	2:L:145[C]:ASP:N	2.51	0.42
2:N:130[C]:ARG:O	2:N:157[C]:ILE:HA	2.18	0.42
1:B:37[A]:LYS:HG2	3:B:4751[A]:FAD:N3A	2.33	0.42
1:B:275[A]:LEU:C	1:B:275[A]:LEU:HD22	2.42	0.42
1:B:412[A]:THR:C	1:B:414[A]:ARG:N	2.76	0.42
1:C:402[A]:GLY:HA3	1:C:421[A]:LEU:O	2.19	0.42
1:D:282[A]:PRO:HB3	1:D:321[A]:VAL:HA	2.01	0.42
1:E:281[A]:ARG:H	1:E:281[A]:ARG:HG2	1.52	0.42
1:G:134[A]:GLY:C	1:G:135[A]:GLY:O	2.61	0.42
1:I:46[A]:LEU:HD21	1:I:100[A]:THR:HG22	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:I:208[A]:GLU:OE1	1:I:208[A]:GLU:CA	2.67	0.42
1:I:241[A]:THR:HG22	1:I:260[A]:ALA:CA	2.46	0.42
2:M:158[A]:PHE:HE2	2:M:163[A]:ALA:HA	1.84	0.42
2:O:137[A]:ASN:ND2	2:O:137[A]:ASN:C	2.77	0.42
3:A:4751[C]:FAD:N3A	1:B:37[C]:LYS:HG2	2.33	0.42
1:B:275[C]:LEU:C	1:B:275[C]:LEU:HD22	2.42	0.42
1:B:412[C]:THR:C	1:B:414[C]:ARG:N	2.76	0.42
1:C:402[C]:GLY:HA3	1:C:421[C]:LEU:O	2.19	0.42
1:D:282[C]:PRO:HB3	1:D:321[C]:VAL:HA	2.01	0.42
1:E:281[C]:ARG:H	1:E:281[C]:ARG:HG2	1.52	0.42
1:G:134[C]:GLY:C	1:G:135[C]:GLY:O	2.61	0.42
1:I:46[C]:LEU:HD21	1:I:100[C]:THR:HG22	2.01	0.42
1:I:208[C]:GLU:OE1	1:I:208[C]:GLU:CA	2.67	0.42
1:I:241[C]:THR:HG22	1:I:260[C]:ALA:CA	2.46	0.42
1:A:447[A]:ARG:HH11	1:A:447[A]:ARG:CG	2.32	0.42
1:B:193[A]:LEU:HD12	1:B:193[A]:LEU:N	2.34	0.42
1:C:303[A]:PRO:C	1:C:304[A]:VAL:CG1	2.91	0.42
1:D:317[A]:ALA:O	1:D:322[A]:VAL:HG11	2.19	0.42
1:E:201[A]:GLY:O	1:E:202[A]:ALA:C	2.62	0.42
1:F:92[A]:LYS:NZ	1:F:172[A]:LEU:O	2.51	0.42
1:F:123[A]:GLY:O	1:F:126[A]:GLN:N	2.52	0.42
1:G:255[A]:ASP:OD2	1:G:270[A]:THR:HB	2.19	0.42
1:H:17[A]:GLY:H	1:H:20[A]:VAL:HB	1.84	0.42
1:I:56[A]:LEU:HD12	1:I:56[A]:LEU:HA	1.72	0.42
1:I:214[A]:GLY:O	1:I:218[A]:ILE:CD1	2.68	0.42
1:I:374[A]:LEU:C	1:I:376[A]:GLU:N	2.77	0.42
2:M:134[A]:ALA:O	2:M:137[A]:ASN:HB3	2.19	0.42
2:O:154[A]:PRO:HG2	2:O:157[A]:ILE:HD13	2.01	0.42
1:A:447[C]:ARG:HH11	1:A:447[C]:ARG:CG	2.32	0.42
1:B:193[C]:LEU:HD12	1:B:193[C]:LEU:N	2.34	0.42
1:C:303[C]:PRO:C	1:C:304[C]:VAL:CG1	2.91	0.42
1:D:317[C]:ALA:O	1:D:322[C]:VAL:HG11	2.19	0.42
1:E:201[C]:GLY:O	1:E:202[C]:ALA:C	2.62	0.42
1:F:92[C]:LYS:NZ	1:F:172[C]:LEU:O	2.51	0.42
1:F:123[C]:GLY:O	1:F:126[C]:GLN:N	2.52	0.42
1:G:255[C]:ASP:OD2	1:G:270[C]:THR:HB	2.19	0.42
1:H:17[C]:GLY:H	1:H:20[C]:VAL:HB	1.84	0.42
1:I:56[C]:LEU:HD12	1:I:56[C]:LEU:HA	1.72	0.42
1:I:214[C]:GLY:O	1:I:218[C]:ILE:CD1	2.68	0.42
1:I:374[C]:LEU:C	1:I:376[C]:GLU:N	2.77	0.42
1:A:212[A]:HIS:HE1	1:A:215[A]:GLY:O	2.03	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:133[A]:ASP:C	1:B:135[A]:GLY:H	2.21	0.42
1:C:123[A]:GLY:O	1:C:125[A]:ASN:N	2.52	0.42
1:C:322[A]:VAL:CG1	1:C:323[A]:ALA:N	2.81	0.42
1:D:361[A]:HIS:HA	1:D:362[A]:PRO:C	2.44	0.42
1:D:369[A]:LYS:CE	1:D:377[A]:GLU:OE2	2.65	0.42
1:D:465[A]:ALA:HB2	1:D:471[A]:SER:HB3	2.02	0.42
1:E:402[A]:GLY:HA3	1:E:421[A]:LEU:O	2.20	0.42
1:F:295[A]:GLU:H	1:F:295[A]:GLU:HG2	1.64	0.42
1:F:312[A]:ILE:HA	1:F:313[A]:PRO:HD3	1.81	0.42
1:F:347[A]:VAL:HG23	1:F:347[A]:VAL:O	2.19	0.42
1:G:15[A]:GLY:HA2	1:G:42[A]:GLY:O	2.19	0.42
1:G:225[A]:ASN:O	1:G:229[A]:ILE:HG12	2.20	0.42
1:G:410[A]:LYS:O	1:G:410[A]:LYS:HG2	2.19	0.42
1:I:15[A]:GLY:O	1:I:17[A]:GLY:N	2.53	0.42
1:J:44[A]:THR:HG23	4:J:4759[A]:FAD:O1A	2.18	0.42
2:N:130[A]:ARG:N	2:N:157[A]:ILE:CG2	2.70	0.42
1:A:212[C]:HIS:HE1	1:A:215[C]:GLY:O	2.03	0.42
1:B:133[C]:ASP:C	1:B:135[C]:GLY:H	2.21	0.42
1:C:123[C]:GLY:O	1:C:125[C]:ASN:N	2.52	0.42
1:C:322[C]:VAL:CG1	1:C:323[C]:ALA:N	2.81	0.42
1:D:361[C]:HIS:HA	1:D:362[C]:PRO:C	2.44	0.42
1:D:369[C]:LYS:CE	1:D:377[C]:GLU:OE2	2.65	0.42
1:D:465[C]:ALA:HB2	1:D:471[C]:SER:HB3	2.02	0.42
1:E:402[C]:GLY:HA3	1:E:421[C]:LEU:O	2.20	0.42
1:F:295[C]:GLU:H	1:F:295[C]:GLU:HG2	1.64	0.42
1:F:312[C]:ILE:HA	1:F:313[C]:PRO:HD3	1.81	0.42
1:F:347[C]:VAL:HG23	1:F:347[C]:VAL:O	2.19	0.42
1:G:15[C]:GLY:HA2	1:G:42[C]:GLY:O	2.19	0.42
1:G:225[C]:ASN:O	1:G:229[C]:ILE:HG12	2.20	0.42
1:G:410[C]:LYS:O	1:G:410[C]:LYS:HG2	2.19	0.42
1:I:15[C]:GLY:O	1:I:17[C]:GLY:N	2.53	0.42
3:I:4759[C]:FAD:O1A	1:J:44[C]:THR:HG23	2.18	0.42
1:B:329[A]:HIS:CD2	1:B:329[A]:HIS:H	2.37	0.42
1:C:1[A]:ALA:CB	1:C:3[A]:GLN:HE22	2.33	0.42
1:C:356[A]:SER:O	1:C:365[A]:ALA:HA	2.20	0.42
1:E:167[A]:SER:O	1:E:168[A]:SER:C	2.59	0.42
1:E:443[A]:GLU:OE1	2:M:134[A]:ALA:HB1	2.20	0.42
1:F:258[A]:ILE:H	1:F:258[A]:ILE:HG13	1.61	0.42
1:G:274[A]:LEU:HD23	1:G:275[A]:LEU:N	2.35	0.42
1:G:298[A]:PRO:HG2	1:G:299[A]:ARG:HE	1.85	0.42
1:B:329[C]:HIS:CD2	1:B:329[C]:HIS:H	2.37	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:1[C]:ALA:CB	1:C:3[C]:GLN:HE22	2.33	0.42
1:C:356[C]:SER:O	1:C:365[C]:ALA:HA	2.20	0.42
1:E:167[C]:SER:O	1:E:168[C]:SER:C	2.59	0.42
1:F:258[C]:ILE:H	1:F:258[C]:ILE:HG13	1.61	0.42
1:G:274[C]:LEU:HD23	1:G:275[C]:LEU:N	2.35	0.42
1:G:298[C]:PRO:HG2	1:G:299[C]:ARG:HE	1.85	0.42
2:K:132[C]:SER:O	2:K:135[C]:ALA:N	2.53	0.42
2:M:159[C]:THR:CG2	2:M:161[C]:GLU:N	2.75	0.42
2:N:142[C]:HIS:CD2	2:N:167[C]:VAL:HG13	2.55	0.42
1:B:334[A]:GLU:OE2	1:B:351[A]:TYR:OH	2.33	0.42
1:C:381[A]:TYR:HA	1:C:408[A]:GLY:O	2.20	0.42
1:D:297[A]:ASP:HB2	1:D:298[A]:PRO:CD	2.47	0.42
1:E:16[A]:PRO:O	1:E:20[A]:VAL:HG13	2.20	0.42
1:H:30[A]:PHE:CE2	1:H:343[A]:ALA:HB2	2.55	0.42
1:I:121[A]:ILE:O	1:I:121[A]:ILE:HG12	2.20	0.42
1:I:438[A]:TYR:C	1:I:440[A]:ALA:H	2.28	0.42
2:K:155[A]:ARG:HH12	2:K:157[A]:ILE:HD11	1.84	0.42
1:B:334[C]:GLU:OE2	1:B:351[C]:TYR:OH	2.33	0.42
1:C:381[C]:TYR:HA	1:C:408[C]:GLY:O	2.20	0.42
1:D:297[C]:ASP:HB2	1:D:298[C]:PRO:CD	2.47	0.42
1:D:414[C]:ARG:CD	2:L:161[C]:GLU:OE2	2.64	0.42
1:E:16[C]:PRO:O	1:E:20[C]:VAL:HG13	2.20	0.42
1:H:30[C]:PHE:CE2	1:H:343[C]:ALA:HB2	2.55	0.42
1:I:121[C]:ILE:O	1:I:121[C]:ILE:HG12	2.20	0.42
1:I:438[C]:TYR:C	1:I:440[C]:ALA:H	2.28	0.42
1:A:397[A]:ASN:N	1:A:397[A]:ASN:ND2	2.68	0.42
1:C:353[A]:CYS:CB	1:C:437[A]:GLU:OE1	2.67	0.42
1:D:221[A]:GLU:HG2	1:D:225[A]:ASN:HD21	1.84	0.42
1:D:288[A]:GLY:O	1:D:292[A]:LEU:HD12	2.20	0.42
1:D:296[A]:LEU:C	1:D:297[A]:ASP:O	2.63	0.42
1:E:281[A]:ARG:HA	1:E:282[A]:PRO:HD3	1.88	0.42
1:E:395[A]:LYS:HG2	1:F:99[A]:LEU:HG	2.01	0.42
1:E:472[A]:ILE:C	1:E:472[A]:ILE:CD1	2.93	0.42
1:H:287[A]:LEU:HB3	4:H:4807[A]:HOH:O	2.19	0.42
1:I:174[A]:LEU:HD12	1:I:197[A]:TRP:CE2	2.55	0.42
1:J:234[A]:GLY:O	1:J:236[A]:LYS:HD3	2.20	0.42
1:J:327[A]:LEU:CA	4:J:4759[A]:FAD:O3'	2.68	0.42
1:J:393[A]:ARG:NH1	1:J:393[A]:ARG:HG2	2.35	0.42
1:A:397[C]:ASN:ND2	1:A:397[C]:ASN:N	2.68	0.42
1:C:353[C]:CYS:CB	1:C:437[C]:GLU:OE1	2.67	0.42
1:D:221[C]:GLU:HG2	1:D:225[C]:ASN:HD21	1.84	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:288[C]:GLY:O	1:D:292[C]:LEU:HD12	2.20	0.42
1:D:296[C]:LEU:C	1:D:297[C]:ASP:O	2.63	0.42
1:E:281[C]:ARG:HA	1:E:282[C]:PRO:HD3	1.88	0.42
1:E:395[C]:LYS:HG2	1:F:99[C]:LEU:HG	2.01	0.42
1:E:472[C]:ILE:C	1:E:472[C]:ILE:CD1	2.93	0.42
4:G:4807[C]:HOH:O	1:H:287[C]:LEU:HB3	2.19	0.42
1:I:174[C]:LEU:HD12	1:I:197[C]:TRP:CE2	2.55	0.42
3:I:4759[C]:FAD:O3'	1:J:327[C]:LEU:CA	2.68	0.42
1:J:234[C]:GLY:O	1:J:236[C]:LYS:HD3	2.20	0.42
1:J:393[C]:ARG:NH1	1:J:393[C]:ARG:HG2	2.35	0.42
1:A:330[A]:LYS:HE2	1:A:334[A]:GLU:CD	2.45	0.42
1:B:409[A]:GLN:HE21	1:B:409[A]:GLN:HB2	1.52	0.42
1:D:374[A]:LEU:HD12	1:D:374[A]:LEU:HA	1.91	0.42
1:E:188[A]:VAL:O	1:E:192[A]:GLU:HG3	2.20	0.42
1:E:304[A]:VAL:HG11	1:E:317[A]:ALA:HB3	2.02	0.42
1:H:164[A]:THR:HB	1:H:254[A]:ILE:HD11	2.02	0.42
1:I:146[A]:ILE:HD12	1:I:317[A]:ALA:HB2	2.02	0.42
1:I:209[A]:PHE:HA	1:I:241[A]:THR:O	2.20	0.42
1:I:448[A]:VAL:HG11	1:J:434[A]:LEU:HA	2.01	0.42
1:J:209[A]:PHE:HA	1:J:241[A]:THR:O	2.20	0.42
2:K:142[A]:HIS:O	2:K:144[A]:LEU:N	2.53	0.42
2:M:135[A]:ALA:O	2:M:138[A]:ILE:HG12	2.19	0.42
1:A:330[C]:LYS:HE2	1:A:334[C]:GLU:CD	2.45	0.42
1:B:409[C]:GLN:HE21	1:B:409[C]:GLN:HB2	1.52	0.42
1:D:374[C]:LEU:HD12	1:D:374[C]:LEU:HA	1.91	0.42
1:E:188[C]:VAL:O	1:E:192[C]:GLU:HG3	2.20	0.42
1:E:304[C]:VAL:HG11	1:E:317[C]:ALA:HB3	2.02	0.42
1:H:164[C]:THR:HB	1:H:254[C]:ILE:HD11	2.02	0.42
1:I:146[C]:ILE:HD12	1:I:317[C]:ALA:HB2	2.02	0.42
1:I:209[C]:PHE:HA	1:I:241[C]:THR:O	2.20	0.42
1:I:448[C]:VAL:HG11	1:J:434[C]:LEU:HA	2.01	0.42
1:J:209[C]:PHE:HA	1:J:241[C]:THR:O	2.20	0.42
1:A:198[A]:GLN:CB	1:A:204[A]:VAL:HG21	2.50	0.41
1:B:92[A]:LYS:HE2	1:B:92[A]:LYS:HB3	1.90	0.41
1:B:325[A]:PRO:HB2	1:B:327[A]:LEU:HD12	2.02	0.41
1:C:137[A]:GLN:NE2	1:C:137[A]:GLN:HA	2.34	0.41
1:C:320[A]:ASP:CB	1:C:326[A]:MET:HG2	2.50	0.41
1:D:3[A]:GLN:O	1:D:4[A]:PRO:C	2.62	0.41
1:D:262[A]:SER:O	1:D:263[A]:GLY:O	2.37	0.41
1:D:275[A]:LEU:HD23	1:D:276[A]:VAL:H	1.84	0.41
1:G:220[A]:MET:CE	1:G:224[A]:LYS:HE3	2.49	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:299[A]:ARG:HH11	1:G:299[A]:ARG:CG	2.31	0.41
1:H:118[A]:TYR:OH	1:H:285[A]:LYS:O	2.24	0.41
1:I:78[A]:MET:SD	1:J:78[A]:MET:HE2	2.60	0.41
1:J:224[A]:LYS:HA	1:J:224[A]:LYS:HD3	1.92	0.41
1:J:444[A]:ASP:OD1	2:O:155[A]:ARG:HG3	2.19	0.41
2:L:157[A]:ILE:CG2	2:L:158[A]:PHE:N	2.82	0.41
1:A:198[C]:GLN:CB	1:A:204[C]:VAL:HG21	2.50	0.41
1:B:92[C]:LYS:HE2	1:B:92[C]:LYS:HB3	1.90	0.41
1:B:325[C]:PRO:HB2	1:B:327[C]:LEU:HD12	2.02	0.41
1:C:137[C]:GLN:NE2	1:C:137[C]:GLN:HA	2.34	0.41
1:C:320[C]:ASP:CB	1:C:326[C]:MET:HG2	2.50	0.41
1:D:3[C]:GLN:O	1:D:4[C]:PRO:C	2.62	0.41
1:D:262[C]:SER:O	1:D:263[C]:GLY:O	2.37	0.41
1:D:275[C]:LEU:HD23	1:D:276[C]:VAL:H	1.84	0.41
1:G:220[C]:MET:CE	1:G:224[C]:LYS:HE3	2.49	0.41
1:G:299[C]:ARG:HH11	1:G:299[C]:ARG:CG	2.31	0.41
1:H:118[C]:TYR:OH	1:H:285[C]:LYS:O	2.24	0.41
1:I:78[C]:MET:SD	1:J:78[C]:MET:HE2	2.60	0.41
1:J:224[C]:LYS:HA	1:J:224[C]:LYS:HD3	1.92	0.41
1:A:454[A]:THR:HB	1:B:427[A]:GLU:OE2	2.20	0.41
1:B:24[A]:LYS:HG3	1:B:339[A]:VAL:CG2	2.49	0.41
1:D:193[A]:LEU:O	1:D:194[A]:GLY:C	2.63	0.41
1:E:406[A]:ILE:C	1:E:407[A]:LEU:HD23	2.45	0.41
1:F:161[A]:ASP:OD1	1:F:163[A]:ASP:HB3	2.19	0.41
1:F:440[A]:ALA:HA	2:M:155[A]:ARG:HH12	1.83	0.41
1:G:20[A]:VAL:HG23	1:G:336[A]:ILE:HD12	2.00	0.41
1:H:10[A]:THR:CG2	1:H:139[A]:ILE:HG21	2.46	0.41
1:H:91[A]:GLN:HE21	1:H:91[A]:GLN:HB2	1.50	0.41
1:H:114[A]:HIS:ND1	1:H:114[A]:HIS:C	2.77	0.41
1:I:371[A]:GLU:O	1:I:372[A]:GLU:C	2.63	0.41
1:I:428[A]:MET:HE3	1:I:428[A]:MET:HB2	1.77	0.41
1:J:44[A]:THR:O	1:J:45[A]:CYS:C	2.63	0.41
2:K:164[A]:LEU:O	2:K:167[A]:VAL:HB	2.20	0.41
1:A:454[C]:THR:HB	1:B:427[C]:GLU:OE2	2.20	0.41
1:B:24[C]:LYS:HG3	1:B:339[C]:VAL:CG2	2.49	0.41
1:D:193[C]:LEU:O	1:D:194[C]:GLY:C	2.63	0.41
1:E:406[C]:ILE:C	1:E:407[C]:LEU:HD23	2.45	0.41
1:F:161[C]:ASP:OD1	1:F:163[C]:ASP:HB3	2.19	0.41
1:G:20[C]:VAL:HG23	1:G:336[C]:ILE:HD12	2.00	0.41
1:H:10[C]:THR:CG2	1:H:139[C]:ILE:HG21	2.46	0.41
1:H:91[C]:GLN:HE21	1:H:91[C]:GLN:HB2	1.50	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:H:114[C]:HIS:ND1	1:H:114[C]:HIS:C	2.77	0.41
1:I:371[C]:GLU:O	1:I:372[C]:GLU:C	2.63	0.41
1:I:428[C]:MET:HE3	1:I:428[C]:MET:HB2	1.77	0.41
1:J:44[C]:THR:O	1:J:45[C]:CYS:C	2.63	0.41
1:A:145[A]:LEU:HD21	1:A:318[A]:ILE:HG13	2.02	0.41
1:A:219[A]:ASP:OD2	1:A:221[A]:GLU:HB3	2.19	0.41
1:A:282[A]:PRO:HB3	1:A:321[A]:VAL:HA	2.02	0.41
1:A:412[A]:THR:HG22	2:K:161[A]:GLU:HG3	2.03	0.41
1:C:307[A]:ARG:HB2	1:C:309[A]:GLN:HE21	1.86	0.41
1:D:44[A]:THR:HG23	3:D:4753[A]:FAD:PA	2.60	0.41
1:D:220[A]:MET:CE	1:D:220[A]:MET:CG	2.96	0.41
1:G:318[A]:ILE:HG21	1:G:318[A]:ILE:HD13	1.62	0.41
1:G:320[A]:ASP:CG	1:G:326[A]:MET:HE2	2.45	0.41
1:H:143[A]:ASN:HB2	1:H:342[A]:MET:HE1	2.02	0.41
1:H:148[A]:THR:HG22	3:H:4757[A]:FAD:N7A	2.35	0.41
1:A:145[C]:LEU:HD21	1:A:318[C]:ILE:HG13	2.02	0.41
1:A:219[C]:ASP:OD2	1:A:221[C]:GLU:HB3	2.19	0.41
1:A:282[C]:PRO:HB3	1:A:321[C]:VAL:HA	2.02	0.41
1:C:307[C]:ARG:HB2	1:C:309[C]:GLN:HE21	1.86	0.41
3:C:4753[C]:FAD:PA	1:D:44[C]:THR:HG23	2.60	0.41
1:D:220[C]:MET:CE	1:D:220[C]:MET:CG	2.96	0.41
1:G:318[C]:ILE:HG21	1:G:318[C]:ILE:HD13	1.62	0.41
1:G:320[C]:ASP:CG	1:G:326[C]:MET:HE2	2.45	0.41
3:G:4757[C]:FAD:N7A	1:H:148[C]:THR:HG22	2.35	0.41
1:H:143[C]:ASN:HB2	1:H:342[C]:MET:HE1	2.02	0.41
1:A:427[A]:GLU:CD	1:B:454[A]:THR:HB	2.45	0.41
1:B:137[A]:GLN:NE2	1:B:138[A]:VAL:H	2.18	0.41
1:B:239[A]:LEU:O	1:B:240[A]:ASN:C	2.63	0.41
1:C:167[A]:SER:OG	1:C:169[A]:THR:HG23	2.21	0.41
1:C:200[A]:LEU:HD12	1:C:200[A]:LEU:HA	1.71	0.41
1:F:178[A]:PRO:HB3	1:F:273[A]:VAL:CG2	2.50	0.41
1:F:230[A]:LEU:HD23	1:F:230[A]:LEU:HA	1.88	0.41
1:F:456[A]:SER:O	1:F:459[A]:PHE:HB3	2.20	0.41
1:G:35[A]:ILE:HD12	1:G:35[A]:ILE:H	1.85	0.41
1:G:239[A]:LEU:HD12	1:G:239[A]:LEU:N	2.33	0.41
1:H:385[A]:LYS:HG2	1:H:403[A]:MET:CE	2.50	0.41
1:H:448[A]:VAL:O	1:H:450[A]:HIS:HD2	2.03	0.41
1:I:432[A]:ALA:O	1:I:436[A]:LEU:HB2	2.21	0.41
1:J:445[A]:ILE:C	1:J:447[A]:ARG:H	2.27	0.41
1:A:427[C]:GLU:CD	1:B:454[C]:THR:HB	2.45	0.41
1:B:137[C]:GLN:NE2	1:B:138[C]:VAL:H	2.18	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:239[C]:LEU:O	1:B:240[C]:ASN:C	2.63	0.41
1:C:167[C]:SER:OG	1:C:169[C]:THR:HG23	2.21	0.41
1:C:200[C]:LEU:HD12	1:C:200[C]:LEU:HA	1.71	0.41
1:F:178[C]:PRO:HB3	1:F:273[C]:VAL:CG2	2.50	0.41
1:F:230[C]:LEU:HD23	1:F:230[C]:LEU:HA	1.88	0.41
1:F:456[C]:SER:O	1:F:459[C]:PHE:HB3	2.20	0.41
1:G:35[C]:ILE:HD12	1:G:35[C]:ILE:H	1.85	0.41
1:G:239[C]:LEU:HD12	1:G:239[C]:LEU:N	2.33	0.41
1:H:385[C]:LYS:HG2	1:H:403[C]:MET:CE	2.50	0.41
1:H:448[C]:VAL:O	1:H:450[C]:HIS:HD2	2.03	0.41
1:I:432[C]:ALA:O	1:I:436[C]:LEU:HB2	2.21	0.41
1:J:445[C]:ILE:C	1:J:447[C]:ARG:H	2.27	0.41
1:A:221[A]:GLU:HB3	1:A:405[A]:LYS:NZ	2.36	0.41
1:B:102[A]:GLY:O	1:B:106[A]:LEU:HG	2.20	0.41
1:B:301[A]:ARG:HB3	1:B:322[A]:VAL:HA	2.01	0.41
1:C:78[A]:MET:O	1:C:79[A]:SER:C	2.64	0.41
1:D:54[A]:LYS:O	1:D:55[A]:ALA:C	2.63	0.41
1:D:326[A]:MET:CE	1:D:326[A]:MET:CG	2.94	0.41
1:E:321[A]:VAL:CG1	1:E:322[A]:VAL:HG23	2.48	0.41
1:F:182[A]:VAL:HG23	1:F:271[A]:CYS:HB3	2.03	0.41
1:G:290[A]:GLU:OE1	1:G:290[A]:GLU:HA	2.20	0.41
1:I:154[A]:PRO:O	1:I:156[A]:PRO:HD3	2.20	0.41
1:I:155[A]:PHE:HZ	1:I:243[A]:VAL:HG23	1.81	0.41
1:I:222[A]:ILE:HD13	1:I:419[A]:HIS:HB3	2.01	0.41
1:A:221[C]:GLU:HB3	1:A:405[C]:LYS:NZ	2.36	0.41
1:B:102[C]:GLY:O	1:B:106[C]:LEU:HG	2.20	0.41
1:B:301[C]:ARG:HB3	1:B:322[C]:VAL:HA	2.01	0.41
1:C:78[C]:MET:O	1:C:79[C]:SER:C	2.64	0.41
1:D:54[C]:LYS:O	1:D:55[C]:ALA:C	2.63	0.41
1:D:326[C]:MET:CE	1:D:326[C]:MET:CG	2.94	0.41
1:E:321[C]:VAL:CG1	1:E:322[C]:VAL:HG23	2.48	0.41
1:F:182[C]:VAL:HG23	1:F:271[C]:CYS:HB3	2.03	0.41
1:G:290[C]:GLU:HA	1:G:290[C]:GLU:OE1	2.20	0.41
1:I:154[C]:PRO:O	1:I:156[C]:PRO:HD3	2.20	0.41
1:I:155[C]:PHE:HZ	1:I:243[C]:VAL:HG23	1.81	0.41
1:I:222[C]:ILE:HD13	1:I:419[C]:HIS:HB3	2.01	0.41
2:L:153[C]:GLY:HA3	2:L:157[C]:ILE:O	2.21	0.41
1:A:256[A]:VAL:HG22	1:A:269[A]:ILE:HB	2.01	0.41
1:C:1[A]:ALA:HB1	1:C:3[A]:GLN:HE22	1.84	0.41
1:C:19[A]:TYR:CD1	1:C:19[A]:TYR:C	2.99	0.41
1:C:270[A]:THR:HG22	1:C:271[A]:CYS:N	2.35	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:354[A]:VAL:HA	1:C:355[A]:PRO:HD3	1.89	0.41
1:D:277[A]:CYS:HB2	4:D:4789[A]:HOH:O	2.19	0.41
1:E:16[A]:PRO:CG	1:E:45[A]:CYS:HB2	2.51	0.41
1:E:336[A]:ILE:HG22	1:E:337[A]:ILE:N	2.34	0.41
1:F:154[A]:PRO:CD	1:F:281[A]:ARG:NH2	2.83	0.41
1:F:386[A]:PHE:CD2	1:F:461[A]:GLU:HB3	2.55	0.41
1:G:51[A]:ILE:O	1:G:52[A]:PRO:C	2.62	0.41
1:G:452[A]:HIS:HA	1:G:453[A]:PRO:HA	1.82	0.41
1:I:2[A]:ASP:HB2	4:I:4773[A]:HOH:O	2.20	0.41
1:I:325[A]:PRO:O	1:I:330[A]:LYS:HD2	2.21	0.41
1:I:368[A]:GLY:HA3	1:I:417[A]:GLY:HA2	2.02	0.41
2:O:131[A]:LEU:HD23	2:O:131[A]:LEU:C	2.45	0.41
1:A:256[C]:VAL:HG22	1:A:269[C]:ILE:HB	2.01	0.41
1:C:1[C]:ALA:HB1	1:C:3[C]:GLN:HE22	1.84	0.41
1:C:19[C]:TYR:CD1	1:C:19[C]:TYR:C	2.99	0.41
1:C:270[C]:THR:HG22	1:C:271[C]:CYS:N	2.35	0.41
1:C:354[C]:VAL:HA	1:C:355[C]:PRO:HD3	1.89	0.41
4:C:4789[C]:HOH:O	1:D:277[C]:CYS:HB2	2.19	0.41
1:E:16[C]:PRO:CG	1:E:45[C]:CYS:HB2	2.51	0.41
1:E:336[C]:ILE:HG22	1:E:337[C]:ILE:N	2.34	0.41
1:F:154[C]:PRO:CD	1:F:281[C]:ARG:NH2	2.83	0.41
1:F:386[C]:PHE:CD2	1:F:461[C]:GLU:HB3	2.55	0.41
1:G:51[C]:ILE:O	1:G:52[C]:PRO:C	2.62	0.41
1:G:452[C]:HIS:HA	1:G:453[C]:PRO:HA	1.82	0.41
4:H:4773[C]:HOH:O	1:I:2[C]:ASP:HB2	2.20	0.41
1:I:325[C]:PRO:O	1:I:330[C]:LYS:HD2	2.21	0.41
1:I:368[C]:GLY:HA3	1:I:417[C]:GLY:HA2	2.02	0.41
1:A:172[A]:LEU:HD23	1:A:172[A]:LEU:HA	1.77	0.41
1:B:46[A]:LEU:HG	1:B:100[A]:THR:HG22	2.02	0.41
1:B:182[A]:VAL:HG23	1:B:271[A]:CYS:CB	2.51	0.41
1:C:193[A]:LEU:N	1:C:193[A]:LEU:HD12	2.35	0.41
1:C:230[A]:LEU:HA	1:C:230[A]:LEU:HD12	1.85	0.41
3:C:4752[A]:FAD:H9	3:C:4752[A]:FAD:H1'1	1.92	0.41
1:D:192[A]:GLU:O	1:D:196[A]:VAL:HG23	2.21	0.41
1:D:409[A]:GLN:NE2	1:D:411[A]:SER:H	1.92	0.41
1:E:84[A]:ASN:C	1:E:84[A]:ASN:HD22	2.27	0.41
1:E:341[A]:GLY:O	1:E:342[A]:MET:C	2.63	0.41
1:E:464[A]:LEU:HD22	1:E:470[A]:LYS:O	2.21	0.41
1:F:69[A]:LYS:H	1:F:69[A]:LYS:HG2	1.52	0.41
1:F:208[A]:GLU:OE1	1:F:209[A]:PHE:N	2.51	0.41
1:F:319[A]:GLY:O	1:F:322[A]:VAL:HG22	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:H:2[A]:ASP:O	1:H:3[A]:GLN:C	2.63	0.41
1:H:89[A]:MET:O	1:H:92[A]:LYS:HB3	2.19	0.41
1:H:242[A]:LYS:HG3	1:H:259[A]:GLU:O	2.21	0.41
1:I:87[A]:LYS:HD2	1:J:72[A]:ALA:O	2.21	0.41
1:J:337[A]:ILE:O	1:J:347[A]:VAL:HG12	2.20	0.41
2:M:168[A]:GLN:HA	2:M:171[A]:GLN:HG2	2.02	0.41
2:N:141[A]:LYS:C	2:N:142[A]:HIS:CD2	2.95	0.41
1:A:172[C]:LEU:HD23	1:A:172[C]:LEU:HA	1.77	0.41
1:B:46[C]:LEU:HG	1:B:100[C]:THR:HG22	2.02	0.41
1:B:182[C]:VAL:HG23	1:B:271[C]:CYS:CB	2.51	0.41
3:B:4752[C]:FAD:H9	3:B:4752[C]:FAD:H1'1	1.92	0.41
1:C:193[C]:LEU:N	1:C:193[C]:LEU:HD12	2.35	0.41
1:C:230[C]:LEU:HA	1:C:230[C]:LEU:HD12	1.85	0.41
1:D:192[C]:GLU:O	1:D:196[C]:VAL:HG23	2.21	0.41
1:D:409[C]:GLN:NE2	1:D:411[C]:SER:H	1.92	0.41
1:E:84[C]:ASN:C	1:E:84[C]:ASN:HD22	2.27	0.41
1:E:341[C]:GLY:O	1:E:342[C]:MET:C	2.63	0.41
1:E:464[C]:LEU:HD22	1:E:470[C]:LYS:O	2.21	0.41
1:F:69[C]:LYS:H	1:F:69[C]:LYS:HG2	1.52	0.41
1:F:208[C]:GLU:OE1	1:F:209[C]:PHE:N	2.51	0.41
1:F:319[C]:GLY:O	1:F:322[C]:VAL:HG22	2.21	0.41
1:H:2[C]:ASP:O	1:H:3[C]:GLN:C	2.63	0.41
1:H:89[C]:MET:O	1:H:92[C]:LYS:HB3	2.19	0.41
1:H:242[C]:LYS:HG3	1:H:259[C]:GLU:O	2.21	0.41
1:I:87[C]:LYS:HD2	1:J:72[C]:ALA:O	2.21	0.41
1:J:337[C]:ILE:O	1:J:347[C]:VAL:HG12	2.20	0.41
2:N:135[C]:ALA:C	2:N:137[C]:ASN:N	2.74	0.41
1:A:6[A]:ASP:O	1:A:31[A]:LYS:HD3	2.20	0.41
1:A:74[A]:ARG:HE	1:B:59[A]:ASN:ND2	2.19	0.41
1:A:171[A]:ALA:HA	1:A:174[A]:LEU:HD22	2.03	0.41
1:C:302[A]:ILE:HG21	1:C:302[A]:ILE:HD13	1.70	0.41
1:D:6[A]:ASP:O	1:D:31[A]:LYS:HD3	2.20	0.41
1:E:306[A]:THR:O	1:E:306[A]:THR:CG2	2.66	0.41
1:E:326[A]:MET:HE3	4:E:4782[A]:HOH:O	2.20	0.41
1:F:30[A]:PHE:O	1:F:32[A]:THR:HG23	2.20	0.41
1:G:91[A]:GLN:O	1:G:94[A]:THR:HB	2.21	0.41
1:G:178[A]:PRO:O	1:G:179[A]:GLU:C	2.62	0.41
1:G:385[A]:LYS:HD3	1:G:403[A]:MET:HE3	2.03	0.41
1:I:33[A]:VAL:CA	1:I:113[A]:VAL:HG23	2.48	0.41
1:I:443[A]:GLU:O	1:I:444[A]:ASP:C	2.64	0.41
1:J:184[A]:ILE:HD12	1:J:243[A]:VAL:HG11	2.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:J:330[A]:LYS:O	1:J:334[A]:GLU:HB2	2.20	0.41
2:K:146[A]:ALA:O	2:K:147[A]:SER:C	2.63	0.41
1:A:6[C]:ASP:O	1:A:31[C]:LYS:HD3	2.20	0.41
1:A:74[C]:ARG:HE	1:B:59[C]:ASN:ND2	2.19	0.41
1:A:171[C]:ALA:HA	1:A:174[C]:LEU:HD22	2.03	0.41
1:C:302[C]:ILE:HG21	1:C:302[C]:ILE:HD13	1.70	0.41
1:D:6[C]:ASP:O	1:D:31[C]:LYS:HD3	2.20	0.41
4:D:4782[C]:HOH:O	1:E:326[C]:MET:HE3	2.20	0.41
1:E:306[C]:THR:O	1:E:306[C]:THR:CG2	2.66	0.41
1:F:30[C]:PHE:O	1:F:32[C]:THR:HG23	2.20	0.41
1:G:91[C]:GLN:O	1:G:94[C]:THR:HB	2.21	0.41
1:G:178[C]:PRO:O	1:G:179[C]:GLU:C	2.62	0.41
1:G:385[C]:LYS:HD3	1:G:403[C]:MET:HE3	2.03	0.41
1:I:33[C]:VAL:CA	1:I:113[C]:VAL:HG23	2.48	0.41
1:I:443[C]:GLU:O	1:I:444[C]:ASP:C	2.64	0.41
1:J:184[C]:ILE:HD12	1:J:243[C]:VAL:HG11	2.03	0.41
1:J:330[C]:LYS:O	1:J:334[C]:GLU:HB2	2.20	0.41
2:L:139[C]:LEU:O	2:L:140[C]:GLU:C	2.64	0.41
1:A:224[A]:LYS:HD3	4:A:4761[A]:HOH:O	2.21	0.41
1:A:269[A]:ILE:HG22	1:A:270[A]:THR:N	2.35	0.41
1:A:302[A]:ILE:HA	1:A:303[A]:PRO:HD2	1.73	0.41
1:B:24[A]:LYS:HG3	1:B:339[A]:VAL:HG21	2.03	0.41
1:B:426[A]:GLY:O	1:B:429[A]:VAL:HG12	2.21	0.41
1:C:54[A]:LYS:HE3	1:C:57[A]:LEU:HD12	2.03	0.41
1:C:85[A]:LEU:HD12	1:C:176[A]:LYS:HA	2.02	0.41
1:C:452[A]:HIS:CD2	1:C:453[A]:PRO:CB	3.02	0.41
1:C:452[A]:HIS:HA	1:C:453[A]:PRO:HA	1.62	0.41
1:D:10[A]:THR:OG1	1:D:141[A]:THR:HG21	2.21	0.41
1:D:35[A]:ILE:HD11	1:D:139[A]:ILE:CD1	2.44	0.41
1:D:200[A]:LEU:HD12	1:D:200[A]:LEU:HA	1.88	0.41
1:E:303[A]:PRO:HG2	4:E:4773[A]:HOH:O	2.21	0.41
1:E:361[A]:HIS:HA	1:E:362[A]:PRO:C	2.46	0.41
1:F:145[A]:LEU:HD13	1:F:316[A]:TYR:HB2	2.03	0.41
1:F:402[A]:GLY:HA3	1:F:421[A]:LEU:O	2.20	0.41
1:G:155[A]:PHE:HZ	1:G:243[A]:VAL:HG13	1.84	0.41
1:H:155[A]:PHE:CD1	1:H:155[A]:PHE:C	2.99	0.41
1:I:121[A]:ILE:HB	1:I:127[A]:VAL:HG12	2.03	0.41
1:I:455[A]:LEU:HD12	1:I:455[A]:LEU:HA	1.93	0.41
1:J:349[A]:ILE:HG12	1:J:351[A]:TYR:CD1	2.55	0.41
1:J:435[A]:ALA:O	1:J:436[A]:LEU:C	2.64	0.41
2:K:159[A]:THR:CG2	2:K:161[A]:GLU:HB2	2.50	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:N:152[A]:THR:HG22	2:N:153[A]:GLY:N	2.35	0.41
1:A:224[C]:LYS:HD3	4:J:4761[C]:HOH:O	2.21	0.41
1:A:269[C]:ILE:HG22	1:A:270[C]:THR:N	2.35	0.41
1:A:302[C]:ILE:HA	1:A:303[C]:PRO:HD2	1.73	0.41
1:B:24[C]:LYS:HG3	1:B:339[C]:VAL:HG21	2.03	0.41
1:B:426[C]:GLY:O	1:B:429[C]:VAL:HG12	2.21	0.41
1:C:54[C]:LYS:HE3	1:C:57[C]:LEU:HD12	2.03	0.41
1:C:85[C]:LEU:HD12	1:C:176[C]:LYS:HA	2.02	0.41
1:C:452[C]:HIS:CD2	1:C:453[C]:PRO:CB	3.02	0.41
1:C:452[C]:HIS:HA	1:C:453[C]:PRO:HA	1.62	0.41
1:D:10[C]:THR:OG1	1:D:141[C]:THR:HG21	2.21	0.41
1:D:35[C]:ILE:HD11	1:D:139[C]:ILE:CD1	2.44	0.41
1:D:200[C]:LEU:HD12	1:D:200[C]:LEU:HA	1.88	0.41
4:D:4773[C]:HOH:O	1:E:303[C]:PRO:HG2	2.21	0.41
1:E:361[C]:HIS:HA	1:E:362[C]:PRO:C	2.46	0.41
1:F:145[C]:LEU:HD13	1:F:316[C]:TYR:HB2	2.03	0.41
1:F:402[C]:GLY:HA3	1:F:421[C]:LEU:O	2.20	0.41
1:G:155[C]:PHE:HZ	1:G:243[C]:VAL:HG13	1.84	0.41
1:G:437[C]:GLU:CG	2:N:133[C]:PRO:HG3	2.51	0.41
1:H:155[C]:PHE:CD1	1:H:155[C]:PHE:C	2.99	0.41
1:I:121[C]:ILE:HB	1:I:127[C]:VAL:HG12	2.03	0.41
1:I:455[C]:LEU:HD12	1:I:455[C]:LEU:HA	1.93	0.41
1:J:349[C]:ILE:HG12	1:J:351[C]:TYR:CD1	2.55	0.41
1:J:435[C]:ALA:O	1:J:436[C]:LEU:C	2.64	0.41
2:K:130[C]:ARG:HD3	2:K:131[C]:LEU:CD2	2.47	0.41
2:K:158[C]:PHE:CZ	2:K:166[C]:LEU:HD23	2.55	0.41
2:M:132[C]:SER:C	2:M:134[C]:ALA:N	2.77	0.41
2:M:135[C]:ALA:HB2	2:M:160[C]:LYS:HA	2.03	0.41
2:M:144[C]:LEU:HD23	2:M:148[C]:GLN:HE22	1.86	0.41
1:A:106[A]:LEU:HD11	1:B:473[A]:ASN:HA	2.02	0.41
1:A:154[A]:PRO:HD3	1:A:281[A]:ARG:CZ	2.51	0.41
1:A:392[A]:SER:O	1:A:393[A]:ARG:C	2.61	0.41
1:B:327[A]:LEU:C	3:B:4751[A]:FAD:O3'	2.64	0.41
1:D:26[A]:ALA:HB2	1:D:112[A]:VAL:HG23	2.03	0.41
1:D:278[A]:ILE:HG21	1:D:278[A]:ILE:HD13	1.82	0.41
1:E:20[A]:VAL:O	1:E:21[A]:ALA:C	2.64	0.41
1:E:42[A]:GLY:HA3	1:E:46[A]:LEU:HD23	2.01	0.41
1:E:341[A]:GLY:C	1:E:343[A]:ALA:N	2.78	0.41
1:F:419[A]:HIS:C	1:F:420[A]:ILE:HG13	2.45	0.41
1:G:175[A]:LYS:O	1:G:176[A]:LYS:HB3	2.21	0.41
1:I:138[A]:VAL:O	1:I:139[A]:ILE:HD12	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:I:239[A]:LEU:HD23	1:I:239[A]:LEU:HA	1.93	0.41
1:J:372[A]:GLU:O	1:J:373[A]:GLN:C	2.63	0.41
2:K:159[A]:THR:C	2:K:162[A]:ASP:HB2	2.45	0.41
1:A:106[C]:LEU:HD11	1:B:473[C]:ASN:HA	2.02	0.41
1:A:154[C]:PRO:HD3	1:A:281[C]:ARG:CZ	2.51	0.41
1:A:392[C]:SER:O	1:A:393[C]:ARG:C	2.61	0.41
3:A:4751[C]:FAD:O3'	1:B:327[C]:LEU:C	2.64	0.41
1:D:26[C]:ALA:HB2	1:D:112[C]:VAL:HG23	2.03	0.41
1:D:278[C]:ILE:HG21	1:D:278[C]:ILE:HD13	1.82	0.41
1:E:20[C]:VAL:O	1:E:21[C]:ALA:C	2.64	0.41
1:E:42[C]:GLY:HA3	1:E:46[C]:LEU:HD23	2.01	0.41
1:E:341[C]:GLY:C	1:E:343[C]:ALA:N	2.78	0.41
1:F:419[C]:HIS:C	1:F:420[C]:ILE:HG13	2.45	0.41
1:G:175[C]:LYS:O	1:G:176[C]:LYS:HB3	2.21	0.41
1:I:138[C]:VAL:O	1:I:139[C]:ILE:HD12	2.20	0.41
1:I:239[C]:LEU:HD23	1:I:239[C]:LEU:HA	1.93	0.41
1:J:372[C]:GLU:O	1:J:373[C]:GLN:C	2.63	0.41
1:A:55[A]:ALA:HB2	1:B:396[A]:THR:OG1	2.21	0.40
1:A:210[A]:LEU:HD22	1:A:210[A]:LEU:N	2.35	0.40
1:B:16[A]:PRO:O	1:B:18[A]:GLY:N	2.54	0.40
1:B:134[A]:GLY:O	1:B:135[A]:GLY:C	2.64	0.40
1:B:452[A]:HIS:CD2	1:B:453[A]:PRO:CA	3.04	0.40
1:C:78[A]:MET:HE2	1:C:78[A]:MET:HB3	1.65	0.40
1:C:182[A]:VAL:O	1:C:274[A]:LEU:HD12	2.20	0.40
1:C:320[A]:ASP:OD1	4:C:4755[A]:HOH:O	2.21	0.40
1:E:49[A]:GLY:HA2	3:E:4754[A]:FAD:HM81	2.03	0.40
1:E:379[A]:ILE:HD13	1:E:379[A]:ILE:HG21	1.75	0.40
1:F:192[A]:GLU:O	1:F:193[A]:LEU:C	2.63	0.40
1:F:341[A]:GLY:C	1:F:343[A]:ALA:N	2.76	0.40
1:G:83[A]:LEU:O	1:G:83[A]:LEU:HG	2.18	0.40
1:G:149[A]:GLY:HA2	1:G:320[A]:ASP:HB2	2.02	0.40
1:G:448[A]:VAL:O	1:G:460[A]:ARG:CZ	2.69	0.40
1:J:116[A]:ASN:O	1:J:131[A]:LYS:HG2	2.21	0.40
1:J:287[A]:LEU:HD12	1:J:287[A]:LEU:HA	1.91	0.40
1:J:406[A]:ILE:O	1:J:406[A]:ILE:HG12	2.20	0.40
1:J:436[A]:LEU:HA	1:J:436[A]:LEU:HD22	1.78	0.40
2:M:152[A]:THR:CG2	2:M:153[A]:GLY:H	2.33	0.40
1:A:55[C]:ALA:HB2	1:B:396[C]:THR:OG1	2.21	0.40
1:A:210[C]:LEU:HD22	1:A:210[C]:LEU:N	2.35	0.40
1:B:16[C]:PRO:O	1:B:18[C]:GLY:N	2.54	0.40
1:B:134[C]:GLY:O	1:B:135[C]:GLY:C	2.64	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:452[C]:HIS:CD2	1:B:453[C]:PRO:CA	3.04	0.40
4:B:4755[C]:HOH:O	1:C:320[C]:ASP:OD1	2.21	0.40
1:C:78[C]:MET:HE2	1:C:78[C]:MET:HB3	1.65	0.40
1:C:182[C]:VAL:O	1:C:274[C]:LEU:HD12	2.20	0.40
3:D:4754[C]:FAD:HM81	1:E:49[C]:GLY:HA2	2.03	0.40
1:E:379[C]:ILE:HD13	1:E:379[C]:ILE:HG21	1.75	0.40
1:F:192[C]:GLU:O	1:F:193[C]:LEU:C	2.63	0.40
1:F:341[C]:GLY:C	1:F:343[C]:ALA:N	2.76	0.40
1:G:83[C]:LEU:O	1:G:83[C]:LEU:HG	2.18	0.40
1:G:149[C]:GLY:HA2	1:G:320[C]:ASP:HB2	2.02	0.40
1:G:448[C]:VAL:O	1:G:460[C]:ARG:CZ	2.69	0.40
1:J:116[C]:ASN:O	1:J:131[C]:LYS:HG2	2.21	0.40
1:J:287[C]:LEU:HD12	1:J:287[C]:LEU:HA	1.91	0.40
1:J:406[C]:ILE:O	1:J:406[C]:ILE:HG12	2.20	0.40
1:J:436[C]:LEU:HA	1:J:436[C]:LEU:HD22	1.78	0.40
1:A:146[A]:ILE:HG23	1:A:148[A]:THR:HG23	2.03	0.40
1:B:55[A]:ALA:HB3	1:B:92[A]:LYS:HG3	2.03	0.40
1:C:51[A]:ILE:N	1:C:52[A]:PRO:CD	2.84	0.40
1:C:62[A]:TYR:CZ	1:D:65[A]:MET:HE1	2.56	0.40
1:C:318[A]:ILE:CD1	1:C:335[A]:GLY:HA2	2.52	0.40
1:D:93[A]:SER:O	1:D:94[A]:THR:C	2.63	0.40
1:D:396[A]:THR:C	1:D:398[A]:ALA:N	2.78	0.40
1:E:256[A]:VAL:HG22	1:E:269[A]:ILE:HB	2.02	0.40
1:F:85[A]:LEU:HA	1:F:85[A]:LEU:HD12	1.88	0.40
1:F:464[A]:LEU:HD21	1:F:472[A]:ILE:CD1	2.52	0.40
1:G:103[A]:ILE:O	1:G:104[A]:ALA:C	2.65	0.40
1:G:107[A]:PHE:HD1	1:G:107[A]:PHE:HA	1.76	0.40
1:G:220[A]:MET:HE3	1:G:224[A]:LYS:HE3	2.04	0.40
1:H:317[A]:ALA:C	1:H:318[A]:ILE:HG23	2.47	0.40
1:I:85[A]:LEU:HD22	1:I:89[A]:MET:HG2	2.03	0.40
1:I:291[A]:GLU:O	1:I:292[A]:LEU:CD1	2.68	0.40
1:I:361[A]:HIS:CA	1:I:362[A]:PRO:C	2.94	0.40
1:I:383[A]:VAL:O	1:I:383[A]:VAL:CG1	2.66	0.40
1:I:406[A]:ILE:HG23	1:I:466[A]:ALA:HB2	2.04	0.40
1:J:59[A]:ASN:N	1:J:59[A]:ASN:ND2	2.68	0.40
1:J:62[A]:TYR:HD1	1:J:65[A]:MET:CE	2.31	0.40
1:J:122[A]:THR:OG1	1:J:128[A]:THR:HG22	2.22	0.40
1:J:448[A]:VAL:HG12	1:J:449[A]:CYS:N	2.35	0.40
1:A:146[C]:ILE:HG23	1:A:148[C]:THR:HG23	2.03	0.40
1:B:55[C]:ALA:HB3	1:B:92[C]:LYS:HG3	2.03	0.40
1:C:51[C]:ILE:N	1:C:52[C]:PRO:CD	2.84	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:62[C]:TYR:CZ	1:D:65[C]:MET:HE1	2.56	0.40
1:C:318[C]:ILE:CD1	1:C:335[C]:GLY:HA2	2.52	0.40
1:D:93[C]:SER:O	1:D:94[C]:THR:C	2.63	0.40
1:D:396[C]:THR:C	1:D:398[C]:ALA:N	2.78	0.40
1:E:256[C]:VAL:HG22	1:E:269[C]:ILE:HB	2.02	0.40
1:F:85[C]:LEU:HA	1:F:85[C]:LEU:HD12	1.88	0.40
1:F:464[C]:LEU:HD21	1:F:472[C]:ILE:CD1	2.52	0.40
1:G:103[C]:ILE:O	1:G:104[C]:ALA:C	2.65	0.40
1:G:107[C]:PHE:HD1	1:G:107[C]:PHE:HA	1.76	0.40
1:G:220[C]:MET:HE3	1:G:224[C]:LYS:HE3	2.04	0.40
1:H:317[C]:ALA:C	1:H:318[C]:ILE:HG23	2.47	0.40
1:I:85[C]:LEU:HD22	1:I:89[C]:MET:HG2	2.03	0.40
1:I:291[C]:GLU:O	1:I:292[C]:LEU:CD1	2.68	0.40
1:I:361[C]:HIS:CA	1:I:362[C]:PRO:C	2.94	0.40
1:I:383[C]:VAL:O	1:I:383[C]:VAL:CG1	2.66	0.40
1:I:406[C]:ILE:HG23	1:I:466[C]:ALA:HB2	2.04	0.40
1:J:59[C]:ASN:N	1:J:59[C]:ASN:ND2	2.68	0.40
1:J:62[C]:TYR:HD1	1:J:65[C]:MET:CE	2.31	0.40
1:J:122[C]:THR:OG1	1:J:128[C]:THR:HG22	2.22	0.40
1:J:448[C]:VAL:HG12	1:J:449[C]:CYS:N	2.35	0.40
2:L:166[C]:LEU:HD23	2:L:166[C]:LEU:HA	1.88	0.40
1:B:16[A]:PRO:C	1:B:18[A]:GLY:H	2.30	0.40
1:B:166[A]:VAL:HG22	1:B:274[A]:LEU:O	2.22	0.40
1:B:311[A]:LYS:O	1:B:313[A]:PRO:HD3	2.21	0.40
1:C:467[A]:SER:OG	1:C:468[A]:PHE:N	2.55	0.40
1:H:71[A]:PHE:HD2	1:H:78[A]:MET:CE	2.35	0.40
1:I:289[A]:LEU:HD12	1:I:289[A]:LEU:N	2.33	0.40
2:K:132[A]:SER:O	2:K:135[A]:ALA:N	2.54	0.40
2:L:166[A]:LEU:HA	2:L:166[A]:LEU:HD23	1.84	0.40
2:M:152[A]:THR:O	2:M:157[A]:ILE:O	2.40	0.40
1:B:16[C]:PRO:C	1:B:18[C]:GLY:H	2.30	0.40
1:B:166[C]:VAL:HG22	1:B:274[C]:LEU:O	2.22	0.40
1:B:311[C]:LYS:O	1:B:313[C]:PRO:HD3	2.21	0.40
1:C:467[C]:SER:OG	1:C:468[C]:PHE:N	2.55	0.40
1:H:71[C]:PHE:HD2	1:H:78[C]:MET:CE	2.35	0.40
1:I:289[C]:LEU:HD12	1:I:289[C]:LEU:N	2.33	0.40
2:K:158[C]:PHE:HZ	2:K:166[C]:LEU:HD23	1.85	0.40
1:A:74[A]:ARG:HH21	1:B:59[A]:ASN:ND2	2.18	0.40
1:A:452[A]:HIS:HA	1:A:453[A]:PRO:HA	1.76	0.40
1:B:39[A]:GLU:CD	1:B:39[A]:GLU:N	2.66	0.40
1:B:78[A]:MET:HB2	1:B:78[A]:MET:HE3	1.39	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:149[A]:GLY:HA3	3:B:4751[A]:FAD:C5B	2.51	0.40
1:B:309[A]:GLN:HG2	1:B:316[A]:TYR:CE2	2.55	0.40
1:D:297[A]:ASP:CB	1:D:298[A]:PRO:HD2	2.47	0.40
1:E:85[A]:LEU:CD1	1:E:176[A]:LYS:HA	2.52	0.40
1:E:461[A]:GLU:OE1	1:E:472[A]:ILE:HG22	2.21	0.40
1:F:445[A]:ILE:HG21	1:F:463[A]:ASN:ND2	2.36	0.40
1:G:244[A]:THR:OG1	1:G:257[A]:SER:HB2	2.21	0.40
1:G:367[A]:VAL:HG22	1:G:436[A]:LEU:CD2	2.52	0.40
1:I:336[A]:ILE:HG22	1:I:337[A]:ILE:CG2	2.48	0.40
1:I:452[A]:HIS:HA	1:I:453[A]:PRO:HA	1.60	0.40
2:N:133[A]:PRO:O	2:N:136[A]:ARG:CG	2.69	0.40
1:A:74[C]:ARG:HH21	1:B:59[C]:ASN:ND2	2.18	0.40
1:A:452[C]:HIS:HA	1:A:453[C]:PRO:HA	1.76	0.40
3:A:4751[C]:FAD:C5B	1:B:149[C]:GLY:HA3	2.51	0.40
1:B:39[C]:GLU:CD	1:B:39[C]:GLU:N	2.66	0.40
1:B:78[C]:MET:HB2	1:B:78[C]:MET:HE3	1.39	0.40
1:B:309[C]:GLN:HG2	1:B:316[C]:TYR:CE2	2.55	0.40
1:D:297[C]:ASP:CB	1:D:298[C]:PRO:HD2	2.47	0.40
1:E:85[C]:LEU:CD1	1:E:176[C]:LYS:HA	2.52	0.40
1:E:461[C]:GLU:OE1	1:E:472[C]:ILE:HG22	2.21	0.40
1:F:445[C]:ILE:HG21	1:F:463[C]:ASN:ND2	2.36	0.40
1:G:244[C]:THR:OG1	1:G:257[C]:SER:HB2	2.21	0.40
1:G:367[C]:VAL:HG22	1:G:436[C]:LEU:CD2	2.52	0.40
1:I:336[C]:ILE:HG22	1:I:337[C]:ILE:CG2	2.48	0.40
1:I:452[C]:HIS:HA	1:I:453[C]:PRO:HA	1.60	0.40
2:M:157[C]:ILE:H	2:M:157[C]:ILE:HG13	1.52	0.40
1:C:183[A]:VAL:O	1:C:206[A]:ALA:HA	2.22	0.40
1:D:15[A]:GLY:CA	1:D:43[A]:GLY:HA3	2.51	0.40
1:D:253[A]:LYS:HE2	1:D:272[A]:ASP:OD1	2.22	0.40
1:D:363[A]:GLU:HB2	1:D:425[A]:ALA:HB3	2.02	0.40
1:E:349[A]:ILE:HD13	1:E:351[A]:TYR:CZ	2.57	0.40
3:E:4754[A]:FAD:H9	3:E:4754[A]:FAD:H1'1	1.92	0.40
1:F:302[A]:ILE:HG13	1:F:321[A]:VAL:HG22	2.03	0.40
1:F:351[A]:TYR:O	1:F:354[A]:VAL:HG12	2.22	0.40
1:G:212[A]:HIS:ND1	1:G:212[A]:HIS:C	2.80	0.40
1:G:305[A]:ASN:HD21	1:G:309[A]:GLN:HE21	1.70	0.40
1:H:50[A]:CYS:SG	3:H:4757[A]:FAD:C4X	3.09	0.40
1:H:155[A]:PHE:CB	1:H:278[A]:ILE:HD11	2.52	0.40
1:I:446[A]:ALA:HB1	1:I:464[A]:LEU:HD12	2.03	0.40
1:J:299[A]:ARG:HH11	1:J:301[A]:ARG:NH2	2.19	0.40
2:L:158[A]:PHE:CZ	2:L:166[A]:LEU:HD12	2.56	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:183[C]:VAL:O	1:C:206[C]:ALA:HA	2.22	0.40
1:D:15[C]:GLY:CA	1:D:43[C]:GLY:HA3	2.51	0.40
1:D:253[C]:LYS:HE2	1:D:272[C]:ASP:OD1	2.22	0.40
1:D:363[C]:GLU:HB2	1:D:425[C]:ALA:HB3	2.02	0.40
3:D:4754[C]:FAD:H9	3:D:4754[C]:FAD:H1'1	1.92	0.40
1:E:349[C]:ILE:HD13	1:E:351[C]:TYR:CZ	2.57	0.40
1:F:302[C]:ILE:HG13	1:F:321[C]:VAL:HG22	2.03	0.40
1:F:351[C]:TYR:O	1:F:354[C]:VAL:HG12	2.22	0.40
1:G:212[C]:HIS:ND1	1:G:212[C]:HIS:C	2.80	0.40
1:G:305[C]:ASN:HD21	1:G:309[C]:GLN:HE21	1.70	0.40
3:G:4757[C]:FAD:C4X	1:H:50[C]:CYS:SG	3.09	0.40
1:H:155[C]:PHE:CB	1:H:278[C]:ILE:HD11	2.52	0.40
1:I:446[C]:ALA:HB1	1:I:464[C]:LEU:HD12	2.03	0.40
1:J:299[C]:ARG:HH11	1:J:301[C]:ARG:NH2	2.19	0.40

There are no symmetry-related clashes.

4.3 Torsion angles [i](#)

4.3.1 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	1-A	473/474 (100%)	426 (90%)	40 (8%)	7 (2%)	8	18
1	1-B	473/474 (100%)	418 (88%)	47 (10%)	8 (2%)	7	15
1	1-C	473/474 (100%)	434 (92%)	32 (7%)	7 (2%)	8	18
1	1-D	473/474 (100%)	418 (88%)	41 (9%)	14 (3%)	3	6
1	1-E	473/474 (100%)	436 (92%)	33 (7%)	4 (1%)	16	34
1	1-F	473/474 (100%)	425 (90%)	43 (9%)	5 (1%)	11	25
1	1-G	473/474 (100%)	425 (90%)	40 (8%)	8 (2%)	7	15
1	1-H	473/474 (100%)	431 (91%)	33 (7%)	9 (2%)	6	13
1	1-I	473/474 (100%)	406 (86%)	51 (11%)	16 (3%)	3	4

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	1-J	473/474 (100%)	399 (84%)	57 (12%)	17 (4%)	2	4
1	2-A	473/474 (100%)	426 (90%)	40 (8%)	7 (2%)	8	18
1	2-B	473/474 (100%)	418 (88%)	47 (10%)	8 (2%)	7	15
1	2-C	473/474 (100%)	434 (92%)	32 (7%)	7 (2%)	8	18
1	2-D	473/474 (100%)	418 (88%)	41 (9%)	14 (3%)	3	6
1	2-E	473/474 (100%)	436 (92%)	33 (7%)	4 (1%)	16	34
1	2-F	473/474 (100%)	425 (90%)	43 (9%)	5 (1%)	11	25
1	2-G	473/474 (100%)	425 (90%)	40 (8%)	8 (2%)	7	15
1	2-H	473/474 (100%)	431 (91%)	33 (7%)	9 (2%)	6	13
1	2-I	473/474 (100%)	406 (86%)	51 (11%)	16 (3%)	3	4
1	2-J	473/474 (100%)	399 (84%)	57 (12%)	17 (4%)	2	4
2	1-K	42/229 (18%)	28 (67%)	9 (21%)	5 (12%)	0	0
2	1-L	42/229 (18%)	28 (67%)	6 (14%)	8 (19%)	0	0
2	1-M	42/229 (18%)	31 (74%)	8 (19%)	3 (7%)	1	1
2	1-N	42/229 (18%)	33 (79%)	7 (17%)	2 (5%)	2	2
2	1-O	42/229 (18%)	31 (74%)	8 (19%)	3 (7%)	1	1
2	2-K	40/229 (18%)	31 (78%)	6 (15%)	3 (8%)	1	1
2	2-L	40/229 (18%)	26 (65%)	10 (25%)	4 (10%)	0	0
2	2-M	41/229 (18%)	30 (73%)	8 (20%)	3 (7%)	1	1
2	2-N	40/229 (18%)	26 (65%)	7 (18%)	7 (18%)	0	0
All	All	9831/11541 (85%)	8700 (88%)	903 (9%)	228 (2%)	5	9

All (228) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	1-A	263[A]	GLY
1	1-B	2[A]	ASP
1	1-B	79[A]	SER
1	1-B	262[A]	SER
1	1-B	413[A]	ASP
1	1-C	2[A]	ASP
1	1-C	79[A]	SER
1	1-D	132[A]	ALA
1	1-D	263[A]	GLY
1	1-E	263[A]	GLY

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Mol	Chain	Res	Type
1	1-F	79[A]	SER
1	1-F	124[A]	LYS
1	1-G	50[A]	CYS
1	1-G	50[B]	CYS
1	1-G	344[A]	GLY
1	1-H	263[A]	GLY
1	1-I	124[A]	LYS
1	1-I	266[A]	ALA
1	1-I	267[A]	GLU
1	1-I	373[A]	GLN
1	1-I	397[A]	ASN
1	1-J	136[A]	THR
1	1-J	440[A]	ALA
2	1-K	154[A]	PRO
2	1-K	172[A]	THR
2	1-L	140[A]	GLU
2	1-L	143[A]	SER
1	2-A	263[C]	GLY
1	2-B	2[C]	ASP
1	2-B	79[C]	SER
1	2-B	262[C]	SER
1	2-B	413[C]	ASP
1	2-C	2[C]	ASP
1	2-C	79[C]	SER
1	2-D	132[C]	ALA
1	2-D	263[C]	GLY
1	2-E	263[C]	GLY
1	2-F	79[C]	SER
1	2-F	124[C]	LYS
1	2-G	50[C]	CYS
1	2-G	50[D]	CYS
1	2-G	344[C]	GLY
1	2-H	263[C]	GLY
1	2-I	124[C]	LYS
1	2-I	266[C]	ALA
1	2-I	267[C]	GLU
1	2-I	373[C]	GLN
1	2-I	397[C]	ASN
1	2-J	136[C]	THR
1	2-J	440[C]	ALA
2	2-K	154[C]	PRO
2	2-L	148[C]	GLN

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Mol	Chain	Res	Type
2	2-L	154[C]	PRO
2	2-M	154[C]	PRO
2	2-N	138[C]	ILE
2	2-N	149[C]	GLY
2	2-N	154[C]	PRO
2	2-N	156[C]	GLY
1	1-A	2[A]	ASP
1	1-A	50[A]	CYS
1	1-A	50[B]	CYS
1	1-A	429[A]	VAL
1	1-B	134[A]	GLY
1	1-B	291[A]	GLU
1	1-C	215[A]	GLY
1	1-C	263[A]	GLY
1	1-D	215[A]	GLY
1	1-E	202[A]	ALA
1	1-H	259[A]	GLU
1	1-H	262[A]	SER
1	1-I	263[A]	GLY
1	1-I	377[A]	GLU
1	1-I	469[A]	GLY
1	1-J	132[A]	ALA
1	1-J	253[A]	LYS
1	1-J	310[A]	THR
2	1-K	153[A]	GLY
2	1-L	167[A]	VAL
2	1-N	143[A]	SER
2	1-O	139[A]	LEU
1	2-A	2[C]	ASP
1	2-A	50[C]	CYS
1	2-A	50[D]	CYS
1	2-A	429[C]	VAL
1	2-B	134[C]	GLY
1	2-B	291[C]	GLU
1	2-C	215[C]	GLY
1	2-C	263[C]	GLY
1	2-D	215[C]	GLY
1	2-E	202[C]	ALA
1	2-H	259[C]	GLU
1	2-H	262[C]	SER
1	2-I	263[C]	GLY
1	2-I	377[C]	GLU

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Mol	Chain	Res	Type
1	2-I	469[C]	GLY
1	2-J	132[C]	ALA
1	2-J	253[C]	LYS
1	2-J	310[C]	THR
2	2-K	143[C]	SER
2	2-M	143[C]	SER
2	2-M	155[C]	ARG
2	2-N	148[C]	GLN
2	2-N	169[C]	LEU
1	1-A	79[A]	SER
1	1-C	124[A]	LYS
1	1-D	136[A]	THR
1	1-D	360[A]	THR
1	1-D	468[A]	PHE
1	1-G	266[A]	ALA
1	1-I	285[A]	LYS
1	1-J	79[A]	SER
1	1-J	109[A]	GLN
1	1-J	110[A]	ASN
1	1-J	120[A]	LYS
1	1-J	467[A]	SER
2	1-L	154[A]	PRO
2	1-L	166[A]	LEU
2	1-M	133[A]	PRO
2	1-M	150[A]	THR
2	1-N	147[A]	SER
1	2-A	79[C]	SER
1	2-C	124[C]	LYS
1	2-D	136[C]	THR
1	2-D	360[C]	THR
1	2-D	468[C]	PHE
1	2-G	266[C]	ALA
1	2-I	285[C]	LYS
1	2-J	79[C]	SER
1	2-J	109[C]	GLN
1	2-J	110[C]	ASN
1	2-J	120[C]	LYS
1	2-J	467[C]	SER
2	2-L	169[C]	LEU
1	1-C	174[A]	LEU
1	1-D	131[A]	LYS
1	1-D	456[A]	SER

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Mol	Chain	Res	Type
1	1-F	48[A]	VAL
1	1-G	259[A]	GLU
1	1-H	70[A]	ASP
1	1-H	79[A]	SER
1	1-I	262[A]	SER
1	1-I	313[A]	PRO
1	1-I	372[A]	GLU
2	1-K	148[A]	GLN
2	1-L	133[A]	PRO
2	1-O	154[A]	PRO
1	2-C	174[C]	LEU
1	2-D	131[C]	LYS
1	2-D	456[C]	SER
1	2-F	48[C]	VAL
1	2-G	259[C]	GLU
1	2-H	70[C]	ASP
1	2-H	79[C]	SER
1	2-I	262[C]	SER
1	2-I	313[C]	PRO
1	2-I	372[C]	GLU
1	1-B	50[A]	CYS
1	1-B	50[B]	CYS
1	1-D	3[A]	GLN
1	1-D	45[A]	CYS
1	1-D	262[A]	SER
1	1-G	134[A]	GLY
1	1-G	263[A]	GLY
1	1-H	215[A]	GLY
1	1-H	345[A]	GLY
1	1-I	48[A]	VAL
1	1-I	297[A]	ASP
1	1-J	130[A]	THR
1	1-J	131[A]	LYS
1	1-J	162[A]	GLU
2	1-K	171[A]	GLN
2	1-L	139[A]	LEU
2	1-M	154[A]	PRO
1	2-B	50[C]	CYS
1	2-B	50[D]	CYS
1	2-D	3[C]	GLN
1	2-D	45[C]	CYS
1	2-D	262[C]	SER

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Mol	Chain	Res	Type
1	2-G	134[C]	GLY
1	2-G	263[C]	GLY
1	2-H	215[C]	GLY
1	2-H	345[C]	GLY
1	2-I	48[C]	VAL
1	2-I	297[C]	ASP
1	2-J	130[C]	THR
1	2-J	131[C]	LYS
1	2-J	162[C]	GLU
2	2-L	165[C]	LYS
2	2-N	170[C]	LYS
1	1-A	433[A]	ALA
1	1-C	48[A]	VAL
1	1-D	134[A]	GLY
1	1-D	347[A]	VAL
1	1-F	263[A]	GLY
1	1-H	48[A]	VAL
1	1-H	91[A]	GLN
1	1-I	360[A]	THR
1	1-J	347[A]	VAL
2	1-L	155[A]	ARG
1	2-A	433[C]	ALA
1	2-C	48[C]	VAL
1	2-D	134[C]	GLY
1	2-D	347[C]	VAL
1	2-F	263[C]	GLY
1	2-H	48[C]	VAL
1	2-H	91[C]	GLN
1	2-I	360[C]	THR
1	2-J	347[C]	VAL
1	1-E	4[A]	PRO
1	1-G	135[A]	GLY
1	1-J	263[A]	GLY
2	1-O	156[A]	GLY
1	2-E	4[C]	PRO
1	2-G	135[C]	GLY
1	2-J	263[C]	GLY
1	1-I	4[A]	PRO
1	2-I	4[C]	PRO
2	2-K	133[C]	PRO
1	1-D	297[A]	ASP
1	1-J	215[A]	GLY

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Mol	Chain	Res	Type
1	2-D	297[C]	ASP
1	2-J	215[C]	GLY
1	1-E	48[A]	VAL
1	1-F	345[A]	GLY
1	2-E	48[C]	VAL
1	2-F	345[C]	GLY
1	1-J	156[A]	PRO
1	2-J	156[C]	PRO

4.3.2 Protein sidechains ⓘ

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	1-A	374/373 (100%)	291 (78%)	83 (22%)	1	2
1	1-B	374/373 (100%)	306 (82%)	68 (18%)	2	3
1	1-C	374/373 (100%)	312 (83%)	62 (17%)	2	4
1	1-D	374/373 (100%)	285 (76%)	89 (24%)	1	1
1	1-E	374/373 (100%)	304 (81%)	70 (19%)	1	3
1	1-F	374/373 (100%)	303 (81%)	71 (19%)	1	2
1	1-G	374/373 (100%)	297 (79%)	77 (21%)	1	2
1	1-H	374/373 (100%)	297 (79%)	77 (21%)	1	2
1	1-I	374/373 (100%)	302 (81%)	72 (19%)	1	2
1	1-J	374/373 (100%)	287 (77%)	87 (23%)	1	1
2	1-K	35/195 (18%)	28 (80%)	7 (20%)	1	2
2	1-L	35/195 (18%)	22 (63%)	13 (37%)	0	0
2	1-M	35/195 (18%)	24 (69%)	11 (31%)	0	0
2	1-N	35/195 (18%)	29 (83%)	6 (17%)	2	3
2	1-O	35/195 (18%)	29 (83%)	6 (17%)	2	3
All	All	3915/4705 (83%)	3116 (80%)	799 (20%)	1	2

All (799) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	1-A	3[A]	GLN
1	1-A	19[A]	TYR
1	1-A	20[A]	VAL
1	1-A	24[A]	LYS
1	1-A	31[A]	LYS
1	1-A	33[A]	VAL
1	1-A	44[A]	THR
1	1-A	46[A]	LEU
1	1-A	54[A]	LYS
1	1-A	56[A]	LEU
1	1-A	69[A]	LYS
1	1-A	77[A]	GLU
1	1-A	78[A]	MET
1	1-A	79[A]	SER
1	1-A	80[A]	GLU
1	1-A	83[A]	LEU
1	1-A	84[A]	ASN
1	1-A	85[A]	LEU
1	1-A	86[A]	ASP
1	1-A	92[A]	LYS
1	1-A	93[A]	SER
1	1-A	97[A]	LYS
1	1-A	99[A]	LEU
1	1-A	136[A]	THR
1	1-A	137[A]	GLN
1	1-A	139[A]	ILE
1	1-A	142[A]	LYS
1	1-A	159[A]	THR
1	1-A	162[A]	GLU
1	1-A	164[A]	THR
1	1-A	165[A]	ILE
1	1-A	166[A]	VAL
1	1-A	174[A]	LEU
1	1-A	180[A]	LYS
1	1-A	200[A]	LEU
1	1-A	203[A]	ASP
1	1-A	204[A]	VAL
1	1-A	207[A]	VAL
1	1-A	216[A]	VAL
1	1-A	218[A]	ILE
1	1-A	222[A]	ILE
1	1-A	224[A]	LYS
1	1-A	230[A]	LEU

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Mol	Chain	Res	Type
1	1-A	236[A]	LYS
1	1-A	238[A]	LYS
1	1-A	242[A]	LYS
1	1-A	243[A]	VAL
1	1-A	247[A]	THR
1	1-A	248[A]	LYS
1	1-A	250[A]	SER
1	1-A	254[A]	ILE
1	1-A	256[A]	VAL
1	1-A	262[A]	SER
1	1-A	278[A]	ILE
1	1-A	281[A]	ARG
1	1-A	284[A]	THR
1	1-A	287[A]	LEU
1	1-A	290[A]	GLU
1	1-A	291[A]	GLU
1	1-A	292[A]	LEU
1	1-A	297[A]	ASP
1	1-A	311[A]	LYS
1	1-A	316[A]	TYR
1	1-A	322[A]	VAL
1	1-A	333[A]	ASP
1	1-A	336[A]	ILE
1	1-A	337[A]	ILE
1	1-A	349[A]	ILE
1	1-A	352[A]	ASN
1	1-A	358[A]	ILE
1	1-A	383[A]	VAL
1	1-A	397[A]	ASN
1	1-A	409[A]	GLN
1	1-A	412[A]	THR
1	1-A	429[A]	VAL
1	1-A	437[A]	GLU
1	1-A	443[A]	GLU
1	1-A	445[A]	ILE
1	1-A	447[A]	ARG
1	1-A	455[A]	LEU
1	1-A	456[A]	SER
1	1-A	457[A]	GLU
1	1-A	470[A]	LYS
1	1-B	5[A]	ILE
1	1-B	6[A]	ASP

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Mol	Chain	Res	Type
1	1-B	9[A]	VAL
1	1-B	27[A]	GLN
1	1-B	28[A]	LEU
1	1-B	32[A]	THR
1	1-B	39[A]	GLU
1	1-B	54[A]	LYS
1	1-B	69[A]	LYS
1	1-B	77[A]	GLU
1	1-B	79[A]	SER
1	1-B	82[A]	ARG
1	1-B	83[A]	LEU
1	1-B	108[A]	LYS
1	1-B	111[A]	LYS
1	1-B	124[A]	LYS
1	1-B	137[A]	GLN
1	1-B	141[A]	THR
1	1-B	142[A]	LYS
1	1-B	144[A]	ILE
1	1-B	162[A]	GLU
1	1-B	163[A]	ASP
1	1-B	164[A]	THR
1	1-B	172[A]	LEU
1	1-B	174[A]	LEU
1	1-B	180[A]	LYS
1	1-B	200[A]	LEU
1	1-B	204[A]	VAL
1	1-B	218[A]	ILE
1	1-B	220[A]	MET
1	1-B	221[A]	GLU
1	1-B	222[A]	ILE
1	1-B	224[A]	LYS
1	1-B	238[A]	LYS
1	1-B	240[A]	ASN
1	1-B	243[A]	VAL
1	1-B	247[A]	THR
1	1-B	248[A]	LYS
1	1-B	249[A]	LYS
1	1-B	250[A]	SER
1	1-B	253[A]	LYS
1	1-B	255[A]	ASP
1	1-B	262[A]	SER
1	1-B	275[A]	LEU

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Mol	Chain	Res	Type
1	1-B	281[A]	ARG
1	1-B	289[A]	LEU
1	1-B	297[A]	ASP
1	1-B	305[A]	ASN
1	1-B	312[A]	ILE
1	1-B	318[A]	ILE
1	1-B	337[A]	ILE
1	1-B	339[A]	VAL
1	1-B	349[A]	ILE
1	1-B	354[A]	VAL
1	1-B	369[A]	LYS
1	1-B	372[A]	GLU
1	1-B	374[A]	LEU
1	1-B	380[A]	GLU
1	1-B	383[A]	VAL
1	1-B	400[A]	THR
1	1-B	403[A]	MET
1	1-B	406[A]	ILE
1	1-B	409[A]	GLN
1	1-B	414[A]	ARG
1	1-B	447[A]	ARG
1	1-B	455[A]	LEU
1	1-B	468[A]	PHE
1	1-B	470[A]	LYS
1	1-C	3[A]	GLN
1	1-C	19[A]	TYR
1	1-C	20[A]	VAL
1	1-C	32[A]	THR
1	1-C	33[A]	VAL
1	1-C	40[A]	THR
1	1-C	44[A]	THR
1	1-C	53[A]	SER
1	1-C	54[A]	LYS
1	1-C	69[A]	LYS
1	1-C	80[A]	GLU
1	1-C	82[A]	ARG
1	1-C	85[A]	LEU
1	1-C	87[A]	LYS
1	1-C	89[A]	MET
1	1-C	96[A]	VAL
1	1-C	97[A]	LYS
1	1-C	99[A]	LEU

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Mol	Chain	Res	Type
1	1-C	111[A]	LYS
1	1-C	120[A]	LYS
1	1-C	126[A]	GLN
1	1-C	131[A]	LYS
1	1-C	137[A]	GLN
1	1-C	139[A]	ILE
1	1-C	145[A]	LEU
1	1-C	160[A]	ILE
1	1-C	162[A]	GLU
1	1-C	169[A]	THR
1	1-C	174[A]	LEU
1	1-C	180[A]	LYS
1	1-C	182[A]	VAL
1	1-C	200[A]	LEU
1	1-C	203[A]	ASP
1	1-C	208[A]	GLU
1	1-C	210[A]	LEU
1	1-C	222[A]	ILE
1	1-C	224[A]	LYS
1	1-C	230[A]	LEU
1	1-C	239[A]	LEU
1	1-C	242[A]	LYS
1	1-C	244[A]	THR
1	1-C	247[A]	THR
1	1-C	249[A]	LYS
1	1-C	258[A]	ILE
1	1-C	269[A]	ILE
1	1-C	275[A]	LEU
1	1-C	281[A]	ARG
1	1-C	285[A]	LYS
1	1-C	290[A]	GLU
1	1-C	291[A]	GLU
1	1-C	297[A]	ASP
1	1-C	306[A]	THR
1	1-C	311[A]	LYS
1	1-C	322[A]	VAL
1	1-C	330[A]	LYS
1	1-C	358[A]	ILE
1	1-C	383[A]	VAL
1	1-C	414[A]	ARG
1	1-C	437[A]	GLU
1	1-C	445[A]	ILE

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Mol	Chain	Res	Type
1	1-C	447[A]	ARG
1	1-C	455[A]	LEU
1	1-D	6[A]	ASP
1	1-D	8[A]	ASP
1	1-D	19[A]	TYR
1	1-D	28[A]	LEU
1	1-D	32[A]	THR
1	1-D	33[A]	VAL
1	1-D	39[A]	GLU
1	1-D	44[A]	THR
1	1-D	50[A]	CYS
1	1-D	50[B]	CYS
1	1-D	54[A]	LYS
1	1-D	77[A]	GLU
1	1-D	78[A]	MET
1	1-D	82[A]	ARG
1	1-D	83[A]	LEU
1	1-D	87[A]	LYS
1	1-D	91[A]	GLN
1	1-D	97[A]	LYS
1	1-D	108[A]	LYS
1	1-D	111[A]	LYS
1	1-D	112[A]	VAL
1	1-D	120[A]	LYS
1	1-D	121[A]	ILE
1	1-D	130[A]	THR
1	1-D	133[A]	ASP
1	1-D	144[A]	ILE
1	1-D	145[A]	LEU
1	1-D	151[A]	GLU
1	1-D	152[A]	VAL
1	1-D	153[A]	THR
1	1-D	158[A]	ILE
1	1-D	159[A]	THR
1	1-D	162[A]	GLU
1	1-D	165[A]	ILE
1	1-D	166[A]	VAL
1	1-D	169[A]	THR
1	1-D	172[A]	LEU
1	1-D	174[A]	LEU
1	1-D	183[A]	VAL
1	1-D	188[A]	VAL

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Mol	Chain	Res	Type
1	1-D	191[A]	VAL
1	1-D	195[A]	SER
1	1-D	200[A]	LEU
1	1-D	204[A]	VAL
1	1-D	213[A]	VAL
1	1-D	216[A]	VAL
1	1-D	218[A]	ILE
1	1-D	224[A]	LYS
1	1-D	235[A]	PHE
1	1-D	243[A]	VAL
1	1-D	248[A]	LYS
1	1-D	253[A]	LYS
1	1-D	254[A]	ILE
1	1-D	255[A]	ASP
1	1-D	269[A]	ILE
1	1-D	270[A]	THR
1	1-D	275[A]	LEU
1	1-D	281[A]	ARG
1	1-D	284[A]	THR
1	1-D	292[A]	LEU
1	1-D	294[A]	ILE
1	1-D	296[A]	LEU
1	1-D	305[A]	ASN
1	1-D	311[A]	LYS
1	1-D	312[A]	ILE
1	1-D	316[A]	TYR
1	1-D	318[A]	ILE
1	1-D	321[A]	VAL
1	1-D	333[A]	ASP
1	1-D	340[A]	GLU
1	1-D	342[A]	MET
1	1-D	354[A]	VAL
1	1-D	356[A]	SER
1	1-D	369[A]	LYS
1	1-D	372[A]	GLU
1	1-D	374[A]	LEU
1	1-D	376[A]	GLU
1	1-D	377[A]	GLU
1	1-D	382[A]	LYS
1	1-D	383[A]	VAL
1	1-D	385[A]	LYS
1	1-D	393[A]	ARG

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Mol	Chain	Res	Type
1	1-D	403[A]	MET
1	1-D	410[A]	LYS
1	1-D	411[A]	SER
1	1-D	414[A]	ARG
1	1-D	416[A]	LEU
1	1-D	427[A]	GLU
1	1-D	470[A]	LYS
1	1-E	6[A]	ASP
1	1-E	19[A]	TYR
1	1-E	20[A]	VAL
1	1-E	33[A]	VAL
1	1-E	39[A]	GLU
1	1-E	54[A]	LYS
1	1-E	56[A]	LEU
1	1-E	69[A]	LYS
1	1-E	74[A]	ARG
1	1-E	77[A]	GLU
1	1-E	78[A]	MET
1	1-E	79[A]	SER
1	1-E	84[A]	ASN
1	1-E	85[A]	LEU
1	1-E	90[A]	GLU
1	1-E	94[A]	THR
1	1-E	97[A]	LYS
1	1-E	99[A]	LEU
1	1-E	108[A]	LYS
1	1-E	109[A]	GLN
1	1-E	131[A]	LYS
1	1-E	137[A]	GLN
1	1-E	145[A]	LEU
1	1-E	162[A]	GLU
1	1-E	164[A]	THR
1	1-E	169[A]	THR
1	1-E	176[A]	LYS
1	1-E	177[A]	VAL
1	1-E	179[A]	GLU
1	1-E	180[A]	LYS
1	1-E	182[A]	VAL
1	1-E	191[A]	VAL
1	1-E	200[A]	LEU
1	1-E	210[A]	LEU
1	1-E	222[A]	ILE

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Mol	Chain	Res	Type
1	1-E	224[A]	LYS
1	1-E	228[A]	ARG
1	1-E	229[A]	ILE
1	1-E	230[A]	LEU
1	1-E	236[A]	LYS
1	1-E	243[A]	VAL
1	1-E	247[A]	THR
1	1-E	254[A]	ILE
1	1-E	255[A]	ASP
1	1-E	256[A]	VAL
1	1-E	270[A]	THR
1	1-E	275[A]	LEU
1	1-E	278[A]	ILE
1	1-E	281[A]	ARG
1	1-E	291[A]	GLU
1	1-E	305[A]	ASN
1	1-E	306[A]	THR
1	1-E	311[A]	LYS
1	1-E	312[A]	ILE
1	1-E	318[A]	ILE
1	1-E	336[A]	ILE
1	1-E	349[A]	ILE
1	1-E	354[A]	VAL
1	1-E	358[A]	ILE
1	1-E	383[A]	VAL
1	1-E	392[A]	SER
1	1-E	409[A]	GLN
1	1-E	410[A]	LYS
1	1-E	412[A]	THR
1	1-E	420[A]	ILE
1	1-E	427[A]	GLU
1	1-E	436[A]	LEU
1	1-E	447[A]	ARG
1	1-E	455[A]	LEU
1	1-E	472[A]	ILE
1	1-F	5[A]	ILE
1	1-F	12[A]	ILE
1	1-F	19[A]	TYR
1	1-F	20[A]	VAL
1	1-F	32[A]	THR
1	1-F	33[A]	VAL
1	1-F	44[A]	THR

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Mol	Chain	Res	Type
1	1-F	48[A]	VAL
1	1-F	50[A]	CYS
1	1-F	50[B]	CYS
1	1-F	54[A]	LYS
1	1-F	69[A]	LYS
1	1-F	71[A]	PHE
1	1-F	84[A]	ASN
1	1-F	91[A]	GLN
1	1-F	94[A]	THR
1	1-F	116[A]	ASN
1	1-F	124[A]	LYS
1	1-F	130[A]	THR
1	1-F	142[A]	LYS
1	1-F	144[A]	ILE
1	1-F	151[A]	GLU
1	1-F	158[A]	ILE
1	1-F	159[A]	THR
1	1-F	162[A]	GLU
1	1-F	164[A]	THR
1	1-F	169[A]	THR
1	1-F	172[A]	LEU
1	1-F	175[A]	LYS
1	1-F	176[A]	LYS
1	1-F	179[A]	GLU
1	1-F	188[A]	VAL
1	1-F	210[A]	LEU
1	1-F	216[A]	VAL
1	1-F	218[A]	ILE
1	1-F	224[A]	LYS
1	1-F	238[A]	LYS
1	1-F	243[A]	VAL
1	1-F	247[A]	THR
1	1-F	253[A]	LYS
1	1-F	254[A]	ILE
1	1-F	257[A]	SER
1	1-F	258[A]	ILE
1	1-F	265[A]	LYS
1	1-F	270[A]	THR
1	1-F	275[A]	LEU
1	1-F	280[A]	ARG
1	1-F	281[A]	ARG
1	1-F	284[A]	THR

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Mol	Chain	Res	Type
1	1-F	289[A]	LEU
1	1-F	290[A]	GLU
1	1-F	295[A]	GLU
1	1-F	307[A]	ARG
1	1-F	309[A]	GLN
1	1-F	312[A]	ILE
1	1-F	315[A]	ILE
1	1-F	318[A]	ILE
1	1-F	339[A]	VAL
1	1-F	354[A]	VAL
1	1-F	364[A]	VAL
1	1-F	372[A]	GLU
1	1-F	374[A]	LEU
1	1-F	375[A]	LYS
1	1-F	376[A]	GLU
1	1-F	383[A]	VAL
1	1-F	406[A]	ILE
1	1-F	407[A]	LEU
1	1-F	414[A]	ARG
1	1-F	455[A]	LEU
1	1-F	464[A]	LEU
1	1-F	472[A]	ILE
1	1-G	2[A]	ASP
1	1-G	5[A]	ILE
1	1-G	20[A]	VAL
1	1-G	24[A]	LYS
1	1-G	32[A]	THR
1	1-G	33[A]	VAL
1	1-G	40[A]	THR
1	1-G	44[A]	THR
1	1-G	46[A]	LEU
1	1-G	54[A]	LYS
1	1-G	56[A]	LEU
1	1-G	69[A]	LYS
1	1-G	78[A]	MET
1	1-G	79[A]	SER
1	1-G	82[A]	ARG
1	1-G	84[A]	ASN
1	1-G	90[A]	GLU
1	1-G	91[A]	GLN
1	1-G	94[A]	THR
1	1-G	107[A]	PHE

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Mol	Chain	Res	Type
1	1-G	126[A]	GLN
1	1-G	130[A]	THR
1	1-G	131[A]	LYS
1	1-G	136[A]	THR
1	1-G	141[A]	THR
1	1-G	145[A]	LEU
1	1-G	151[A]	GLU
1	1-G	160[A]	ILE
1	1-G	162[A]	GLU
1	1-G	165[A]	ILE
1	1-G	180[A]	LYS
1	1-G	181[A]	MET
1	1-G	189[A]	ILE
1	1-G	191[A]	VAL
1	1-G	196[A]	VAL
1	1-G	200[A]	LEU
1	1-G	210[A]	LEU
1	1-G	222[A]	ILE
1	1-G	230[A]	LEU
1	1-G	239[A]	LEU
1	1-G	242[A]	LYS
1	1-G	248[A]	LYS
1	1-G	254[A]	ILE
1	1-G	258[A]	ILE
1	1-G	259[A]	GLU
1	1-G	265[A]	LYS
1	1-G	273[A]	VAL
1	1-G	274[A]	LEU
1	1-G	275[A]	LEU
1	1-G	278[A]	ILE
1	1-G	280[A]	ARG
1	1-G	281[A]	ARG
1	1-G	284[A]	THR
1	1-G	289[A]	LEU
1	1-G	292[A]	LEU
1	1-G	297[A]	ASP
1	1-G	299[A]	ARG
1	1-G	304[A]	VAL
1	1-G	306[A]	THR
1	1-G	307[A]	ARG
1	1-G	309[A]	GLN
1	1-G	314[A]	ASN

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Mol	Chain	Res	Type
1	1-G	322[A]	VAL
1	1-G	330[A]	LYS
1	1-G	349[A]	ILE
1	1-G	354[A]	VAL
1	1-G	358[A]	ILE
1	1-G	377[A]	GLU
1	1-G	383[A]	VAL
1	1-G	403[A]	MET
1	1-G	407[A]	LEU
1	1-G	420[A]	ILE
1	1-G	421[A]	LEU
1	1-G	436[A]	LEU
1	1-G	445[A]	ILE
1	1-G	455[A]	LEU
1	1-G	472[A]	ILE
1	1-H	5[A]	ILE
1	1-H	19[A]	TYR
1	1-H	23[A]	ILE
1	1-H	28[A]	LEU
1	1-H	32[A]	THR
1	1-H	41[A]	LEU
1	1-H	44[A]	THR
1	1-H	54[A]	LYS
1	1-H	69[A]	LYS
1	1-H	79[A]	SER
1	1-H	82[A]	ARG
1	1-H	83[A]	LEU
1	1-H	87[A]	LYS
1	1-H	91[A]	GLN
1	1-H	93[A]	SER
1	1-H	114[A]	HIS
1	1-H	124[A]	LYS
1	1-H	142[A]	LYS
1	1-H	144[A]	ILE
1	1-H	158[A]	ILE
1	1-H	164[A]	THR
1	1-H	165[A]	ILE
1	1-H	168[A]	SER
1	1-H	169[A]	THR
1	1-H	172[A]	LEU
1	1-H	174[A]	LEU
1	1-H	176[A]	LYS

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Mol	Chain	Res	Type
1	1-H	180[A]	LYS
1	1-H	191[A]	VAL
1	1-H	193[A]	LEU
1	1-H	195[A]	SER
1	1-H	200[A]	LEU
1	1-H	213[A]	VAL
1	1-H	216[A]	VAL
1	1-H	233[A]	GLN
1	1-H	241[A]	THR
1	1-H	242[A]	LYS
1	1-H	243[A]	VAL
1	1-H	249[A]	LYS
1	1-H	250[A]	SER
1	1-H	254[A]	ILE
1	1-H	255[A]	ASP
1	1-H	256[A]	VAL
1	1-H	257[A]	SER
1	1-H	262[A]	SER
1	1-H	265[A]	LYS
1	1-H	269[A]	ILE
1	1-H	270[A]	THR
1	1-H	285[A]	LYS
1	1-H	292[A]	LEU
1	1-H	301[A]	ARG
1	1-H	305[A]	ASN
1	1-H	307[A]	ARG
1	1-H	318[A]	ILE
1	1-H	330[A]	LYS
1	1-H	332[A]	GLU
1	1-H	347[A]	VAL
1	1-H	354[A]	VAL
1	1-H	360[A]	THR
1	1-H	363[A]	GLU
1	1-H	372[A]	GLU
1	1-H	374[A]	LEU
1	1-H	376[A]	GLU
1	1-H	383[A]	VAL
1	1-H	397[A]	ASN
1	1-H	400[A]	THR
1	1-H	403[A]	MET
1	1-H	406[A]	ILE
1	1-H	409[A]	GLN

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Mol	Chain	Res	Type
1	1-H	414[A]	ARG
1	1-H	415[A]	VAL
1	1-H	416[A]	LEU
1	1-H	454[A]	THR
1	1-H	455[A]	LEU
1	1-H	460[A]	ARG
1	1-H	464[A]	LEU
1	1-H	470[A]	LYS
1	1-I	6[A]	ASP
1	1-I	8[A]	ASP
1	1-I	11[A]	VAL
1	1-I	20[A]	VAL
1	1-I	23[A]	ILE
1	1-I	24[A]	LYS
1	1-I	27[A]	GLN
1	1-I	32[A]	THR
1	1-I	33[A]	VAL
1	1-I	35[A]	ILE
1	1-I	37[A]	LYS
1	1-I	38[A]	ASN
1	1-I	41[A]	LEU
1	1-I	54[A]	LYS
1	1-I	56[A]	LEU
1	1-I	69[A]	LYS
1	1-I	76[A]	ILE
1	1-I	85[A]	LEU
1	1-I	88[A]	MET
1	1-I	110[A]	ASN
1	1-I	111[A]	LYS
1	1-I	115[A]	VAL
1	1-I	121[A]	ILE
1	1-I	140[A]	ASP
1	1-I	141[A]	THR
1	1-I	142[A]	LYS
1	1-I	148[A]	THR
1	1-I	152[A]	VAL
1	1-I	162[A]	GLU
1	1-I	164[A]	THR
1	1-I	169[A]	THR
1	1-I	177[A]	VAL
1	1-I	180[A]	LYS
1	1-I	181[A]	MET

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Mol	Chain	Res	Type
1	1-I	182[A]	VAL
1	1-I	193[A]	LEU
1	1-I	195[A]	SER
1	1-I	208[A]	GLU
1	1-I	216[A]	VAL
1	1-I	218[A]	ILE
1	1-I	224[A]	LYS
1	1-I	230[A]	LEU
1	1-I	236[A]	LYS
1	1-I	247[A]	THR
1	1-I	249[A]	LYS
1	1-I	256[A]	VAL
1	1-I	268[A]	VAL
1	1-I	269[A]	ILE
1	1-I	272[A]	ASP
1	1-I	274[A]	LEU
1	1-I	275[A]	LEU
1	1-I	278[A]	ILE
1	1-I	284[A]	THR
1	1-I	289[A]	LEU
1	1-I	292[A]	LEU
1	1-I	295[A]	GLU
1	1-I	297[A]	ASP
1	1-I	333[A]	ASP
1	1-I	336[A]	ILE
1	1-I	337[A]	ILE
1	1-I	349[A]	ILE
1	1-I	354[A]	VAL
1	1-I	358[A]	ILE
1	1-I	392[A]	SER
1	1-I	400[A]	THR
1	1-I	403[A]	MET
1	1-I	407[A]	LEU
1	1-I	410[A]	LYS
1	1-I	414[A]	ARG
1	1-I	447[A]	ARG
1	1-I	455[A]	LEU
1	1-I	471[A]	SER
1	1-J	9[A]	VAL
1	1-J	12[A]	ILE
1	1-J	28[A]	LEU
1	1-J	33[A]	VAL

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Mol	Chain	Res	Type
1	1-J	35[A]	ILE
1	1-J	40[A]	THR
1	1-J	44[A]	THR
1	1-J	46[A]	LEU
1	1-J	50[A]	CYS
1	1-J	50[B]	CYS
1	1-J	59[A]	ASN
1	1-J	69[A]	LYS
1	1-J	74[A]	ARG
1	1-J	78[A]	MET
1	1-J	79[A]	SER
1	1-J	82[A]	ARG
1	1-J	83[A]	LEU
1	1-J	86[A]	ASP
1	1-J	91[A]	GLN
1	1-J	92[A]	LYS
1	1-J	94[A]	THR
1	1-J	97[A]	LYS
1	1-J	111[A]	LYS
1	1-J	113[A]	VAL
1	1-J	121[A]	ILE
1	1-J	122[A]	THR
1	1-J	124[A]	LYS
1	1-J	128[A]	THR
1	1-J	136[A]	THR
1	1-J	144[A]	ILE
1	1-J	146[A]	ILE
1	1-J	158[A]	ILE
1	1-J	164[A]	THR
1	1-J	169[A]	THR
1	1-J	172[A]	LEU
1	1-J	174[A]	LEU
1	1-J	176[A]	LYS
1	1-J	180[A]	LYS
1	1-J	189[A]	ILE
1	1-J	200[A]	LEU
1	1-J	204[A]	VAL
1	1-J	209[A]	PHE
1	1-J	216[A]	VAL
1	1-J	228[A]	ARG
1	1-J	232[A]	LYS
1	1-J	236[A]	LYS

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Mol	Chain	Res	Type
1	1-J	238[A]	LYS
1	1-J	243[A]	VAL
1	1-J	247[A]	THR
1	1-J	254[A]	ILE
1	1-J	256[A]	VAL
1	1-J	265[A]	LYS
1	1-J	269[A]	ILE
1	1-J	270[A]	THR
1	1-J	275[A]	LEU
1	1-J	278[A]	ILE
1	1-J	280[A]	ARG
1	1-J	281[A]	ARG
1	1-J	284[A]	THR
1	1-J	285[A]	LYS
1	1-J	290[A]	GLU
1	1-J	291[A]	GLU
1	1-J	294[A]	ILE
1	1-J	297[A]	ASP
1	1-J	305[A]	ASN
1	1-J	315[A]	ILE
1	1-J	316[A]	TYR
1	1-J	318[A]	ILE
1	1-J	321[A]	VAL
1	1-J	334[A]	GLU
1	1-J	336[A]	ILE
1	1-J	337[A]	ILE
1	1-J	354[A]	VAL
1	1-J	360[A]	THR
1	1-J	369[A]	LYS
1	1-J	372[A]	GLU
1	1-J	374[A]	LEU
1	1-J	393[A]	ARG
1	1-J	396[A]	THR
1	1-J	406[A]	ILE
1	1-J	413[A]	ASP
1	1-J	421[A]	LEU
1	1-J	436[A]	LEU
1	1-J	443[A]	GLU
1	1-J	455[A]	LEU
1	1-J	468[A]	PHE
1	1-J	470[A]	LYS
2	1-K	130[A]	ARG

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Mol	Chain	Res	Type
2	1-K	137[A]	ASN
2	1-K	141[A]	LYS
2	1-K	150[A]	THR
2	1-K	162[A]	ASP
2	1-K	167[A]	VAL
2	1-K	170[A]	LYS
2	1-L	131[A]	LEU
2	1-L	132[A]	SER
2	1-L	136[A]	ARG
2	1-L	141[A]	LYS
2	1-L	142[A]	HIS
2	1-L	144[A]	LEU
2	1-L	147[A]	SER
2	1-L	152[A]	THR
2	1-L	165[A]	LYS
2	1-L	169[A]	LEU
2	1-L	170[A]	LYS
2	1-L	171[A]	GLN
2	1-L	172[A]	THR
2	1-M	133[A]	PRO
2	1-M	138[A]	ILE
2	1-M	143[A]	SER
2	1-M	144[A]	LEU
2	1-M	145[A]	ASP
2	1-M	150[A]	THR
2	1-M	157[A]	ILE
2	1-M	160[A]	LYS
2	1-M	165[A]	LYS
2	1-M	170[A]	LYS
2	1-M	171[A]	GLN
2	1-N	145[A]	ASP
2	1-N	166[A]	LEU
2	1-N	167[A]	VAL
2	1-N	168[A]	GLN
2	1-N	170[A]	LYS
2	1-N	171[A]	GLN
2	1-O	131[A]	LEU
2	1-O	138[A]	ILE
2	1-O	142[A]	HIS
2	1-O	144[A]	LEU
2	1-O	162[A]	ASP
2	1-O	165[A]	LYS

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (175) such sidechains are listed below:

Mol	Chain	Res	Type
1	1-A	38[A]	ASN
1	1-A	58[A]	ASN
1	1-A	67[A]	HIS
1	1-A	84[A]	ASN
1	1-A	137[A]	GLN
1	1-A	212[A]	HIS
1	1-A	286[A]	ASN
1	1-A	361[A]	HIS
1	1-A	397[A]	ASN
1	1-A	409[A]	GLN
1	1-A	419[A]	HIS
1	1-A	430[A]	ASN
1	1-A	473[A]	ASN
1	1-B	27[A]	GLN
1	1-B	38[A]	ASN
1	1-B	58[A]	ASN
1	1-B	59[A]	ASN
1	1-B	61[A]	HIS
1	1-B	114[A]	HIS
1	1-B	116[A]	ASN
1	1-B	125[A]	ASN
1	1-B	126[A]	GLN
1	1-B	137[A]	GLN
1	1-B	227[A]	GLN
1	1-B	233[A]	GLN
1	1-B	286[A]	ASN
1	1-B	305[A]	ASN
1	1-B	309[A]	GLN
1	1-B	329[A]	HIS
1	1-B	391[A]	ASN
1	1-B	397[A]	ASN
1	1-B	409[A]	GLN
1	1-B	450[A]	HIS
1	1-B	452[A]	HIS
1	1-C	3[A]	GLN
1	1-C	38[A]	ASN
1	1-C	47[A]	ASN
1	1-C	58[A]	ASN
1	1-C	59[A]	ASN
1	1-C	110[A]	ASN
1	1-C	137[A]	GLN

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Mol	Chain	Res	Type
1	1-C	143[A]	ASN
1	1-C	233[A]	GLN
1	1-C	240[A]	ASN
1	1-C	309[A]	GLN
1	1-C	352[A]	ASN
1	1-C	361[A]	HIS
1	1-C	430[A]	ASN
1	1-D	3[A]	GLN
1	1-D	27[A]	GLN
1	1-D	38[A]	ASN
1	1-D	58[A]	ASN
1	1-D	59[A]	ASN
1	1-D	61[A]	HIS
1	1-D	91[A]	GLN
1	1-D	110[A]	ASN
1	1-D	143[A]	ASN
1	1-D	225[A]	ASN
1	1-D	231[A]	GLN
1	1-D	240[A]	ASN
1	1-D	286[A]	ASN
1	1-D	305[A]	ASN
1	1-D	309[A]	GLN
1	1-D	348[A]	HIS
1	1-D	409[A]	GLN
1	1-D	419[A]	HIS
1	1-D	430[A]	ASN
1	1-D	450[A]	HIS
1	1-D	473[A]	ASN
1	1-E	84[A]	ASN
1	1-E	109[A]	GLN
1	1-E	110[A]	ASN
1	1-E	116[A]	ASN
1	1-E	126[A]	GLN
1	1-E	137[A]	GLN
1	1-E	231[A]	GLN
1	1-E	305[A]	ASN
1	1-E	309[A]	GLN
1	1-E	314[A]	ASN
1	1-E	361[A]	HIS
1	1-E	409[A]	GLN
1	1-E	419[A]	HIS
1	1-E	430[A]	ASN

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Mol	Chain	Res	Type
1	1-E	463[A]	ASN
1	1-F	3[A]	GLN
1	1-F	27[A]	GLN
1	1-F	38[A]	ASN
1	1-F	47[A]	ASN
1	1-F	58[A]	ASN
1	1-F	61[A]	HIS
1	1-F	84[A]	ASN
1	1-F	91[A]	GLN
1	1-F	116[A]	ASN
1	1-F	137[A]	GLN
1	1-F	225[A]	ASN
1	1-F	227[A]	GLN
1	1-F	233[A]	GLN
1	1-F	240[A]	ASN
1	1-F	286[A]	ASN
1	1-F	314[A]	ASN
1	1-F	348[A]	HIS
1	1-F	373[A]	GLN
1	1-F	397[A]	ASN
1	1-F	430[A]	ASN
1	1-F	463[A]	ASN
1	1-G	27[A]	GLN
1	1-G	47[A]	ASN
1	1-G	61[A]	HIS
1	1-G	84[A]	ASN
1	1-G	125[A]	ASN
1	1-G	137[A]	GLN
1	1-G	143[A]	ASN
1	1-G	233[A]	GLN
1	1-G	286[A]	ASN
1	1-G	309[A]	GLN
1	1-G	314[A]	ASN
1	1-G	352[A]	ASN
1	1-G	409[A]	GLN
1	1-G	430[A]	ASN
1	1-G	450[A]	HIS
1	1-G	463[A]	ASN
1	1-H	27[A]	GLN
1	1-H	58[A]	ASN
1	1-H	59[A]	ASN
1	1-H	67[A]	HIS

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Mol	Chain	Res	Type
1	1-H	91[A]	GLN
1	1-H	225[A]	ASN
1	1-H	227[A]	GLN
1	1-H	231[A]	GLN
1	1-H	305[A]	ASN
1	1-H	352[A]	ASN
1	1-H	373[A]	GLN
1	1-H	397[A]	ASN
1	1-H	409[A]	GLN
1	1-H	450[A]	HIS
1	1-H	463[A]	ASN
1	1-H	473[A]	ASN
1	1-I	27[A]	GLN
1	1-I	64[A]	HIS
1	1-I	110[A]	ASN
1	1-I	126[A]	GLN
1	1-I	225[A]	ASN
1	1-I	231[A]	GLN
1	1-I	233[A]	GLN
1	1-I	286[A]	ASN
1	1-I	352[A]	ASN
1	1-I	409[A]	GLN
1	1-I	430[A]	ASN
1	1-I	463[A]	ASN
1	1-I	473[A]	ASN
1	1-J	27[A]	GLN
1	1-J	38[A]	ASN
1	1-J	58[A]	ASN
1	1-J	61[A]	HIS
1	1-J	91[A]	GLN
1	1-J	109[A]	GLN
1	1-J	110[A]	ASN
1	1-J	126[A]	GLN
1	1-J	143[A]	ASN
1	1-J	231[A]	GLN
1	1-J	305[A]	ASN
1	1-J	309[A]	GLN
1	1-J	352[A]	ASN
1	1-J	373[A]	GLN
1	1-J	397[A]	ASN
1	1-J	409[A]	GLN
1	1-J	430[A]	ASN

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Mol	Chain	Res	Type
1	1-J	473[A]	ASN
2	1-K	137[A]	ASN
2	1-K	148[A]	GLN
2	1-L	168[A]	GLN
2	1-M	142[A]	HIS
2	1-N	142[A]	HIS
2	1-N	168[A]	GLN
2	1-O	137[A]	ASN

4.3.3 RNA [i](#)

There are no RNA molecules in this entry.

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

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

4.5 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

4.6 Ligand geometry [i](#)

20 ligands are modelled in this entry.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\# Z > 2$	Counts	RMSZ	$\# Z > 2$
3	FAD	2-E	4755[C]	-	58,58,58	1.33	6 (10%)	85,89,89	1.82	23 (27%)
4	FAD	1-J	4759[A]	-	58,58,58	1.34	6 (10%)	85,89,89	1.82	22 (25%)
3	FAD	1-D	4753[A]	-	58,58,58	1.38	9 (15%)	85,89,89	1.66	13 (15%)
3	FAD	2-A	4751[C]	-	58,58,58	1.33	6 (10%)	85,89,89	1.81	22 (25%)
3	FAD	2-B	4752[C]	-	58,58,58	1.33	6 (10%)	85,89,89	1.82	22 (25%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
3	FAD	1-I	4758[A]	-	58,58,58	1.33	6 (10%)	85,89,89	1.81	22 (25%)
3	FAD	1-B	4751[A]	-	58,58,58	1.33	6 (10%)	85,89,89	1.81	22 (25%)
3	FAD	1-C	4752[A]	-	58,58,58	1.33	6 (10%)	85,89,89	1.82	22 (25%)
3	FAD	2-D	4754[C]	-	58,58,58	1.33	6 (10%)	85,89,89	1.82	22 (25%)
3	FAD	2-C	4753[C]	-	58,58,58	1.38	9 (15%)	85,89,89	1.66	13 (15%)
3	FAD	2-F	4756[C]	-	58,58,58	1.24	7 (12%)	85,89,89	1.69	18 (21%)
3	FAD	1-F	4755[A]	-	58,58,58	1.33	6 (10%)	85,89,89	1.82	23 (27%)
3	FAD	1-H	4757[A]	-	58,58,58	1.51	13 (22%)	85,89,89	1.93	19 (22%)
3	FAD	1-A	4750[A]	-	58,58,58	1.34	6 (10%)	85,89,89	1.82	22 (25%)
3	FAD	1-E	4754[A]	-	58,58,58	1.33	6 (10%)	85,89,89	1.82	22 (25%)
3	FAD	2-O	4750[C]	-	58,58,58	1.34	6 (10%)	85,89,89	1.82	22 (25%)
3	FAD	2-G	4757[C]	-	58,58,58	1.51	13 (22%)	85,89,89	1.93	19 (22%)
3	FAD	2-H	4758[C]	-	58,58,58	1.33	6 (10%)	85,89,89	1.81	22 (25%)
3	FAD	2-I	4759[C]	-	58,58,58	1.34	6 (10%)	85,89,89	1.82	22 (25%)
3	FAD	1-G	4756[A]	-	58,58,58	1.24	7 (12%)	85,89,89	1.69	18 (21%)

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
3	FAD	2-E	4755[C]	-	-	1/34/50/50	0/6/6/6
4	FAD	1-J	4759[A]	-	-	1/34/50/50	0/6/6/6
3	FAD	1-D	4753[A]	-	-	3/34/50/50	0/6/6/6
3	FAD	2-A	4751[C]	-	-	1/34/50/50	0/6/6/6
3	FAD	2-B	4752[C]	-	-	1/34/50/50	0/6/6/6
3	FAD	1-I	4758[A]	-	-	1/34/50/50	0/6/6/6
3	FAD	1-B	4751[A]	-	-	1/34/50/50	0/6/6/6
3	FAD	1-C	4752[A]	-	-	1/34/50/50	0/6/6/6
3	FAD	2-D	4754[C]	-	-	1/34/50/50	0/6/6/6
3	FAD	2-C	4753[C]	-	-	3/34/50/50	0/6/6/6
3	FAD	2-F	4756[C]	-	-	3/34/50/50	0/6/6/6
3	FAD	1-F	4755[A]	-	-	1/34/50/50	0/6/6/6
3	FAD	1-H	4757[A]	-	-	2/34/50/50	0/6/6/6
3	FAD	1-A	4750[A]	-	-	1/34/50/50	0/6/6/6
3	FAD	1-E	4754[A]	-	-	1/34/50/50	0/6/6/6
3	FAD	2-O	4750[C]	-	-	1/34/50/50	0/6/6/6

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
3	FAD	2-G	4757[C]	-	-	2/34/50/50	0/6/6/6
3	FAD	2-H	4758[C]	-	-	1/34/50/50	0/6/6/6
3	FAD	2-I	4759[C]	-	-	1/34/50/50	0/6/6/6
3	FAD	1-G	4756[A]	-	-	3/34/50/50	0/6/6/6

All (142) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	2-C	4753[C]	FAD	PA-O3P	-4.09	1.55	1.59
3	1-D	4753[A]	FAD	PA-O3P	-4.09	1.55	1.59
3	2-G	4757[C]	FAD	C4X-N5	3.87	1.39	1.30
3	1-H	4757[A]	FAD	C4X-N5	3.87	1.39	1.30
3	2-H	4758[C]	FAD	C4X-N5	3.85	1.39	1.30
3	1-I	4758[A]	FAD	C4X-N5	3.85	1.39	1.30
3	2-I	4759[C]	FAD	C4X-N5	3.85	1.39	1.30
4	1-J	4759[A]	FAD	C4X-N5	3.85	1.39	1.30
3	1-A	4750[A]	FAD	C4X-N5	3.84	1.39	1.30
3	2-O	4750[C]	FAD	C4X-N5	3.84	1.39	1.30
3	2-A	4751[C]	FAD	C4X-N5	3.84	1.39	1.30
3	1-B	4751[A]	FAD	C4X-N5	3.84	1.39	1.30
3	2-B	4752[C]	FAD	C4X-N5	3.83	1.39	1.30
3	1-C	4752[A]	FAD	C4X-N5	3.83	1.39	1.30
3	2-D	4754[C]	FAD	C4X-N5	3.82	1.39	1.30
3	1-E	4754[A]	FAD	C4X-N5	3.82	1.39	1.30
3	2-E	4755[C]	FAD	C4X-N5	3.79	1.38	1.30
3	1-F	4755[A]	FAD	C4X-N5	3.79	1.38	1.30
3	2-G	4757[C]	FAD	P-O3P	-3.21	1.56	1.59
3	1-H	4757[A]	FAD	P-O3P	-3.21	1.56	1.59
3	1-A	4750[A]	FAD	C5A-N7A	-3.20	1.33	1.39
3	2-O	4750[C]	FAD	C5A-N7A	-3.20	1.33	1.39
3	2-E	4755[C]	FAD	C5A-N7A	-3.19	1.33	1.39
3	1-F	4755[A]	FAD	C5A-N7A	-3.19	1.33	1.39
3	2-B	4752[C]	FAD	C5A-N7A	-3.17	1.33	1.39
3	1-C	4752[A]	FAD	C5A-N7A	-3.17	1.33	1.39
3	2-A	4751[C]	FAD	C5A-N7A	-3.16	1.33	1.39
3	1-B	4751[A]	FAD	C5A-N7A	-3.16	1.33	1.39
3	2-D	4754[C]	FAD	C5A-N7A	-3.14	1.33	1.39
3	1-E	4754[A]	FAD	C5A-N7A	-3.14	1.33	1.39
3	2-H	4758[C]	FAD	C5A-N7A	-3.14	1.33	1.39
3	1-I	4758[A]	FAD	C5A-N7A	-3.14	1.33	1.39
3	2-I	4759[C]	FAD	C5A-N7A	-3.13	1.33	1.39
4	1-J	4759[A]	FAD	C5A-N7A	-3.13	1.33	1.39

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	2-F	4756[C]	FAD	O2'-C2'	-3.13	1.36	1.43
3	1-G	4756[A]	FAD	O2'-C2'	-3.13	1.36	1.43
3	2-C	4753[C]	FAD	P-O3P	-3.03	1.56	1.59
3	1-D	4753[A]	FAD	P-O3P	-3.03	1.56	1.59
3	2-E	4755[C]	FAD	C2A-N1A	3.02	1.39	1.33
3	1-F	4755[A]	FAD	C2A-N1A	3.02	1.39	1.33
3	2-A	4751[C]	FAD	C2A-N1A	3.01	1.39	1.33
3	1-B	4751[A]	FAD	C2A-N1A	3.01	1.39	1.33
3	1-A	4750[A]	FAD	C2A-N1A	3.00	1.39	1.33
3	2-O	4750[C]	FAD	C2A-N1A	3.00	1.39	1.33
3	2-I	4759[C]	FAD	C2A-N1A	3.00	1.39	1.33
4	1-J	4759[A]	FAD	C2A-N1A	3.00	1.39	1.33
3	2-B	4752[C]	FAD	C2A-N1A	2.99	1.39	1.33
3	1-C	4752[A]	FAD	C2A-N1A	2.99	1.39	1.33
3	2-D	4754[C]	FAD	C2A-N1A	2.98	1.39	1.33
3	1-E	4754[A]	FAD	C2A-N1A	2.98	1.39	1.33
3	2-H	4758[C]	FAD	C2A-N1A	2.97	1.39	1.33
3	1-I	4758[A]	FAD	C2A-N1A	2.97	1.39	1.33
3	2-G	4757[C]	FAD	C2A-N3A	2.92	1.39	1.33
3	1-H	4757[A]	FAD	C2A-N3A	2.92	1.39	1.33
3	2-G	4757[C]	FAD	PA-O3P	-2.89	1.56	1.59
3	1-H	4757[A]	FAD	PA-O3P	-2.89	1.56	1.59
3	2-G	4757[C]	FAD	O4'-C4'	-2.86	1.37	1.43
3	1-H	4757[A]	FAD	O4'-C4'	-2.86	1.37	1.43
3	2-G	4757[C]	FAD	C5A-N7A	-2.79	1.34	1.39
3	1-H	4757[A]	FAD	C5A-N7A	-2.79	1.34	1.39
3	2-G	4757[C]	FAD	O4B-C4B	-2.58	1.39	1.45
3	1-H	4757[A]	FAD	O4B-C4B	-2.58	1.39	1.45
3	2-C	4753[C]	FAD	C4X-N5	2.56	1.36	1.30
3	1-D	4753[A]	FAD	C4X-N5	2.56	1.36	1.30
3	2-F	4756[C]	FAD	C10-N1	2.55	1.38	1.33
3	1-G	4756[A]	FAD	C10-N1	2.55	1.38	1.33
3	2-G	4757[C]	FAD	C4'-C3'	-2.54	1.49	1.53
3	1-H	4757[A]	FAD	C4'-C3'	-2.54	1.49	1.53
3	2-F	4756[C]	FAD	C2A-N3A	2.46	1.38	1.33
3	1-G	4756[A]	FAD	C2A-N3A	2.46	1.38	1.33
3	2-F	4756[C]	FAD	C9A-N10	-2.45	1.36	1.41
3	1-G	4756[A]	FAD	C9A-N10	-2.45	1.36	1.41
3	2-C	4753[C]	FAD	C5'-C4'	2.39	1.55	1.51
3	1-D	4753[A]	FAD	C5'-C4'	2.39	1.55	1.51
3	2-F	4756[C]	FAD	C2A-N1A	2.38	1.38	1.33
3	1-G	4756[A]	FAD	C2A-N1A	2.38	1.38	1.33

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	2-D	4754[C]	FAD	C10-N1	2.34	1.37	1.33
3	1-E	4754[A]	FAD	C10-N1	2.34	1.37	1.33
3	2-I	4759[C]	FAD	C10-N1	2.33	1.37	1.33
4	1-J	4759[A]	FAD	C10-N1	2.33	1.37	1.33
3	2-G	4757[C]	FAD	P-O1P	-2.31	1.42	1.50
3	1-H	4757[A]	FAD	P-O1P	-2.31	1.42	1.50
3	2-A	4751[C]	FAD	C10-N1	2.31	1.37	1.33
3	1-B	4751[A]	FAD	C10-N1	2.31	1.37	1.33
3	2-B	4752[C]	FAD	C10-N1	2.30	1.37	1.33
3	1-C	4752[A]	FAD	C10-N1	2.30	1.37	1.33
3	1-A	4750[A]	FAD	C10-N1	2.30	1.37	1.33
3	2-O	4750[C]	FAD	C10-N1	2.30	1.37	1.33
3	2-G	4757[C]	FAD	C9A-N10	-2.30	1.37	1.41
3	1-H	4757[A]	FAD	C9A-N10	-2.30	1.37	1.41
3	2-I	4759[C]	FAD	C4X-C10	-2.29	1.37	1.44
4	1-J	4759[A]	FAD	C4X-C10	-2.29	1.37	1.44
3	2-E	4755[C]	FAD	C10-N1	2.29	1.37	1.33
3	1-F	4755[A]	FAD	C10-N1	2.29	1.37	1.33
3	2-H	4758[C]	FAD	C10-N1	2.28	1.37	1.33
3	1-I	4758[A]	FAD	C10-N1	2.28	1.37	1.33
3	2-A	4751[C]	FAD	C4X-C10	-2.28	1.37	1.44
3	1-B	4751[A]	FAD	C4X-C10	-2.28	1.37	1.44
3	1-A	4750[A]	FAD	C4X-C10	-2.28	1.37	1.44
3	2-O	4750[C]	FAD	C4X-C10	-2.28	1.37	1.44
3	2-D	4754[C]	FAD	C4X-C10	-2.27	1.37	1.44
3	1-E	4754[A]	FAD	C4X-C10	-2.27	1.37	1.44
3	2-H	4758[C]	FAD	C4X-C10	-2.26	1.37	1.44
3	1-I	4758[A]	FAD	C4X-C10	-2.26	1.37	1.44
3	2-B	4752[C]	FAD	C4X-C10	-2.26	1.37	1.44
3	1-C	4752[A]	FAD	C4X-C10	-2.26	1.37	1.44
3	2-E	4755[C]	FAD	C4X-C10	-2.24	1.37	1.44
3	1-F	4755[A]	FAD	C4X-C10	-2.24	1.37	1.44
3	2-I	4759[C]	FAD	C5A-C6A	-2.24	1.34	1.41
4	1-J	4759[A]	FAD	C5A-C6A	-2.24	1.34	1.41
3	2-D	4754[C]	FAD	C5A-C6A	-2.22	1.34	1.41
3	1-E	4754[A]	FAD	C5A-C6A	-2.22	1.34	1.41
3	2-B	4752[C]	FAD	C5A-C6A	-2.21	1.34	1.41
3	1-C	4752[A]	FAD	C5A-C6A	-2.21	1.34	1.41
3	1-A	4750[A]	FAD	C5A-C6A	-2.21	1.34	1.41
3	2-O	4750[C]	FAD	C5A-C6A	-2.21	1.34	1.41
3	2-H	4758[C]	FAD	C5A-C6A	-2.20	1.34	1.41
3	1-I	4758[A]	FAD	C5A-C6A	-2.20	1.34	1.41

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	2-E	4755[C]	FAD	C5A-C6A	-2.19	1.34	1.41
3	1-F	4755[A]	FAD	C5A-C6A	-2.19	1.34	1.41
3	2-A	4751[C]	FAD	C5A-C6A	-2.18	1.34	1.41
3	1-B	4751[A]	FAD	C5A-C6A	-2.18	1.34	1.41
3	2-C	4753[C]	FAD	C9A-C5X	-2.18	1.37	1.41
3	1-D	4753[A]	FAD	C9A-C5X	-2.18	1.37	1.41
3	2-F	4756[C]	FAD	P-O3P	-2.18	1.57	1.59
3	1-G	4756[A]	FAD	P-O3P	-2.18	1.57	1.59
3	2-G	4757[C]	FAD	C10-N1	2.17	1.37	1.33
3	1-H	4757[A]	FAD	C10-N1	2.17	1.37	1.33
3	2-C	4753[C]	FAD	C2A-N3A	2.15	1.37	1.33
3	1-D	4753[A]	FAD	C2A-N3A	2.15	1.37	1.33
3	2-G	4757[C]	FAD	C8A-N9A	-2.15	1.33	1.37
3	1-H	4757[A]	FAD	C8A-N9A	-2.15	1.33	1.37
3	2-G	4757[C]	FAD	C5A-C4A	-2.14	1.35	1.39
3	1-H	4757[A]	FAD	C5A-C4A	-2.14	1.35	1.39
3	2-F	4756[C]	FAD	C4X-N5	2.13	1.35	1.30
3	1-G	4756[A]	FAD	C4X-N5	2.13	1.35	1.30
3	2-C	4753[C]	FAD	C8A-N7A	2.12	1.35	1.31
3	1-D	4753[A]	FAD	C8A-N7A	2.12	1.35	1.31
3	2-C	4753[C]	FAD	O4B-C4B	-2.01	1.40	1.45
3	1-D	4753[A]	FAD	O4B-C4B	-2.01	1.40	1.45
3	2-C	4753[C]	FAD	C2A-N1A	2.01	1.37	1.33
3	1-D	4753[A]	FAD	C2A-N1A	2.01	1.37	1.33

All (410) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	1-A	4750[A]	FAD	N3A-C2A-N1A	-7.30	117.53	128.58
3	2-O	4750[C]	FAD	N3A-C2A-N1A	-7.30	117.53	128.58
3	2-E	4755[C]	FAD	N3A-C2A-N1A	-7.29	117.54	128.58
3	1-F	4755[A]	FAD	N3A-C2A-N1A	-7.29	117.54	128.58
3	2-A	4751[C]	FAD	N3A-C2A-N1A	-7.29	117.55	128.58
3	1-B	4751[A]	FAD	N3A-C2A-N1A	-7.29	117.55	128.58
3	2-I	4759[C]	FAD	N3A-C2A-N1A	-7.29	117.55	128.58
4	1-J	4759[A]	FAD	N3A-C2A-N1A	-7.29	117.55	128.58
3	2-B	4752[C]	FAD	N3A-C2A-N1A	-7.28	117.56	128.58
3	1-C	4752[A]	FAD	N3A-C2A-N1A	-7.28	117.56	128.58
3	2-D	4754[C]	FAD	N3A-C2A-N1A	-7.27	117.58	128.58
3	1-E	4754[A]	FAD	N3A-C2A-N1A	-7.27	117.58	128.58
3	2-H	4758[C]	FAD	N3A-C2A-N1A	-7.24	117.62	128.58
3	1-I	4758[A]	FAD	N3A-C2A-N1A	-7.24	117.62	128.58

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	2-G	4757[C]	FAD	N3A-C2A-N1A	-6.12	119.31	128.58
3	1-H	4757[A]	FAD	N3A-C2A-N1A	-6.12	119.31	128.58
3	2-C	4753[C]	FAD	N3A-C2A-N1A	-6.03	119.46	128.58
3	1-D	4753[A]	FAD	N3A-C2A-N1A	-6.03	119.46	128.58
3	2-F	4756[C]	FAD	N3A-C2A-N1A	-5.86	119.71	128.58
3	1-G	4756[A]	FAD	N3A-C2A-N1A	-5.86	119.71	128.58
3	2-G	4757[C]	FAD	C5A-C4A-N3A	-5.32	119.39	126.72
3	1-H	4757[A]	FAD	C5A-C4A-N3A	-5.32	119.39	126.72
3	2-G	4757[C]	FAD	N9A-C8A-N7A	-5.00	106.84	113.94
3	1-H	4757[A]	FAD	N9A-C8A-N7A	-5.00	106.84	113.94
3	2-C	4753[C]	FAD	N9A-C8A-N7A	-4.44	107.64	113.94
3	1-D	4753[A]	FAD	N9A-C8A-N7A	-4.44	107.64	113.94
3	2-F	4756[C]	FAD	C5A-C4A-N3A	-4.38	120.69	126.72
3	1-G	4756[A]	FAD	C5A-C4A-N3A	-4.38	120.69	126.72
3	2-F	4756[C]	FAD	N9A-C8A-N7A	-4.17	108.01	113.94
3	1-G	4756[A]	FAD	N9A-C8A-N7A	-4.17	108.01	113.94
3	2-C	4753[C]	FAD	C4X-C10-N10	4.10	122.35	116.48
3	1-D	4753[A]	FAD	C4X-C10-N10	4.10	122.35	116.48
3	2-G	4757[C]	FAD	N3A-C4A-N9A	4.04	134.03	127.17
3	1-H	4757[A]	FAD	N3A-C4A-N9A	4.04	134.03	127.17
3	2-G	4757[C]	FAD	C5A-N7A-C8A	4.03	109.79	103.45
3	1-H	4757[A]	FAD	C5A-N7A-C8A	4.03	109.79	103.45
3	2-C	4753[C]	FAD	C5A-C4A-N3A	-4.02	121.19	126.72
3	1-D	4753[A]	FAD	C5A-C4A-N3A	-4.02	121.19	126.72
3	2-I	4759[C]	FAD	O3B-C3B-C4B	-4.00	99.60	111.08
4	1-J	4759[A]	FAD	O3B-C3B-C4B	-4.00	99.60	111.08
3	2-D	4754[C]	FAD	O3B-C3B-C4B	-4.00	99.60	111.08
3	1-E	4754[A]	FAD	O3B-C3B-C4B	-4.00	99.60	111.08
3	2-B	4752[C]	FAD	O3B-C3B-C4B	-3.99	99.61	111.08
3	1-C	4752[A]	FAD	O3B-C3B-C4B	-3.99	99.61	111.08
3	1-A	4750[A]	FAD	O3B-C3B-C4B	-3.99	99.62	111.08
3	2-O	4750[C]	FAD	O3B-C3B-C4B	-3.99	99.62	111.08
3	2-A	4751[C]	FAD	O3B-C3B-C4B	-3.99	99.63	111.08
3	1-B	4751[A]	FAD	O3B-C3B-C4B	-3.99	99.63	111.08
3	2-H	4758[C]	FAD	O3B-C3B-C4B	-3.98	99.64	111.08
3	1-I	4758[A]	FAD	O3B-C3B-C4B	-3.98	99.64	111.08
3	2-E	4755[C]	FAD	O3B-C3B-C4B	-3.98	99.64	111.08
3	1-F	4755[A]	FAD	O3B-C3B-C4B	-3.98	99.64	111.08
3	2-F	4756[C]	FAD	C5A-N7A-C8A	3.87	109.54	103.45
3	1-G	4756[A]	FAD	C5A-N7A-C8A	3.87	109.54	103.45
3	2-F	4756[C]	FAD	C4'-C3'-C2'	-3.78	107.28	113.57
3	1-G	4756[A]	FAD	C4'-C3'-C2'	-3.78	107.28	113.57

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	2-G	4757[C]	FAD	C4X-C10-N10	3.73	121.82	116.48
3	1-H	4757[A]	FAD	C4X-C10-N10	3.73	121.82	116.48
3	2-G	4757[C]	FAD	C2A-N3A-C4A	3.72	120.90	111.83
3	1-H	4757[A]	FAD	C2A-N3A-C4A	3.72	120.90	111.83
3	2-C	4753[C]	FAD	C2A-N3A-C4A	3.53	120.44	111.83
3	1-D	4753[A]	FAD	C2A-N3A-C4A	3.53	120.44	111.83
3	2-H	4758[C]	FAD	C9A-C5X-N5	-3.52	118.72	122.45
3	1-I	4758[A]	FAD	C9A-C5X-N5	-3.52	118.72	122.45
3	2-D	4754[C]	FAD	C9A-C5X-N5	-3.51	118.73	122.45
3	1-E	4754[A]	FAD	C9A-C5X-N5	-3.51	118.73	122.45
3	1-A	4750[A]	FAD	C9A-C5X-N5	-3.50	118.74	122.45
3	2-O	4750[C]	FAD	C9A-C5X-N5	-3.50	118.74	122.45
3	2-F	4756[C]	FAD	C2A-N3A-C4A	3.50	120.38	111.83
3	1-G	4756[A]	FAD	C2A-N3A-C4A	3.50	120.38	111.83
3	2-B	4752[C]	FAD	C9A-C5X-N5	-3.50	118.74	122.45
3	1-C	4752[A]	FAD	C9A-C5X-N5	-3.50	118.74	122.45
3	2-E	4755[C]	FAD	C9A-C5X-N5	-3.49	118.75	122.45
3	1-F	4755[A]	FAD	C9A-C5X-N5	-3.49	118.75	122.45
3	2-I	4759[C]	FAD	C9A-C5X-N5	-3.49	118.75	122.45
4	1-J	4759[A]	FAD	C9A-C5X-N5	-3.49	118.75	122.45
3	2-A	4751[C]	FAD	C9A-C5X-N5	-3.47	118.77	122.45
3	1-B	4751[A]	FAD	C9A-C5X-N5	-3.47	118.77	122.45
3	1-A	4750[A]	FAD	C2A-N1A-C6A	3.42	124.35	118.73
3	2-O	4750[C]	FAD	C2A-N1A-C6A	3.42	124.35	118.73
3	2-A	4751[C]	FAD	C2A-N1A-C6A	3.41	124.33	118.73
3	1-B	4751[A]	FAD	C2A-N1A-C6A	3.41	124.33	118.73
3	2-I	4759[C]	FAD	C2A-N1A-C6A	3.40	124.32	118.73
4	1-J	4759[A]	FAD	C2A-N1A-C6A	3.40	124.32	118.73
3	2-B	4752[C]	FAD	C2A-N1A-C6A	3.40	124.31	118.73
3	1-C	4752[A]	FAD	C2A-N1A-C6A	3.40	124.31	118.73
3	2-H	4758[C]	FAD	C2A-N1A-C6A	3.40	124.31	118.73
3	1-I	4758[A]	FAD	C2A-N1A-C6A	3.40	124.31	118.73
3	2-E	4755[C]	FAD	C2A-N1A-C6A	3.39	124.30	118.73
3	1-F	4755[A]	FAD	C2A-N1A-C6A	3.39	124.30	118.73
3	2-D	4754[C]	FAD	C2A-N1A-C6A	3.38	124.28	118.73
3	1-E	4754[A]	FAD	C2A-N1A-C6A	3.38	124.28	118.73
3	2-D	4754[C]	FAD	C5X-C9A-N10	3.34	120.99	117.97
3	1-E	4754[A]	FAD	C5X-C9A-N10	3.34	120.99	117.97
3	2-H	4758[C]	FAD	C5X-C9A-N10	3.33	120.98	117.97
3	1-I	4758[A]	FAD	C5X-C9A-N10	3.33	120.98	117.97
3	2-A	4751[C]	FAD	C5X-C9A-N10	3.33	120.98	117.97
3	1-B	4751[A]	FAD	C5X-C9A-N10	3.33	120.98	117.97

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	2-G	4757[C]	FAD	C4A-N9A-C8A	3.33	109.23	105.74
3	1-H	4757[A]	FAD	C4A-N9A-C8A	3.33	109.23	105.74
3	2-B	4752[C]	FAD	C5X-C9A-N10	3.32	120.97	117.97
3	1-C	4752[A]	FAD	C5X-C9A-N10	3.32	120.97	117.97
3	1-A	4750[A]	FAD	C5X-C9A-N10	3.31	120.96	117.97
3	2-O	4750[C]	FAD	C5X-C9A-N10	3.31	120.96	117.97
3	2-I	4759[C]	FAD	C5X-C9A-N10	3.30	120.95	117.97
4	1-J	4759[A]	FAD	C5X-C9A-N10	3.30	120.95	117.97
3	2-E	4755[C]	FAD	C5X-C9A-N10	3.28	120.93	117.97
3	1-F	4755[A]	FAD	C5X-C9A-N10	3.28	120.93	117.97
3	2-I	4759[C]	FAD	C4-N3-C2	-3.26	119.86	125.64
4	1-J	4759[A]	FAD	C4-N3-C2	-3.26	119.86	125.64
3	2-E	4755[C]	FAD	C4-N3-C2	-3.26	119.86	125.64
3	1-F	4755[A]	FAD	C4-N3-C2	-3.26	119.86	125.64
3	2-A	4751[C]	FAD	C4-N3-C2	-3.25	119.87	125.64
3	1-B	4751[A]	FAD	C4-N3-C2	-3.25	119.87	125.64
3	1-A	4750[A]	FAD	C4-N3-C2	-3.25	119.87	125.64
3	2-O	4750[C]	FAD	C4-N3-C2	-3.25	119.87	125.64
3	2-B	4752[C]	FAD	C4-N3-C2	-3.24	119.88	125.64
3	1-C	4752[A]	FAD	C4-N3-C2	-3.24	119.88	125.64
3	2-H	4758[C]	FAD	C4-N3-C2	-3.24	119.88	125.64
3	1-I	4758[A]	FAD	C4-N3-C2	-3.24	119.88	125.64
3	2-G	4757[C]	FAD	C4-N3-C2	-3.24	119.90	125.64
3	1-H	4757[A]	FAD	C4-N3-C2	-3.24	119.90	125.64
3	2-D	4754[C]	FAD	C4-N3-C2	-3.23	119.91	125.64
3	1-E	4754[A]	FAD	C4-N3-C2	-3.23	119.91	125.64
3	2-E	4755[C]	FAD	C4X-C4-N3	3.23	121.47	113.25
3	1-F	4755[A]	FAD	C4X-C4-N3	3.23	121.47	113.25
3	2-I	4759[C]	FAD	C4X-C4-N3	3.22	121.44	113.25
4	1-J	4759[A]	FAD	C4X-C4-N3	3.22	121.44	113.25
3	2-A	4751[C]	FAD	C4X-C4-N3	3.21	121.43	113.25
3	1-B	4751[A]	FAD	C4X-C4-N3	3.21	121.43	113.25
3	2-H	4758[C]	FAD	C4X-C4-N3	3.21	121.43	113.25
3	1-I	4758[A]	FAD	C4X-C4-N3	3.21	121.43	113.25
3	2-B	4752[C]	FAD	C4X-C4-N3	3.21	121.43	113.25
3	1-C	4752[A]	FAD	C4X-C4-N3	3.21	121.43	113.25
3	1-A	4750[A]	FAD	C4X-C4-N3	3.21	121.42	113.25
3	2-O	4750[C]	FAD	C4X-C4-N3	3.21	121.42	113.25
3	2-D	4754[C]	FAD	C4X-C4-N3	3.19	121.37	113.25
3	1-E	4754[A]	FAD	C4X-C4-N3	3.19	121.37	113.25
3	2-C	4753[C]	FAD	C5A-N7A-C8A	3.18	108.45	103.45
3	1-D	4753[A]	FAD	C5A-N7A-C8A	3.18	108.45	103.45

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	2-F	4756[C]	FAD	C4-N3-C2	-3.18	119.99	125.64
3	1-G	4756[A]	FAD	C4-N3-C2	-3.18	119.99	125.64
3	2-F	4756[C]	FAD	N3A-C4A-N9A	3.09	132.43	127.17
3	1-G	4756[A]	FAD	N3A-C4A-N9A	3.09	132.43	127.17
3	2-C	4753[C]	FAD	N3A-C4A-N9A	3.04	132.34	127.17
3	1-D	4753[A]	FAD	N3A-C4A-N9A	3.04	132.34	127.17
3	2-F	4756[C]	FAD	C4A-C5A-N7A	-3.02	107.13	110.58
3	1-G	4756[A]	FAD	C4A-C5A-N7A	-3.02	107.13	110.58
3	2-G	4757[C]	FAD	C4X-C4-N3	2.96	120.80	113.25
3	1-H	4757[A]	FAD	C4X-C4-N3	2.96	120.80	113.25
3	2-F	4756[C]	FAD	C4X-C10-N10	2.90	120.63	116.48
3	1-G	4756[A]	FAD	C4X-C10-N10	2.90	120.63	116.48
3	2-C	4753[C]	FAD	C10-C4X-N5	-2.88	118.92	124.81
3	1-D	4753[A]	FAD	C10-C4X-N5	-2.88	118.92	124.81
3	2-D	4754[C]	FAD	O4B-C1B-N9A	-2.85	102.62	108.09
3	1-E	4754[A]	FAD	O4B-C1B-N9A	-2.85	102.62	108.09
3	2-I	4759[C]	FAD	O4B-C1B-N9A	-2.85	102.62	108.09
4	1-J	4759[A]	FAD	O4B-C1B-N9A	-2.85	102.62	108.09
3	2-B	4752[C]	FAD	O4B-C1B-N9A	-2.83	102.65	108.09
3	1-C	4752[A]	FAD	O4B-C1B-N9A	-2.83	102.65	108.09
3	2-A	4751[C]	FAD	O4B-C1B-N9A	-2.82	102.67	108.09
3	1-B	4751[A]	FAD	O4B-C1B-N9A	-2.82	102.67	108.09
3	2-E	4755[C]	FAD	O4B-C1B-N9A	-2.82	102.67	108.09
3	1-F	4755[A]	FAD	O4B-C1B-N9A	-2.82	102.67	108.09
3	1-A	4750[A]	FAD	O4B-C1B-N9A	-2.82	102.67	108.09
3	2-O	4750[C]	FAD	O4B-C1B-N9A	-2.82	102.67	108.09
3	2-G	4757[C]	FAD	O4'-C4'-C3'	-2.82	102.65	109.25
3	1-H	4757[A]	FAD	O4'-C4'-C3'	-2.82	102.65	109.25
3	2-H	4758[C]	FAD	O4B-C1B-N9A	-2.81	102.69	108.09
3	1-I	4758[A]	FAD	O4B-C1B-N9A	-2.81	102.69	108.09
3	2-G	4757[C]	FAD	C2B-C1B-N9A	2.79	120.23	113.30
3	1-H	4757[A]	FAD	C2B-C1B-N9A	2.79	120.23	113.30
3	2-C	4753[C]	FAD	C4A-N9A-C8A	2.78	108.65	105.74
3	1-D	4753[A]	FAD	C4A-N9A-C8A	2.78	108.65	105.74
3	2-G	4757[C]	FAD	C4A-C5A-N7A	-2.71	107.48	110.58
3	1-H	4757[A]	FAD	C4A-C5A-N7A	-2.71	107.48	110.58
3	2-G	4757[C]	FAD	C10-C4X-N5	-2.69	119.31	124.81
3	1-H	4757[A]	FAD	C10-C4X-N5	-2.69	119.31	124.81
3	2-H	4758[C]	FAD	N6A-C6A-N1A	2.60	124.16	118.38
3	1-I	4758[A]	FAD	N6A-C6A-N1A	2.60	124.16	118.38
3	1-A	4750[A]	FAD	N6A-C6A-N1A	2.59	124.14	118.38
3	2-O	4750[C]	FAD	N6A-C6A-N1A	2.59	124.14	118.38

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	2-G	4757[C]	FAD	C4-C4X-N5	2.58	121.77	118.21
3	1-H	4757[A]	FAD	C4-C4X-N5	2.58	121.77	118.21
3	2-E	4755[C]	FAD	N6A-C6A-N1A	2.58	124.12	118.38
3	1-F	4755[A]	FAD	N6A-C6A-N1A	2.58	124.12	118.38
3	2-A	4751[C]	FAD	N6A-C6A-N1A	2.58	124.12	118.38
3	1-B	4751[A]	FAD	N6A-C6A-N1A	2.58	124.12	118.38
3	2-D	4754[C]	FAD	N6A-C6A-N1A	2.58	124.12	118.38
3	1-E	4754[A]	FAD	N6A-C6A-N1A	2.58	124.12	118.38
3	2-E	4755[C]	FAD	C2A-N3A-C4A	2.58	118.12	111.83
3	1-F	4755[A]	FAD	C2A-N3A-C4A	2.58	118.12	111.83
3	2-B	4752[C]	FAD	N6A-C6A-N1A	2.57	124.11	118.38
3	1-C	4752[A]	FAD	N6A-C6A-N1A	2.57	124.11	118.38
3	2-I	4759[C]	FAD	N6A-C6A-N1A	2.57	124.11	118.38
4	1-J	4759[A]	FAD	N6A-C6A-N1A	2.57	124.11	118.38
3	1-A	4750[A]	FAD	N9A-C8A-N7A	-2.57	110.29	113.94
3	2-O	4750[C]	FAD	N9A-C8A-N7A	-2.57	110.29	113.94
3	1-A	4750[A]	FAD	C2A-N3A-C4A	2.57	118.11	111.83
3	2-O	4750[C]	FAD	C2A-N3A-C4A	2.57	118.11	111.83
3	2-G	4757[C]	FAD	C5X-C9A-N10	2.57	120.29	117.97
3	1-H	4757[A]	FAD	C5X-C9A-N10	2.57	120.29	117.97
3	2-F	4756[C]	FAD	C4A-N9A-C8A	2.56	108.43	105.74
3	1-G	4756[A]	FAD	C4A-N9A-C8A	2.56	108.43	105.74
3	2-E	4755[C]	FAD	N9A-C8A-N7A	-2.56	110.31	113.94
3	1-F	4755[A]	FAD	N9A-C8A-N7A	-2.56	110.31	113.94
3	2-B	4752[C]	FAD	C2A-N3A-C4A	2.56	118.08	111.83
3	1-C	4752[A]	FAD	C2A-N3A-C4A	2.56	118.08	111.83
3	2-D	4754[C]	FAD	C2A-N3A-C4A	2.56	118.07	111.83
3	1-E	4754[A]	FAD	C2A-N3A-C4A	2.56	118.07	111.83
3	2-A	4751[C]	FAD	C2A-N3A-C4A	2.55	118.06	111.83
3	1-B	4751[A]	FAD	C2A-N3A-C4A	2.55	118.06	111.83
3	2-B	4752[C]	FAD	N9A-C8A-N7A	-2.55	110.32	113.94
3	1-C	4752[A]	FAD	N9A-C8A-N7A	-2.55	110.32	113.94
3	2-I	4759[C]	FAD	C2A-N3A-C4A	2.55	118.05	111.83
4	1-J	4759[A]	FAD	C2A-N3A-C4A	2.55	118.05	111.83
3	2-F	4756[C]	FAD	O2'-C2'-C3'	-2.55	103.29	109.25
3	1-G	4756[A]	FAD	O2'-C2'-C3'	-2.55	103.29	109.25
3	2-I	4759[C]	FAD	N9A-C8A-N7A	-2.54	110.34	113.94
4	1-J	4759[A]	FAD	N9A-C8A-N7A	-2.54	110.34	113.94
3	2-H	4758[C]	FAD	C2A-N3A-C4A	2.53	118.02	111.83
3	1-I	4758[A]	FAD	C2A-N3A-C4A	2.53	118.02	111.83
3	2-H	4758[C]	FAD	N9A-C8A-N7A	-2.53	110.34	113.94
3	1-I	4758[A]	FAD	N9A-C8A-N7A	-2.53	110.34	113.94

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	1-A	4750[A]	FAD	O2P-P-O3P	-2.53	100.44	107.27
3	2-O	4750[C]	FAD	O2P-P-O3P	-2.53	100.44	107.27
3	2-I	4759[C]	FAD	O2P-P-O3P	-2.53	100.44	107.27
4	1-J	4759[A]	FAD	O2P-P-O3P	-2.53	100.44	107.27
3	2-D	4754[C]	FAD	O2P-P-O3P	-2.52	100.45	107.27
3	1-E	4754[A]	FAD	O2P-P-O3P	-2.52	100.45	107.27
3	2-B	4752[C]	FAD	O2P-P-O3P	-2.52	100.45	107.27
3	1-C	4752[A]	FAD	O2P-P-O3P	-2.52	100.45	107.27
3	2-H	4758[C]	FAD	O2P-P-O3P	-2.52	100.46	107.27
3	1-I	4758[A]	FAD	O2P-P-O3P	-2.52	100.46	107.27
3	2-A	4751[C]	FAD	N9A-C8A-N7A	-2.52	110.36	113.94
3	1-B	4751[A]	FAD	N9A-C8A-N7A	-2.52	110.36	113.94
3	2-D	4754[C]	FAD	N9A-C8A-N7A	-2.52	110.36	113.94
3	1-E	4754[A]	FAD	N9A-C8A-N7A	-2.52	110.36	113.94
3	2-E	4755[C]	FAD	O2P-P-O3P	-2.52	100.46	107.27
3	1-F	4755[A]	FAD	O2P-P-O3P	-2.52	100.46	107.27
3	2-A	4751[C]	FAD	O2P-P-O3P	-2.52	100.47	107.27
3	1-B	4751[A]	FAD	O2P-P-O3P	-2.52	100.47	107.27
3	2-I	4759[C]	FAD	C4A-N9A-C8A	2.50	108.36	105.74
4	1-J	4759[A]	FAD	C4A-N9A-C8A	2.50	108.36	105.74
3	2-E	4755[C]	FAD	C4A-N9A-C8A	2.47	108.33	105.74
3	1-F	4755[A]	FAD	C4A-N9A-C8A	2.47	108.33	105.74
3	2-C	4753[C]	FAD	O2P-P-O3P	-2.47	100.59	107.27
3	1-D	4753[A]	FAD	O2P-P-O3P	-2.47	100.59	107.27
3	1-A	4750[A]	FAD	C4A-N9A-C8A	2.47	108.33	105.74
3	2-B	4752[C]	FAD	C4A-N9A-C8A	2.47	108.33	105.74
3	1-C	4752[A]	FAD	C4A-N9A-C8A	2.47	108.33	105.74
3	2-O	4750[C]	FAD	C4A-N9A-C8A	2.47	108.33	105.74
3	2-D	4754[C]	FAD	C4A-N9A-C8A	2.46	108.32	105.74
3	1-E	4754[A]	FAD	C4A-N9A-C8A	2.46	108.32	105.74
3	2-F	4756[C]	FAD	O4-C4-C4X	-2.45	120.07	126.53
3	1-G	4756[A]	FAD	O4-C4-C4X	-2.45	120.07	126.53
3	2-H	4758[C]	FAD	C4A-N9A-C8A	2.44	108.30	105.74
3	1-I	4758[A]	FAD	C4A-N9A-C8A	2.44	108.30	105.74
3	2-A	4751[C]	FAD	C4A-N9A-C8A	2.42	108.28	105.74
3	1-B	4751[A]	FAD	C4A-N9A-C8A	2.42	108.28	105.74
3	2-D	4754[C]	FAD	C4X-C10-N10	2.41	119.92	116.48
3	1-E	4754[A]	FAD	C4X-C10-N10	2.41	119.92	116.48
3	2-A	4751[C]	FAD	C4X-C10-N10	2.40	119.92	116.48
3	1-B	4751[A]	FAD	C4X-C10-N10	2.40	119.92	116.48
3	2-I	4759[C]	FAD	C4X-C10-N10	2.40	119.92	116.48
4	1-J	4759[A]	FAD	C4X-C10-N10	2.40	119.92	116.48

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	2-B	4752[C]	FAD	C4X-C10-N10	2.40	119.91	116.48
3	1-C	4752[A]	FAD	C4X-C10-N10	2.40	119.91	116.48
3	1-A	4750[A]	FAD	C4X-C10-N10	2.39	119.91	116.48
3	2-O	4750[C]	FAD	C4X-C10-N10	2.39	119.91	116.48
3	2-H	4758[C]	FAD	C4X-C10-N10	2.39	119.91	116.48
3	1-I	4758[A]	FAD	C4X-C10-N10	2.39	119.91	116.48
3	2-F	4756[C]	FAD	C4X-C4-N3	2.38	119.30	113.25
3	1-G	4756[A]	FAD	C4X-C4-N3	2.38	119.30	113.25
3	2-F	4756[C]	FAD	C10-C4X-N5	-2.37	119.96	124.81
3	1-G	4756[A]	FAD	C10-C4X-N5	-2.37	119.96	124.81
3	2-E	4755[C]	FAD	C4X-C10-N10	2.37	119.88	116.48
3	1-F	4755[A]	FAD	C4X-C10-N10	2.37	119.88	116.48
3	2-C	4753[C]	FAD	C4-C4X-C10	2.36	120.98	116.93
3	1-D	4753[A]	FAD	C4-C4X-C10	2.36	120.98	116.93
3	2-G	4757[C]	FAD	O4B-C1B-C2B	-2.36	101.57	106.62
3	1-H	4757[A]	FAD	O4B-C1B-C2B	-2.36	101.57	106.62
3	2-H	4758[C]	FAD	C10-N1-C2	2.34	121.91	116.85
3	1-I	4758[A]	FAD	C10-N1-C2	2.34	121.91	116.85
3	2-B	4752[C]	FAD	C10-N1-C2	2.33	121.90	116.85
3	1-C	4752[A]	FAD	C10-N1-C2	2.33	121.90	116.85
3	2-E	4755[C]	FAD	C10-N1-C2	2.33	121.89	116.85
3	1-F	4755[A]	FAD	C10-N1-C2	2.33	121.89	116.85
3	2-D	4754[C]	FAD	C4A-N9A-C1B	-2.33	121.19	126.63
3	1-E	4754[A]	FAD	C4A-N9A-C1B	-2.33	121.19	126.63
3	2-I	4759[C]	FAD	C4A-N9A-C1B	-2.32	121.19	126.63
4	1-J	4759[A]	FAD	C4A-N9A-C1B	-2.32	121.19	126.63
3	2-I	4759[C]	FAD	C10-N1-C2	2.32	121.87	116.85
4	1-J	4759[A]	FAD	C10-N1-C2	2.32	121.87	116.85
3	2-E	4755[C]	FAD	C4A-N9A-C1B	-2.32	121.21	126.63
3	1-F	4755[A]	FAD	C4A-N9A-C1B	-2.32	121.21	126.63
3	2-D	4754[C]	FAD	C10-N1-C2	2.31	121.86	116.85
3	1-E	4754[A]	FAD	C10-N1-C2	2.31	121.86	116.85
3	1-A	4750[A]	FAD	C10-N1-C2	2.31	121.86	116.85
3	2-O	4750[C]	FAD	C10-N1-C2	2.31	121.86	116.85
3	2-B	4752[C]	FAD	C4A-N9A-C1B	-2.31	121.22	126.63
3	1-C	4752[A]	FAD	C4A-N9A-C1B	-2.31	121.22	126.63
3	2-A	4751[C]	FAD	C10-N1-C2	2.31	121.85	116.85
3	1-B	4751[A]	FAD	C10-N1-C2	2.31	121.85	116.85
3	2-H	4758[C]	FAD	C4A-N9A-C1B	-2.30	121.25	126.63
3	1-I	4758[A]	FAD	C4A-N9A-C1B	-2.30	121.25	126.63
3	2-A	4751[C]	FAD	C4A-N9A-C1B	-2.30	121.25	126.63
3	1-B	4751[A]	FAD	C4A-N9A-C1B	-2.30	121.25	126.63

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	1-A	4750[A]	FAD	C4A-N9A-C1B	-2.29	121.27	126.63
3	2-O	4750[C]	FAD	C4A-N9A-C1B	-2.29	121.27	126.63
3	1-A	4750[A]	FAD	C5A-C6A-N6A	-2.27	117.66	123.29
3	2-O	4750[C]	FAD	C5A-C6A-N6A	-2.27	117.66	123.29
3	2-D	4754[C]	FAD	C5A-C6A-N6A	-2.27	117.66	123.29
3	1-E	4754[A]	FAD	C5A-C6A-N6A	-2.27	117.66	123.29
3	2-E	4755[C]	FAD	C5A-C6A-N6A	-2.27	117.67	123.29
3	1-F	4755[A]	FAD	C5A-C6A-N6A	-2.27	117.67	123.29
3	2-H	4758[C]	FAD	C5A-C6A-N6A	-2.26	117.68	123.29
3	1-I	4758[A]	FAD	C5A-C6A-N6A	-2.26	117.68	123.29
3	2-B	4752[C]	FAD	C5A-C6A-N6A	-2.26	117.69	123.29
3	1-C	4752[A]	FAD	C5A-C6A-N6A	-2.26	117.69	123.29
3	2-F	4756[C]	FAD	C8M-C8-C7	-2.26	116.15	120.76
3	1-G	4756[A]	FAD	C8M-C8-C7	-2.26	116.15	120.76
3	2-I	4759[C]	FAD	C5A-C6A-N6A	-2.26	117.70	123.29
4	1-J	4759[A]	FAD	C5A-C6A-N6A	-2.26	117.70	123.29
3	2-A	4751[C]	FAD	C5A-C6A-N6A	-2.26	117.70	123.29
3	1-B	4751[A]	FAD	C5A-C6A-N6A	-2.26	117.70	123.29
3	2-F	4756[C]	FAD	C4X-C10-N1	-2.22	119.16	124.59
3	1-G	4756[A]	FAD	C4X-C10-N1	-2.22	119.16	124.59
3	2-E	4755[C]	FAD	O2B-C2B-C1B	-2.20	102.53	110.10
3	1-F	4755[A]	FAD	O2B-C2B-C1B	-2.20	102.53	110.10
3	2-I	4759[C]	FAD	O2B-C2B-C1B	-2.20	102.53	110.10
4	1-J	4759[A]	FAD	O2B-C2B-C1B	-2.20	102.53	110.10
3	2-C	4753[C]	FAD	C4-N3-C2	-2.19	121.75	125.64
3	1-D	4753[A]	FAD	C4-N3-C2	-2.19	121.75	125.64
3	2-A	4751[C]	FAD	O2B-C2B-C1B	-2.19	102.56	110.10
3	1-B	4751[A]	FAD	O2B-C2B-C1B	-2.19	102.56	110.10
3	2-D	4754[C]	FAD	O2B-C2B-C1B	-2.19	102.56	110.10
3	1-E	4754[A]	FAD	O2B-C2B-C1B	-2.19	102.56	110.10
3	1-A	4750[A]	FAD	O2B-C2B-C1B	-2.19	102.57	110.10
3	2-O	4750[C]	FAD	O2B-C2B-C1B	-2.19	102.57	110.10
3	2-B	4752[C]	FAD	O2B-C2B-C1B	-2.19	102.58	110.10
3	1-C	4752[A]	FAD	O2B-C2B-C1B	-2.19	102.58	110.10
3	2-H	4758[C]	FAD	O2B-C2B-C1B	-2.18	102.59	110.10
3	1-I	4758[A]	FAD	O2B-C2B-C1B	-2.18	102.59	110.10
3	2-E	4755[C]	FAD	O4-C4-C4X	-2.18	120.79	126.53
3	1-F	4755[A]	FAD	O4-C4-C4X	-2.18	120.79	126.53
3	2-I	4759[C]	FAD	O4-C4-C4X	-2.17	120.79	126.53
4	1-J	4759[A]	FAD	O4-C4-C4X	-2.17	120.79	126.53
3	2-C	4753[C]	FAD	O4'-C4'-C5'	2.17	114.77	109.99
3	1-D	4753[A]	FAD	O4'-C4'-C5'	2.17	114.77	109.99

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	2-B	4752[C]	FAD	O4-C4-C4X	-2.17	120.81	126.53
3	1-C	4752[A]	FAD	O4-C4-C4X	-2.17	120.81	126.53
3	2-A	4751[C]	FAD	O4-C4-C4X	-2.17	120.81	126.53
3	1-B	4751[A]	FAD	O4-C4-C4X	-2.17	120.81	126.53
3	1-A	4750[A]	FAD	O3P-PA-O1A	2.16	117.22	110.70
3	2-O	4750[C]	FAD	O3P-PA-O1A	2.16	117.22	110.70
3	2-A	4751[C]	FAD	O3P-PA-O1A	2.16	117.20	110.70
3	1-B	4751[A]	FAD	O3P-PA-O1A	2.16	117.20	110.70
3	2-D	4754[C]	FAD	O4-C4-C4X	-2.16	120.84	126.53
3	1-E	4754[A]	FAD	O4-C4-C4X	-2.16	120.84	126.53
3	2-H	4758[C]	FAD	O4-C4-C4X	-2.16	120.84	126.53
3	1-I	4758[A]	FAD	O4-C4-C4X	-2.16	120.84	126.53
3	1-A	4750[A]	FAD	O4-C4-C4X	-2.16	120.84	126.53
3	2-O	4750[C]	FAD	O4-C4-C4X	-2.16	120.84	126.53
3	2-B	4752[C]	FAD	O3P-PA-O1A	2.16	117.19	110.70
3	1-C	4752[A]	FAD	O3P-PA-O1A	2.16	117.19	110.70
3	2-E	4755[C]	FAD	O3P-PA-O1A	2.15	117.19	110.70
3	1-F	4755[A]	FAD	O3P-PA-O1A	2.15	117.19	110.70
3	2-H	4758[C]	FAD	O3P-PA-O1A	2.15	117.17	110.70
3	1-I	4758[A]	FAD	O3P-PA-O1A	2.15	117.17	110.70
3	2-D	4754[C]	FAD	O3P-PA-O1A	2.15	117.17	110.70
3	1-E	4754[A]	FAD	O3P-PA-O1A	2.15	117.17	110.70
3	2-I	4759[C]	FAD	O3P-PA-O1A	2.14	117.14	110.70
4	1-J	4759[A]	FAD	O3P-PA-O1A	2.14	117.14	110.70
3	2-H	4758[C]	FAD	O2'-C2'-C3'	-2.13	104.27	109.25
3	1-I	4758[A]	FAD	O2'-C2'-C3'	-2.13	104.27	109.25
3	1-A	4750[A]	FAD	O2'-C2'-C3'	-2.12	104.28	109.25
3	2-O	4750[C]	FAD	O2'-C2'-C3'	-2.12	104.28	109.25
3	2-B	4752[C]	FAD	O2'-C2'-C3'	-2.12	104.29	109.25
3	1-C	4752[A]	FAD	O2'-C2'-C3'	-2.12	104.29	109.25
3	2-D	4754[C]	FAD	O2'-C2'-C3'	-2.12	104.29	109.25
3	1-E	4754[A]	FAD	O2'-C2'-C3'	-2.12	104.29	109.25
3	2-I	4759[C]	FAD	O2'-C2'-C3'	-2.11	104.31	109.25
4	1-J	4759[A]	FAD	O2'-C2'-C3'	-2.11	104.31	109.25
3	2-A	4751[C]	FAD	O2'-C2'-C3'	-2.11	104.32	109.25
3	1-B	4751[A]	FAD	O2'-C2'-C3'	-2.11	104.32	109.25
3	2-E	4755[C]	FAD	O2'-C2'-C3'	-2.11	104.32	109.25
3	1-F	4755[A]	FAD	O2'-C2'-C3'	-2.11	104.32	109.25
3	2-G	4757[C]	FAD	O4-C4-N3	-2.07	116.22	120.11
3	1-H	4757[A]	FAD	O4-C4-N3	-2.07	116.22	120.11
3	2-G	4757[C]	FAD	C6A-C5A-C4A	2.04	119.96	117.18
3	1-H	4757[A]	FAD	C6A-C5A-C4A	2.04	119.96	117.18

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	2-E	4755[C]	FAD	C4-C4X-N5	2.02	121.00	118.21
3	1-F	4755[A]	FAD	C4-C4X-N5	2.02	121.00	118.21
3	2-B	4752[C]	FAD	C4X-C10-N1	-2.02	119.64	124.59
3	1-C	4752[A]	FAD	C4X-C10-N1	-2.02	119.64	124.59
3	2-H	4758[C]	FAD	C4X-C10-N1	-2.02	119.65	124.59
3	1-I	4758[A]	FAD	C4X-C10-N1	-2.02	119.65	124.59
3	2-E	4755[C]	FAD	C4X-C10-N1	-2.01	119.66	124.59
3	1-F	4755[A]	FAD	C4X-C10-N1	-2.01	119.66	124.59
3	2-D	4754[C]	FAD	C4X-C10-N1	-2.01	119.66	124.59
3	1-E	4754[A]	FAD	C4X-C10-N1	-2.01	119.66	124.59
3	1-A	4750[A]	FAD	C4X-C10-N1	-2.01	119.66	124.59
3	2-O	4750[C]	FAD	C4X-C10-N1	-2.01	119.66	124.59
3	2-F	4756[C]	FAD	C7M-C7-C8	-2.01	116.66	120.76
3	1-G	4756[A]	FAD	C7M-C7-C8	-2.01	116.66	120.76
3	2-I	4759[C]	FAD	C4X-C10-N1	-2.01	119.67	124.59
4	1-J	4759[A]	FAD	C4X-C10-N1	-2.01	119.67	124.59
3	2-A	4751[C]	FAD	C4X-C10-N1	-2.00	119.68	124.59
3	1-B	4751[A]	FAD	C4X-C10-N1	-2.00	119.68	124.59

There are no chirality outliers.

All (30) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
3	1-A	4750[A]	FAD	PA-O3P-P-O5'
3	2-A	4751[C]	FAD	PA-O3P-P-O5'
3	1-B	4751[A]	FAD	PA-O3P-P-O5'
3	2-B	4752[C]	FAD	PA-O3P-P-O5'
3	1-C	4752[A]	FAD	PA-O3P-P-O5'
3	2-D	4754[C]	FAD	PA-O3P-P-O5'
3	1-E	4754[A]	FAD	PA-O3P-P-O5'
3	2-E	4755[C]	FAD	PA-O3P-P-O5'
3	1-F	4755[A]	FAD	PA-O3P-P-O5'
3	2-H	4758[C]	FAD	PA-O3P-P-O5'
3	1-I	4758[A]	FAD	PA-O3P-P-O5'
3	2-I	4759[C]	FAD	PA-O3P-P-O5'
4	1-J	4759[A]	FAD	PA-O3P-P-O5'
3	2-O	4750[C]	FAD	PA-O3P-P-O5'
3	2-C	4753[C]	FAD	C3B-C4B-C5B-O5B
3	1-D	4753[A]	FAD	C3B-C4B-C5B-O5B
3	2-C	4753[C]	FAD	O4B-C4B-C5B-O5B
3	1-D	4753[A]	FAD	O4B-C4B-C5B-O5B
3	2-C	4753[C]	FAD	PA-O3P-P-O5'

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Mol	Chain	Res	Type	Atoms
3	1-D	4753[A]	FAD	PA-O3P-P-O5'
3	2-F	4756[C]	FAD	PA-O3P-P-O5'
3	1-G	4756[A]	FAD	PA-O3P-P-O5'
3	2-G	4757[C]	FAD	PA-O3P-P-O5'
3	1-H	4757[A]	FAD	PA-O3P-P-O5'
3	2-F	4756[C]	FAD	O4B-C4B-C5B-O5B
3	1-G	4756[A]	FAD	O4B-C4B-C5B-O5B
3	2-G	4757[C]	FAD	O4B-C4B-C5B-O5B
3	1-H	4757[A]	FAD	O4B-C4B-C5B-O5B
3	2-F	4756[C]	FAD	C3B-C4B-C5B-O5B
3	1-G	4756[A]	FAD	C3B-C4B-C5B-O5B

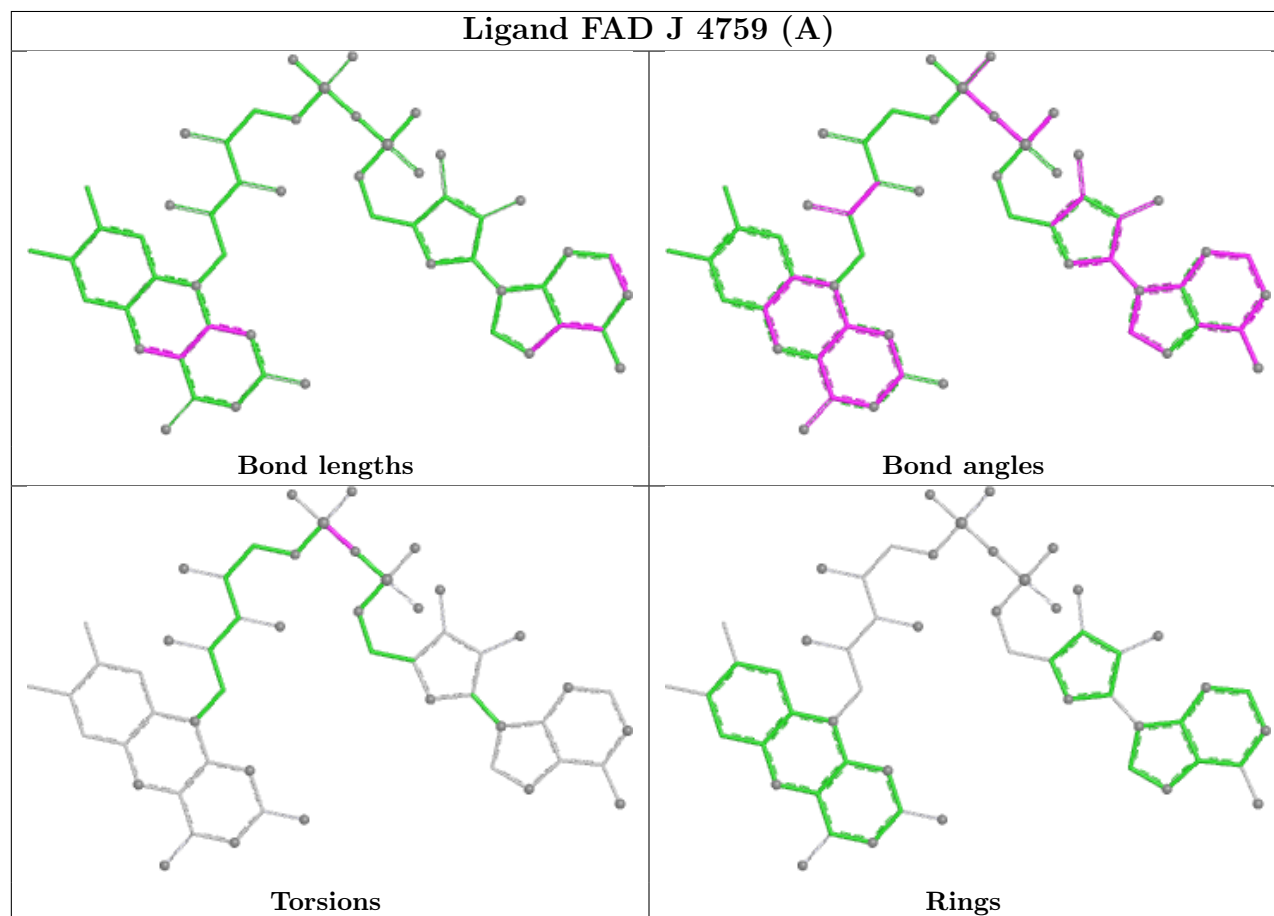
There are no ring outliers.

20 monomers are involved in 130 short contacts:

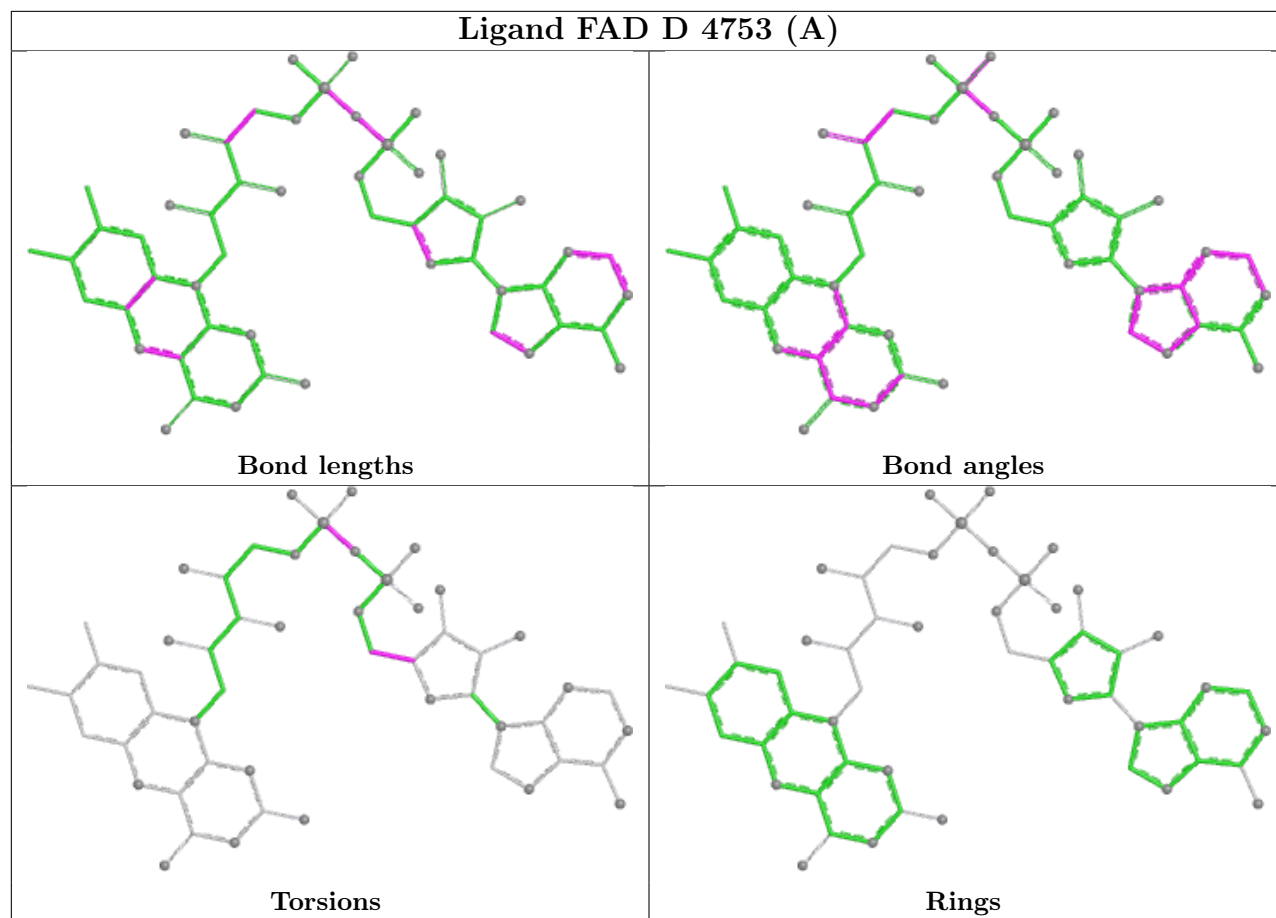
Mol	Chain	Res	Type	Clashes	Symm-Clashes
3	2-E	4755[C]	FAD	8	0
4	1-J	4759[A]	FAD	14	0
3	1-D	4753[A]	FAD	5	0
3	2-A	4751[C]	FAD	9	0
3	2-B	4752[C]	FAD	6	0
3	1-I	4758[A]	FAD	6	0
3	1-B	4751[A]	FAD	9	0
3	1-C	4752[A]	FAD	6	0
3	2-D	4754[C]	FAD	4	0
3	2-C	4753[C]	FAD	5	0
3	2-F	4756[C]	FAD	3	0
3	1-F	4755[A]	FAD	8	0
3	1-H	4757[A]	FAD	4	0
3	1-A	4750[A]	FAD	6	0
3	1-E	4754[A]	FAD	4	0
3	2-O	4750[C]	FAD	6	0
3	2-G	4757[C]	FAD	4	0
3	2-H	4758[C]	FAD	6	0
3	2-I	4759[C]	FAD	14	0
3	1-G	4756[A]	FAD	3	0

The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included. For torsion angles, if less than 5% of the Mogul distribution of torsion angles is within 10 degrees of the torsion angle in question, then that torsion angle is considered an outlier.

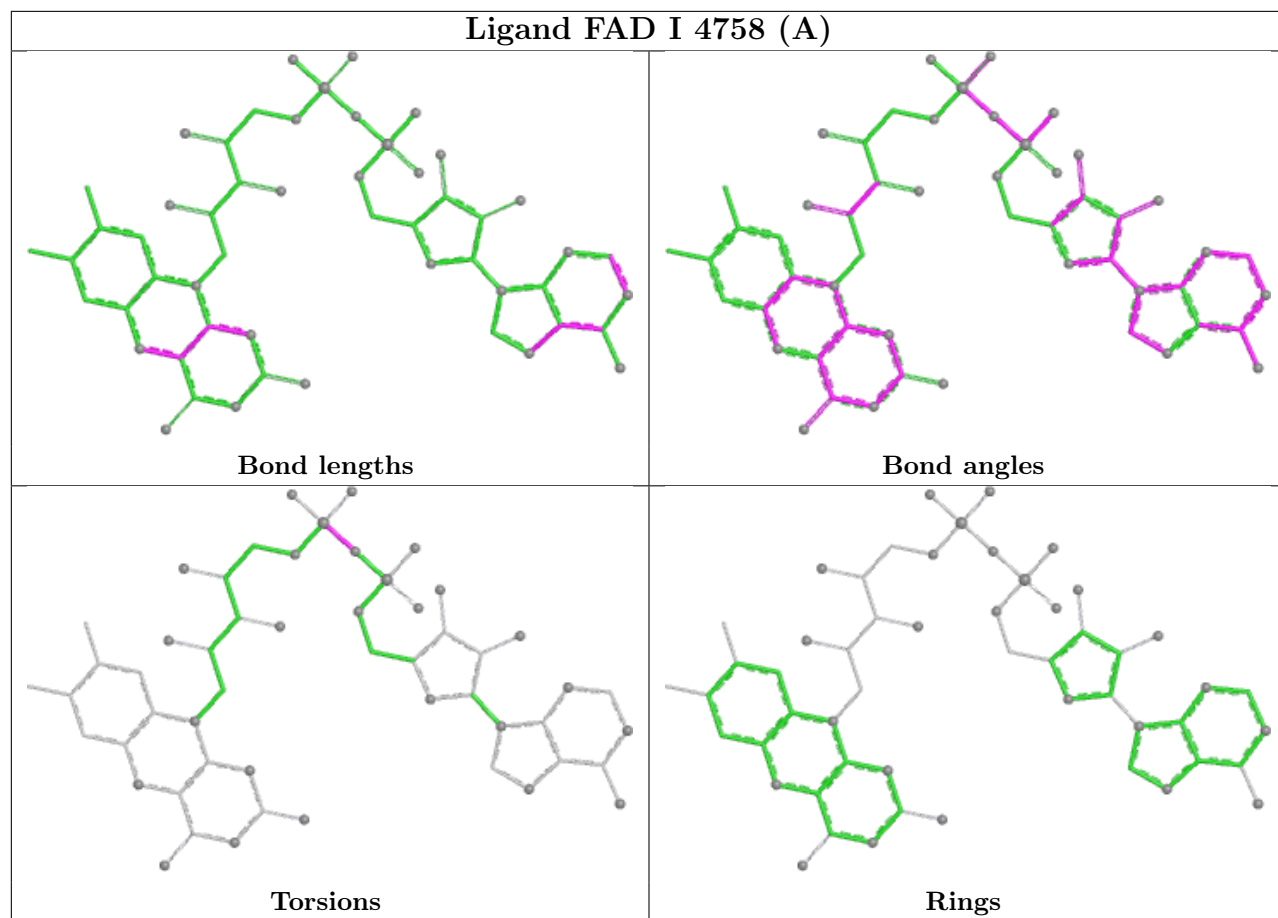
Any bond that is central to one or more torsion angles identified as an outlier by Mogul will be highlighted in the graph. For rings, the root-mean-square deviation (RMSD) between the ring in question and similar rings identified by Mogul is calculated over all ring torsion angles. If the average RMSD is greater than 60 degrees and the minimal RMSD between the ring in question and any Mogul-identified rings is also greater than 60 degrees, then that ring is considered an outlier. The outliers are highlighted in purple. The color gray indicates Mogul did not find sufficient equivalents in the CSD to analyse the geometry.



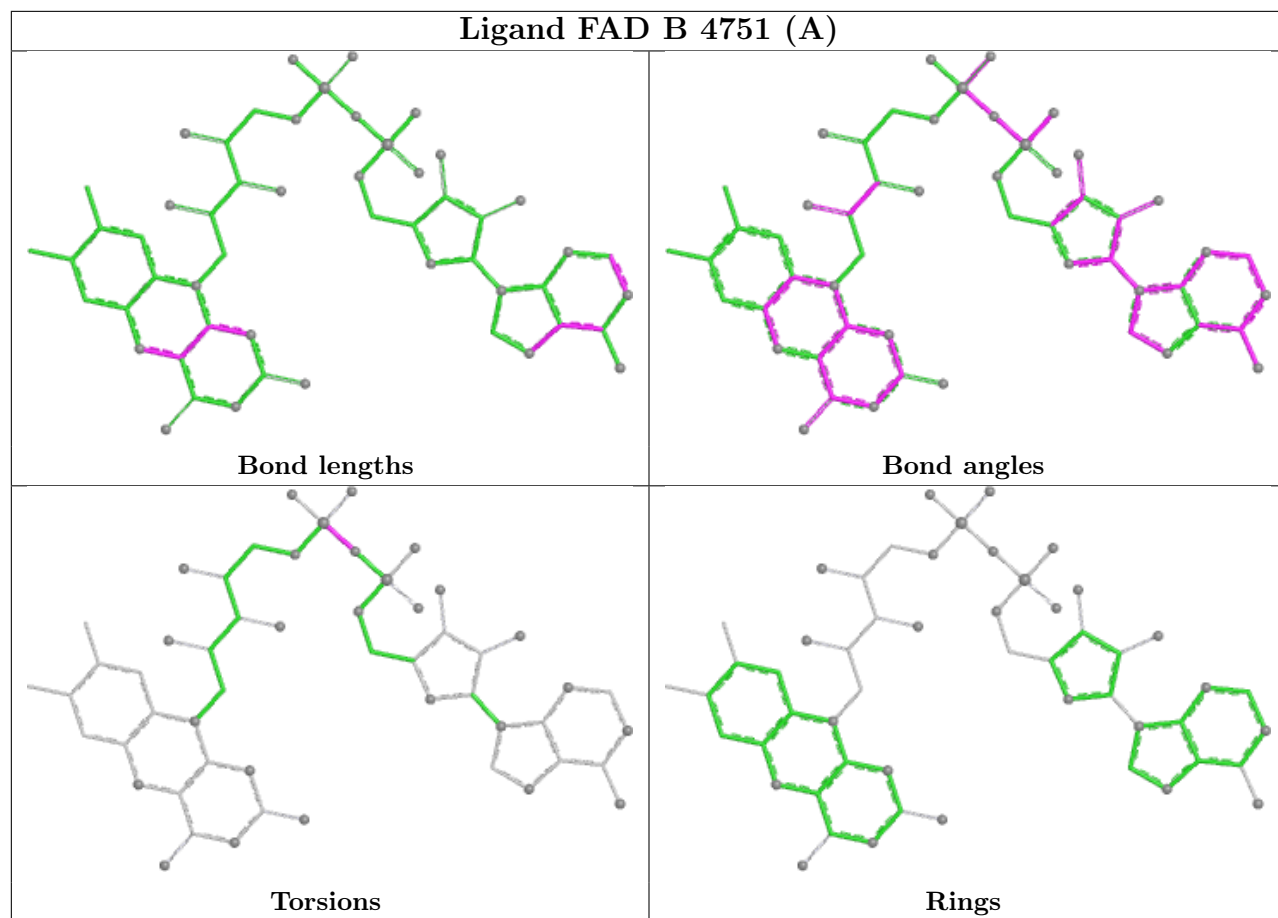
Ligand FAD D 4753 (A)



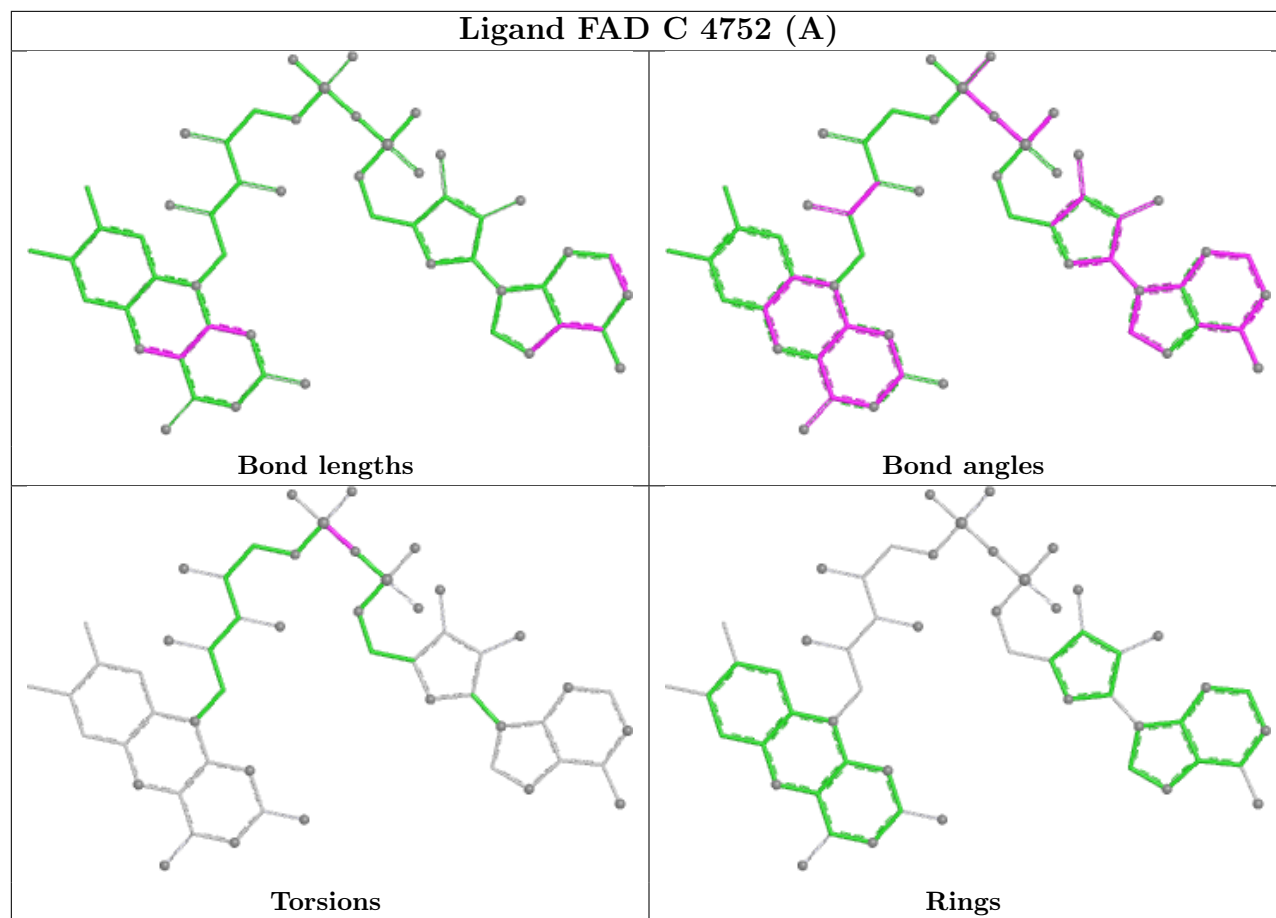
Ligand FAD I 4758 (A)

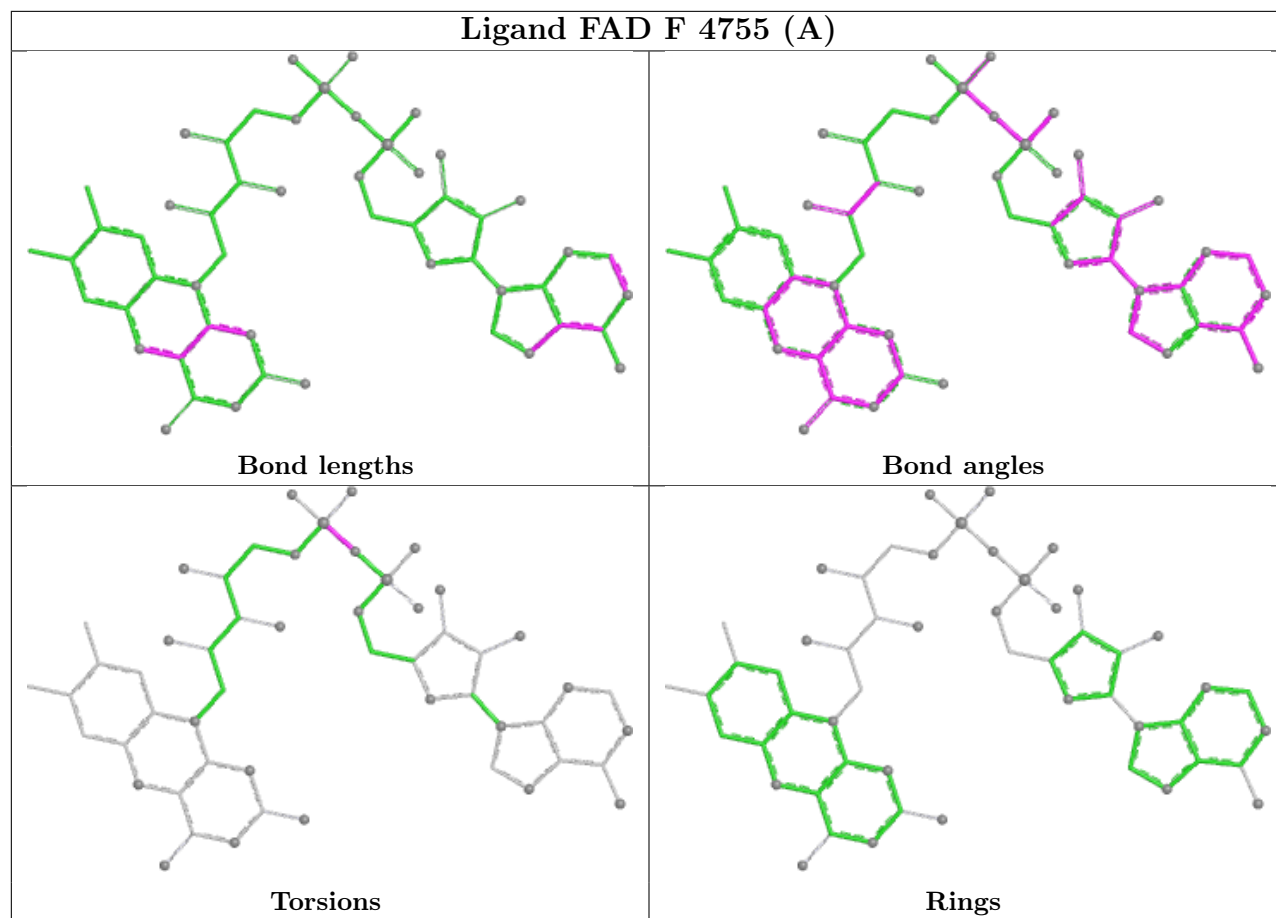


Ligand FAD B 4751 (A)

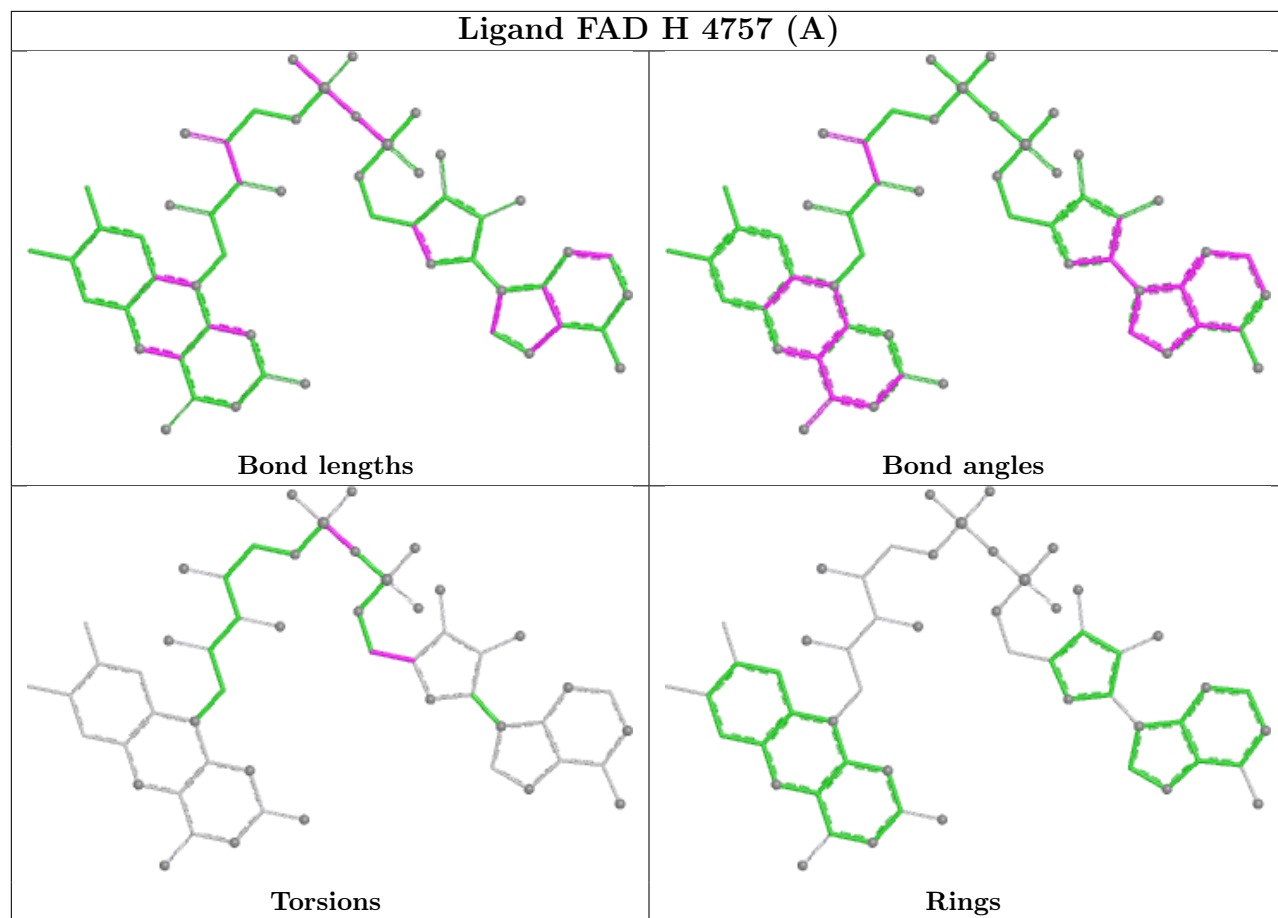


Ligand FAD C 4752 (A)

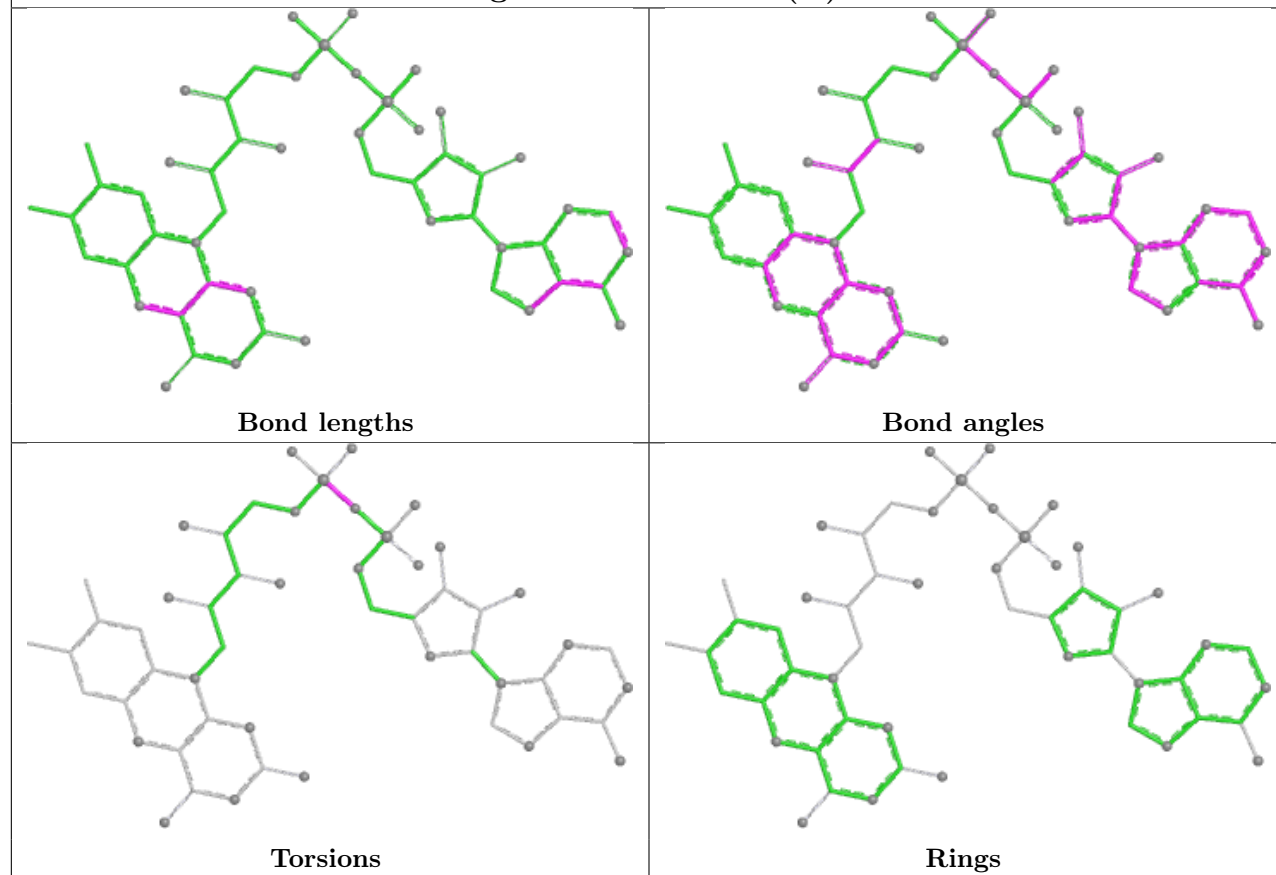


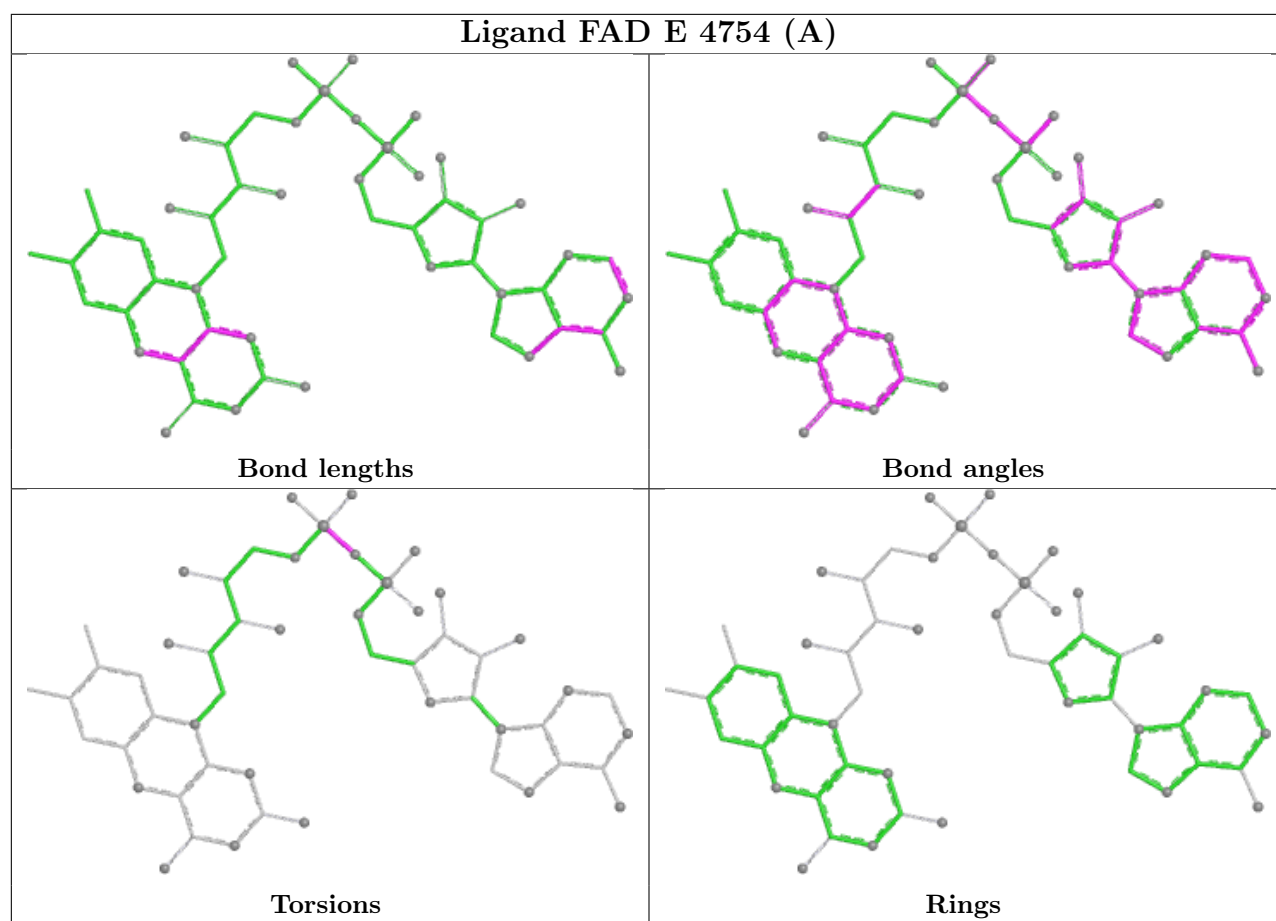


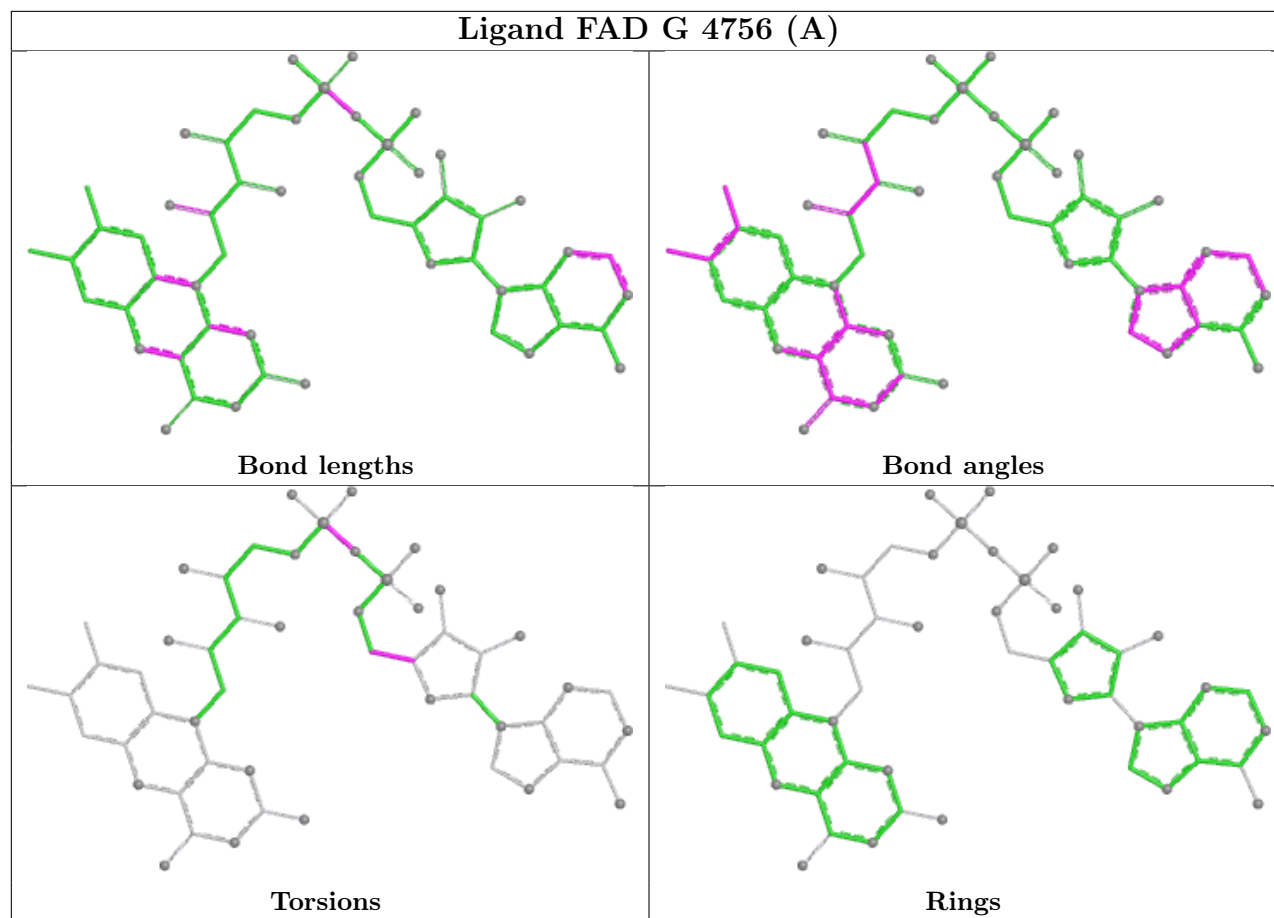
Ligand FAD H 4757 (A)



Ligand FAD A 4750 (A)







4.7 Other polymers [i](#)

There are no such residues in this entry.

4.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

5 Fit of model and data ⓘ

5.1 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	1-A	474/474 (100%)	0.00	1 (0%) 91 90	8, 17, 30, 43	474 (100%)
1	1-B	474/474 (100%)	-0.11	1 (0%) 91 90	7, 15, 25, 42	474 (100%)
1	1-C	474/474 (100%)	-0.35	1 (0%) 91 90	5, 12, 21, 46	474 (100%)
1	1-D	474/474 (100%)	-0.14	4 (0%) 82 80	7, 15, 27, 48	474 (100%)
1	1-E	474/474 (100%)	-0.27	1 (0%) 91 90	5, 13, 23, 47	474 (100%)
1	1-F	474/474 (100%)	-0.16	1 (0%) 91 90	8, 16, 27, 45	474 (100%)
1	1-G	474/474 (100%)	0.07	6 (1%) 75 71	8, 18, 32, 42	474 (100%)
1	1-H	474/474 (100%)	-0.26	1 (0%) 91 90	5, 13, 23, 35	474 (100%)
1	1-I	474/474 (100%)	0.89	64 (13%) 7 5	9, 28, 46, 52	474 (100%)
1	1-J	474/474 (100%)	0.42	14 (2%) 52 47	10, 23, 36, 47	474 (100%)
1	2-A	0/474	-	-	-	-
1	2-B	0/474	-	-	-	-
1	2-C	0/474	-	-	-	-
1	2-D	0/474	-	-	-	-
1	2-E	0/474	-	-	-	-
1	2-F	0/474	-	-	-	-
1	2-G	0/474	-	-	-	-
1	2-H	0/474	-	-	-	-
1	2-I	0/474	-	-	-	-
1	2-J	0/474	-	-	-	-
2	1-K	44/229 (19%)	1.17	5 (11%) 10 7	5, 13, 21, 36	44 (100%)
2	1-L	44/229 (19%)	1.39	10 (22%) 2 1	7, 15, 22, 39	44 (100%)
2	1-M	44/229 (19%)	1.63	12 (27%) 1 1	11, 18, 23, 39	44 (100%)
2	1-N	44/229 (19%)	1.55	14 (31%) 1 1	6, 15, 22, 36	44 (100%)
2	1-O	44/229 (19%)	1.57	14 (31%) 1 1	30, 42, 52, 59	44 (100%)
2	2-K	0/229	-	-	-	-
2	2-L	0/229	-	-	-	-

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å ²)	Q<0.9
2	2-M	0/229	-	-	-	-
2	2-N	0/229	-	-	-	-
All	All	4960/11541 (42%)	0.07	149 (3%) 52 47	5, 16, 35, 59	4960 (100%)

All (149) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	1-J	1[A]	ALA	4.7
1	1-A	1[A]	ALA	4.2
1	1-F	1[A]	ALA	4.1
1	1-J	468[A]	PHE	3.9
1	1-I	346[A]	ALA	3.9
1	1-I	349[A]	ILE	3.8
1	1-H	1[A]	ALA	3.7
1	1-I	34[A]	CYS	3.7
1	1-E	1[A]	ALA	3.6
1	1-I	292[A]	LEU	3.6
1	1-C	1[A]	ALA	3.6
1	1-I	415[A]	VAL	3.5
1	1-I	474[A]	PHE	3.5
1	1-I	10[A]	THR	3.4
1	1-I	347[A]	VAL	3.4
2	1-N	153[A]	GLY	3.4
2	1-M	155[A]	ARG	3.3
1	1-J	474[A]	PHE	3.3
1	1-I	445[A]	ILE	3.3
1	1-I	332[A]	GLU	3.2
2	1-L	131[A]	LEU	3.1
2	1-K	173[A]	GLY	3.1
2	1-M	153[A]	GLY	3.1
2	1-N	152[A]	THR	3.0
1	1-I	417[A]	GLY	3.0
1	1-I	345[A]	GLY	3.0
2	1-L	173[A]	GLY	3.0
2	1-O	173[A]	GLY	3.0
1	1-J	144[A]	ILE	2.9
1	1-D	4[A]	PRO	2.9
1	1-I	119[A]	GLY	2.9
1	1-I	308[A]	PHE	2.8
1	1-I	311[A]	LYS	2.8
2	1-N	156[A]	GLY	2.8
1	1-B	1[A]	ALA	2.8

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Mol	Chain	Res	Type	RSRZ
1	1-I	30[A]	PHE	2.8
2	1-L	155[A]	ARG	2.7
2	1-O	157[A]	ILE	2.7
1	1-I	287[A]	LEU	2.7
2	1-M	131[A]	LEU	2.7
2	1-L	169[A]	LEU	2.7
1	1-I	111[A]	LYS	2.7
1	1-G	132[A]	ALA	2.7
1	1-I	348[A]	HIS	2.7
1	1-I	124[A]	LYS	2.6
2	1-N	155[A]	ARG	2.6
1	1-I	351[A]	TYR	2.6
1	1-I	406[A]	ILE	2.6
2	1-K	155[A]	ARG	2.6
2	1-O	146[A]	ALA	2.6
2	1-M	173[A]	GLY	2.6
2	1-N	145[A]	ASP	2.6
1	1-I	11[A]	VAL	2.6
1	1-D	1[A]	ALA	2.6
2	1-M	130[A]	ARG	2.5
2	1-O	130[A]	ARG	2.5
1	1-I	4[A]	PRO	2.5
1	1-J	5[A]	ILE	2.5
1	1-G	1[A]	ALA	2.5
1	1-I	442[A]	CYS	2.5
2	1-L	172[A]	THR	2.5
1	1-I	408[A]	GLY	2.5
2	1-O	138[A]	ILE	2.5
2	1-M	169[A]	LEU	2.5
2	1-N	146[A]	ALA	2.5
1	1-I	1[A]	ALA	2.5
2	1-L	156[A]	GLY	2.4
1	1-I	438[A]	TYR	2.4
1	1-I	339[A]	VAL	2.4
1	1-J	7[A]	ALA	2.4
1	1-I	12[A]	ILE	2.4
1	1-I	437[A]	GLU	2.4
1	1-I	7[A]	ALA	2.4
1	1-I	300[A]	GLY	2.4
2	1-L	153[A]	GLY	2.4
1	1-D	2[A]	ASP	2.4
1	1-I	316[A]	TYR	2.4

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Mol	Chain	Res	Type	RSRZ
1	1-J	30[A]	PHE	2.4
2	1-M	139[A]	LEU	2.3
1	1-I	353[A]	CYS	2.3
1	1-J	292[A]	LEU	2.3
2	1-L	167[A]	VAL	2.3
2	1-N	172[A]	THR	2.3
2	1-O	150[A]	THR	2.3
2	1-K	153[A]	GLY	2.3
1	1-J	349[A]	ILE	2.3
1	1-I	429[A]	VAL	2.3
1	1-I	38[A]	ASN	2.3
2	1-M	146[A]	ALA	2.3
2	1-N	154[A]	PRO	2.3
2	1-O	149[A]	GLY	2.3
1	1-G	258[A]	ILE	2.3
2	1-K	169[A]	LEU	2.3
2	1-M	157[A]	ILE	2.3
2	1-N	157[A]	ILE	2.3
2	1-O	169[A]	LEU	2.3
1	1-I	9[A]	VAL	2.3
1	1-I	407[A]	LEU	2.2
2	1-N	130[A]	ARG	2.2
1	1-I	129[A]	ALA	2.2
1	1-I	265[A]	LYS	2.2
2	1-O	164[A]	LEU	2.2
1	1-I	302[A]	ILE	2.2
1	1-I	379[A]	ILE	2.2
1	1-I	140[A]	ASP	2.2
1	1-I	135[A]	GLY	2.2
1	1-J	472[A]	ILE	2.2
1	1-I	304[A]	VAL	2.2
1	1-I	131[A]	LYS	2.2
1	1-J	348[A]	HIS	2.2
2	1-M	164[A]	LEU	2.2
2	1-N	169[A]	LEU	2.2
1	1-I	31[A]	LYS	2.2
1	1-J	470[A]	LYS	2.2
1	1-I	317[A]	ALA	2.1
1	1-I	462[A]	ALA	2.1
2	1-N	173[A]	GLY	2.1
2	1-L	154[A]	PRO	2.1
1	1-G	348[A]	HIS	2.1

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Mol	Chain	Res	Type	RSRZ
1	1-I	344[A]	GLY	2.1
2	1-N	136[A]	ARG	2.1
2	1-N	167[A]	VAL	2.1
2	1-O	172[A]	THR	2.1
1	1-I	144[A]	ILE	2.1
2	1-M	138[A]	ILE	2.1
1	1-I	303[A]	PRO	2.1
1	1-G	256[A]	VAL	2.1
1	1-I	33[A]	VAL	2.1
1	1-I	266[A]	ALA	2.1
1	1-I	296[A]	LEU	2.1
1	1-I	352[A]	ASN	2.1
1	1-I	434[A]	LEU	2.1
2	1-K	144[A]	LEU	2.1
1	1-I	468[A]	PHE	2.0
1	1-G	266[A]	ALA	2.0
1	1-J	446[A]	ALA	2.0
2	1-O	166[A]	LEU	2.0
1	1-I	128[A]	THR	2.0
1	1-I	6[A]	ASP	2.0
1	1-I	8[A]	ASP	2.0
1	1-I	313[A]	PRO	2.0
2	1-L	132[A]	SER	2.0
1	1-D	348[A]	HIS	2.0
1	1-J	347[A]	VAL	2.0
2	1-M	158[A]	PHE	2.0
2	1-O	155[A]	ARG	2.0
2	1-O	144[A]	LEU	2.0
2	1-O	163[A]	ALA	2.0
1	1-I	342[A]	MET	2.0

5.2 Non-standard residues in protein, DNA, RNA chains ⓘ

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

5.3 Carbohydrates ⓘ

There are no oligosaccharides in this entry.

5.4 Ligands ⓘ

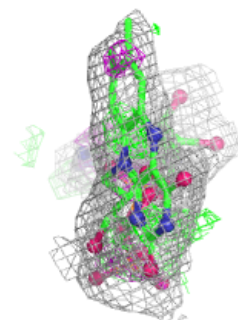
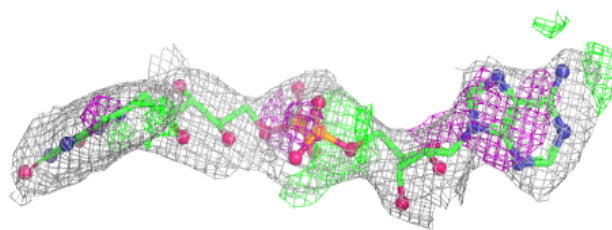
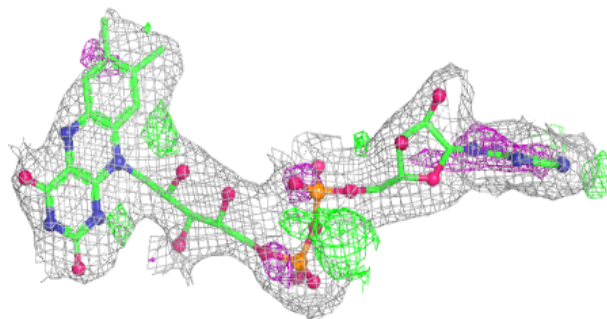
In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 95th percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9' lists the number of atoms with occupancy less than 0.9.

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å ²)	Q<0.9
4	FAD	1-J	4759[A]	53/53	0.83	0.13	30,38,42,46	53
3	FAD	2-A	4751[C]	53/53	-	-	30,38,42,46	53
3	FAD	1-I	4758[A]	53/53	0.84	0.13	30,38,42,46	53
3	FAD	2-B	4752[C]	53/53	-	-	30,38,42,46	53
3	FAD	1-A	4750[A]	53/53	0.88	0.14	30,38,42,46	53
3	FAD	2-C	4753[C]	53/53	-	-	35,45,57,57	53
3	FAD	1-B	4751[A]	53/53	0.89	0.15	30,38,42,46	53
3	FAD	2-D	4754[C]	53/53	-	-	30,38,42,46	53
3	FAD	1-F	4755[A]	53/53	0.90	0.14	30,38,42,46	53
3	FAD	2-E	4755[C]	53/53	-	-	30,38,42,46	53
3	FAD	1-E	4754[A]	53/53	0.91	0.14	30,38,42,46	53
3	FAD	2-F	4756[C]	53/53	-	-	43,51,53,54	53
3	FAD	1-D	4753[A]	53/53	0.96	0.10	35,45,57,57	53
3	FAD	2-G	4757[C]	53/53	-	-	32,35,43,47	53
3	FAD	1-G	4756[A]	53/53	0.96	0.12	43,51,53,54	53
3	FAD	2-H	4758[C]	53/53	-	-	30,38,42,46	53
3	FAD	1-C	4752[A]	53/53	0.97	0.10	30,38,42,46	53
3	FAD	2-I	4759[C]	53/53	-	-	30,38,42,46	53
3	FAD	1-H	4757[A]	53/53	0.97	0.11	32,35,43,47	53
3	FAD	2-O	4750[C]	53/53	-	-	30,38,42,46	53

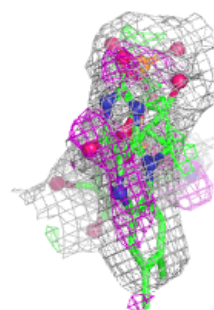
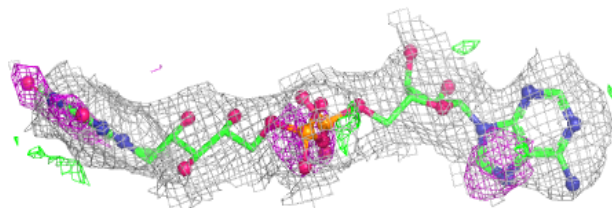
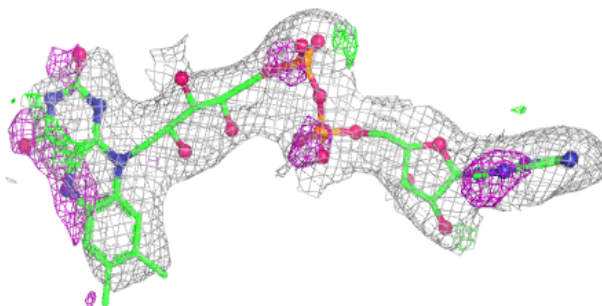
The following is a graphical depiction of the model fit to experimental electron density of all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the geometry validation Tables will also be included. Each fit is shown from different orientation to approximate a three-dimensional view.

Electron density around FAD J 4759 (A):

$2mF_o-DF_c$ (at 0.7 rmsd) in gray
 mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)

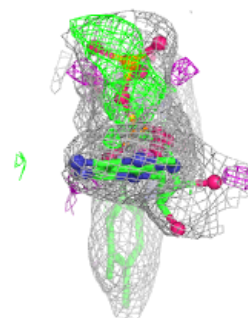
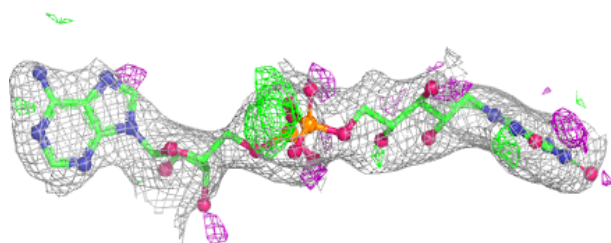
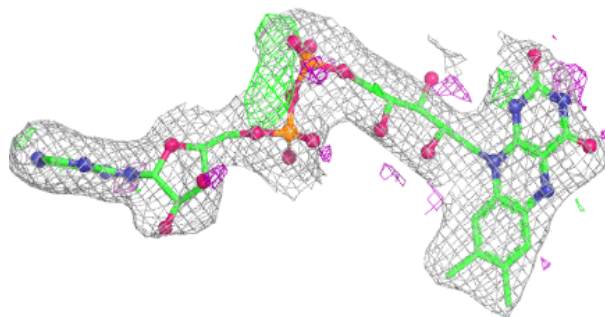
**Electron density around FAD I 4758 (A):**

$2mF_o-DF_c$ (at 0.7 rmsd) in gray
 mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)

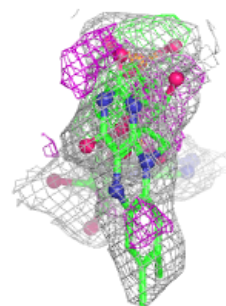
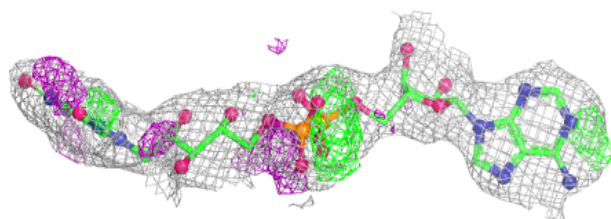
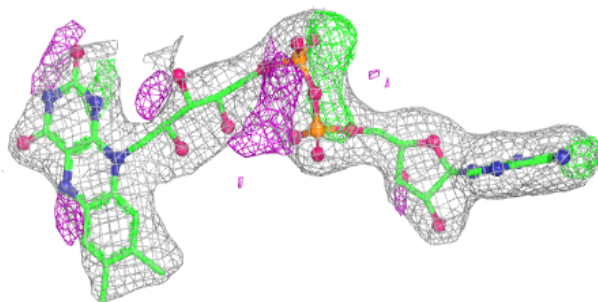


Electron density around FAD A 4750 (A):

$2mF_o-DF_c$ (at 0.7 rmsd) in gray
 mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)

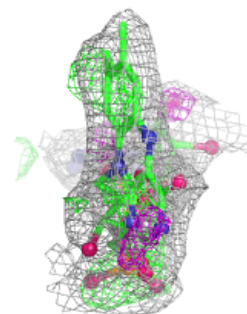
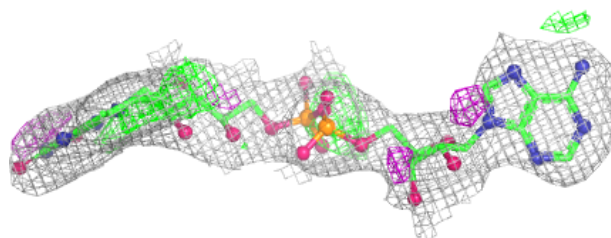
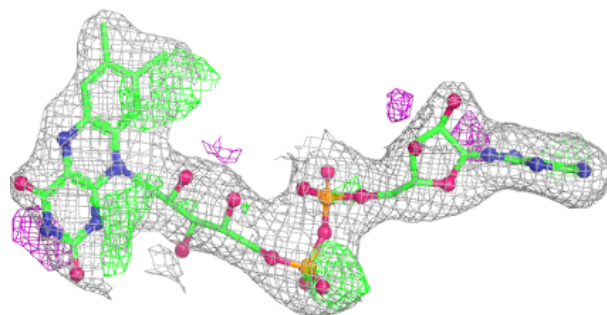
**Electron density around FAD B 4751 (A):**

$2mF_o-DF_c$ (at 0.7 rmsd) in gray
 mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)

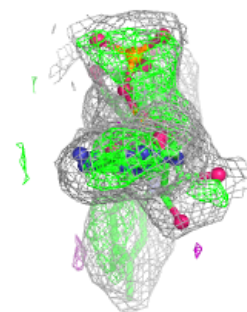
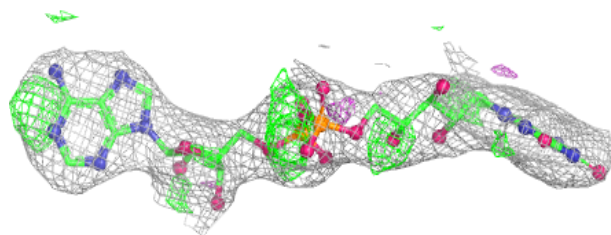
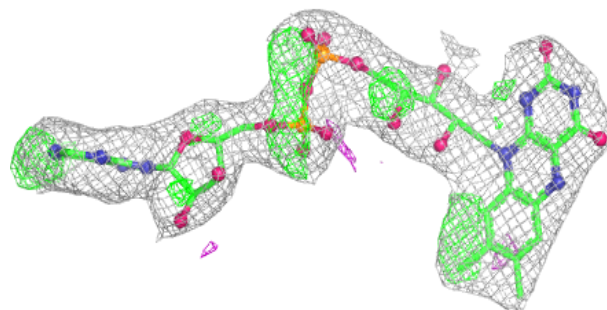


Electron density around FAD F 4755 (A):

$2mF_o-DF_c$ (at 0.7 rmsd) in gray
 mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)

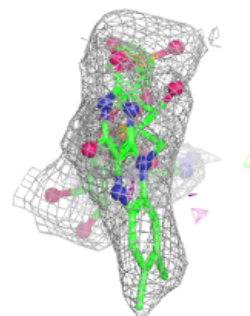
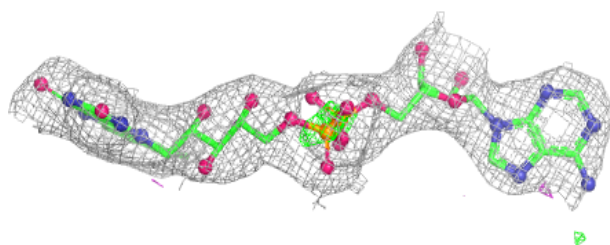
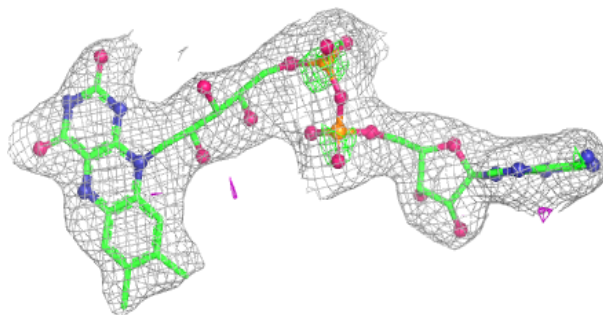
**Electron density around FAD E 4754 (A):**

$2mF_o-DF_c$ (at 0.7 rmsd) in gray
 mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)

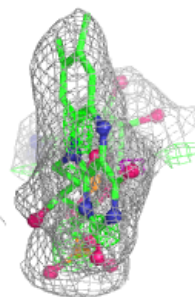
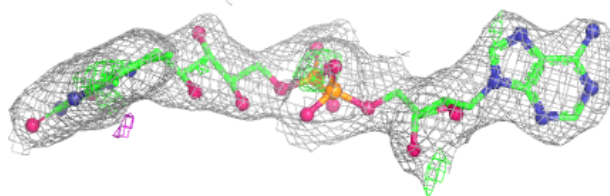
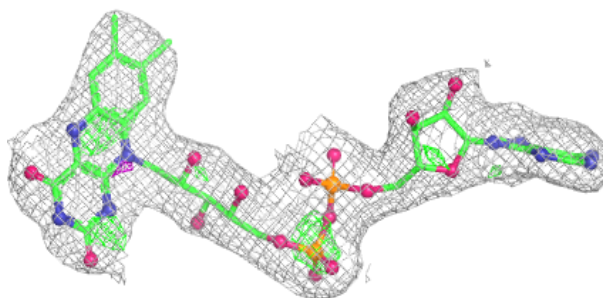


Electron density around FAD D 4753 (A):

$2mF_o-DF_c$ (at 0.7 rmsd) in gray
 mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)

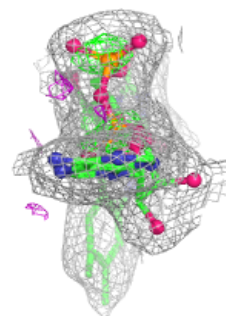
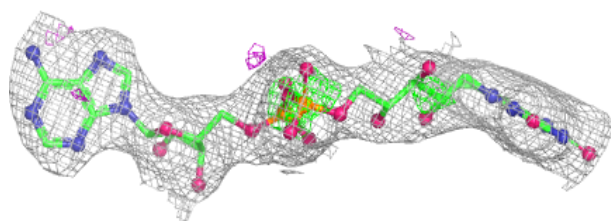
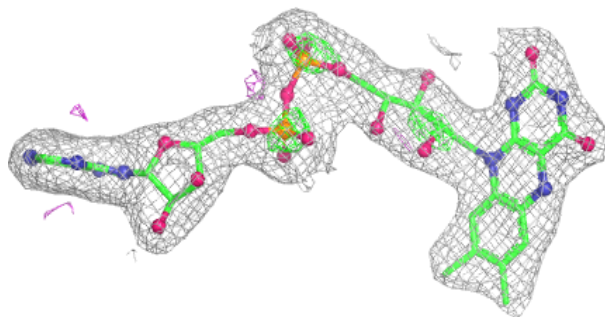
**Electron density around FAD G 4756 (A):**

$2mF_o-DF_c$ (at 0.7 rmsd) in gray
 mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)

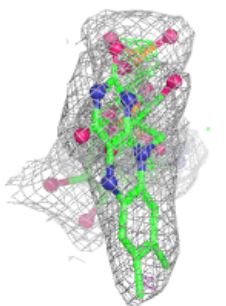
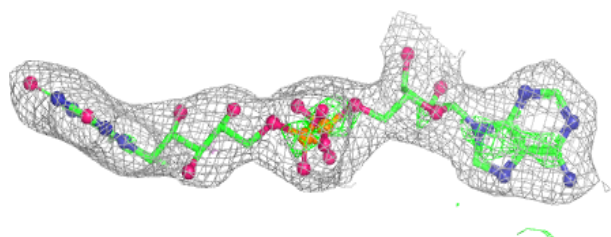
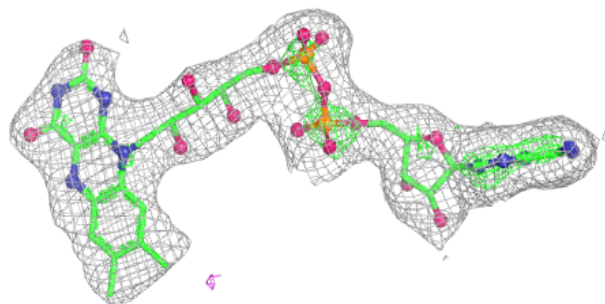


Electron density around FAD C 4752 (A):

$2mF_o-DF_c$ (at 0.7 rmsd) in gray
 mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)

**Electron density around FAD H 4757 (A):**

$2mF_o-DF_c$ (at 0.7 rmsd) in gray
 mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)



5.5 Other polymers [i](#)

There are no such residues in this entry.