



Full wwPDB X-ray Structure Validation Report ⓘ

Jun 11, 2024 – 11:02 PM EDT

PDB ID : 1DO2
Title : TRIGONAL CRYSTAL FORM OF HEAT SHOCK LOCUS U (HSLU) FROM
ESCHERICHIA COLI
Authors : Bochtler, M.; Hartmann, C.; Song, H.K.; Bourenkov, G.P.; Bartunik, H.D.
Deposited on : 1999-12-18
Resolution : 4.00 Å(reported)

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

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

A user guide is available at

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

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

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

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

MolProbity : 4.02b-467
Mogul : 2022.3.0, CSD as543be (2022)
Xtrriage (Phenix) : **NOT EXECUTED**
EDS : **NOT EXECUTED**
buster-report : 1.1.7 (2018)
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.36.2

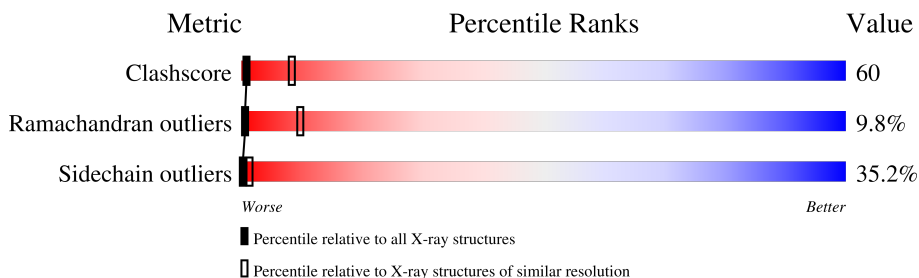
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 4.00 Å.

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



Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
Clashscore	141614	1148 (4.30-3.70)
Ramachandran outliers	138981	1108 (4.30-3.70)
Sidechain outliers	138945	1099 (4.30-3.70)

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 $\leq 5\%$.

Note EDS was not executed.

Mol	Chain	Length	Quality of chain
1	A	442	17% (green), 52% (yellow), 21% (orange), 8% (red), 2% (grey)
1	B	442	22% (green), 50% (yellow), 18% (orange), 8% (red), 2% (grey)
1	C	442	16% (green), 50% (yellow), 24% (orange), 8% (red), 2% (grey)
1	D	442	21% (green), 53% (yellow), 16% (orange), 8% (red), 2% (grey)

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

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
2	ANP	A	900	-	-	X	-
2	ANP	C	905	-	-	X	-

2 Entry composition [i](#)

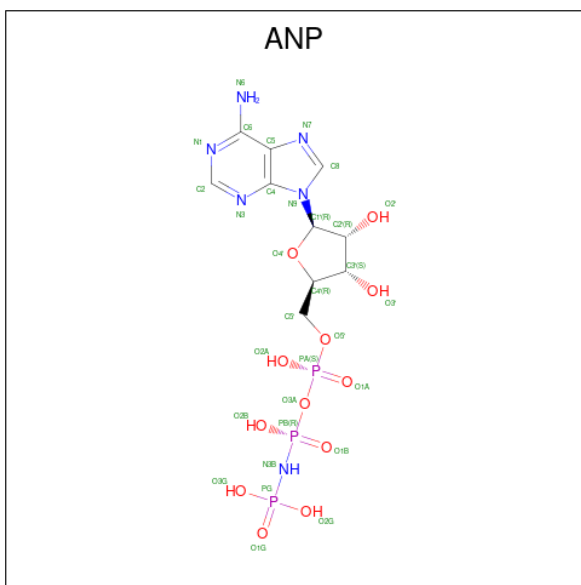
There are 2 unique types of molecules in this entry. The entry contains 12926 atoms, of which 0 are hydrogens and 0 are deuteriums.

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

- Molecule 1 is a protein called PROTEIN (HEAT SHOCK LOCUS U).

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
1	A	407	Total 3216	C 2008	N 574	O 624	S 10	126	0	0
1	B	407	Total 3216	C 2008	N 574	O 624	S 10	492	0	0
1	C	407	Total 3216	C 2008	N 574	O 624	S 10	103	0	0
1	D	407	Total 3216	C 2008	N 574	O 624	S 10	484	0	0

- Molecule 2 is PHOSPHOAMINOPHOSPHONIC ACID-ADENYLATE ESTER (three-letter code: ANP) (formula: $C_{10}H_{17}N_6O_{12}P_3$).



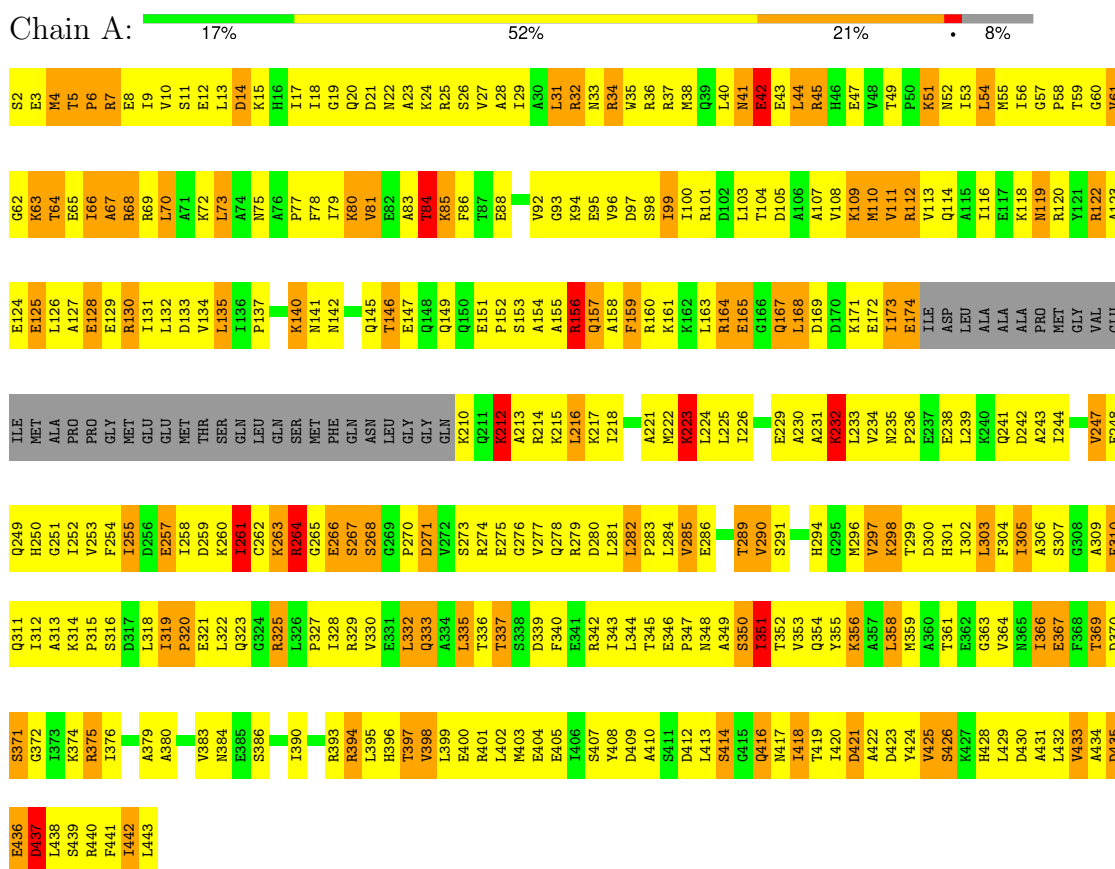
Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	
			Total	C	N	O			P
2	A	1	Total 31	C 10	N 6	O 12	P 3	0	0
2	C	1	Total 31	C 10	N 6	O 12	P 3	0	0

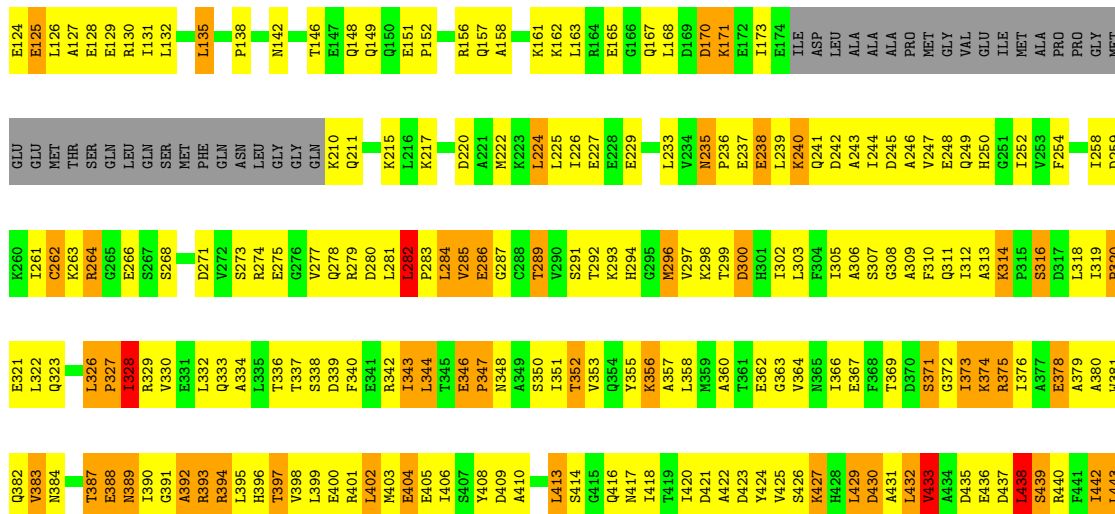
3 Residue-property plots [i](#)

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

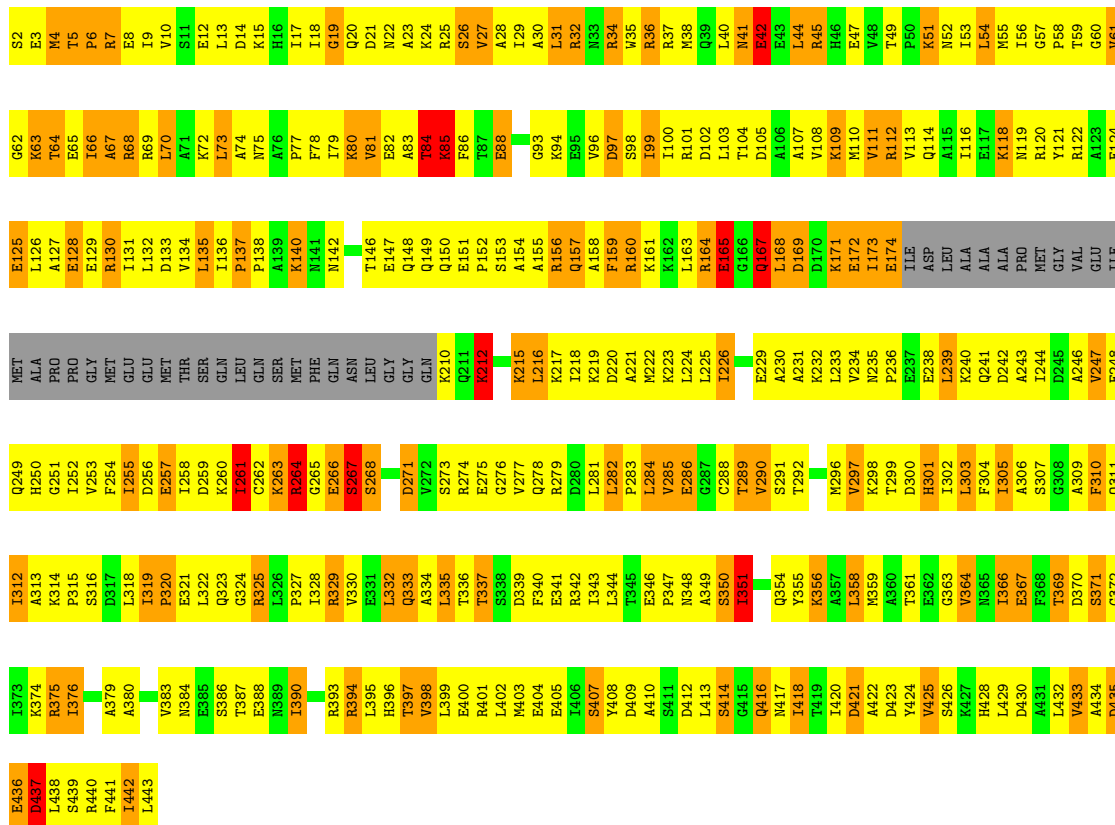
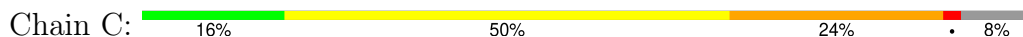
Note EDS was not executed.

- Molecule 1: PROTEIN (HEAT SHOCK LOCUS U)

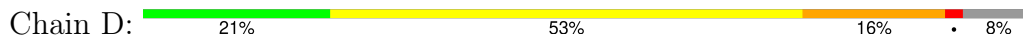




• Molecule 1: PROTEIN (HEAT SHOCK LOCUS U)



• Molecule 1: PROTEIN (HEAT SHOCK LOCUS U)



T64	L126	MET	E257	L318	A379
E65	A127	THR	I258	I319	A380
I66	E128	SER	D259	P320	Q381
	E129	GLN	K260	E321	Q382
R69	L130	LEU	I261	L322	V383
L70	L131	LEU	C262	Q323	N384
A71	L132	SER	K263	G324	
K72	D133	MET	K264	R325	T387
L73	V134	PHE	G265	L326	E388
A74	L135	GLN	E266	P327	N389
N75	L136	ASN	S267	I328	I390
A76	P138	LEU	S268	R329	G391
P77		GLY		V330	A392
F78	M142	GLY	D271	E331	R393
I79		GLN	V272	L332	R394
K80	Q145	K210	S273	Q333	L395
V81	T146	Q211	R274	A334	
E82	E147		E275	L335	T397
A83	Q148	K215	G276	T336	V398
T84	Q149	L216	V277	T337	L399
K85	Q150	K217	Q278	S338	E400
F86	E151	I218	R279	D339	R401
T87		K219	D280	F340	L402
E88	R156	D220	L281	E341	M403
V89	Q157	A221	L282	R342	E404
G90	A158	M222	P283	I343	E405
Y91		K223	L284	L344	
V92	K161	L224	V285	T345	Y408
G93	K162	L225	E286	E346	
K94	L163	I226	G287	P347	L413
E95	R164	E227	C288	N348	S414
V96	E165	E228	T289	A349	G415
D97	G166	E229	V290	S350	Q416
S98	Q167	A230	S291	I351	M417
I99	L168	A231	T292	T352	I418
I100	D169	K232	K293	V353	T419
R101	D170	L233	H294	Q354	I420
D102	K171	V234	G295	Y355	D421
L103		M235	M296	K356	A422
T104	E174	P236	V297	A357	D423
D105	I1E	E237	K298	L358	Y424
A106	ASP	E238	T299	N359	V425
A107	LEU	L239	D300	A360	S426
V108	ALA	K240	H301	T361	K427
K109	ALA	G241	I302	E362	H428
M110	ALA	D242	L303	G363	L429
V111	PRO	A243	F304	V364	D430
V112	MET	I244	I305	N365	A431
V113	GLY	D245	A306	L366	L432
Q114	VAL	A246	S307		V433
A115	GLU	V247	G308	T369	
I116	I1E	E248	A309	D370	E436
E117	MET	Q249	F310	S371	D437
	ALA	H250	Q311	G372	L438
R120	PRO	G251	I312	I373	S439
Y121	PRO	I252	A313	K374	R440
R122	GLY	V253	K314	R375	F441
A123	MET	P254	P315	I376	I442
E124	GLU	I255	S316	A377	L443
E125	GLU	D256	D317	E378	

4 Data and refinement statistics

Xtrriage (Phenix) and EDS were not executed - this section is therefore incomplete.

Property	Value	Source
Space group	P 3 2 1	Depositor
Cell constants a, b, c, α , β , γ	201.78Å 201.78Å 171.63Å 90.00° 90.00° 120.00°	Depositor
Resolution (Å)	15.00 – 4.00	Depositor
% Data completeness (in resolution range)	95.8 (15.00-4.00)	Depositor
R_{merge}	0.10	Depositor
R_{sym}	10.50	Depositor
Refinement program	X-PLOR 3.851	Depositor
R, R_{free}	0.229 , 0.285	Depositor
Estimated twinning fraction	No twinning to report.	Xtrriage
Total number of atoms	12926	wwPDB-VP
Average B, all atoms (Å ²)	59.0	wwPDB-VP

5 Model quality i

5.1 Standard geometry i

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

The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with $|Z| > 5$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# $ Z > 5$	RMSZ	# $ Z > 5$
1	A	0.30	0/3255	0.58	3/4385 (0.1%)
1	B	0.28	0/3255	0.50	0/4385
1	C	0.29	0/3255	0.51	0/4385
1	D	0.28	0/3255	0.52	0/4385
All	All	0.29	0/13020	0.53	3/17540 (0.0%)

There are no bond length outliers.

All (3) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	156	ARG	CB-CG-CD	12.03	142.87	111.60
1	A	223	LYS	CB-CG-CD	8.81	134.51	111.60
1	A	232	LYS	N-CA-CB	5.85	121.13	110.60

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts i

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	3216	0	3284	386	0
1	B	3216	0	3284	289	0
1	C	3216	0	3284	434	0
1	D	3216	0	3284	316	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
2	A	31	0	13	9	0
2	C	31	0	13	11	0
All	All	12926	0	13162	1411	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 60.

All (1411) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:356:LYS:HA	1:A:366:ILE:HD11	1.38	1.01
1:C:54:LEU:HD13	1:C:56:ILE:HD11	1.39	1.01
1:A:366:ILE:HD13	1:A:366:ILE:H	1.28	0.98
1:A:54:LEU:HD13	1:A:56:ILE:HD11	1.43	0.97
1:A:282:LEU:HD21	1:A:321:GLU:HB3	1.46	0.97
1:C:426:SER:O	1:C:430:ASP:HB2	1.66	0.96
1:C:299:THR:HA	1:C:302:ILE:HD12	1.47	0.96
1:C:4:MET:HB3	1:C:8:GLU:HB3	1.46	0.96
1:C:366:ILE:HD13	1:C:366:ILE:H	1.30	0.95
1:D:429:LEU:H	1:D:429:LEU:HD22	1.32	0.94
1:C:153:SER:HA	1:C:156:ARG:HB3	1.50	0.94
1:A:4:MET:HB3	1:A:8:GLU:HB3	1.51	0.93
1:A:109:LYS:HG3	1:A:112:ARG:HH21	1.34	0.92
1:C:356:LYS:HA	1:C:366:ILE:HD11	1.50	0.91
1:D:123:ALA:HB1	1:D:226:ILE:HG23	1.52	0.90
1:C:131:ILE:O	1:C:134:VAL:HG12	1.70	0.90
1:A:27:VAL:HG22	1:A:70:LEU:HD13	1.53	0.88
1:A:153:SER:HA	1:A:156:ARG:HB3	1.55	0.87
1:A:18:ILE:H	2:A:900:ANP:HN61	1.23	0.87
1:C:59:THR:HA	2:C:905:ANP:O1G	1.73	0.87
1:C:258:ILE:HG13	1:C:306:ALA:HB1	1.56	0.86
1:C:439:SER:HA	1:C:443:LEU:HD13	1.56	0.85
1:B:83:ALA:HB1	1:B:261:ILE:HD11	1.59	0.84
1:B:235:ASN:HD22	1:B:238:GLU:HG2	1.41	0.84
1:B:356:LYS:HA	1:B:366:ILE:HD11	1.56	0.84
1:C:282:LEU:HD21	1:C:321:GLU:HB3	1.59	0.84
1:A:426:SER:O	1:A:430:ASP:HB2	1.76	0.84
1:D:59:THR:HG21	1:D:390:ILE:HA	1.59	0.84
1:B:429:LEU:H	1:B:429:LEU:HD22	1.43	0.83
1:C:18:ILE:H	2:C:905:ANP:HN61	1.26	0.83
1:D:319:ILE:HG23	1:D:322:LEU:HB3	1.58	0.83

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:442:ILE:HG12	1:C:443:LEU:HD12	1.61	0.83
1:D:271:ASP:HA	1:D:274:ARG:HB2	1.60	0.83
1:D:356:LYS:HA	1:D:366:ILE:HD11	1.57	0.83
1:B:319:ILE:HG23	1:B:322:LEU:HB3	1.60	0.82
1:A:42:GLU:HA	1:A:45:ARG:HB2	1.61	0.82
1:A:131:ILE:O	1:A:134:VAL:HG12	1.77	0.82
1:A:59:THR:HA	2:A:900:ANP:O1G	1.79	0.82
1:B:26:SER:HA	1:B:29:ILE:HD12	1.62	0.82
1:C:27:VAL:HG22	1:C:70:LEU:HD13	1.61	0.82
1:A:24:LYS:O	1:A:27:VAL:HG12	1.79	0.82
1:C:369:THR:OG1	1:C:421:ASP:HA	1.80	0.82
1:C:42:GLU:HA	1:C:45:ARG:HB2	1.60	0.82
1:C:319:ILE:HG12	1:C:320:PRO:HD2	1.60	0.82
1:A:113:VAL:HA	1:A:116:ILE:HD12	1.62	0.81
1:A:344:LEU:HA	1:A:351:ILE:HD11	1.62	0.80
1:D:235:ASN:HD22	1:D:238:GLU:HG2	1.47	0.80
1:D:282:LEU:HD21	1:D:321:GLU:HB3	1.63	0.80
1:A:68:ARG:HH11	1:A:68:ARG:HB3	1.45	0.80
1:A:226:ILE:O	1:A:230:ALA:HB2	1.80	0.80
1:B:299:THR:HA	1:B:302:ILE:HG13	1.64	0.79
1:B:432:LEU:HD12	1:B:432:LEU:H	1.46	0.79
1:A:299:THR:HA	1:A:302:ILE:HD12	1.65	0.79
1:B:271:ASP:HA	1:B:274:ARG:HB2	1.62	0.79
1:C:113:VAL:HA	1:C:116:ILE:HD12	1.65	0.79
1:D:96:VAL:HG11	1:D:280:ASP:HB3	1.65	0.79
1:C:79:ILE:HG22	1:C:103:LEU:HD13	1.62	0.79
1:A:319:ILE:HG12	1:A:320:PRO:HD2	1.64	0.79
1:B:123:ALA:HB1	1:B:226:ILE:HG23	1.64	0.79
1:C:109:LYS:HG3	1:C:112:ARG:HH21	1.48	0.78
1:D:364:VAL:HG22	1:D:414:SER:HA	1.65	0.78
1:D:299:THR:HA	1:D:302:ILE:HG13	1.66	0.78
1:D:41:ASN:ND2	1:D:43:GLU:HB3	1.98	0.78
1:A:439:SER:HA	1:A:443:LEU:HD13	1.63	0.78
1:C:100:ILE:HD12	1:C:100:ILE:H	1.46	0.78
1:B:364:VAL:HG22	1:B:414:SER:HA	1.64	0.77
1:C:96:VAL:HG12	1:C:284:LEU:HD11	1.65	0.77
1:C:24:LYS:O	1:C:27:VAL:HG12	1.84	0.77
1:C:318:LEU:HD11	1:C:322:LEU:HD23	1.67	0.77
1:B:41:ASN:ND2	1:B:43:GLU:HB3	2.00	0.77
1:C:66:ILE:HD12	1:C:66:ILE:H	1.49	0.77
1:D:432:LEU:HD12	1:D:432:LEU:H	1.50	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:390:ILE:O	1:C:393:ARG:HG3	1.84	0.76
1:B:6:PRO:HA	1:B:9:ILE:HD12	1.67	0.76
1:C:26:SER:HA	1:C:29:ILE:HD12	1.67	0.76
1:C:111:VAL:HG11	1:C:243:ALA:HB2	1.68	0.75
1:C:319:ILE:HD11	1:C:321:GLU:HB2	1.66	0.75
1:A:66:ILE:H	1:A:66:ILE:HD12	1.52	0.75
1:A:390:ILE:HD11	1:A:394:ARG:NE	2.02	0.75
1:D:17:ILE:HG23	1:D:18:ILE:N	2.01	0.75
1:D:355:TYR:OH	1:D:403:MET:HB3	1.86	0.75
1:D:26:SER:HA	1:D:29:ILE:HD12	1.69	0.75
1:B:17:ILE:HG23	1:B:18:ILE:N	1.99	0.74
1:A:100:ILE:HD12	1:A:100:ILE:H	1.52	0.74
1:B:327:PRO:O	1:B:329:ARG:HG2	1.88	0.74
1:A:79:ILE:HG22	1:A:103:LEU:HD13	1.69	0.74
1:B:59:THR:HG21	1:B:390:ILE:HA	1.68	0.74
1:B:61:VAL:O	1:B:61:VAL:HG13	1.87	0.74
1:B:318:LEU:HD21	1:B:322:LEU:HD23	1.69	0.74
1:B:336:THR:HA	1:B:381:TRP:CZ3	2.22	0.74
1:A:442:ILE:HG12	1:A:443:LEU:HD12	1.69	0.73
1:B:263:LYS:HG3	1:B:264:ARG:N	2.02	0.73
1:C:383:VAL:HB	1:C:394:ARG:HH11	1.52	0.73
1:A:390:ILE:HD11	1:A:394:ARG:HE	1.52	0.73
1:B:91:TYR:HB3	1:B:95:GLU:HB2	1.71	0.73
1:D:426:SER:O	1:D:430:ASP:HB2	1.89	0.73
1:D:83:ALA:HB1	1:D:261:ILE:HD11	1.69	0.73
1:A:361:THR:HG21	1:B:36:ARG:HA	1.70	0.72
1:D:61:VAL:O	1:D:61:VAL:HG13	1.88	0.72
1:D:261:ILE:HG22	1:D:278:GLN:HE21	1.55	0.72
1:A:369:THR:OG1	1:A:421:ASP:HA	1.90	0.71
1:C:390:ILE:HD11	1:C:394:ARG:HE	1.55	0.71
1:B:426:SER:O	1:B:430:ASP:HB2	1.89	0.71
1:A:390:ILE:O	1:A:393:ARG:HG3	1.89	0.71
1:B:384:ASN:HD21	1:B:391:GLY:H	1.38	0.71
1:D:397:THR:HG21	1:D:443:LEU:HA	1.72	0.71
1:B:336:THR:HA	1:B:381:TRP:HZ3	1.54	0.71
1:C:226:ILE:O	1:C:230:ALA:HB2	1.90	0.71
1:B:282:LEU:HD21	1:B:321:GLU:HB3	1.73	0.70
1:C:223:LYS:O	1:C:226:ILE:HG22	1.90	0.70
1:C:438:LEU:O	1:C:442:ILE:HD13	1.91	0.70
1:A:429:LEU:N	1:A:429:LEU:HD23	2.07	0.70
1:C:234:VAL:HG23	1:C:236:PRO:HD3	1.73	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:289:THR:HG23	1:C:298:LYS:HG2	1.73	0.70
1:D:6:PRO:HA	1:D:9:ILE:HD12	1.74	0.70
1:A:132:LEU:HA	1:A:135:LEU:HD23	1.74	0.70
1:C:61:VAL:HA	1:C:335:LEU:HD11	1.74	0.70
1:C:235:ASN:HB3	1:C:238:GLU:HG2	1.73	0.70
1:B:387:THR:OG1	1:B:388:GLU:N	2.25	0.69
1:A:319:ILE:HD11	1:A:321:GLU:HB2	1.73	0.69
1:C:100:ILE:HD13	1:C:290:VAL:HG21	1.74	0.69
1:C:413:LEU:O	1:C:416:GLN:HB2	1.93	0.69
1:B:397:THR:HG21	1:B:443:LEU:HA	1.75	0.69
1:C:112:ARG:HB3	1:C:239:LEU:HD11	1.75	0.69
1:A:383:VAL:HB	1:A:394:ARG:HH11	1.58	0.69
1:D:23:ALA:HA	1:D:330:VAL:HG21	1.74	0.69
1:D:109:LYS:O	1:D:113:VAL:HG13	1.92	0.69
1:D:43:GLU:O	1:D:47:GLU:HB2	1.92	0.69
1:D:423:ASP:O	1:D:427:LYS:HB2	1.91	0.69
1:A:278:GLN:HB3	1:A:319:ILE:HG21	1.75	0.69
1:C:70:LEU:HA	1:C:73:LEU:HD22	1.75	0.69
1:D:245:ASP:O	1:D:249:GLN:HB2	1.93	0.69
1:D:24:LYS:O	1:D:27:VAL:HG22	1.92	0.69
1:A:100:ILE:HD13	1:A:290:VAL:HG21	1.75	0.68
1:A:291:SER:HA	1:A:296:MET:SD	2.33	0.68
1:B:122:ARG:CZ	1:B:126:LEU:HD11	2.24	0.68
1:D:387:THR:OG1	1:D:388:GLU:N	2.23	0.68
1:A:222:MET:O	1:A:226:ILE:HB	1.92	0.68
1:C:86:PHE:HD1	1:C:93:GLY:HA2	1.57	0.68
1:C:277:VAL:HG12	1:C:281:LEU:HD11	1.74	0.68
1:D:117:GLU:HA	1:D:120:ARG:NE	2.08	0.68
1:A:65:GLU:OE2	1:A:69:ARG:HD3	1.93	0.68
1:B:384:ASN:ND2	1:B:391:GLY:H	1.90	0.68
1:A:86:PHE:HD1	1:A:93:GLY:HA2	1.57	0.68
1:C:31:LEU:HD23	1:C:70:LEU:HD11	1.74	0.68
1:A:318:LEU:HD11	1:A:322:LEU:HD23	1.76	0.68
1:B:100:ILE:HG21	1:B:297:VAL:HG21	1.76	0.68
1:C:303:LEU:HD12	1:C:305:ILE:HG12	1.76	0.68
1:A:413:LEU:O	1:A:416:GLN:HB2	1.94	0.67
1:A:234:VAL:HG23	1:A:236:PRO:HD3	1.75	0.67
1:C:216:LEU:HD11	1:C:221:ALA:HB2	1.76	0.67
1:A:258:ILE:HG13	1:A:306:ALA:HB1	1.76	0.67
1:C:125:GLU:OE1	1:C:126:LEU:HG	1.95	0.67
1:C:264:ARG:HH11	1:C:264:ARG:HB3	1.58	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:318:LEU:HD23	1:D:319:ILE:N	2.10	0.67
1:D:336:THR:HA	1:D:381:TRP:CZ3	2.29	0.67
1:C:59:THR:HG23	2:C:905:ANP:O3G	1.93	0.67
1:A:422:ALA:O	1:A:425:VAL:HG23	1.95	0.67
1:B:245:ASP:C	1:B:247:VAL:H	1.98	0.67
1:A:70:LEU:HA	1:A:73:LEU:HD22	1.77	0.67
1:A:96:VAL:HG12	1:A:284:LEU:HD11	1.77	0.67
1:D:394:ARG:O	1:D:398:VAL:HG13	1.95	0.67
1:D:129:GLU:HA	1:D:132:LEU:HB2	1.76	0.67
1:D:282:LEU:O	1:D:286:GLU:N	2.27	0.67
1:A:59:THR:HG23	2:A:900:ANP:O3G	1.94	0.67
1:A:397:THR:HG21	1:A:443:LEU:HA	1.75	0.67
1:C:63:LYS:HB2	2:C:905:ANP:O1B	1.95	0.67
1:C:132:LEU:HD12	1:C:133:ASP:N	2.09	0.67
1:C:278:GLN:HB3	1:C:319:ILE:HG21	1.77	0.67
1:D:327:PRO:O	1:D:329:ARG:HG2	1.94	0.67
1:D:127:ALA:O	1:D:131:ILE:HG12	1.95	0.67
1:B:23:ALA:HB2	1:B:332:LEU:HD11	1.75	0.66
1:B:261:ILE:HG22	1:B:278:GLN:HE21	1.58	0.66
1:C:68:ARG:HH11	1:C:68:ARG:HB3	1.60	0.66
1:B:127:ALA:HA	1:B:225:LEU:HB3	1.77	0.66
1:B:129:GLU:HA	1:B:132:LEU:HB2	1.77	0.66
1:D:5:THR:O	1:D:9:ILE:HG13	1.96	0.66
1:A:223:LYS:O	1:A:226:ILE:HG22	1.94	0.66
1:B:278:GLN:OE1	1:B:319:ILE:HG22	1.95	0.66
1:D:245:ASP:C	1:D:247:VAL:H	1.99	0.66
1:A:372:GLY:O	1:A:376:ILE:HD12	1.96	0.66
1:A:435:ASP:OD2	1:A:438:LEU:HD23	1.96	0.66
1:B:281:LEU:O	1:B:284:LEU:HG	1.95	0.66
1:C:366:ILE:HD13	1:C:366:ILE:N	2.09	0.66
1:C:390:ILE:HD11	1:C:394:ARG:NE	2.10	0.66
1:A:130:ARG:HA	1:A:133:ASP:HB2	1.78	0.66
1:C:65:GLU:O	1:C:68:ARG:HG2	1.96	0.65
1:C:132:LEU:HA	1:C:135:LEU:HD23	1.76	0.65
1:C:248:GLU:HG3	1:C:297:VAL:HG12	1.78	0.65
1:D:430:ASP:O	1:D:433:VAL:HG23	1.96	0.65
1:B:281:LEU:HD23	1:B:284:LEU:HD11	1.78	0.65
1:A:105:ASP:O	1:A:108:VAL:HB	1.96	0.65
1:A:57:GLY:O	1:A:309:ALA:HB2	1.97	0.65
1:A:132:LEU:HD12	1:A:133:ASP:N	2.11	0.65
1:B:430:ASP:O	1:B:433:VAL:HG23	1.96	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:284:LEU:HA	1:D:299:THR:OG1	1.97	0.65
1:A:31:LEU:HD23	1:A:70:LEU:HD11	1.76	0.65
1:D:281:LEU:O	1:D:284:LEU:HG	1.97	0.65
1:A:344:LEU:HA	1:A:351:ILE:CD1	2.27	0.65
1:B:24:LYS:O	1:B:27:VAL:HG22	1.96	0.65
1:B:383:VAL:HB	1:B:394:ARG:HH11	1.60	0.65
1:A:128:GLU:HA	1:A:131:ILE:HD12	1.79	0.65
1:C:22:ASN:HA	1:C:25:ARG:HG3	1.79	0.65
1:D:318:LEU:HD21	1:D:322:LEU:HD23	1.78	0.65
1:A:327:PRO:HG2	1:A:328:ILE:HD12	1.78	0.64
1:C:128:GLU:HA	1:C:131:ILE:CD1	2.27	0.64
1:C:319:ILE:CD1	1:C:321:GLU:HB2	2.27	0.64
1:C:103:LEU:HD23	1:C:247:VAL:HG12	1.79	0.64
1:C:397:THR:HG21	1:C:443:LEU:HA	1.78	0.64
1:B:4:MET:HB3	1:B:8:GLU:HB3	1.80	0.64
1:D:110:MET:O	1:D:113:VAL:HG22	1.98	0.64
1:D:336:THR:HG22	1:D:339:ASP:CG	2.18	0.64
1:D:70:LEU:HD23	1:D:71:ALA:N	2.13	0.64
1:D:336:THR:HA	1:D:381:TRP:HZ3	1.61	0.64
1:A:153:SER:CA	1:A:156:ARG:HB3	2.25	0.64
1:C:337:THR:O	1:C:340:PHE:HB2	1.97	0.64
1:D:278:GLN:HA	1:D:281:LEU:HD12	1.80	0.64
1:A:66:ILE:H	1:A:66:ILE:CD1	2.11	0.63
1:D:278:GLN:O	1:D:281:LEU:HB2	1.98	0.63
1:A:61:VAL:HA	1:A:335:LEU:HD11	1.78	0.63
1:B:310:PHE:HB3	1:B:313:ALA:O	1.98	0.63
1:D:235:ASN:O	1:D:239:LEU:HG	1.97	0.63
1:A:277:VAL:HG12	1:A:281:LEU:HD11	1.81	0.63
1:B:83:ALA:HB1	1:B:261:ILE:CD1	2.28	0.63
1:B:395:LEU:HA	1:B:398:VAL:HG22	1.78	0.63
1:C:128:GLU:HA	1:C:131:ILE:HG13	1.80	0.63
1:C:277:VAL:HG12	1:C:281:LEU:CD1	2.29	0.63
1:D:395:LEU:O	1:D:398:VAL:HG22	1.98	0.63
1:A:173:ILE:O	1:A:212:LYS:HB3	1.97	0.63
1:B:254:PHE:HD2	1:B:305:ILE:HB	1.62	0.63
1:A:22:ASN:HA	1:A:25:ARG:HG3	1.80	0.63
1:A:96:VAL:HG11	1:A:281:LEU:HG	1.79	0.63
1:B:245:ASP:O	1:B:249:GLN:HB2	1.98	0.63
1:B:318:LEU:HD23	1:B:319:ILE:N	2.13	0.63
1:B:23:ALA:O	1:B:27:VAL:HG13	1.99	0.63
1:C:222:MET:O	1:C:226:ILE:HB	1.99	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:356:LYS:NZ	1:A:367:GLU:HA	2.13	0.63
1:B:423:ASP:O	1:B:427:LYS:HB2	1.98	0.63
1:D:21:ASP:HA	1:D:24:LYS:HG3	1.80	0.63
1:A:24:LYS:O	1:A:28:ALA:N	2.31	0.62
1:A:125:GLU:OE1	1:A:126:LEU:HG	1.99	0.62
1:C:23:ALA:HB2	1:C:332:LEU:HD11	1.80	0.62
1:C:128:GLU:HA	1:C:131:ILE:CG1	2.29	0.62
1:A:99:ILE:HG22	1:A:100:ILE:N	2.15	0.62
1:B:121:TYR:O	1:B:125:GLU:HB3	1.99	0.62
1:C:439:SER:HA	1:C:443:LEU:CD1	2.29	0.62
1:D:278:GLN:OE1	1:D:319:ILE:HG22	1.99	0.62
1:D:41:ASN:HD21	1:D:43:GLU:HB3	1.63	0.62
1:B:60:GLY:HA2	1:B:63:LYS:CG	2.30	0.62
1:C:20:GLN:HB3	1:C:332:LEU:HD12	1.81	0.62
1:A:13:LEU:C	1:A:15:LYS:H	2.03	0.62
1:C:35:TRP:CZ3	1:C:36:ARG:HG3	2.33	0.62
1:D:254:PHE:HD2	1:D:305:ILE:HB	1.64	0.62
1:D:383:VAL:HB	1:D:394:ARG:HH11	1.65	0.62
1:D:375:ARG:HA	1:D:378:GLU:HB2	1.82	0.62
1:A:63:LYS:HB2	2:A:900:ANP:O1B	2.00	0.62
1:B:289:THR:HA	1:B:297:VAL:O	2.00	0.62
1:C:363:GLY:O	1:C:414:SER:HA	2.00	0.62
1:C:438:LEU:HB3	1:C:442:ILE:HD11	1.81	0.62
1:D:83:ALA:HB1	1:D:261:ILE:CD1	2.30	0.62
1:D:257:GLU:O	1:D:260:LYS:HB2	2.00	0.62
1:A:129:GLU:O	1:A:132:LEU:HG	2.00	0.62
1:A:265:GLY:O	1:A:266:GLU:HB2	2.00	0.61
1:A:303:LEU:HD12	1:A:305:ILE:HG12	1.81	0.61
1:A:310:PHE:N	1:A:310:PHE:HD2	1.98	0.61
1:A:358:LEU:HD11	1:B:33:ASN:HD22	1.65	0.61
1:B:282:LEU:O	1:B:286:GLU:N	2.33	0.61
1:B:394:ARG:O	1:B:398:VAL:HG13	2.00	0.61
1:C:128:GLU:HA	1:C:131:ILE:HD12	1.80	0.61
1:B:340:PHE:O	1:B:343:ILE:HG13	2.00	0.61
1:C:312:ILE:HG13	1:C:313:ALA:H	1.65	0.61
1:A:366:ILE:HD13	1:A:366:ILE:N	2.07	0.61
1:C:23:ALA:HA	1:C:330:VAL:HG21	1.83	0.61
1:C:57:GLY:O	1:C:309:ALA:HB2	2.00	0.61
1:D:310:PHE:HB3	1:D:313:ALA:O	2.00	0.61
1:C:97:ASP:HB2	1:C:290:VAL:HG11	1.82	0.61
1:C:105:ASP:O	1:C:108:VAL:HB	2.01	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:271:ASP:HA	1:D:274:ARG:CB	2.29	0.61
1:B:355:TYR:OH	1:B:403:MET:HB3	2.00	0.61
1:A:23:ALA:HA	1:A:330:VAL:HG21	1.83	0.61
1:A:122:ARG:HB3	1:A:126:LEU:HD12	1.81	0.61
1:A:282:LEU:O	1:A:285:VAL:HG23	2.00	0.61
1:B:96:VAL:HG11	1:B:280:ASP:HB3	1.82	0.61
1:C:253:VAL:O	1:C:305:ILE:HG13	2.00	0.61
1:C:255:ILE:O	1:C:306:ALA:HA	2.01	0.61
1:C:265:GLY:O	1:C:266:GLU:HB2	2.00	0.61
1:D:91:TYR:HB3	1:D:95:GLU:HB2	1.82	0.61
1:A:264:ARG:HH11	1:A:264:ARG:HB3	1.65	0.61
1:A:65:GLU:O	1:A:68:ARG:HG2	2.01	0.61
1:A:312:ILE:HG13	1:A:313:ALA:H	1.66	0.61
1:B:319:ILE:HD12	1:B:320:PRO:HD2	1.83	0.61
1:C:86:PHE:HA	1:C:93:GLY:HA2	1.83	0.61
1:B:235:ASN:O	1:B:239:LEU:HG	2.01	0.61
1:B:284:LEU:HA	1:B:299:THR:OG1	2.01	0.61
1:C:66:ILE:H	1:C:66:ILE:CD1	2.13	0.60
1:A:258:ILE:HA	1:A:261:ILE:HD11	1.82	0.60
1:B:278:GLN:O	1:B:281:LEU:HB2	2.00	0.60
1:C:12:GLU:HG2	1:C:73:LEU:HD12	1.83	0.60
1:D:128:GLU:O	1:D:132:LEU:HB2	2.00	0.60
1:D:263:LYS:HG3	1:D:264:ARG:N	2.16	0.60
1:A:418:ILE:HD13	1:A:418:ILE:N	2.16	0.60
1:A:438:LEU:O	1:A:442:ILE:HD13	2.01	0.60
1:B:438:LEU:CD2	1:B:442:ILE:HD11	2.31	0.60
1:C:281:LEU:O	1:C:284:LEU:HG	2.02	0.60
1:A:5:THR:HB	1:A:6:PRO:HD2	1.84	0.60
1:B:122:ARG:HG3	1:B:233:LEU:HD21	1.81	0.60
1:B:436:GLU:O	1:B:438:LEU:N	2.34	0.60
1:D:27:VAL:HB	1:D:70:LEU:HD13	1.84	0.60
1:A:5:THR:N	1:A:8:GLU:HB2	2.16	0.60
1:C:77:PRO:O	1:C:103:LEU:HD11	2.02	0.60
1:C:212:LYS:HE2	1:C:225:LEU:HD13	1.84	0.60
1:D:44:LEU:HA	1:D:47:GLU:CB	2.31	0.60
1:A:319:ILE:CD1	1:A:321:GLU:HB2	2.32	0.60
1:C:64:THR:HG22	1:C:68:ARG:HD3	1.83	0.60
1:C:65:GLU:OE2	1:C:69:ARG:HD3	2.02	0.60
1:A:339:ASP:O	1:A:343:ILE:HG13	2.01	0.60
1:D:100:ILE:HD11	1:D:284:LEU:HB3	1.84	0.60
1:D:223:LYS:HA	1:D:226:ILE:HD12	1.84	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:235:ASN:ND2	1:D:238:GLU:HG2	2.15	0.60
1:C:13:LEU:C	1:C:15:LYS:H	2.04	0.60
1:C:100:ILE:HG12	1:C:299:THR:CG2	2.31	0.60
1:C:376:ILE:HG13	1:C:425:VAL:HG11	1.83	0.60
1:D:117:GLU:HA	1:D:120:ARG:HG3	1.84	0.60
1:A:275:GLU:O	1:A:278:GLN:HB2	2.02	0.59
1:A:310:PHE:N	1:A:310:PHE:CD2	2.69	0.59
1:B:278:GLN:HA	1:B:281:LEU:HD12	1.83	0.59
1:D:340:PHE:O	1:D:343:ILE:HG13	2.02	0.59
1:A:64:THR:O	1:A:67:ALA:HB3	2.02	0.59
1:B:87:THR:O	1:B:88:GLU:HB2	2.01	0.59
1:C:129:GLU:O	1:C:132:LEU:HG	2.02	0.59
1:C:111:VAL:HG13	1:C:112:ARG:H	1.67	0.59
1:C:344:LEU:HA	1:C:351:ILE:HD11	1.82	0.59
1:D:285:VAL:C	1:D:287:GLY:H	2.05	0.59
1:B:43:GLU:O	1:B:47:GLU:HB2	2.03	0.59
1:B:83:ALA:O	1:B:86:PHE:HD2	1.84	0.59
1:C:340:PHE:O	1:C:344:LEU:HD13	2.01	0.59
1:D:23:ALA:O	1:D:27:VAL:HG13	2.02	0.59
1:B:240:LYS:HG2	1:B:294:HIS:HB3	1.85	0.59
1:C:173:ILE:O	1:C:212:LYS:HB3	2.03	0.59
1:D:4:MET:HB3	1:D:8:GLU:HB3	1.85	0.59
1:D:339:ASP:O	1:D:343:ILE:HG12	2.03	0.59
1:A:108:VAL:HG21	1:A:294:HIS:CE1	2.38	0.59
1:A:153:SER:HA	1:A:157:GLN:H	1.68	0.59
1:B:397:THR:CG2	1:B:443:LEU:HA	2.33	0.59
1:A:77:PRO:O	1:A:103:LEU:HD11	2.02	0.59
1:D:320:PRO:HA	1:D:323:GLN:HB3	1.84	0.59
1:A:47:GLU:HG3	1:A:47:GLU:O	2.03	0.58
1:A:64:THR:HG22	1:A:68:ARG:HD3	1.83	0.58
1:A:212:LYS:HE2	1:A:225:LEU:HD13	1.85	0.58
1:C:151:GLU:N	1:C:152:PRO:HD2	2.19	0.58
1:C:366:ILE:H	1:C:366:ILE:CD1	2.10	0.58
1:B:91:TYR:HB3	1:B:95:GLU:CB	2.33	0.58
1:B:235:ASN:ND2	1:B:238:GLU:HG2	2.13	0.58
1:D:5:THR:HG23	1:D:8:GLU:CD	2.22	0.58
1:D:384:ASN:HD21	1:D:391:GLY:H	1.51	0.58
1:D:244:ILE:O	1:D:248:GLU:HG2	2.03	0.58
1:D:252:ILE:HD12	1:D:252:ILE:N	2.18	0.58
1:A:5:THR:HA	1:A:32:ARG:NH1	2.18	0.58
1:B:293:LYS:HE2	1:B:294:HIS:NE2	2.18	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:116:ILE:O	1:D:120:ARG:HG3	2.03	0.58
1:A:44:LEU:HD12	1:A:44:LEU:H	1.68	0.58
1:A:109:LYS:HA	1:A:112:ARG:NH2	2.19	0.58
1:A:366:ILE:H	1:A:366:ILE:CD1	2.08	0.58
1:A:438:LEU:O	1:A:441:PHE:N	2.35	0.58
1:D:51:LYS:HB2	1:D:328:ILE:HD11	1.84	0.58
1:A:244:ILE:HA	1:A:247:VAL:HG23	1.86	0.58
1:B:128:GLU:O	1:B:132:LEU:HB2	2.03	0.58
1:A:62:GLY:C	1:A:66:ILE:HD13	2.24	0.58
1:B:21:ASP:HA	1:B:24:LYS:HG3	1.86	0.58
1:B:110:MET:O	1:B:113:VAL:HG22	2.04	0.58
1:C:5:THR:HB	1:C:6:PRO:HD2	1.85	0.58
1:C:234:VAL:HG23	1:C:235:ASN:H	1.69	0.58
1:C:248:GLU:HG2	1:C:298:LYS:H	1.69	0.58
1:C:383:VAL:HB	1:C:394:ARG:NH1	2.18	0.58
1:A:4:MET:HE3	1:A:4:MET:H	1.68	0.58
1:C:339:ASP:O	1:C:343:ILE:HG13	2.04	0.58
1:D:31:LEU:O	1:D:34:ARG:HB2	2.04	0.58
1:D:442:ILE:O	1:D:443:LEU:HG	2.04	0.58
1:C:319:ILE:HD13	1:C:322:LEU:H	1.69	0.57
1:D:70:LEU:O	1:D:73:LEU:HG	2.04	0.57
1:D:127:ALA:HA	1:D:225:LEU:HB3	1.86	0.57
1:D:281:LEU:HD23	1:D:284:LEU:HD11	1.86	0.57
1:A:315:PRO:O	1:A:318:LEU:HB3	2.03	0.57
1:B:339:ASP:O	1:B:343:ILE:HG12	2.05	0.57
1:C:64:THR:O	1:C:67:ALA:HB3	2.04	0.57
1:C:279:ARG:O	1:C:283:PRO:HD2	2.04	0.57
1:C:394:ARG:O	1:C:398:VAL:HG23	2.04	0.57
1:C:422:ALA:O	1:C:425:VAL:HG23	2.05	0.57
1:C:435:ASP:OD2	1:C:438:LEU:HD23	2.04	0.57
1:A:65:GLU:O	1:A:66:ILE:C	2.42	0.57
1:C:258:ILE:HG13	1:C:306:ALA:CB	2.30	0.57
1:A:356:LYS:CA	1:A:366:ILE:HD11	2.23	0.57
1:B:224:LEU:HA	1:B:227:GLU:OE2	2.04	0.57
1:D:442:ILE:C	1:D:443:LEU:HG	2.23	0.57
1:A:350:SER:OG	1:A:351:ILE:HD12	2.05	0.57
1:A:438:LEU:HB3	1:A:442:ILE:HD11	1.86	0.57
1:A:323:GLN:HG3	1:A:329:ARG:NH2	2.19	0.57
1:A:337:THR:O	1:A:340:PHE:HB2	2.04	0.57
1:C:432:LEU:HD23	1:C:443:LEU:HD11	1.86	0.57
1:A:439:SER:HA	1:A:443:LEU:CD1	2.35	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:66:ILE:HD12	1:A:66:ILE:N	2.18	0.57
1:B:252:ILE:HD12	1:B:252:ILE:N	2.20	0.57
1:C:96:VAL:O	1:C:99:ILE:HD13	2.05	0.57
1:C:402:LEU:CD1	1:C:425:VAL:HA	2.35	0.57
1:C:418:ILE:HD13	1:C:418:ILE:N	2.19	0.57
1:B:5:THR:HG23	1:B:8:GLU:CD	2.25	0.57
1:C:47:GLU:O	1:C:47:GLU:HG3	2.05	0.57
1:C:429:LEU:N	1:C:429:LEU:HD23	2.19	0.57
1:C:442:ILE:HD13	1:C:442:ILE:H	1.70	0.56
1:B:20:GLN:O	1:B:23:ALA:HB3	2.05	0.56
1:C:12:GLU:O	1:C:12:GLU:HG3	2.04	0.56
1:C:320:PRO:HA	1:C:323:GLN:HB3	1.87	0.56
1:A:212:LYS:O	1:A:213:ALA:HB3	2.04	0.56
1:B:336:THR:HG22	1:B:339:ASP:CG	2.25	0.56
1:C:66:ILE:HD12	1:C:66:ILE:N	2.19	0.56
1:D:60:GLY:HA2	1:D:63:LYS:CG	2.35	0.56
1:D:84:THR:O	1:D:86:PHE:N	2.39	0.56
1:C:53:ILE:HG22	1:C:54:LEU:N	2.20	0.56
1:C:23:ALA:CB	1:C:332:LEU:HD11	2.36	0.56
1:C:403:MET:O	1:C:407:SER:HB2	2.06	0.56
1:B:125:GLU:HG3	1:B:126:LEU:N	2.18	0.56
1:C:109:LYS:HA	1:C:112:ARG:NH2	2.21	0.56
1:C:351:ILE:HA	1:C:354:GLN:HE21	1.70	0.56
1:C:355:TYR:OH	1:C:403:MET:HB2	2.06	0.56
1:D:84:THR:C	1:D:86:PHE:H	2.09	0.56
1:D:384:ASN:ND2	1:D:391:GLY:H	2.04	0.56
1:A:12:GLU:O	1:A:12:GLU:HG3	2.06	0.56
1:A:69:ARG:HD2	1:A:69:ARG:N	2.20	0.56
1:B:27:VAL:HB	1:B:70:LEU:HD13	1.87	0.56
1:B:442:ILE:C	1:B:443:LEU:HG	2.25	0.56
1:C:101:ARG:HA	1:C:292:THR:HG22	1.88	0.56
1:C:122:ARG:HA	1:C:125:GLU:CG	2.36	0.56
1:C:282:LEU:O	1:C:285:VAL:HG23	2.05	0.56
1:A:173:ILE:HG22	1:A:174:GLU:H	1.71	0.56
1:A:356:LYS:HA	1:A:366:ILE:CD1	2.25	0.56
1:A:62:GLY:O	1:A:63:LYS:C	2.44	0.56
1:A:277:VAL:HG12	1:A:281:LEU:CD1	2.35	0.56
1:B:41:ASN:HD21	1:B:43:GLU:HB3	1.71	0.56
1:B:245:ASP:O	1:B:247:VAL:N	2.36	0.56
1:C:229:GLU:O	1:C:232:LYS:HE2	2.06	0.56
1:C:344:LEU:HA	1:C:351:ILE:CD1	2.36	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:371:SER:HB2	1:C:422:ALA:HB2	1.87	0.56
1:D:41:ASN:O	1:D:45:ARG:HB2	2.05	0.56
1:A:21:ASP:O	1:A:24:LYS:N	2.39	0.56
1:A:367:GLU:HB3	1:A:419:THR:HG22	1.88	0.56
1:B:70:LEU:O	1:B:73:LEU:HG	2.06	0.56
1:C:262:CYS:O	1:C:263:LYS:HG3	2.06	0.56
1:D:53:ILE:HG12	1:D:328:ILE:HB	1.88	0.56
1:D:389:ASN:C	1:D:390:ILE:HG13	2.25	0.56
1:A:151:GLU:N	1:A:152:PRO:HD2	2.21	0.55
1:B:271:ASP:HA	1:B:274:ARG:CB	2.36	0.55
1:C:174:GLU:HA	1:C:212:LYS:HB3	1.88	0.55
1:C:278:GLN:OE1	1:C:319:ILE:HG22	2.05	0.55
1:B:41:ASN:O	1:B:45:ARG:HB2	2.06	0.55
1:B:70:LEU:HD23	1:B:71:ALA:N	2.21	0.55
1:B:395:LEU:O	1:B:398:VAL:HG22	2.06	0.55
1:B:432:LEU:H	1:B:432:LEU:CD1	2.17	0.55
1:C:109:LYS:HG3	1:C:112:ARG:NH2	2.19	0.55
1:C:319:ILE:HD11	1:C:321:GLU:OE2	2.07	0.55
1:A:394:ARG:O	1:A:398:VAL:HG23	2.06	0.55
1:D:59:THR:O	1:D:61:VAL:N	2.40	0.55
1:A:6:PRO:HD3	1:A:32:ARG:HD3	1.87	0.55
1:C:323:GLN:HG3	1:C:329:ARG:NH2	2.22	0.55
1:D:52:ASN:C	1:D:328:ILE:HD12	2.27	0.55
1:A:432:LEU:HD23	1:A:443:LEU:HD11	1.88	0.55
1:A:86:PHE:HA	1:A:93:GLY:HA2	1.89	0.55
1:C:275:GLU:O	1:C:278:GLN:HB2	2.06	0.55
1:C:438:LEU:H	1:C:438:LEU:HD22	1.70	0.55
1:A:356:LYS:HZ2	1:A:367:GLU:HA	1.70	0.55
1:B:10:VAL:HG12	1:B:14:ASP:OD1	2.07	0.55
1:B:98:SER:O	1:B:99:ILE:C	2.44	0.55
1:C:163:LEU:C	1:C:165:GLU:H	2.09	0.55
1:C:399:LEU:O	1:C:403:MET:HG2	2.07	0.55
1:C:319:ILE:HG23	1:C:322:LEU:CB	2.37	0.55
1:D:402:LEU:HB2	1:D:429:LEU:HD21	1.89	0.55
1:A:351:ILE:HA	1:A:354:GLN:HE21	1.72	0.54
1:C:136:ILE:HD12	1:C:156:ARG:HA	1.88	0.54
1:C:315:PRO:O	1:C:318:LEU:HB3	2.07	0.54
1:A:254:PHE:CD2	1:A:305:ILE:HB	2.42	0.54
1:C:18:ILE:HD13	1:C:343:ILE:HG12	1.88	0.54
1:C:99:ILE:HG22	1:C:100:ILE:N	2.21	0.54
1:A:145:GLN:HA	1:A:145:GLN:OE1	2.07	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:57:GLY:C	1:B:309:ALA:HB2	2.27	0.54
1:B:318:LEU:HD21	1:B:322:LEU:CD2	2.37	0.54
1:B:375:ARG:HA	1:B:378:GLU:HB2	1.89	0.54
1:A:132:LEU:HA	1:A:135:LEU:HB2	1.89	0.54
1:C:261:ILE:HG22	1:C:274:ARG:HB3	1.89	0.54
1:D:57:GLY:C	1:D:309:ALA:HB2	2.28	0.54
1:D:229:GLU:HA	1:D:232:LYS:HD2	1.89	0.54
1:A:55:MET:HE3	1:A:254:PHE:HE2	1.72	0.54
1:C:60:GLY:H	2:C:905:ANP:PG	2.31	0.54
1:A:127:ALA:HB2	1:A:226:ILE:HA	1.90	0.54
1:B:31:LEU:O	1:B:34:ARG:HB2	2.07	0.54
1:C:114:GLN:O	1:C:118:LYS:HB2	2.07	0.54
1:C:402:LEU:HD13	1:C:425:VAL:HA	1.88	0.54
1:A:100:ILE:HD11	1:A:284:LEU:HD22	1.90	0.54
1:B:59:THR:O	1:B:61:VAL:N	2.41	0.54
1:C:45:ARG:C	1:C:47:GLU:H	2.11	0.54
1:C:229:GLU:HB3	1:C:232:LYS:NZ	2.23	0.54
1:C:322:LEU:O	1:C:325:ARG:N	2.41	0.54
1:D:224:LEU:HA	1:D:227:GLU:OE2	2.08	0.54
1:C:397:THR:O	1:C:398:VAL:C	2.45	0.54
1:A:358:LEU:HD11	1:B:33:ASN:ND2	2.22	0.54
1:B:104:THR:O	1:B:107:ALA:HB3	2.07	0.54
1:C:26:SER:CA	1:C:29:ILE:HD12	2.38	0.54
1:C:69:ARG:HD2	1:C:69:ARG:N	2.22	0.54
1:A:84:THR:C	1:A:86:PHE:H	2.11	0.54
1:A:278:GLN:OE1	1:A:319:ILE:HG22	2.08	0.54
1:C:64:THR:C	1:C:68:ARG:HD3	2.28	0.54
1:C:288:CYS:O	1:C:298:LYS:HD3	2.07	0.54
1:A:109:LYS:O	1:A:112:ARG:HB3	2.07	0.53
1:B:127:ALA:O	1:B:131:ILE:HG12	2.08	0.53
1:D:236:PRO:O	1:D:240:LYS:HB2	2.08	0.53
1:A:399:LEU:O	1:A:402:LEU:HB3	2.09	0.53
1:C:291:SER:HA	1:C:296:MET:SD	2.49	0.53
1:C:358:LEU:HD11	1:D:33:ASN:HD22	1.73	0.53
1:A:230:ALA:C	1:A:232:LYS:H	2.12	0.53
1:A:367:GLU:O	1:A:420:ILE:N	2.41	0.53
1:B:275:GLU:O	1:B:278:GLN:HB2	2.08	0.53
1:C:310:PHE:HD2	1:C:310:PHE:N	2.06	0.53
1:D:289:THR:HA	1:D:297:VAL:O	2.07	0.53
1:D:340:PHE:HA	1:D:343:ILE:HD11	1.90	0.53
1:A:53:ILE:HG22	1:A:54:LEU:N	2.23	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:155:ALA:O	1:A:158:ALA:HB3	2.08	0.53
1:A:20:GLN:HB3	1:A:332:LEU:HD12	1.91	0.53
1:A:397:THR:O	1:A:398:VAL:C	2.46	0.53
1:B:17:ILE:C	1:B:18:ILE:HD13	2.29	0.53
1:C:254:PHE:CD2	1:C:305:ILE:HB	2.44	0.53
1:A:55:MET:O	1:A:307:SER:HA	2.09	0.53
1:A:100:ILE:HG12	1:A:299:THR:CG2	2.38	0.53
1:B:51:LYS:HB2	1:B:328:ILE:HD11	1.91	0.53
1:B:109:LYS:O	1:B:113:VAL:HG13	2.08	0.53
1:C:112:ARG:HH11	1:C:112:ARG:HG2	1.74	0.53
1:D:104:THR:O	1:D:107:ALA:HB3	2.09	0.53
1:A:322:LEU:O	1:A:325:ARG:N	2.41	0.53
1:B:84:THR:C	1:B:86:PHE:H	2.12	0.53
1:B:100:ILE:CG2	1:B:297:VAL:HG21	2.39	0.53
1:D:52:ASN:O	1:D:327:PRO:HD2	2.08	0.53
1:D:235:ASN:HD22	1:D:235:ASN:H	1.57	0.53
1:A:5:THR:HG23	1:A:8:GLU:CD	2.30	0.53
1:A:234:VAL:HG23	1:A:235:ASN:H	1.73	0.53
1:A:383:VAL:HB	1:A:394:ARG:NH1	2.23	0.53
1:A:432:LEU:O	1:A:434:ALA:N	2.42	0.53
1:B:375:ARG:HA	1:B:375:ARG:HE	1.74	0.53
1:C:65:GLU:O	1:C:66:ILE:C	2.47	0.53
1:C:140:LYS:H	1:C:140:LYS:HD3	1.72	0.53
1:A:109:LYS:HE2	1:B:289:THR:HB	1.91	0.53
1:A:163:LEU:C	1:A:165:GLU:H	2.11	0.53
1:A:325:ARG:O	1:A:327:PRO:HD3	2.08	0.53
1:D:243:ALA:O	1:D:247:VAL:HG23	2.09	0.53
1:D:355:TYR:CZ	1:D:403:MET:HB3	2.43	0.53
1:D:397:THR:CG2	1:D:443:LEU:HA	2.38	0.53
1:B:299:THR:HA	1:B:302:ILE:CG1	2.35	0.52
1:C:44:LEU:HD12	1:C:44:LEU:H	1.73	0.52
1:C:234:VAL:HG23	1:C:235:ASN:N	2.24	0.52
1:C:310:PHE:N	1:C:310:PHE:CD2	2.76	0.52
1:D:83:ALA:O	1:D:86:PHE:HD2	1.91	0.52
1:D:356:LYS:CA	1:D:366:ILE:HD11	2.36	0.52
1:A:18:ILE:N	2:A:900:ANP:HN61	2.01	0.52
1:A:279:ARG:O	1:A:283:PRO:HD2	2.10	0.52
1:A:248:GLU:HG3	1:A:297:VAL:HG12	1.90	0.52
1:B:84:THR:O	1:B:86:PHE:N	2.43	0.52
1:B:100:ILE:HD11	1:B:284:LEU:HB3	1.91	0.52
1:C:9:ILE:HG23	1:C:73:LEU:HD11	1.91	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:248:GLU:HA	1:D:302:ILE:HD11	1.91	0.52
1:A:23:ALA:HB2	1:A:332:LEU:HD11	1.90	0.52
1:C:65:GLU:HA	1:C:68:ARG:CG	2.40	0.52
1:C:319:ILE:HG12	1:C:320:PRO:CD	2.37	0.52
1:D:78:PHE:CE1	1:D:254:PHE:HB2	2.45	0.52
1:D:240:LYS:CG	1:D:294:HIS:HB3	2.40	0.52
1:A:112:ARG:HG3	1:A:112:ARG:HH11	1.75	0.52
1:A:371:SER:HB2	1:A:422:ALA:HB2	1.91	0.52
1:B:340:PHE:HA	1:B:343:ILE:HG13	1.92	0.52
1:D:44:LEU:HA	1:D:47:GLU:HB2	1.90	0.52
1:A:320:PRO:HA	1:A:323:GLN:HB3	1.92	0.52
1:D:17:ILE:C	1:D:18:ILE:HD13	2.29	0.52
1:D:123:ALA:O	1:D:127:ALA:HB2	2.10	0.52
1:A:216:LEU:HD11	1:A:221:ALA:HB2	1.91	0.52
1:B:367:GLU:HG2	1:B:417:ASN:HD21	1.75	0.52
1:C:84:THR:C	1:C:86:PHE:H	2.13	0.52
1:C:432:LEU:O	1:C:434:ALA:N	2.43	0.52
1:D:22:ASN:ND2	1:D:22:ASN:H	2.06	0.52
1:D:235:ASN:ND2	1:D:235:ASN:N	2.57	0.52
1:D:271:ASP:CA	1:D:274:ARG:HB2	2.37	0.52
1:D:375:ARG:HA	1:D:375:ARG:HE	1.75	0.52
1:B:340:PHE:HA	1:B:343:ILE:HD11	1.91	0.52
1:C:6:PRO:HD3	1:C:32:ARG:HD3	1.90	0.52
1:A:9:ILE:HG23	1:A:73:LEU:HD11	1.92	0.52
1:B:402:LEU:HB2	1:B:429:LEU:HD21	1.92	0.52
1:C:107:ALA:HB1	1:C:247:VAL:HG22	1.91	0.52
1:C:231:ALA:O	1:C:234:VAL:HG22	2.10	0.52
1:D:319:ILE:HD12	1:D:320:PRO:HD2	1.91	0.52
1:A:128:GLU:O	1:A:131:ILE:HB	2.10	0.52
1:C:239:LEU:HD23	1:C:240:LYS:N	2.25	0.52
1:C:327:PRO:HG2	1:C:328:ILE:HD12	1.92	0.52
1:C:418:ILE:HD13	1:C:418:ILE:H	1.75	0.52
1:A:68:ARG:HB3	1:A:68:ARG:NH1	2.19	0.51
1:C:127:ALA:HB2	1:C:226:ILE:HA	1.92	0.51
1:C:135:LEU:O	1:C:137:PRO:HD3	2.09	0.51
1:D:59:THR:CG2	1:D:390:ILE:HA	2.37	0.51
1:A:12:GLU:HG2	1:A:73:LEU:HD12	1.92	0.51
1:B:344:LEU:HD21	1:B:376:ILE:CG2	2.40	0.51
1:C:442:ILE:HG12	1:C:443:LEU:CD1	2.38	0.51
1:A:45:ARG:C	1:A:47:GLU:H	2.13	0.51
1:A:80:LYS:HA	1:A:254:PHE:HB3	1.92	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:5:THR:HA	1:C:32:ARG:NH1	2.24	0.51
1:C:5:THR:N	1:C:8:GLU:HB2	2.24	0.51
1:D:35:TRP:CE3	1:D:36:ARG:HG2	2.45	0.51
1:D:432:LEU:H	1:D:432:LEU:CD1	2.20	0.51
1:A:104:THR:O	1:A:107:ALA:HB3	2.09	0.51
1:B:5:THR:O	1:B:9:ILE:HG13	2.10	0.51
1:C:55:MET:O	1:C:307:SER:HA	2.10	0.51
1:D:87:THR:O	1:D:88:GLU:HB2	2.10	0.51
1:B:281:LEU:O	1:B:282:LEU:C	2.49	0.51
1:B:389:ASN:C	1:B:390:ILE:HG13	2.29	0.51
1:C:21:ASP:O	1:C:24:LYS:N	2.44	0.51
1:C:107:ALA:HB2	1:C:247:VAL:HG13	1.93	0.51
1:D:25:ARG:O	1:D:28:ALA:HB3	2.10	0.51
1:A:103:LEU:HD23	1:A:247:VAL:HG12	1.92	0.51
1:A:127:ALA:O	1:A:225:LEU:HD23	2.11	0.51
1:A:395:LEU:O	1:A:396:HIS:C	2.48	0.51
1:C:100:ILE:HG12	1:C:299:THR:HG22	1.92	0.51
1:C:130:ARG:HB2	1:C:225:LEU:HD21	1.92	0.51
1:C:258:ILE:HA	1:C:261:ILE:HD11	1.92	0.51
1:C:282:LEU:O	1:C:286:GLU:HB2	2.11	0.51
1:C:319:ILE:HG23	1:C:322:LEU:HB2	1.93	0.51
1:D:44:LEU:HA	1:D:47:GLU:HB3	1.92	0.51
1:D:351:ILE:CD1	1:D:399:LEU:HD13	2.40	0.51
1:A:340:PHE:O	1:A:343:ILE:HB	2.11	0.51
1:D:86:PHE:CE1	1:D:96:VAL:HA	2.46	0.51
1:D:281:LEU:O	1:D:282:LEU:C	2.49	0.51
1:A:64:THR:C	1:A:68:ARG:HD3	2.30	0.51
1:A:128:GLU:HA	1:A:131:ILE:CD1	2.40	0.51
1:B:100:ILE:O	1:B:101:ARG:C	2.49	0.51
1:A:252:ILE:HG23	1:A:303:LEU:HB3	1.92	0.51
1:A:442:ILE:HD13	1:A:442:ILE:H	1.76	0.51
1:A:140:LYS:H	1:A:140:LYS:HD3	1.76	0.51
1:A:248:GLU:HG2	1:A:298:LYS:H	1.76	0.51
1:B:55:MET:O	1:B:307:SER:HA	2.11	0.51
1:B:126:LEU:HB2	1:B:229:GLU:HG3	1.93	0.51
1:C:135:LEU:HB3	1:C:159:PHE:CD1	2.46	0.51
1:C:244:ILE:HA	1:C:247:VAL:HG23	1.92	0.51
1:C:421:ASP:OD1	1:C:423:ASP:HB2	2.11	0.51
1:C:438:LEU:O	1:C:441:PHE:N	2.39	0.51
1:D:371:SER:O	1:D:422:ALA:HB2	2.11	0.51
1:B:61:VAL:O	1:B:61:VAL:CG1	2.59	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:420:ILE:N	1:B:420:ILE:HD12	2.26	0.50
1:C:53:ILE:HG12	1:C:328:ILE:HB	1.93	0.50
1:D:285:VAL:O	1:D:287:GLY:N	2.44	0.50
1:D:354:GLN:O	1:D:357:ALA:HB3	2.11	0.50
1:A:86:PHE:CD1	1:A:93:GLY:HA2	2.43	0.50
1:C:18:ILE:N	2:C:905:ANP:N6	2.48	0.50
1:C:104:THR:HA	1:C:247:VAL:HG11	1.93	0.50
1:C:310:PHE:HB3	1:C:313:ALA:O	2.11	0.50
1:D:105:ASP:O	1:D:108:VAL:HG12	2.11	0.50
1:A:131:ILE:HD11	1:A:222:MET:HA	1.92	0.50
1:B:429:LEU:O	1:B:431:ALA:N	2.45	0.50
1:C:31:LEU:O	1:C:34:ARG:HB2	2.11	0.50
1:C:64:THR:HG22	1:C:68:ARG:CD	2.41	0.50
1:C:344:LEU:HD11	1:C:395:LEU:HD13	1.94	0.50
1:A:13:LEU:C	1:A:15:LYS:N	2.65	0.50
1:B:105:ASP:O	1:B:108:VAL:HG12	2.12	0.50
1:B:374:LYS:O	1:B:378:GLU:HB2	2.11	0.50
1:B:383:VAL:HB	1:B:394:ARG:NH1	2.24	0.50
1:C:127:ALA:O	1:C:131:ILE:HG13	2.11	0.50
1:C:254:PHE:HD2	1:C:305:ILE:HB	1.77	0.50
1:D:235:ASN:ND2	1:D:235:ASN:H	2.08	0.50
1:B:98:SER:O	1:B:101:ARG:N	2.45	0.50
1:C:299:THR:HA	1:C:302:ILE:CD1	2.31	0.50
1:D:125:GLU:O	1:D:128:GLU:HG2	2.11	0.50
1:D:356:LYS:HA	1:D:366:ILE:CD1	2.37	0.50
1:D:395:LEU:HA	1:D:398:VAL:HG22	1.92	0.50
1:A:64:THR:HG22	1:A:68:ARG:CD	2.42	0.50
1:A:96:VAL:O	1:A:99:ILE:HD13	2.12	0.50
1:A:429:LEU:O	1:A:430:ASP:C	2.50	0.50
1:B:285:VAL:O	1:B:287:GLY:N	2.45	0.50
1:C:24:LYS:O	1:C:28:ALA:N	2.41	0.50
1:C:346:GLU:N	1:C:347:PRO:HD2	2.26	0.50
1:D:27:VAL:HB	1:D:70:LEU:CD1	2.42	0.50
1:A:5:THR:CB	1:A:6:PRO:HD2	2.41	0.50
1:A:24:LYS:HA	1:A:27:VAL:HG12	1.93	0.50
1:B:35:TRP:CE3	1:B:36:ARG:HG2	2.47	0.50
1:B:240:LYS:HE2	1:B:294:HIS:HD2	1.77	0.50
1:C:25:ARG:O	1:C:28:ALA:HB3	2.12	0.50
1:C:174:GLU:HA	1:C:212:LYS:CB	2.41	0.50
1:C:372:GLY:O	1:C:376:ILE:HD12	2.12	0.50
1:D:237:GLU:C	1:D:239:LEU:H	2.13	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:255:ILE:HG21	1:D:258:ILE:HD11	1.94	0.50
1:B:340:PHE:HA	1:B:343:ILE:CG1	2.42	0.50
1:B:405:GLU:O	1:B:408:TYR:N	2.45	0.50
1:C:396:HIS:CD2	1:C:396:HIS:H	2.28	0.50
1:C:155:ALA:O	1:C:158:ALA:HB3	2.12	0.49
1:C:320:PRO:O	1:C:321:GLU:C	2.49	0.49
1:D:245:ASP:O	1:D:247:VAL:N	2.44	0.49
1:B:23:ALA:HA	1:B:330:VAL:HG21	1.94	0.49
1:B:439:SER:HA	1:B:443:LEU:HD12	1.94	0.49
1:C:31:LEU:HD23	1:C:70:LEU:CD1	2.42	0.49
1:D:350:SER:CB	1:D:353:VAL:HG23	2.42	0.49
1:A:21:ASP:HA	1:A:24:LYS:HD2	1.93	0.49
1:C:62:GLY:O	1:C:63:LYS:C	2.51	0.49
1:C:79:ILE:HG22	1:C:103:LEU:CD1	2.38	0.49
1:C:420:ILE:HG23	1:C:424:TYR:CD1	2.47	0.49
1:B:53:ILE:O	1:B:305:ILE:HA	2.12	0.49
1:C:86:PHE:CD1	1:C:93:GLY:HA2	2.42	0.49
1:C:298:LYS:C	1:C:300:ASP:H	2.14	0.49
1:D:111:VAL:HG21	1:D:243:ALA:HA	1.93	0.49
1:D:275:GLU:O	1:D:278:GLN:HB2	2.11	0.49
1:A:271:ASP:C	1:A:273:SER:H	2.16	0.49
1:A:346:GLU:N	1:A:347:PRO:HD2	2.25	0.49
1:B:113:VAL:HG23	1:B:114:GLN:HG3	1.93	0.49
1:B:243:ALA:O	1:B:247:VAL:HG23	2.11	0.49
1:C:225:LEU:HG	1:C:229:GLU:HG3	1.95	0.49
1:C:244:ILE:O	1:C:248:GLU:HB2	2.12	0.49
1:C:347:PRO:HG2	1:C:350:SER:HB2	1.95	0.49
1:D:366:ILE:HB	1:D:420:ILE:HD11	1.95	0.49
1:B:245:ASP:C	1:B:247:VAL:N	2.65	0.49
1:B:421:ASP:OD2	1:B:423:ASP:HB2	2.13	0.49
1:C:102:ASP:O	1:C:105:ASP:HB2	2.11	0.49
1:C:420:ILE:HG23	1:C:424:TYR:HD1	1.77	0.49
1:D:344:LEU:HD21	1:D:376:ILE:CG2	2.41	0.49
1:A:25:ARG:O	1:A:28:ALA:HB3	2.13	0.49
1:A:438:LEU:H	1:A:438:LEU:HD22	1.77	0.49
1:B:28:ALA:O	1:B:29:ILE:C	2.51	0.49
1:B:238:GLU:O	1:B:242:ASP:HB2	2.13	0.49
1:B:285:VAL:C	1:B:287:GLY:H	2.16	0.49
1:D:98:SER:O	1:D:99:ILE:C	2.50	0.49
1:D:340:PHE:HA	1:D:343:ILE:CG1	2.43	0.49
1:D:428:HIS:HB2	1:D:429:LEU:HD22	1.95	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:310:PHE:HB3	1:A:313:ALA:O	2.13	0.49
1:B:54:LEU:HB2	1:B:326:LEU:HG	1.95	0.49
1:C:27:VAL:HG13	1:C:70:LEU:HD13	1.94	0.49
1:D:318:LEU:HD22	1:D:323:GLN:CA	2.42	0.49
1:D:421:ASP:OD2	1:D:423:ASP:HB2	2.12	0.49
1:A:26:SER:HA	1:A:29:ILE:HD12	1.94	0.49
1:A:124:GLU:O	1:A:127:ALA:HB3	2.13	0.49
1:B:86:PHE:HB2	1:B:277:VAL:HG13	1.93	0.49
1:B:438:LEU:HD22	1:B:442:ILE:HD11	1.94	0.49
1:C:62:GLY:O	1:C:64:THR:N	2.46	0.49
1:C:74:ALA:O	1:C:75:ASN:HB3	2.13	0.49
1:C:96:VAL:HG11	1:C:281:LEU:HG	1.94	0.49
1:C:413:LEU:O	1:C:414:SER:C	2.51	0.49
1:A:153:SER:HA	1:A:156:ARG:CB	2.38	0.49
1:A:413:LEU:O	1:A:414:SER:C	2.51	0.49
1:B:111:VAL:HG11	1:B:243:ALA:HB2	1.95	0.49
1:C:107:ALA:CB	1:C:247:VAL:HG22	2.43	0.49
1:C:108:VAL:O	1:C:111:VAL:HG12	2.13	0.49
1:C:252:ILE:HG23	1:C:303:LEU:HB3	1.94	0.49
1:D:20:GLN:O	1:D:23:ALA:HB3	2.12	0.49
1:A:83:ALA:O	1:A:85:LYS:N	2.46	0.48
1:A:235:ASN:OD1	1:A:238:GLU:HB3	2.13	0.48
1:D:405:GLU:O	1:D:408:TYR:N	2.46	0.48
1:D:438:LEU:CD2	1:D:442:ILE:HD11	2.43	0.48
1:A:21:ASP:O	1:A:22:ASN:C	2.52	0.48
1:A:75:ASN:HD21	1:A:114:GLN:HE22	1.59	0.48
1:A:355:TYR:OH	1:A:403:MET:HB2	2.13	0.48
1:B:438:LEU:HD21	1:B:442:ILE:HD11	1.95	0.48
1:C:65:GLU:HA	1:C:68:ARG:HG2	1.96	0.48
1:C:103:LEU:CD2	1:C:247:VAL:HG12	2.43	0.48
1:A:18:ILE:HD13	1:A:343:ILE:HG12	1.94	0.48
1:B:17:ILE:CG2	1:B:18:ILE:N	2.70	0.48
1:C:271:ASP:C	1:C:273:SER:H	2.16	0.48
1:A:319:ILE:HG12	1:A:320:PRO:CD	2.40	0.48
1:B:25:ARG:O	1:B:28:ALA:HB3	2.13	0.48
1:C:5:THR:CB	1:C:6:PRO:HD2	2.42	0.48
1:A:52:ASN:O	1:A:327:PRO:HD2	2.13	0.48
1:A:316:SER:HA	1:A:323:GLN:HE22	1.79	0.48
1:B:319:ILE:HD12	1:B:320:PRO:CD	2.43	0.48
1:C:240:LYS:C	1:C:242:ASP:H	2.16	0.48
1:D:240:LYS:HE2	1:D:294:HIS:HD2	1.78	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:288:CYS:O	1:D:299:THR:N	2.41	0.48
1:D:432:LEU:HD12	1:D:432:LEU:N	2.25	0.48
1:A:21:ASP:HA	1:A:24:LYS:HG3	1.96	0.48
1:B:44:LEU:HA	1:B:47:GLU:CB	2.43	0.48
1:C:80:LYS:HG3	1:C:81:VAL:N	2.27	0.48
1:C:259:ASP:HB3	1:C:310:PHE:CE2	2.49	0.48
1:D:54:LEU:HD23	1:D:329:ARG:HD3	1.95	0.48
1:A:92:VAL:O	1:A:95:GLU:HB2	2.13	0.48
1:A:327:PRO:HG2	1:A:328:ILE:CD1	2.43	0.48
1:A:367:GLU:CB	1:A:419:THR:HG22	2.44	0.48
1:A:384:ASN:HD22	1:A:394:ARG:NH1	2.11	0.48
1:C:64:THR:O	1:C:68:ARG:HD3	2.14	0.48
1:D:285:VAL:C	1:D:287:GLY:N	2.65	0.48
1:A:6:PRO:HA	1:A:9:ILE:HD12	1.95	0.48
1:A:69:ARG:O	1:A:73:LEU:HB3	2.14	0.48
1:A:437:ASP:O	1:A:440:ARG:N	2.47	0.48
1:B:44:LEU:O	1:B:45:ARG:C	2.52	0.48
1:D:23:ALA:HB2	1:D:332:LEU:HD11	1.96	0.48
1:C:32:ARG:HG2	1:C:36:ARG:NE	2.29	0.48
1:C:69:ARG:O	1:C:73:LEU:HB3	2.14	0.48
1:C:239:LEU:O	1:C:242:ASP:HB2	2.12	0.48
1:C:278:GLN:HG2	1:C:322:LEU:CD2	2.43	0.48
1:C:320:PRO:O	1:C:323:GLN:N	2.47	0.48
1:C:361:THR:C	1:C:363:GLY:H	2.17	0.48
1:D:229:GLU:OE1	1:D:232:LYS:HD2	2.14	0.48
1:A:10:VAL:O	1:A:13:LEU:N	2.42	0.48
1:A:282:LEU:HA	1:A:285:VAL:HG23	1.96	0.48
1:B:429:LEU:O	1:B:430:ASP:C	2.52	0.48
1:C:13:LEU:C	1:C:15:LYS:N	2.67	0.48
1:C:325:ARG:HA	1:C:325:ARG:HD3	1.55	0.48
1:D:398:VAL:HG23	1:D:399:LEU:N	2.29	0.48
1:C:384:ASN:ND2	1:C:394:ARG:HG2	2.29	0.47
1:D:62:GLY:O	1:D:65:GLU:N	2.47	0.47
1:D:383:VAL:HB	1:D:394:ARG:NH1	2.29	0.47
1:A:27:VAL:CG2	1:A:70:LEU:HD13	2.34	0.47
1:A:98:SER:O	1:A:101:ARG:HB3	2.14	0.47
1:A:244:ILE:O	1:A:248:GLU:HB2	2.14	0.47
1:A:363:GLY:O	1:A:414:SER:HA	2.15	0.47
1:B:379:ALA:O	1:B:380:ALA:C	2.52	0.47
1:C:13:LEU:HD23	1:C:24:LYS:HB3	1.96	0.47
1:C:131:ILE:HD11	1:C:222:MET:HA	1.96	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:372:GLY:O	1:B:375:ARG:N	2.47	0.47
1:C:169:ASP:H	1:C:218:ILE:HG22	1.79	0.47
1:C:241:GLN:HA	1:C:244:ILE:HD11	1.97	0.47
1:C:390:ILE:HG22	1:D:320:PRO:HB3	1.97	0.47
1:D:100:ILE:HG21	1:D:297:VAL:HG21	1.97	0.47
1:D:374:LYS:O	1:D:378:GLU:HB2	2.15	0.47
1:A:254:PHE:HD2	1:A:305:ILE:HB	1.78	0.47
1:B:54:LEU:O	1:B:54:LEU:HG	2.14	0.47
1:A:111:VAL:HG13	1:A:112:ARG:N	2.28	0.47
1:A:396:HIS:CD2	1:A:396:HIS:H	2.31	0.47
1:C:289:THR:HA	1:C:297:VAL:O	2.15	0.47
1:D:288:CYS:O	1:D:298:LYS:HA	2.14	0.47
1:A:7:ARG:HA	1:A:10:VAL:HB	1.97	0.47
1:C:18:ILE:N	2:C:905:ANP:HN61	2.02	0.47
1:C:77:PRO:HD2	1:C:250:HIS:O	2.14	0.47
1:C:127:ALA:O	1:C:225:LEU:HD23	2.15	0.47
1:C:151:GLU:H	1:C:152:PRO:HD2	1.78	0.47
1:A:168:LEU:N	1:A:218:ILE:CG2	2.78	0.47
1:A:214:ARG:CZ	1:B:233:LEU:HG	2.45	0.47
1:A:402:LEU:CD1	1:A:425:VAL:HA	2.45	0.47
1:B:27:VAL:HG23	1:B:28:ALA:N	2.29	0.47
1:D:107:ALA:O	1:D:110:MET:N	2.47	0.47
1:D:356:LYS:HD3	1:D:366:ILE:O	2.15	0.47
1:C:10:VAL:O	1:C:13:LEU:N	2.47	0.47
1:C:124:GLU:O	1:C:127:ALA:HB3	2.14	0.47
1:D:113:VAL:HG23	1:D:114:GLN:HG3	1.97	0.47
1:D:131:ILE:HD11	1:D:222:MET:SD	2.55	0.47
1:A:319:ILE:HD13	1:A:322:LEU:H	1.80	0.47
1:A:320:PRO:O	1:A:321:GLU:C	2.52	0.47
1:B:17:ILE:HG23	1:B:18:ILE:H	1.77	0.47
1:B:105:ASP:C	1:B:107:ALA:N	2.68	0.47
1:C:20:GLN:HB3	1:C:332:LEU:CD1	2.45	0.47
1:C:173:ILE:HG22	1:C:174:GLU:H	1.79	0.47
1:D:21:ASP:CA	1:D:24:LYS:HG3	2.45	0.47
1:D:244:ILE:HD11	1:D:296:MET:O	2.15	0.47
1:A:35:TRP:CZ3	1:A:36:ARG:HG3	2.50	0.47
1:A:316:SER:HA	1:A:323:GLN:OE1	2.14	0.47
1:B:52:ASN:C	1:B:328:ILE:HD12	2.35	0.47
1:B:307:SER:OG	1:B:308:GLY:N	2.47	0.47
1:B:438:LEU:HD13	1:B:438:LEU:C	2.35	0.47
1:C:52:ASN:O	1:C:328:ILE:HD12	2.14	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:429:LEU:O	1:D:430:ASP:C	2.52	0.47
1:B:23:ALA:HB2	1:B:332:LEU:CD1	2.42	0.46
1:C:21:ASP:O	1:C:22:ASN:C	2.53	0.46
1:C:316:SER:HA	1:C:323:GLN:OE1	2.15	0.46
1:D:237:GLU:C	1:D:239:LEU:N	2.69	0.46
1:D:298:LYS:HB3	1:D:300:ASP:OD2	2.15	0.46
1:D:365:ASN:O	1:D:418:ILE:HG12	2.15	0.46
1:A:18:ILE:N	1:A:18:ILE:HD12	2.29	0.46
1:A:277:VAL:O	1:A:278:GLN:C	2.53	0.46
1:A:436:GLU:O	1:A:437:ASP:C	2.53	0.46
1:C:64:THR:HG22	1:C:68:ARG:NE	2.30	0.46
1:C:399:LEU:HD23	1:C:400:GLU:N	2.30	0.46
1:A:132:LEU:O	1:A:135:LEU:HB2	2.15	0.46
1:A:275:GLU:O	1:A:276:GLY:C	2.54	0.46
1:B:27:VAL:HG23	1:B:70:LEU:HD12	1.97	0.46
1:B:237:GLU:CD	1:B:237:GLU:N	2.68	0.46
1:C:65:GLU:C	1:C:69:ARG:HG2	2.35	0.46
1:C:436:GLU:O	1:C:437:ASP:C	2.52	0.46
1:D:224:LEU:C	1:D:226:ILE:H	2.18	0.46
1:B:244:ILE:CG2	1:B:245:ASP:N	2.78	0.46
1:B:387:THR:C	1:B:388:GLU:HG2	2.35	0.46
1:B:406:ILE:HD11	1:B:424:TYR:OH	2.15	0.46
1:C:111:VAL:HG13	1:C:112:ARG:N	2.29	0.46
1:C:112:ARG:HD2	1:C:113:VAL:N	2.31	0.46
1:D:254:PHE:CZ	1:D:307:SER:HB2	2.51	0.46
1:B:86:PHE:HE1	1:B:95:GLU:O	1.98	0.46
1:C:344:LEU:CD1	1:C:395:LEU:HD13	2.46	0.46
1:D:360:ALA:HA	1:D:364:VAL:O	2.15	0.46
1:D:391:GLY:O	1:D:392:ALA:C	2.53	0.46
1:A:376:ILE:HG13	1:A:425:VAL:HG11	1.97	0.46
1:B:371:SER:O	1:B:422:ALA:HB2	2.16	0.46
1:B:432:LEU:HD12	1:B:432:LEU:N	2.23	0.46
1:C:82:GLU:O	1:C:85:LYS:HG2	2.15	0.46
1:C:261:ILE:H	1:C:261:ILE:HG13	1.29	0.46
1:C:442:ILE:O	1:C:443:LEU:HG	2.15	0.46
1:A:23:ALA:CB	1:A:332:LEU:HD11	2.45	0.46
1:A:140:LYS:HE3	1:A:140:LYS:HB2	1.69	0.46
1:A:285:VAL:HB	1:A:325:ARG:HG3	1.97	0.46
1:D:100:ILE:O	1:D:101:ARG:C	2.54	0.46
1:D:236:PRO:HA	1:D:239:LEU:HD12	1.98	0.46
1:A:65:GLU:HA	1:A:68:ARG:CG	2.46	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:130:ARG:O	1:A:133:ASP:HB2	2.15	0.46
1:A:270:PRO:O	1:A:274:ARG:HG3	2.15	0.46
1:B:285:VAL:C	1:B:287:GLY:N	2.68	0.46
1:C:240:LYS:C	1:C:242:ASP:N	2.69	0.46
1:C:285:VAL:HB	1:C:325:ARG:HG3	1.96	0.46
1:C:319:ILE:HD13	1:C:321:GLU:N	2.29	0.46
1:C:432:LEU:N	1:C:432:LEU:HD12	2.31	0.46
1:D:116:ILE:HD11	1:D:230:ALA:HB1	1.97	0.46
1:D:439:SER:HA	1:D:443:LEU:CD1	2.46	0.46
1:A:375:ARG:O	1:A:376:ILE:C	2.53	0.46
1:B:328:ILE:H	1:B:328:ILE:HG13	1.36	0.46
1:C:319:ILE:CD1	1:C:322:LEU:H	2.28	0.46
1:C:376:ILE:O	1:C:379:ALA:HB3	2.16	0.46
1:D:340:PHE:HA	1:D:343:ILE:HG13	1.97	0.46
1:D:436:GLU:O	1:D:438:LEU:N	2.42	0.46
1:A:80:LYS:HG3	1:A:81:VAL:N	2.29	0.46
1:B:340:PHE:HA	1:B:343:ILE:CD1	2.46	0.46
1:B:344:LEU:HD21	1:B:376:ILE:HG22	1.98	0.46
1:D:438:LEU:HD22	1:D:442:ILE:HD11	1.98	0.46
1:A:22:ASN:O	1:A:25:ARG:HB2	2.16	0.45
1:A:62:GLY:O	1:A:64:THR:N	2.49	0.45
1:B:65:GLU:O	1:B:66:ILE:C	2.54	0.45
1:B:125:GLU:O	1:B:128:GLU:HG2	2.16	0.45
1:B:362:GLU:OE1	1:B:410:ALA:HB3	2.16	0.45
1:C:98:SER:O	1:C:101:ARG:HB3	2.16	0.45
1:D:235:ASN:HB2	1:D:238:GLU:HB3	1.98	0.45
1:A:145:GLN:C	1:A:146:THR:HG23	2.36	0.45
1:A:347:PRO:HG2	1:A:350:SER:HB2	1.97	0.45
1:C:135:LEU:HB3	1:C:159:PHE:HD1	1.80	0.45
1:C:335:LEU:HD21	2:C:905:ANP:N1	2.31	0.45
1:D:17:ILE:HG13	1:D:18:ILE:H	1.80	0.45
1:D:44:LEU:O	1:D:47:GLU:N	2.45	0.45
1:A:261:ILE:HG22	1:A:274:ARG:HB3	1.98	0.45
1:A:350:SER:O	1:A:351:ILE:C	2.54	0.45
1:A:402:LEU:HD13	1:A:425:VAL:HA	1.97	0.45
1:B:105:ASP:C	1:B:107:ALA:H	2.20	0.45
1:C:172:GLU:HB3	1:C:215:LYS:HA	1.97	0.45
1:C:438:LEU:H	1:C:438:LEU:CD2	2.29	0.45
1:D:33:ASN:HA	1:D:36:ARG:HG3	1.99	0.45
1:D:63:LYS:HB3	1:D:332:LEU:CD2	2.46	0.45
1:D:366:ILE:HB	1:D:420:ILE:CD1	2.46	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:399:LEU:HD23	1:A:400:GLU:N	2.31	0.45
1:B:340:PHE:O	1:B:344:LEU:HB2	2.16	0.45
1:C:366:ILE:N	1:C:366:ILE:CD1	2.74	0.45
1:C:429:LEU:O	1:C:430:ASP:C	2.54	0.45
1:D:128:GLU:HB3	1:D:222:MET:SD	2.56	0.45
1:D:293:LYS:HE2	1:D:294:HIS:NE2	2.31	0.45
1:D:439:SER:HA	1:D:443:LEU:HD12	1.97	0.45
1:B:369:THR:HG23	1:B:420:ILE:O	2.17	0.45
1:B:396:HIS:O	1:B:400:GLU:HB2	2.16	0.45
1:C:102:ASP:O	1:C:105:ASP:N	2.49	0.45
1:C:128:GLU:O	1:C:131:ILE:HB	2.16	0.45
1:C:136:ILE:O	1:C:138:PRO:HD3	2.16	0.45
1:C:255:ILE:CG2	1:C:258:ILE:HD11	2.46	0.45
1:C:366:ILE:HG22	1:C:418:ILE:HD11	1.98	0.45
1:C:405:GLU:O	1:C:408:TYR:N	2.47	0.45
1:D:44:LEU:O	1:D:45:ARG:C	2.55	0.45
1:A:156:ARG:O	1:A:159:PHE:N	2.50	0.45
1:A:325:ARG:HA	1:A:325:ARG:HD3	1.55	0.45
1:A:402:LEU:HB2	1:A:429:LEU:HD21	1.99	0.45
1:B:44:LEU:HA	1:B:47:GLU:HB2	1.98	0.45
1:C:264:ARG:HB3	1:C:264:ARG:NH1	2.29	0.45
1:D:10:VAL:HG12	1:D:14:ASP:OD1	2.17	0.45
1:D:54:LEU:HA	1:D:306:ALA:HB3	1.99	0.45
1:D:126:LEU:HB2	1:D:229:GLU:HG3	1.99	0.45
1:D:340:PHE:O	1:D:344:LEU:HB2	2.17	0.45
1:C:4:MET:HE3	1:C:4:MET:H	1.82	0.45
1:C:97:ASP:HB2	1:C:290:VAL:CG1	2.46	0.45
1:C:153:SER:CA	1:C:156:ARG:HB3	2.34	0.45
1:A:34:ARG:NH2	1:A:250:HIS:HA	2.32	0.45
1:B:27:VAL:HA	1:B:53:ILE:CD1	2.47	0.45
1:C:7:ARG:HG2	1:C:8:GLU:N	2.32	0.45
1:C:34:ARG:HH22	1:C:251:GLY:H	1.65	0.45
1:C:44:LEU:HA	1:C:47:GLU:HB3	1.99	0.45
1:C:52:ASN:HB3	1:C:304:PHE:O	2.16	0.45
1:C:153:SER:O	1:C:154:ALA:C	2.55	0.45
1:C:257:GLU:HG2	1:C:260:LYS:CG	2.47	0.45
1:C:350:SER:OG	1:C:351:ILE:HD12	2.17	0.45
1:C:375:ARG:O	1:C:376:ILE:C	2.54	0.45
1:A:44:LEU:HD12	1:A:44:LEU:N	2.30	0.45
1:A:100:ILE:HG12	1:A:299:THR:HG22	1.99	0.45
1:A:234:VAL:HG23	1:A:235:ASN:N	2.32	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:318:LEU:HD21	1:B:322:LEU:CG	2.47	0.45
1:B:442:ILE:O	1:B:443:LEU:HG	2.17	0.45
1:C:34:ARG:NH2	1:C:251:GLY:H	2.15	0.45
1:C:83:ALA:O	1:C:84:THR:C	2.54	0.45
1:C:122:ARG:HB3	1:C:126:LEU:HD12	1.98	0.45
1:D:54:LEU:O	1:D:54:LEU:HG	2.16	0.45
1:D:79:ILE:HG12	1:D:81:VAL:HG23	1.99	0.45
1:D:350:SER:O	1:D:353:VAL:HB	2.16	0.45
1:A:277:VAL:O	1:A:280:ASP:N	2.50	0.45
1:C:18:ILE:N	1:C:18:ILE:HD12	2.31	0.45
1:C:84:THR:O	1:C:86:PHE:N	2.47	0.45
1:C:101:ARG:HA	1:C:292:THR:CG2	2.47	0.45
1:C:259:ASP:HB3	1:C:310:PHE:CD2	2.52	0.45
1:C:335:LEU:HD11	2:C:905:ANP:H2	1.99	0.45
1:D:47:GLU:OE1	1:D:47:GLU:O	2.34	0.45
1:D:100:ILE:HG12	1:D:299:THR:CG2	2.47	0.45
1:D:344:LEU:HD21	1:D:376:ILE:HG22	1.99	0.45
1:A:31:LEU:HD23	1:A:70:LEU:CD1	2.45	0.44
1:A:54:LEU:O	1:A:56:ILE:HD12	2.17	0.44
1:A:298:LYS:C	1:A:300:ASP:H	2.19	0.44
1:A:429:LEU:O	1:A:432:LEU:N	2.50	0.44
1:B:22:ASN:ND2	1:B:22:ASN:H	2.15	0.44
1:B:117:GLU:HA	1:B:120:ARG:NE	2.31	0.44
1:B:248:GLU:HA	1:B:302:ILE:HD11	1.99	0.44
1:C:61:VAL:HG12	1:C:335:LEU:HG	2.00	0.44
1:C:78:PHE:CG	1:C:79:ILE:N	2.84	0.44
1:C:442:ILE:HG22	1:D:329:ARG:CB	2.47	0.44
1:D:84:THR:C	1:D:86:PHE:N	2.70	0.44
1:A:32:ARG:HG2	1:A:36:ARG:NE	2.33	0.44
1:A:174:GLU:HA	1:A:212:LYS:HB3	1.99	0.44
1:B:29:ILE:O	1:B:32:ARG:N	2.49	0.44
1:D:92:VAL:HB	1:D:93:GLY:H	1.53	0.44
1:D:105:ASP:C	1:D:107:ALA:N	2.70	0.44
1:D:318:LEU:HD22	1:D:323:GLN:N	2.33	0.44
1:D:357:ALA:O	1:D:360:ALA:HB3	2.18	0.44
1:D:421:ASP:OD1	1:D:424:TYR:HB2	2.18	0.44
1:A:31:LEU:O	1:A:34:ARG:HB2	2.18	0.44
1:A:109:LYS:HA	1:A:112:ARG:HH21	1.82	0.44
1:A:257:GLU:HG2	1:A:260:LYS:CG	2.47	0.44
1:A:408:TYR:O	1:A:410:ALA:N	2.50	0.44
1:B:53:ILE:HG12	1:B:328:ILE:HB	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:233:LEU:HD12	1:B:233:LEU:N	2.32	0.44
1:B:244:ILE:HD11	1:B:296:MET:O	2.17	0.44
1:B:259:ASP:O	1:B:262:CYS:HB2	2.17	0.44
1:C:319:ILE:HG23	1:C:322:LEU:HB3	1.99	0.44
1:D:282:LEU:CB	1:D:283:PRO:HD3	2.47	0.44
1:A:60:GLY:H	2:A:900:ANP:PG	2.40	0.44
1:A:78:PHE:CG	1:A:79:ILE:N	2.85	0.44
1:B:235:ASN:ND2	1:B:235:ASN:H	2.15	0.44
1:B:252:ILE:HA	1:B:303:LEU:O	2.17	0.44
1:B:356:LYS:CA	1:B:366:ILE:HD11	2.37	0.44
1:B:391:GLY:O	1:B:392:ALA:C	2.56	0.44
1:C:275:GLU:O	1:C:276:GLY:C	2.54	0.44
1:C:395:LEU:O	1:C:396:HIS:C	2.55	0.44
1:D:95:GLU:O	1:D:98:SER:OG	2.32	0.44
1:D:284:LEU:HG	1:D:284:LEU:H	1.53	0.44
1:D:360:ALA:O	1:D:363:GLY:N	2.48	0.44
1:A:316:SER:HA	1:A:323:GLN:NE2	2.33	0.44
1:B:360:ALA:O	1:B:363:GLY:N	2.48	0.44
1:B:375:ARG:NH1	1:B:426:SER:HB3	2.33	0.44
1:D:27:VAL:HA	1:D:53:ILE:CD1	2.48	0.44
1:D:274:ARG:O	1:D:277:VAL:N	2.50	0.44
1:A:120:ARG:HA	1:A:123:ALA:CB	2.48	0.44
1:A:231:ALA:O	1:A:234:VAL:HG22	2.18	0.44
1:B:44:LEU:O	1:B:47:GLU:N	2.49	0.44
1:C:318:LEU:HG	1:C:319:ILE:N	2.32	0.44
1:C:367:GLU:O	1:C:420:ILE:N	2.45	0.44
1:A:21:ASP:HA	1:A:24:LYS:CG	2.48	0.44
1:A:34:ARG:NH2	1:A:251:GLY:H	2.15	0.44
1:A:119:ASN:HD22	1:A:119:ASN:HA	1.52	0.44
1:B:298:LYS:HB3	1:B:300:ASP:OD2	2.18	0.44
1:C:125:GLU:HG3	1:C:126:LEU:H	1.82	0.44
1:C:372:GLY:O	1:C:375:ARG:HB2	2.17	0.44
1:D:128:GLU:O	1:D:132:LEU:N	2.50	0.44
1:D:284:LEU:O	1:D:299:THR:HB	2.18	0.44
1:D:379:ALA:O	1:D:380:ALA:C	2.56	0.44
1:D:421:ASP:O	1:D:425:VAL:HG23	2.18	0.44
1:A:361:THR:C	1:A:363:GLY:H	2.20	0.44
1:A:432:LEU:C	1:A:434:ALA:N	2.71	0.44
1:B:351:ILE:CD1	1:B:399:LEU:HD13	2.48	0.44
1:C:387:THR:HA	1:C:440:ARG:NH2	2.32	0.44
1:D:78:PHE:CZ	1:D:254:PHE:HB2	2.53	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:362:GLU:C	1:D:364:VAL:H	2.21	0.44
1:D:375:ARG:HG3	1:D:422:ALA:HA	2.00	0.44
1:A:350:SER:HB3	1:A:353:VAL:HG23	2.00	0.44
1:B:84:THR:C	1:B:86:PHE:N	2.72	0.44
1:B:355:TYR:CZ	1:B:403:MET:HB3	2.53	0.44
1:C:21:ASP:HA	1:C:24:LYS:HD2	1.99	0.44
1:C:65:GLU:O	1:C:69:ARG:HG2	2.17	0.44
1:C:220:ASP:O	1:C:223:LYS:N	2.50	0.44
1:D:125:GLU:HG3	1:D:126:LEU:N	2.32	0.44
1:D:340:PHE:HA	1:D:343:ILE:CD1	2.48	0.44
1:B:432:LEU:O	1:B:433:VAL:C	2.56	0.43
1:C:54:LEU:HD23	1:C:306:ALA:C	2.39	0.43
1:C:86:PHE:HA	1:C:93:GLY:CA	2.44	0.43
1:C:399:LEU:O	1:C:402:LEU:HB3	2.18	0.43
1:D:100:ILE:N	1:D:100:ILE:HD12	2.33	0.43
1:D:246:ALA:HA	1:D:250:HIS:ND1	2.32	0.43
1:A:11:SER:HA	1:A:14:ASP:OD1	2.18	0.43
1:A:61:VAL:HG11	1:A:333:GLN:O	2.19	0.43
1:A:68:ARG:O	1:A:69:ARG:C	2.57	0.43
1:A:348:ASN:O	1:A:349:ALA:HB3	2.19	0.43
1:B:69:ARG:HG3	1:B:73:LEU:HD23	1.99	0.43
1:B:116:ILE:O	1:B:120:ARG:HG3	2.17	0.43
1:B:123:ALA:O	1:B:127:ALA:HB2	2.18	0.43
1:B:356:LYS:HA	1:B:366:ILE:CD1	2.36	0.43
1:B:375:ARG:HG3	1:B:422:ALA:HA	1.99	0.43
1:A:130:ARG:CA	1:A:133:ASP:HB2	2.46	0.43
1:B:282:LEU:O	1:B:283:PRO:C	2.56	0.43
1:B:379:ALA:O	1:B:383:VAL:HG23	2.17	0.43
1:C:168:LEU:N	1:C:218:ILE:CG2	2.81	0.43
1:C:278:GLN:HG2	1:C:322:LEU:HD22	2.00	0.43
1:A:18:ILE:N	2:A:900:ANP:N6	2.47	0.43
1:A:399:LEU:O	1:A:402:LEU:N	2.51	0.43
1:B:92:VAL:HB	1:B:93:GLY:H	1.54	0.43
1:B:318:LEU:HD22	1:B:323:GLN:CA	2.48	0.43
1:D:117:GLU:HA	1:D:120:ARG:CZ	2.48	0.43
1:D:343:ILE:O	1:D:347:PRO:HG2	2.19	0.43
1:A:83:ALA:O	1:A:84:THR:C	2.56	0.43
1:A:253:VAL:O	1:A:305:ILE:HG13	2.19	0.43
1:C:6:PRO:HA	1:C:9:ILE:HD12	1.99	0.43
1:C:437:ASP:O	1:C:440:ARG:N	2.51	0.43
1:D:251:GLY:HA3	1:D:302:ILE:HG23	2.00	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:398:VAL:CG2	1:D:399:LEU:N	2.81	0.43
1:A:223:LYS:HA	1:A:226:ILE:HB	2.01	0.43
1:A:342:ARG:O	1:A:347:PRO:HD2	2.18	0.43
1:B:236:PRO:O	1:B:240:LYS:HB2	2.18	0.43
1:B:383:VAL:O	1:B:387:THR:HG23	2.18	0.43
1:C:369:THR:HB	1:C:372:GLY:H	1.84	0.43
1:C:432:LEU:O	1:C:433:VAL:C	2.56	0.43
1:D:22:ASN:ND2	1:D:22:ASN:N	2.67	0.43
1:D:240:LYS:HG2	1:D:294:HIS:HB3	2.00	0.43
1:D:387:THR:C	1:D:388:GLU:HG2	2.35	0.43
1:A:152:PRO:C	1:A:154:ALA:N	2.72	0.43
1:A:255:ILE:N	1:A:255:ILE:HD13	2.34	0.43
1:B:247:VAL:C	1:B:249:GLN:H	2.22	0.43
1:C:322:LEU:C	1:C:324:GLY:N	2.72	0.43
1:D:53:ILE:O	1:D:305:ILE:HA	2.18	0.43
1:D:62:GLY:O	1:D:63:LYS:C	2.56	0.43
1:D:86:PHE:HB2	1:D:277:VAL:HG13	2.00	0.43
1:D:310:PHE:N	1:D:310:PHE:CD2	2.87	0.43
1:D:319:ILE:HG23	1:D:319:ILE:O	2.19	0.43
1:D:350:SER:HB3	1:D:353:VAL:HG23	1.99	0.43
1:A:64:THR:HG22	1:A:68:ARG:NE	2.33	0.43
1:A:366:ILE:HA	1:A:418:ILE:O	2.19	0.43
1:A:379:ALA:O	1:A:380:ALA:C	2.56	0.43
1:B:31:LEU:O	1:B:31:LEU:HD22	2.18	0.43
1:B:398:VAL:HG23	1:B:399:LEU:N	2.33	0.43
1:C:384:ASN:HD22	1:C:394:ARG:NH1	2.17	0.43
1:D:252:ILE:HA	1:D:303:LEU:O	2.19	0.43
1:A:258:ILE:HD13	1:A:261:ILE:HD11	2.00	0.43
1:A:372:GLY:O	1:A:375:ARG:HB2	2.19	0.43
1:A:405:GLU:O	1:A:408:TYR:N	2.51	0.43
1:A:409:ASP:O	1:A:413:LEU:HD23	2.18	0.43
1:B:117:GLU:HA	1:B:120:ARG:HG3	1.99	0.43
1:B:282:LEU:CB	1:B:283:PRO:HD3	2.49	0.43
1:B:357:ALA:O	1:B:360:ALA:HB3	2.19	0.43
1:B:391:GLY:O	1:B:393:ARG:N	2.52	0.43
1:C:77:PRO:CD	1:C:246:ALA:HB1	2.49	0.43
1:C:216:LEU:HD11	1:C:221:ALA:CB	2.45	0.43
1:C:255:ILE:HD13	1:C:255:ILE:N	2.33	0.43
1:C:342:ARG:O	1:C:347:PRO:HD2	2.19	0.43
1:D:76:ALA:CB	1:D:252:ILE:HD11	2.49	0.43
1:D:307:SER:OG	1:D:308:GLY:N	2.52	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:310:PHE:CD1	1:D:314:LYS:HA	2.53	0.43
1:A:5:THR:HG23	1:A:8:GLU:OE2	2.19	0.43
1:A:351:ILE:HD12	1:A:352:THR:H	1.84	0.43
1:A:440:ARG:HB3	1:B:316:SER:CB	2.49	0.43
1:B:54:LEU:HD13	1:B:306:ALA:HB3	2.00	0.43
1:B:103:LEU:HD21	1:B:247:VAL:HG13	2.01	0.43
1:B:274:ARG:O	1:B:277:VAL:N	2.51	0.43
1:B:351:ILE:HG13	1:B:352:THR:N	2.32	0.43
1:C:12:GLU:CG	1:C:73:LEU:HD12	2.47	0.43
1:C:104:THR:O	1:C:107:ALA:HB3	2.19	0.43
1:C:168:LEU:N	1:C:218:ILE:HG22	2.33	0.43
1:C:169:ASP:H	1:C:218:ILE:CG2	2.32	0.43
1:C:171:LYS:O	1:C:172:GLU:HB3	2.19	0.43
1:C:277:VAL:C	1:C:281:LEU:HD12	2.39	0.43
1:C:366:ILE:HA	1:C:418:ILE:O	2.19	0.43
1:C:379:ALA:O	1:C:380:ALA:C	2.57	0.43
1:C:439:SER:O	1:C:443:LEU:HB2	2.18	0.43
1:D:111:VAL:HG21	1:D:243:ALA:CA	2.49	0.43
1:D:123:ALA:CB	1:D:226:ILE:HG23	2.36	0.43
1:D:224:LEU:C	1:D:226:ILE:N	2.72	0.43
1:D:351:ILE:HG13	1:D:352:THR:N	2.34	0.43
1:A:53:ILE:HG12	1:A:328:ILE:HB	2.00	0.42
1:A:168:LEU:N	1:A:218:ILE:HG22	2.34	0.42
1:B:129:GLU:HA	1:B:132:LEU:CB	2.45	0.42
1:B:236:PRO:HA	1:B:239:LEU:HD12	2.00	0.42
1:B:384:ASN:HD21	1:B:391:GLY:N	2.10	0.42
1:C:62:GLY:C	1:C:66:ILE:HD13	2.39	0.42
1:C:235:ASN:OD1	1:C:238:GLU:HB3	2.18	0.42
1:D:69:ARG:O	1:D:73:LEU:HD23	2.19	0.42
1:D:103:LEU:HD23	1:D:104:THR:N	2.34	0.42
1:A:52:ASN:O	1:A:328:ILE:HD12	2.18	0.42
1:A:107:ALA:HB1	1:A:247:VAL:HG22	2.01	0.42
1:A:259:ASP:HB3	1:A:310:PHE:CE2	2.54	0.42
1:A:361:THR:HG21	1:B:36:ARG:CA	2.45	0.42
1:B:13:LEU:CD1	1:B:73:LEU:HD21	2.49	0.42
1:B:100:ILE:N	1:B:100:ILE:HD12	2.33	0.42
1:B:381:TRP:CD1	1:B:381:TRP:C	2.92	0.42
1:B:405:GLU:O	1:B:406:ILE:C	2.57	0.42
1:B:439:SER:HA	1:B:443:LEU:CD1	2.49	0.42
1:A:5:THR:O	1:A:8:GLU:HB2	2.19	0.42
1:A:65:GLU:HA	1:A:68:ARG:HG2	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:131:ILE:CG2	1:A:218:ILE:HD11	2.50	0.42
1:A:319:ILE:HG23	1:A:322:LEU:CB	2.49	0.42
1:A:420:ILE:HG23	1:A:424:TYR:HD1	1.83	0.42
1:B:78:PHE:CG	1:B:79:ILE:N	2.86	0.42
1:B:263:LYS:HG3	1:B:264:ARG:H	1.79	0.42
1:B:404:GLU:HB3	1:B:405:GLU:H	1.69	0.42
1:C:27:VAL:CG2	1:C:70:LEU:HD13	2.39	0.42
1:C:216:LEU:HD11	1:C:221:ALA:CA	2.49	0.42
1:D:271:ASP:C	1:D:273:SER:N	2.71	0.42
1:D:320:PRO:CA	1:D:323:GLN:HB3	2.49	0.42
1:D:340:PHE:O	1:D:341:GLU:C	2.57	0.42
1:D:381:TRP:CD1	1:D:382:GLN:N	2.87	0.42
1:A:44:LEU:HA	1:A:47:GLU:HB3	2.02	0.42
1:A:135:LEU:HD13	1:A:135:LEU:HA	1.88	0.42
1:A:230:ALA:C	1:A:232:LYS:N	2.72	0.42
1:A:319:ILE:HG23	1:A:322:LEU:HB2	2.01	0.42
1:B:59:THR:C	1:B:61:VAL:N	2.73	0.42
1:C:34:ARG:NH2	1:C:250:HIS:HA	2.34	0.42
1:C:68:ARG:HB3	1:C:68:ARG:NH1	2.31	0.42
1:C:340:PHE:O	1:C:341:GLU:C	2.57	0.42
1:A:54:LEU:HD23	1:A:306:ALA:C	2.39	0.42
1:A:424:TYR:CZ	1:A:428:HIS:NE2	2.87	0.42
1:A:432:LEU:N	1:A:432:LEU:HD12	2.35	0.42
1:B:27:VAL:CG2	1:B:28:ALA:N	2.81	0.42
1:C:112:ARG:HG2	1:C:112:ARG:NH1	2.32	0.42
1:C:167:GLN:HB2	1:C:218:ILE:CG2	2.49	0.42
1:C:267:SER:O	1:C:268:SER:C	2.57	0.42
1:C:350:SER:O	1:C:351:ILE:C	2.58	0.42
1:C:358:LEU:HD11	1:D:33:ASN:ND2	2.33	0.42
1:C:380:ALA:HB2	1:C:398:VAL:HG21	2.01	0.42
1:A:42:GLU:O	1:A:43:GLU:C	2.57	0.42
1:A:110:MET:O	1:A:111:VAL:C	2.58	0.42
1:A:282:LEU:O	1:A:286:GLU:HB2	2.20	0.42
1:A:351:ILE:H	1:A:351:ILE:HG13	1.57	0.42
1:B:235:ASN:ND2	1:B:235:ASN:N	2.66	0.42
1:C:104:THR:HG21	1:C:297:VAL:HG21	2.01	0.42
1:C:256:ASP:OD1	1:C:257:GLU:N	2.53	0.42
1:C:298:LYS:C	1:C:300:ASP:N	2.73	0.42
1:C:333:GLN:H	1:C:333:GLN:CD	2.23	0.42
1:D:117:GLU:O	1:D:120:ARG:HB2	2.20	0.42
1:D:129:GLU:HA	1:D:132:LEU:CB	2.48	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:325:ARG:O	1:D:327:PRO:HD3	2.20	0.42
1:A:64:THR:O	1:A:68:ARG:HD3	2.20	0.42
1:A:167:GLN:HB2	1:A:168:LEU:H	1.46	0.42
1:A:212:LYS:O	1:A:213:ALA:CB	2.66	0.42
1:A:262:CYS:O	1:A:263:LYS:HG3	2.20	0.42
1:A:442:ILE:O	1:A:443:LEU:HG	2.19	0.42
1:C:322:LEU:HD12	1:C:322:LEU:HA	1.89	0.42
1:D:253:VAL:HG21	1:D:304:PHE:CE2	2.55	0.42
1:D:330:VAL:O	1:D:330:VAL:HG13	2.19	0.42
1:A:366:ILE:N	1:A:366:ILE:CD1	2.73	0.42
1:C:100:ILE:O	1:C:104:THR:HG23	2.20	0.42
1:C:277:VAL:O	1:C:278:GLN:C	2.57	0.42
1:C:340:PHE:O	1:C:343:ILE:N	2.53	0.42
1:C:344:LEU:HD11	1:C:395:LEU:CD1	2.49	0.42
1:D:31:LEU:O	1:D:31:LEU:HD22	2.20	0.42
1:D:302:ILE:HG22	1:D:303:LEU:N	2.34	0.42
1:A:120:ARG:HA	1:A:123:ALA:HB3	2.02	0.42
1:A:241:GLN:HA	1:A:244:ILE:HD11	2.00	0.42
1:A:437:ASP:O	1:A:438:LEU:C	2.58	0.42
1:B:29:ILE:O	1:B:30:ALA:C	2.59	0.42
1:B:103:LEU:HD21	1:B:247:VAL:CG1	2.50	0.42
1:C:135:LEU:C	1:C:137:PRO:HD3	2.40	0.42
1:C:350:SER:O	1:C:354:GLN:HG3	2.20	0.42
1:D:131:ILE:HD11	1:D:222:MET:HG2	2.02	0.42
1:D:238:GLU:O	1:D:242:ASP:HB2	2.20	0.42
1:D:245:ASP:C	1:D:247:VAL:N	2.67	0.42
1:A:17:ILE:HG23	2:A:900:ANP:N6	2.35	0.42
1:B:37:ARG:NH2	1:B:45:ARG:O	2.52	0.42
1:B:284:LEU:HG	1:B:284:LEU:H	1.61	0.42
1:C:375:ARG:HD3	1:C:375:ARG:HA	1.94	0.42
1:C:379:ALA:O	1:C:383:VAL:HG23	2.20	0.42
1:D:124:GLU:HA	1:D:127:ALA:HB3	2.02	0.42
1:D:439:SER:C	1:D:441:PHE:H	2.23	0.42
1:D:442:ILE:HD13	1:D:442:ILE:N	2.35	0.42
1:A:340:PHE:O	1:A:344:LEU:HD13	2.19	0.41
1:C:130:ARG:HA	1:C:133:ASP:HB2	2.01	0.41
1:C:172:GLU:O	1:C:172:GLU:HG3	2.19	0.41
1:C:325:ARG:C	1:C:327:PRO:HD3	2.41	0.41
1:D:69:ARG:HG3	1:D:73:LEU:CD2	2.50	0.41
1:D:292:THR:CG2	1:D:297:VAL:HG22	2.49	0.41
1:D:429:LEU:O	1:D:431:ALA:N	2.53	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:289:THR:HA	1:A:297:VAL:O	2.19	0.41
1:A:344:LEU:HD11	1:A:395:LEU:HD22	2.02	0.41
1:B:27:VAL:HB	1:B:70:LEU:CD1	2.50	0.41
1:B:86:PHE:CE1	1:B:96:VAL:HA	2.55	0.41
1:B:302:ILE:HG22	1:B:303:LEU:N	2.34	0.41
1:C:29:ILE:O	1:C:32:ARG:N	2.53	0.41
1:C:163:LEU:C	1:C:165:GLU:N	2.74	0.41
1:C:167:GLN:HB2	1:C:218:ILE:HG23	2.02	0.41
1:C:282:LEU:HA	1:C:285:VAL:HG23	2.03	0.41
1:D:76:ALA:HB1	1:D:252:ILE:HD11	2.02	0.41
1:D:122:ARG:HD3	1:D:233:LEU:HD21	2.02	0.41
1:D:271:ASP:HA	1:D:274:ARG:CG	2.49	0.41
1:D:318:LEU:HD21	1:D:322:LEU:CD2	2.47	0.41
1:D:369:THR:HG23	1:D:420:ILE:O	2.20	0.41
1:A:258:ILE:HG13	1:A:306:ALA:CB	2.48	0.41
1:A:322:LEU:HD12	1:A:322:LEU:HA	1.84	0.41
1:A:340:PHE:O	1:A:343:ILE:N	2.53	0.41
1:A:431:ALA:O	1:A:434:ALA:HB3	2.20	0.41
1:C:17:ILE:HA	2:C:905:ANP:HN61	1.84	0.41
1:C:98:SER:O	1:C:101:ARG:N	2.52	0.41
1:C:108:VAL:HG12	1:C:109:LYS:N	2.34	0.41
1:C:257:GLU:O	1:C:258:ILE:C	2.56	0.41
1:C:442:ILE:HD13	1:C:442:ILE:N	2.35	0.41
1:D:54:LEU:HD23	1:D:329:ARG:CD	2.50	0.41
1:D:134:VAL:O	1:D:134:VAL:HG23	2.20	0.41
1:D:255:ILE:N	1:D:255:ILE:HD13	2.34	0.41
1:D:320:PRO:O	1:D:321:GLU:C	2.57	0.41
1:A:21:ASP:O	1:A:24:LYS:HB2	2.21	0.41
1:A:33:ASN:HA	1:A:36:ARG:HD3	2.02	0.41
1:A:63:LYS:O	1:A:66:ILE:HB	2.19	0.41
1:A:70:LEU:O	1:A:73:LEU:HD23	2.21	0.41
1:A:108:VAL:HG12	1:A:109:LYS:N	2.36	0.41
1:A:109:LYS:NZ	1:B:298:LYS:HG2	2.35	0.41
1:A:259:ASP:HB3	1:A:310:PHE:CD2	2.54	0.41
1:A:333:GLN:CD	1:A:333:GLN:N	2.74	0.41
1:A:432:LEU:O	1:A:433:VAL:C	2.59	0.41
1:A:436:GLU:O	1:A:438:LEU:N	2.53	0.41
1:B:76:ALA:HB1	1:B:77:PRO:HD2	2.01	0.41
1:B:395:LEU:O	1:B:396:HIS:C	2.58	0.41
1:C:83:ALA:O	1:C:85:LYS:N	2.53	0.41
1:C:278:GLN:HA	1:C:281:LEU:HD12	2.00	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:344:LEU:HD11	1:C:395:LEU:HD22	2.01	0.41
1:C:375:ARG:HB2	1:C:425:VAL:HG21	2.03	0.41
1:D:27:VAL:HG23	1:D:70:LEU:HD12	2.01	0.41
1:D:247:VAL:C	1:D:249:GLN:H	2.22	0.41
1:A:63:LYS:O	1:A:64:THR:C	2.58	0.41
1:A:255:ILE:O	1:A:306:ALA:HA	2.21	0.41
1:A:442:ILE:HA	1:B:329:ARG:HG3	2.02	0.41
1:B:19:GLY:O	1:B:24:LYS:HE2	2.20	0.41
1:B:107:ALA:O	1:B:110:MET:N	2.53	0.41
1:B:372:GLY:O	1:B:373:ILE:C	2.57	0.41
1:C:109:LYS:HA	1:C:112:ARG:CZ	2.50	0.41
1:C:348:ASN:O	1:C:349:ALA:HB3	2.21	0.41
1:D:336:THR:HG22	1:D:339:ASP:OD2	2.19	0.41
1:A:84:THR:O	1:A:86:PHE:N	2.51	0.41
1:A:111:VAL:HG11	1:A:243:ALA:HB2	2.03	0.41
1:A:127:ALA:CB	1:A:226:ILE:HA	2.50	0.41
1:A:153:SER:O	1:A:154:ALA:C	2.58	0.41
1:B:409:ASP:O	1:B:413:LEU:HD11	2.20	0.41
1:C:108:VAL:O	1:C:109:LYS:C	2.59	0.41
1:C:140:LYS:HD3	1:C:140:LYS:N	2.35	0.41
1:C:156:ARG:O	1:C:159:PHE:N	2.54	0.41
1:D:105:ASP:C	1:D:107:ALA:H	2.23	0.41
1:D:337:THR:O	1:D:341:GLU:HG3	2.20	0.41
1:D:399:LEU:O	1:D:402:LEU:HD23	2.21	0.41
1:B:394:ARG:HA	1:B:394:ARG:HD3	1.76	0.41
1:B:432:LEU:O	1:B:435:ASP:N	2.53	0.41
1:C:301:HIS:O	1:C:302:ILE:HG13	2.21	0.41
1:C:424:TYR:CZ	1:C:428:HIS:NE2	2.89	0.41
1:D:65:GLU:O	1:D:66:ILE:C	2.56	0.41
1:D:271:ASP:C	1:D:274:ARG:H	2.23	0.41
1:A:64:THR:HB	2:A:900:ANP:O1A	2.20	0.41
1:A:156:ARG:O	1:A:157:GLN:C	2.59	0.41
1:A:384:ASN:ND2	1:A:394:ARG:NH1	2.68	0.41
1:B:282:LEU:CB	1:B:283:PRO:CD	2.99	0.41
1:B:310:PHE:CD1	1:B:314:LYS:HA	2.56	0.41
1:C:29:ILE:O	1:C:30:ALA:C	2.59	0.41
1:C:55:MET:HE3	1:C:254:PHE:HE2	1.86	0.41
1:C:61:VAL:HG11	1:C:334:ALA:HA	2.03	0.41
1:C:156:ARG:O	1:C:157:GLN:C	2.58	0.41
1:C:278:GLN:O	1:C:281:LEU:HB2	2.21	0.41
1:C:410:ALA:O	1:C:413:LEU:N	2.54	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:18:ILE:N	1:D:18:ILE:HD13	2.36	0.41
1:A:56:ILE:HD12	1:A:56:ILE:N	2.36	0.41
1:A:255:ILE:HD11	1:A:304:PHE:HB3	2.03	0.41
1:B:54:LEU:HD23	1:B:329:ARG:HD3	2.03	0.41
1:B:127:ALA:CA	1:B:225:LEU:HB3	2.49	0.41
1:B:336:THR:HG23	1:B:338:SER:HB3	2.03	0.41
1:C:157:GLN:HA	1:C:160:ARG:HB3	2.02	0.41
1:C:344:LEU:HD12	1:C:344:LEU:N	2.36	0.41
1:C:429:LEU:O	1:C:432:LEU:N	2.54	0.41
1:D:107:ALA:O	1:D:110:MET:HB2	2.20	0.41
1:D:240:LYS:HE2	1:D:294:HIS:CD2	2.55	0.41
1:D:261:ILE:HG22	1:D:261:ILE:O	2.21	0.41
1:D:345:THR:C	1:D:347:PRO:HD2	2.40	0.41
1:C:7:ARG:HA	1:C:10:VAL:HB	2.03	0.41
1:C:22:ASN:O	1:C:25:ARG:HB2	2.21	0.41
1:C:355:TYR:CZ	1:C:403:MET:HB2	2.56	0.41
1:C:430:ASP:O	1:C:433:VAL:HG22	2.21	0.41
1:A:55:MET:HE3	1:A:305:ILE:HG21	2.02	0.40
1:B:271:ASP:CA	1:B:274:ARG:HB2	2.41	0.40
1:B:362:GLU:C	1:B:364:VAL:H	2.24	0.40
1:C:151:GLU:N	1:C:152:PRO:CD	2.84	0.40
1:C:387:THR:OG1	1:C:388:GLU:N	2.50	0.40
1:C:405:GLU:O	1:C:409:ASP:N	2.52	0.40
1:D:100:ILE:CG2	1:D:297:VAL:HG21	2.51	0.40
1:A:109:LYS:O	1:A:110:MET:C	2.60	0.40
1:A:278:GLN:HG2	1:A:322:LEU:CD2	2.52	0.40
1:A:320:PRO:O	1:A:323:GLN:N	2.53	0.40
1:A:438:LEU:O	1:A:441:PHE:HB2	2.21	0.40
1:B:6:PRO:HD3	1:B:32:ARG:HD3	2.04	0.40
1:B:318:LEU:HD22	1:B:323:GLN:N	2.36	0.40
1:C:136:ILE:O	1:C:136:ILE:HG22	2.22	0.40
1:C:252:ILE:HG22	1:C:253:VAL:N	2.36	0.40
1:C:442:ILE:HA	1:D:329:ARG:HG3	2.03	0.40
1:D:29:ILE:O	1:D:30:ALA:C	2.58	0.40
1:D:32:ARG:O	1:D:35:TRP:N	2.53	0.40
1:D:39:GLN:O	1:D:40:LEU:HD23	2.20	0.40
1:D:271:ASP:HA	1:D:274:ARG:HG3	2.03	0.40
1:A:86:PHE:HA	1:A:93:GLY:CA	2.50	0.40
1:A:398:VAL:HG12	1:A:429:LEU:CD1	2.52	0.40
1:B:21:ASP:O	1:B:22:ASN:C	2.58	0.40
1:C:64:THR:HB	2:C:905:ANP:O1A	2.21	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:279:ARG:O	1:C:282:LEU:HB2	2.21	0.40
1:D:41:ASN:C	1:D:45:ARG:HB2	2.41	0.40
1:D:51:LYS:CB	1:D:328:ILE:HD11	2.50	0.40
1:A:17:ILE:HD11	1:A:69:ARG:CG	2.52	0.40
1:A:252:ILE:HG23	1:A:303:LEU:O	2.21	0.40
1:A:257:GLU:O	1:A:258:ILE:C	2.58	0.40
1:B:98:SER:OG	1:B:99:ILE:N	2.55	0.40
1:B:263:LYS:CG	1:B:264:ARG:N	2.77	0.40
1:B:320:PRO:O	1:B:321:GLU:C	2.59	0.40
1:C:19:GLY:O	1:C:24:LYS:HE3	2.21	0.40
1:C:80:LYS:HA	1:C:254:PHE:HB3	2.03	0.40
1:C:375:ARG:CB	1:C:425:VAL:HG21	2.52	0.40
1:C:438:LEU:HD22	1:C:438:LEU:N	2.37	0.40
1:D:86:PHE:HE1	1:D:95:GLU:O	2.04	0.40
1:D:328:ILE:H	1:D:328:ILE:HG13	1.35	0.40
1:A:98:SER:O	1:A:99:ILE:C	2.59	0.40
1:A:153:SER:O	1:A:157:GLN:HB2	2.22	0.40
1:A:424:TYR:O	1:A:428:HIS:CD2	2.74	0.40
1:B:96:VAL:CG1	1:B:97:ASP:N	2.85	0.40
1:B:103:LEU:HD23	1:B:104:THR:N	2.37	0.40
1:B:119:ASN:OD1	1:B:233:LEU:HD23	2.20	0.40
1:B:346:GLU:O	1:B:347:PRO:C	2.59	0.40
1:B:399:LEU:O	1:B:402:LEU:HD23	2.22	0.40
1:B:439:SER:O	1:B:443:LEU:HD12	2.20	0.40
1:D:33:ASN:O	1:D:34:ARG:C	2.60	0.40
1:D:282:LEU:CB	1:D:283:PRO:CD	2.99	0.40
1:D:439:SER:O	1:D:443:LEU:HD12	2.21	0.40

There are no symmetry-related clashes.

5.3 Torsion angles [i](#)

5.3.1 Protein backbone [i](#)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	A	403/442 (91%)	262 (65%)	102 (25%)	39 (10%)	0	10
1	B	403/442 (91%)	251 (62%)	111 (28%)	41 (10%)	0	9
1	C	403/442 (91%)	258 (64%)	104 (26%)	41 (10%)	0	9
1	D	403/442 (91%)	251 (62%)	115 (28%)	37 (9%)	1	11
All	All	1612/1768 (91%)	1022 (63%)	432 (27%)	158 (10%)	0	10

All (158) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	45	ARG
1	A	63	LYS
1	A	110	MET
1	A	268	SER
1	A	398	VAL
1	A	436	GLU
1	A	437	ASP
1	B	17	ILE
1	B	99	ILE
1	B	135	LEU
1	B	171	LYS
1	B	262	CYS
1	B	392	ALA
1	B	404	GLU
1	B	430	ASP
1	B	437	ASP
1	C	45	ARG
1	C	63	LYS
1	C	110	MET
1	C	111	VAL
1	C	172	GLU
1	C	212	LYS
1	C	268	SER
1	C	398	VAL
1	C	436	GLU
1	C	437	ASP
1	D	17	ILE
1	D	135	LEU
1	D	171	LYS
1	D	262	CYS
1	D	327	PRO
1	D	392	ALA
1	D	404	GLU

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Mol	Chain	Res	Type
1	D	430	ASP
1	A	41	ASN
1	A	67	ALA
1	A	84	THR
1	A	99	ILE
1	A	165	GLU
1	A	212	LYS
1	A	264	ARG
1	A	397	THR
1	A	404	GLU
1	A	414	SER
1	A	433	VAL
1	B	18	ILE
1	B	39	GLN
1	B	60	GLY
1	B	85	LYS
1	B	89	VAL
1	B	138	PRO
1	B	246	ALA
1	B	327	PRO
1	B	328	ILE
1	B	334	ALA
1	B	353	VAL
1	B	416	GLN
1	B	425	VAL
1	B	438	LEU
1	C	19	GLY
1	C	42	GLU
1	C	99	ILE
1	C	165	GLU
1	C	264	ARG
1	C	267	SER
1	C	414	SER
1	C	433	VAL
1	D	18	ILE
1	D	19	GLY
1	D	39	GLN
1	D	60	GLY
1	D	75	ASN
1	D	85	LYS
1	D	89	VAL
1	D	99	ILE

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Mol	Chain	Res	Type
1	D	138	PRO
1	D	151	GLU
1	D	246	ALA
1	D	286	GLU
1	D	334	ALA
1	D	353	VAL
1	D	425	VAL
1	D	438	LEU
1	A	42	GLU
1	A	58	PRO
1	A	141	ASN
1	A	156	ARG
1	A	386	SER
1	B	37	ARG
1	B	151	GLU
1	B	158	ALA
1	B	286	GLU
1	C	40	LEU
1	C	41	ASN
1	C	58	PRO
1	C	84	THR
1	C	85	LYS
1	C	88	GLU
1	C	386	SER
1	C	404	GLU
1	D	150	GLN
1	D	169	ASP
1	D	264	ARG
1	D	416	GLN
1	D	437	ASP
1	A	6	PRO
1	A	85	LYS
1	A	88	GLU
1	A	164	ARG
1	A	261	ILE
1	A	267	SER
1	B	75	ASN
1	B	347	PRO
1	B	432	LEU
1	C	67	ALA
1	C	261	ILE
1	C	397	THR

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Mol	Chain	Res	Type
1	D	37	ARG
1	D	240	LYS
1	A	40	LEU
1	A	51	LYS
1	A	64	THR
1	B	170	ASP
1	C	6	PRO
1	C	51	LYS
1	C	164	ARG
1	D	158	ALA
1	A	19	GLY
1	A	426	SER
1	B	29	ILE
1	B	79	ILE
1	B	285	VAL
1	C	64	THR
1	C	137	PRO
1	C	167	GLN
1	D	328	ILE
1	D	408	TYR
1	A	137	PRO
1	B	92	VAL
1	B	433	VAL
1	C	351	ILE
1	C	376	ILE
1	D	92	VAL
1	D	347	PRO
1	B	19	GLY
1	B	100	ILE
1	B	152	PRO
1	B	320	PRO
1	C	320	PRO
1	D	282	LEU
1	C	66	ILE
1	A	111	VAL
1	A	320	PRO
1	A	351	ILE
1	B	282	LEU
1	C	364	VAL
1	C	390	ILE
1	A	66	ILE

5.3.2 Protein sidechains [i](#)

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	A	349/376 (93%)	226 (65%)	123 (35%)	0	1
1	B	349/376 (93%)	227 (65%)	122 (35%)	0	1
1	C	349/376 (93%)	220 (63%)	129 (37%)	0	0
1	D	349/376 (93%)	231 (66%)	118 (34%)	0	2
All	All	1396/1504 (93%)	904 (65%)	492 (35%)	0	1

All (492) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	2	SER
1	A	3	GLU
1	A	4	MET
1	A	5	THR
1	A	7	ARG
1	A	14	ASP
1	A	31	LEU
1	A	32	ARG
1	A	34	ARG
1	A	37	ARG
1	A	38	MET
1	A	41	ASN
1	A	42	GLU
1	A	44	LEU
1	A	49	THR
1	A	51	LYS
1	A	54	LEU
1	A	61	VAL
1	A	68	ARG
1	A	70	LEU
1	A	72	LYS
1	A	73	LEU
1	A	80	LYS
1	A	81	VAL

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Mol	Chain	Res	Type
1	A	84	THR
1	A	94	LYS
1	A	97	ASP
1	A	109	LYS
1	A	112	ARG
1	A	118	LYS
1	A	119	ASN
1	A	122	ARG
1	A	125	GLU
1	A	128	GLU
1	A	130	ARG
1	A	135	LEU
1	A	140	LYS
1	A	142	ASN
1	A	146	THR
1	A	147	GLU
1	A	149	GLN
1	A	156	ARG
1	A	157	GLN
1	A	159	PHE
1	A	160	ARG
1	A	161	LYS
1	A	164	ARG
1	A	167	GLN
1	A	168	LEU
1	A	169	ASP
1	A	171	LYS
1	A	172	GLU
1	A	173	ILE
1	A	174	GLU
1	A	210	LYS
1	A	212	LYS
1	A	215	LYS
1	A	216	LEU
1	A	217	LYS
1	A	223	LYS
1	A	224	LEU
1	A	229	GLU
1	A	232	LYS
1	A	233	LEU
1	A	239	LEU
1	A	242	ASP

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Mol	Chain	Res	Type
1	A	247	VAL
1	A	249	GLN
1	A	255	ILE
1	A	257	GLU
1	A	261	ILE
1	A	263	LYS
1	A	264	ARG
1	A	266	GLU
1	A	267	SER
1	A	268	SER
1	A	271	ASP
1	A	282	LEU
1	A	285	VAL
1	A	289	THR
1	A	290	VAL
1	A	297	VAL
1	A	298	LYS
1	A	301	HIS
1	A	303	LEU
1	A	305	ILE
1	A	310	PHE
1	A	311	GLN
1	A	314	LYS
1	A	319	ILE
1	A	325	ARG
1	A	332	LEU
1	A	333	GLN
1	A	335	LEU
1	A	336	THR
1	A	337	THR
1	A	345	THR
1	A	350	SER
1	A	351	ILE
1	A	356	LYS
1	A	358	LEU
1	A	359	MET
1	A	364	VAL
1	A	366	ILE
1	A	367	GLU
1	A	369	THR
1	A	370	ASP
1	A	371	SER

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Mol	Chain	Res	Type
1	A	374	LYS
1	A	375	ARG
1	A	394	ARG
1	A	401	ARG
1	A	407	SER
1	A	412	ASP
1	A	416	GLN
1	A	417	ASN
1	A	418	ILE
1	A	421	ASP
1	A	423	ASP
1	A	425	VAL
1	A	435	ASP
1	A	437	ASP
1	A	442	ILE
1	B	2	SER
1	B	5	THR
1	B	11	SER
1	B	16	HIS
1	B	18	ILE
1	B	20	GLN
1	B	22	ASN
1	B	25	ARG
1	B	26	SER
1	B	34	ARG
1	B	37	ARG
1	B	38	MET
1	B	39	GLN
1	B	42	GLU
1	B	43	GLU
1	B	44	LEU
1	B	47	GLU
1	B	48	VAL
1	B	49	THR
1	B	63	LYS
1	B	64	THR
1	B	73	LEU
1	B	82	GLU
1	B	84	THR
1	B	88	GLU
1	B	92	VAL
1	B	94	LYS

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Mol	Chain	Res	Type
1	B	95	GLU
1	B	96	VAL
1	B	103	LEU
1	B	104	THR
1	B	109	LYS
1	B	110	MET
1	B	117	GLU
1	B	118	LYS
1	B	121	TYR
1	B	124	GLU
1	B	125	GLU
1	B	130	ARG
1	B	135	LEU
1	B	142	ASN
1	B	146	THR
1	B	148	GLN
1	B	149	GLN
1	B	156	ARG
1	B	157	GLN
1	B	161	LYS
1	B	162	LYS
1	B	163	LEU
1	B	165	GLU
1	B	167	GLN
1	B	168	LEU
1	B	170	ASP
1	B	171	LYS
1	B	173	ILE
1	B	210	LYS
1	B	211	GLN
1	B	215	LYS
1	B	217	LYS
1	B	220	ASP
1	B	222	MET
1	B	224	LEU
1	B	235	ASN
1	B	238	GLU
1	B	240	LYS
1	B	241	GLN
1	B	250	HIS
1	B	258	ILE
1	B	264	ARG

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Mol	Chain	Res	Type
1	B	266	GLU
1	B	268	SER
1	B	273	SER
1	B	279	ARG
1	B	282	LEU
1	B	284	LEU
1	B	289	THR
1	B	291	SER
1	B	292	THR
1	B	296	MET
1	B	300	ASP
1	B	311	GLN
1	B	312	ILE
1	B	314	LYS
1	B	316	SER
1	B	326	LEU
1	B	328	ILE
1	B	333	GLN
1	B	337	THR
1	B	342	ARG
1	B	343	ILE
1	B	344	LEU
1	B	346	GLU
1	B	348	ASN
1	B	350	SER
1	B	352	THR
1	B	356	LYS
1	B	358	LEU
1	B	371	SER
1	B	373	ILE
1	B	374	LYS
1	B	375	ARG
1	B	378	GLU
1	B	382	GLN
1	B	383	VAL
1	B	387	THR
1	B	388	GLU
1	B	389	ASN
1	B	393	ARG
1	B	394	ARG
1	B	397	THR
1	B	401	ARG

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Mol	Chain	Res	Type
1	B	402	LEU
1	B	413	LEU
1	B	418	ILE
1	B	427	LYS
1	B	429	LEU
1	B	433	VAL
1	B	438	LEU
1	B	439	SER
1	B	440	ARG
1	B	442	ILE
1	B	443	LEU
1	C	2	SER
1	C	3	GLU
1	C	4	MET
1	C	5	THR
1	C	7	ARG
1	C	14	ASP
1	C	26	SER
1	C	27	VAL
1	C	31	LEU
1	C	32	ARG
1	C	34	ARG
1	C	36	ARG
1	C	37	ARG
1	C	38	MET
1	C	41	ASN
1	C	42	GLU
1	C	44	LEU
1	C	49	THR
1	C	51	LYS
1	C	54	LEU
1	C	61	VAL
1	C	68	ARG
1	C	70	LEU
1	C	72	LYS
1	C	73	LEU
1	C	80	LYS
1	C	81	VAL
1	C	84	THR
1	C	85	LYS
1	C	88	GLU
1	C	94	LYS

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Mol	Chain	Res	Type
1	C	97	ASP
1	C	109	LYS
1	C	112	ARG
1	C	118	LYS
1	C	119	ASN
1	C	120	ARG
1	C	121	TYR
1	C	125	GLU
1	C	128	GLU
1	C	130	ARG
1	C	135	LEU
1	C	140	LYS
1	C	142	ASN
1	C	146	THR
1	C	147	GLU
1	C	148	GLN
1	C	149	GLN
1	C	150	GLN
1	C	156	ARG
1	C	157	GLN
1	C	159	PHE
1	C	160	ARG
1	C	161	LYS
1	C	164	ARG
1	C	165	GLU
1	C	167	GLN
1	C	168	LEU
1	C	169	ASP
1	C	171	LYS
1	C	173	ILE
1	C	174	GLU
1	C	210	LYS
1	C	212	LYS
1	C	215	LYS
1	C	216	LEU
1	C	217	LYS
1	C	219	LYS
1	C	224	LEU
1	C	226	ILE
1	C	233	LEU
1	C	239	LEU
1	C	247	VAL

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Mol	Chain	Res	Type
1	C	249	GLN
1	C	255	ILE
1	C	257	GLU
1	C	261	ILE
1	C	263	LYS
1	C	264	ARG
1	C	266	GLU
1	C	267	SER
1	C	271	ASP
1	C	282	LEU
1	C	284	LEU
1	C	285	VAL
1	C	286	GLU
1	C	289	THR
1	C	290	VAL
1	C	297	VAL
1	C	301	HIS
1	C	303	LEU
1	C	305	ILE
1	C	310	PHE
1	C	311	GLN
1	C	312	ILE
1	C	314	LYS
1	C	319	ILE
1	C	325	ARG
1	C	329	ARG
1	C	332	LEU
1	C	333	GLN
1	C	335	LEU
1	C	336	THR
1	C	337	THR
1	C	350	SER
1	C	351	ILE
1	C	356	LYS
1	C	358	LEU
1	C	359	MET
1	C	364	VAL
1	C	366	ILE
1	C	367	GLU
1	C	369	THR
1	C	370	ASP
1	C	371	SER

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Mol	Chain	Res	Type
1	C	374	LYS
1	C	375	ARG
1	C	394	ARG
1	C	401	ARG
1	C	407	SER
1	C	412	ASP
1	C	416	GLN
1	C	417	ASN
1	C	418	ILE
1	C	421	ASP
1	C	425	VAL
1	C	435	ASP
1	C	437	ASP
1	C	442	ILE
1	D	2	SER
1	D	5	THR
1	D	11	SER
1	D	16	HIS
1	D	18	ILE
1	D	20	GLN
1	D	22	ASN
1	D	24	LYS
1	D	25	ARG
1	D	34	ARG
1	D	37	ARG
1	D	38	MET
1	D	39	GLN
1	D	42	GLU
1	D	43	GLU
1	D	44	LEU
1	D	47	GLU
1	D	48	VAL
1	D	49	THR
1	D	63	LYS
1	D	64	THR
1	D	73	LEU
1	D	82	GLU
1	D	84	THR
1	D	88	GLU
1	D	92	VAL
1	D	96	VAL
1	D	103	LEU

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Mol	Chain	Res	Type
1	D	104	THR
1	D	109	LYS
1	D	110	MET
1	D	121	TYR
1	D	122	ARG
1	D	124	GLU
1	D	125	GLU
1	D	130	ARG
1	D	135	LEU
1	D	142	ASN
1	D	145	GLN
1	D	146	THR
1	D	147	GLU
1	D	148	GLN
1	D	149	GLN
1	D	156	ARG
1	D	157	GLN
1	D	161	LYS
1	D	162	LYS
1	D	163	LEU
1	D	165	GLU
1	D	167	GLN
1	D	168	LEU
1	D	169	ASP
1	D	170	ASP
1	D	171	LYS
1	D	210	LYS
1	D	211	GLN
1	D	215	LYS
1	D	217	LYS
1	D	219	LYS
1	D	220	ASP
1	D	224	LEU
1	D	225	LEU
1	D	235	ASN
1	D	238	GLU
1	D	240	LYS
1	D	260	LYS
1	D	264	ARG
1	D	266	GLU
1	D	268	SER
1	D	271	ASP

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Mol	Chain	Res	Type
1	D	279	ARG
1	D	282	LEU
1	D	284	LEU
1	D	289	THR
1	D	291	SER
1	D	296	MET
1	D	300	ASP
1	D	311	GLN
1	D	312	ILE
1	D	314	LYS
1	D	316	SER
1	D	326	LEU
1	D	328	ILE
1	D	333	GLN
1	D	337	THR
1	D	342	ARG
1	D	343	ILE
1	D	344	LEU
1	D	346	GLU
1	D	348	ASN
1	D	350	SER
1	D	352	THR
1	D	356	LYS
1	D	358	LEU
1	D	369	THR
1	D	371	SER
1	D	373	ILE
1	D	375	ARG
1	D	378	GLU
1	D	382	GLN
1	D	383	VAL
1	D	387	THR
1	D	388	GLU
1	D	393	ARG
1	D	394	ARG
1	D	397	THR
1	D	401	ARG
1	D	402	LEU
1	D	413	LEU
1	D	418	ILE
1	D	427	LYS
1	D	429	LEU

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Mol	Chain	Res	Type
1	D	433	VAL
1	D	438	LEU
1	D	439	SER
1	D	440	ARG
1	D	442	ILE
1	D	443	LEU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (36) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	39	GLN
1	A	75	ASN
1	A	119	ASN
1	A	149	GLN
1	A	249	GLN
1	A	294	HIS
1	A	323	GLN
1	A	348	ASN
1	A	354	GLN
1	A	384	ASN
1	A	396	HIS
1	A	417	ASN
1	B	16	HIS
1	B	22	ASN
1	B	33	ASN
1	B	235	ASN
1	B	323	GLN
1	B	382	GLN
1	B	384	ASN
1	B	417	ASN
1	C	39	GLN
1	C	75	ASN
1	C	119	ASN
1	C	149	GLN
1	C	294	HIS
1	C	384	ASN
1	C	396	HIS
1	C	417	ASN
1	D	16	HIS
1	D	22	ASN
1	D	33	ASN
1	D	41	ASN

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Mol	Chain	Res	Type
1	D	46	HIS
1	D	235	ASN
1	D	323	GLN
1	D	382	GLN

5.3.3 RNA [i](#)

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates [i](#)

There are no monosaccharides in this entry.

5.6 Ligand geometry [i](#)

2 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$
2	ANP	A	900	-	29,33,33	1.25	4 (13%)	31,52,52	1.49	2 (6%)
2	ANP	C	905	-	29,33,33	1.21	4 (13%)	31,52,52	1.48	3 (9%)

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
2	ANP	A	900	-	-	6/14/38/38	0/3/3/3
2	ANP	C	905	-	-	6/14/38/38	0/3/3/3

All (8) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	A	900	ANP	PG-O1G	2.92	1.50	1.46
2	C	905	ANP	PG-O1G	2.68	1.50	1.46
2	A	900	ANP	PG-O2G	-2.64	1.49	1.56
2	C	905	ANP	PG-O2G	-2.63	1.49	1.56
2	C	905	ANP	PB-O1B	2.43	1.49	1.46
2	A	900	ANP	PB-O2B	-2.41	1.50	1.56
2	C	905	ANP	PB-O2B	-2.40	1.50	1.56
2	A	900	ANP	PB-O1B	2.00	1.49	1.46

All (5) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	A	900	ANP	O2B-PB-O1B	4.79	120.14	109.87
2	C	905	ANP	O2B-PB-O1B	4.79	120.14	109.87
2	A	900	ANP	O1G-PG-N3B	-4.23	105.55	111.77
2	C	905	ANP	O1G-PG-N3B	-4.19	105.61	111.77
2	C	905	ANP	C5-C6-N6	2.07	123.46	120.31

There are no chirality outliers.

All (12) torsion outliers are listed below:

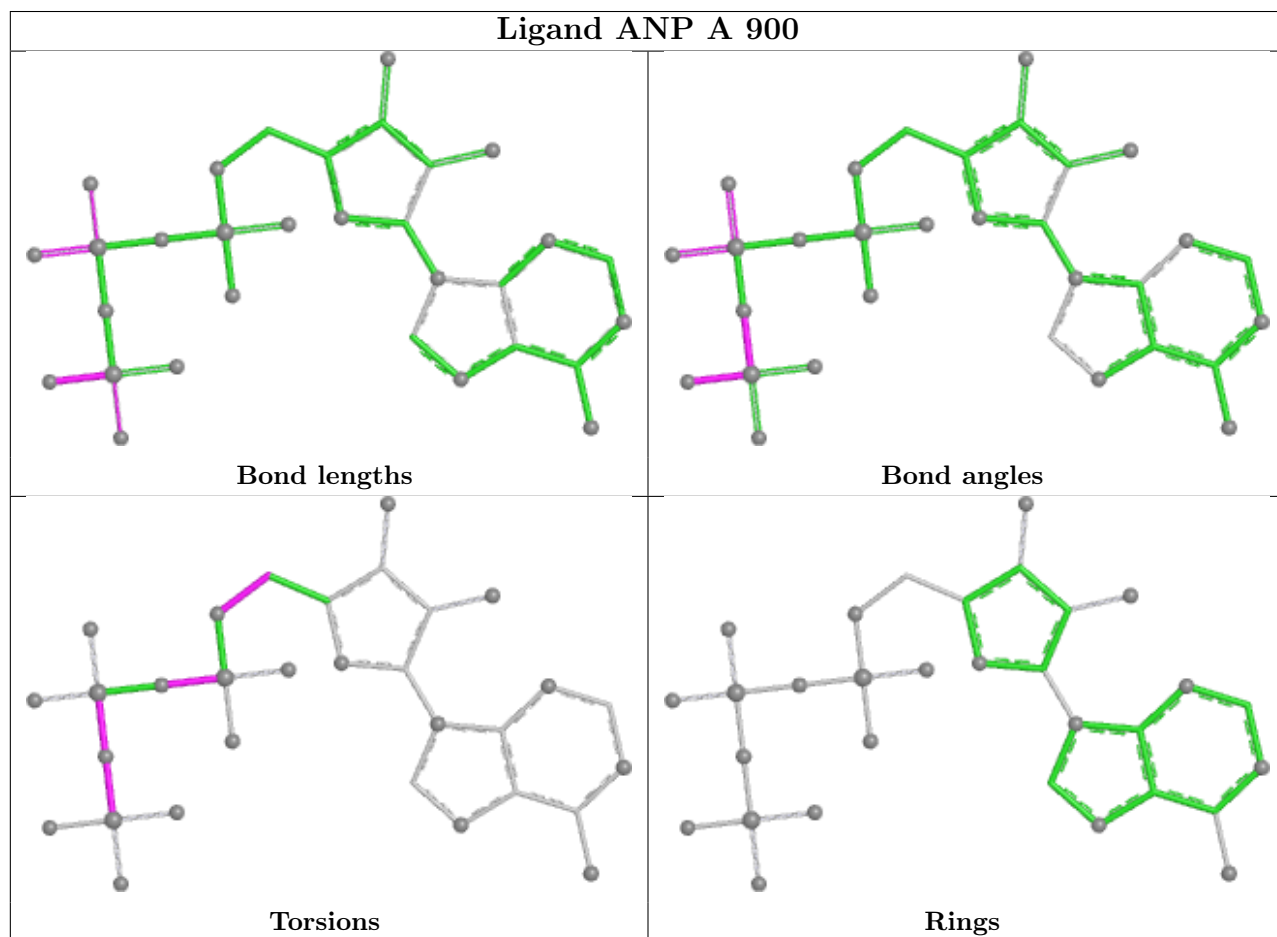
Mol	Chain	Res	Type	Atoms
2	A	900	ANP	PB-N3B-PG-O1G
2	A	900	ANP	PG-N3B-PB-O1B
2	A	900	ANP	PG-N3B-PB-O3A
2	C	905	ANP	PB-N3B-PG-O1G
2	C	905	ANP	PG-N3B-PB-O1B
2	C	905	ANP	PG-N3B-PB-O3A
2	A	900	ANP	PB-O3A-PA-O2A
2	C	905	ANP	PB-O3A-PA-O2A
2	A	900	ANP	C4'-C5'-O5'-PA
2	C	905	ANP	C4'-C5'-O5'-PA
2	A	900	ANP	PB-O3A-PA-O1A
2	C	905	ANP	PB-O3A-PA-O1A

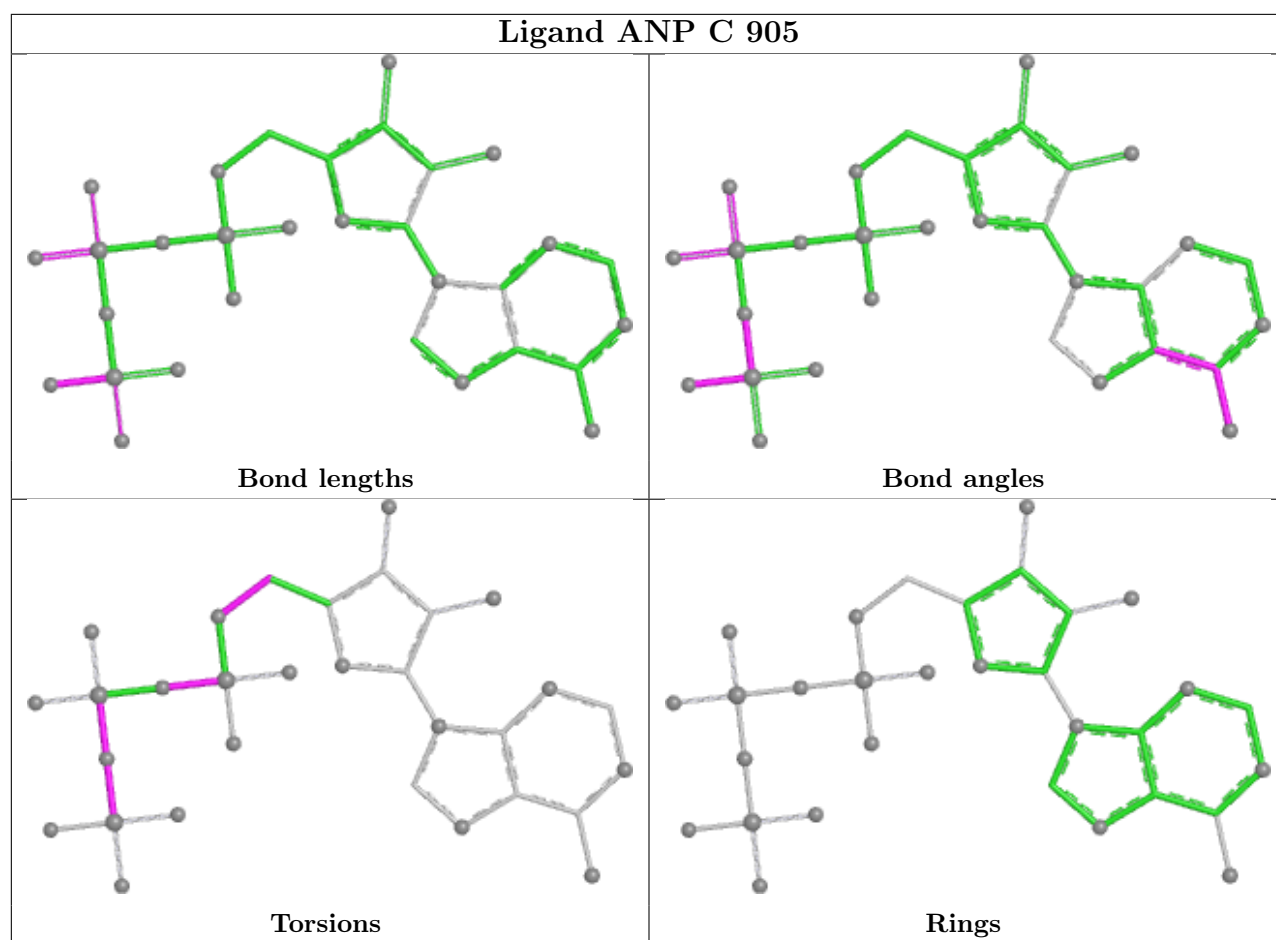
There are no ring outliers.

2 monomers are involved in 20 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
2	A	900	ANP	9	0
2	C	905	ANP	11	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.





5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

6 Fit of model and data

6.1 Protein, DNA and RNA chains

EDS was not executed - this section is therefore empty.

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

EDS was not executed - this section is therefore empty.

6.3 Carbohydrates

EDS was not executed - this section is therefore empty.

6.4 Ligands

EDS was not executed - this section is therefore empty.

6.5 Other polymers

EDS was not executed - this section is therefore empty.