



Full wwPDB X-ray Structure Validation Report ⓘ

Oct 16, 2023 – 06:48 AM EDT

PDB ID : 1J1W
Title : Crystal Structure Of The Monomeric Isocitrate Dehydrogenase In Complex With NADP+
Authors : Yasutake, Y.; Watanabe, S.; Yao, M.; Takada, Y.; Fukunaga, N.; Tanaka, I.
Deposited on : 2002-12-19
Resolution : 3.20 Å(reported)

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

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

A user guide is available at

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

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

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

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

MolProbity : 4.02b-467
Mogul : 1.8.5 (274361), CSD as541be (2020)
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

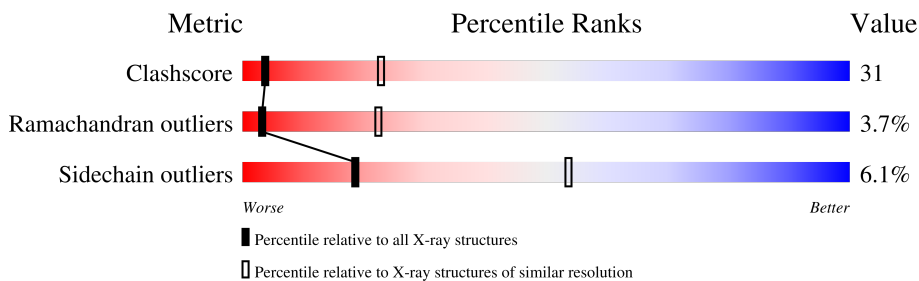
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 3.20 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	1253 (3.20-3.20)
Ramachandran outliers	138981	1234 (3.20-3.20)
Sidechain outliers	138945	1233 (3.20-3.20)

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	741	
1	B	741	
1	C	741	
1	D	741	

2 Entry composition

There are 3 unique types of molecules in this entry. The entry contains 23181 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 Isocitrate Dehydrogenase.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
1	A	738	5636	3562	967	1087	20	0	0	0
1	B	738	5636	3562	967	1087	20	0	0	0
1	C	738	5636	3562	967	1087	20	0	0	0
1	D	738	5636	3562	967	1087	20	0	0	0

There are 4 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	727	MET	ILE	SEE REMARK 999	UNP P16100
B	727	MET	ILE	SEE REMARK 999	UNP P16100
C	727	MET	ILE	SEE REMARK 999	UNP P16100
D	727	MET	ILE	SEE REMARK 999	UNP P16100

- Molecule 2 is NADP NICOTINAMIDE-ADENINE-DINUCLEOTIDE PHOSPHATE (three-letter code: NAP) (formula: $C_{21}H_{28}N_7O_{17}P_3$).



Mol	Chain	Residues	Atoms					ZeroOcc	AltConf
			Total	C	N	O	P		
2	A	1	48	21	7	17	3	0	0
2	B	1	48	21	7	17	3	0	0
2	C	1	48	21	7	17	3	0	0
2	D	1	48	21	7	17	3	0	0

- Molecule 3 is water.

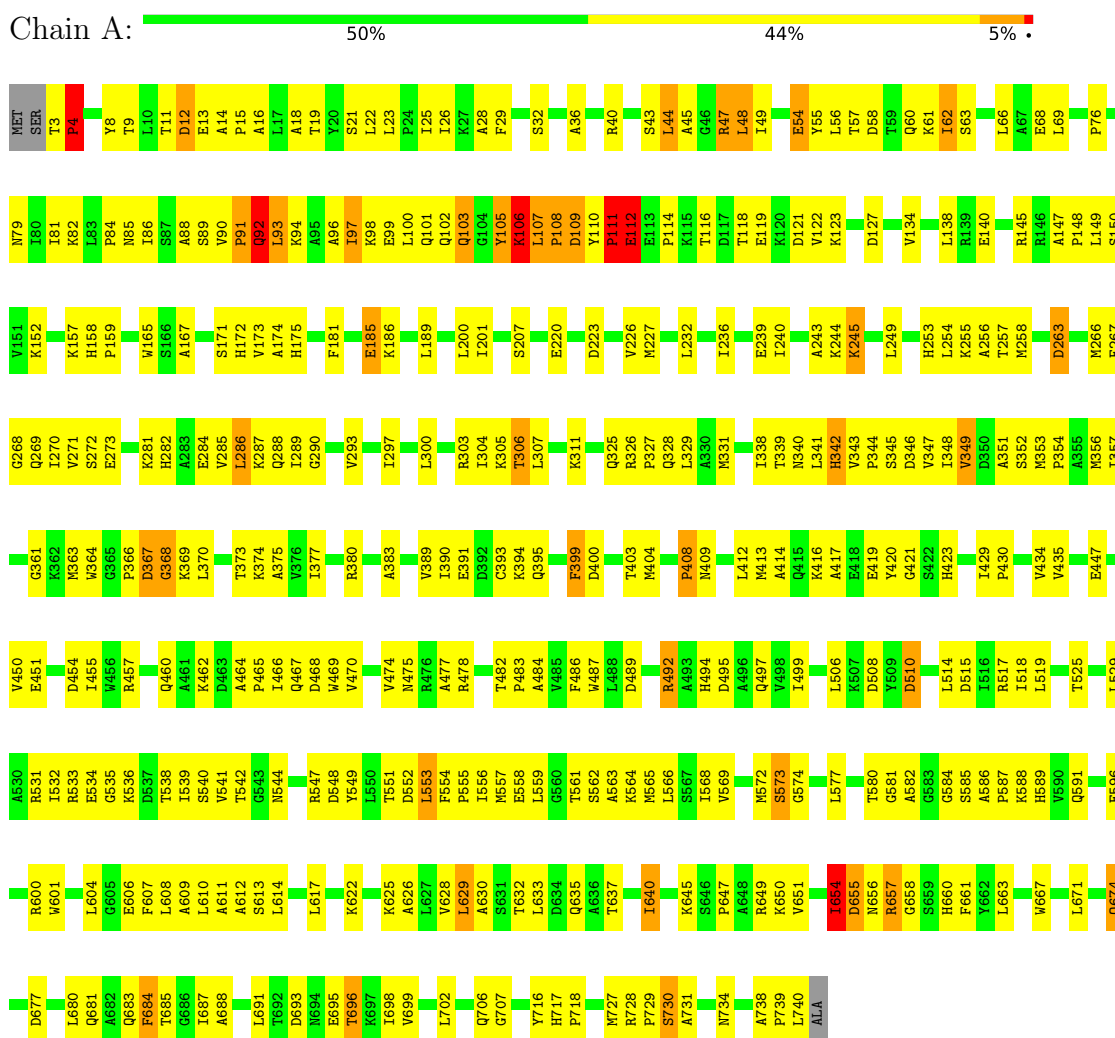
Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
			Total	O		
3	A	123	123	123	0	0
3	B	101	101	101	0	0
3	C	99	99	99	0	0
3	D	122	122	122	0	0

3 Residue-property plots

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



- Molecule 1: Isocitrate Dehydrogenase



4 Data and refinement statistics

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

Property	Value	Source
Space group	P 1 21 1	Depositor
Cell constants a, b, c, α , β , γ	113.50Å 110.41Å 133.70Å 90.00° 90.16° 90.00°	Depositor
Resolution (Å)	10.00 – 3.20	Depositor
% Data completeness (in resolution range)	88.8 (10.00-3.20)	Depositor
R_{merge}	(Not available)	Depositor
R_{sym}	0.09	Depositor
Refinement program	CNS	Depositor
R, R_{free}	0.260 , 0.297	Depositor
Estimated twinning fraction	No twinning to report.	Xtrriage
Total number of atoms	23181	wwPDB-VP
Average B, all atoms (Å ²)	36.0	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: NAP

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	0.41	0/5742	0.70	6/7783 (0.1%)
1	B	0.41	0/5742	0.70	6/7783 (0.1%)
1	C	0.40	0/5742	0.70	6/7783 (0.1%)
1	D	0.41	0/5742	0.70	6/7783 (0.1%)
All	All	0.41	0/22968	0.70	24/31132 (0.1%)

There are no bond length outliers.

All (24) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	111	PRO	N-CA-C	8.39	133.92	112.10
1	C	111	PRO	N-CA-C	8.35	133.80	112.10
1	D	111	PRO	N-CA-C	8.28	133.64	112.10
1	B	111	PRO	N-CA-C	8.28	133.62	112.10
1	B	654	ILE	N-CA-C	7.84	132.17	111.00
1	C	654	ILE	N-CA-C	7.84	132.17	111.00
1	A	654	ILE	N-CA-C	7.82	132.10	111.00
1	D	112	GLU	N-CA-C	7.79	132.04	111.00
1	D	654	ILE	N-CA-C	7.76	131.96	111.00
1	A	112	GLU	N-CA-C	7.69	131.76	111.00
1	C	112	GLU	N-CA-C	7.63	131.59	111.00
1	B	112	GLU	N-CA-C	7.63	131.59	111.00
1	C	12	ASP	N-CA-C	6.71	129.10	111.00
1	A	12	ASP	N-CA-C	6.65	128.96	111.00
1	D	12	ASP	N-CA-C	6.58	128.76	111.00
1	B	12	ASP	N-CA-C	6.49	128.52	111.00
1	C	111	PRO	C-N-CA	5.47	135.38	121.70
1	B	111	PRO	C-N-CA	5.45	135.32	121.70
1	D	110	TYR	C-N-CD	-5.41	108.71	120.60
1	D	111	PRO	C-N-CA	5.37	135.14	121.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	111	PRO	C-N-CA	5.37	135.12	121.70
1	B	110	TYR	C-N-CD	-5.18	109.19	120.60
1	A	110	TYR	C-N-CD	-5.07	109.44	120.60
1	C	110	TYR	C-N-CD	-5.06	109.46	120.60

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	5636	0	5687	365	0
1	B	5636	0	5687	351	0
1	C	5636	0	5687	362	0
1	D	5636	0	5687	352	0
2	A	48	0	25	4	0
2	B	48	0	25	4	0
2	C	48	0	25	2	0
2	D	48	0	25	5	0
3	A	123	0	0	2	0
3	B	101	0	0	1	0
3	C	99	0	0	2	0
3	D	122	0	0	5	0
All	All	23181	0	22848	1424	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 31.

All (1424) 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:622:LYS:NZ	1:C:441:SER:HB3	1.69	1.07
1:D:561:THR:HG22	1:D:563:ALA:H	1.24	0.99
1:A:622:LYS:HZ1	1:C:441:SER:HB3	1.25	0.98
1:C:478:ARG:HH12	1:C:510:ASP:HB3	1.29	0.96

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:561:THR:HG22	1:C:563:ALA:H	1.27	0.96
1:B:478:ARG:HH12	1:B:510:ASP:HB3	1.28	0.95
1:C:614:LEU:HD13	1:C:629:LEU:HD13	1.48	0.95
1:A:561:THR:HG22	1:A:563:ALA:H	1.28	0.94
1:B:307:LEU:HD12	1:B:311:LYS:HD3	1.48	0.94
1:A:478:ARG:HH12	1:A:510:ASP:HB3	1.30	0.94
1:A:632:THR:HG21	1:A:671:LEU:HD23	1.46	0.94
1:B:561:THR:HG22	1:B:563:ALA:H	1.28	0.94
1:B:614:LEU:HD13	1:B:629:LEU:HD13	1.48	0.94
1:D:478:ARG:HH12	1:D:510:ASP:HB3	1.30	0.93
1:C:307:LEU:HD12	1:C:311:LYS:HD3	1.48	0.93
1:D:307:LEU:HD12	1:D:311:LYS:HD3	1.48	0.93
1:A:307:LEU:HD12	1:A:311:LYS:HD3	1.49	0.93
1:A:622:LYS:CE	1:C:441:SER:HB3	1.97	0.92
1:B:632:THR:HG21	1:B:671:LEU:HD23	1.49	0.92
1:D:614:LEU:HD13	1:D:629:LEU:HD13	1.51	0.92
1:A:614:LEU:HD13	1:A:629:LEU:HD13	1.50	0.92
1:D:632:THR:HG21	1:D:671:LEU:HD23	1.50	0.91
1:C:632:THR:HG21	1:C:671:LEU:HD23	1.50	0.91
1:B:100:LEU:HD23	1:B:716:TYR:HB2	1.51	0.91
1:B:44:LEU:HD13	1:B:97:ILE:HG21	1.51	0.90
1:A:569:VAL:HB	1:A:577:LEU:HB3	1.52	0.90
1:C:44:LEU:HD13	1:C:97:ILE:HG21	1.52	0.90
1:C:100:LEU:HD23	1:C:716:TYR:HB2	1.51	0.90
1:D:100:LEU:HD23	1:D:716:TYR:HB2	1.51	0.90
1:D:650:LYS:HD3	1:D:651:VAL:H	1.33	0.90
1:C:569:VAL:HB	1:C:577:LEU:HB3	1.53	0.89
1:D:569:VAL:HB	1:D:577:LEU:HB3	1.53	0.89
1:A:100:LEU:HD23	1:A:716:TYR:HB2	1.52	0.89
1:A:44:LEU:HD13	1:A:97:ILE:HG21	1.54	0.88
1:A:650:LYS:HD3	1:A:651:VAL:H	1.35	0.88
1:D:44:LEU:HD13	1:D:97:ILE:HG21	1.54	0.88
1:B:569:VAL:HB	1:B:577:LEU:HB3	1.54	0.88
1:C:650:LYS:HD3	1:C:651:VAL:H	1.35	0.87
1:D:561:THR:HG22	1:D:563:ALA:N	1.89	0.87
1:B:650:LYS:HD3	1:B:651:VAL:H	1.36	0.87
1:A:257:THR:HG22	1:A:345:SER:OG	1.75	0.87
1:B:236:ILE:HD13	1:B:270:ILE:HG12	1.55	0.86
1:D:45:ALA:HA	1:D:48:LEU:HD12	1.58	0.86
1:B:44:LEU:HD22	1:B:48:LEU:HD11	1.57	0.86
1:A:45:ALA:HA	1:A:48:LEU:HD12	1.59	0.85

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:236:ILE:HD13	1:A:270:ILE:HG12	1.56	0.85
1:C:561:THR:HG22	1:C:563:ALA:N	1.90	0.85
1:C:93:LEU:O	1:C:97:ILE:HG23	1.76	0.85
1:B:93:LEU:O	1:B:97:ILE:HG23	1.76	0.85
1:B:561:THR:HG22	1:B:563:ALA:N	1.91	0.85
1:D:93:LEU:O	1:D:97:ILE:HG23	1.76	0.85
1:C:236:ILE:HD13	1:C:270:ILE:HG12	1.56	0.85
1:A:93:LEU:O	1:A:97:ILE:HG23	1.76	0.84
1:B:45:ALA:HA	1:B:48:LEU:HD12	1.59	0.84
1:C:257:THR:HG22	1:C:345:SER:OG	1.77	0.84
1:C:45:ALA:HA	1:C:48:LEU:HD12	1.60	0.84
1:C:562:SER:HB2	1:C:582:ALA:HB3	1.57	0.84
1:A:561:THR:HG22	1:A:563:ALA:N	1.92	0.84
1:D:44:LEU:HD22	1:D:48:LEU:HD11	1.58	0.84
1:D:257:THR:HG22	1:D:345:SER:OG	1.78	0.84
1:C:61:LYS:HG2	1:C:62:ILE:H	1.43	0.83
1:B:61:LYS:HG2	1:B:62:ILE:H	1.43	0.83
1:B:562:SER:HB2	1:B:582:ALA:HB3	1.58	0.83
1:D:562:SER:HB2	1:D:582:ALA:HB3	1.58	0.83
1:D:236:ILE:HD13	1:D:270:ILE:HG12	1.58	0.83
1:C:44:LEU:HD22	1:C:48:LEU:HD11	1.60	0.82
1:D:61:LYS:HG2	1:D:62:ILE:H	1.44	0.82
1:C:515:ASP:HB3	1:C:517:ARG:HH21	1.42	0.82
1:A:44:LEU:HD22	1:A:48:LEU:HD11	1.60	0.82
1:B:28:ALA:HB1	1:B:740:LEU:HD21	1.62	0.82
1:A:562:SER:HB2	1:A:582:ALA:HB3	1.60	0.82
1:A:515:ASP:HB3	1:A:517:ARG:HH21	1.43	0.82
1:D:515:ASP:HB3	1:D:517:ARG:HH21	1.44	0.81
1:A:61:LYS:HG2	1:A:62:ILE:H	1.45	0.81
1:C:145:ARG:HD2	1:C:551:THR:HG21	1.62	0.81
1:B:257:THR:HG22	1:B:345:SER:OG	1.80	0.81
1:C:28:ALA:HB1	1:C:740:LEU:HD21	1.63	0.81
1:D:92:GLN:O	1:D:96:ALA:HB3	1.81	0.80
1:A:28:ALA:HB1	1:A:740:LEU:HD21	1.64	0.80
1:A:92:GLN:O	1:A:96:ALA:HB3	1.82	0.80
1:A:145:ARG:HD2	1:A:551:THR:HG21	1.64	0.80
1:B:92:GLN:O	1:B:96:ALA:HB3	1.82	0.80
1:D:97:ILE:HG22	1:D:716:TYR:CE1	2.18	0.79
1:D:28:ALA:HB1	1:D:740:LEU:HD21	1.64	0.79
1:B:515:ASP:HB3	1:B:517:ARG:HH21	1.45	0.79
1:A:607:PHE:CE1	1:A:663:LEU:HD22	2.18	0.79

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:97:ILE:HG22	1:A:716:TYR:CE1	2.18	0.79
1:C:464:ALA:HB3	1:C:465:PRO:HD3	1.65	0.79
1:C:97:ILE:HG22	1:C:716:TYR:CE1	2.19	0.78
1:B:145:ARG:HD2	1:B:551:THR:HG21	1.65	0.78
1:B:464:ALA:HB3	1:B:465:PRO:HD3	1.65	0.78
1:A:97:ILE:HD13	1:A:98:LYS:N	1.98	0.78
1:A:464:ALA:HB3	1:A:465:PRO:HD3	1.65	0.78
1:D:464:ALA:HB3	1:D:465:PRO:HD3	1.65	0.78
1:A:622:LYS:HE3	1:C:441:SER:HB3	1.64	0.78
1:C:92:GLN:O	1:C:96:ALA:HB3	1.84	0.78
1:C:97:ILE:HD13	1:C:98:LYS:N	1.98	0.77
1:D:145:ARG:HD2	1:D:551:THR:HG21	1.65	0.77
1:B:607:PHE:CE1	1:B:663:LEU:HD22	2.20	0.77
1:D:227:MET:HG2	1:D:266:MET:HE3	1.66	0.77
1:D:97:ILE:HD13	1:D:98:LYS:N	1.99	0.77
1:B:97:ILE:HG22	1:B:716:TYR:CE1	2.21	0.76
1:B:112:GLU:O	1:B:114:PRO:HD3	1.85	0.76
1:D:671:LEU:O	1:D:674:GLN:HG3	1.86	0.76
1:A:112:GLU:O	1:A:114:PRO:HD3	1.85	0.76
1:B:681:GLN:O	1:B:685:THR:HG23	1.85	0.76
1:C:671:LEU:O	1:C:674:GLN:HG3	1.86	0.76
1:A:671:LEU:O	1:A:674:GLN:HG3	1.86	0.76
1:C:112:GLU:O	1:C:114:PRO:HD3	1.86	0.76
1:A:681:GLN:O	1:A:685:THR:HG23	1.86	0.75
1:B:44:LEU:CD1	1:B:97:ILE:HG21	2.16	0.75
1:A:460:GLN:HE21	1:A:462:LYS:NZ	1.83	0.75
1:B:97:ILE:HD13	1:B:98:LYS:N	2.00	0.75
1:B:227:MET:HG2	1:B:266:MET:HE3	1.67	0.75
1:B:671:LEU:O	1:B:674:GLN:HG3	1.87	0.75
1:D:681:GLN:O	1:D:685:THR:HG23	1.86	0.75
1:C:607:PHE:CE1	1:C:663:LEU:HD22	2.22	0.75
1:C:681:GLN:O	1:C:685:THR:HG23	1.87	0.74
1:A:492:ARG:HH11	1:A:492:ARG:HB3	1.51	0.74
1:D:112:GLU:O	1:D:114:PRO:HD3	1.87	0.74
1:D:460:GLN:HE21	1:D:462:LYS:NZ	1.84	0.74
1:D:607:PHE:CE1	1:D:663:LEU:HD22	2.23	0.74
1:C:227:MET:HG2	1:C:266:MET:HE3	1.67	0.74
1:A:227:MET:HG2	1:A:266:MET:HE3	1.68	0.74
1:C:460:GLN:HE21	1:C:462:LYS:NZ	1.84	0.74
1:A:647:PRO:HA	1:A:654:ILE:CG2	2.18	0.73
1:B:647:PRO:HA	1:B:654:ILE:CG2	2.18	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:602:ASP:N	2:D:1003:NAP:N1A	2.32	0.73
1:C:647:PRO:HA	1:C:654:ILE:CG2	2.18	0.73
1:B:492:ARG:HH11	1:B:492:ARG:HB3	1.52	0.73
1:C:492:ARG:HB3	1:C:492:ARG:HH11	1.53	0.73
1:B:460:GLN:HE21	1:B:462:LYS:NZ	1.85	0.73
1:B:466:ILE:O	1:B:469:TRP:HB3	1.89	0.73
1:D:647:PRO:HA	1:D:654:ILE:CG2	2.19	0.72
1:C:56:LEU:HA	1:C:60:GLN:HE21	1.53	0.72
1:B:518:ILE:O	1:B:519:LEU:HD23	1.90	0.72
1:B:109:ASP:OD2	1:B:109:ASP:N	2.20	0.72
1:B:61:LYS:HG2	1:B:62:ILE:N	2.04	0.72
1:D:109:ASP:OD2	1:D:109:ASP:N	2.20	0.72
1:D:650:LYS:HD3	1:D:651:VAL:N	2.04	0.72
1:A:285:VAL:HG13	1:A:286:LEU:HD13	1.71	0.72
1:C:91:PRO:HG2	1:C:344:PRO:CD	2.20	0.72
1:D:44:LEU:CD1	1:D:97:ILE:HG21	2.19	0.72
1:A:466:ILE:O	1:A:469:TRP:HB3	1.90	0.71
1:C:61:LYS:HG2	1:C:62:ILE:N	2.05	0.71
1:A:56:LEU:HA	1:A:60:GLN:HE21	1.54	0.71
1:D:285:VAL:HG13	1:D:286:LEU:HD13	1.71	0.71
1:A:91:PRO:HG2	1:A:344:PRO:CD	2.20	0.71
1:A:556:ILE:HG22	1:A:557:MET:HE3	1.73	0.71
1:A:236:ILE:O	1:A:240:ILE:HG13	1.91	0.71
1:C:100:LEU:CD2	1:C:716:TYR:H	2.03	0.71
1:D:100:LEU:CD2	1:D:716:TYR:H	2.03	0.71
1:B:100:LEU:CD2	1:B:716:TYR:H	2.03	0.71
1:C:518:ILE:O	1:C:519:LEU:HD23	1.91	0.71
1:C:44:LEU:CD1	1:C:97:ILE:HG21	2.19	0.71
1:D:84:PRO:HB3	1:D:584:GLY:HA2	1.73	0.71
1:D:492:ARG:HH11	1:D:492:ARG:HB3	1.54	0.71
1:D:518:ILE:O	1:D:519:LEU:HD23	1.91	0.71
1:B:285:VAL:HG13	1:B:286:LEU:HD13	1.71	0.71
1:D:61:LYS:HG2	1:D:62:ILE:N	2.06	0.71
1:D:91:PRO:HG2	1:D:344:PRO:CD	2.21	0.71
1:C:285:VAL:HG13	1:C:286:LEU:HD13	1.72	0.71
1:C:529:LEU:O	1:C:532:ILE:HG22	1.90	0.71
1:B:56:LEU:HA	1:B:60:GLN:HE21	1.55	0.70
1:C:109:ASP:OD2	1:C:109:ASP:N	2.21	0.70
1:D:466:ILE:O	1:D:469:TRP:HB3	1.91	0.70
2:D:1003:NAP:H51A	2:D:1003:NAP:H8A	1.72	0.70
1:D:727:MET:C	1:D:729:PRO:HD3	2.12	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:727:MET:C	1:A:729:PRO:HD3	2.12	0.70
1:C:727:MET:C	1:C:729:PRO:HD3	2.12	0.70
1:A:100:LEU:CD2	1:A:716:TYR:H	2.04	0.70
1:A:518:ILE:O	1:A:519:LEU:HD23	1.92	0.70
1:A:650:LYS:HD3	1:A:651:VAL:N	2.06	0.70
1:B:727:MET:C	1:B:729:PRO:HD3	2.12	0.70
1:C:466:ILE:O	1:C:469:TRP:HB3	1.92	0.70
1:A:109:ASP:OD2	1:A:109:ASP:N	2.22	0.70
1:B:91:PRO:HG2	1:B:344:PRO:CD	2.22	0.70
1:A:61:LYS:HG2	1:A:62:ILE:N	2.07	0.69
1:C:650:LYS:HD3	1:C:651:VAL:N	2.06	0.69
1:D:56:LEU:HA	1:D:60:GLN:HE21	1.56	0.69
1:B:147:ALA:HB2	1:B:559:LEU:HD11	1.74	0.69
1:B:650:LYS:HD3	1:B:651:VAL:N	2.07	0.69
1:D:97:ILE:HG22	1:D:716:TYR:CD1	2.28	0.69
1:A:84:PRO:HB3	1:A:584:GLY:HA2	1.75	0.69
1:C:84:PRO:HB3	1:C:584:GLY:HA2	1.75	0.69
1:B:529:LEU:O	1:B:532:ILE:HG22	1.92	0.69
1:C:556:ILE:HG22	1:C:557:MET:HE3	1.75	0.69
1:A:44:LEU:CD1	1:A:97:ILE:HG21	2.22	0.68
2:B:1001:NAP:H8A	2:B:1001:NAP:H51A	1.73	0.68
1:C:91:PRO:HG2	1:C:344:PRO:HD2	1.75	0.68
2:A:1000:NAP:H51A	2:A:1000:NAP:H8A	1.73	0.68
1:B:84:PRO:HB3	1:B:584:GLY:HA2	1.76	0.68
1:A:91:PRO:HG2	1:A:344:PRO:HD2	1.74	0.68
1:A:529:LEU:O	1:A:532:ILE:HG22	1.93	0.68
1:D:556:ILE:HG22	1:D:557:MET:HE3	1.76	0.68
1:B:91:PRO:O	1:B:93:LEU:N	2.27	0.68
1:D:236:ILE:O	1:D:240:ILE:HG13	1.94	0.68
1:A:91:PRO:O	1:A:93:LEU:N	2.27	0.68
1:A:657:ARG:HA	1:A:660:HIS:HB2	1.74	0.68
1:C:236:ILE:O	1:C:240:ILE:HG13	1.94	0.68
1:A:97:ILE:HG22	1:A:716:TYR:CD1	2.28	0.68
1:C:657:ARG:HA	1:C:660:HIS:HB2	1.74	0.68
1:D:91:PRO:HG2	1:D:344:PRO:HD2	1.75	0.68
1:B:91:PRO:HG2	1:B:344:PRO:HD2	1.76	0.68
1:B:556:ILE:HG22	1:B:557:MET:HE3	1.76	0.68
1:D:91:PRO:O	1:D:93:LEU:N	2.27	0.68
1:B:657:ARG:HA	1:B:660:HIS:HB2	1.74	0.67
2:C:1002:NAP:H8A	2:C:1002:NAP:H51A	1.74	0.67
1:A:556:ILE:HG22	1:A:557:MET:CE	2.25	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:91:PRO:O	1:C:93:LEU:N	2.28	0.67
1:C:556:ILE:HG22	1:C:557:MET:CE	2.25	0.67
1:B:100:LEU:HD21	1:B:716:TYR:H	1.59	0.67
1:B:556:ILE:HG22	1:B:557:MET:CE	2.25	0.67
1:D:529:LEU:O	1:D:532:ILE:HG22	1.94	0.67
1:D:728:ARG:N	1:D:729:PRO:HD3	2.09	0.67
1:A:728:ARG:N	1:A:729:PRO:HD3	2.09	0.67
1:D:147:ALA:HB2	1:D:559:LEU:HD11	1.76	0.67
1:B:236:ILE:O	1:B:240:ILE:HG13	1.95	0.67
1:B:408:PRO:O	1:B:540:SER:HB3	1.96	0.66
1:B:728:ARG:N	1:B:729:PRO:HD3	2.10	0.66
1:D:282:HIS:HB3	1:D:285:VAL:CG1	2.26	0.66
1:D:408:PRO:O	1:D:540:SER:HB3	1.96	0.66
1:D:525:THR:O	1:D:529:LEU:HG	1.95	0.66
1:D:657:ARG:HA	1:D:660:HIS:HB2	1.76	0.66
1:D:8:TYR:HE2	1:D:19:THR:HG23	1.60	0.66
1:D:100:LEU:HD21	1:D:716:TYR:H	1.61	0.66
1:A:525:THR:O	1:A:529:LEU:HG	1.95	0.66
1:C:525:THR:O	1:C:529:LEU:HG	1.95	0.66
1:C:728:ARG:N	1:C:729:PRO:HD3	2.10	0.66
1:B:8:TYR:HE2	1:B:19:THR:HG23	1.61	0.66
1:C:515:ASP:HB3	1:C:517:ARG:NH2	2.10	0.66
1:A:8:TYR:HE2	1:A:19:THR:HG23	1.61	0.65
1:A:460:GLN:HE21	1:A:462:LYS:HZ3	1.41	0.65
1:C:97:ILE:HG22	1:C:716:TYR:CD1	2.30	0.65
1:A:640:ILE:HD13	1:A:645:LYS:HB2	1.78	0.65
1:A:408:PRO:O	1:A:540:SER:HB3	1.97	0.65
1:D:89:SER:O	1:D:93:LEU:HB2	1.95	0.65
1:B:282:HIS:HB3	1:B:285:VAL:CG1	2.27	0.65
1:C:408:PRO:O	1:C:540:SER:HB3	1.97	0.65
1:C:460:GLN:HE21	1:C:462:LYS:HZ3	1.42	0.65
1:C:640:ILE:HD13	1:C:645:LYS:HB2	1.79	0.65
1:A:89:SER:O	1:A:93:LEU:HB2	1.96	0.65
1:A:628:VAL:O	1:A:632:THR:HG23	1.96	0.65
1:B:525:THR:O	1:B:529:LEU:HG	1.96	0.65
1:B:460:GLN:HE21	1:B:462:LYS:HZ3	1.43	0.65
1:B:628:VAL:O	1:B:632:THR:HG23	1.96	0.65
1:D:460:GLN:HE21	1:D:462:LYS:HZ3	1.43	0.65
1:A:147:ALA:HB2	1:A:559:LEU:HD11	1.78	0.65
1:A:282:HIS:HB3	1:A:285:VAL:CG1	2.27	0.65
1:C:628:VAL:O	1:C:632:THR:HG23	1.96	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:8:TYR:HE2	1:C:19:THR:HG23	1.61	0.65
1:C:89:SER:O	1:C:93:LEU:HB2	1.96	0.65
1:C:282:HIS:HB3	1:C:285:VAL:CG1	2.27	0.65
1:A:515:ASP:HB3	1:A:517:ARG:NH2	2.11	0.64
1:D:640:ILE:HD13	1:D:645:LYS:HB2	1.79	0.64
1:B:640:ILE:HD13	1:B:645:LYS:HB2	1.80	0.64
1:C:100:LEU:HD21	1:C:716:TYR:H	1.61	0.64
1:B:97:ILE:HG22	1:B:716:TYR:CD1	2.32	0.64
1:D:515:ASP:HB3	1:D:517:ARG:NH2	2.12	0.64
1:A:112:GLU:CD	1:A:303:ARG:HH22	2.00	0.64
1:A:647:PRO:HA	1:A:654:ILE:HG22	1.79	0.64
1:D:556:ILE:HG22	1:D:557:MET:CE	2.28	0.64
1:D:600:ARG:HH11	1:D:649:ARG:NH1	1.96	0.64
1:B:89:SER:O	1:B:93:LEU:HB2	1.98	0.64
1:C:647:PRO:HA	1:C:654:ILE:HG22	1.79	0.64
1:A:189:LEU:HB2	1:A:497:GLN:OE1	1.98	0.64
1:D:112:GLU:CD	1:D:303:ARG:HH22	2.00	0.63
1:B:647:PRO:HA	1:B:654:ILE:HG22	1.80	0.63
1:D:282:HIS:HB3	1:D:285:VAL:HG12	1.78	0.63
1:D:561:THR:HG21	1:D:563:ALA:HB3	1.79	0.63
1:C:112:GLU:CD	1:C:303:ARG:HH22	2.01	0.63
1:C:147:ALA:HB2	1:C:559:LEU:HD11	1.79	0.63
1:C:561:THR:HG21	1:C:563:ALA:HB3	1.79	0.63
1:D:628:VAL:O	1:D:632:THR:HG23	1.98	0.63
1:B:515:ASP:HB3	1:B:517:ARG:NH2	2.13	0.63
1:D:647:PRO:HA	1:D:654:ILE:HG22	1.80	0.63
1:A:561:THR:HG21	1:A:563:ALA:HB3	1.79	0.63
1:A:232:LEU:HD23	1:A:269:GLN:NE2	2.13	0.63
1:B:112:GLU:CD	1:B:303:ARG:HH22	2.02	0.63
1:B:600:ARG:HH11	1:B:649:ARG:NH1	1.97	0.63
1:D:189:LEU:HB2	1:D:497:GLN:OE1	1.99	0.63
1:C:637:THR:O	1:C:640:ILE:HB	1.99	0.62
1:B:391:GLU:OE2	1:B:394:LYS:HD2	2.00	0.62
1:B:232:LEU:HD23	1:B:269:GLN:NE2	2.13	0.62
1:A:175:HIS:HD2	1:A:380:ARG:HG2	1.65	0.62
1:C:165:TRP:CD2	1:C:393:CYS:HB3	2.34	0.62
1:C:232:LEU:HD23	1:C:269:GLN:NE2	2.13	0.62
1:C:409:ASN:HA	1:C:540:SER:O	1.99	0.62
1:D:232:LEU:HD23	1:D:269:GLN:NE2	2.13	0.62
1:A:600:ARG:HH11	1:A:649:ARG:NH1	1.98	0.62
1:A:391:GLU:OE2	1:A:394:LYS:HD2	2.00	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:561:THR:HG21	1:B:563:ALA:HB3	1.80	0.62
1:B:282:HIS:HB3	1:B:285:VAL:HG12	1.79	0.62
1:A:282:HIS:HB3	1:A:285:VAL:HG12	1.79	0.61
1:B:189:LEU:HB2	1:B:497:GLN:OE1	1.99	0.61
1:A:165:TRP:CD2	1:A:393:CYS:HB3	2.35	0.61
1:A:739:PRO:HG2	3:A:3323:HOH:O	1.99	0.61
1:B:175:HIS:HD2	1:B:380:ARG:HG2	1.65	0.61
1:C:391:GLU:OE2	1:C:394:LYS:HD2	2.01	0.61
1:A:57:THR:OG1	1:A:60:GLN:HG2	2.01	0.61
1:D:165:TRP:CD2	1:D:393:CYS:HB3	2.35	0.61
1:C:57:THR:OG1	1:C:60:GLN:HG2	2.01	0.61
1:D:614:LEU:HB3	1:D:630:ALA:HB2	1.81	0.61
1:C:189:LEU:HB2	1:C:497:GLN:OE1	2.00	0.61
1:C:353:MET:HB2	1:C:354:PRO:HD3	1.83	0.61
1:C:614:LEU:HB3	1:C:630:ALA:HB2	1.81	0.61
1:C:175:HIS:HD2	1:C:380:ARG:HG2	1.66	0.61
1:C:600:ARG:HH11	1:C:649:ARG:NH1	1.99	0.61
1:D:343:VAL:HB	1:D:346:ASP:OD2	2.01	0.61
1:A:343:VAL:HB	1:A:346:ASP:OD2	2.01	0.61
1:A:409:ASN:HA	1:A:540:SER:O	2.01	0.61
1:A:614:LEU:HB3	1:A:630:ALA:HB2	1.81	0.61
1:C:13:GLU:O	1:C:16:ALA:HB3	2.01	0.61
1:B:57:THR:H	1:B:60:GLN:HE21	1.47	0.60
1:B:478:ARG:NH1	1:B:510:ASP:HB3	2.07	0.60
1:C:282:HIS:HB3	1:C:285:VAL:HG12	1.80	0.60
1:B:409:ASN:HA	1:B:540:SER:O	2.01	0.60
1:D:175:HIS:HD2	1:D:380:ARG:HG2	1.66	0.60
1:D:677:ASP:CG	1:D:680:LEU:HD13	2.22	0.60
1:D:56:LEU:HB3	1:D:60:GLN:HG3	1.83	0.60
1:D:532:ILE:HG23	1:D:533:ARG:N	2.17	0.60
1:D:534:GLU:HG3	1:D:536:LYS:HG2	1.84	0.60
1:A:687:ILE:O	1:A:691:LEU:HD23	2.00	0.60
1:C:478:ARG:NH1	1:C:510:ASP:HB3	2.08	0.60
1:A:45:ALA:O	1:A:49:ILE:HG13	2.01	0.60
1:A:353:MET:HB2	1:A:354:PRO:HD3	1.84	0.60
1:B:165:TRP:CD2	1:B:393:CYS:HB3	2.36	0.60
1:A:100:LEU:HD21	1:A:716:TYR:H	1.64	0.60
1:D:57:THR:OG1	1:D:60:GLN:HG2	2.02	0.60
1:D:730:SER:O	1:D:734:ASN:ND2	2.35	0.60
1:A:244:LYS:HA	1:A:327:PRO:HG3	1.83	0.59
1:B:566:LEU:HD21	1:B:568:ILE:HG13	1.83	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:677:ASP:CG	1:A:680:LEU:HD13	2.23	0.59
1:B:532:ILE:HG23	1:B:533:ARG:N	2.17	0.59
1:D:14:ALA:HB3	1:D:15:PRO:HD3	1.82	0.59
1:D:353:MET:HB2	1:D:354:PRO:HD3	1.85	0.59
1:D:637:THR:O	1:D:640:ILE:HB	2.02	0.59
1:A:534:GLU:HG3	1:A:536:LYS:HG2	1.84	0.59
1:C:730:SER:O	1:C:734:ASN:ND2	2.36	0.59
1:D:3:THR:O	1:D:4:PRO:C	2.40	0.59
1:D:45:ALA:O	1:D:49:ILE:HG13	2.02	0.59
1:D:57:THR:H	1:D:60:GLN:HE21	1.49	0.59
1:D:687:ILE:O	1:D:691:LEU:HD23	2.01	0.59
1:B:687:ILE:O	1:B:691:LEU:HD23	2.01	0.59
1:B:730:SER:O	1:B:734:ASN:ND2	2.36	0.59
1:D:244:LYS:HA	1:D:327:PRO:HG3	1.84	0.59
1:B:534:GLU:HG3	1:B:536:LYS:HG2	1.85	0.59
1:C:3:THR:N	1:C:4:PRO:CD	2.66	0.59
1:B:614:LEU:HB3	1:B:630:ALA:HB2	1.83	0.59
1:C:687:ILE:O	1:C:691:LEU:HD23	2.01	0.59
1:D:158:HIS:N	1:D:159:PRO:HD3	2.18	0.59
1:D:391:GLU:OE2	1:D:394:LYS:HD2	2.03	0.59
1:B:56:LEU:HB3	1:B:60:GLN:HG3	1.85	0.59
1:B:3:THR:N	1:B:4:PRO:CD	2.66	0.59
1:B:637:THR:O	1:B:640:ILE:HB	2.03	0.59
1:C:343:VAL:HB	1:C:346:ASP:OD2	2.03	0.59
1:A:3:THR:O	1:A:4:PRO:C	2.41	0.59
1:C:3:THR:O	1:C:4:PRO:C	2.41	0.59
1:D:3:THR:N	1:D:4:PRO:CD	2.66	0.59
1:A:478:ARG:NH1	1:A:510:ASP:HB3	2.09	0.59
1:B:57:THR:OG1	1:B:60:GLN:HG2	2.03	0.59
1:C:99:GLU:C	1:C:101:GLN:N	2.54	0.59
1:C:651:VAL:HG13	1:C:706:GLN:HB3	1.84	0.59
1:C:677:ASP:CG	1:C:680:LEU:HD13	2.24	0.59
1:A:637:THR:O	1:A:640:ILE:HB	2.03	0.58
1:B:244:LYS:HA	1:B:327:PRO:HG3	1.84	0.58
1:A:13:GLU:O	1:A:16:ALA:HB3	2.03	0.58
1:A:158:HIS:N	1:A:159:PRO:HD3	2.18	0.58
1:A:651:VAL:HG13	1:A:706:GLN:HB3	1.84	0.58
1:B:677:ASP:CG	1:B:680:LEU:HD13	2.24	0.58
1:C:244:LYS:HA	1:C:327:PRO:HG3	1.84	0.58
1:A:56:LEU:HB3	1:A:60:GLN:HG3	1.85	0.58
1:B:147:ALA:CB	1:B:559:LEU:HD11	2.33	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:3:THR:N	1:A:4:PRO:CD	2.67	0.58
1:B:3:THR:O	1:B:4:PRO:C	2.42	0.58
1:B:353:MET:HB2	1:B:354:PRO:HD3	1.86	0.58
1:A:172:HIS:CE1	1:A:374:LYS:HG3	2.38	0.58
1:A:532:ILE:HG23	1:A:533:ARG:N	2.19	0.58
1:B:651:VAL:HG13	1:B:706:GLN:HB3	1.85	0.58
1:C:534:GLU:HG3	1:C:536:LYS:HG2	1.86	0.58
1:D:651:VAL:HG13	1:D:706:GLN:HB3	1.84	0.58
1:B:13:GLU:O	1:B:16:ALA:HB3	2.04	0.58
1:B:343:VAL:HB	1:B:346:ASP:OD2	2.04	0.58
1:C:57:THR:H	1:C:60:GLN:HE21	1.50	0.58
1:D:172:HIS:CE1	1:D:374:LYS:HG3	2.38	0.58
1:D:478:ARG:NH1	1:D:510:ASP:HB3	2.09	0.58
1:B:79:ASN:OD1	1:B:613:SER:HB2	2.03	0.58
1:D:173:VAL:HG23	1:D:390:ILE:HD12	1.86	0.58
1:A:492:ARG:HH11	1:A:492:ARG:CB	2.16	0.57
1:A:340:ASN:ND2	1:A:347:VAL:HG21	2.19	0.57
1:B:158:HIS:N	1:B:159:PRO:HD3	2.19	0.57
1:D:172:HIS:NE2	1:D:374:LYS:HG3	2.19	0.57
1:C:529:LEU:C	1:C:532:ILE:HG22	2.24	0.57
1:D:542:THR:HA	3:D:3314:HOH:O	2.03	0.57
1:B:99:GLU:C	1:B:101:GLN:N	2.56	0.57
1:C:340:ASN:ND2	1:C:347:VAL:HG21	2.20	0.57
1:A:99:GLU:C	1:A:101:GLN:N	2.56	0.57
1:B:14:ALA:HB3	1:B:15:PRO:HD3	1.84	0.57
1:C:45:ALA:O	1:C:49:ILE:HG13	2.04	0.57
1:D:76:PRO:HA	1:D:573:SER:O	2.04	0.57
1:D:101:GLN:O	1:D:102:GLN:C	2.41	0.57
1:A:11:THR:OG1	1:A:12:ASP:N	2.35	0.57
1:B:354:PRO:HB2	1:B:556:ILE:HD12	1.86	0.57
1:C:158:HIS:N	1:C:159:PRO:HD3	2.20	0.57
1:C:532:ILE:HG23	1:C:533:ARG:N	2.20	0.57
1:A:622:LYS:HE3	1:C:441:SER:CB	2.32	0.57
1:B:9:THR:HG23	1:B:81:ILE:O	2.05	0.57
1:D:566:LEU:HD21	1:D:568:ILE:HG13	1.86	0.57
1:B:45:ALA:O	1:B:49:ILE:HG13	2.05	0.57
1:A:730:SER:O	1:A:734:ASN:ND2	2.38	0.56
1:D:11:THR:OG1	1:D:12:ASP:N	2.36	0.56
1:A:79:ASN:OD1	1:A:613:SER:HB2	2.04	0.56
1:B:172:HIS:CE1	1:B:374:LYS:HG3	2.39	0.56
1:B:340:ASN:ND2	1:B:347:VAL:HG21	2.21	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:172:HIS:CE1	1:C:374:LYS:HG3	2.39	0.56
1:A:173:VAL:HG23	1:A:390:ILE:HD12	1.87	0.56
1:B:57:THR:H	1:B:60:GLN:NE2	2.03	0.56
1:B:173:VAL:HG23	1:B:390:ILE:HD12	1.87	0.56
1:C:56:LEU:HB3	1:C:60:GLN:HG3	1.87	0.56
1:C:90:VAL:O	1:C:91:PRO:O	2.23	0.56
1:C:413:MET:HA	1:C:417:ALA:HB3	1.86	0.56
1:D:409:ASN:HA	1:D:540:SER:O	2.06	0.56
1:A:244:LYS:CA	1:A:327:PRO:HG3	2.36	0.56
1:A:429:ILE:HG13	1:A:450:VAL:HB	1.87	0.56
1:B:22:LEU:HB2	1:B:660:HIS:CE1	2.40	0.56
1:B:172:HIS:NE2	1:B:374:LYS:HG3	2.20	0.56
1:B:304:ILE:HA	1:B:307:LEU:HD23	1.86	0.56
1:C:11:THR:OG1	1:C:12:ASP:N	2.36	0.56
1:D:79:ASN:OD1	1:D:613:SER:HB2	2.05	0.56
1:D:99:GLU:C	1:D:101:GLN:N	2.57	0.56
1:A:76:PRO:HA	1:A:573:SER:O	2.05	0.56
1:B:731:ALA:HA	1:B:734:ASN:HD22	1.71	0.56
1:C:118:THR:O	1:C:122:VAL:HG23	2.06	0.56
1:A:172:HIS:NE2	1:A:374:LYS:HG3	2.21	0.56
1:A:413:MET:HA	1:A:417:ALA:HB3	1.87	0.56
1:C:172:HIS:NE2	1:C:374:LYS:HG3	2.21	0.56
1:C:731:ALA:HA	1:C:734:ASN:HD22	1.71	0.56
1:D:340:ASN:ND2	1:D:347:VAL:HG21	2.21	0.56
1:A:331:MET:SD	1:A:339:THR:HG22	2.46	0.56
1:C:9:THR:HG23	1:C:81:ILE:O	2.06	0.56
1:C:303:ARG:O	1:C:306:THR:HG22	2.06	0.56
1:C:492:ARG:HH11	1:C:492:ARG:CB	2.18	0.56
1:D:413:MET:HA	1:D:417:ALA:HB3	1.87	0.56
1:A:622:LYS:HZ1	1:C:441:SER:CB	2.09	0.56
1:B:11:THR:OG1	1:B:12:ASP:N	2.37	0.56
1:C:79:ASN:OD1	1:C:613:SER:HB2	2.05	0.56
1:C:173:VAL:HG23	1:C:390:ILE:HD12	1.88	0.56
1:D:43:SER:O	1:D:47:ARG:HB2	2.05	0.56
1:D:13:GLU:O	1:D:16:ALA:HB3	2.06	0.56
1:D:586:ALA:O	1:D:589:HIS:HB2	2.06	0.56
1:A:14:ALA:HB3	1:A:15:PRO:HD3	1.87	0.55
1:D:377:ILE:HG22	1:D:377:ILE:O	2.05	0.55
1:D:731:ALA:HA	1:D:734:ASN:HD22	1.71	0.55
1:A:389:VAL:HG22	1:A:529:LEU:HD11	1.86	0.55
1:B:492:ARG:HH11	1:B:492:ARG:CB	2.18	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:529:LEU:C	1:B:532:ILE:HG22	2.26	0.55
1:C:57:THR:H	1:C:60:GLN:NE2	2.04	0.55
1:C:76:PRO:HA	1:C:573:SER:O	2.06	0.55
1:D:738:ALA:HB3	1:D:739:PRO:HD3	1.87	0.55
1:A:267:PHE:O	1:A:271:VAL:HG23	2.06	0.55
1:A:738:ALA:HB3	1:A:739:PRO:HD3	1.87	0.55
1:B:303:ARG:O	1:B:306:THR:HG22	2.07	0.55
1:C:614:LEU:HD13	1:C:629:LEU:CD1	2.31	0.55
1:D:304:ILE:HA	1:D:307:LEU:HD23	1.86	0.55
1:A:57:THR:H	1:A:60:GLN:HE21	1.53	0.55
1:B:562:SER:O	1:B:565:MET:HG2	2.07	0.55
1:B:596:GLU:O	1:B:707:GLY:N	2.39	0.55
1:B:614:LEU:HD13	1:B:629:LEU:CD1	2.30	0.55
1:D:244:LYS:CA	1:D:327:PRO:HG3	2.37	0.55
1:D:303:ARG:O	1:D:306:THR:HG22	2.07	0.55
1:A:304:ILE:HA	1:A:307:LEU:HD23	1.87	0.55
1:B:738:ALA:HB3	1:B:739:PRO:HD3	1.87	0.55
1:D:147:ALA:CB	1:D:559:LEU:HD11	2.36	0.55
1:B:413:MET:HA	1:B:417:ALA:HB3	1.87	0.55
1:B:738:ALA:HB1	1:C:526:ARG:HE	1.72	0.55
1:C:566:LEU:HD21	1:C:568:ILE:HG13	1.88	0.55
1:A:82:LYS:HE2	1:A:134:VAL:HG11	1.88	0.55
1:B:566:LEU:CD2	1:B:568:ILE:HG13	2.37	0.55
1:C:43:SER:O	1:C:47:ARG:HB2	2.06	0.55
1:D:123:LYS:HD3	1:D:127:ASP:OD2	2.06	0.55
1:A:303:ARG:O	1:A:306:THR:HG22	2.07	0.55
1:A:529:LEU:C	1:A:532:ILE:HG22	2.27	0.55
1:B:91:PRO:O	1:B:92:GLN:C	2.44	0.55
1:D:267:PHE:O	1:D:271:VAL:HG23	2.07	0.55
1:D:529:LEU:C	1:D:532:ILE:HG22	2.27	0.55
1:A:586:ALA:O	1:A:589:HIS:HB2	2.07	0.55
1:B:226:VAL:HG23	1:B:455:ILE:O	2.07	0.55
1:C:273:GLU:HG3	1:C:273:GLU:O	2.06	0.55
1:D:57:THR:H	1:D:60:GLN:NE2	2.05	0.55
1:D:148:PRO:HG2	1:D:608:LEU:HD13	1.87	0.55
1:C:56:LEU:CA	1:C:60:GLN:HE21	2.19	0.55
1:C:244:LYS:CA	1:C:327:PRO:HG3	2.37	0.55
1:D:562:SER:O	1:D:565:MET:HG2	2.07	0.55
1:A:551:THR:O	1:A:555:PRO:HG2	2.07	0.54
1:B:354:PRO:CB	1:B:556:ILE:HD12	2.37	0.54
1:C:586:ALA:O	1:C:589:HIS:HB2	2.07	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:226:VAL:HG23	1:D:455:ILE:O	2.07	0.54
1:B:244:LYS:CA	1:B:327:PRO:HG3	2.38	0.54
1:C:561:THR:CG2	1:C:563:ALA:HB3	2.37	0.54
1:A:90:VAL:O	1:A:91:PRO:O	2.25	0.54
1:A:91:PRO:O	1:A:92:GLN:C	2.45	0.54
1:A:691:LEU:N	1:A:691:LEU:HD22	2.21	0.54
1:B:377:ILE:HG22	1:B:377:ILE:O	2.06	0.54
1:C:148:PRO:HG2	1:C:608:LEU:HD13	1.87	0.54
1:C:304:ILE:HA	1:C:307:LEU:HD23	1.88	0.54
1:C:738:ALA:HB3	1:C:739:PRO:HD3	1.88	0.54
1:D:62:ILE:HG23	1:D:62:ILE:O	2.07	0.54
1:A:43:SER:O	1:A:47:ARG:HB2	2.06	0.54
1:A:99:GLU:O	1:A:103:GLN:HB2	2.07	0.54
1:A:562:SER:O	1:A:565:MET:HG2	2.07	0.54
1:D:82:LYS:HE2	1:D:134:VAL:HG11	1.88	0.54
1:D:395:GLN:O	1:D:395:GLN:HG2	2.07	0.54
1:D:596:GLU:O	1:D:707:GLY:N	2.40	0.54
1:B:90:VAL:O	1:B:91:PRO:O	2.25	0.54
1:B:281:LYS:HG2	1:B:282:HIS:CE1	2.42	0.54
1:B:691:LEU:N	1:B:691:LEU:HD22	2.21	0.54
1:C:91:PRO:O	1:C:92:GLN:C	2.45	0.54
1:C:596:GLU:O	1:C:707:GLY:N	2.40	0.54
1:D:389:VAL:HG22	1:D:529:LEU:HD11	1.88	0.54
1:D:492:ARG:HH11	1:D:492:ARG:CB	2.20	0.54
1:A:731:ALA:HA	1:A:734:ASN:HD22	1.73	0.54
1:A:588:LYS:HA	1:A:591:GLN:CD	2.28	0.54
1:B:101:GLN:O	1:B:102:GLN:C	2.44	0.54
1:B:300:LEU:C	1:B:300:LEU:HD23	2.28	0.54
1:D:99:GLU:O	1:D:103:GLN:HB2	2.08	0.54
1:D:580:THR:HG22	1:D:581:GLY:N	2.22	0.54
1:A:56:LEU:CA	1:A:60:GLN:HE21	2.20	0.54
1:A:101:GLN:O	1:A:102:GLN:C	2.44	0.54
1:B:429:ILE:HG13	1:B:450:VAL:HB	1.89	0.54
1:C:429:ILE:HG13	1:C:450:VAL:HB	1.89	0.54
1:C:551:THR:O	1:C:555:PRO:HG2	2.07	0.54
1:A:281:LYS:HG2	1:A:282:HIS:CE1	2.42	0.54
1:B:15:PRO:HG3	1:B:601:TRP:CH2	2.42	0.54
1:B:389:VAL:HG22	1:B:529:LEU:HD11	1.88	0.54
1:C:691:LEU:N	1:C:691:LEU:HD22	2.22	0.54
1:A:561:THR:CG2	1:A:563:ALA:HB3	2.38	0.54
1:B:148:PRO:HG2	1:B:608:LEU:HD13	1.88	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:338:ILE:HA	1:B:342:HIS:CD2	2.43	0.54
1:D:185:GLU:O	1:D:186:LYS:HG3	2.08	0.54
1:D:429:ILE:HG13	1:D:450:VAL:HB	1.89	0.54
1:D:561:THR:CG2	1:D:563:ALA:HB3	2.38	0.54
1:A:300:LEU:C	1:A:300:LEU:HD23	2.29	0.53
1:D:91:PRO:O	1:D:92:GLN:C	2.45	0.53
1:D:588:LYS:HA	1:D:591:GLN:CD	2.28	0.53
1:A:15:PRO:HG3	1:A:601:TRP:CH2	2.43	0.53
1:A:185:GLU:O	1:A:186:LYS:HG3	2.08	0.53
1:B:118:THR:O	1:B:122:VAL:HG23	2.08	0.53
1:B:257:THR:HG22	1:B:345:SER:HG	1.71	0.53
1:C:82:LYS:HE2	1:C:134:VAL:HG11	1.89	0.53
1:C:389:VAL:HG22	1:C:529:LEU:HD11	1.88	0.53
1:A:147:ALA:CB	1:A:559:LEU:HD11	2.37	0.53
1:A:580:THR:HG22	1:A:581:GLY:N	2.22	0.53
1:A:596:GLU:O	1:A:707:GLY:N	2.41	0.53
1:B:43:SER:O	1:B:47:ARG:HB2	2.07	0.53
1:C:14:ALA:HB3	1:C:15:PRO:HD3	1.89	0.53
1:C:101:GLN:O	1:C:102:GLN:C	2.44	0.53
1:C:185:GLU:O	1:C:186:LYS:HG3	2.08	0.53
1:D:61:LYS:HB2	3:D:3025:HOH:O	2.08	0.53
1:D:300:LEU:C	1:D:300:LEU:HD23	2.29	0.53
1:B:56:LEU:CA	1:B:60:GLN:HE21	2.20	0.53
1:D:566:LEU:CD2	1:D:568:ILE:HG13	2.39	0.53
1:A:9:THR:HG23	1:A:81:ILE:O	2.09	0.53
1:A:338:ILE:HA	1:A:342:HIS:CD2	2.43	0.53
1:A:566:LEU:HD21	1:A:568:ILE:HG13	1.89	0.53
1:B:76:PRO:HA	1:B:573:SER:O	2.08	0.53
1:C:15:PRO:HG3	1:C:601:TRP:CH2	2.43	0.53
1:C:354:PRO:HB2	1:C:556:ILE:HD12	1.90	0.53
1:A:57:THR:H	1:A:60:GLN:NE2	2.07	0.53
1:C:281:LYS:HG2	1:C:282:HIS:CE1	2.43	0.53
1:C:338:ILE:HA	1:C:342:HIS:CD2	2.44	0.53
1:A:118:THR:O	1:A:122:VAL:HG23	2.09	0.53
1:A:326:ARG:HG3	1:A:326:ARG:HH11	1.73	0.53
1:C:22:LEU:HB2	1:C:660:HIS:CE1	2.43	0.53
1:D:107:LEU:HD11	3:D:3057:HOH:O	2.09	0.53
1:B:245:LYS:HE2	1:B:245:LYS:HA	1.90	0.53
1:B:489:ASP:O	1:B:495:ASP:HB2	2.09	0.53
1:C:267:PHE:O	1:C:271:VAL:HG23	2.09	0.53
1:C:300:LEU:HD23	1:C:300:LEU:C	2.29	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:181:PHE:CE1	1:D:227:MET:HB2	2.44	0.53
1:A:62:ILE:HG23	1:A:62:ILE:O	2.09	0.53
1:D:3:THR:O	1:D:36:ALA:HB3	2.09	0.53
1:D:90:VAL:O	1:D:91:PRO:O	2.27	0.53
1:D:399:PHE:HB2	1:D:404:MET:SD	2.48	0.53
1:A:377:ILE:HG22	1:A:377:ILE:O	2.08	0.53
1:B:181:PHE:CE1	1:B:227:MET:HB2	2.44	0.53
1:A:657:ARG:HB2	3:A:3317:HOH:O	2.09	0.52
1:B:273:GLU:O	1:B:273:GLU:HG3	2.09	0.52
1:B:331:MET:SD	1:B:339:THR:HG22	2.50	0.52
1:A:85:ASN:H	2:A:1000:NAP:H71N	1.58	0.52
1:A:148:PRO:HG2	1:A:608:LEU:HD13	1.90	0.52
1:B:185:GLU:O	1:B:186:LYS:HG3	2.09	0.52
1:B:586:ALA:O	1:B:589:HIS:HB2	2.09	0.52
1:C:414:ALA:HB3	1:C:465:PRO:HB3	1.91	0.52
1:D:92:GLN:O	1:D:96:ALA:CB	2.55	0.52
1:D:245:LYS:HA	1:D:245:LYS:HE2	1.91	0.52
1:D:331:MET:SD	1:D:339:THR:HG22	2.50	0.52
1:A:395:GLN:HG2	1:A:395:GLN:O	2.09	0.52
1:B:561:THR:CG2	1:B:563:ALA:HB3	2.39	0.52
1:C:529:LEU:HA	1:C:532:ILE:CG2	2.39	0.52
1:D:281:LYS:HG2	1:D:282:HIS:CE1	2.44	0.52
1:D:338:ILE:HA	1:D:342:HIS:CD2	2.44	0.52
1:B:395:GLN:O	1:B:395:GLN:HG2	2.09	0.52
1:A:57:THR:H	1:A:60:GLN:CG	2.22	0.52
1:A:414:ALA:HB3	1:A:465:PRO:HB3	1.91	0.52
1:B:57:THR:N	1:B:60:GLN:HE21	2.07	0.52
1:B:691:LEU:N	1:B:691:LEU:CD2	2.72	0.52
1:D:118:THR:O	1:D:122:VAL:HG23	2.10	0.52
1:B:201:ILE:HB	1:B:434:VAL:HG12	1.91	0.52
1:B:468:ASP:HB2	1:B:572:MET:CE	2.39	0.52
1:C:377:ILE:O	1:C:377:ILE:HG22	2.09	0.52
1:A:3:THR:O	1:A:36:ALA:HB3	2.10	0.52
1:C:245:LYS:HE2	1:C:245:LYS:HA	1.91	0.52
1:C:691:LEU:N	1:C:691:LEU:CD2	2.73	0.52
1:D:56:LEU:CA	1:D:60:GLN:HE21	2.21	0.52
1:D:691:LEU:N	1:D:691:LEU:HD22	2.24	0.52
1:A:328:GLN:HB3	1:A:366:PRO:CG	2.40	0.52
1:B:99:GLU:O	1:B:103:GLN:HB2	2.10	0.52
1:C:175:HIS:HD2	1:C:380:ARG:CG	2.22	0.52
1:C:395:GLN:O	1:C:395:GLN:HG2	2.10	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:588:LYS:HA	1:C:591:GLN:CD	2.30	0.52
1:D:57:THR:H	1:D:60:GLN:CG	2.22	0.52
1:D:328:GLN:HB3	1:D:366:PRO:HG2	1.91	0.52
1:D:354:PRO:HB2	1:D:556:ILE:HD12	1.92	0.52
1:A:123:LYS:HD3	1:A:127:ASP:OD2	2.10	0.52
1:A:245:LYS:HE2	1:A:245:LYS:HA	1.91	0.52
1:A:328:GLN:HB3	1:A:366:PRO:HG2	1.91	0.52
1:A:614:LEU:HD13	1:A:629:LEU:CD1	2.34	0.52
1:B:357:ILE:HD13	1:B:389:VAL:HG12	1.92	0.52
1:C:147:ALA:CB	1:C:559:LEU:HD11	2.39	0.52
1:C:331:MET:SD	1:C:339:THR:HG22	2.50	0.52
1:C:431:ALA:HB2	3:C:3299:HOH:O	2.09	0.52
1:D:15:PRO:HG3	1:D:601:TRP:CH2	2.45	0.52
1:D:326:ARG:HG3	1:D:326:ARG:HH11	1.74	0.52
1:A:399:PHE:HB2	1:A:404:MET:SD	2.50	0.52
1:B:92:GLN:O	1:B:96:ALA:CB	2.55	0.52
1:C:49:ILE:O	1:C:56:LEU:HD11	2.09	0.52
1:C:56:LEU:HA	1:C:60:GLN:NE2	2.24	0.52
1:D:328:GLN:HB3	1:D:366:PRO:CG	2.40	0.52
1:A:92:GLN:O	1:A:96:ALA:CB	2.56	0.51
1:A:691:LEU:N	1:A:691:LEU:CD2	2.73	0.51
1:B:123:LYS:HD3	1:B:127:ASP:OD2	2.10	0.51
1:B:267:PHE:O	1:B:271:VAL:HG23	2.10	0.51
1:C:328:GLN:HB3	1:C:366:PRO:CG	2.40	0.51
1:D:201:ILE:HB	1:D:434:VAL:HG12	1.92	0.51
1:A:175:HIS:HD2	1:A:380:ARG:CG	2.22	0.51
1:C:181:PHE:CE1	1:C:227:MET:HB2	2.46	0.51
1:C:297:ILE:HD11	1:C:300:LEU:HD13	1.91	0.51
1:D:49:ILE:O	1:D:56:LEU:HD11	2.09	0.51
1:D:489:ASP:O	1:D:495:ASP:HB2	2.11	0.51
1:C:88:ALA:HA	1:C:93:LEU:HD13	1.93	0.51
1:C:562:SER:O	1:C:565:MET:HG2	2.10	0.51
1:C:468:ASP:HB2	1:C:572:MET:CE	2.40	0.51
1:D:585:SER:O	2:D:1003:NAP:O2A	2.29	0.51
1:A:201:ILE:HD13	1:A:207:SER:HB2	1.92	0.51
1:A:587:PRO:O	1:A:591:GLN:HG3	2.10	0.51
1:B:49:ILE:O	1:B:56:LEU:HD11	2.10	0.51
1:B:328:GLN:HB3	1:B:366:PRO:CG	2.40	0.51
1:D:57:THR:N	1:D:60:GLN:HE21	2.08	0.51
1:B:529:LEU:HA	1:B:532:ILE:CG2	2.41	0.51
1:B:588:LYS:HA	1:B:591:GLN:CD	2.30	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:22:LEU:HB2	1:A:660:HIS:CE1	2.45	0.51
1:A:357:ILE:HD13	1:A:389:VAL:HG12	1.93	0.51
1:A:529:LEU:HA	1:A:532:ILE:CG2	2.41	0.51
1:B:328:GLN:HB3	1:B:366:PRO:HG2	1.92	0.51
1:C:94:LYS:HE3	1:C:98:LYS:HZ2	1.76	0.51
1:C:201:ILE:HB	1:C:434:VAL:HG12	1.92	0.51
1:C:326:ARG:HG3	1:C:326:ARG:HH11	1.75	0.51
1:A:49:ILE:O	1:A:56:LEU:HD11	2.10	0.51
1:A:622:LYS:HB3	1:C:443:LYS:HD2	1.93	0.51
1:C:328:GLN:HB3	1:C:366:PRO:HG2	1.92	0.51
1:D:85:ASN:H	2:D:1003:NAP:H71N	1.57	0.51
1:A:304:ILE:C	1:A:306:THR:H	2.14	0.51
1:A:632:THR:O	1:A:635:GLN:N	2.43	0.51
1:B:62:ILE:HG23	1:B:62:ILE:O	2.11	0.51
1:B:3:THR:O	1:B:36:ALA:HB3	2.11	0.51
1:B:175:HIS:HD2	1:B:380:ARG:CG	2.23	0.51
1:C:57:THR:H	1:C:60:GLN:CG	2.24	0.51
1:C:304:ILE:C	1:C:306:THR:H	2.14	0.51
1:C:601:TRP:O	1:C:656:ASN:OD1	2.29	0.51
1:B:56:LEU:HA	1:B:60:GLN:NE2	2.25	0.50
1:D:462:LYS:O	1:D:465:PRO:HD2	2.12	0.50
1:D:566:LEU:HD21	1:D:568:ILE:CD1	2.41	0.50
1:B:54:GLU:HG2	1:B:55:TYR:N	2.24	0.50
1:B:97:ILE:O	1:B:101:GLN:HG2	2.11	0.50
1:B:201:ILE:HD13	1:B:207:SER:HB2	1.93	0.50
1:D:468:ASP:HB2	1:D:572:MET:CE	2.40	0.50
1:A:105:TYR:HB3	1:A:106:LYS:HG2	1.93	0.50
1:B:326:ARG:HH11	1:B:326:ARG:HG3	1.76	0.50
1:C:57:THR:N	1:C:60:GLN:HE21	2.09	0.50
1:C:529:LEU:HA	1:C:532:ILE:HG22	1.92	0.50
1:A:56:LEU:HA	1:A:60:GLN:NE2	2.25	0.50
1:A:468:ASP:HB2	1:A:572:MET:HE1	1.94	0.50
1:C:97:ILE:O	1:C:101:GLN:HG2	2.11	0.50
1:D:529:LEU:HA	1:D:532:ILE:CG2	2.41	0.50
1:D:551:THR:O	1:D:555:PRO:HG2	2.11	0.50
1:A:8:TYR:CE2	1:A:19:THR:HG23	2.44	0.50
1:A:412:LEU:HD13	1:A:469:TRP:HB2	1.94	0.50
1:B:304:ILE:C	1:B:306:THR:H	2.14	0.50
1:C:8:TYR:CE2	1:C:19:THR:HG23	2.44	0.50
1:C:99:GLU:O	1:C:103:GLN:HB2	2.11	0.50
1:C:102:GLN:O	1:C:103:GLN:C	2.49	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:19:THR:HG22	1:D:23:LEU:HB2	1.93	0.50
1:D:532:ILE:CG2	1:D:533:ARG:N	2.75	0.50
1:A:297:ILE:HD11	1:A:300:LEU:HD13	1.92	0.50
1:A:489:ASP:O	1:A:495:ASP:HB2	2.12	0.50
1:B:94:LYS:HE3	1:B:98:LYS:HZ2	1.77	0.50
1:C:40:ARG:HG3	1:C:69:LEU:HD21	1.94	0.50
1:D:8:TYR:CE2	1:D:19:THR:HG23	2.44	0.50
1:C:92:GLN:O	1:C:96:ALA:CB	2.57	0.50
1:C:354:PRO:CB	1:C:556:ILE:HD12	2.42	0.50
1:D:9:THR:HG23	1:D:81:ILE:O	2.12	0.50
1:D:97:ILE:O	1:D:101:GLN:HG2	2.12	0.50
1:A:102:GLN:O	1:A:103:GLN:C	2.49	0.50
1:A:181:PHE:CE1	1:A:227:MET:HB2	2.47	0.50
1:A:656:ASN:ND2	1:A:660:HIS:NE2	2.60	0.50
1:B:412:LEU:HD13	1:B:469:TRP:HB2	1.94	0.50
1:C:201:ILE:HD13	1:C:207:SER:HB2	1.94	0.50
1:C:412:LEU:HD13	1:C:469:TRP:HB2	1.94	0.50
1:D:691:LEU:N	1:D:691:LEU:CD2	2.75	0.50
1:B:253:HIS:CD2	1:B:375:ALA:HB1	2.47	0.50
1:B:601:TRP:O	1:B:656:ASN:OD1	2.30	0.50
1:C:566:LEU:CD2	1:C:568:ILE:HG13	2.42	0.50
1:D:412:LEU:HD13	1:D:469:TRP:HB2	1.94	0.50
1:A:88:ALA:HA	1:A:93:LEU:HD13	1.94	0.49
1:B:57:THR:H	1:B:60:GLN:CG	2.25	0.49
1:B:82:LYS:HE2	1:B:134:VAL:HG11	1.92	0.49
1:B:102:GLN:O	1:B:103:GLN:C	2.50	0.49
1:C:357:ILE:HD13	1:C:389:VAL:HG12	1.94	0.49
1:D:22:LEU:HB2	1:D:660:HIS:CE1	2.46	0.49
1:D:102:GLN:O	1:D:103:GLN:C	2.50	0.49
1:D:227:MET:CG	1:D:266:MET:HE3	2.40	0.49
1:A:54:GLU:HG2	1:A:55:TYR:N	2.26	0.49
1:A:354:PRO:HB2	1:A:556:ILE:HD12	1.94	0.49
1:A:468:ASP:HB2	1:A:572:MET:CE	2.42	0.49
1:B:532:ILE:CG2	1:B:533:ARG:N	2.76	0.49
1:C:3:THR:O	1:C:36:ALA:HB3	2.12	0.49
1:D:637:THR:O	1:D:640:ILE:N	2.42	0.49
1:C:399:PHE:HB2	1:C:404:MET:SD	2.52	0.49
1:C:489:ASP:O	1:C:495:ASP:HB2	2.13	0.49
1:D:147:ALA:N	1:D:565:MET:HE3	2.27	0.49
1:D:175:HIS:HD2	1:D:380:ARG:CG	2.24	0.49
1:A:19:THR:HG22	1:A:23:LEU:HB2	1.94	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:97:ILE:O	1:A:101:GLN:HG2	2.12	0.49
1:A:253:HIS:CD2	1:A:375:ALA:HB1	2.48	0.49
1:A:506:LEU:C	1:A:508:ASP:H	2.16	0.49
1:B:566:LEU:HA	3:B:3071:HOH:O	2.13	0.49
1:D:289:ILE:HD13	1:D:307:LEU:HD21	1.94	0.49
1:A:304:ILE:O	1:A:306:THR:N	2.45	0.49
1:A:529:LEU:HA	1:A:532:ILE:HG22	1.93	0.49
1:B:529:LEU:HA	1:B:532:ILE:HG22	1.94	0.49
1:C:19:THR:HG22	1:C:23:LEU:HB2	1.94	0.49
1:C:656:ASN:ND2	1:C:660:HIS:NE2	2.60	0.49
1:D:54:GLU:HG2	1:D:55:TYR:N	2.26	0.49
1:A:289:ILE:HD13	1:A:307:LEU:HD21	1.94	0.49
1:B:8:TYR:CE2	1:B:19:THR:HG23	2.44	0.49
1:C:139:ARG:HB3	1:C:413:MET:HE3	1.94	0.49
1:C:462:LYS:O	1:C:465:PRO:HD2	2.13	0.49
1:C:495:ASP:O	1:C:499:ILE:HG13	2.12	0.49
1:D:304:ILE:C	1:D:306:THR:H	2.16	0.49
1:A:601:TRP:O	1:A:656:ASN:OD1	2.31	0.49
1:B:147:ALA:N	1:B:565:MET:HE3	2.27	0.49
1:C:329:LEU:HD11	1:C:341:LEU:HD12	1.93	0.49
1:D:601:TRP:O	1:D:656:ASN:OD1	2.30	0.49
1:A:201:ILE:HB	1:A:434:VAL:HG12	1.94	0.49
1:C:304:ILE:O	1:C:306:THR:N	2.45	0.49
1:D:357:ILE:HD13	1:D:389:VAL:HG12	1.95	0.49
1:A:148:PRO:O	1:A:149:LEU:C	2.51	0.49
1:A:566:LEU:CD2	1:A:568:ILE:HG13	2.43	0.49
1:B:462:LYS:O	1:B:465:PRO:HD2	2.13	0.49
1:C:200:LEU:HD22	1:C:430:PRO:HD2	1.95	0.49
1:C:586:ALA:O	1:C:589:HIS:N	2.44	0.49
1:B:566:LEU:HD21	1:B:568:ILE:CD1	2.43	0.49
1:C:40:ARG:HD2	1:C:68:GLU:OE1	2.13	0.49
1:D:587:PRO:O	1:D:591:GLN:HG3	2.12	0.49
1:D:626:ALA:O	1:D:629:LEU:HD12	2.12	0.49
1:B:297:ILE:HD11	1:B:300:LEU:HD13	1.94	0.48
1:D:56:LEU:HA	1:D:60:GLN:NE2	2.27	0.48
1:D:351:ALA:O	1:D:354:PRO:HD2	2.13	0.48
1:D:600:ARG:HH12	2:D:1003:NAP:P2B	2.36	0.48
1:B:174:ALA:HB1	1:B:239:GLU:OE2	2.13	0.48
1:C:54:GLU:HG2	1:C:55:TYR:N	2.27	0.48
1:C:123:LYS:HE3	3:C:3378:HOH:O	2.12	0.48
1:C:253:HIS:CD2	1:C:375:ALA:HB1	2.48	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:88:ALA:HA	1:B:93:LEU:HD13	1.95	0.48
1:D:174:ALA:HB1	1:D:239:GLU:OE2	2.13	0.48
1:D:329:LEU:HD11	1:D:341:LEU:HD12	1.94	0.48
1:A:94:LYS:HE3	1:A:98:LYS:HZ2	1.78	0.48
1:A:532:ILE:CG2	1:A:533:ARG:N	2.77	0.48
1:B:94:LYS:O	1:B:97:ILE:HD13	2.14	0.48
1:B:637:THR:O	1:B:640:ILE:N	2.44	0.48
1:C:62:ILE:O	1:C:62:ILE:HG23	2.14	0.48
1:D:253:HIS:CD2	1:D:375:ALA:HB1	2.49	0.48
1:D:506:LEU:C	1:D:508:ASP:H	2.17	0.48
1:D:529:LEU:HA	1:D:532:ILE:HG22	1.94	0.48
1:A:586:ALA:O	1:A:589:HIS:N	2.46	0.48
1:B:351:ALA:O	1:B:354:PRO:HD2	2.14	0.48
1:C:69:LEU:HB3	1:C:138:LEU:HD21	1.96	0.48
1:D:586:ALA:O	1:D:589:HIS:N	2.45	0.48
1:A:57:THR:N	1:A:60:GLN:HE21	2.11	0.48
1:D:157:LYS:C	1:D:159:PRO:HD3	2.34	0.48
1:D:201:ILE:HD13	1:D:207:SER:HB2	1.96	0.48
1:D:273:GLU:O	1:D:273:GLU:HG3	2.13	0.48
1:A:257:THR:OG1	1:A:258:MET:N	2.46	0.48
1:B:587:PRO:O	1:B:591:GLN:HG3	2.13	0.48
1:C:369:LYS:HB2	1:C:369:LYS:NZ	2.29	0.48
1:C:637:THR:O	1:C:640:ILE:N	2.44	0.48
1:D:97:ILE:HD13	1:D:98:LYS:H	1.77	0.48
1:A:548:ASP:O	1:A:549:TYR:C	2.52	0.48
1:A:622:LYS:NZ	1:C:441:SER:CB	2.59	0.48
1:B:40:ARG:HG3	1:B:69:LEU:HD21	1.96	0.48
1:A:637:THR:O	1:A:640:ILE:N	2.44	0.47
1:B:19:THR:HG22	1:B:23:LEU:HB2	1.96	0.47
1:B:200:LEU:HD22	1:B:430:PRO:HD2	1.96	0.47
1:B:369:LYS:HB2	1:B:369:LYS:NZ	2.29	0.47
1:B:580:THR:HG22	1:B:581:GLY:N	2.28	0.47
1:D:304:ILE:O	1:D:306:THR:N	2.47	0.47
1:D:354:PRO:CB	1:D:556:ILE:HD12	2.44	0.47
1:D:614:LEU:CB	1:D:630:ALA:HB2	2.45	0.47
1:A:94:LYS:O	1:A:97:ILE:HD13	2.15	0.47
1:A:172:HIS:NE2	1:A:374:LYS:NZ	2.53	0.47
1:A:349:VAL:HA	1:A:352:SER:OG	2.15	0.47
1:A:369:LYS:HB2	1:A:369:LYS:NZ	2.29	0.47
1:C:267:PHE:O	1:C:270:ILE:HB	2.14	0.47
1:C:466:ILE:O	1:C:470:VAL:HG23	2.13	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:548:ASP:O	1:C:549:TYR:C	2.52	0.47
1:C:614:LEU:CB	1:C:630:ALA:HB2	2.45	0.47
1:D:94:LYS:O	1:D:97:ILE:HD13	2.14	0.47
1:D:223:ASP:OD2	1:D:494:HIS:ND1	2.47	0.47
1:D:297:ILE:HD11	1:D:300:LEU:HD13	1.95	0.47
1:A:553:LEU:HG	1:A:554:PHE:N	2.29	0.47
1:A:626:ALA:O	1:A:629:LEU:HD12	2.14	0.47
1:B:561:THR:HG22	1:B:562:SER:N	2.28	0.47
1:B:717:HIS:N	1:B:718:PRO:HD3	2.29	0.47
1:C:29:PHE:CE2	1:C:684:PHE:HE2	2.33	0.47
1:C:105:TYR:HB3	1:C:106:LYS:HG2	1.95	0.47
1:C:349:VAL:HA	1:C:352:SER:OG	2.15	0.47
1:D:88:ALA:HA	1:D:93:LEU:HD13	1.96	0.47
1:D:717:HIS:N	1:D:718:PRO:HD3	2.29	0.47
1:A:200:LEU:HD22	1:A:430:PRO:HD2	1.96	0.47
1:A:273:GLU:O	1:A:273:GLU:HG3	2.14	0.47
1:C:147:ALA:N	1:C:565:MET:HE3	2.29	0.47
1:C:304:ILE:C	1:C:306:THR:N	2.68	0.47
1:D:558:GLU:HG3	1:D:559:LEU:HG	1.96	0.47
1:A:304:ILE:C	1:A:306:THR:N	2.68	0.47
1:A:610:LEU:C	1:A:612:ALA:H	2.17	0.47
1:B:399:PHE:HB2	1:B:404:MET:SD	2.54	0.47
1:C:174:ALA:HB1	1:C:239:GLU:OE2	2.15	0.47
1:C:506:LEU:C	1:C:508:ASP:H	2.18	0.47
1:C:532:ILE:CG2	1:C:533:ARG:N	2.78	0.47
1:A:40:ARG:HG3	1:A:69:LEU:HD21	1.97	0.47
1:B:304:ILE:O	1:B:306:THR:N	2.47	0.47
1:C:47:ARG:HG2	1:C:47:ARG:HH11	1.79	0.47
1:C:148:PRO:O	1:C:149:LEU:C	2.52	0.47
1:C:564:LYS:CG	1:C:604:LEU:HD23	2.45	0.47
1:D:200:LEU:HD22	1:D:430:PRO:HD2	1.97	0.47
1:D:369:LYS:HB2	1:D:369:LYS:NZ	2.30	0.47
1:D:414:ALA:HB3	1:D:465:PRO:HB3	1.96	0.47
1:D:657:ARG:HD2	1:D:702:LEU:HD21	1.96	0.47
1:A:116:THR:OG1	1:A:119:GLU:HG3	2.15	0.47
1:C:289:ILE:HD13	1:C:307:LEU:HD21	1.97	0.47
1:C:356:MET:O	1:C:361:GLY:HA2	2.15	0.47
1:C:671:LEU:HD12	1:C:684:PHE:CD2	2.49	0.47
1:D:40:ARG:HG3	1:D:69:LEU:HD21	1.97	0.47
1:D:226:VAL:HA	1:D:455:ILE:O	2.15	0.47
1:A:226:VAL:HG23	1:A:455:ILE:O	2.15	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:566:LEU:HD21	1:A:568:ILE:CD1	2.45	0.47
1:A:610:LEU:C	1:A:612:ALA:N	2.69	0.47
1:B:289:ILE:HD13	1:B:307:LEU:HD21	1.97	0.47
1:B:564:LYS:CG	1:B:604:LEU:HD23	2.45	0.47
1:C:223:ASP:OD2	1:C:494:HIS:ND1	2.48	0.47
1:D:564:LYS:CG	1:D:604:LEU:HD23	2.45	0.47
1:D:687:ILE:O	1:D:688:ALA:C	2.53	0.47
1:B:185:GLU:OE1	1:B:492:ARG:NH1	2.48	0.47
1:B:495:ASP:O	1:B:499:ILE:HG13	2.15	0.47
1:C:553:LEU:HG	1:C:554:PHE:N	2.30	0.47
1:C:566:LEU:HD21	1:C:568:ILE:CD1	2.45	0.47
1:D:148:PRO:O	1:D:149:LEU:C	2.53	0.47
1:A:147:ALA:N	1:A:565:MET:HE3	2.29	0.46
1:A:356:MET:O	1:A:361:GLY:HA2	2.15	0.46
1:B:558:GLU:HG3	1:B:559:LEU:HG	1.97	0.46
1:B:586:ALA:O	1:B:589:HIS:N	2.46	0.46
1:C:89:SER:H	1:C:93:LEU:CB	2.28	0.46
1:C:157:LYS:C	1:C:159:PRO:HD3	2.36	0.46
1:C:226:VAL:HG23	1:C:455:ILE:O	2.15	0.46
1:C:632:THR:O	1:C:635:GLN:N	2.48	0.46
1:D:106:LYS:H	1:D:106:LYS:HG2	1.38	0.46
1:D:610:LEU:C	1:D:612:ALA:H	2.18	0.46
1:A:558:GLU:HG3	1:A:559:LEU:HG	1.97	0.46
1:A:614:LEU:CB	1:A:630:ALA:HB2	2.46	0.46
1:B:304:ILE:C	1:B:306:THR:N	2.69	0.46
1:B:506:LEU:C	1:B:508:ASP:H	2.19	0.46
1:C:123:LYS:HD3	1:C:127:ASP:OD2	2.15	0.46
1:C:587:PRO:O	1:C:591:GLN:HG3	2.14	0.46
1:C:610:LEU:C	1:C:612:ALA:N	2.69	0.46
1:C:99:GLU:O	1:C:100:LEU:C	2.54	0.46
1:D:105:TYR:HB3	1:D:106:LYS:HG2	1.96	0.46
1:B:356:MET:O	1:B:361:GLY:HA2	2.16	0.46
1:C:48:LEU:HD11	1:C:97:ILE:HG13	1.98	0.46
1:C:558:GLU:HG3	1:C:559:LEU:HG	1.97	0.46
1:D:48:LEU:HD11	1:D:97:ILE:HG13	1.98	0.46
1:D:610:LEU:C	1:D:612:ALA:N	2.69	0.46
1:A:174:ALA:HB1	1:A:239:GLU:OE2	2.16	0.46
1:D:548:ASP:O	1:D:549:TYR:C	2.53	0.46
1:B:157:LYS:C	1:B:159:PRO:HD3	2.36	0.46
1:C:94:LYS:O	1:C:97:ILE:HD13	2.16	0.46
1:C:611:ALA:HB2	1:C:633:LEU:HG	1.97	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:626:ALA:O	1:C:629:LEU:HD12	2.15	0.46
1:A:69:LEU:HB3	1:A:138:LEU:HD21	1.98	0.46
1:A:329:LEU:HD11	1:A:341:LEU:HD12	1.96	0.46
1:A:600:ARG:HH12	2:A:1000:NAP:P2B	2.38	0.46
1:A:632:THR:O	1:A:635:GLN:HB3	2.15	0.46
1:A:671:LEU:HD12	1:A:684:PHE:CD2	2.50	0.46
1:B:106:LYS:H	1:B:106:LYS:HG2	1.39	0.46
1:C:257:THR:OG1	1:C:258:MET:N	2.48	0.46
1:C:610:LEU:C	1:C:612:ALA:H	2.18	0.46
1:D:98:LYS:O	1:D:102:GLN:HG3	2.16	0.46
1:A:157:LYS:C	1:A:159:PRO:HD3	2.36	0.46
1:B:105:TYR:HB3	1:B:106:LYS:HG2	1.96	0.46
1:B:610:LEU:C	1:B:612:ALA:N	2.69	0.46
1:B:614:LEU:CB	1:B:630:ALA:HB2	2.46	0.46
1:C:580:THR:HG22	1:C:581:GLY:N	2.30	0.46
1:D:304:ILE:C	1:D:306:THR:N	2.70	0.46
1:D:349:VAL:HA	1:D:352:SER:OG	2.16	0.46
1:D:561:THR:CG2	1:D:563:ALA:H	2.11	0.46
1:B:414:ALA:HB3	1:B:465:PRO:HB3	1.98	0.46
1:B:548:ASP:O	1:B:549:TYR:C	2.54	0.46
1:B:687:ILE:HG23	1:B:691:LEU:HD21	1.98	0.46
1:C:185:GLU:OE1	1:C:492:ARG:NH1	2.49	0.46
1:D:495:ASP:O	1:D:499:ILE:HG13	2.16	0.46
1:A:29:PHE:CE2	1:A:684:PHE:HE2	2.34	0.46
1:A:40:ARG:HD2	1:A:68:GLU:OE1	2.16	0.46
1:A:586:ALA:HB3	1:A:589:HIS:HB2	1.98	0.46
1:B:98:LYS:O	1:B:102:GLN:HG3	2.16	0.46
1:B:172:HIS:NE2	1:B:374:LYS:NZ	2.55	0.46
1:B:657:ARG:HD2	1:B:702:LEU:HD21	1.98	0.46
1:A:687:ILE:O	1:A:688:ALA:C	2.54	0.45
1:B:105:TYR:N	1:B:105:TYR:CD1	2.84	0.45
1:B:585:SER:O	2:B:1001:NAP:O2A	2.34	0.45
1:D:561:THR:HG22	1:D:562:SER:N	2.31	0.45
1:A:48:LEU:HD11	1:A:97:ILE:HG13	1.98	0.45
1:A:462:LYS:O	1:A:465:PRO:HD2	2.17	0.45
1:A:561:THR:HG22	1:A:562:SER:N	2.31	0.45
1:B:257:THR:OG1	1:B:258:MET:N	2.49	0.45
1:B:610:LEU:C	1:B:612:ALA:H	2.19	0.45
1:D:656:ASN:ND2	1:D:660:HIS:NE2	2.64	0.45
1:A:89:SER:CB	1:A:93:LEU:HD12	2.46	0.45
1:A:89:SER:H	1:A:93:LEU:CB	2.29	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:40:ARG:HD2	1:B:68:GLU:OE1	2.17	0.45
1:B:656:ASN:ND2	1:B:660:HIS:NE2	2.64	0.45
1:A:326:ARG:HH11	1:A:326:ARG:CG	2.30	0.45
1:B:329:LEU:HD11	1:B:341:LEU:HD12	1.97	0.45
1:C:172:HIS:NE2	1:C:374:LYS:NZ	2.54	0.45
1:D:609:ALA:O	1:D:612:ALA:HB3	2.15	0.45
1:B:12:ASP:HB2	1:B:86:ILE:HG13	1.98	0.45
1:B:257:THR:HG21	1:B:348:ILE:CD1	2.47	0.45
1:D:89:SER:H	1:D:93:LEU:CB	2.29	0.45
1:D:100:LEU:HD23	1:D:716:TYR:CB	2.36	0.45
1:D:257:THR:OG1	1:D:258:MET:N	2.49	0.45
1:A:354:PRO:CB	1:A:556:ILE:HD12	2.47	0.45
1:B:69:LEU:HB3	1:B:138:LEU:HD21	1.99	0.45
1:B:100:LEU:HD23	1:B:716:TYR:CB	2.36	0.45
1:B:148:PRO:O	1:B:149:LEU:C	2.54	0.45
1:B:223:ASP:OD2	1:B:494:HIS:ND1	2.49	0.45
1:B:285:VAL:HG21	1:B:311:LYS:HE3	1.99	0.45
1:C:236:ILE:CD1	1:C:270:ILE:HG12	2.39	0.45
1:A:21:SER:OG	1:A:657:ARG:HG3	2.16	0.45
1:A:105:TYR:N	1:A:105:TYR:CD1	2.85	0.45
1:A:377:ILE:HG22	1:A:383:ALA:HB2	1.97	0.45
1:A:611:ALA:HB2	1:A:633:LEU:HG	1.98	0.45
1:B:267:PHE:O	1:B:270:ILE:HB	2.16	0.45
1:B:349:VAL:HA	1:B:352:SER:OG	2.17	0.45
1:B:626:ALA:O	1:B:629:LEU:HD12	2.16	0.45
1:B:671:LEU:HD12	1:B:684:PHE:CD2	2.51	0.45
1:B:687:ILE:O	1:B:688:ALA:C	2.55	0.45
1:C:92:GLN:O	1:C:96:ALA:N	2.50	0.45
1:C:487:TRP:CG	1:C:542:THR:HG22	2.52	0.45
1:D:99:GLU:O	1:D:100:LEU:C	2.55	0.45
1:D:105:TYR:CD1	1:D:105:TYR:N	2.85	0.45
1:A:466:ILE:O	1:A:470:VAL:HG23	2.16	0.45
1:B:48:LEU:HD11	1:B:97:ILE:HG13	1.99	0.45
1:B:92:GLN:O	1:B:96:ALA:N	2.50	0.45
1:B:116:THR:OG1	1:B:119:GLU:HG3	2.17	0.45
1:B:602:ASP:N	2:B:1001:NAP:N1A	2.46	0.45
1:C:21:SER:OG	1:C:657:ARG:HG3	2.17	0.45
1:C:116:THR:OG1	1:C:119:GLU:HG3	2.17	0.45
1:D:12:ASP:HB2	1:D:86:ILE:HG13	1.98	0.45
1:A:223:ASP:OD2	1:A:494:HIS:ND1	2.50	0.45
1:A:267:PHE:O	1:A:270:ILE:HB	2.17	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:377:ILE:HG22	1:B:383:ALA:HB2	1.97	0.45
1:C:89:SER:N	1:C:93:LEU:HD12	2.32	0.45
1:C:89:SER:CB	1:C:93:LEU:HD12	2.47	0.45
1:C:105:TYR:CD1	1:C:105:TYR:N	2.85	0.45
1:C:657:ARG:HD2	1:C:702:LEU:HD21	1.99	0.45
1:D:571:LEU:HD12	1:D:576:GLY:N	2.32	0.45
1:A:657:ARG:HD2	1:A:702:LEU:HD21	1.99	0.45
1:B:85:ASN:H	2:B:1001:NAP:H71N	1.65	0.45
1:B:466:ILE:O	1:B:470:VAL:HG23	2.16	0.45
1:B:564:LYS:HG2	1:B:604:LEU:HD23	1.99	0.45
1:B:615:GLU:HG2	1:B:619:ASN:HD22	1.83	0.45
1:C:687:ILE:O	1:C:688:ALA:C	2.55	0.45
1:D:89:SER:CB	1:D:93:LEU:HD12	2.47	0.45
1:D:687:ILE:HG23	1:D:691:LEU:HD21	1.99	0.45
1:A:99:GLU:O	1:A:103:GLN:CB	2.65	0.44
1:A:171:SER:HA	1:A:373:THR:O	2.17	0.44
1:B:89:SER:H	1:B:93:LEU:CB	2.30	0.44
1:C:600:ARG:HH11	1:C:600:ARG:HG3	1.81	0.44
1:D:40:ARG:HD2	1:D:68:GLU:OE1	2.17	0.44
1:D:586:ALA:HB3	1:D:589:HIS:HB2	1.99	0.44
1:A:632:THR:HG1	1:A:667:TRP:HE1	1.63	0.44
1:B:487:TRP:CG	1:B:542:THR:HG22	2.53	0.44
1:B:609:ALA:O	1:B:612:ALA:HB3	2.16	0.44
1:C:94:LYS:HE3	1:C:98:LYS:NZ	2.32	0.44
1:C:561:THR:HG22	1:C:562:SER:N	2.31	0.44
1:D:69:LEU:HB3	1:D:138:LEU:HD21	1.99	0.44
1:A:257:THR:HG21	1:A:348:ILE:CD1	2.48	0.44
1:A:351:ALA:O	1:A:354:PRO:HD2	2.18	0.44
1:B:94:LYS:HE3	1:B:98:LYS:NZ	2.32	0.44
1:C:564:LYS:HG2	1:C:604:LEU:HD23	1.99	0.44
1:D:116:THR:OG1	1:D:119:GLU:HG3	2.18	0.44
1:D:257:THR:HG21	1:D:348:ILE:CD1	2.48	0.44
1:D:553:LEU:HG	1:D:554:PHE:N	2.32	0.44
1:D:564:LYS:HG2	1:D:604:LEU:HD23	1.99	0.44
1:A:717:HIS:N	1:A:718:PRO:HD3	2.32	0.44
1:B:611:ALA:HB2	1:B:633:LEU:HG	1.98	0.44
1:B:698:ILE:O	1:B:699:VAL:C	2.54	0.44
1:C:15:PRO:O	1:C:18:ALA:HB3	2.18	0.44
1:C:586:ALA:HB3	1:C:589:HIS:HB2	2.00	0.44
1:D:268:GLY:O	1:D:272:SER:N	2.51	0.44
1:D:600:ARG:HH11	1:D:649:ARG:HH11	1.63	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:185:GLU:OE1	1:A:492:ARG:NH1	2.50	0.44
1:A:285:VAL:HG21	1:A:311:LYS:HE3	2.00	0.44
1:A:609:ALA:O	1:A:612:ALA:HB3	2.16	0.44
1:B:632:THR:O	1:B:635:GLN:N	2.50	0.44
1:C:100:LEU:HD23	1:C:716:TYR:CB	2.36	0.44
1:D:29:PHE:CE2	1:D:684:PHE:HE2	2.36	0.44
1:D:54:GLU:HG2	1:D:55:TYR:CD1	2.53	0.44
1:A:91:PRO:C	1:A:93:LEU:N	2.70	0.44
1:A:535:GLY:O	1:A:536:LYS:HD3	2.18	0.44
1:B:551:THR:O	1:B:555:PRO:HG2	2.17	0.44
1:C:99:GLU:C	1:C:101:GLN:H	2.21	0.44
1:D:3:THR:N	1:D:4:PRO:HD2	2.33	0.44
1:D:531:ARG:HG2	1:D:531:ARG:HH11	1.83	0.44
1:A:57:THR:H	1:A:60:GLN:HG3	1.83	0.44
1:A:600:ARG:HH11	1:A:649:ARG:HH11	1.64	0.44
1:B:226:VAL:HA	1:B:455:ILE:O	2.18	0.44
1:B:552:ASP:O	1:B:556:ILE:HG13	2.18	0.44
1:D:99:GLU:O	1:D:103:GLN:CB	2.66	0.44
1:A:99:GLU:O	1:A:100:LEU:C	2.56	0.44
1:B:32:SER:HB2	1:B:683:GLN:OE1	2.18	0.44
1:B:91:PRO:C	1:B:93:LEU:N	2.70	0.44
1:B:99:GLU:O	1:B:100:LEU:C	2.56	0.44
1:C:102:GLN:HG2	1:C:108:PRO:HD2	2.00	0.44
1:C:351:ALA:O	1:C:354:PRO:HD2	2.18	0.44
1:C:531:ARG:HH11	1:C:531:ARG:HG2	1.83	0.44
1:D:258:MET:O	1:D:423:HIS:CE1	2.71	0.44
1:D:671:LEU:HD12	1:D:684:PHE:CD2	2.52	0.44
1:D:695:GLU:O	1:D:699:VAL:HG23	2.18	0.44
1:C:149:LEU:O	1:C:150:SER:C	2.56	0.44
1:C:717:HIS:N	1:C:718:PRO:HD3	2.33	0.44
1:D:632:THR:HG1	1:D:667:TRP:HE1	1.64	0.44
1:B:3:THR:N	1:B:4:PRO:HD2	2.33	0.43
1:B:171:SER:HA	1:B:373:THR:O	2.18	0.43
1:B:451:GLU:O	1:B:454:ASP:HB2	2.18	0.43
1:C:12:ASP:OD1	1:C:43:SER:HB2	2.18	0.43
1:C:13:GLU:HB3	1:C:590:VAL:HG21	2.00	0.43
1:C:226:VAL:HA	1:C:455:ILE:O	2.18	0.43
1:C:377:ILE:HG22	1:C:383:ALA:HB2	1.98	0.43
1:C:429:ILE:HA	1:C:430:PRO:HD3	1.69	0.43
1:D:32:SER:HB2	1:D:683:GLN:OE1	2.18	0.43
1:A:244:LYS:HE2	1:A:325:GLN:O	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:419:GLU:O	1:A:421:GLY:N	2.51	0.43
1:A:564:LYS:CG	1:A:604:LEU:HD23	2.48	0.43
1:B:429:ILE:HA	1:B:430:PRO:HD3	1.70	0.43
1:C:32:SER:HB2	1:C:683:GLN:OE1	2.18	0.43
1:A:3:THR:N	1:A:4:PRO:HD2	2.33	0.43
1:A:89:SER:N	1:A:93:LEU:HD12	2.33	0.43
1:A:100:LEU:HD23	1:A:716:TYR:CB	2.37	0.43
1:B:13:GLU:HB3	1:B:590:VAL:HG21	2.00	0.43
1:B:167:ALA:HA	1:B:394:LYS:O	2.18	0.43
1:C:326:ARG:HH11	1:C:326:ARG:CG	2.31	0.43
1:C:687:ILE:HG23	1:C:691:LEU:HD21	2.00	0.43
1:D:171:SER:HA	1:D:373:THR:O	2.18	0.43
1:D:377:ILE:HG22	1:D:383:ALA:HB2	1.98	0.43
1:A:288:GLN:C	1:A:290:GLY:H	2.20	0.43
1:B:29:PHE:CE2	1:B:684:PHE:HE2	2.37	0.43
1:B:220:GLU:OE2	1:B:460:GLN:HB2	2.17	0.43
1:C:54:GLU:HG2	1:C:55:TYR:CD1	2.53	0.43
1:C:89:SER:H	1:C:93:LEU:HD12	1.83	0.43
1:D:102:GLN:HG2	1:D:108:PRO:HD2	2.00	0.43
1:D:326:ARG:HH11	1:D:326:ARG:CG	2.31	0.43
1:A:220:GLU:OE2	1:A:460:GLN:HB2	2.17	0.43
1:A:687:ILE:HG23	1:A:691:LEU:HD21	2.01	0.43
1:B:632:THR:HG1	1:B:667:TRP:HE1	1.64	0.43
1:C:297:ILE:HD12	1:C:297:ILE:HA	1.88	0.43
1:C:400:ASP:HB3	1:C:403:THR:OG1	2.19	0.43
1:D:140:GLU:HA	1:D:140:GLU:OE1	2.19	0.43
1:D:514:LEU:N	1:D:514:LEU:HD22	2.34	0.43
1:A:94:LYS:O	1:A:97:ILE:CD1	2.67	0.43
1:B:99:GLU:O	1:B:103:GLN:CB	2.67	0.43
1:B:553:LEU:HG	1:B:554:PHE:N	2.33	0.43
1:B:586:ALA:HB3	1:B:589:HIS:HB2	2.01	0.43
1:D:92:GLN:O	1:D:96:ALA:N	2.52	0.43
1:D:658:GLY:O	1:D:661:PHE:HB3	2.18	0.43
1:A:89:SER:H	1:A:93:LEU:HD12	1.83	0.43
1:B:253:HIS:HD2	1:B:375:ALA:HB1	1.82	0.43
1:B:600:ARG:HH11	1:B:649:ARG:HH11	1.65	0.43
1:B:615:GLU:HG2	1:B:619:ASN:ND2	2.33	0.43
1:C:3:THR:N	1:C:4:PRO:HD2	2.34	0.43
1:C:615:GLU:HG2	1:C:619:ASN:HD22	1.84	0.43
1:C:695:GLU:O	1:C:699:VAL:HG23	2.19	0.43
1:D:89:SER:N	1:D:93:LEU:HD12	2.34	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:91:PRO:C	1:D:93:LEU:N	2.71	0.43
1:D:466:ILE:O	1:D:470:VAL:HG23	2.18	0.43
1:A:297:ILE:HD12	1:A:297:ILE:HA	1.88	0.43
1:A:429:ILE:HA	1:A:430:PRO:HD3	1.70	0.43
1:A:622:LYS:CE	1:C:441:SER:CB	2.83	0.43
1:B:107:LEU:O	1:B:108:PRO:O	2.37	0.43
1:B:326:ARG:HH11	1:B:326:ARG:CG	2.32	0.43
1:C:91:PRO:C	1:C:93:LEU:N	2.71	0.43
1:C:257:THR:HG21	1:C:348:ILE:CD1	2.49	0.43
1:C:369:LYS:NZ	1:C:369:LYS:CB	2.82	0.43
1:D:57:THR:H	1:D:60:GLN:HG3	1.84	0.43
1:D:348:ILE:HG22	1:D:350:ASP:OD1	2.19	0.43
1:A:54:GLU:HG2	1:A:55:TYR:CD1	2.54	0.43
1:A:167:ALA:HA	1:A:394:LYS:O	2.19	0.43
1:A:554:PHE:O	1:A:558:GLU:HG2	2.19	0.43
1:C:83:LEU:N	1:C:83:LEU:HD12	2.33	0.43
1:C:171:SER:HA	1:C:373:THR:O	2.18	0.43
1:C:367:ASP:CG	1:C:368:GLY:H	2.21	0.43
1:A:364:TRP:CE2	1:A:370:LEU:HD21	2.54	0.43
1:A:484:ALA:HB2	1:A:539:ILE:HB	2.01	0.43
1:B:47:ARG:HG2	1:B:47:ARG:HH11	1.83	0.43
1:B:419:GLU:O	1:B:421:GLY:N	2.52	0.43
1:B:633:LEU:O	1:B:634:ASP:C	2.57	0.43
1:C:89:SER:O	1:C:90:VAL:C	2.57	0.43
1:C:435:VAL:O	1:C:447:GLU:HA	2.18	0.43
1:D:254:LEU:HB3	1:D:263:ASP:OD2	2.19	0.43
1:D:267:PHE:O	1:D:270:ILE:HB	2.19	0.43
1:D:288:GLN:C	1:D:290:GLY:H	2.21	0.43
1:D:297:ILE:HD12	1:D:297:ILE:HA	1.88	0.43
1:D:395:GLN:O	1:D:395:GLN:CG	2.66	0.43
1:D:632:THR:O	1:D:635:GLN:N	2.51	0.43
1:B:478:ARG:HH12	1:B:510:ASP:CB	2.14	0.42
1:D:244:LYS:HE2	1:D:325:GLN:O	2.19	0.42
1:A:98:LYS:O	1:A:102:GLN:HG3	2.20	0.42
1:A:254:LEU:HB3	1:A:263:ASP:OD2	2.19	0.42
1:A:495:ASP:O	1:A:499:ILE:HG13	2.19	0.42
1:A:535:GLY:C	1:A:536:LYS:HD3	2.40	0.42
1:B:102:GLN:HG2	1:B:108:PRO:HD2	2.01	0.42
1:B:367:ASP:CG	1:B:368:GLY:H	2.21	0.42
1:B:482:THR:HG23	1:B:483:PRO:HD2	2.01	0.42
1:C:99:GLU:O	1:C:103:GLN:CB	2.67	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:167:ALA:HA	1:C:394:LYS:O	2.19	0.42
1:C:687:ILE:CG2	1:C:691:LEU:HD21	2.49	0.42
1:D:89:SER:H	1:D:93:LEU:HD12	1.84	0.42
1:D:232:LEU:HG	1:D:236:ILE:HD11	2.00	0.42
1:D:467:GLN:HB3	3:D:3252:HOH:O	2.19	0.42
1:A:140:GLU:HA	1:A:140:GLU:OE1	2.19	0.42
1:A:600:ARG:NH1	2:A:1000:NAP:O3X	2.52	0.42
1:A:658:GLY:O	1:A:661:PHE:HB3	2.19	0.42
1:B:99:GLU:C	1:B:101:GLN:H	2.23	0.42
1:B:254:LEU:HB3	1:B:263:ASP:OD2	2.20	0.42
1:B:514:LEU:N	1:B:514:LEU:HD22	2.34	0.42
1:B:687:ILE:CG2	1:B:691:LEU:HD21	2.49	0.42
1:C:98:LYS:HE3	1:C:98:LYS:HB2	1.62	0.42
1:C:200:LEU:CD2	1:C:430:PRO:HD2	2.49	0.42
1:C:285:VAL:HG21	1:C:311:LYS:HE3	2.01	0.42
1:D:367:ASP:CG	1:D:368:GLY:H	2.21	0.42
1:D:600:ARG:NH1	1:D:649:ARG:NH1	2.64	0.42
1:D:611:ALA:HB2	1:D:633:LEU:HG	2.01	0.42
1:D:687:ILE:CG2	1:D:691:LEU:HD21	2.49	0.42
1:A:32:SER:HB2	1:A:683:GLN:OE1	2.19	0.42
1:A:89:SER:O	1:A:90:VAL:C	2.57	0.42
1:B:89:SER:O	1:B:90:VAL:C	2.58	0.42
1:B:94:LYS:O	1:B:97:ILE:CD1	2.68	0.42
1:B:149:LEU:O	1:B:150:SER:C	2.57	0.42
1:C:288:GLN:C	1:C:290:GLY:H	2.21	0.42
1:C:478:ARG:HH12	1:C:510:ASP:CB	2.15	0.42
1:D:220:GLU:OE2	1:D:460:GLN:HB2	2.18	0.42
1:D:435:VAL:O	1:D:447:GLU:HA	2.19	0.42
1:D:482:THR:HG23	1:D:483:PRO:HD2	2.01	0.42
1:D:698:ILE:O	1:D:699:VAL:C	2.56	0.42
1:A:353:MET:O	1:A:354:PRO:C	2.54	0.42
1:A:400:ASP:HB3	1:A:403:THR:OG1	2.20	0.42
1:C:57:THR:H	1:C:60:GLN:HG3	1.85	0.42
1:C:529:LEU:CA	1:C:532:ILE:HG22	2.48	0.42
1:C:554:PHE:O	1:C:558:GLU:HG2	2.19	0.42
1:C:632:THR:O	1:C:635:GLN:HB3	2.18	0.42
1:D:632:THR:O	1:D:635:GLN:HB3	2.18	0.42
1:A:92:GLN:O	1:A:96:ALA:N	2.53	0.42
1:B:468:ASP:HB2	1:B:572:MET:HE3	2.01	0.42
1:C:25:ILE:O	1:C:26:ILE:C	2.57	0.42
1:C:99:GLU:O	1:C:101:GLN:N	2.53	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:284:GLU:HA	1:C:287:LYS:HB3	2.02	0.42
1:C:600:ARG:HH11	1:C:649:ARG:HH11	1.66	0.42
1:D:255:LYS:C	1:D:257:THR:H	2.23	0.42
1:D:364:TRP:CE2	1:D:370:LEU:HD21	2.55	0.42
1:A:435:VAL:O	1:A:447:GLU:HA	2.19	0.42
1:B:348:ILE:HG22	1:B:350:ASP:OD1	2.20	0.42
1:C:489:ASP:HA	1:C:490:PRO:HD3	1.91	0.42
1:A:255:LYS:C	1:A:257:THR:H	2.23	0.42
1:B:369:LYS:NZ	1:B:369:LYS:CB	2.82	0.42
1:B:400:ASP:HB3	1:B:403:THR:OG1	2.20	0.42
1:B:632:THR:O	1:B:635:GLN:HB3	2.19	0.42
1:C:97:ILE:HD13	1:C:98:LYS:H	1.77	0.42
1:C:254:LEU:HB3	1:C:263:ASP:OD2	2.20	0.42
1:C:271:VAL:HB	1:C:293:VAL:HG22	2.00	0.42
1:C:614:LEU:HD23	1:C:614:LEU:HA	1.92	0.42
1:D:356:MET:O	1:D:361:GLY:HA2	2.20	0.42
1:D:429:ILE:HA	1:D:430:PRO:HD3	1.70	0.42
1:D:487:TRP:CG	1:D:542:THR:HG22	2.55	0.42
1:A:284:GLU:HA	1:A:287:LYS:HB3	2.02	0.42
1:B:557:MET:HE2	1:B:557:MET:HA	2.01	0.42
1:B:671:LEU:HD12	1:B:684:PHE:CE2	2.54	0.42
1:B:695:GLU:HG2	1:B:696:THR:N	2.35	0.42
1:C:97:ILE:HG22	1:C:716:TYR:CZ	2.53	0.42
1:C:514:LEU:HD22	1:C:514:LEU:N	2.35	0.42
1:D:98:LYS:HE3	1:D:98:LYS:HB2	1.61	0.42
1:D:249:LEU:CD1	1:D:363:MET:O	2.68	0.42
1:D:566:LEU:HD21	1:D:568:ILE:CG1	2.50	0.42
1:A:94:LYS:HE3	1:A:98:LYS:NZ	2.34	0.42
1:A:99:GLU:C	1:A:101:GLN:H	2.23	0.42
1:A:181:PHE:CE2	1:A:457:ARG:HD3	2.55	0.42
1:B:382:TYR:CE1	1:B:545:VAL:HG11	2.55	0.42
1:C:419:GLU:O	1:C:421:GLY:N	2.53	0.42
1:D:13:GLU:HB3	1:D:590:VAL:HG21	2.02	0.42
1:D:236:ILE:CD1	1:D:270:ILE:HG12	2.41	0.42
1:D:400:ASP:HB3	1:D:403:THR:OG1	2.20	0.42
1:D:554:PHE:O	1:D:558:GLU:HG2	2.20	0.42
1:A:253:HIS:HD2	1:A:375:ALA:HB1	1.84	0.41
1:A:369:LYS:NZ	1:A:369:LYS:CB	2.83	0.41
1:B:284:GLU:HA	1:B:287:LYS:HB3	2.02	0.41
1:B:364:TRP:CE2	1:B:370:LEU:HD21	2.55	0.41
1:C:12:ASP:HB2	1:C:86:ILE:HG13	2.01	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:610:LEU:O	1:C:612:ALA:N	2.52	0.41
1:C:663:LEU:O	1:C:667:TRP:HB2	2.19	0.41
1:D:15:PRO:O	1:D:18:ALA:HB3	2.20	0.41
1:D:192:ALA:HA	1:D:193:PRO:HD3	1.90	0.41
1:D:200:LEU:CD2	1:D:430:PRO:HD2	2.50	0.41
1:D:369:LYS:NZ	1:D:369:LYS:CB	2.83	0.41
1:D:657:ARG:NH2	1:D:728:ARG:HB3	2.35	0.41
1:D:695:GLU:HG2	1:D:696:THR:N	2.35	0.41
1:A:97:ILE:HD13	1:A:98:LYS:H	1.77	0.41
1:B:477:ALA:HA	1:B:539:ILE:HD12	2.02	0.41
1:C:85:ASN:H	2:C:1002:NAP:H71N	1.68	0.41
1:C:268:GLY:O	1:C:272:SER:N	2.53	0.41
1:C:364:TRP:CE2	1:C:370:LEU:HD21	2.55	0.41
1:C:671:LEU:HD12	1:C:684:PHE:CE2	2.55	0.41
1:D:97:ILE:HG22	1:D:716:TYR:CZ	2.53	0.41
1:D:107:LEU:O	1:D:108:PRO:O	2.38	0.41
1:D:284:GLU:HA	1:D:287:LYS:HB3	2.02	0.41
1:D:353:MET:O	1:D:354:PRO:C	2.56	0.41
1:D:489:ASP:HA	1:D:490:PRO:HD3	1.91	0.41
1:D:728:ARG:N	1:D:729:PRO:CD	2.82	0.41
1:A:15:PRO:O	1:A:18:ALA:HB3	2.20	0.41
1:A:98:LYS:HE3	1:A:98:LYS:HB2	1.62	0.41
1:B:531:ARG:HG2	1:B:531:ARG:HH11	1.85	0.41
1:B:600:ARG:NH1	1:B:649:ARG:NH1	2.65	0.41
1:B:695:GLU:O	1:B:699:VAL:HG23	2.21	0.41
1:C:561:THR:CG2	1:C:563:ALA:H	2.15	0.41
1:A:47:ARG:HH11	1:A:47:ARG:HG2	1.85	0.41
1:A:226:VAL:HA	1:A:455:ILE:O	2.21	0.41
1:A:268:GLY:O	1:A:272:SER:N	2.53	0.41
1:A:600:ARG:NH1	1:A:649:ARG:NH1	2.65	0.41
1:B:21:SER:OG	1:B:657:ARG:HG3	2.20	0.41
1:B:200:LEU:CD2	1:B:430:PRO:HD2	2.51	0.41
1:B:658:GLY:O	1:B:661:PHE:HB3	2.20	0.41
1:C:181:PHE:CE2	1:C:457:ARG:HD3	2.55	0.41
1:C:557:MET:HE2	1:C:557:MET:HA	2.02	0.41
1:D:143:SER:HB3	1:D:547:ARG:HD2	2.02	0.41
1:D:671:LEU:C	1:D:673:ALA:H	2.23	0.41
1:A:107:LEU:O	1:A:108:PRO:O	2.38	0.41
1:A:367:ASP:CG	1:A:368:GLY:H	2.22	0.41
1:A:514:LEU:N	1:A:514:LEU:HD22	2.36	0.41
1:A:564:LYS:HG2	1:A:604:LEU:HD23	2.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:29:PHE:CE2	1:B:667:TRP:HB3	2.56	0.41
1:B:54:GLU:HG2	1:B:55:TYR:CD1	2.55	0.41
1:B:97:ILE:HG22	1:B:716:TYR:CZ	2.54	0.41
1:B:143:SER:HB3	1:B:547:ARG:HD2	2.02	0.41
1:C:98:LYS:O	1:C:102:GLN:HG3	2.21	0.41
1:D:94:LYS:O	1:D:97:ILE:CD1	2.69	0.41
1:D:167:ALA:HA	1:D:394:LYS:O	2.20	0.41
1:D:185:GLU:OE1	1:D:492:ARG:NH1	2.53	0.41
1:D:451:GLU:O	1:D:454:ASP:HB2	2.21	0.41
1:D:474:VAL:O	1:D:475:ASN:C	2.58	0.41
1:A:12:ASP:OD1	1:A:43:SER:HB2	2.20	0.41
1:A:12:ASP:HB2	1:A:86:ILE:HG13	2.02	0.41
1:A:25:ILE:O	1:A:26:ILE:C	2.58	0.41
1:A:102:GLN:HG2	1:A:108:PRO:HD2	2.02	0.41
1:A:239:GLU:O	1:A:243:ALA:HB2	2.21	0.41
1:A:492:ARG:HH11	1:A:492:ARG:CG	2.33	0.41
1:A:633:LEU:HB2	1:A:667:TRP:CZ2	2.56	0.41
1:B:15:PRO:O	1:B:18:ALA:HB3	2.20	0.41
1:B:62:ILE:O	1:B:63:SER:C	2.58	0.41
1:B:89:SER:N	1:B:93:LEU:HD12	2.36	0.41
1:B:140:GLU:OE1	1:B:140:GLU:HA	2.21	0.41
1:B:557:MET:CE	1:B:557:MET:HA	2.50	0.41
1:C:89:SER:H	1:C:93:LEU:HB2	1.85	0.41
1:C:573:SER:O	1:C:575:GLY:N	2.53	0.41
1:C:615:GLU:HG2	1:C:619:ASN:ND2	2.35	0.41
1:C:632:THR:O	1:C:633:LEU:C	2.57	0.41
1:C:632:THR:HG1	1:C:667:TRP:HE1	1.66	0.41
1:D:604:LEU:O	1:D:608:LEU:HG	2.21	0.41
1:A:288:GLN:C	1:A:290:GLY:N	2.74	0.41
1:A:451:GLU:O	1:A:454:ASP:HB2	2.21	0.41
1:A:557:MET:HA	1:A:557:MET:HE2	2.02	0.41
1:A:561:THR:CG2	1:A:563:ALA:H	2.15	0.41
1:B:98:LYS:HE3	1:B:98:LYS:HB2	1.64	0.41
1:B:268:GLY:O	1:B:272:SER:N	2.54	0.41
1:B:566:LEU:HD21	1:B:568:ILE:CG1	2.48	0.41
1:C:107:LEU:O	1:C:108:PRO:O	2.39	0.41
1:C:253:HIS:HD2	1:C:375:ALA:HB1	1.84	0.41
1:C:395:GLN:O	1:C:395:GLN:CG	2.68	0.41
1:C:571:LEU:HD12	1:C:576:GLY:N	2.36	0.41
1:D:94:LYS:HE3	1:D:98:LYS:HZ2	1.86	0.41
1:D:271:VAL:HB	1:D:293:VAL:HG22	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:484:ALA:HB2	1:D:539:ILE:HB	2.03	0.41
1:A:249:LEU:CD1	1:A:363:MET:O	2.69	0.41
1:B:57:THR:H	1:B:60:GLN:HG3	1.86	0.41
1:C:94:LYS:O	1:C:97:ILE:CD1	2.69	0.41
1:C:220:GLU:OE2	1:C:460:GLN:HB2	2.19	0.41
1:C:468:ASP:HB2	1:C:572:MET:HE3	2.02	0.41
1:C:658:GLY:O	1:C:661:PHE:HB3	2.20	0.41
1:D:419:GLU:O	1:D:421:GLY:N	2.54	0.41
1:D:477:ALA:HA	1:D:539:ILE:HD12	2.03	0.41
1:A:14:ALA:O	1:A:15:PRO:C	2.58	0.41
1:A:97:ILE:HG22	1:A:716:TYR:CZ	2.54	0.41
1:A:149:LEU:O	1:A:150:SER:C	2.59	0.41
1:A:149:LEU:O	1:A:152:LYS:N	2.54	0.41
1:A:478:ARG:HH12	1:A:510:ASP:CB	2.16	0.41
1:A:482:THR:HG23	1:A:483:PRO:HD2	2.02	0.41
1:A:487:TRP:CG	1:A:542:THR:HG22	2.56	0.41
1:A:531:ARG:HG2	1:A:531:ARG:HH11	1.86	0.41
1:A:625:LYS:HE3	1:A:680:LEU:HD11	2.03	0.41
1:A:663:LEU:O	1:A:667:TRP:HB2	2.20	0.41
1:A:671:LEU:HD12	1:A:684:PHE:CE2	2.56	0.41
1:A:695:GLU:O	1:A:699:VAL:HG23	2.21	0.41
1:A:698:ILE:O	1:A:699:VAL:C	2.57	0.41
1:A:728:ARG:N	1:A:729:PRO:CD	2.82	0.41
1:B:89:SER:CB	1:B:93:LEU:HD12	2.51	0.41
1:B:228:SER:HB3	1:B:231:ALA:HB3	2.02	0.41
1:B:529:LEU:CA	1:B:532:ILE:HG22	2.50	0.41
1:C:195:SER:HA	1:C:215:SER:HA	2.03	0.41
1:C:552:ASP:O	1:C:556:ILE:HG13	2.21	0.41
1:C:687:ILE:HG22	1:C:691:LEU:CD2	2.51	0.41
1:D:47:ARG:HH11	1:D:47:ARG:HG2	1.85	0.41
1:D:195:SER:HA	1:D:215:SER:HA	2.03	0.41
1:D:285:VAL:HG21	1:D:311:LYS:HE3	2.03	0.41
1:A:271:VAL:HB	1:A:293:VAL:HG22	2.02	0.41
1:A:326:ARG:CG	1:A:326:ARG:NH1	2.84	0.41
1:B:195:SER:HA	1:B:215:SER:HA	2.03	0.41
1:B:395:GLN:O	1:B:395:GLN:CG	2.69	0.41
1:B:554:PHE:O	1:B:558:GLU:HG2	2.21	0.41
1:B:571:LEU:HD12	1:B:576:GLY:N	2.36	0.41
1:B:610:LEU:HB3	1:B:633:LEU:HD21	2.01	0.41
1:C:14:ALA:O	1:C:15:PRO:C	2.58	0.41
1:C:625:LYS:HE3	1:C:680:LEU:HD11	2.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:94:LYS:HZ3	1:D:111:PRO:HB3	1.86	0.41
1:D:149:LEU:O	1:D:152:LYS:N	2.54	0.41
1:D:239:GLU:O	1:D:243:ALA:HB2	2.21	0.41
1:D:615:GLU:HG2	1:D:619:ASN:HD22	1.86	0.41
1:A:266:MET:O	1:A:270:ILE:HG13	2.21	0.40
1:A:467:GLN:C	1:A:469:TRP:N	2.74	0.40
1:A:474:VAL:O	1:A:475:ASN:C	2.59	0.40
1:A:486:PHE:HA	1:A:541:VAL:O	2.20	0.40
1:A:544:ASN:O	1:A:547:ARG:HB3	2.21	0.40
1:B:25:ILE:O	1:B:26:ILE:C	2.59	0.40
1:B:255:LYS:C	1:B:257:THR:H	2.25	0.40
1:B:297:ILE:HD12	1:B:297:ILE:HA	1.91	0.40
1:B:486:PHE:HA	1:B:541:VAL:O	2.20	0.40
1:B:728:ARG:N	1:B:729:PRO:CD	2.83	0.40
1:C:353:MET:O	1:C:354:PRO:C	2.57	0.40
1:C:695:GLU:HG2	1:C:696:THR:N	2.36	0.40
1:C:698:ILE:O	1:C:699:VAL:C	2.59	0.40
1:D:21:SER:OG	1:D:657:ARG:HG3	2.21	0.40
1:D:110:TYR:HA	1:D:111:PRO:HD3	1.51	0.40
1:A:200:LEU:CD2	1:A:430:PRO:HD2	2.51	0.40
1:A:232:LEU:HG	1:A:236:ILE:HD11	2.03	0.40
1:A:395:GLN:O	1:A:395:GLN:CG	2.69	0.40
1:A:529:LEU:CA	1:A:532:ILE:HG22	2.50	0.40
1:A:610:LEU:O	1:A:612:ALA:N	2.53	0.40
1:A:614:LEU:HD23	1:A:614:LEU:HA	1.94	0.40
1:A:687:ILE:CG2	1:A:691:LEU:HD21	2.51	0.40
1:B:89:SER:H	1:B:93:LEU:HD12	1.86	0.40
1:B:142:ASN:O	1:B:570:PRO:HD2	2.21	0.40
1:B:288:GLN:C	1:B:290:GLY:H	2.23	0.40
1:B:377:ILE:CG2	1:B:383:ALA:HB2	2.52	0.40
1:B:610:LEU:O	1:B:612:ALA:N	2.53	0.40
1:B:632:THR:O	1:B:633:LEU:C	2.58	0.40
1:C:244:LYS:HE2	1:C:325:GLN:O	2.21	0.40
1:C:376:VAL:O	1:C:378:PRO:HD3	2.22	0.40
1:C:712:ILE:HD12	1:C:718:PRO:HB3	2.02	0.40
1:A:29:PHE:CE2	1:A:667:TRP:HB3	2.57	0.40
1:A:244:LYS:CB	1:A:327:PRO:HG3	2.52	0.40
1:A:258:MET:O	1:A:423:HIS:CE1	2.74	0.40
1:A:419:GLU:C	1:A:421:GLY:H	2.25	0.40
1:A:695:GLU:HG2	1:A:696:THR:N	2.36	0.40
1:B:149:LEU:O	1:B:152:LYS:N	2.55	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:573:SER:O	1:B:575:GLY:N	2.54	0.40
1:C:382:TYR:CE1	1:C:545:VAL:HG11	2.57	0.40
1:C:451:GLU:O	1:C:454:ASP:HB2	2.22	0.40
1:C:484:ALA:HB2	1:C:539:ILE:HB	2.03	0.40
1:D:196:VAL:HA	1:D:438:THR:O	2.20	0.40
1:D:486:PHE:HA	1:D:541:VAL:O	2.20	0.40
1:A:94:LYS:HZ1	1:A:111:PRO:HB3	1.87	0.40
1:B:139:ARG:HB3	1:B:413:MET:HE3	2.02	0.40
1:B:625:LYS:HE3	1:B:680:LEU:HD11	2.04	0.40
1:B:663:LEU:O	1:B:667:TRP:HB2	2.20	0.40
1:C:293:VAL:C	1:C:295:ASN:H	2.25	0.40
1:C:348:ILE:HG22	1:C:350:ASP:OD1	2.21	0.40
1:D:14:ALA:O	1:D:15:PRO:C	2.59	0.40
1:D:89:SER:O	1:D:90:VAL:C	2.59	0.40
1:D:610:LEU:O	1:D:612:ALA:N	2.53	0.40
1:D:687:ILE:HG22	1:D:691:LEU:CD2	2.52	0.40
1:A:477:ALA:HA	1:A:539:ILE:HD12	2.04	0.40
1:B:244:LYS:HE2	1:B:325:GLN:O	2.21	0.40
1:C:413:MET:HA	1:C:544:ASN:ND2	2.36	0.40
1:C:477:ALA:HA	1:C:539:ILE:HD12	2.04	0.40
1:C:633:LEU:O	1:C:634:ASP:C	2.60	0.40
1:C:728:ARG:N	1:C:729:PRO:CD	2.83	0.40
1:D:186:LYS:HD2	1:D:448:GLN:HG2	2.03	0.40
1:D:253:HIS:HD2	1:D:375:ALA:HB1	1.85	0.40
1:D:564:LYS:HE2	3:D:3133:HOH:O	2.22	0.40
1:D:671:LEU:HD12	1:D:684:PHE:CE2	2.56	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	736/741 (99%)	591 (80%)	119 (16%)	26 (4%)	3	24
1	B	736/741 (99%)	587 (80%)	122 (17%)	27 (4%)	3	22
1	C	736/741 (99%)	590 (80%)	119 (16%)	27 (4%)	3	22
1	D	736/741 (99%)	588 (80%)	120 (16%)	28 (4%)	3	22
All	All	2944/2964 (99%)	2356 (80%)	480 (16%)	108 (4%)	3	22

All (108) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	91	PRO
1	A	103	GLN
1	A	108	PRO
1	A	573	SER
1	B	91	PRO
1	B	103	GLN
1	B	108	PRO
1	B	573	SER
1	C	91	PRO
1	C	103	GLN
1	C	108	PRO
1	C	573	SER
1	D	91	PRO
1	D	103	GLN
1	D	108	PRO
1	D	573	SER
1	A	62	ILE
1	A	63	SER
1	A	92	GLN
1	A	93	LEU
1	A	112	GLU
1	A	553	LEU
1	A	574	GLY
1	A	654	ILE
1	B	62	ILE
1	B	63	SER
1	B	92	GLN
1	B	93	LEU
1	B	112	GLU
1	B	574	GLY
1	B	654	ILE
1	C	62	ILE
1	C	63	SER

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Mol	Chain	Res	Type
1	C	92	GLN
1	C	93	LEU
1	C	112	GLU
1	C	553	LEU
1	C	574	GLY
1	C	654	ILE
1	D	62	ILE
1	D	63	SER
1	D	92	GLN
1	D	93	LEU
1	D	112	GLU
1	D	574	GLY
1	D	654	ILE
1	A	106	LYS
1	A	111	PRO
1	A	185	GLU
1	A	256	ALA
1	A	305	LYS
1	A	420	TYR
1	A	655	ASP
1	B	106	LYS
1	B	111	PRO
1	B	420	TYR
1	B	553	LEU
1	B	655	ASP
1	C	106	LYS
1	C	111	PRO
1	C	185	GLU
1	C	305	LYS
1	C	420	TYR
1	C	655	ASP
1	D	106	LYS
1	D	111	PRO
1	D	420	TYR
1	D	553	LEU
1	D	655	ASP
1	A	4	PRO
1	A	368	GLY
1	A	617	LEU
1	A	730	SER
1	B	4	PRO
1	B	185	GLU

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Mol	Chain	Res	Type
1	B	256	ALA
1	B	305	LYS
1	B	367	ASP
1	B	368	GLY
1	B	617	LEU
1	B	730	SER
1	C	4	PRO
1	C	256	ALA
1	C	368	GLY
1	C	617	LEU
1	C	730	SER
1	D	4	PRO
1	D	102	GLN
1	D	185	GLU
1	D	256	ALA
1	D	305	LYS
1	D	368	GLY
1	D	617	LEU
1	D	730	SER
1	A	367	ASP
1	A	408	PRO
1	B	102	GLN
1	B	408	PRO
1	C	102	GLN
1	C	367	ASP
1	C	408	PRO
1	D	367	ASP
1	D	408	PRO
1	D	690	ALA
1	A	349	VAL
1	B	349	VAL
1	D	349	VAL
1	C	349	VAL

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	599/601 (100%)	563 (94%)	36 (6%)	19	54
1	B	599/601 (100%)	563 (94%)	36 (6%)	19	54
1	C	599/601 (100%)	562 (94%)	37 (6%)	18	53
1	D	599/601 (100%)	563 (94%)	36 (6%)	19	54
All	All	2396/2404 (100%)	2251 (94%)	145 (6%)	18	54

All (145) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	4	PRO
1	A	44	LEU
1	A	47	ARG
1	A	48	LEU
1	A	54	GLU
1	A	58	ASP
1	A	66	LEU
1	A	92	GLN
1	A	97	ILE
1	A	105	TYR
1	A	106	LYS
1	A	107	LEU
1	A	109	ASP
1	A	121	ASP
1	A	245	LYS
1	A	263	ASP
1	A	286	LEU
1	A	306	THR
1	A	342	HIS
1	A	399	PHE
1	A	416	LYS
1	A	492	ARG
1	A	510	ASP
1	A	538	THR
1	A	552	ASP
1	A	585	SER
1	A	606	GLU
1	A	629	LEU
1	A	640	ILE
1	A	654	ILE
1	A	655	ASP
1	A	657	ARG
1	A	674	GLN

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Mol	Chain	Res	Type
1	A	684	PHE
1	A	693	ASP
1	A	696	THR
1	B	4	PRO
1	B	44	LEU
1	B	47	ARG
1	B	48	LEU
1	B	54	GLU
1	B	58	ASP
1	B	66	LEU
1	B	92	GLN
1	B	97	ILE
1	B	105	TYR
1	B	106	LYS
1	B	107	LEU
1	B	109	ASP
1	B	121	ASP
1	B	245	LYS
1	B	263	ASP
1	B	286	LEU
1	B	306	THR
1	B	342	HIS
1	B	399	PHE
1	B	416	LYS
1	B	492	ARG
1	B	510	ASP
1	B	538	THR
1	B	552	ASP
1	B	585	SER
1	B	606	GLU
1	B	629	LEU
1	B	640	ILE
1	B	654	ILE
1	B	655	ASP
1	B	657	ARG
1	B	674	GLN
1	B	684	PHE
1	B	693	ASP
1	B	696	THR
1	C	4	PRO
1	C	11	THR
1	C	44	LEU

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Mol	Chain	Res	Type
1	C	47	ARG
1	C	48	LEU
1	C	54	GLU
1	C	58	ASP
1	C	66	LEU
1	C	92	GLN
1	C	97	ILE
1	C	105	TYR
1	C	106	LYS
1	C	107	LEU
1	C	109	ASP
1	C	121	ASP
1	C	245	LYS
1	C	263	ASP
1	C	286	LEU
1	C	306	THR
1	C	342	HIS
1	C	399	PHE
1	C	416	LYS
1	C	492	ARG
1	C	510	ASP
1	C	538	THR
1	C	552	ASP
1	C	585	SER
1	C	606	GLU
1	C	629	LEU
1	C	640	ILE
1	C	654	ILE
1	C	655	ASP
1	C	657	ARG
1	C	674	GLN
1	C	684	PHE
1	C	693	ASP
1	C	696	THR
1	D	4	PRO
1	D	44	LEU
1	D	47	ARG
1	D	48	LEU
1	D	54	GLU
1	D	58	ASP
1	D	66	LEU
1	D	92	GLN

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Mol	Chain	Res	Type
1	D	97	ILE
1	D	105	TYR
1	D	106	LYS
1	D	107	LEU
1	D	109	ASP
1	D	121	ASP
1	D	245	LYS
1	D	263	ASP
1	D	286	LEU
1	D	306	THR
1	D	342	HIS
1	D	399	PHE
1	D	416	LYS
1	D	492	ARG
1	D	510	ASP
1	D	538	THR
1	D	552	ASP
1	D	585	SER
1	D	606	GLU
1	D	629	LEU
1	D	640	ILE
1	D	654	ILE
1	D	655	ASP
1	D	657	ARG
1	D	674	GLN
1	D	684	PHE
1	D	693	ASP
1	D	696	THR

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (72) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	60	GLN
1	A	153	ASN
1	A	217	GLN
1	A	234	ASN
1	A	269	GLN
1	A	282	HIS
1	A	295	ASN
1	A	320	GLN
1	A	423	HIS
1	A	460	GLN

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Mol	Chain	Res	Type
1	A	591	GLN
1	A	619	ASN
1	A	635	GLN
1	A	656	ASN
1	A	660	HIS
1	A	669	GLN
1	B	60	GLN
1	B	135	ASN
1	B	153	ASN
1	B	175	HIS
1	B	217	GLN
1	B	234	ASN
1	B	269	GLN
1	B	282	HIS
1	B	295	ASN
1	B	320	GLN
1	B	423	HIS
1	B	460	GLN
1	B	591	GLN
1	B	619	ASN
1	B	635	GLN
1	B	656	ASN
1	B	660	HIS
1	B	669	GLN
1	C	60	GLN
1	C	135	ASN
1	C	175	HIS
1	C	217	GLN
1	C	234	ASN
1	C	269	GLN
1	C	282	HIS
1	C	295	ASN
1	C	320	GLN
1	C	340	ASN
1	C	395	GLN
1	C	423	HIS
1	C	460	GLN
1	C	475	ASN
1	C	591	GLN
1	C	619	ASN
1	C	635	GLN
1	C	656	ASN

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Mol	Chain	Res	Type
1	C	660	HIS
1	C	669	GLN
1	C	694	ASN
1	D	60	GLN
1	D	153	ASN
1	D	175	HIS
1	D	217	GLN
1	D	234	ASN
1	D	269	GLN
1	D	282	HIS
1	D	295	ASN
1	D	320	GLN
1	D	423	HIS
1	D	460	GLN
1	D	591	GLN
1	D	619	ASN
1	D	635	GLN
1	D	656	ASN
1	D	660	HIS
1	D	669	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](#)

4 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	NAP	A	1000	-	45,52,52	2.09	12 (26%)	56,80,80	1.48	10 (17%)
2	NAP	C	1002	-	45,52,52	2.11	14 (31%)	56,80,80	1.49	9 (16%)
2	NAP	D	1003	-	45,52,52	2.05	13 (28%)	56,80,80	1.51	10 (17%)
2	NAP	B	1001	-	45,52,52	2.10	12 (26%)	56,80,80	1.47	10 (17%)

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	NAP	A	1000	-	-	14/31/67/67	0/5/5/5
2	NAP	C	1002	-	-	12/31/67/67	0/5/5/5
2	NAP	D	1003	-	-	13/31/67/67	0/5/5/5
2	NAP	B	1001	-	-	11/31/67/67	0/5/5/5

All (51) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	A	1000	NAP	C2N-N1N	7.19	1.43	1.35
2	B	1001	NAP	C2N-N1N	7.01	1.43	1.35
2	D	1003	NAP	C2N-N1N	6.76	1.43	1.35
2	C	1002	NAP	C2N-N1N	6.59	1.43	1.35
2	C	1002	NAP	C4N-C3N	4.90	1.47	1.39
2	B	1001	NAP	C4N-C3N	4.78	1.47	1.39
2	A	1000	NAP	C4N-C3N	4.66	1.47	1.39
2	D	1003	NAP	C4N-C3N	4.55	1.47	1.39
2	B	1001	NAP	C2A-N3A	4.15	1.38	1.32
2	C	1002	NAP	C2A-N3A	4.06	1.38	1.32
2	B	1001	NAP	C2A-N1A	3.95	1.41	1.33
2	D	1003	NAP	O4D-C1D	3.91	1.46	1.41
2	A	1000	NAP	C2A-N1A	3.74	1.40	1.33
2	C	1002	NAP	C6N-N1N	3.66	1.44	1.35
2	D	1003	NAP	C6N-N1N	3.52	1.44	1.35
2	C	1002	NAP	C2D-C1D	-3.50	1.48	1.53
2	A	1000	NAP	C6N-N1N	3.49	1.43	1.35
2	A	1000	NAP	C2A-N3A	3.49	1.37	1.32

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	C	1002	NAP	C2A-N1A	3.49	1.40	1.33
2	D	1003	NAP	C2A-N3A	3.39	1.37	1.32
2	B	1001	NAP	O4D-C1D	3.30	1.45	1.41
2	D	1003	NAP	C2A-N1A	3.29	1.40	1.33
2	B	1001	NAP	C6N-N1N	3.23	1.43	1.35
2	D	1003	NAP	PA-O1A	-3.12	1.39	1.50
2	A	1000	NAP	O4D-C1D	3.10	1.45	1.41
2	C	1002	NAP	O4D-C1D	3.05	1.45	1.41
2	B	1001	NAP	P2B-O2B	2.96	1.64	1.59
2	D	1003	NAP	P2B-O2B	2.95	1.64	1.59
2	A	1000	NAP	PA-O1A	-2.94	1.40	1.50
2	A	1000	NAP	P2B-O2B	2.91	1.64	1.59
2	C	1002	NAP	PA-O1A	-2.91	1.40	1.50
2	B	1001	NAP	C3N-C7N	2.87	1.54	1.50
2	C	1002	NAP	C4A-N3A	2.84	1.39	1.35
2	B	1001	NAP	PA-O1A	-2.83	1.40	1.50
2	D	1003	NAP	C3N-C7N	2.75	1.54	1.50
2	B	1001	NAP	C4A-N3A	2.67	1.39	1.35
2	C	1002	NAP	C3N-C7N	2.66	1.54	1.50
2	A	1000	NAP	C2D-C1D	-2.57	1.49	1.53
2	C	1002	NAP	P2B-O2B	2.48	1.64	1.59
2	A	1000	NAP	C3N-C7N	2.46	1.54	1.50
2	C	1002	NAP	O4B-C4B	2.29	1.50	1.45
2	C	1002	NAP	C5N-C4N	2.28	1.43	1.38
2	C	1002	NAP	C6N-C5N	2.27	1.43	1.38
2	D	1003	NAP	O4B-C4B	2.24	1.50	1.45
2	B	1001	NAP	C2D-C1D	-2.22	1.50	1.53
2	A	1000	NAP	C4A-N3A	2.12	1.38	1.35
2	D	1003	NAP	C2D-C1D	-2.11	1.50	1.53
2	A	1000	NAP	C5N-C4N	2.09	1.43	1.38
2	D	1003	NAP	C4A-N3A	2.09	1.38	1.35
2	B	1001	NAP	O4B-C4B	2.05	1.49	1.45
2	D	1003	NAP	C8A-N7A	-2.03	1.31	1.34

All (39) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	D	1003	NAP	C5A-C6A-N6A	4.18	126.71	120.35
2	A	1000	NAP	C5A-C6A-N6A	3.97	126.39	120.35
2	B	1001	NAP	C5A-C6A-N6A	3.94	126.33	120.35
2	D	1003	NAP	N3A-C2A-N1A	-3.73	122.84	128.68
2	C	1002	NAP	N3A-C2A-N1A	-3.73	122.84	128.68

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	C	1002	NAP	C5A-C6A-N6A	3.66	125.92	120.35
2	A	1000	NAP	N3A-C2A-N1A	-3.64	122.99	128.68
2	B	1001	NAP	N3A-C2A-N1A	-3.61	123.03	128.68
2	C	1002	NAP	C3N-C7N-N7N	3.25	121.65	117.75
2	D	1003	NAP	C3N-C7N-N7N	3.13	121.51	117.75
2	B	1001	NAP	C3N-C7N-N7N	3.09	121.46	117.75
2	A	1000	NAP	C3N-C7N-N7N	2.98	121.33	117.75
2	A	1000	NAP	O7N-C7N-C3N	-2.86	116.21	119.63
2	C	1002	NAP	O7N-C7N-C3N	-2.82	116.25	119.63
2	B	1001	NAP	O2A-PA-O1A	2.73	125.73	112.24
2	D	1003	NAP	O2A-PA-O1A	2.72	125.69	112.24
2	A	1000	NAP	C2N-C3N-C4N	2.68	121.30	118.26
2	B	1001	NAP	O7N-C7N-C3N	-2.66	116.45	119.63
2	D	1003	NAP	C2N-C3N-C4N	2.65	121.27	118.26
2	C	1002	NAP	O4B-C1B-C2B	-2.64	102.01	106.59
2	C	1002	NAP	O2A-PA-O1A	2.62	125.19	112.24
2	D	1003	NAP	O7N-C7N-C3N	-2.60	116.53	119.63
2	A	1000	NAP	O2A-PA-O1A	2.53	124.74	112.24
2	C	1002	NAP	C2N-C3N-C4N	2.51	121.11	118.26
2	C	1002	NAP	C1B-N9A-C4A	-2.47	122.31	126.64
2	D	1003	NAP	O4B-C1B-C2B	-2.43	102.38	106.59
2	B	1001	NAP	O4B-C1B-C2B	-2.41	102.40	106.59
2	A	1000	NAP	O4B-C1B-C2B	-2.37	102.47	106.59
2	B	1001	NAP	C2N-C3N-C4N	2.36	120.93	118.26
2	A	1000	NAP	C1B-N9A-C4A	-2.35	122.51	126.64
2	D	1003	NAP	C1B-N9A-C4A	-2.30	122.60	126.64
2	B	1001	NAP	C1B-N9A-C4A	-2.29	122.62	126.64
2	A	1000	NAP	C3N-C2N-N1N	-2.22	118.26	120.43
2	B	1001	NAP	O5B-C5B-C4B	-2.21	101.38	108.99
2	A	1000	NAP	O5B-C5B-C4B	-2.13	101.66	108.99
2	D	1003	NAP	O5B-C5B-C4B	-2.09	101.81	108.99
2	C	1002	NAP	O5B-C5B-C4B	-2.07	101.86	108.99
2	D	1003	NAP	C3N-C2N-N1N	-2.03	118.44	120.43
2	B	1001	NAP	C3N-C2N-N1N	-2.01	118.46	120.43

There are no chirality outliers.

All (50) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
2	A	1000	NAP	C5B-O5B-PA-O1A
2	A	1000	NAP	C5D-O5D-PN-O3
2	A	1000	NAP	O4D-C1D-N1N-C2N

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Mol	Chain	Res	Type	Atoms
2	A	1000	NAP	O4D-C1D-N1N-C6N
2	A	1000	NAP	C2D-C1D-N1N-C2N
2	B	1001	NAP	C5B-O5B-PA-O1A
2	B	1001	NAP	C5D-O5D-PN-O3
2	B	1001	NAP	O4D-C1D-N1N-C2N
2	B	1001	NAP	O4D-C1D-N1N-C6N
2	B	1001	NAP	C2D-C1D-N1N-C2N
2	C	1002	NAP	C5B-O5B-PA-O1A
2	C	1002	NAP	C5D-O5D-PN-O3
2	C	1002	NAP	O4D-C1D-N1N-C2N
2	C	1002	NAP	O4D-C1D-N1N-C6N
2	C	1002	NAP	C2D-C1D-N1N-C2N
2	D	1003	NAP	C5B-O5B-PA-O1A
2	D	1003	NAP	C5D-O5D-PN-O3
2	D	1003	NAP	O4D-C1D-N1N-C2N
2	D	1003	NAP	O4D-C1D-N1N-C6N
2	D	1003	NAP	C2D-C1D-N1N-C2N
2	A	1000	NAP	O4D-C4D-C5D-O5D
2	B	1001	NAP	O4D-C4D-C5D-O5D
2	C	1002	NAP	O4D-C4D-C5D-O5D
2	D	1003	NAP	O4D-C4D-C5D-O5D
2	A	1000	NAP	C3D-C4D-C5D-O5D
2	C	1002	NAP	C3D-C4D-C5D-O5D
2	D	1003	NAP	C3D-C4D-C5D-O5D
2	B	1001	NAP	C3D-C4D-C5D-O5D
2	A	1000	NAP	C5D-O5D-PN-O1N
2	A	1000	NAP	C5D-O5D-PN-O2N
2	B	1001	NAP	C5D-O5D-PN-O1N
2	B	1001	NAP	C5D-O5D-PN-O2N
2	C	1002	NAP	C5D-O5D-PN-O1N
2	C	1002	NAP	C5D-O5D-PN-O2N
2	D	1003	NAP	C5D-O5D-PN-O1N
2	D	1003	NAP	C5D-O5D-PN-O2N
2	A	1000	NAP	O4B-C4B-C5B-O5B
2	B	1001	NAP	O4B-C4B-C5B-O5B
2	C	1002	NAP	O4B-C4B-C5B-O5B
2	D	1003	NAP	O4B-C4B-C5B-O5B
2	A	1000	NAP	C2D-C1D-N1N-C6N
2	B	1001	NAP	C2D-C1D-N1N-C6N
2	C	1002	NAP	C2D-C1D-N1N-C6N
2	D	1003	NAP	C2D-C1D-N1N-C6N
2	A	1000	NAP	C3B-C2B-O2B-P2B

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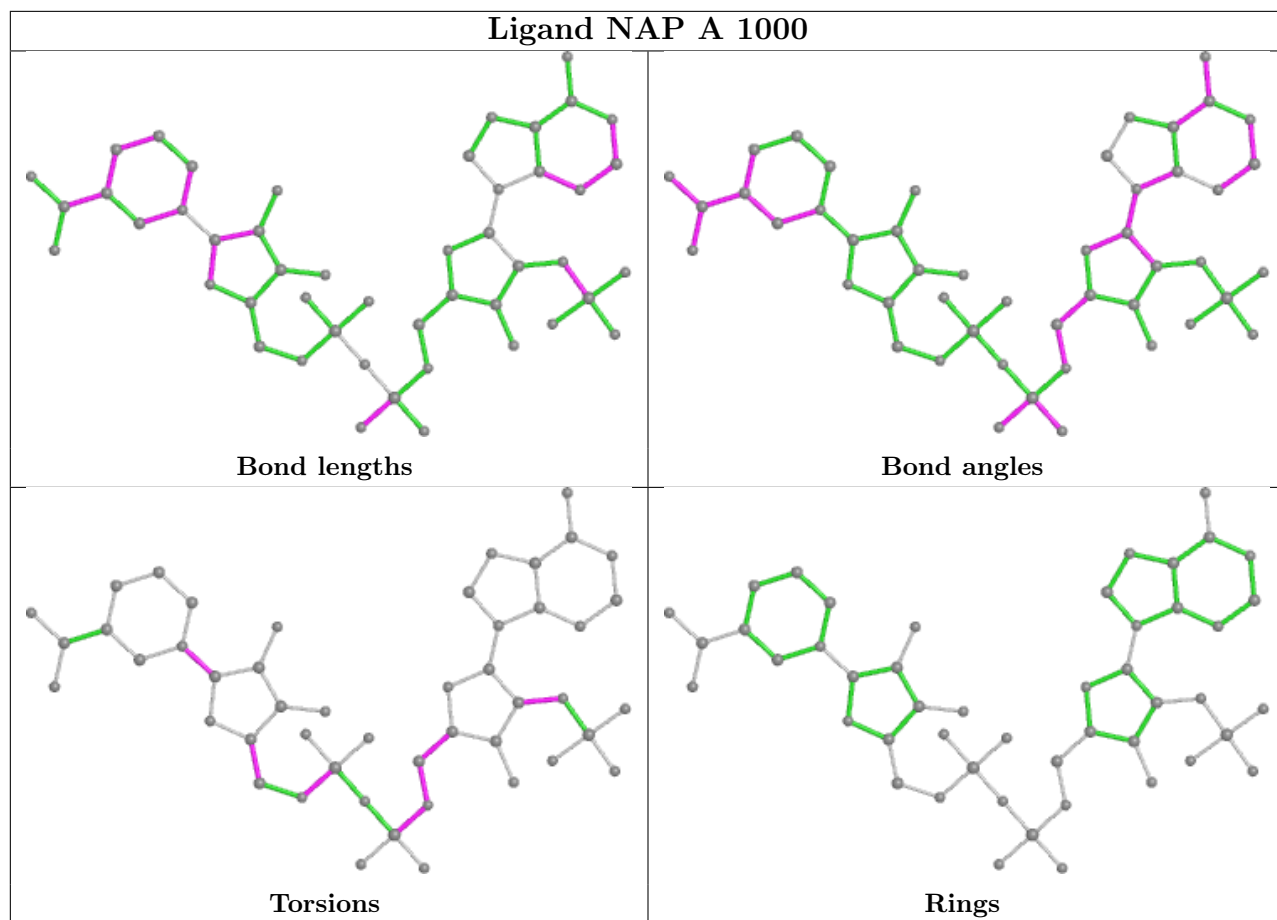
Mol	Chain	Res	Type	Atoms
2	D	1003	NAP	C3B-C2B-O2B-P2B
2	A	1000	NAP	C1B-C2B-O2B-P2B
2	D	1003	NAP	C1B-C2B-O2B-P2B
2	A	1000	NAP	C4B-C5B-O5B-PA
2	C	1002	NAP	C4B-C5B-O5B-PA

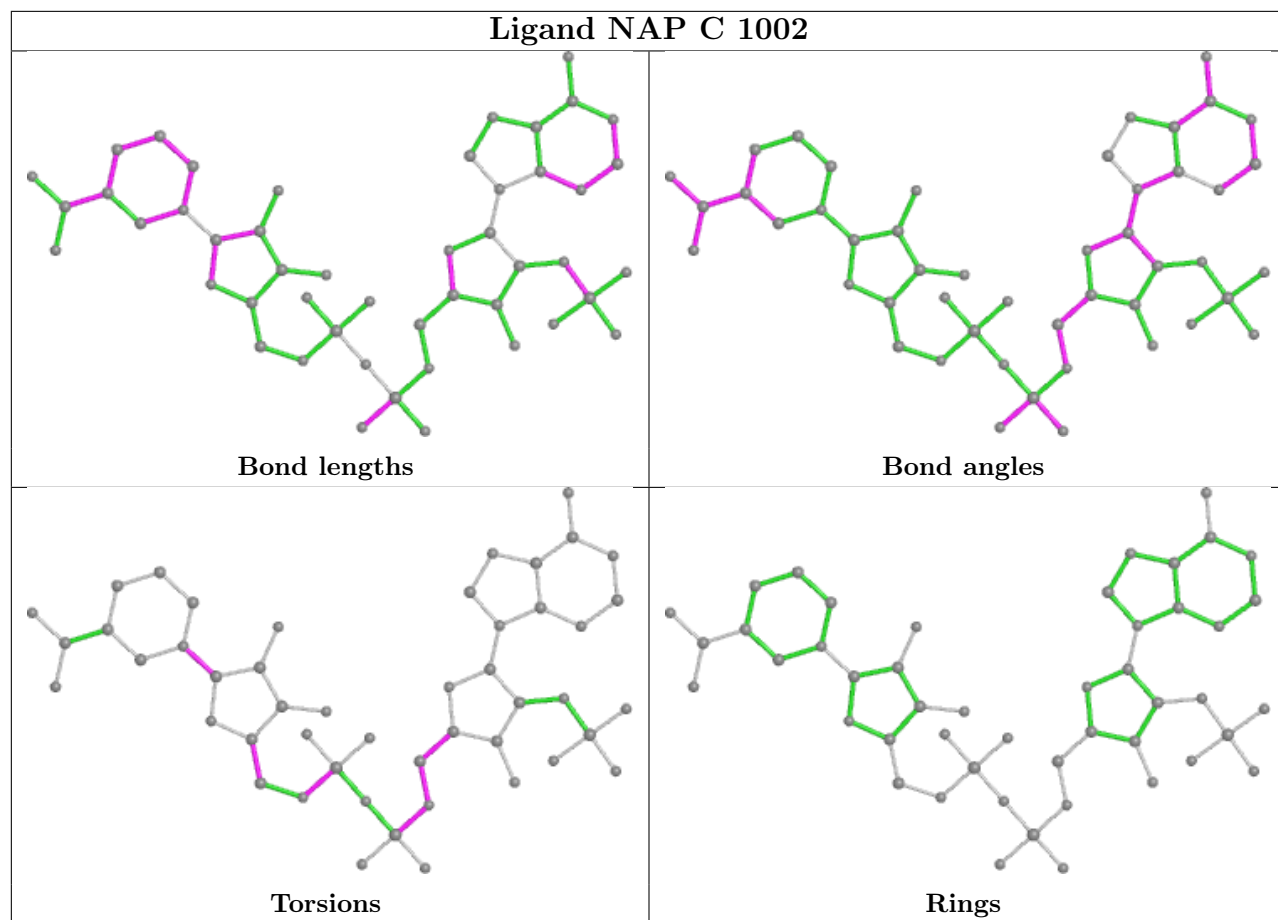
There are no ring outliers.

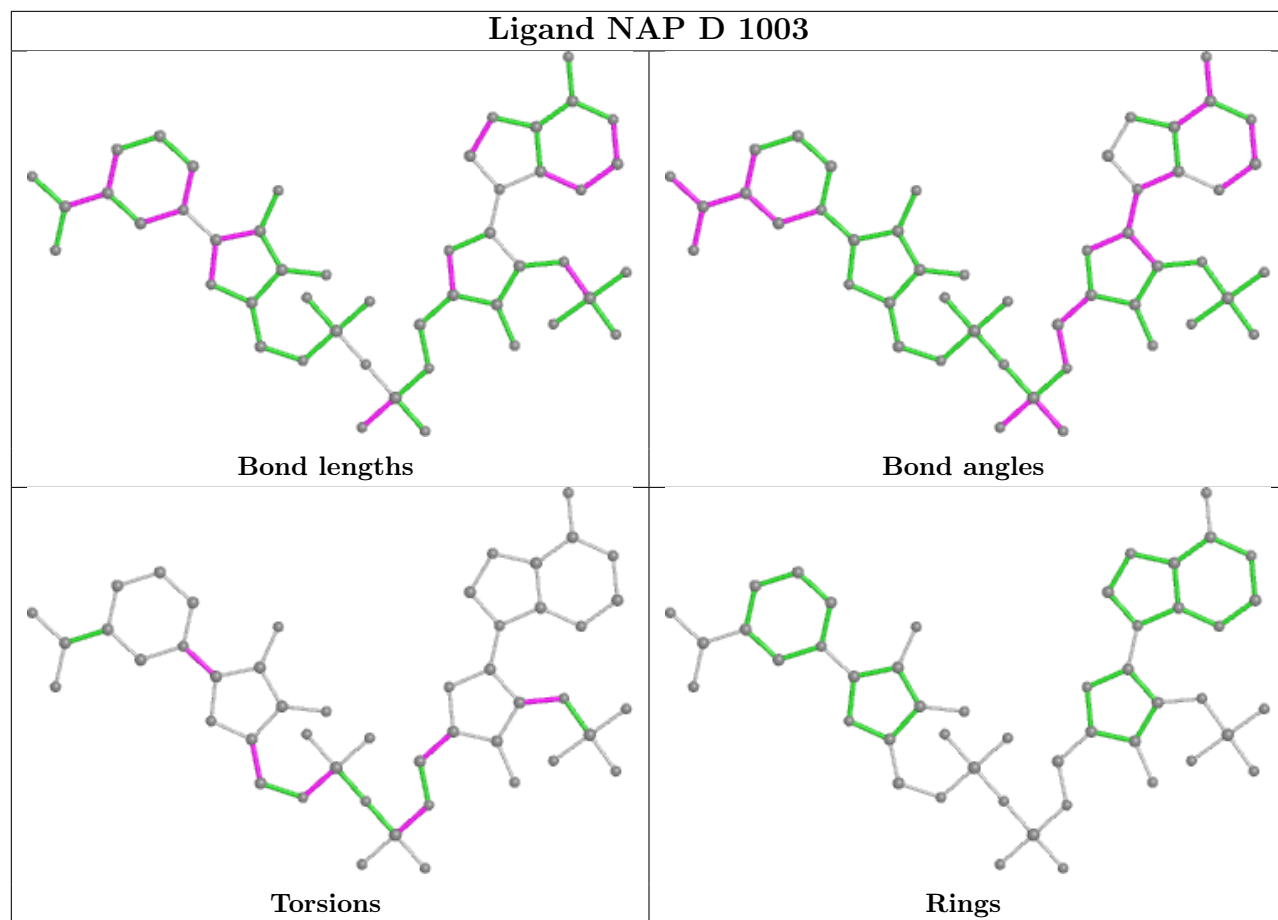
4 monomers are involved in 15 short contacts:

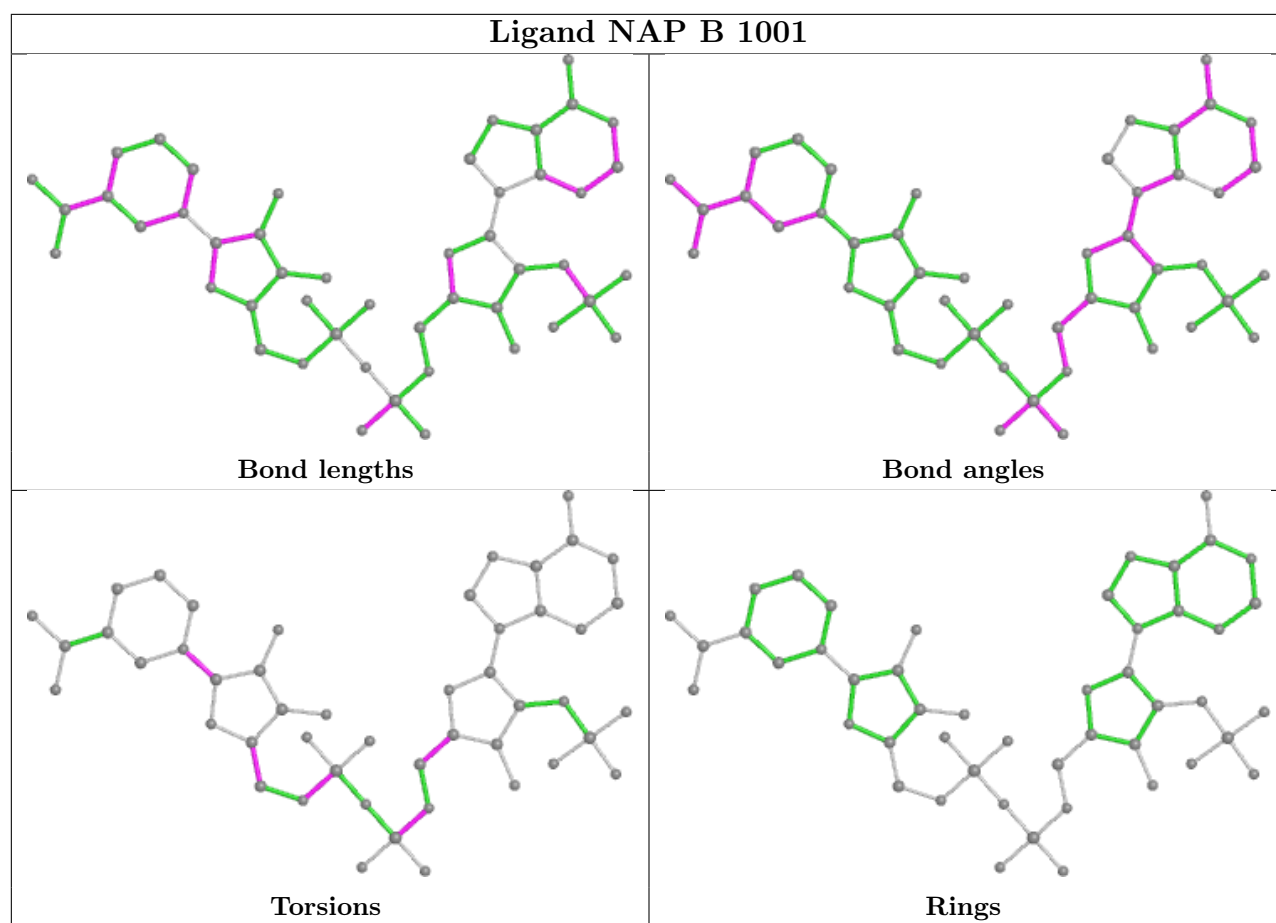
Mol	Chain	Res	Type	Clashes	Symm-Clashes
2	A	1000	NAP	4	0
2	C	1002	NAP	2	0
2	D	1003	NAP	5	0
2	B	1001	NAP	4	0

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.