Full wwPDB X-ray Structure Validation Report ⓘ

Oct 23, 2021 – 11:22 AM EDT

PDB ID	:	1D4F
Title	:	CRYSTAL STRUCTURE OF RECOMBINANT RAT-LIVER D244E MUTANT S-ADENOSYLHOMOCYSTEINE HYDROLASE
Authors	:	Komoto, J.; Huang, Y.; Takusagawa, F.; Gomi, T.; Ogawa, H.; Takata, Y.; Fujioka, M.
Deposited on	:	2000-06-22
Resolution	:	2.80 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 following versions of software and data (see references ⓘ) were used in the production of this report:

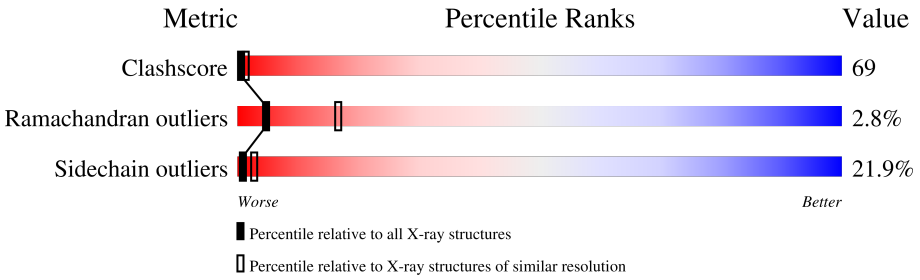
MolProbity	:	4.02b-467
Mogul	:	1.8.5 (274361), CSD as541be (2020)
Xtriage (Phenix)	:	NOT EXECUTED
EDS	:	NOT EXECUTED
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.23.2

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 2.80 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	3569 (2.80-2.80)
Ramachandran outliers	138981	3498 (2.80-2.80)
Sidechain outliers	138945	3500 (2.80-2.80)

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 <=5%

Note EDS was not executed.

Mol	Chain	Length	Quality of chain
1	A	431	31% 55% 14%
1	B	431	35% 49% 15% .
1	C	431	27% 55% 16% .
1	D	431	31% 52% 16%

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	NAD	A	501	-	-	X	-

2 Entry composition (i)

There are 4 unique types of molecules in this entry. The entry contains 14005 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.

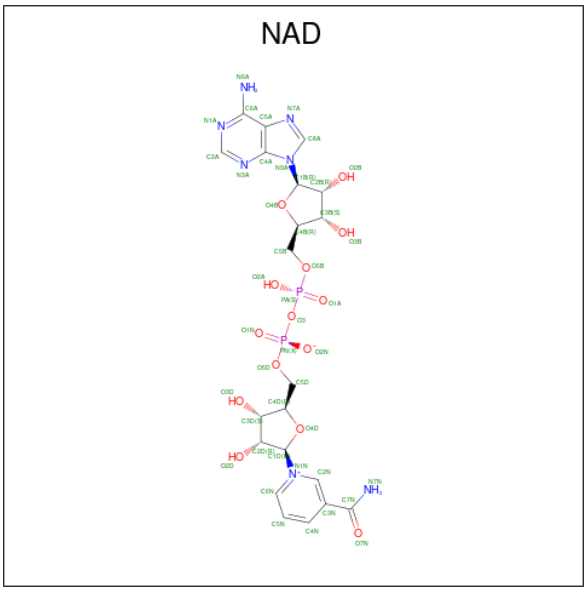
- Molecule 1 is a protein called S-ADENOSYLHOMOCYSTEINE HYDROLASE.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	430	Total	C	N	O	S	0	0	0
			3320	2109	571	615	25			
1	B	430	Total	C	N	O	S	0	0	0
			3320	2109	571	615	25			
1	C	430	Total	C	N	O	S	0	0	0
			3320	2109	571	615	25			
1	D	430	Total	C	N	O	S	0	0	0
			3320	2109	571	615	25			

There are 4 discrepancies between the modelled and reference sequences:

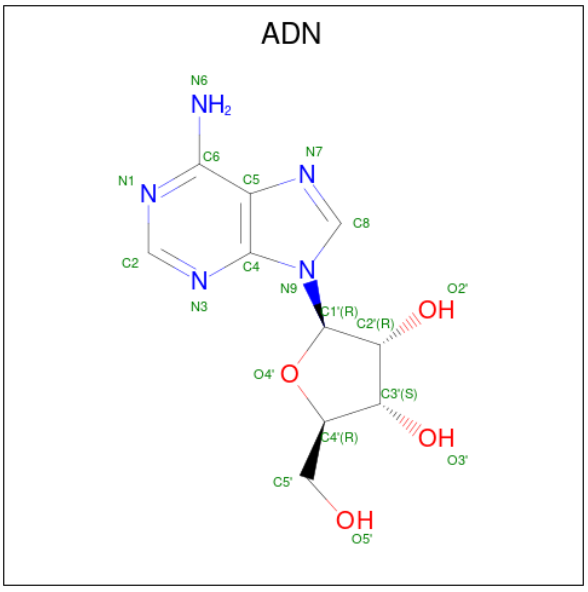
Chain	Residue	Modelled	Actual	Comment	Reference
A	244	GLU	ASP	engineered mutation	UNP P10760
B	244	GLU	ASP	engineered mutation	UNP P10760
C	244	GLU	ASP	engineered mutation	UNP P10760
D	244	GLU	ASP	engineered mutation	UNP P10760

- Molecule 2 is NICOTINAMIDE-ADENINE-DINUCLEOTIDE (three-letter code: NAD) (formula: $C_{21}H_{27}N_7O_{14}P_2$).



Mol	Chain	Residues	Atoms					ZeroOcc	AltConf
2	A	1	Total	C	N	O	P	0	0
			44	21	7	14	2		
2	B	1	Total	C	N	O	P	0	0
			44	21	7	14	2		
2	C	1	Total	C	N	O	P	0	0
			44	21	7	14	2		
2	D	1	Total	C	N	O	P	0	0
			44	21	7	14	2		

- Molecule 3 is ADENOSINE (three-letter code: ADN) (formula: $C_{10}H_{13}N_5O_4$).



Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
3	A	1	Total	C	N	O	0	0
			19	10	5	4		
3	B	1	Total	C	N	O	0	0
			19	10	5	4		
3	C	1	Total	C	N	O	0	0
			19	10	5	4		
3	D	1	Total	C	N	O	0	0
			19	10	5	4		

- Molecule 4 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
4	A	137	Total	O	0	0
			137	137		
4	B	118	Total	O	0	0
			118	118		
4	C	120	Total	O	0	0
			120	120		
4	D	98	Total	O	0	0
			98	98		

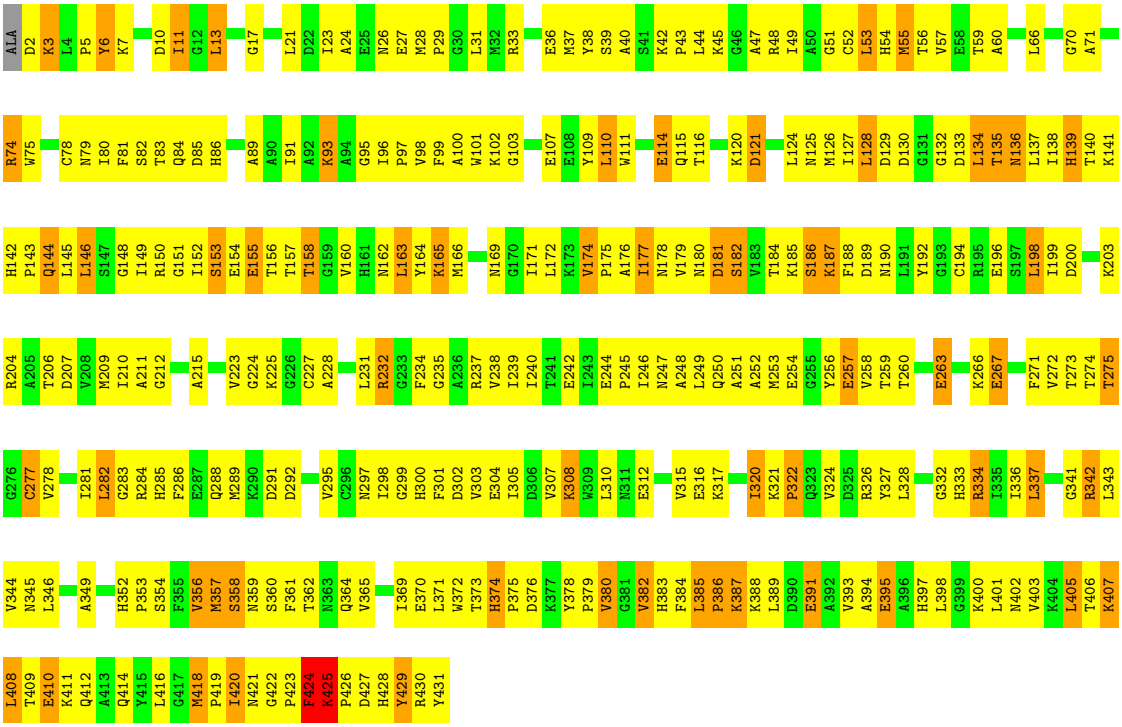
3 Residue-property plots (i)

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.

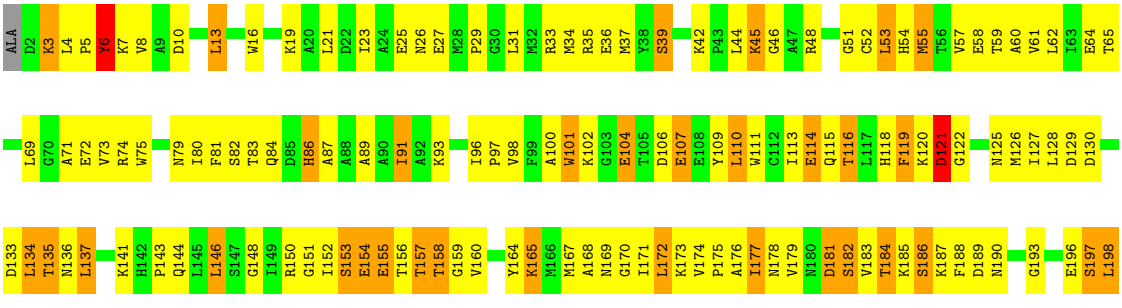
• Molecule 1: S-ADENOSYLHOMOCYSTEINE HYDROLASE

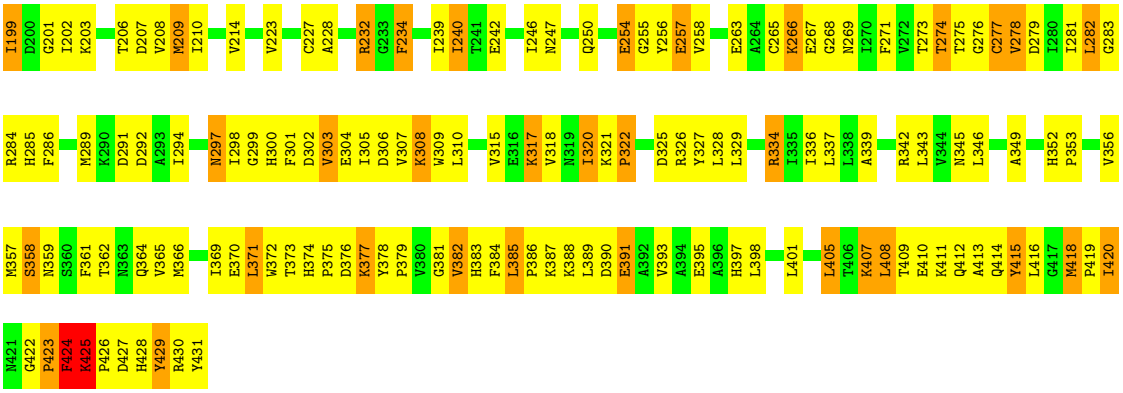
Chain A:



• Molecule 1: S-ADENOSYLHOMOCYSTEINE HYDROLASE

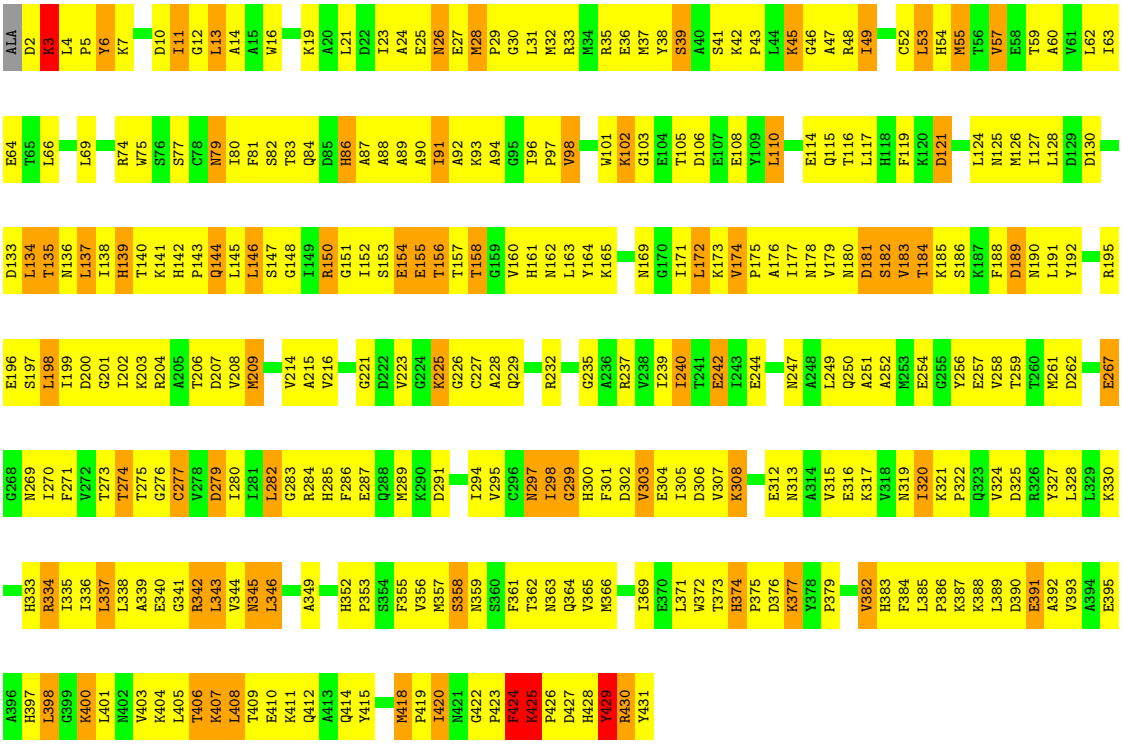
Chain B:





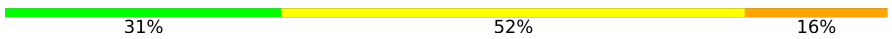
• Molecule 1: S-ADENOSYLHOMOCYSTEINE HYDROLASE

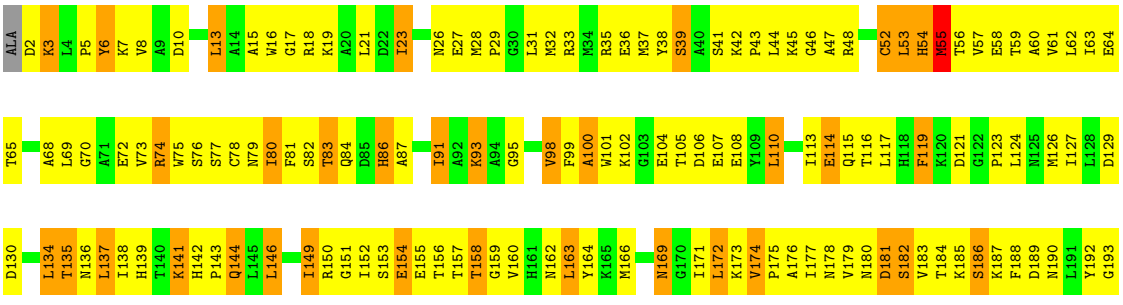
Chain C:

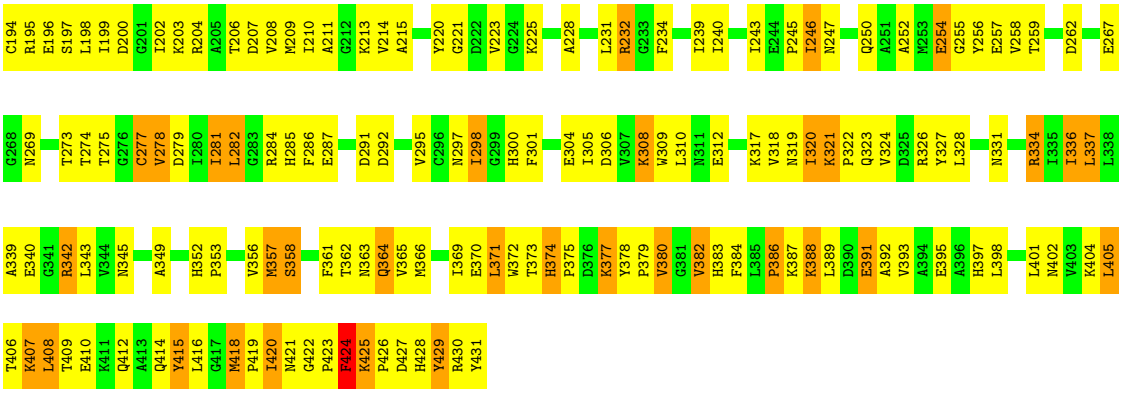


• Molecule 1: S-ADENOSYLHOMOCYSTEINE HYDROLASE

Chain D:






C194 R195 E196 S197 L198 I199 D200 G201 I202 K203 R204 A205 T206 D207 V208 M209 I210 A211 G212 K213 V214 A215 Y220 G221 D222 V223 G224 K225 A228 L231 R232 G233 F234 I239 I240 I243 E244 P245 I246 N247 Q250 A251 A252 M253 E254 G255 Y256 E257 V258 T259 D262 E267
G268 N269 T273 T274 T275 G276 C277 V278 D279 I280 I281 L282 G283 R284 H285 F286 E287 D291 D292 V295 C296 N297 I298 G299 H300 F301 E304 I305 D306 V307 K308 W309 L310 N311 E312 K317 V318 N319 I320 K321 P322 Q323 V324 D325 R326 Y327 L328 N331 R334 I335 I336 L337 L338
A339 E340 G341 R342 L343 V344 N345 A349 H352 P353 V356 M357 S358 F361 T362 N363 Q364 V365 M366 I369 E370 L371 W372 T373 H374 P375 D376 K377 Y378 P379 V380 G381 V382 H383 F384 L385 P386 K387 K388 L389 D390 E391 A392 V393 A394 E395 A396 H397 L398 L401 N402 V403 K404 L405
T406 K407 L408 T409 E410 K411 Q412 A413 Q414 Y415 L416 G417 M418 P419 I420 N421 G422 P423 P424 K425 P426 D427 H428 Y429 R430 Y431

4 Data and refinement statistics (i)

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

Property	Value	Source
Space group	P 21 21 2	Depositor
Cell constants a, b, c, α, β, γ	91.00Å 223.00Å 91.23Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	8.00 – 2.80	Depositor
% Data completeness (in resolution range)	100.0 (8.00-2.80)	Depositor
R_{merge}	0.10	Depositor
R_{sym}	(Not available)	Depositor
Refinement program	X-PLOR 3.843	Depositor
R, R_{free}	0.197 , 0.248	Depositor
Estimated twinning fraction	No twinning to report.	Xtriage
Total number of atoms	14005	wwPDB-VP
Average B, all atoms (Å^2)	11.0	wwPDB-VP

5 Model quality

5.1 Standard geometry

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

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	0.31	0/3385	0.59	0/4580
1	B	0.31	0/3385	0.59	0/4580
1	C	0.32	0/3385	0.59	0/4580
1	D	0.32	0/3385	0.58	0/4580
All	All	0.32	0/13540	0.59	0/18320

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	3320	0	3343	465	0
1	B	3320	0	3343	480	0
1	C	3320	0	3343	497	0
1	D	3320	0	3343	513	0
2	A	44	0	26	22	0
2	B	44	0	26	16	0
2	C	44	0	26	7	0
2	D	44	0	26	9	0
3	A	19	0	13	3	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
3	B	19	0	13	2	0
3	C	19	0	13	1	0
3	D	19	0	13	1	0
4	A	137	0	0	3	0
4	B	118	0	0	8	0
4	C	120	0	0	7	0
4	D	98	0	0	3	0
All	All	14005	0	13528	1856	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 69.

All (1856) 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:419:PRO:CG	1:A:422:GLY:HA3	1.36	1.53
1:A:419:PRO:HG2	1:A:422:GLY:C	1.23	1.52
1:A:419:PRO:HG2	1:A:422:GLY:CA	1.40	1.51
1:D:419:PRO:HG2	1:D:422:GLY:C	1.31	1.45
1:A:419:PRO:CG	1:A:422:GLY:CA	1.91	1.40
1:D:178:ASN:ND2	1:D:181:ASP:HB2	1.40	1.34
1:C:137:LEU:HD12	1:C:137:LEU:O	1.23	1.33
1:D:419:PRO:HG2	1:D:422:GLY:CA	1.56	1.33
1:A:91:ILE:HG22	1:A:98:VAL:CG2	1.61	1.29
1:A:225:LYS:NZ	1:A:250:GLN:HE22	1.31	1.29
1:A:387:LYS:NZ	1:A:425:LYS:HG3	1.43	1.28
1:D:408:LEU:O	1:D:420:ILE:HD12	1.35	1.27
1:B:158:THR:HG21	1:B:301:PHE:CE2	1.70	1.25
1:A:425:LYS:HA	1:A:425:LYS:NZ	1.49	1.25
1:A:425:LYS:HD3	1:A:431:TYR:OH	1.22	1.24
1:B:424:PHE:O	1:B:426:PRO:HD3	1.11	1.24
1:D:169:ASN:HB2	1:D:171:ILE:CD1	1.68	1.24
1:D:419:PRO:CG	1:D:422:GLY:HA3	1.67	1.23
1:C:244:GLU:OE2	1:D:425:LYS:HD2	1.37	1.21
1:D:81:PHE:CE2	1:D:342:ARG:HD2	1.75	1.21
1:D:418:MET:HG3	1:D:424:PHE:CD1	1.75	1.20
1:D:407:LYS:HB2	1:D:407:LYS:NZ	1.42	1.19
1:A:419:PRO:CB	1:A:422:GLY:HA3	1.72	1.19
1:D:373:THR:HG22	1:D:374:HIS:ND1	1.57	1.19
1:A:424:PHE:O	1:A:426:PRO:HD3	1.39	1.18
1:C:419:PRO:HB2	1:C:422:GLY:N	1.58	1.18

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:425:LYS:HD3	1:B:431:TYR:OH	1.43	1.17
1:A:373:THR:HG22	1:A:374:HIS:CE1	1.81	1.16
1:D:373:THR:HG22	1:D:374:HIS:CE1	1.80	1.16
1:B:424:PHE:O	1:B:426:PRO:CD	1.95	1.15
1:D:178:ASN:HD21	1:D:181:ASP:CB	1.59	1.15
1:C:275:THR:HG21	1:C:280:ILE:HD11	1.16	1.14
1:D:386:PRO:HG2	1:D:389:LEU:HD12	1.29	1.14
1:A:419:PRO:CG	1:A:422:GLY:C	2.08	1.14
1:A:291:ASP:OD2	1:A:334:ARG:NH2	1.78	1.14
1:A:419:PRO:HG3	1:A:422:GLY:HA3	1.28	1.14
1:A:373:THR:HG22	1:A:374:HIS:ND1	1.63	1.13
1:B:419:PRO:HG2	1:B:422:GLY:C	1.69	1.13
1:A:91:ILE:CG2	1:A:98:VAL:HG21	1.79	1.12
1:B:177:ILE:HG13	1:B:371:LEU:HD21	1.30	1.12
1:C:419:PRO:HB2	1:C:422:GLY:CA	1.78	1.12
1:A:91:ILE:CG2	1:A:98:VAL:CG2	2.28	1.11
1:C:430:ARG:NH1	1:D:187:LYS:HE3	1.64	1.11
1:B:278:VAL:HG12	1:B:303:VAL:HB	1.21	1.10
1:C:299:GLY:O	1:C:343:LEU:CD1	1.99	1.10
1:D:419:PRO:CG	1:D:422:GLY:CA	2.24	1.10
1:B:362:THR:O	1:B:366:MET:HG3	1.49	1.09
1:C:110:LEU:O	1:C:110:LEU:HD13	1.50	1.09
1:A:126:MET:HE3	1:A:150:ARG:HB3	1.24	1.09
1:A:419:PRO:HB2	1:A:422:GLY:N	1.68	1.09
1:D:169:ASN:HB2	1:D:171:ILE:HD12	1.32	1.08
1:B:419:PRO:HG2	1:B:422:GLY:CA	1.82	1.08
1:C:27:GLU:O	1:C:29:PRO:HD3	1.51	1.08
1:D:419:PRO:CB	1:D:422:GLY:HA3	1.82	1.08
1:A:91:ILE:HG22	1:A:98:VAL:HG21	1.12	1.08
1:D:419:PRO:HB2	1:D:422:GLY:H	1.17	1.08
1:A:419:PRO:HB2	1:A:422:GLY:H	1.16	1.07
1:D:408:LEU:O	1:D:420:ILE:CD1	2.01	1.07
1:D:419:PRO:HB2	1:D:422:GLY:N	1.69	1.07
1:A:387:LYS:HZ1	1:A:425:LYS:HG3	0.93	1.07
1:A:199:ILE:HD11	1:A:231:LEU:HD23	1.35	1.06
1:A:425:LYS:CD	1:A:431:TYR:OH	2.01	1.06
1:A:373:THR:CG2	1:A:374:HIS:CE1	2.38	1.06
1:D:317:LYS:HG3	1:D:327:TYR:CE2	1.90	1.06
1:C:177:ILE:CG1	1:C:371:LEU:HD21	1.85	1.05
1:D:21:LEU:HD23	1:D:57:VAL:HG13	1.38	1.05
1:D:158:THR:HG21	1:D:301:PHE:HE2	1.18	1.05

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:158:THR:HG21	1:B:301:PHE:HE2	0.91	1.05
1:C:137:LEU:HD12	1:C:137:LEU:C	1.74	1.05
1:D:158:THR:HG21	1:D:301:PHE:CE2	1.91	1.05
1:A:10:ASP:HB3	1:A:13:LEU:HD22	1.37	1.04
1:B:317:LYS:HD2	1:B:327:TYR:CE2	1.91	1.04
1:C:425:LYS:NZ	1:C:426:PRO:CD	2.20	1.04
1:C:177:ILE:HG13	1:C:371:LEU:HD21	1.08	1.04
1:D:221:GLY:O	1:D:225:LYS:HG3	1.55	1.03
1:A:48:ARG:HD3	1:A:121:ASP:OD2	1.55	1.03
1:A:277:CYS:HB3	1:B:416:LEU:HD21	1.36	1.03
1:A:425:LYS:HA	1:A:425:LYS:HZ2	0.91	1.03
1:A:126:MET:CE	1:A:150:ARG:HB3	1.89	1.03
1:A:169:ASN:HB2	1:A:171:ILE:HD12	1.38	1.03
1:A:410:GLU:OE2	1:A:414:GLN:HG3	1.58	1.03
1:D:419:PRO:CG	1:D:422:GLY:C	2.27	1.02
1:B:157:THR:HB	2:B:502:NAD:H3D	1.37	1.02
1:B:278:VAL:CG1	1:B:303:VAL:HB	1.88	1.02
1:D:407:LYS:NZ	1:D:407:LYS:CB	2.19	1.02
1:C:425:LYS:CE	1:C:425:LYS:HA	1.87	1.02
1:D:10:ASP:HB3	1:D:13:LEU:HD22	1.40	1.02
1:D:126:MET:HE3	1:D:150:ARG:HB3	1.41	1.01
1:C:315:VAL:HG22	1:C:330:LYS:HG2	1.36	1.01
1:D:169:ASN:HB2	1:D:171:ILE:HD11	1.42	1.01
1:C:425:LYS:NZ	1:C:426:PRO:HD2	1.76	1.01
1:D:291:ASP:OD2	1:D:334:ARG:NH2	1.92	1.01
1:A:430:ARG:HA	1:B:430:ARG:HG2	1.43	1.01
1:D:279:ASP:HB3	1:D:282:LEU:HD11	1.40	1.00
1:C:419:PRO:CB	1:C:422:GLY:HA3	1.91	1.00
1:A:177:ILE:HG13	1:A:371:LEU:HD21	1.44	1.00
1:C:10:ASP:HB3	1:C:13:LEU:HD22	1.40	1.00
1:B:158:THR:CG2	1:B:301:PHE:HE2	1.74	1.00
1:A:153:SER:HB3	1:A:364:GLN:NE2	1.78	0.99
1:A:154:GLU:O	1:A:179:VAL:HB	1.62	0.99
1:A:277:CYS:CB	1:B:416:LEU:HD21	1.92	0.99
1:D:369:ILE:O	1:D:373:THR:HB	1.61	0.99
1:D:39:SER:O	1:D:42:LYS:HG2	1.61	0.99
1:B:425:LYS:CD	1:B:431:TYR:OH	2.09	0.99
1:A:81:PHE:O	1:A:102:LYS:HE3	1.63	0.98
1:B:91:ILE:HG22	1:B:98:VAL:CG2	1.93	0.98
1:D:386:PRO:HG2	1:D:389:LEU:CD1	1.92	0.98
1:A:299:GLY:O	1:A:343:LEU:CD1	2.11	0.98

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:56:THR:HB	1:A:84:GLN:OE1	1.65	0.97
1:B:299:GLY:O	1:B:343:LEU:CD1	2.12	0.97
1:C:164:TYR:CZ	1:D:428:HIS:HE1	1.82	0.97
1:C:418:MET:SD	1:C:424:PHE:HB3	2.04	0.97
1:A:291:ASP:CG	1:A:334:ARG:HH21	1.66	0.97
1:B:419:PRO:CG	1:B:422:GLY:HA3	1.94	0.97
1:A:225:LYS:NZ	1:A:250:GLN:NE2	2.12	0.97
1:A:419:PRO:CB	1:A:422:GLY:CA	2.36	0.97
1:C:45:LYS:HD3	1:C:46:GLY:N	1.79	0.97
1:A:419:PRO:HG2	1:A:422:GLY:O	1.65	0.97
1:D:39:SER:O	1:D:42:LYS:NZ	1.99	0.96
1:D:425:LYS:HA	1:D:425:LYS:HE3	1.48	0.96
1:D:45:LYS:HD3	1:D:46:GLY:H	1.31	0.96
1:B:309:TRP:CE3	1:B:310:LEU:HD23	2.01	0.96
1:C:19:LYS:O	1:C:23:ILE:HG13	1.64	0.96
1:B:407:LYS:HB2	1:B:407:LYS:HZ3	1.30	0.95
1:C:244:GLU:OE2	1:D:425:LYS:CD	2.13	0.95
1:B:110:LEU:O	1:B:110:LEU:CD1	2.14	0.95
1:D:407:LYS:CB	1:D:407:LYS:HZ3	1.79	0.95
1:A:299:GLY:O	1:A:343:LEU:HD12	1.67	0.95
1:C:275:THR:HG22	1:C:277:CYS:H	1.32	0.95
1:D:65:THR:O	1:D:69:LEU:HD13	1.67	0.95
1:D:75:TRP:O	1:D:116:THR:HG21	1.67	0.95
1:B:275:THR:HG22	1:B:277:CYS:H	1.32	0.94
1:C:48:ARG:HD3	1:C:121:ASP:OD2	1.68	0.94
1:C:425:LYS:HZ2	1:C:426:PRO:HD3	1.32	0.94
1:A:387:LYS:HE2	1:A:391:GLU:OE2	1.68	0.94
1:D:134:LEU:O	1:D:134:LEU:HD22	1.67	0.94
1:C:315:VAL:CG2	1:C:330:LYS:HG2	1.97	0.94
1:C:419:PRO:HB2	1:C:422:GLY:H	1.12	0.94
1:D:419:PRO:HB2	1:D:422:GLY:CA	1.96	0.94
1:C:3:LYS:HG2	1:C:4:LEU:H	1.33	0.94
1:D:60:ALA:HB1	1:D:91:ILE:HD11	1.48	0.94
1:C:419:PRO:HG2	1:C:422:GLY:HA3	1.50	0.93
1:B:309:TRP:HE3	1:B:310:LEU:HD23	1.33	0.93
1:D:81:PHE:HE2	1:D:342:ARG:HD2	1.27	0.93
1:B:33:ARG:NH1	1:B:36:GLU:OE1	2.02	0.93
1:B:291:ASP:OD2	1:B:334:ARG:NH2	2.00	0.93
1:D:362:THR:O	1:D:366:MET:HG3	1.68	0.93
1:C:395:GLU:O	1:C:395:GLU:OE2	1.85	0.92
1:D:3:LYS:HE3	1:D:115:GLN:OE1	1.69	0.92

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:164:TYR:CZ	1:D:428:HIS:CE1	2.57	0.92
1:C:345:ASN:HD22	1:C:346:LEU:N	1.67	0.92
1:D:110:LEU:O	1:D:110:LEU:CD1	2.16	0.92
1:D:418:MET:CB	1:D:424:PHE:HB3	1.99	0.92
1:B:60:ALA:HB1	1:B:91:ILE:HD11	1.48	0.92
1:C:206:THR:HG21	1:C:294:ILE:HD13	1.51	0.92
1:C:425:LYS:NZ	1:C:425:LYS:HA	1.83	0.92
1:A:110:LEU:O	1:A:110:LEU:HD13	1.69	0.92
1:C:428:HIS:CE1	1:D:164:TYR:CZ	2.58	0.92
1:B:299:GLY:O	1:B:343:LEU:HD11	1.70	0.92
1:D:59:THR:O	1:D:63:ILE:HG13	1.70	0.92
1:B:410:GLU:OE2	1:B:414:GLN:OE1	1.89	0.91
1:C:312:GLU:HG2	1:C:313:ASN:ND2	1.86	0.91
1:C:418:MET:SD	1:C:424:PHE:CB	2.58	0.91
1:C:419:PRO:CG	1:C:422:GLY:HA3	1.99	0.91
1:C:425:LYS:HZ1	1:C:426:PRO:HD2	1.32	0.91
1:C:35:ARG:O	1:C:39:SER:OG	1.88	0.91
1:A:359:ASN:HD22	1:A:393:VAL:HG12	1.34	0.91
1:A:199:ILE:CD1	1:A:231:LEU:HD23	1.99	0.91
1:A:387:LYS:HZ1	1:A:425:LYS:CG	1.83	0.91
1:D:74:ARG:NH1	1:D:115:GLN:O	2.02	0.91
1:B:126:MET:HE3	1:B:150:ARG:HB3	1.50	0.91
1:D:126:MET:HE2	1:D:151:GLY:N	1.86	0.91
1:B:419:PRO:HG2	1:B:422:GLY:HA3	1.50	0.90
1:C:425:LYS:HA	1:C:425:LYS:HZ2	1.33	0.90
1:D:407:LYS:HB2	1:D:407:LYS:HZ2	1.29	0.90
1:C:3:LYS:HG2	1:C:4:LEU:N	1.81	0.90
1:C:273:THR:OG1	1:C:297:ASN:HB2	1.71	0.90
1:A:300:HIS:HA	1:A:343:LEU:HD11	1.52	0.90
1:C:387:LYS:NZ	1:C:426:PRO:O	2.05	0.90
1:A:3:LYS:HE2	1:A:74:ARG:HH12	1.35	0.90
1:B:156:THR:HG21	1:B:300:HIS:ND1	1.86	0.90
1:C:345:ASN:HD22	1:C:346:LEU:H	1.19	0.90
1:A:398:LEU:CD2	1:A:405:LEU:HD22	2.01	0.90
1:B:157:THR:CB	2:B:502:NAD:H52N	2.00	0.90
1:C:300:HIS:HB2	2:C:503:NAD:O2D	1.72	0.90
1:C:430:ARG:HH12	1:D:187:LYS:HE3	1.34	0.89
1:D:154:GLU:OE1	1:D:159:GLY:HA3	1.72	0.89
1:A:140:THR:OG1	1:A:141:LYS:HD2	1.73	0.89
1:C:27:GLU:C	1:C:29:PRO:HD3	1.91	0.89
1:D:418:MET:HG3	1:D:424:PHE:HD1	1.30	0.89

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:45:LYS:CD	1:D:46:GLY:H	1.84	0.89
1:B:110:LEU:O	1:B:110:LEU:HD13	1.73	0.89
1:D:223:VAL:HG12	1:D:274:THR:HB	1.55	0.89
1:C:117:LEU:CD2	1:C:138:ILE:HD11	2.03	0.88
1:C:126:MET:CE	1:C:150:ARG:HB3	2.04	0.88
1:D:7:LYS:HG2	1:D:101:TRP:CZ3	2.08	0.88
1:A:431:TYR:HE2	1:B:247:ASN:HD21	1.19	0.88
1:D:291:ASP:CG	1:D:334:ARG:HH21	1.76	0.88
1:A:275:THR:O	1:A:304:GLU:OE2	1.90	0.88
1:A:127:ILE:HG12	1:A:134:LEU:HD13	1.56	0.88
1:D:63:ILE:HD11	1:D:75:TRP:CD2	2.08	0.88
1:C:419:PRO:HB2	1:C:422:GLY:HA3	1.47	0.87
1:D:407:LYS:HB2	1:D:407:LYS:HZ3	1.06	0.87
1:A:408:LEU:O	1:A:420:ILE:HD12	1.73	0.87
1:C:424:PHE:O	1:C:426:PRO:HD3	1.74	0.87
1:B:129:ASP:OD2	1:B:135:THR:HG23	1.75	0.87
1:B:425:LYS:HD3	1:B:431:TYR:HH	1.32	0.87
1:B:292:ASP:OD2	1:B:326:ARG:NH2	2.08	0.87
1:A:225:LYS:HZ1	1:A:250:GLN:HE22	0.89	0.87
1:A:164:TYR:CD1	1:A:382:VAL:HG11	2.08	0.86
1:B:153:SER:HB3	1:B:364:GLN:NE2	1.90	0.86
1:D:53:LEU:HD11	1:D:155:GLU:HG3	1.57	0.86
1:B:110:LEU:CD1	1:B:110:LEU:C	2.43	0.86
1:B:359:ASN:HD22	1:B:393:VAL:HG12	1.40	0.86
1:C:386:PRO:HG2	1:C:389:LEU:HD12	1.55	0.86
1:C:425:LYS:NZ	1:C:426:PRO:HD3	1.88	0.86
1:D:126:MET:CE	1:D:151:GLY:N	2.38	0.86
1:B:169:ASN:CB	1:B:171:ILE:HD12	2.06	0.86
1:D:152:ILE:HB	1:D:176:ALA:HB2	1.58	0.86
1:A:431:TYR:HE2	1:B:247:ASN:ND2	1.73	0.85
1:B:317:LYS:HB2	1:B:327:TYR:CD2	2.11	0.85
1:D:373:THR:CG2	1:D:374:HIS:CE1	2.58	0.85
1:D:300:HIS:O	1:D:343:LEU:HD11	1.75	0.85
1:C:80:ILE:O	1:C:103:GLY:N	2.08	0.85
1:A:425:LYS:HZ2	1:A:425:LYS:CA	1.85	0.85
1:A:430:ARG:HG2	1:B:430:ARG:HA	1.58	0.85
1:B:373:THR:HG22	1:B:374:HIS:CE1	2.11	0.85
1:C:221:GLY:O	1:C:225:LYS:HG3	1.77	0.85
1:D:418:MET:HB2	1:D:419:PRO:CD	2.06	0.85
1:A:7:LYS:HG2	1:A:101:TRP:CZ3	2.12	0.85
1:A:91:ILE:CG2	1:A:98:VAL:HG22	2.07	0.85

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:398:LEU:CD2	1:D:405:LEU:HD22	2.07	0.85
1:B:339:ALA:O	1:B:342:ARG:HG3	1.77	0.84
1:C:55:MET:CE	1:C:59:THR:HB	2.07	0.84
1:A:275:THR:HG23	2:A:501:NAD:C4A	2.07	0.84
1:A:419:PRO:CB	1:A:422:GLY:H	1.90	0.84
1:D:275:THR:O	1:D:304:GLU:OE2	1.95	0.84
1:D:387:LYS:O	1:D:391:GLU:HG2	1.77	0.84
1:D:419:PRO:CB	1:D:422:GLY:CA	2.46	0.84
1:D:339:ALA:O	1:D:342:ARG:HG3	1.78	0.84
1:A:181:ASP:O	1:B:430:ARG:NH2	2.10	0.84
1:C:299:GLY:O	1:C:343:LEU:HD11	1.77	0.84
1:D:178:ASN:HD21	1:D:181:ASP:HB2	1.02	0.84
1:D:337:LEU:HD13	1:D:340:GLU:HA	1.60	0.84
1:A:424:PHE:O	1:A:426:PRO:CD	2.25	0.83
1:C:214:VAL:H	1:C:269:ASN:HD22	1.25	0.83
1:A:308:LYS:O	1:A:312:GLU:HG2	1.77	0.83
1:C:277:CYS:HB3	1:D:416:LEU:HD21	1.60	0.83
1:B:143:PRO:HA	1:B:146:LEU:CD2	2.08	0.83
1:B:300:HIS:HB2	2:B:502:NAD:O2D	1.78	0.83
1:B:425:LYS:CG	1:B:431:TYR:OH	2.27	0.83
1:A:419:PRO:HB2	1:A:422:GLY:CA	2.03	0.83
1:B:317:LYS:HD2	1:B:327:TYR:HE2	1.41	0.83
1:C:387:LYS:HE3	4:C:658:HOH:O	1.77	0.83
1:C:184:THR:HG23	1:C:390:ASP:OD2	1.77	0.83
1:C:316:GLU:HG2	1:C:328:LEU:HB3	1.61	0.83
1:D:126:MET:HE2	1:D:151:GLY:H	1.42	0.83
1:B:127:ILE:HG12	1:B:134:LEU:CD1	2.08	0.83
1:C:137:LEU:O	1:C:137:LEU:CD1	2.19	0.83
1:D:178:ASN:HD21	1:D:181:ASP:CG	1.81	0.83
1:A:387:LYS:NZ	1:A:425:LYS:CG	2.35	0.82
1:B:126:MET:HE1	1:B:151:GLY:N	1.94	0.82
1:B:21:LEU:HD21	1:B:60:ALA:HB3	1.59	0.82
1:D:320:ILE:HD12	1:D:320:ILE:N	1.94	0.82
1:C:27:GLU:O	1:C:29:PRO:CD	2.26	0.82
1:C:299:GLY:O	1:C:343:LEU:HD12	1.79	0.82
1:C:126:MET:HE3	1:C:150:ARG:HB3	1.61	0.82
1:C:419:PRO:CB	1:C:422:GLY:CA	2.55	0.82
1:A:39:SER:O	1:A:42:LYS:NZ	2.12	0.82
1:A:225:LYS:HZ1	1:A:250:GLN:NE2	1.72	0.82
1:D:110:LEU:O	1:D:110:LEU:HD13	1.75	0.81
1:D:214:VAL:H	1:D:269:ASN:HD22	1.27	0.81

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:208:VAL:HG22	1:B:209:MET:N	1.96	0.81
1:A:128:LEU:HD21	1:A:364:GLN:CG	2.10	0.81
1:D:54:HIS:HB3	1:D:82:SER:OG	1.79	0.81
1:D:105:THR:OG1	1:D:108:GLU:HG3	1.81	0.81
1:B:126:MET:CE	1:B:150:ARG:HB3	2.10	0.81
1:D:45:LYS:CD	1:D:46:GLY:N	2.43	0.81
1:C:275:THR:HG21	1:C:280:ILE:CD1	2.05	0.81
1:B:45:LYS:HD2	1:B:46:GLY:N	1.96	0.81
1:B:53:LEU:HG	1:B:130:ASP:HB2	1.63	0.81
1:B:110:LEU:C	1:B:110:LEU:HD12	2.01	0.81
1:D:292:ASP:OD2	1:D:326:ARG:NH2	2.12	0.81
1:A:143:PRO:HA	1:A:146:LEU:CD2	2.11	0.80
1:A:398:LEU:HD23	1:A:405:LEU:HD22	1.61	0.80
1:C:60:ALA:HB1	1:C:91:ILE:HD11	1.61	0.80
1:A:292:ASP:HA	1:A:334:ARG:O	1.79	0.80
1:A:425:LYS:HA	1:A:425:LYS:CE	2.10	0.80
1:D:418:MET:CG	1:D:424:PHE:CD1	2.61	0.80
1:A:317:LYS:HD2	1:A:327:TYR:CE2	2.17	0.80
1:C:177:ILE:HG13	1:C:371:LEU:CD2	2.03	0.80
1:D:46:GLY:O	1:D:372:TRP:CZ2	2.34	0.80
1:D:419:PRO:HG2	1:D:423:PRO:N	1.97	0.80
1:A:430:ARG:O	1:A:431:TYR:OXT	2.00	0.80
1:C:137:LEU:O	1:C:141:LYS:HB2	1.82	0.80
1:A:225:LYS:HZ2	1:A:250:GLN:HE22	1.28	0.80
1:C:430:ARG:HG2	1:D:430:ARG:HA	1.64	0.80
1:C:430:ARG:HH12	1:D:187:LYS:CE	1.93	0.79
1:B:308:LYS:H	1:B:308:LYS:HD2	1.47	0.79
1:D:186:SER:O	1:D:190:ASN:HB2	1.83	0.79
1:B:39:SER:O	1:B:42:LYS:NZ	2.15	0.79
1:B:126:MET:CE	1:B:151:GLY:N	2.46	0.79
1:C:425:LYS:CE	1:C:426:PRO:HD2	2.11	0.79
1:C:33:ARG:NH1	1:C:36:GLU:OE1	2.15	0.79
1:A:223:VAL:HG12	1:A:274:THR:HB	1.64	0.79
1:A:387:LYS:HZ3	1:A:425:LYS:HG3	1.44	0.79
1:A:126:MET:CE	1:A:151:GLY:N	2.45	0.79
1:A:299:GLY:O	1:A:343:LEU:HD11	1.82	0.79
1:C:110:LEU:O	1:C:110:LEU:CD1	2.30	0.79
1:D:398:LEU:HD23	1:D:405:LEU:HD22	1.64	0.79
2:C:503:NAD:C4N	3:C:603:ADN:H3'	2.12	0.79
1:D:154:GLU:CD	1:D:159:GLY:HA3	2.03	0.79
1:D:81:PHE:CE2	1:D:342:ARG:CD	2.62	0.79

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:409:THR:HG23	1:B:412:GLN:HE21	1.48	0.78
1:C:3:LYS:HE2	1:C:74:ARG:HH12	1.47	0.78
1:D:45:LYS:HD2	1:D:46:GLY:N	1.97	0.78
1:D:110:LEU:O	1:D:110:LEU:HD12	1.83	0.78
1:D:199:ILE:HD12	1:D:234:PHE:CE2	2.18	0.78
1:A:317:LYS:HG3	1:A:327:TYR:CE2	2.18	0.78
1:C:21:LEU:HD21	1:C:60:ALA:HB3	1.66	0.78
1:D:137:LEU:HD12	1:D:141:LYS:HB2	1.65	0.78
1:D:262:ASP:OD1	1:D:284:ARG:NH1	2.16	0.78
1:B:169:ASN:HB2	1:B:171:ILE:HD12	1.64	0.78
1:B:110:LEU:O	1:B:110:LEU:HD12	1.81	0.78
1:B:419:PRO:CG	1:B:422:GLY:CA	2.57	0.78
1:B:370:GLU:HB3	1:B:378:TYR:CE1	2.19	0.77
1:D:418:MET:HB3	1:D:424:PHE:HB3	1.64	0.77
1:D:317:LYS:HG3	1:D:327:TYR:CZ	2.20	0.77
1:B:178:ASN:ND2	1:B:181:ASP:HB2	2.00	0.77
1:C:415:TYR:CD2	1:D:278:VAL:HG22	2.19	0.77
1:A:359:ASN:ND2	1:A:393:VAL:HG12	1.99	0.77
1:C:425:LYS:CE	1:C:425:LYS:CA	2.63	0.77
1:D:424:PHE:O	1:D:426:PRO:HD3	1.83	0.77
1:D:129:ASP:OD2	1:D:135:THR:HG23	1.85	0.77
1:C:425:LYS:HZ1	1:C:426:PRO:CD	1.92	0.77
1:B:125:ASN:O	1:B:126:MET:HG2	1.85	0.76
1:A:373:THR:HG21	1:A:374:HIS:HE1	1.46	0.76
1:B:353:PRO:HB2	1:D:209:MET:HB2	1.68	0.76
1:D:169:ASN:HD22	1:D:171:ILE:CD1	1.98	0.76
1:B:48:ARG:HD2	1:B:119:PHE:HB2	1.67	0.76
1:B:273:THR:OG1	1:B:297:ASN:HA	1.84	0.76
1:C:428:HIS:HE1	1:D:164:TYR:CZ	2.02	0.76
1:D:363:ASN:ND2	1:D:393:VAL:HG21	2.01	0.76
1:B:299:GLY:O	1:B:343:LEU:HD12	1.85	0.76
1:C:7:LYS:HG2	1:C:101:TRP:CZ3	2.20	0.76
1:A:10:ASP:HB3	1:A:13:LEU:CD2	2.15	0.76
1:B:373:THR:HG22	1:B:374:HIS:ND1	2.00	0.76
1:C:153:SER:HB3	1:C:364:GLN:NE2	2.00	0.76
1:A:126:MET:HE3	1:A:150:ARG:CB	2.11	0.76
1:A:211:ALA:HB2	1:A:234:PHE:O	1.85	0.76
1:D:183:VAL:HG11	1:D:431:TYR:CD1	2.19	0.76
1:B:157:THR:HB	2:B:502:NAD:C3D	2.16	0.76
1:A:199:ILE:HD11	1:A:231:LEU:CD2	2.14	0.76
1:C:91:ILE:HG22	1:C:98:VAL:CG2	2.16	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:152:ILE:HB	1:D:176:ALA:CB	2.16	0.76
1:A:369:ILE:O	1:A:373:THR:HB	1.86	0.75
1:B:91:ILE:HG22	1:B:98:VAL:HG21	1.67	0.75
1:C:428:HIS:HE1	1:D:164:TYR:CE1	2.03	0.75
1:A:343:LEU:HD23	1:A:346:LEU:HD12	1.67	0.75
1:B:190:ASN:ND2	2:B:502:NAD:H5N	2.02	0.75
1:C:202:ILE:O	1:C:206:THR:OG1	2.04	0.75
1:D:160:VAL:HG21	1:D:178:ASN:OD1	1.86	0.75
1:A:237:ARG:NH2	1:A:267:GLU:OE2	2.18	0.75
1:A:430:ARG:NH1	1:B:187:LYS:HE3	2.02	0.75
1:A:419:PRO:CB	1:A:422:GLY:N	2.41	0.75
1:A:126:MET:HE2	1:A:151:GLY:N	2.02	0.75
1:A:275:THR:CG2	2:A:501:NAD:C5A	2.64	0.75
1:B:157:THR:OG1	2:B:502:NAD:H52N	1.86	0.75
1:C:164:TYR:CE1	1:D:428:HIS:HE1	2.05	0.75
1:B:81:PHE:O	1:B:102:LYS:HE3	1.87	0.75
1:B:407:LYS:HB2	1:B:407:LYS:NZ	1.99	0.75
1:C:275:THR:CG2	1:C:280:ILE:HD11	2.09	0.75
1:D:3:LYS:CE	1:D:115:GLN:OE1	2.34	0.75
1:D:7:LYS:HG2	1:D:101:TRP:CH2	2.22	0.75
1:D:162:ASN:O	1:D:166:MET:HG3	1.87	0.75
1:A:317:LYS:HD2	1:A:327:TYR:HE2	1.51	0.74
1:B:385:LEU:HG	1:B:386:PRO:HD2	1.69	0.74
1:D:53:LEU:HD11	1:D:155:GLU:CG	2.17	0.74
1:A:359:ASN:HD22	1:A:393:VAL:CG1	1.99	0.74
1:A:409:THR:H	1:A:412:GLN:HE21	1.34	0.74
1:B:74:ARG:HB3	1:B:116:THR:HB	1.68	0.74
1:B:223:VAL:HG12	1:B:274:THR:HB	1.70	0.74
1:B:408:LEU:O	1:B:420:ILE:HD12	1.86	0.74
1:A:373:THR:CG2	1:A:374:HIS:ND1	2.45	0.74
1:A:300:HIS:HB2	2:A:501:NAD:O2D	1.88	0.74
1:B:156:THR:O	1:B:160:VAL:HG23	1.88	0.74
1:A:153:SER:HB3	1:A:364:GLN:HE22	1.51	0.74
1:B:45:LYS:HD3	4:B:661:HOH:O	1.86	0.74
1:D:178:ASN:ND2	1:D:181:ASP:CB	2.24	0.74
1:D:379:PRO:HD2	1:D:383:HIS:NE2	2.03	0.74
1:A:186:SER:O	1:A:190:ASN:HB2	1.88	0.74
1:D:129:ASP:OD2	1:D:135:THR:CG2	2.36	0.74
1:B:302:ASP:O	1:B:302:ASP:OD1	2.05	0.74
1:B:409:THR:HG23	1:B:412:GLN:NE2	2.02	0.74
1:A:137:LEU:O	1:A:141:LYS:HB2	1.87	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:275:THR:HG22	1:B:276:GLY:N	2.02	0.73
1:D:317:LYS:CG	1:D:327:TYR:CE2	2.69	0.73
1:B:385:LEU:HD23	1:B:389:LEU:HB2	1.70	0.73
1:C:182:SER:O	1:C:185:LYS:N	2.21	0.73
1:D:223:VAL:CG1	1:D:274:THR:HB	2.18	0.73
1:D:425:LYS:HE3	1:D:426:PRO:CD	2.18	0.73
1:D:425:LYS:HE3	1:D:426:PRO:HD2	1.70	0.73
1:D:113:ILE:HG21	1:D:137:LEU:HD23	1.69	0.73
1:A:125:ASN:ND2	1:A:372:TRP:CH2	2.56	0.73
1:A:125:ASN:ND2	1:A:372:TRP:CZ3	2.57	0.73
1:C:169:ASN:HB2	1:C:171:ILE:HD12	1.70	0.73
1:A:353:PRO:HB2	1:C:209:MET:HB2	1.71	0.73
1:B:89:ALA:HB2	4:B:612:HOH:O	1.87	0.73
1:C:425:LYS:HZ2	1:C:426:PRO:CD	1.93	0.73
1:B:193:GLY:O	1:B:197:SER:OG	2.05	0.73
1:C:363:ASN:ND2	1:C:393:VAL:HG21	2.03	0.73
1:D:419:PRO:HB2	1:D:422:GLY:HA3	1.57	0.73
1:B:91:ILE:CG2	1:B:98:VAL:CG2	2.67	0.73
1:B:370:GLU:HB3	1:B:378:TYR:HE1	1.52	0.73
1:B:419:PRO:HB2	1:B:422:GLY:H	1.53	0.73
1:D:143:PRO:HA	1:D:146:LEU:HD22	1.70	0.73
1:C:174:VAL:HG23	1:C:175:PRO:HD2	1.71	0.73
1:D:300:HIS:HB2	2:D:504:NAD:O2D	1.89	0.73
1:C:275:THR:CG2	1:C:277:CYS:H	2.00	0.73
1:A:425:LYS:HD3	1:A:431:TYR:CZ	2.22	0.72
1:C:10:ASP:HB3	1:C:13:LEU:CD2	2.18	0.72
1:C:160:VAL:HG12	1:C:164:TYR:CE2	2.23	0.72
1:A:209:MET:HB2	1:C:353:PRO:HB2	1.69	0.72
1:C:181:ASP:OD2	1:D:428:HIS:HB3	1.90	0.72
1:A:169:ASN:HB2	1:A:171:ILE:CD1	2.17	0.72
1:A:419:PRO:HB2	1:A:422:GLY:HA3	1.66	0.72
1:C:387:LYS:O	1:C:391:GLU:HG2	1.88	0.72
1:D:81:PHE:CD2	1:D:342:ARG:HD2	2.23	0.72
1:C:298:ILE:O	1:C:299:GLY:O	2.07	0.72
1:D:107:GLU:H	1:D:107:GLU:CD	1.90	0.72
1:D:320:ILE:N	1:D:320:ILE:CD1	2.52	0.72
1:A:127:ILE:HG12	1:A:134:LEU:CD1	2.19	0.72
1:A:275:THR:HG21	2:A:501:NAD:C5A	2.20	0.72
1:C:79:ASN:HB3	1:C:82:SER:HB3	1.71	0.72
1:C:164:TYR:OH	1:D:428:HIS:CE1	2.43	0.72
1:B:184:THR:HA	1:B:188:PHE:CD1	2.24	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:156:THR:HG21	1:D:300:HIS:ND1	2.05	0.72
1:D:232:ARG:HG3	1:D:256:TYR:HE1	1.52	0.72
1:C:221:GLY:O	1:C:225:LYS:CG	2.38	0.72
1:D:27:GLU:O	1:D:29:PRO:HD3	1.89	0.72
1:D:169:ASN:CB	1:D:171:ILE:HD12	2.14	0.72
1:B:153:SER:HB3	1:B:364:GLN:HE22	1.54	0.71
1:D:48:ARG:HD3	1:D:121:ASP:OD2	1.88	0.71
1:D:93:LYS:C	1:D:95:GLY:H	1.94	0.71
1:B:125:ASN:HA	1:B:148:GLY:O	1.90	0.71
1:C:279:ASP:HB3	1:C:282:LEU:HD11	1.71	0.71
1:C:418:MET:SD	1:C:424:PHE:HB2	2.29	0.71
1:C:430:ARG:CZ	1:C:430:ARG:HB2	2.18	0.71
1:C:431:TYR:HE2	1:D:247:ASN:ND2	1.88	0.71
1:D:418:MET:CG	1:D:424:PHE:HD1	2.01	0.71
1:B:21:LEU:O	1:B:25:GLU:HG3	1.91	0.71
1:C:425:LYS:HA	1:C:425:LYS:HE3	1.73	0.71
1:A:320:ILE:HD12	1:C:19:LYS:HD2	1.72	0.71
1:A:28:MET:HB3	1:A:358:SER:HB2	1.70	0.71
1:A:160:VAL:HG11	1:A:178:ASN:CG	2.11	0.71
1:C:334:ARG:HD3	1:C:334:ARG:N	2.05	0.71
1:D:418:MET:HB2	1:D:419:PRO:HD2	1.71	0.71
1:B:118:HIS:NE2	4:B:692:HOH:O	2.23	0.71
1:C:81:PHE:O	1:C:102:LYS:HE3	1.90	0.70
1:C:225:LYS:NZ	1:C:250:GLN:HE22	1.89	0.70
1:A:128:LEU:HD21	1:A:364:GLN:HG2	1.73	0.70
1:A:419:PRO:HD2	1:A:423:PRO:O	1.91	0.70
1:A:430:ARG:CA	1:B:430:ARG:HG2	2.20	0.70
1:B:81:PHE:CE2	1:B:342:ARG:HD2	2.26	0.70
1:C:419:PRO:CB	1:C:422:GLY:H	2.00	0.70
1:A:200:ASP:O	1:A:204:ARG:HG3	1.91	0.70
1:C:430:ARG:HH11	1:D:187:LYS:HE3	1.56	0.70
1:D:295:VAL:HG12	1:D:305:ILE:HD13	1.71	0.70
1:A:74:ARG:NH1	1:A:115:GLN:O	2.24	0.70
1:B:39:SER:O	1:B:42:LYS:HG2	1.91	0.70
1:B:278:VAL:HG12	1:B:303:VAL:CB	2.12	0.70
1:B:419:PRO:CB	1:B:422:GLY:HA3	2.22	0.70
1:D:374:HIS:N	1:D:375:PRO:CD	2.55	0.70
1:C:45:LYS:HD3	1:C:45:LYS:C	2.12	0.70
1:C:126:MET:CE	1:C:151:GLY:N	2.55	0.70
1:B:150:ARG:HD2	1:B:372:TRP:HA	1.74	0.70
1:C:25:GLU:HG2	1:C:32:MET:SD	2.31	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:398:LEU:CD2	1:B:405:LEU:HD13	2.22	0.70
1:B:81:PHE:HE2	1:B:342:ARG:HD2	1.56	0.70
1:C:425:LYS:CA	1:C:425:LYS:HE3	2.21	0.70
1:D:80:ILE:HG13	1:D:81:PHE:CE1	2.27	0.70
1:D:282:LEU:HD23	1:D:284:ARG:NH2	2.07	0.70
1:C:16:TRP:O	1:C:16:TRP:CD1	2.44	0.69
1:D:81:PHE:CD2	1:D:342:ARG:CD	2.74	0.69
1:D:419:PRO:CB	1:D:422:GLY:H	2.02	0.69
1:A:3:LYS:CE	1:A:74:ARG:HH12	2.05	0.69
1:A:56:THR:HB	1:A:84:GLN:CD	2.11	0.69
1:A:126:MET:HE1	1:A:151:GLY:N	2.07	0.69
1:D:169:ASN:CB	1:D:171:ILE:CD1	2.60	0.69
1:D:379:PRO:O	1:D:380:VAL:C	2.30	0.69
1:D:194:CYS:SG	1:D:223:VAL:HG22	2.31	0.69
1:A:408:LEU:O	1:A:420:ILE:CD1	2.40	0.69
1:B:273:THR:OG1	1:B:297:ASN:HB2	1.93	0.69
1:C:130:ASP:OD1	1:C:156:THR:HG22	1.93	0.69
1:C:291:ASP:OD2	1:C:334:ARG:NH2	2.24	0.69
1:B:214:VAL:H	1:B:269:ASN:HD22	1.39	0.69
1:C:117:LEU:HD22	1:C:138:ILE:HD11	1.75	0.69
1:D:99:PHE:O	1:D:100:ALA:HB2	1.91	0.69
1:D:425:LYS:HA	1:D:425:LYS:CE	2.15	0.69
1:C:5:PRO:O	1:C:6:TYR:HB3	1.92	0.69
1:B:128:LEU:HD11	1:B:364:GLN:HG3	1.75	0.69
1:B:178:ASN:HD21	1:B:181:ASP:CG	1.96	0.69
1:C:225:LYS:HZ3	1:C:250:GLN:NE2	1.90	0.69
1:C:277:CYS:HB3	1:D:416:LEU:CD2	2.21	0.69
1:D:214:VAL:N	1:D:269:ASN:HD22	1.90	0.69
1:B:210:ILE:HG21	1:B:234:PHE:CB	2.23	0.69
1:B:378:TYR:HB2	4:B:647:HOH:O	1.92	0.69
1:B:408:LEU:HD21	1:B:416:LEU:HD12	1.74	0.69
1:B:186:SER:O	1:B:190:ASN:HB2	1.93	0.69
1:A:7:LYS:CG	1:A:101:TRP:CZ3	2.75	0.68
1:C:128:LEU:HD21	1:C:364:GLN:HG2	1.75	0.68
1:A:295:VAL:HG12	1:A:305:ILE:HD13	1.75	0.68
1:C:28:MET:O	1:C:32:MET:HG2	1.91	0.68
1:A:199:ILE:HG21	1:A:234:PHE:HE2	1.58	0.68
1:B:385:LEU:CD2	1:B:389:LEU:HB2	2.21	0.68
1:C:48:ARG:HD3	1:C:121:ASP:CG	2.14	0.68
1:D:279:ASP:HB3	1:D:282:LEU:CD1	2.21	0.68
1:B:8:VAL:O	4:B:634:HOH:O	2.10	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:291:ASP:CG	1:B:334:ARG:HH21	1.96	0.68
1:D:300:HIS:O	1:D:343:LEU:CD1	2.41	0.68
1:A:126:MET:CE	1:A:150:ARG:CB	2.69	0.68
1:A:158:THR:HG21	1:A:301:PHE:CE2	2.29	0.68
1:C:39:SER:O	1:C:42:LYS:NZ	2.25	0.68
1:D:419:PRO:CB	1:D:422:GLY:N	2.54	0.68
1:C:177:ILE:CD1	1:C:371:LEU:HD21	2.24	0.68
1:C:273:THR:HG22	1:C:280:ILE:HG21	1.73	0.68
1:A:91:ILE:HG21	1:A:98:VAL:CG2	2.22	0.68
1:A:126:MET:HE2	1:A:151:GLY:H	1.57	0.68
1:A:425:LYS:HE2	1:A:429:TYR:CG	2.29	0.68
1:B:208:VAL:HG22	1:B:209:MET:H	1.56	0.68
1:D:74:ARG:HB3	1:D:116:THR:HB	1.76	0.68
1:A:393:VAL:O	1:A:397:HIS:ND1	2.27	0.68
1:C:79:ASN:CB	1:C:82:SER:HB3	2.24	0.68
1:C:137:LEU:CD1	1:C:141:LYS:HB2	2.24	0.68
1:C:312:GLU:CG	1:C:313:ASN:ND2	2.56	0.68
1:C:337:LEU:HD22	1:C:338:LEU:N	2.09	0.68
1:A:225:LYS:HZ2	1:A:250:GLN:NE2	1.86	0.68
1:B:345:ASN:O	1:B:349:ALA:HB3	1.93	0.68
1:C:200:ASP:O	1:C:204:ARG:HG3	1.94	0.68
1:A:55:MET:CE	1:A:59:THR:HG22	2.23	0.67
1:A:153:SER:CB	1:A:364:GLN:NE2	2.57	0.67
1:A:430:ARG:HH12	1:B:187:LYS:CE	2.07	0.67
1:B:6:TYR:CD1	1:B:6:TYR:C	2.66	0.67
1:B:369:ILE:O	1:B:373:THR:HB	1.94	0.67
1:C:94:ALA:HB3	1:C:96:ILE:CD1	2.23	0.67
1:C:382:VAL:HG22	1:C:382:VAL:O	1.93	0.67
1:A:3:LYS:HE2	1:A:74:ARG:NH1	2.09	0.67
1:B:372:TRP:CG	1:B:372:TRP:O	2.47	0.67
1:D:63:ILE:CD1	1:D:75:TRP:CD2	2.78	0.67
1:A:5:PRO:O	1:A:6:TYR:HB3	1.93	0.67
1:B:91:ILE:HG22	1:B:98:VAL:HG22	1.77	0.67
1:C:275:THR:O	1:C:304:GLU:OE2	2.12	0.67
1:B:157:THR:HG21	2:B:502:NAD:O1A	1.94	0.67
1:D:292:ASP:CG	1:D:326:ARG:HH21	1.98	0.67
1:C:137:LEU:HD11	1:C:142:HIS:CD2	2.29	0.67
1:D:158:THR:CG2	1:D:301:PHE:HE2	2.00	0.67
1:D:200:ASP:O	1:D:204:ARG:HG3	1.95	0.67
1:A:137:LEU:HD11	1:A:142:HIS:NE2	2.10	0.67
1:C:223:VAL:HG12	1:C:274:THR:HB	1.76	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:374:HIS:O	1:B:377:LYS:HB2	1.95	0.67
1:D:180:ASN:HA	1:D:185:LYS:HD2	1.76	0.67
1:D:150:ARG:HD2	1:D:372:TRP:HA	1.76	0.67
1:D:156:THR:HG21	1:D:300:HIS:HD1	1.57	0.67
1:A:361:PHE:O	1:A:365:VAL:HG23	1.95	0.66
1:B:169:ASN:HB3	1:B:171:ILE:CD1	2.25	0.66
1:A:24:ALA:O	1:A:27:GLU:N	2.23	0.66
1:B:169:ASN:HB3	1:B:171:ILE:HD12	1.77	0.66
1:B:385:LEU:HD21	1:B:389:LEU:CB	2.25	0.66
1:D:199:ILE:HD12	1:D:234:PHE:CD2	2.31	0.66
1:A:317:LYS:CG	1:A:327:TYR:CE2	2.77	0.66
1:C:225:LYS:NZ	1:C:250:GLN:NE2	2.43	0.66
1:A:430:ARG:NH1	1:B:187:LYS:CE	2.58	0.66
1:C:419:PRO:HG2	1:C:422:GLY:CA	2.23	0.66
1:C:430:ARG:HG2	1:D:430:ARG:CA	2.24	0.66
1:A:51:GLY:HA2	1:A:128:LEU:O	1.95	0.66
1:C:406:THR:CG2	1:C:407:LYS:N	2.57	0.66
1:B:119:PHE:N	1:B:119:PHE:CD1	2.63	0.66
1:B:326:ARG:HD2	1:D:23:ILE:HD13	1.77	0.66
1:D:137:LEU:O	1:D:141:LYS:HB2	1.96	0.66
1:D:419:PRO:CD	1:D:423:PRO:O	2.43	0.66
1:A:163:LEU:HD11	1:A:176:ALA:CB	2.25	0.66
1:C:430:ARG:O	1:D:430:ARG:HB3	1.95	0.66
1:D:75:TRP:O	1:D:116:THR:CG2	2.43	0.66
1:C:283:GLY:HA2	1:C:286:PHE:HD2	1.59	0.66
1:C:428:HIS:CE1	1:D:164:TYR:CE1	2.82	0.66
1:A:409:THR:N	1:A:412:GLN:HE21	1.93	0.66
1:A:129:ASP:OD2	1:A:135:THR:HG23	1.96	0.65
1:A:429:TYR:CD2	1:A:431:TYR:CZ	2.84	0.65
1:B:126:MET:HE1	1:B:151:GLY:CA	2.26	0.65
1:D:387:LYS:NZ	1:D:426:PRO:O	2.29	0.65
1:C:126:MET:CE	1:C:150:ARG:CB	2.73	0.65
1:C:185:LYS:C	1:C:185:LYS:HD3	2.16	0.65
1:D:6:TYR:HE1	1:D:8:VAL:HG22	1.62	0.65
1:D:79:ASN:HB3	1:D:82:SER:HB3	1.76	0.65
1:A:387:LYS:O	1:A:391:GLU:HG2	1.97	0.65
1:C:146:LEU:HG	1:C:173:LYS:HB2	1.79	0.65
1:D:126:MET:CE	1:D:150:ARG:HB3	2.22	0.65
1:A:277:CYS:HB2	1:B:416:LEU:HD21	1.76	0.65
1:B:286:PHE:CD2	1:B:310:LEU:HD21	2.31	0.65
1:A:320:ILE:HD13	1:A:320:ILE:N	2.12	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:425:LYS:HA	1:B:425:LYS:NZ	2.11	0.65
1:C:415:TYR:CG	1:D:278:VAL:HG22	2.32	0.65
1:C:430:ARG:NH1	1:C:430:ARG:CB	2.60	0.65
1:A:278:VAL:HG12	1:A:303:VAL:HB	1.78	0.65
1:D:35:ARG:O	1:D:39:SER:OG	2.12	0.65
1:D:189:ASP:O	1:D:352:HIS:CE1	2.49	0.65
1:B:119:PHE:N	1:B:119:PHE:HD1	1.95	0.65
1:C:126:MET:HE1	1:C:151:GLY:N	2.12	0.65
1:C:259:THR:HA	1:D:404:LYS:HB2	1.78	0.65
1:D:91:ILE:HG22	1:D:98:VAL:CG2	2.27	0.65
1:D:124:LEU:HD21	1:D:149:ILE:HD11	1.77	0.65
1:A:429:TYR:HD2	1:A:431:TYR:CZ	2.15	0.65
1:C:91:ILE:HG23	1:C:96:ILE:HB	1.79	0.65
1:C:110:LEU:CD1	1:C:110:LEU:C	2.65	0.65
1:D:46:GLY:O	1:D:372:TRP:HZ2	1.79	0.65
1:D:425:LYS:HE3	1:D:425:LYS:CA	2.23	0.65
1:A:110:LEU:O	1:A:110:LEU:CD1	2.44	0.64
1:A:140:THR:OG1	1:A:141:LYS:CD	2.44	0.64
1:B:158:THR:HG22	1:B:159:GLY:N	2.10	0.64
1:C:169:ASN:HB2	1:C:171:ILE:CD1	2.27	0.64
1:B:3:LYS:HG2	1:B:4:LEU:H	1.62	0.64
1:B:273:THR:O	1:B:298:ILE:HG22	1.97	0.64
1:C:431:TYR:HE2	1:D:247:ASN:HD21	1.43	0.64
1:D:28:MET:O	1:D:32:MET:HG2	1.97	0.64
1:D:7:LYS:N	1:D:98:VAL:O	2.29	0.64
1:B:178:ASN:HD21	1:B:181:ASP:HB2	1.62	0.64
1:C:214:VAL:N	1:C:269:ASN:HD22	1.93	0.64
1:A:215:ALA:HB1	1:A:231:LEU:HD13	1.80	0.64
1:B:385:LEU:HD21	1:B:389:LEU:HB3	1.79	0.64
1:C:59:THR:O	1:C:63:ILE:HG13	1.98	0.64
1:C:379:PRO:O	1:C:383:HIS:CE1	2.51	0.64
1:A:275:THR:CG2	2:A:501:NAD:C4A	2.76	0.64
1:A:430:ARG:HH12	1:B:187:LYS:HE2	1.61	0.64
1:B:379:PRO:HD2	1:B:383:HIS:NE2	2.12	0.64
1:C:24:ALA:O	1:C:28:MET:HG3	1.98	0.64
1:C:137:LEU:HD12	1:C:141:LYS:HB2	1.79	0.64
1:B:7:LYS:HG2	1:B:101:TRP:CZ3	2.33	0.64
1:B:178:ASN:HD21	1:B:181:ASP:CB	2.10	0.64
1:C:186:SER:O	1:C:190:ASN:HB2	1.98	0.64
2:D:504:NAD:C4N	3:D:604:ADN:H3'	2.28	0.64
1:B:358:SER:HG	1:B:397:HIS:HE2	1.46	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:199:ILE:HD12	1:D:234:PHE:HE2	1.63	0.64
1:A:110:LEU:O	1:A:114:GLU:HG2	1.97	0.64
1:C:134:LEU:HD22	1:C:138:ILE:HD12	1.78	0.64
1:D:63:ILE:HD11	1:D:75:TRP:CG	2.32	0.64
1:B:129:ASP:HB3	1:B:154:GLU:OE2	1.97	0.63
1:B:143:PRO:HA	1:B:146:LEU:HD22	1.79	0.63
1:C:410:GLU:OE2	1:C:414:GLN:OE1	2.14	0.63
1:C:425:LYS:CE	1:C:426:PRO:CD	2.75	0.63
1:A:142:HIS:HA	1:A:144:GLN:OE1	1.98	0.63
1:C:55:MET:HE2	1:C:59:THR:HB	1.80	0.63
1:A:196:GLU:HB3	1:C:203:LYS:NZ	2.13	0.63
1:C:177:ILE:CD1	1:C:371:LEU:CD2	2.75	0.63
1:D:430:ARG:O	1:D:431:TYR:HB2	1.96	0.63
1:A:184:THR:HA	1:A:188:PHE:CD1	2.34	0.63
1:C:169:ASN:O	1:C:171:ILE:HG13	1.98	0.63
1:D:48:ARG:HH11	1:D:48:ARG:HG3	1.62	0.63
1:D:169:ASN:HD22	1:D:171:ILE:HD13	1.63	0.63
1:D:373:THR:CG2	1:D:373:THR:O	2.46	0.63
1:A:379:PRO:HD2	1:A:383:HIS:NE2	2.13	0.63
1:B:317:LYS:HG2	1:B:317:LYS:O	1.98	0.63
1:C:183:VAL:C	1:C:185:LYS:H	2.02	0.63
1:A:27:GLU:C	1:A:29:PRO:HD3	2.20	0.63
1:A:49:ILE:HD13	1:A:66:LEU:HD13	1.80	0.63
1:A:164:TYR:CE1	1:A:382:VAL:HG21	2.34	0.63
1:B:308:LYS:H	1:B:308:LYS:CD	2.12	0.63
1:B:425:LYS:HA	1:B:425:LYS:CE	2.29	0.63
1:C:39:SER:O	1:C:42:LYS:HG2	1.99	0.63
1:C:179:VAL:O	1:C:182:SER:HB2	1.99	0.63
1:B:91:ILE:HG23	1:B:96:ILE:HB	1.81	0.63
1:B:398:LEU:HD21	1:B:405:LEU:HD13	1.81	0.63
1:C:361:PHE:O	1:C:365:VAL:HG23	1.99	0.63
1:D:169:ASN:CB	1:D:171:ILE:HD11	2.24	0.63
1:A:358:SER:O	1:A:362:THR:OG1	2.10	0.62
1:B:318:VAL:CG1	1:D:19:LYS:HE2	2.29	0.62
1:C:164:TYR:HH	1:D:428:HIS:CE1	2.17	0.62
1:C:198:LEU:C	1:C:198:LEU:HD12	2.19	0.62
1:C:275:THR:HG22	1:C:277:CYS:N	2.10	0.62
1:B:278:VAL:HG12	1:B:303:VAL:O	1.99	0.62
1:A:111:TRP:HA	1:A:114:GLU:HG3	1.81	0.62
1:A:246:ILE:O	1:A:250:GLN:HG3	1.98	0.62
1:A:420:ILE:O	1:A:420:ILE:HG13	1.90	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:129:ASP:OD2	1:B:135:THR:CG2	2.47	0.62
1:C:398:LEU:HG	1:C:403:VAL:CG1	2.29	0.62
1:D:320:ILE:CD1	1:D:320:ILE:H	2.12	0.62
1:A:189:ASP:OD2	1:A:357:MET:HE1	1.99	0.62
1:B:223:VAL:CG1	1:B:274:THR:HB	2.29	0.62
1:B:263:GLU:O	1:B:266:LYS:HG3	1.99	0.62
1:C:312:GLU:HG2	1:C:313:ASN:HD22	1.59	0.62
1:D:58:GLU:O	1:D:361:PHE:HE2	1.81	0.62
1:A:107:GLU:H	1:A:107:GLU:CD	2.03	0.62
1:A:169:ASN:CB	1:A:171:ILE:HD12	2.22	0.62
1:A:430:ARG:O	1:B:430:ARG:HB3	1.99	0.62
1:C:171:ILE:HG23	4:C:714:HOH:O	1.98	0.62
1:D:183:VAL:CG1	1:D:431:TYR:CD1	2.82	0.62
1:A:7:LYS:HG2	1:A:101:TRP:CH2	2.35	0.62
1:C:160:VAL:CG1	1:C:164:TYR:CE2	2.83	0.62
1:D:321:LYS:HE3	1:D:324:VAL:HG21	1.81	0.62
1:A:275:THR:HG23	2:A:501:NAD:N9A	2.15	0.62
1:A:317:LYS:CD	1:A:327:TYR:CE2	2.83	0.62
1:A:425:LYS:HZ2	1:A:426:PRO:CD	2.13	0.62
1:B:16:TRP:CD1	1:B:16:TRP:O	2.52	0.62
1:B:53:LEU:HG	1:B:130:ASP:CB	2.29	0.62
1:C:395:GLU:OE2	1:C:395:GLU:C	2.37	0.62
1:B:300:HIS:HA	1:B:343:LEU:HD11	1.82	0.62
1:C:55:MET:H	1:C:77:SER:HB2	1.64	0.62
1:C:91:ILE:HG22	1:C:98:VAL:HG21	1.80	0.62
1:D:48:ARG:HD3	1:D:121:ASP:CG	2.20	0.62
1:B:179:VAL:O	1:B:182:SER:HB2	2.00	0.62
1:C:5:PRO:O	1:C:97:PRO:HB3	2.00	0.62
1:A:425:LYS:HE2	1:A:429:TYR:CD1	2.34	0.61
1:D:211:ALA:HB2	1:D:234:PHE:O	2.00	0.61
1:B:34:MET:O	1:B:69:LEU:HD11	2.00	0.61
1:B:91:ILE:CG2	1:B:98:VAL:HG22	2.29	0.61
1:C:81:PHE:CE2	1:C:342:ARG:HD2	2.35	0.61
1:C:174:VAL:HG23	1:C:175:PRO:CD	2.30	0.61
1:D:126:MET:HE1	1:D:151:GLY:N	2.16	0.61
1:A:189:ASP:OD1	1:A:352:HIS:CE1	2.53	0.61
1:A:408:LEU:HA	1:A:412:GLN:NE2	2.15	0.61
1:C:225:LYS:HZ3	1:C:250:GLN:HE22	1.47	0.61
1:D:57:VAL:H	1:D:84:GLN:NE2	1.98	0.61
1:A:425:LYS:CA	1:A:425:LYS:CE	2.78	0.61
1:B:198:LEU:HD11	1:B:202:ILE:HD11	1.82	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:119:PHE:N	1:D:119:PHE:CD1	2.69	0.61
1:A:199:ILE:HG21	1:A:234:PHE:CE2	2.35	0.61
1:B:419:PRO:HB2	1:B:422:GLY:N	2.15	0.61
1:C:180:ASN:HA	1:C:185:LYS:HD2	1.81	0.61
1:D:60:ALA:CB	1:D:91:ILE:HD11	2.26	0.61
2:A:501:NAD:C4N	3:A:601:ADN:H3'	2.30	0.61
1:B:210:ILE:HG21	1:B:234:PHE:HB2	1.83	0.61
1:B:130:ASP:OD2	1:B:155:GLU:HB3	2.00	0.61
1:B:208:VAL:CG2	1:B:209:MET:N	2.64	0.61
1:C:400:LYS:HG3	1:C:400:LYS:O	1.99	0.61
1:D:74:ARG:CD	1:D:116:THR:HA	2.30	0.61
1:D:113:ILE:CG2	1:D:137:LEU:HD23	2.30	0.61
1:D:137:LEU:HD13	1:D:141:LYS:HD3	1.83	0.61
1:A:150:ARG:HD2	1:A:372:TRP:HA	1.81	0.60
1:B:315:VAL:N	1:B:328:LEU:O	2.34	0.60
1:D:373:THR:C	1:D:374:HIS:ND1	2.54	0.60
1:B:101:TRP:O	1:B:104:GLU:HG2	2.02	0.60
1:B:275:THR:CG2	1:B:276:GLY:N	2.64	0.60
1:B:57:VAL:H	1:B:84:GLN:NE2	1.99	0.60
1:B:292:ASP:CG	1:B:326:ARG:HH21	2.03	0.60
1:B:210:ILE:CG2	1:B:234:PHE:HB3	2.32	0.60
1:C:14:ALA:HB2	1:C:89:ALA:O	2.02	0.60
1:D:317:LYS:HB2	1:D:327:TYR:CE2	2.37	0.60
1:A:109:TYR:OH	1:A:133:ASP:OD2	2.16	0.60
1:A:245:PRO:HD3	1:B:405:LEU:HD21	1.82	0.60
1:B:273:THR:OG1	1:B:297:ASN:CB	2.49	0.60
1:B:329:LEU:N	1:B:329:LEU:HD23	2.16	0.60
1:C:277:CYS:HB3	1:D:416:LEU:CG	2.32	0.60
1:C:419:PRO:CG	1:C:422:GLY:CA	2.79	0.60
1:A:164:TYR:CE1	1:A:382:VAL:CG2	2.84	0.60
1:C:79:ASN:HB3	1:C:82:SER:CB	2.30	0.60
1:C:126:MET:HE2	1:C:150:ARG:HB3	1.80	0.60
1:C:358:SER:HG	1:C:397:HIS:HE2	1.50	0.60
1:A:44:LEU:HB3	1:A:71:ALA:HB2	1.83	0.60
1:B:60:ALA:O	1:B:64:GLU:HG3	2.00	0.60
1:D:6:TYR:HB2	1:D:98:VAL:H	1.65	0.60
1:B:109:TYR:OH	1:B:133:ASP:OD2	2.14	0.60
1:C:398:LEU:HG	1:C:403:VAL:HG11	1.83	0.60
1:D:408:LEU:O	1:D:420:ILE:HD13	1.98	0.60
1:B:152:ILE:HB	1:B:176:ALA:HB2	1.84	0.60
1:C:137:LEU:C	1:C:137:LEU:CD1	2.51	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:141:LYS:C	1:A:143:PRO:HD3	2.22	0.60
1:A:430:ARG:HB3	1:B:430:ARG:O	2.01	0.60
1:B:5:PRO:O	1:B:6:TYR:HB3	2.01	0.60
1:B:177:ILE:HG13	1:B:371:LEU:CD2	2.20	0.60
1:B:223:VAL:HG23	2:B:502:NAD:O2N	2.02	0.60
1:C:47:ALA:HA	1:C:125:ASN:HD21	1.67	0.60
1:C:125:ASN:HA	1:C:148:GLY:O	2.02	0.60
1:C:126:MET:HE2	1:C:151:GLY:N	2.16	0.60
1:C:128:LEU:HD21	1:C:364:GLN:CG	2.31	0.60
1:A:223:VAL:CG1	1:A:274:THR:HB	2.32	0.59
1:C:145:LEU:N	1:C:145:LEU:HD23	2.17	0.59
1:B:171:ILE:O	1:B:171:ILE:HG22	2.02	0.59
1:C:140:THR:OG1	1:C:141:LYS:HD2	2.01	0.59
1:C:237:ARG:NH2	1:C:267:GLU:OE2	2.35	0.59
1:D:337:LEU:CD1	1:D:340:GLU:HA	2.30	0.59
1:B:385:LEU:CD2	1:B:389:LEU:CB	2.80	0.59
1:A:91:ILE:HG21	1:A:98:VAL:HG22	1.80	0.59
1:A:374:HIS:N	1:A:375:PRO:CD	2.64	0.59
1:C:144:GLN:C	1:C:145:LEU:HD23	2.23	0.59
1:D:6:TYR:CE1	1:D:8:VAL:HG22	2.37	0.59
1:D:121:ASP:OD1	1:D:121:ASP:N	2.35	0.59
1:C:223:VAL:CG1	1:C:274:THR:HB	2.33	0.59
1:C:339:ALA:O	1:C:342:ARG:HG3	2.01	0.59
1:B:374:HIS:N	1:B:375:PRO:CD	2.66	0.59
1:D:81:PHE:CD2	1:D:342:ARG:HD3	2.38	0.59
1:A:425:LYS:NZ	1:A:425:LYS:CA	2.44	0.59
1:B:418:MET:HB2	1:B:424:PHE:HD1	1.68	0.59
1:A:386:PRO:HB2	1:A:389:LEU:HG	1.85	0.59
1:C:139:HIS:ND1	1:C:146:LEU:HD11	2.17	0.59
1:C:239:ILE:HG23	1:C:257:GLU:HG2	1.83	0.59
1:A:54:HIS:CE1	1:A:78:CYS:SG	2.96	0.59
1:A:127:ILE:HD11	1:A:138:ILE:HD13	1.83	0.59
1:A:394:ALA:O	1:A:398:LEU:HD13	2.02	0.59
1:B:157:THR:HB	2:B:502:NAD:H52N	1.82	0.59
1:B:309:TRP:CZ3	1:B:310:LEU:HD23	2.38	0.59
1:A:374:HIS:ND1	1:A:374:HIS:N	2.50	0.59
1:B:203:LYS:O	1:B:207:ASP:N	2.36	0.59
1:B:210:ILE:HG21	1:B:234:PHE:HB3	1.85	0.59
1:C:398:LEU:HD21	1:D:245:PRO:HA	1.85	0.59
1:D:93:LYS:C	1:D:95:GLY:N	2.56	0.59
1:D:406:THR:HG22	1:D:407:LYS:N	2.17	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:198:LEU:CD2	1:A:227:CYS:SG	2.91	0.58
1:A:199:ILE:CD1	1:A:231:LEU:CD2	2.79	0.58
1:A:244:GLU:OE2	1:B:425:LYS:HD2	2.03	0.58
1:A:356:VAL:HB	1:C:209:MET:SD	2.43	0.58
1:B:91:ILE:CG2	1:B:98:VAL:HG21	2.31	0.58
1:D:47:ALA:O	1:D:72:GLU:HB2	2.03	0.58
1:A:320:ILE:HG13	1:C:23:ILE:HD11	1.84	0.58
1:B:58:GLU:O	1:B:361:PHE:HE2	1.86	0.58
1:B:169:ASN:CB	1:B:171:ILE:CD1	2.80	0.58
1:B:209:MET:SD	1:D:353:PRO:HG2	2.43	0.58
1:C:277:CYS:CB	1:D:416:LEU:HG	2.33	0.58
1:D:322:PRO:O	1:D:323:GLN:HB2	2.03	0.58
1:D:328:LEU:HD22	4:D:675:HOH:O	2.03	0.58
1:A:189:ASP:OD1	1:A:352:HIS:HE1	1.86	0.58
1:B:418:MET:SD	1:B:424:PHE:HB3	2.43	0.58
1:D:48:ARG:HG3	1:D:48:ARG:NH1	2.17	0.58
1:D:48:ARG:HD2	1:D:119:PHE:HB2	1.85	0.58
1:D:119:PHE:N	1:D:119:PHE:HD1	2.01	0.58
1:D:306:ASP:OD1	1:D:308:LYS:HD2	2.03	0.58
1:A:157:THR:OG1	2:A:501:NAD:H52N	2.03	0.58
1:A:297:ASN:HB3	1:A:341:GLY:O	2.03	0.58
1:B:419:PRO:HB2	1:B:422:GLY:HA3	1.85	0.58
1:C:363:ASN:HD21	1:C:393:VAL:HG21	1.67	0.58
1:D:198:LEU:HG	1:D:199:ILE:N	2.18	0.58
1:D:374:HIS:HD2	1:D:377:LYS:NZ	2.00	0.58
1:B:19:LYS:O	1:B:23:ILE:HG13	2.04	0.58
1:B:410:GLU:O	1:B:414:GLN:HG3	2.04	0.58
1:B:425:LYS:HA	1:B:425:LYS:HZ2	1.66	0.58
1:A:373:THR:C	1:A:375:PRO:HD2	2.23	0.58
1:B:125:ASN:ND2	1:B:372:TRP:CZ3	2.71	0.58
1:B:292:ASP:HA	1:B:334:ARG:O	2.04	0.58
1:D:33:ARG:HD2	1:D:37:MET:SD	2.44	0.58
1:D:419:PRO:HD3	1:D:423:PRO:O	2.02	0.58
1:A:53:LEU:HG	1:A:130:ASP:HB2	1.85	0.58
1:B:62:LEU:HB2	1:B:361:PHE:CD2	2.39	0.58
1:C:327:TYR:O	1:C:334:ARG:HA	2.04	0.58
1:D:345:ASN:O	1:D:349:ALA:HB3	2.04	0.58
1:B:306:ASP:OD2	1:B:309:TRP:HB2	2.03	0.58
1:C:142:HIS:HA	1:C:144:GLN:OE1	2.03	0.58
1:B:60:ALA:HB1	1:B:91:ILE:CD1	2.28	0.57
1:B:121:ASP:N	1:B:121:ASP:OD1	2.37	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:3:LYS:HE2	1:C:74:ARG:NH1	2.18	0.57
1:B:4:LEU:HD12	1:B:111:TRP:HZ2	1.69	0.57
1:B:48:ARG:HD2	1:B:119:PHE:CB	2.33	0.57
1:C:419:PRO:HD2	1:C:423:PRO:O	2.04	0.57
1:D:63:ILE:HD11	1:D:75:TRP:CE2	2.38	0.57
1:D:134:LEU:HD22	1:D:134:LEU:C	2.24	0.57
1:D:373:THR:O	1:D:374:HIS:ND1	2.37	0.57
1:A:164:TYR:CE1	1:A:382:VAL:HG11	2.39	0.57
1:C:176:ALA:O	1:C:382:VAL:HA	2.04	0.57
1:C:431:TYR:OXT	1:D:187:LYS:NZ	2.37	0.57
1:D:45:LYS:HD3	1:D:46:GLY:N	2.09	0.57
1:D:117:LEU:CD2	1:D:138:ILE:HD11	2.34	0.57
1:A:156:THR:OG1	2:A:501:NAD:H2D	2.04	0.57
1:A:162:ASN:O	1:A:166:MET:HG3	2.04	0.57
1:A:163:LEU:CD1	1:A:176:ALA:CB	2.82	0.57
1:B:181:ASP:CB	1:B:384:PHE:HE1	2.16	0.57
1:C:345:ASN:ND2	1:C:346:LEU:N	2.45	0.57
1:D:342:ARG:HG2	1:D:342:ARG:NH1	2.18	0.57
1:A:320:ILE:N	1:A:320:ILE:CD1	2.67	0.57
1:A:379:PRO:O	1:A:380:VAL:C	2.42	0.57
1:B:424:PHE:C	1:B:426:PRO:HD3	2.13	0.57
1:C:11:ILE:HA	1:C:89:ALA:HB1	1.87	0.57
1:C:183:VAL:O	1:C:185:LYS:N	2.38	0.57
1:C:353:PRO:O	1:C:356:VAL:HG12	2.05	0.57
1:C:424:PHE:O	1:C:426:PRO:CD	2.51	0.57
1:D:295:VAL:HG12	1:D:305:ILE:CD1	2.34	0.57
1:D:317:LYS:HB2	1:D:327:TYR:CD2	2.40	0.57
1:B:273:THR:OG1	1:B:297:ASN:CA	2.52	0.57
1:C:379:PRO:O	1:C:383:HIS:HE1	1.86	0.57
1:D:27:GLU:C	1:D:29:PRO:HD3	2.25	0.57
1:D:81:PHE:O	1:D:102:LYS:HE3	2.05	0.57
1:D:181:ASP:HB3	1:D:384:PHE:HE1	1.69	0.57
1:C:223:VAL:HG11	1:C:298:ILE:HG21	1.86	0.57
1:C:325:ASP:O	1:C:336:ILE:HA	2.05	0.57
1:D:91:ILE:N	1:D:91:ILE:CD1	2.68	0.57
1:B:79:ASN:HB3	1:B:82:SER:CB	2.35	0.57
1:B:393:VAL:O	1:B:397:HIS:ND1	2.37	0.57
1:C:140:THR:OG1	1:C:141:LYS:CD	2.53	0.57
1:D:300:HIS:C	1:D:343:LEU:HD11	2.25	0.57
1:A:163:LEU:CD1	1:A:176:ALA:HB3	2.35	0.57
1:B:201:GLY:HA2	1:B:349:ALA:HB2	1.86	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:425:LYS:HG2	1:B:431:TYR:OH	2.05	0.57
1:C:45:LYS:C	1:C:45:LYS:CD	2.74	0.57
1:D:220:TYR:CD2	1:D:225:LYS:HE3	2.39	0.57
1:A:164:TYR:CE1	1:A:382:VAL:CG1	2.88	0.56
1:C:182:SER:O	1:C:183:VAL:C	2.42	0.56
1:B:359:ASN:ND2	1:B:393:VAL:HG12	2.17	0.56
1:D:240:ILE:O	1:D:258:VAL:HA	2.05	0.56
1:A:17:GLY:O	1:A:21:LEU:HG	2.05	0.56
1:A:27:GLU:O	1:A:29:PRO:HD3	2.05	0.56
1:A:55:MET:HE3	1:A:59:THR:HG22	1.86	0.56
1:B:35:ARG:O	1:B:39:SER:OG	2.22	0.56
1:B:127:ILE:HG23	1:B:134:LEU:HD12	1.85	0.56
1:B:208:VAL:CG2	1:B:209:MET:H	2.18	0.56
1:C:55:MET:HG2	1:C:75:TRP:CD1	2.39	0.56
1:C:135:THR:HB	1:C:152:ILE:HD13	1.86	0.56
1:C:284:ARG:HG3	1:C:284:ARG:O	2.05	0.56
1:C:422:GLY:O	1:C:424:PHE:CE1	2.58	0.56
1:C:430:ARG:CZ	1:C:430:ARG:CB	2.84	0.56
1:D:91:ILE:HG22	1:D:98:VAL:HG22	1.87	0.56
1:D:363:ASN:HD21	1:D:393:VAL:HG21	1.71	0.56
1:A:292:ASP:CA	1:A:334:ARG:O	2.52	0.56
1:A:406:THR:CG2	1:A:407:LYS:N	2.68	0.56
1:D:74:ARG:HD3	1:D:116:THR:HA	1.87	0.56
1:A:179:VAL:O	1:A:182:SER:HB2	2.05	0.56
1:B:33:ARG:HH11	1:B:36:GLU:CD	2.09	0.56
1:B:181:ASP:HB3	1:B:384:PHE:HE1	1.70	0.56
1:C:275:THR:HB	1:C:304:GLU:OE1	2.04	0.56
1:D:189:ASP:O	1:D:352:HIS:HE1	1.89	0.56
1:D:373:THR:HG22	1:D:373:THR:O	2.04	0.56
1:D:373:THR:CG2	1:D:374:HIS:HE1	2.16	0.56
1:A:373:THR:HG21	1:A:374:HIS:CE1	2.21	0.56
1:B:184:THR:HA	1:B:188:PHE:CE1	2.41	0.56
1:D:6:TYR:HD1	1:D:8:VAL:HG13	1.71	0.56
1:D:149:ILE:CG2	1:D:174:VAL:HG21	2.36	0.56
1:B:398:LEU:HD23	1:B:405:LEU:HD13	1.88	0.56
1:C:74:ARG:HB3	1:C:116:THR:HB	1.86	0.56
1:C:141:LYS:HB3	4:C:626:HOH:O	2.06	0.56
1:C:374:HIS:HD2	1:C:377:LYS:NZ	2.04	0.56
1:B:27:GLU:C	1:B:29:PRO:HD3	2.25	0.56
1:B:193:GLY:HA3	1:B:352:HIS:ND1	2.21	0.56
1:C:156:THR:OG1	1:C:157:THR:N	2.39	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:223:VAL:CG1	1:C:298:ILE:HG21	2.36	0.56
1:D:215:ALA:HB1	1:D:231:LEU:HD13	1.87	0.56
1:A:121:ASP:OD1	1:A:121:ASP:N	2.26	0.56
1:A:235:GLY:O	1:D:255:GLY:HA2	2.05	0.56
1:D:101:TRP:CE2	1:D:104:GLU:HG2	2.41	0.56
1:A:164:TYR:HD1	1:A:382:VAL:HG11	1.63	0.56
1:A:387:LYS:HZ3	1:A:425:LYS:C	2.09	0.56
1:B:418:MET:HB3	1:B:424:PHE:HB3	1.87	0.56
1:C:161:HIS:CE1	1:C:165:LYS:CE	2.89	0.56
1:C:355:PHE:CZ	1:C:401:LEU:HD21	2.40	0.56
1:C:430:ARG:O	1:C:431:TYR:OXT	2.24	0.56
1:D:406:THR:CG2	1:D:407:LYS:N	2.69	0.56
1:C:60:ALA:O	1:C:64:GLU:HG3	2.06	0.55
1:C:160:VAL:O	1:C:164:TYR:CD2	2.59	0.55
1:C:262:ASP:OD1	1:C:284:ARG:NH1	2.39	0.55
1:A:198:LEU:HD22	1:A:227:CYS:SG	2.45	0.55
1:A:315:VAL:N	1:A:328:LEU:O	2.39	0.55
1:C:406:THR:HG23	1:C:407:LYS:N	2.22	0.55
1:A:419:PRO:HG2	1:A:422:GLY:N	2.15	0.55
1:C:418:MET:HB2	1:C:419:PRO:CD	2.36	0.55
1:D:155:GLU:OE2	1:D:364:GLN:OE1	2.24	0.55
1:A:403:VAL:HG13	1:B:258:VAL:HB	1.89	0.55
1:B:33:ARG:HH11	1:B:36:GLU:CG	2.19	0.55
1:D:58:GLU:O	1:D:361:PHE:CE2	2.59	0.55
1:B:48:ARG:HD3	1:B:121:ASP:OD1	2.06	0.55
1:B:197:SER:HB2	1:B:345:ASN:HB2	1.88	0.55
1:A:110:LEU:CD1	1:A:110:LEU:C	2.75	0.55
1:A:425:LYS:NZ	1:A:426:PRO:HD2	2.22	0.55
1:B:130:ASP:OD2	1:B:155:GLU:CB	2.55	0.55
1:B:419:PRO:CD	1:B:423:PRO:O	2.54	0.55
1:D:320:ILE:HD11	1:D:326:ARG:HB2	1.88	0.55
1:D:409:THR:H	1:D:412:GLN:HE21	1.54	0.55
1:A:327:TYR:O	1:A:334:ARG:HA	2.07	0.55
1:C:53:LEU:O	1:C:54:HIS:C	2.45	0.55
1:C:344:VAL:HG13	1:C:345:ASN:N	2.20	0.55
1:A:83:THR:HG21	1:A:101:TRP:HA	1.89	0.55
1:A:418:MET:HB2	1:A:419:PRO:HD2	1.88	0.55
1:B:372:TRP:O	1:B:372:TRP:CD1	2.60	0.55
1:A:143:PRO:HA	1:A:146:LEU:HD23	1.86	0.55
1:A:300:HIS:HA	1:A:343:LEU:CD1	2.33	0.55
1:B:74:ARG:HD2	1:B:116:THR:HA	1.89	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:425:LYS:HD3	1:C:431:TYR:OH	2.06	0.55
1:A:57:VAL:O	1:A:60:ALA:HB3	2.07	0.55
1:C:316:GLU:HG2	1:C:328:LEU:CB	2.34	0.55
1:C:317:LYS:HD2	1:C:327:TYR:CE2	2.42	0.55
1:D:382:VAL:O	1:D:382:VAL:HG22	2.07	0.55
1:A:416:LEU:HD21	1:B:277:CYS:HB3	1.88	0.54
1:C:81:PHE:HE2	1:C:342:ARG:HD2	1.72	0.54
1:C:273:THR:HG1	1:C:297:ASN:HB2	1.69	0.54
1:C:298:ILE:C	1:C:299:GLY:O	2.43	0.54
1:D:56:THR:HA	1:D:84:GLN:HB2	1.89	0.54
1:D:142:HIS:CA	1:D:144:GLN:OE1	2.55	0.54
1:D:364:GLN:HA	1:D:364:GLN:NE2	2.21	0.54
1:A:164:TYR:CZ	1:B:428:HIS:CE1	2.96	0.54
1:B:45:LYS:HD2	1:B:45:LYS:C	2.24	0.54
1:C:126:MET:HE3	1:C:150:ARG:CB	2.33	0.54
1:B:254:GLU:HB3	1:B:256:TYR:CD2	2.42	0.54
1:A:228:ALA:HB1	1:A:256:TYR:CZ	2.42	0.54
1:B:342:ARG:O	1:B:343:LEU:C	2.46	0.54
1:C:282:LEU:N	1:C:285:HIS:ND1	2.48	0.54
1:C:302:ASP:O	1:C:303:VAL:HG13	2.07	0.54
1:D:425:LYS:CE	1:D:426:PRO:HD2	2.35	0.54
1:A:74:ARG:HD2	1:A:116:THR:HA	1.88	0.54
1:B:10:ASP:HB3	1:B:13:LEU:HD22	1.89	0.54
1:B:292:ASP:OD1	1:B:336:ILE:CD1	2.56	0.54
1:B:317:LYS:HB2	1:B:327:TYR:CE2	2.42	0.54
1:B:353:PRO:HG2	1:D:209:MET:SD	2.47	0.54
1:D:143:PRO:CA	1:D:146:LEU:HD22	2.38	0.54
1:D:188:PHE:O	1:D:192:TYR:HB2	2.08	0.54
1:B:382:VAL:O	1:B:382:VAL:HG22	2.07	0.54
1:C:305:ILE:O	1:C:307:VAL:HG23	2.07	0.54
1:A:45:LYS:HA	1:A:70:GLY:O	2.07	0.54
1:B:126:MET:HE2	1:B:151:GLY:N	2.23	0.54
1:C:430:ARG:NH1	1:C:430:ARG:HB3	2.21	0.54
1:D:419:PRO:HD2	1:D:424:PHE:CD1	2.43	0.54
1:A:277:CYS:HB2	1:B:416:LEU:CD2	2.38	0.54
1:C:295:VAL:HG12	1:C:305:ILE:HD13	1.90	0.54
1:B:425:LYS:HE2	1:B:429:TYR:CD1	2.42	0.54
1:C:186:SER:HB2	1:D:430:ARG:HH22	1.72	0.54
1:D:321:LYS:HG2	1:D:324:VAL:CG2	2.38	0.54
1:A:223:VAL:HB	2:A:501:NAD:O2N	2.07	0.53
1:A:232:ARG:HG3	1:A:238:VAL:HG23	1.90	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:429:TYR:HD2	1:A:431:TYR:CE1	2.26	0.53
1:B:137:LEU:O	1:B:141:LYS:HB2	2.09	0.53
1:B:419:PRO:HB2	1:B:422:GLY:CA	2.37	0.53
1:C:198:LEU:HD12	1:C:198:LEU:O	2.08	0.53
1:D:6:TYR:HB2	1:D:98:VAL:O	2.09	0.53
1:D:99:PHE:CZ	1:D:115:GLN:HB3	2.43	0.53
1:A:13:LEU:HB3	1:A:86:HIS:HA	1.91	0.53
1:A:48:ARG:HD3	1:A:121:ASP:CG	2.25	0.53
1:A:188:PHE:O	1:A:192:TYR:HB2	2.07	0.53
1:A:342:ARG:O	1:A:343:LEU:C	2.46	0.53
1:A:428:HIS:CE1	1:B:164:TYR:CZ	2.96	0.53
1:B:16:TRP:CD1	1:B:16:TRP:C	2.81	0.53
1:B:183:VAL:C	1:B:185:LYS:H	2.12	0.53
1:B:278:VAL:CG1	1:B:303:VAL:CB	2.75	0.53
1:C:139:HIS:CE1	1:C:146:LEU:HD11	2.44	0.53
1:D:221:GLY:O	1:D:225:LYS:CG	2.44	0.53
1:D:291:ASP:O	1:D:292:ASP:HB2	2.07	0.53
1:B:302:ASP:OD2	1:B:342:ARG:NH2	2.40	0.53
1:B:387:LYS:O	1:B:391:GLU:HG2	2.08	0.53
1:C:315:VAL:CG2	1:C:330:LYS:CG	2.79	0.53
1:D:137:LEU:HA	1:D:141:LYS:HD2	1.91	0.53
1:D:317:LYS:HG3	1:D:327:TYR:CD2	2.42	0.53
1:D:370:GLU:O	1:D:374:HIS:N	2.42	0.53
1:A:198:LEU:HD21	1:A:272:VAL:HG11	1.91	0.53
1:C:216:VAL:HB	1:C:271:PHE:CD2	2.44	0.53
1:C:374:HIS:N	1:C:375:PRO:CD	2.71	0.53
1:D:54:HIS:CE1	1:D:78:CYS:SG	3.02	0.53
1:D:223:VAL:HG12	1:D:274:THR:CB	2.35	0.53
1:D:418:MET:HB2	1:D:419:PRO:HD3	1.90	0.53
1:A:134:LEU:O	1:A:138:ILE:HD12	2.09	0.53
1:B:292:ASP:N	1:B:334:ARG:O	2.41	0.53
1:C:117:LEU:HD21	1:C:138:ILE:HD11	1.89	0.53
1:C:125:ASN:ND2	1:C:372:TRP:CH2	2.77	0.53
1:D:13:LEU:HB3	1:D:86:HIS:HA	1.90	0.53
1:D:206:THR:OG1	1:D:208:VAL:HG12	2.08	0.53
1:A:145:LEU:O	1:A:149:ILE:HD12	2.09	0.53
1:C:127:ILE:HG12	1:C:134:LEU:HD13	1.89	0.53
1:D:153:SER:HB3	1:D:364:GLN:NE2	2.24	0.53
1:D:418:MET:HB2	1:D:424:PHE:HD1	1.74	0.53
1:A:419:PRO:CD	1:A:423:PRO:O	2.57	0.53
1:D:101:TRP:NE1	1:D:104:GLU:HG2	2.24	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:203:LYS:O	1:D:207:ASP:N	2.37	0.53
1:D:203:LYS:NZ	1:D:208:VAL:O	2.39	0.53
1:A:80:ILE:O	1:A:103:GLY:N	2.36	0.53
1:A:387:LYS:O	1:A:391:GLU:CG	2.56	0.53
1:A:425:LYS:CG	1:A:431:TYR:OH	2.55	0.53
1:B:79:ASN:HB3	1:B:82:SER:HB3	1.90	0.53
1:C:55:MET:HE3	1:C:59:THR:HB	1.87	0.53
1:C:91:ILE:CG2	1:C:98:VAL:CG2	2.87	0.53
1:C:206:THR:CG2	1:C:294:ILE:HD13	2.32	0.53
1:C:428:HIS:N	1:C:428:HIS:CD2	2.73	0.53
1:D:10:ASP:O	1:D:13:LEU:HB2	2.09	0.53
1:D:142:HIS:HA	1:D:144:GLN:OE1	2.09	0.53
1:A:129:ASP:OD2	1:A:135:THR:CG2	2.56	0.52
1:A:137:LEU:HD12	1:A:141:LYS:HB2	1.91	0.52
1:B:13:LEU:HB3	1:B:86:HIS:HA	1.91	0.52
1:B:110:LEU:HD13	1:B:110:LEU:C	2.23	0.52
1:B:120:LYS:C	1:B:122:GLY:H	2.12	0.52
1:C:160:VAL:HG12	1:C:164:TYR:HE2	1.69	0.52
1:C:261:MET:HG3	1:C:261:MET:O	2.08	0.52
1:C:298:ILE:O	1:C:343:LEU:CD1	2.56	0.52
1:D:44:LEU:O	1:D:47:ALA:CB	2.58	0.52
1:D:153:SER:HB3	1:D:364:GLN:HE22	1.74	0.52
1:A:53:LEU:HG	1:A:130:ASP:CB	2.39	0.52
1:B:44:LEU:CB	1:B:71:ALA:HB2	2.39	0.52
1:B:157:THR:CG2	2:B:502:NAD:H52N	2.39	0.52
1:B:430:ARG:O	1:B:431:TYR:OXT	2.28	0.52
1:A:228:ALA:O	1:A:232:ARG:HB2	2.09	0.52
1:A:321:LYS:HE3	1:A:324:VAL:HG21	1.91	0.52
1:A:431:TYR:CE2	1:B:247:ASN:ND2	2.63	0.52
1:B:48:ARG:HD3	1:B:121:ASP:CG	2.29	0.52
1:D:225:LYS:NZ	1:D:250:GLN:HE22	2.06	0.52
1:D:418:MET:HB2	1:D:424:PHE:HB3	1.85	0.52
1:A:419:PRO:HG3	1:A:422:GLY:CA	2.01	0.52
1:B:79:ASN:HB3	1:B:82:SER:OG	2.09	0.52
1:B:125:ASN:ND2	1:B:372:TRP:CH2	2.77	0.52
1:C:158:THR:HG21	1:C:301:PHE:CE2	2.45	0.52
1:C:185:LYS:HD3	1:C:185:LYS:O	2.10	0.52
1:C:161:HIS:CE1	1:C:165:LYS:HE3	2.45	0.52
1:D:374:HIS:N	1:D:375:PRO:HD2	2.23	0.52
1:A:110:LEU:HD13	1:A:110:LEU:C	2.25	0.52
1:B:6:TYR:HB2	1:B:98:VAL:H	1.74	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:152:ILE:HB	1:B:176:ALA:CB	2.39	0.52
1:B:199:ILE:HD12	1:B:234:PHE:HD2	1.73	0.52
1:B:206:THR:O	1:B:207:ASP:HB2	2.09	0.52
1:C:223:VAL:HG23	2:C:503:NAD:O2N	2.08	0.52
1:C:373:THR:C	1:C:375:PRO:HD2	2.30	0.52
1:B:127:ILE:HG12	1:B:134:LEU:HD11	1.92	0.52
1:B:371:LEU:HD13	1:B:378:TYR:CD1	2.45	0.52
1:C:247:ASN:HD21	1:D:431:TYR:HE2	1.58	0.52
1:D:137:LEU:CD1	1:D:141:LYS:HD3	2.40	0.52
1:D:143:PRO:O	1:D:146:LEU:HD22	2.10	0.52
1:B:110:LEU:CD1	1:B:114:GLU:CG	2.88	0.52
1:C:428:HIS:O	1:C:429:TYR:C	2.46	0.52
1:D:177:ILE:HG13	1:D:371:LEU:HD21	1.91	0.52
1:A:190:ASN:ND2	2:A:501:NAD:O1N	2.42	0.52
1:B:60:ALA:CB	1:B:91:ILE:HD11	2.32	0.52
1:C:325:ASP:O	1:C:337:LEU:N	2.39	0.52
1:A:177:ILE:HG13	1:A:371:LEU:CD2	2.30	0.52
1:B:3:LYS:HG2	1:B:4:LEU:N	2.24	0.52
1:B:80:ILE:HD11	1:B:342:ARG:NH1	2.25	0.52
1:C:333:HIS:C	1:C:334:ARG:HD3	2.30	0.52
1:C:387:LYS:HG3	4:C:658:HOH:O	2.08	0.52
1:D:5:PRO:O	1:D:6:TYR:HB3	2.10	0.52
1:D:91:ILE:HG22	1:D:98:VAL:HG21	1.92	0.52
1:D:163:LEU:CD1	1:D:176:ALA:HB3	2.40	0.52
1:B:110:LEU:HD12	1:B:114:GLU:CG	2.40	0.51
1:B:209:MET:HB2	1:D:353:PRO:HB2	1.92	0.51
1:B:240:ILE:O	1:B:258:VAL:HA	2.09	0.51
1:D:55:MET:HE2	1:D:59:THR:HB	1.92	0.51
1:D:318:VAL:CG1	1:D:319:ASN:N	2.73	0.51
1:A:6:TYR:HB2	1:A:98:VAL:H	1.76	0.51
1:A:157:THR:HB	2:A:501:NAD:C5D	2.40	0.51
1:C:156:THR:HG21	1:C:300:HIS:ND1	2.24	0.51
1:D:141:LYS:C	1:D:143:PRO:HD3	2.31	0.51
1:D:275:THR:HG22	1:D:277:CYS:H	1.76	0.51
1:D:398:LEU:HD21	1:D:405:LEU:HD22	1.91	0.51
1:A:239:ILE:HG12	1:A:257:GLU:HG2	1.92	0.51
1:B:177:ILE:CG1	1:B:371:LEU:HD21	2.21	0.51
1:B:275:THR:HG23	2:B:502:NAD:C8A	2.40	0.51
1:C:201:GLY:HA2	1:C:349:ALA:HB2	1.92	0.51
1:C:352:HIS:HB3	1:C:356:VAL:HG11	1.92	0.51
1:A:134:LEU:HD22	1:A:138:ILE:HD12	1.93	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:387:LYS:NZ	1:A:425:LYS:O	2.34	0.51
1:B:53:LEU:HD11	1:B:155:GLU:CG	2.41	0.51
1:C:197:SER:HB2	1:C:345:ASN:HB2	1.92	0.51
1:C:430:ARG:NH1	1:D:187:LYS:CE	2.49	0.51
1:A:143:PRO:HA	1:A:146:LEU:HD22	1.91	0.51
1:A:419:PRO:C	1:A:421:ASN:N	2.62	0.51
1:B:39:SER:O	1:B:42:LYS:CG	2.59	0.51
1:B:58:GLU:O	1:B:361:PHE:CE2	2.63	0.51
1:C:3:LYS:HE3	1:C:115:GLN:OE1	2.11	0.51
1:C:430:ARG:HH11	1:C:430:ARG:HB3	1.74	0.51
1:D:54:HIS:O	1:D:56:THR:HG23	2.11	0.51
1:D:418:MET:CB	1:D:424:PHE:HD1	2.24	0.51
1:C:105:THR:OG1	1:C:108:GLU:HG3	2.09	0.51
1:C:418:MET:CB	1:C:424:PHE:HB3	2.40	0.51
1:D:68:ALA:C	1:D:70:GLY:H	2.12	0.51
1:D:193:GLY:HA3	1:D:352:HIS:ND1	2.25	0.51
1:B:292:ASP:CA	1:B:334:ARG:O	2.58	0.51
1:B:419:PRO:HG2	1:B:423:PRO:N	2.23	0.51
1:C:55:MET:HG2	1:C:75:TRP:HD1	1.74	0.51
1:C:425:LYS:HE3	1:C:426:PRO:CD	2.41	0.51
1:C:195:ARG:CD	1:C:229:GLN:OE1	2.59	0.51
1:C:298:ILE:O	1:C:343:LEU:HD11	2.10	0.51
1:C:425:LYS:CG	1:C:431:TYR:OH	2.59	0.51
1:A:150:ARG:CZ	1:A:372:TRP:CZ3	2.94	0.51
1:B:57:VAL:O	1:B:61:VAL:HG23	2.11	0.51
1:C:91:ILE:CG2	1:C:98:VAL:HG21	2.40	0.51
1:C:130:ASP:HA	1:C:155:GLU:HB2	1.93	0.51
1:C:161:HIS:CE1	1:C:165:LYS:HE2	2.46	0.51
1:D:91:ILE:N	1:D:91:ILE:HD13	2.25	0.51
1:D:154:GLU:O	1:D:179:VAL:HB	2.11	0.51
1:D:308:LYS:HD2	1:D:308:LYS:H	1.74	0.51
1:A:54:HIS:CE1	1:A:346:LEU:HD13	2.46	0.50
1:A:181:ASP:CB	1:A:384:PHE:HE1	2.24	0.50
1:C:41:SER:O	1:C:42:LYS:C	2.49	0.50
1:C:308:LYS:H	1:C:308:LYS:HD2	1.76	0.50
1:D:141:LYS:O	1:D:143:PRO:HD3	2.11	0.50
1:D:342:ARG:HG2	1:D:342:ARG:HH11	1.75	0.50
1:D:386:PRO:O	1:D:387:LYS:C	2.50	0.50
1:B:48:ARG:HD2	1:B:119:PHE:CG	2.46	0.50
1:B:198:LEU:HG	1:B:199:ILE:N	2.26	0.50
1:C:57:VAL:H	1:C:84:GLN:NE2	2.09	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:120:LYS:O	1:B:122:GLY:N	2.45	0.50
1:B:167:MET:C	1:B:169:ASN:H	2.15	0.50
1:B:178:ASN:CG	1:B:181:ASP:HB2	2.31	0.50
1:C:302:ASP:O	1:C:303:VAL:CG1	2.59	0.50
1:B:283:GLY:HA3	1:B:309:TRP:CE2	2.46	0.50
1:B:320:ILE:O	1:B:321:LYS:HB3	2.11	0.50
1:C:7:LYS:N	1:C:98:VAL:O	2.39	0.50
1:D:208:VAL:HG22	1:D:209:MET:N	2.27	0.50
1:A:194:CYS:SG	1:A:223:VAL:HG22	2.52	0.50
1:B:126:MET:HE1	1:B:151:GLY:HA3	1.93	0.50
1:C:317:LYS:HB2	1:C:327:TYR:CD2	2.46	0.50
1:D:16:TRP:O	1:D:16:TRP:CD1	2.65	0.50
1:A:398:LEU:HD21	1:A:405:LEU:HD22	1.88	0.50
1:B:54:HIS:HB3	1:B:82:SER:OG	2.12	0.50
1:C:298:ILE:O	1:C:299:GLY:C	2.49	0.50
1:D:134:LEU:O	1:D:134:LEU:CD2	2.52	0.50
1:D:310:LEU:HD13	1:D:327:TYR:CD1	2.46	0.50
1:D:379:PRO:O	1:D:380:VAL:O	2.29	0.50
1:A:282:LEU:O	1:A:285:HIS:HB2	2.11	0.50
1:A:428:HIS:HB3	1:B:384:PHE:HZ	1.76	0.50
1:B:3:LYS:CE	1:B:115:GLN:OE1	2.60	0.50
1:C:317:LYS:HD2	1:C:327:TYR:HE2	1.77	0.50
1:D:3:LYS:HA	4:D:663:HOH:O	2.10	0.50
2:B:502:NAD:C4N	3:B:602:ADN:H3'	2.42	0.50
1:D:273:THR:O	1:D:298:ILE:HG22	2.12	0.50
1:A:429:TYR:CD2	1:A:431:TYR:CE2	2.99	0.49
1:C:130:ASP:HB2	1:C:155:GLU:HB2	1.93	0.49
1:C:321:LYS:HB2	1:C:322:PRO:HD2	1.93	0.49
1:C:345:ASN:O	1:C:349:ALA:HB3	2.12	0.49
1:D:164:TYR:CE1	1:D:382:VAL:HG21	2.47	0.49
1:D:358:SER:OG	1:D:397:HIS:NE2	2.38	0.49
1:A:326:ARG:HG3	1:A:336:ILE:HG13	1.94	0.49
1:A:430:ARG:NH1	1:A:430:ARG:HB2	2.26	0.49
1:B:110:LEU:CD1	1:B:114:GLU:HG2	2.42	0.49
1:B:283:GLY:HA2	1:B:286:PHE:HD2	1.77	0.49
1:B:410:GLU:OE2	1:B:414:GLN:CD	2.49	0.49
1:C:393:VAL:O	1:C:397:HIS:ND1	2.45	0.49
1:C:425:LYS:HE3	1:C:425:LYS:C	2.32	0.49
1:D:185:LYS:C	1:D:185:LYS:HD3	2.33	0.49
1:A:157:THR:CB	2:A:501:NAD:C5D	2.89	0.49
1:A:321:LYS:O	1:A:322:PRO:C	2.49	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:430:ARG:HB2	1:A:430:ARG:CZ	2.42	0.49
1:B:53:LEU:O	1:B:54:HIS:C	2.50	0.49
1:B:74:ARG:CD	1:B:116:THR:HA	2.42	0.49
1:C:178:ASN:ND2	1:C:181:ASP:HB2	2.26	0.49
1:C:215:ALA:HA	1:C:270:ILE:O	2.13	0.49
1:D:184:THR:HA	1:D:188:PHE:CD1	2.48	0.49
1:A:157:THR:CB	2:A:501:NAD:H51N	2.42	0.49
1:A:250:GLN:O	1:A:251:ALA:C	2.50	0.49
1:B:5:PRO:O	1:B:97:PRO:HB3	2.12	0.49
1:B:53:LEU:HD11	1:B:155:GLU:HG2	1.94	0.49
1:B:57:VAL:HG23	1:B:87:ALA:HB2	1.95	0.49
1:C:334:ARG:N	1:C:334:ARG:CD	2.74	0.49
1:D:418:MET:N	1:D:418:MET:HE3	2.27	0.49
1:B:193:GLY:HA3	1:B:352:HIS:CE1	2.47	0.49
1:C:21:LEU:CD2	1:C:60:ALA:HB3	2.38	0.49
1:C:162:ASN:O	1:C:165:LYS:HB2	2.12	0.49
1:B:130:ASP:OD1	1:B:300:HIS:HE1	1.95	0.49
1:B:412:GLN:O	1:B:415:TYR:HB3	2.13	0.49
1:C:88:ALA:C	1:C:90:ALA:H	2.16	0.49
1:C:143:PRO:HA	1:C:146:LEU:HD22	1.94	0.49
1:C:161:HIS:HE1	1:C:165:LYS:HE2	1.77	0.49
1:D:254:GLU:OE1	1:D:254:GLU:HA	2.12	0.49
1:A:163:LEU:HD13	1:A:176:ALA:HB3	1.94	0.49
1:B:275:THR:HG22	1:B:277:CYS:N	2.15	0.49
1:C:74:ARG:NH1	1:C:115:GLN:O	2.43	0.49
1:C:124:LEU:HD23	1:C:124:LEU:H	1.77	0.49
1:C:430:ARG:NH1	1:C:430:ARG:HB2	2.26	0.49
1:D:99:PHE:O	1:D:100:ALA:CB	2.58	0.49
1:D:117:LEU:HD21	1:D:138:ILE:HD11	1.94	0.49
1:D:183:VAL:HG11	1:D:431:TYR:CE1	2.47	0.49
1:A:278:VAL:HG22	1:B:415:TYR:CG	2.47	0.49
1:C:195:ARG:HD2	1:C:229:GLN:OE1	2.13	0.49
1:D:169:ASN:ND2	1:D:171:ILE:CD1	2.72	0.49
1:A:418:MET:HB2	1:A:424:PHE:HD1	1.78	0.49
1:B:292:ASP:OD1	1:B:336:ILE:HD11	2.13	0.49
1:C:96:ILE:HD12	1:C:96:ILE:H	1.77	0.49
1:C:198:LEU:HG	1:C:199:ILE:N	2.26	0.49
1:D:370:GLU:HB3	1:D:378:TYR:CE1	2.48	0.49
1:D:418:MET:CG	1:D:424:PHE:HB3	2.43	0.49
1:A:55:MET:HE3	1:A:59:THR:CG2	2.43	0.49
1:A:322:PRO:O	1:A:324:VAL:HG23	2.13	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:125:ASN:HA	1:A:148:GLY:O	2.13	0.48
1:B:175:PRO:HB3	1:B:379:PRO:O	2.13	0.48
1:B:197:SER:OG	1:B:352:HIS:CD2	2.66	0.48
1:B:387:LYS:NZ	1:B:426:PRO:O	2.45	0.48
1:D:232:ARG:HG3	1:D:256:TYR:CE1	2.42	0.48
1:A:275:THR:HG21	2:A:501:NAD:C6A	2.43	0.48
1:B:206:THR:OG1	1:B:208:VAL:HG12	2.13	0.48
1:C:43:PRO:HG2	1:C:369:ILE:HD11	1.95	0.48
1:D:129:ASP:OD2	1:D:135:THR:HG22	2.12	0.48
1:B:398:LEU:HD21	1:B:405:LEU:CD1	2.44	0.48
1:C:110:LEU:HD13	1:C:110:LEU:C	2.11	0.48
1:D:414:GLN:O	1:D:415:TYR:C	2.51	0.48
1:A:52:CYS:HB3	1:A:129:ASP:OD1	2.13	0.48
1:C:206:THR:O	1:C:207:ASP:HB2	2.13	0.48
1:D:74:ARG:HD2	1:D:116:THR:HA	1.95	0.48
1:D:179:VAL:HG11	1:D:364:GLN:OE1	2.13	0.48
1:A:91:ILE:HG23	1:A:96:ILE:HB	1.94	0.48
1:B:286:PHE:CG	1:B:310:LEU:HD21	2.48	0.48
1:B:413:ALA:HB1	1:B:418:MET:O	2.13	0.48
1:C:181:ASP:OD2	1:D:428:HIS:CB	2.61	0.48
1:C:344:VAL:CG1	1:C:345:ASN:N	2.77	0.48
1:D:44:LEU:O	1:D:47:ALA:HB3	2.14	0.48
1:D:48:ARG:HD2	1:D:119:PHE:CG	2.49	0.48
1:A:150:ARG:NH2	1:A:372:TRP:CZ3	2.82	0.48
1:A:177:ILE:CG1	1:A:371:LEU:HD21	2.29	0.48
1:A:302:ASP:HB3	1:A:342:ARG:HG2	1.96	0.48
1:C:150:ARG:NH2	4:C:638:HOH:O	2.39	0.48
1:D:52:CYS:HB2	1:D:134:LEU:HB2	1.95	0.48
1:D:386:PRO:O	1:D:389:LEU:N	2.46	0.48
1:A:33:ARG:HG3	1:A:37:MET:SD	2.54	0.48
1:A:212:GLY:HA2	1:D:252:ALA:O	2.13	0.48
1:C:7:LYS:HG2	1:C:101:TRP:CH2	2.48	0.48
1:C:297:ASN:OD1	1:C:304:GLU:HG3	2.13	0.48
1:D:15:ALA:HB2	4:D:660:HOH:O	2.14	0.48
1:A:154:GLU:HG3	1:A:160:VAL:HG23	1.94	0.48
1:A:206:THR:O	1:A:207:ASP:HB2	2.13	0.48
1:C:161:HIS:CE1	1:D:416:LEU:O	2.67	0.48
1:C:191:LEU:HD12	1:C:226:GLY:CA	2.43	0.48
1:D:41:SER:O	1:D:42:LYS:C	2.52	0.48
1:D:246:ILE:HG22	1:D:247:ASN:N	2.29	0.48
1:D:317:LYS:CB	1:D:327:TYR:CE2	2.96	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:106:ASP:HB2	1:B:107:GLU:OE1	2.13	0.48
1:B:359:ASN:HD22	1:B:393:VAL:CG1	2.20	0.48
1:C:43:PRO:CG	1:C:369:ILE:HD11	2.44	0.48
1:C:406:THR:HG22	1:D:243:ILE:HG22	1.95	0.48
1:D:215:ALA:CB	1:D:231:LEU:HD13	2.43	0.48
1:D:342:ARG:HH11	1:D:342:ARG:CG	2.26	0.48
1:D:418:MET:HB3	1:D:418:MET:HE2	1.73	0.48
1:A:6:TYR:C	1:A:6:TYR:CD1	2.87	0.48
1:A:196:GLU:HB3	1:C:203:LYS:HZ2	1.78	0.48
1:A:418:MET:HB3	1:A:424:PHE:HB3	1.95	0.48
1:B:240:ILE:O	1:B:258:VAL:HG13	2.14	0.48
1:C:91:ILE:CG2	1:C:96:ILE:HB	2.42	0.48
1:C:178:ASN:CG	1:C:181:ASP:HB2	2.33	0.48
1:C:274:THR:HA	1:C:298:ILE:HG22	1.96	0.48
1:D:379:PRO:HD2	1:D:383:HIS:CE1	2.49	0.48
1:A:21:LEU:HD23	1:A:57:VAL:HG13	1.96	0.47
1:A:55:MET:CE	1:A:59:THR:CG2	2.90	0.47
1:A:379:PRO:O	1:A:383:HIS:HE1	1.97	0.47
1:B:110:LEU:HD11	1:B:114:GLU:CD	2.34	0.47
1:B:158:THR:CG2	1:B:159:GLY:N	2.76	0.47
1:C:26:ASN:O	1:C:26:ASN:ND2	2.47	0.47
1:D:228:ALA:O	1:D:232:ARG:HB2	2.13	0.47
1:A:54:HIS:CG	1:A:346:LEU:HD13	2.49	0.47
1:A:142:HIS:N	1:A:143:PRO:HD3	2.29	0.47
1:C:28:MET:SD	1:C:31:LEU:HD12	2.54	0.47
1:C:130:ASP:CB	1:C:155:GLU:HB2	2.45	0.47
1:A:3:LYS:CE	1:A:74:ARG:NH1	2.72	0.47
1:B:127:ILE:HG12	1:B:134:LEU:HD12	1.92	0.47
1:C:126:MET:HE2	1:C:151:GLY:H	1.78	0.47
1:D:197:SER:HB2	1:D:345:ASN:HB2	1.96	0.47
1:D:327:TYR:O	1:D:334:ARG:HA	2.14	0.47
1:A:196:GLU:HB3	1:C:203:LYS:HZ1	1.76	0.47
1:A:429:TYR:CE2	1:A:431:TYR:CE2	3.02	0.47
1:B:153:SER:CB	1:B:364:GLN:NE2	2.72	0.47
1:B:419:PRO:O	1:B:420:ILE:C	2.51	0.47
1:C:183:VAL:C	1:C:185:LYS:N	2.67	0.47
1:A:83:THR:HG21	1:A:101:TRP:CA	2.45	0.47
1:B:100:ALA:O	1:B:101:TRP:HB3	2.14	0.47
1:C:6:TYR:HB2	1:C:98:VAL:H	1.79	0.47
1:C:82:SER:HA	1:C:346:LEU:O	2.14	0.47
1:C:223:VAL:HG11	1:C:298:ILE:CG2	2.45	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:139:HIS:HA	1:A:146:LEU:HD21	1.97	0.47
1:A:154:GLU:HG3	1:A:160:VAL:CG2	2.44	0.47
1:A:198:LEU:HD23	1:A:227:CYS:CB	2.45	0.47
1:C:94:ALA:CB	1:C:96:ILE:CD1	2.91	0.47
1:C:352:HIS:HB3	1:C:356:VAL:CG1	2.45	0.47
1:A:163:LEU:HD11	1:A:176:ALA:HB1	1.95	0.47
1:A:165:LYS:O	1:A:166:MET:C	2.51	0.47
1:A:198:LEU:HD23	1:A:227:CYS:HB3	1.97	0.47
1:B:6:TYR:C	1:B:6:TYR:HD1	2.18	0.47
1:B:44:LEU:HB3	1:B:71:ALA:HB2	1.95	0.47
1:B:110:LEU:O	1:B:114:GLU:HG2	2.14	0.47
1:B:137:LEU:HD12	1:B:141:LYS:HB2	1.96	0.47
1:B:167:MET:C	1:B:169:ASN:N	2.68	0.47
1:B:418:MET:CB	1:B:424:PHE:HD1	2.27	0.47
1:C:96:ILE:HD12	1:C:96:ILE:N	2.30	0.47
1:C:418:MET:HB2	1:C:419:PRO:HD2	1.96	0.47
1:D:58:GLU:C	1:D:361:PHE:HE2	2.18	0.47
1:D:110:LEU:O	1:D:114:GLU:CG	2.63	0.47
1:A:249:LEU:CD1	1:B:401:LEU:HD12	2.45	0.47
1:B:62:LEU:CD1	1:B:365:VAL:HG23	2.45	0.47
1:B:286:PHE:CD2	1:B:310:LEU:CD2	2.97	0.47
1:C:406:THR:HG23	1:C:407:LYS:H	1.80	0.47
1:D:21:LEU:CD2	1:D:57:VAL:HG13	2.26	0.47
1:D:48:ARG:HD2	1:D:119:PHE:CB	2.43	0.47
1:D:172:LEU:HD23	1:D:172:LEU:HA	1.75	0.47
1:A:11:ILE:HA	1:A:89:ALA:HB1	1.96	0.47
1:A:247:ASN:O	1:A:250:GLN:HB2	2.15	0.47
1:B:55:MET:HE3	1:B:59:THR:CG2	2.45	0.47
1:B:375:PRO:O	1:B:378:TYR:N	2.41	0.47
1:C:214:VAL:H	1:C:269:ASN:ND2	2.02	0.47
1:C:386:PRO:O	1:C:389:LEU:N	2.47	0.47
1:D:192:TYR:O	1:D:193:GLY:C	2.52	0.47
1:D:210:ILE:HG21	1:D:234:PHE:HB2	1.96	0.47
1:D:309:TRP:HE3	1:D:310:LEU:HD23	1.80	0.47
1:A:285:HIS:O	1:A:288:GLN:N	2.46	0.47
1:B:199:ILE:HG21	1:B:234:PHE:CE2	2.50	0.47
1:B:282:LEU:O	1:B:285:HIS:HB2	2.15	0.47
1:D:193:GLY:HA3	1:D:352:HIS:CE1	2.50	0.47
1:A:203:LYS:O	1:A:207:ASP:N	2.45	0.46
1:A:238:VAL:HB	1:A:256:TYR:CE1	2.50	0.46
1:A:430:ARG:HG2	1:B:430:ARG:CA	2.37	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:430:ARG:HH11	1:B:187:LYS:HE3	1.79	0.46
1:B:62:LEU:CD1	1:B:365:VAL:CG2	2.93	0.46
1:C:16:TRP:O	1:C:16:TRP:HD1	1.97	0.46
1:D:143:PRO:O	1:D:146:LEU:HB2	2.14	0.46
1:D:149:ILE:O	1:D:149:ILE:HG22	2.15	0.46
1:D:300:HIS:HB2	2:D:504:NAD:HO2N	1.77	0.46
1:A:60:ALA:HB1	1:A:91:ILE:HD11	1.96	0.46
1:A:130:ASP:HB2	1:A:155:GLU:HB2	1.97	0.46
1:A:310:LEU:HD13	1:A:327:TYR:CD1	2.50	0.46
1:B:81:PHE:CE2	1:B:342:ARG:CD	2.98	0.46
1:B:278:VAL:HA	1:B:303:VAL:O	2.15	0.46
1:C:153:SER:HB3	1:C:364:GLN:HE22	1.74	0.46
1:B:111:TRP:HA	1:B:114:GLU:HG3	1.97	0.46
1:C:10:ASP:O	1:C:12:GLY:N	2.48	0.46
1:A:81:PHE:O	1:A:102:LYS:HG3	2.15	0.46
1:A:345:ASN:O	1:A:349:ALA:HB3	2.15	0.46
1:D:300:HIS:HA	1:D:343:LEU:HD11	1.98	0.46
1:D:318:VAL:HG12	1:D:319:ASN:N	2.30	0.46
1:A:54:HIS:CD2	1:A:346:LEU:HD13	2.51	0.46
1:A:352:HIS:N	3:A:601:ADN:HN61	2.13	0.46
1:B:167:MET:SD	1:B:381:GLY:HA2	2.56	0.46
1:B:281:ILE:HG22	1:B:281:ILE:O	2.16	0.46
1:B:283:GLY:HA2	1:B:286:PHE:CD2	2.50	0.46
1:C:141:LYS:HG2	4:C:626:HOH:O	2.16	0.46
1:C:409:THR:HG23	1:C:412:GLN:HE21	1.80	0.46
1:A:283:GLY:HA2	1:A:286:PHE:HD2	1.80	0.46
1:B:130:ASP:HA	1:B:155:GLU:HB2	1.98	0.46
1:B:157:THR:HG21	2:B:502:NAD:H52N	1.97	0.46
1:B:228:ALA:O	1:B:232:ARG:HB2	2.16	0.46
1:B:361:PHE:O	1:B:365:VAL:HG23	2.16	0.46
1:B:373:THR:HG22	1:B:373:THR:O	2.15	0.46
1:B:373:THR:CG2	1:B:374:HIS:CE1	2.92	0.46
1:D:160:VAL:CG1	1:D:164:TYR:HE2	2.29	0.46
1:D:220:TYR:CE2	1:D:225:LYS:HE3	2.50	0.46
1:A:171:ILE:O	1:A:171:ILE:HG22	2.16	0.46
1:A:273:THR:CG2	1:A:281:ILE:HD12	2.46	0.46
1:A:317:LYS:HG3	1:A:327:TYR:CD2	2.50	0.46
1:B:80:ILE:HD11	1:B:342:ARG:CD	2.45	0.46
1:B:172:LEU:HD23	1:B:172:LEU:HA	1.73	0.46
1:B:198:LEU:HD22	1:B:227:CYS:HB3	1.98	0.46
1:B:391:GLU:HG2	1:B:391:GLU:H	1.45	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:337:LEU:HD13	1:C:340:GLU:HA	1.97	0.46
1:D:54:HIS:HA	1:D:77:SER:OG	2.15	0.46
1:A:198:LEU:HD23	1:A:227:CYS:SG	2.55	0.46
1:A:278:VAL:HG22	1:B:415:TYR:CD2	2.51	0.46
1:A:374:HIS:N	1:A:375:PRO:HD2	2.31	0.46
1:A:422:GLY:O	1:A:424:PHE:CE1	2.69	0.46
1:C:11:ILE:CD1	1:C:92:ALA:HB3	2.45	0.46
1:C:16:TRP:CD1	1:C:16:TRP:C	2.88	0.46
1:C:49:ILE:HD12	1:C:66:LEU:HD13	1.98	0.46
1:C:94:ALA:HB3	1:C:96:ILE:HD13	1.95	0.46
1:C:182:SER:HB3	1:C:185:LYS:HB2	1.97	0.46
1:C:252:ALA:C	1:C:254:GLU:H	2.19	0.46
1:C:277:CYS:HB3	1:D:416:LEU:HG	1.97	0.46
1:D:6:TYR:HE1	1:D:8:VAL:CG2	2.28	0.46
1:D:13:LEU:HD12	1:D:13:LEU:HA	1.80	0.46
1:D:38:TYR:O	1:D:43:PRO:HD2	2.15	0.46
1:D:182:SER:O	1:D:185:LYS:N	2.44	0.46
1:A:6:TYR:OH	1:A:11:ILE:HD13	2.15	0.46
1:B:190:ASN:ND2	2:B:502:NAD:C5N	2.77	0.46
1:B:273:THR:HB	1:B:304:GLU:OE1	2.16	0.46
1:B:309:TRP:CZ3	1:B:310:LEU:CD2	2.98	0.46
1:B:317:LYS:HE3	4:B:632:HOH:O	2.16	0.46
1:C:133:ASP:O	1:C:137:LEU:HB3	2.16	0.46
1:D:60:ALA:O	1:D:64:GLU:HG3	2.16	0.46
1:D:275:THR:O	1:D:304:GLU:CD	2.52	0.46
2:B:502:NAD:O1A	2:B:502:NAD:H51N	2.15	0.46
1:C:163:LEU:HD13	1:C:176:ALA:CB	2.46	0.46
1:D:386:PRO:HG2	1:D:389:LEU:HD11	1.91	0.46
1:D:101:TRP:CD1	1:D:104:GLU:HG2	2.51	0.45
1:A:120:LYS:HE3	4:A:698:HOH:O	2.16	0.45
1:A:244:GLU:CD	1:B:425:LYS:HD2	2.37	0.45
1:A:127:ILE:CG1	1:A:134:LEU:HD13	2.36	0.45
1:A:152:ILE:CG2	1:A:153:SER:N	2.79	0.45
1:A:215:ALA:O	1:A:238:VAL:HA	2.16	0.45
1:A:320:ILE:HA	1:C:19:LYS:HD2	1.98	0.45
1:B:167:MET:O	1:B:169:ASN:N	2.49	0.45
1:B:186:SER:HA	1:B:190:ASN:OD1	2.17	0.45
1:C:277:CYS:HB2	1:D:416:LEU:HG	1.97	0.45
1:C:428:HIS:ND1	1:D:164:TYR:CZ	2.83	0.45
1:D:223:VAL:HB	2:D:504:NAD:O2N	2.16	0.45
1:D:331:ASN:C	1:D:331:ASN:OD1	2.53	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:418:MET:CB	1:D:419:PRO:CD	2.81	0.45
1:B:35:ARG:NH2	1:B:64:GLU:HB2	2.31	0.45
1:C:181:ASP:HB3	1:C:384:PHE:HE1	1.82	0.45
1:D:69:LEU:HD12	1:D:69:LEU:N	2.32	0.45
1:D:160:VAL:O	1:D:164:TYR:CD2	2.70	0.45
1:D:352:HIS:HB2	1:D:357:MET:SD	2.57	0.45
1:D:425:LYS:HE2	1:D:429:TYR:CD1	2.52	0.45
1:A:7:LYS:HA	4:A:672:HOH:O	2.16	0.45
1:B:321:LYS:HB2	1:B:322:PRO:HD2	1.99	0.45
1:C:282:LEU:O	1:C:285:HIS:HB2	2.16	0.45
1:D:160:VAL:CG1	1:D:164:TYR:CE2	3.00	0.45
1:D:172:LEU:HD22	1:D:174:VAL:H	1.82	0.45
1:D:401:LEU:O	1:D:402:ASN:CB	2.63	0.45
1:A:344:VAL:HG13	1:A:345:ASN:N	2.32	0.45
1:A:379:PRO:O	1:A:383:HIS:CE1	2.69	0.45
1:A:410:GLU:OE2	1:A:414:GLN:CG	2.47	0.45
1:B:199:ILE:HD12	1:B:234:PHE:CD2	2.51	0.45
1:B:320:ILE:HD13	1:B:320:ILE:N	2.31	0.45
1:C:21:LEU:HD21	1:C:60:ALA:CB	2.43	0.45
1:C:198:LEU:HD22	1:C:227:CYS:SG	2.57	0.45
1:C:386:PRO:HG2	1:C:389:LEU:CD1	2.38	0.45
1:D:275:THR:HG23	2:D:504:NAD:C8A	2.47	0.45
1:D:418:MET:HB2	1:D:424:PHE:CD1	2.52	0.45
1:D:419:PRO:HD2	1:D:424:PHE:HD1	1.80	0.45
1:A:302:ASP:CG	1:A:302:ASP:O	2.52	0.45
1:B:51:GLY:HA2	1:B:128:LEU:O	2.16	0.45
1:B:386:PRO:HG2	1:B:389:LEU:HG	1.98	0.45
1:D:146:LEU:HG	1:D:173:LYS:HB2	1.99	0.45
1:D:194:CYS:C	1:D:196:GLU:H	2.20	0.45
1:D:370:GLU:HB3	1:D:378:TYR:HE1	1.81	0.45
1:A:44:LEU:CB	1:A:71:ALA:HB2	2.46	0.45
1:A:57:VAL:H	1:A:84:GLN:NE2	2.15	0.45
1:A:130:ASP:CB	1:A:155:GLU:HB2	2.47	0.45
1:A:224:GLY:HA2	1:A:274:THR:HG21	1.98	0.45
1:A:248:ALA:CB	1:B:405:LEU:HD11	2.47	0.45
1:B:16:TRP:O	1:B:16:TRP:HD1	1.95	0.45
1:B:55:MET:HE2	1:B:59:THR:HB	1.98	0.45
1:C:91:ILE:HG22	1:C:98:VAL:HG22	1.97	0.45
1:C:121:ASP:OD1	1:C:121:ASP:N	2.39	0.45
1:C:428:HIS:CE1	1:D:164:TYR:OH	2.70	0.45
1:D:17:GLY:O	1:D:18:ARG:C	2.56	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:31:LEU:CD1	1:D:61:VAL:HG12	2.47	0.45
1:D:352:HIS:HB3	1:D:356:VAL:CG1	2.47	0.45
1:D:407:LYS:CB	1:D:407:LYS:HZ2	2.02	0.45
1:A:337:LEU:HD23	1:A:337:LEU:HA	1.70	0.45
1:A:352:HIS:H	3:A:601:ADN:HN61	1.65	0.45
1:A:373:THR:C	1:A:374:HIS:ND1	2.70	0.45
1:B:55:MET:HG2	1:B:75:TRP:CD1	2.51	0.45
1:B:207:ASP:OD1	1:D:204:ARG:NH2	2.43	0.45
1:C:110:LEU:CD1	1:C:114:GLU:CG	2.94	0.45
1:D:38:TYR:HB3	1:D:43:PRO:HG3	1.97	0.45
1:D:138:ILE:HG22	1:D:146:LEU:HD13	1.98	0.45
1:A:128:LEU:HD21	1:A:364:GLN:CD	2.37	0.44
1:A:174:VAL:HG23	1:A:175:PRO:HD2	1.99	0.44
1:A:180:ASN:HA	1:A:185:LYS:HD2	1.98	0.44
1:A:252:ALA:C	1:A:254:GLU:H	2.21	0.44
1:B:327:TYR:O	1:B:334:ARG:HA	2.17	0.44
1:C:387:LYS:HE2	1:C:391:GLU:OE2	2.17	0.44
1:D:185:LYS:O	1:D:189:ASP:HB3	2.17	0.44
1:D:285:HIS:O	1:D:286:PHE:C	2.55	0.44
1:D:352:HIS:HB3	1:D:356:VAL:HG11	1.98	0.44
1:A:275:THR:CG2	2:A:501:NAD:C8A	2.96	0.44
1:A:387:LYS:CE	1:A:425:LYS:HG3	2.39	0.44
1:B:7:LYS:N	1:B:98:VAL:O	2.38	0.44
1:B:143:PRO:HA	1:B:146:LEU:HD21	1.96	0.44
1:B:170:GLY:O	1:B:173:LYS:NZ	2.50	0.44
1:C:319:ASN:ND2	1:C:321:LYS:O	2.44	0.44
1:D:69:LEU:N	1:D:69:LEU:CD1	2.80	0.44
1:D:200:ASP:CG	1:D:204:ARG:HE	2.19	0.44
1:B:54:HIS:CE1	1:B:346:LEU:HD13	2.52	0.44
1:B:214:VAL:H	1:B:269:ASN:ND2	2.11	0.44
1:B:364:GLN:NE2	1:B:364:GLN:HA	2.32	0.44
1:C:126:MET:CE	1:C:150:ARG:HG2	2.46	0.44
1:A:55:MET:HG2	1:A:75:TRP:CD1	2.52	0.44
1:B:48:ARG:HB3	1:B:119:PHE:CE2	2.53	0.44
1:B:317:LYS:HB2	1:B:327:TYR:HD2	1.76	0.44
1:B:325:ASP:O	1:B:336:ILE:HA	2.17	0.44
1:B:373:THR:O	1:B:373:THR:CG2	2.65	0.44
1:C:406:THR:HG22	1:C:407:LYS:N	2.32	0.44
1:D:53:LEU:HG	1:D:130:ASP:OD2	2.17	0.44
1:D:160:VAL:HG13	1:D:164:TYR:CE2	2.52	0.44
1:D:326:ARG:HG3	1:D:336:ILE:HD13	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:156:THR:HG21	1:B:300:HIS:CE1	2.50	0.44
1:B:165:LYS:HG2	4:B:639:HOH:O	2.17	0.44
1:B:305:ILE:O	1:B:307:VAL:HG23	2.16	0.44
1:C:425:LYS:CD	1:C:431:TYR:OH	2.65	0.44
1:C:431:TYR:C	1:D:187:LYS:NZ	2.71	0.44
1:D:127:ILE:HG12	1:D:134:LEU:HD13	1.98	0.44
1:A:99:PHE:CD1	1:A:115:GLN:HG3	2.53	0.44
1:C:6:TYR:CD1	1:C:6:TYR:C	2.91	0.44
1:C:126:MET:HE3	1:C:150:ARG:HG2	1.98	0.44
1:C:154:GLU:O	1:C:179:VAL:HB	2.16	0.44
1:D:7:LYS:CG	1:D:101:TRP:CZ3	2.93	0.44
1:D:134:LEU:C	1:D:134:LEU:CD2	2.86	0.44
1:D:239:ILE:HG23	1:D:257:GLU:HG2	1.98	0.44
1:B:48:ARG:HH11	1:B:48:ARG:HG3	1.82	0.44
1:B:275:THR:CG2	1:B:276:GLY:H	2.29	0.44
1:C:7:LYS:CG	1:C:101:TRP:CZ3	2.98	0.44
1:C:249:LEU:HD12	1:D:401:LEU:HD12	2.00	0.44
1:D:54:HIS:HB3	1:D:82:SER:CB	2.47	0.44
1:A:395:GLU:O	1:A:395:GLU:OE2	2.36	0.44
1:A:406:THR:HG22	1:A:407:LYS:N	2.32	0.44
1:B:35:ARG:HE	1:B:65:THR:HA	1.82	0.44
1:B:156:THR:OG1	2:B:502:NAD:H2D	2.18	0.44
1:B:189:ASP:O	1:B:352:HIS:CE1	2.71	0.44
1:C:130:ASP:OD1	1:C:156:THR:CG2	2.62	0.44
1:C:150:ARG:HD2	1:C:372:TRP:HA	1.99	0.44
1:C:273:THR:OG1	1:C:297:ASN:CB	2.54	0.44
1:C:321:LYS:HE3	1:C:324:VAL:HG21	1.99	0.44
1:D:361:PHE:HA	1:D:364:GLN:HB2	1.99	0.44
1:A:181:ASP:HB3	1:A:384:PHE:HE1	1.83	0.44
1:A:302:ASP:O	1:A:302:ASP:OD1	2.36	0.44
1:A:398:LEU:CD2	1:A:405:LEU:CD2	2.88	0.44
1:A:401:LEU:O	1:A:402:ASN:CB	2.66	0.44
1:B:120:LYS:C	1:B:122:GLY:N	2.71	0.44
1:C:124:LEU:HD23	1:C:124:LEU:N	2.33	0.44
1:A:142:HIS:CA	1:A:144:GLN:OE1	2.66	0.43
1:A:263:GLU:OE2	1:A:266:LYS:NZ	2.46	0.43
1:B:246:ILE:O	1:B:250:GLN:HG3	2.17	0.43
1:B:425:LYS:HZ1	1:B:426:PRO:HD2	1.82	0.43
1:C:389:LEU:O	1:C:392:ALA:HB3	2.17	0.43
1:C:409:THR:H	1:C:412:GLN:HE21	1.65	0.43
1:B:317:LYS:O	1:B:317:LYS:CG	2.67	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:336:ILE:O	1:B:336:ILE:HG22	2.17	0.43
1:C:228:ALA:HB1	1:C:256:TYR:CE1	2.53	0.43
1:C:362:THR:O	1:C:366:MET:HG3	2.18	0.43
1:C:425:LYS:HE3	1:C:426:PRO:HD2	1.95	0.43
1:D:35:ARG:C	1:D:37:MET:H	2.20	0.43
1:A:174:VAL:HG23	1:A:175:PRO:N	2.33	0.43
1:A:240:ILE:O	1:A:258:VAL:HA	2.18	0.43
1:B:137:LEU:O	1:B:137:LEU:HD12	2.18	0.43
1:B:291:ASP:OD1	1:B:292:ASP:N	2.52	0.43
1:C:48:ARG:HD2	1:C:119:PHE:CG	2.53	0.43
1:C:244:GLU:OE2	1:D:425:LYS:CG	2.67	0.43
1:C:306:ASP:OD1	1:C:308:LYS:HD2	2.17	0.43
1:C:320:ILE:N	1:C:320:ILE:CD1	2.81	0.43
1:D:420:ILE:HG13	1:D:421:ASN:OD1	2.18	0.43
1:A:181:ASP:OD2	1:B:428:HIS:HB3	2.18	0.43
1:A:185:LYS:O	1:A:189:ASP:N	2.44	0.43
1:A:240:ILE:CD1	1:A:256:TYR:CG	3.02	0.43
1:A:419:PRO:CG	1:A:422:GLY:N	2.66	0.43
1:B:3:LYS:HE3	1:B:115:GLN:OE1	2.19	0.43
1:B:352:HIS:HB3	1:B:356:VAL:HG11	1.99	0.43
1:B:387:LYS:NZ	1:B:425:LYS:HG3	2.34	0.43
1:C:43:PRO:CG	1:C:369:ILE:CD1	2.97	0.43
1:C:94:ALA:HB3	1:C:96:ILE:HD12	1.97	0.43
1:C:242:GLU:OE1	2:C:503:NAD:H1B	2.17	0.43
1:D:93:LYS:O	1:D:95:GLY:N	2.51	0.43
1:D:240:ILE:HD12	1:D:256:TYR:HB3	2.00	0.43
1:A:126:MET:CE	1:A:150:ARG:C	2.87	0.43
1:A:154:GLU:HB3	1:A:160:VAL:HG22	2.01	0.43
1:A:320:ILE:HD13	1:A:320:ILE:H	1.83	0.43
1:B:126:MET:HE2	1:B:150:ARG:HB3	1.99	0.43
1:B:185:LYS:HD3	1:B:189:ASP:HB3	2.00	0.43
1:C:418:MET:HB2	1:C:424:PHE:HD1	1.83	0.43
1:B:53:LEU:HD12	1:B:128:LEU:CD2	2.49	0.43
1:C:419:PRO:CD	1:C:423:PRO:O	2.67	0.43
1:C:428:HIS:HB3	1:D:384:PHE:HZ	1.84	0.43
1:D:62:LEU:HB2	1:D:361:PHE:CD2	2.54	0.43
1:A:223:VAL:CB	2:A:501:NAD:O2N	2.67	0.43
1:A:283:GLY:HA2	1:A:286:PHE:CD2	2.54	0.43
1:B:35:ARG:C	1:B:37:MET:H	2.21	0.43
1:B:113:ILE:CG2	1:B:134:LEU:HD23	2.47	0.43
1:C:53:LEU:HG	1:C:130:ASP:HB2	2.01	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:33:ARG:NH1	1:D:36:GLU:OE1	2.52	0.43
1:A:93:LYS:C	1:A:95:GLY:H	2.22	0.43
1:A:244:GLU:HA	1:A:245:PRO:HD2	1.79	0.43
1:C:387:LYS:CG	1:C:391:GLU:OE2	2.66	0.43
1:D:197:SER:OG	1:D:352:HIS:CD2	2.71	0.43
1:D:281:ILE:O	1:D:281:ILE:HG22	2.18	0.43
1:A:82:SER:HA	1:A:346:LEU:O	2.19	0.43
1:A:271:PHE:CE1	1:A:289:MET:SD	3.12	0.43
1:A:428:HIS:HE1	1:B:164:TYR:CZ	2.37	0.43
1:B:69:LEU:HD23	1:B:369:ILE:HD11	1.99	0.43
1:B:407:LYS:NZ	1:B:407:LYS:CB	2.63	0.43
1:C:285:HIS:O	1:C:289:MET:HG3	2.18	0.43
1:C:302:ASP:C	1:C:303:VAL:HG13	2.38	0.43
1:B:374:HIS:N	1:B:375:PRO:HD2	2.34	0.43
1:B:419:PRO:HD2	1:B:423:PRO:O	2.18	0.43
1:C:13:LEU:HB3	1:C:86:HIS:HA	1.99	0.43
1:C:135:THR:O	1:C:139:HIS:HB2	2.19	0.43
1:C:221:GLY:O	1:C:225:LYS:HG2	2.18	0.43
1:C:419:PRO:HG2	1:C:422:GLY:C	2.38	0.43
1:C:431:TYR:CE2	1:D:247:ASN:ND2	2.78	0.43
1:D:113:ILE:HG21	1:D:137:LEU:CD2	2.45	0.43
1:A:3:LYS:NZ	1:A:74:ARG:NH1	2.67	0.42
1:A:91:ILE:O	1:A:96:ILE:HB	2.19	0.42
1:A:373:THR:C	1:A:375:PRO:CD	2.88	0.42
1:A:419:PRO:C	1:A:421:ASN:H	2.22	0.42
1:B:91:ILE:CG2	1:B:96:ILE:HB	2.49	0.42
1:B:206:THR:HG21	1:B:294:ILE:HD13	2.01	0.42
1:C:10:ASP:C	1:C:12:GLY:H	2.23	0.42
1:C:188:PHE:O	1:C:192:TYR:HB2	2.20	0.42
1:C:297:ASN:ND2	1:C:341:GLY:O	2.52	0.42
1:C:362:THR:HG21	1:C:393:VAL:HG13	2.02	0.42
1:D:110:LEU:O	1:D:114:GLU:HG2	2.19	0.42
1:D:157:THR:HB	2:D:504:NAD:H3D	2.01	0.42
1:D:425:LYS:NZ	1:D:429:TYR:CD1	2.86	0.42
1:A:21:LEU:HD22	1:A:60:ALA:HB3	2.01	0.42
1:A:275:THR:CG2	2:A:501:NAD:N7A	2.82	0.42
1:B:328:LEU:HD13	1:B:334:ARG:HD3	2.02	0.42
1:C:4:LEU:HA	1:C:5:PRO:HD3	1.91	0.42
1:C:125:ASN:OD1	1:C:125:ASN:C	2.57	0.42
1:C:404:LYS:HB2	1:D:259:THR:HA	2.00	0.42
1:D:83:THR:HG22	1:D:84:GLN:N	2.34	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:225:LYS:HZ3	1:D:250:GLN:HE22	1.68	0.42
1:A:223:VAL:HG12	1:A:274:THR:CB	2.41	0.42
1:A:295:VAL:HG12	1:A:305:ILE:CD1	2.44	0.42
1:B:31:LEU:HD21	1:B:361:PHE:HB3	2.00	0.42
1:B:178:ASN:C	1:B:178:ASN:OD1	2.56	0.42
1:C:298:ILE:HG13	2:C:503:NAD:N7N	2.34	0.42
1:C:373:THR:C	1:C:375:PRO:CD	2.88	0.42
1:C:391:GLU:HG2	1:C:391:GLU:H	1.34	0.42
1:C:415:TYR:CG	1:D:278:VAL:CG2	3.01	0.42
1:D:189:ASP:OD1	1:D:189:ASP:C	2.58	0.42
1:D:309:TRP:CE3	1:D:310:LEU:HD23	2.53	0.42
1:A:178:ASN:HD21	1:A:181:ASP:CG	2.23	0.42
1:A:419:PRO:C	1:A:422:GLY:H	2.22	0.42
1:C:62:LEU:HB2	1:C:361:PHE:CD2	2.54	0.42
1:C:223:VAL:CG2	2:C:503:NAD:O2N	2.67	0.42
1:D:84:GLN:O	1:D:87:ALA:HB3	2.19	0.42
1:A:7:LYS:HG3	1:A:101:TRP:CZ3	2.53	0.42
1:B:4:LEU:HD12	1:B:111:TRP:CZ2	2.51	0.42
1:C:91:ILE:HD12	1:C:91:ILE:HA	1.75	0.42
1:D:160:VAL:CG1	1:D:160:VAL:O	2.68	0.42
1:A:54:HIS:O	1:A:56:THR:HG23	2.19	0.42
1:B:369:ILE:O	1:B:369:ILE:CG2	2.67	0.42
1:C:60:ALA:CB	1:C:91:ILE:HD11	2.42	0.42
1:C:126:MET:HE3	1:C:150:ARG:CG	2.50	0.42
1:C:247:ASN:HA	1:C:250:GLN:HE21	1.84	0.42
1:C:283:GLY:O	1:C:287:GLU:HG3	2.19	0.42
1:C:418:MET:CB	1:C:419:PRO:CD	2.96	0.42
1:D:321:LYS:HG2	1:D:324:VAL:HG23	2.00	0.42
1:D:387:LYS:HE2	1:D:425:LYS:HG3	2.01	0.42
1:A:328:LEU:CD1	1:A:332:GLY:O	2.68	0.42
1:A:370:GLU:HB3	1:A:378:TYR:CE1	2.54	0.42
1:B:143:PRO:O	1:B:146:LEU:HD23	2.20	0.42
1:B:214:VAL:HB	1:B:268:GLY:HA2	2.00	0.42
1:C:240:ILE:O	1:C:258:VAL:HA	2.20	0.42
1:C:343:LEU:HD12	1:C:343:LEU:HA	1.85	0.42
1:A:210:ILE:CG2	1:A:234:PHE:HB2	2.50	0.42
1:A:408:LEU:HA	1:A:408:LEU:HD12	1.81	0.42
1:B:130:ASP:CB	1:B:155:GLU:HB2	2.50	0.42
1:B:298:ILE:C	1:B:299:GLY:O	2.57	0.42
1:C:163:LEU:CD1	1:C:176:ALA:CB	2.98	0.42
1:C:180:ASN:HA	1:C:185:LYS:CD	2.48	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:342:ARG:NH1	1:D:342:ARG:CG	2.81	0.42
1:A:187:LYS:NZ	1:B:431:TYR:C	2.73	0.42
1:A:369:ILE:O	1:A:373:THR:CB	2.63	0.42
1:B:418:MET:SD	1:B:424:PHE:CB	3.06	0.42
1:C:160:VAL:CG1	1:C:164:TYR:HE2	2.30	0.42
1:C:216:VAL:HG21	1:C:271:PHE:CE2	2.55	0.42
1:D:297:ASN:ND2	1:D:301:PHE:O	2.52	0.42
1:D:422:GLY:O	1:D:424:PHE:CE1	2.73	0.42
1:A:38:TYR:HB3	1:A:43:PRO:HD3	2.00	0.42
1:A:126:MET:HE2	1:A:150:ARG:HB3	1.93	0.42
1:D:53:LEU:HD11	1:D:155:GLU:HG2	2.00	0.42
1:D:80:ILE:HG13	1:D:81:PHE:CD1	2.55	0.42
1:D:142:HIS:C	1:D:144:GLN:OE1	2.58	0.42
1:D:225:LYS:NZ	1:D:250:GLN:NE2	2.67	0.42
1:D:386:PRO:O	1:D:388:LYS:N	2.53	0.42
1:A:23:ILE:HD11	1:C:320:ILE:HG12	2.02	0.41
1:A:124:LEU:HD23	1:A:124:LEU:H	1.84	0.41
1:A:418:MET:CB	1:A:424:PHE:HB3	2.50	0.41
1:B:134:LEU:O	1:B:134:LEU:HD22	2.19	0.41
1:B:164:TYR:CE1	1:B:382:VAL:CG2	3.03	0.41
1:B:418:MET:CB	1:B:419:PRO:CD	2.98	0.41
1:C:110:LEU:O	1:C:114:GLU:HG3	2.20	0.41
1:C:208:VAL:HG22	1:C:209:MET:N	2.35	0.41
1:D:91:ILE:HD13	1:D:91:ILE:H	1.85	0.41
1:A:157:THR:HG21	2:A:501:NAD:H51N	2.00	0.41
1:A:157:THR:HG21	2:A:501:NAD:O1A	2.20	0.41
1:A:209:MET:SD	1:C:356:VAL:HB	2.60	0.41
1:A:307:VAL:H	1:A:308:LYS:HZ2	1.67	0.41
1:C:57:VAL:HA	1:C:87:ALA:HB1	2.01	0.41
1:C:130:ASP:CA	1:C:155:GLU:HB2	2.49	0.41
1:C:190:ASN:ND2	2:C:503:NAD:O1N	2.53	0.41
1:C:251:ALA:O	1:C:256:TYR:HB2	2.21	0.41
1:C:291:ASP:OD1	1:C:334:ARG:NE	2.47	0.41
1:C:305:ILE:O	1:C:307:VAL:N	2.53	0.41
1:D:126:MET:CE	1:D:150:ARG:C	2.88	0.41
1:D:156:THR:OG1	2:D:504:NAD:H2D	2.19	0.41
1:D:240:ILE:CD1	1:D:256:TYR:CG	3.03	0.41
1:A:285:HIS:O	1:A:286:PHE:C	2.58	0.41
1:B:55:MET:CE	1:B:59:THR:CG2	2.98	0.41
1:B:275:THR:HG22	1:B:276:GLY:H	1.83	0.41
1:C:35:ARG:C	1:C:37:MET:H	2.24	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:68:ALA:C	1:D:70:GLY:N	2.73	0.41
1:D:73:VAL:CG1	1:D:75:TRP:HE3	2.33	0.41
1:A:2:ASP:O	1:A:3:LYS:O	2.38	0.41
1:A:144:GLN:H	1:A:144:GLN:HG3	1.51	0.41
1:A:150:ARG:NH2	1:A:372:TRP:CH2	2.88	0.41
1:A:408:LEU:HG	1:A:412:GLN:CB	2.51	0.41
1:B:339:ALA:O	1:B:342:ARG:CG	2.58	0.41
1:C:275:THR:CG2	1:C:276:GLY:N	2.83	0.41
1:A:132:GLY:O	1:A:136:ASN:HB3	2.20	0.41
1:A:157:THR:CB	2:A:501:NAD:H52N	2.51	0.41
1:B:33:ARG:HD2	1:B:33:ARG:O	2.20	0.41
1:B:286:PHE:HD2	1:B:309:TRP:CE3	2.38	0.41
1:C:139:HIS:HA	1:C:146:LEU:HD21	2.02	0.41
1:C:172:LEU:HD23	1:C:172:LEU:HA	1.91	0.41
1:A:53:LEU:HD11	1:A:155:GLU:HG2	2.02	0.41
1:A:164:TYR:CZ	1:B:428:HIS:HE1	2.38	0.41
1:A:418:MET:HB2	1:A:419:PRO:CD	2.51	0.41
1:B:62:LEU:HD12	1:B:365:VAL:CG2	2.50	0.41
1:B:126:MET:CE	1:B:150:ARG:C	2.89	0.41
1:B:126:MET:HE2	1:B:151:GLY:H	1.85	0.41
1:A:47:ALA:HB2	1:A:372:TRP:CE2	2.56	0.41
1:A:127:ILE:O	1:A:127:ILE:HG22	2.21	0.41
1:A:157:THR:HB	2:A:501:NAD:H51N	2.01	0.41
1:A:385:LEU:O	1:A:386:PRO:C	2.59	0.41
1:B:143:PRO:CA	1:B:146:LEU:CD2	2.89	0.41
1:B:255:GLY:HA2	1:C:235:GLY:O	2.21	0.41
1:B:279:ASP:HA	1:B:282:LEU:HD11	2.01	0.41
1:B:320:ILE:HG13	1:D:23:ILE:HD11	2.03	0.41
1:B:419:PRO:CB	1:B:422:GLY:CA	2.89	0.41
1:D:31:LEU:HD13	1:D:61:VAL:HG12	2.02	0.41
1:D:99:PHE:CE1	1:D:115:GLN:HB3	2.56	0.41
1:D:129:ASP:HB3	1:D:154:GLU:OE2	2.19	0.41
1:D:410:GLU:OE2	1:D:414:GLN:OE1	2.39	0.41
1:D:418:MET:SD	1:D:424:PHE:CB	3.09	0.41
1:B:352:HIS:HB3	1:B:356:VAL:CG1	2.51	0.41
1:C:38:TYR:HB3	1:C:43:PRO:HD3	2.03	0.41
1:C:48:ARG:HD2	1:C:119:PHE:HB2	2.03	0.41
1:D:74:ARG:HB3	1:D:116:THR:CB	2.49	0.41
1:D:175:PRO:HD3	1:D:380:VAL:HA	2.03	0.41
1:D:247:ASN:HD22	1:D:247:ASN:H	1.69	0.41
1:D:312:GLU:O	1:D:312:GLU:CG	2.68	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:6:TYR:HB3	1:A:97:PRO:HA	2.02	0.41
1:A:21:LEU:CD2	1:A:60:ALA:HB3	2.50	0.41
1:A:31:LEU:HD21	1:A:361:PHE:HB3	2.03	0.41
1:A:33:ARG:HA	1:A:36:GLU:HG2	2.02	0.41
1:B:48:ARG:HB3	1:B:119:PHE:CD2	2.56	0.41
1:B:83:THR:HG22	1:B:84:GLN:N	2.35	0.41
1:B:111:TRP:O	1:B:115:GLN:HG2	2.21	0.41
1:B:183:VAL:O	1:B:185:LYS:N	2.54	0.41
1:B:353:PRO:O	1:B:356:VAL:HG12	2.21	0.41
1:C:10:ASP:C	1:C:12:GLY:N	2.72	0.41
1:C:83:THR:HG22	1:C:84:GLN:N	2.36	0.41
1:C:141:LYS:CG	4:C:626:HOH:O	2.68	0.41
1:C:156:THR:HG21	1:C:300:HIS:CE1	2.56	0.41
1:D:105:THR:HB	1:D:107:GLU:OE2	2.20	0.41
1:D:202:ILE:HG22	1:D:203:LYS:N	2.36	0.41
1:D:275:THR:HG23	2:D:504:NAD:C5A	2.51	0.41
1:D:361:PHE:O	1:D:365:VAL:HG23	2.21	0.41
1:D:408:LEU:HD12	1:D:408:LEU:HA	1.81	0.41
2:D:504:NAD:H52N	2:D:504:NAD:H6N	2.02	0.41
1:A:40:ALA:HB3	4:A:701:HOH:O	2.20	0.41
1:A:156:THR:O	1:A:160:VAL:HG23	2.21	0.41
1:B:45:LYS:HD2	1:B:46:GLY:H	1.83	0.41
1:B:156:THR:HB	3:B:602:ADN:H5'1	2.03	0.41
1:C:189:ASP:OD1	1:C:189:ASP:C	2.59	0.41
1:D:6:TYR:CB	1:D:98:VAL:H	2.32	0.41
1:D:420:ILE:CG1	1:D:421:ASN:OD1	2.69	0.41
1:A:130:ASP:HA	1:A:155:GLU:HB2	2.03	0.40
1:A:154:GLU:CG	1:A:160:VAL:HG22	2.51	0.40
1:B:6:TYR:HB3	1:B:97:PRO:HA	2.01	0.40
1:B:171:ILE:O	1:B:171:ILE:CG2	2.67	0.40
1:B:198:LEU:HD22	1:B:227:CYS:SG	2.60	0.40
1:C:152:ILE:HG13	1:C:174:VAL:CG2	2.51	0.40
1:D:389:LEU:O	1:D:392:ALA:HB3	2.20	0.40
1:A:100:ALA:O	1:A:101:TRP:HE3	2.04	0.40
1:A:240:ILE:HD12	1:A:256:TYR:HB3	2.04	0.40
1:B:72:GLU:O	1:B:73:VAL:HG23	2.21	0.40
1:B:271:PHE:CE1	1:B:289:MET:HG2	2.56	0.40
1:C:48:ARG:HD2	1:C:119:PHE:CB	2.51	0.40
1:C:408:LEU:O	1:C:420:ILE:HD12	2.22	0.40
1:D:48:ARG:HH11	1:D:48:ARG:CG	2.32	0.40
1:D:428:HIS:CD2	1:D:428:HIS:N	2.89	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:301:PHE:HB2	4:B:621:HOH:O	2.20	0.40
1:C:334:ARG:C	1:C:335:ILE:HG12	2.42	0.40
1:C:425:LYS:HG3	1:C:431:TYR:OH	2.22	0.40
1:D:38:TYR:O	1:D:43:PRO:CD	2.70	0.40
1:D:54:HIS:CE1	1:D:78:CYS:HG	2.40	0.40
1:D:240:ILE:HD12	1:D:256:TYR:CG	2.55	0.40
1:D:321:LYS:HG2	1:D:324:VAL:HG21	2.04	0.40
1:D:419:PRO:C	1:D:421:ASN:N	2.71	0.40
1:A:259:THR:HB	1:A:260:THR:H	1.67	0.40
1:A:425:LYS:HZ2	1:A:426:PRO:HD3	1.87	0.40
1:B:199:ILE:O	1:B:203:LYS:HB2	2.22	0.40
1:B:239:ILE:HG23	1:B:257:GLU:HG2	2.03	0.40
1:B:387:LYS:HZ1	1:B:425:LYS:HG3	1.87	0.40
1:B:389:LEU:O	1:B:393:VAL:HG23	2.21	0.40
1:C:30:GLY:O	1:C:33:ARG:HB3	2.21	0.40
1:C:38:TYR:HB3	1:C:43:PRO:CD	2.50	0.40
1:C:184:THR:CG2	1:C:390:ASP:OD2	2.59	0.40
1:D:113:ILE:CG2	1:D:137:LEU:CD2	2.98	0.40
1:D:285:HIS:O	1:D:287:GLU:N	2.54	0.40
1:A:277:CYS:HA	1:B:415:TYR:HE2	1.87	0.40
1:A:372:TRP:O	1:A:372:TRP:CG	2.75	0.40
1:B:214:VAL:CG1	1:B:239:ILE:HD12	2.51	0.40
1:C:152:ILE:HG13	1:C:174:VAL:HG22	2.04	0.40
1:C:223:VAL:O	1:C:227:CYS:SG	2.79	0.40
1:D:31:LEU:HD23	1:D:31:LEU:HA	1.68	0.40
1:D:391:GLU:HG2	1:D:391:GLU:H	1.38	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	428/431 (99%)	367 (86%)	50 (12%)	11 (3%)	5 18
1	B	428/431 (99%)	373 (87%)	43 (10%)	12 (3%)	5 17
1	C	428/431 (99%)	374 (87%)	42 (10%)	12 (3%)	5 17
1	D	428/431 (99%)	358 (84%)	57 (13%)	13 (3%)	4 15
All	All	1712/1724 (99%)	1472 (86%)	192 (11%)	48 (3%)	5 17

All (48) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	3	LYS
1	A	425	LYS
1	B	425	LYS
1	C	184	THR
1	D	415	TYR
1	A	6	TYR
1	A	333	HIS
1	B	121	ASP
1	B	184	THR
1	B	265	CYS
1	C	3	LYS
1	C	6	TYR
1	C	183	VAL
1	C	299	GLY
1	C	303	VAL
1	D	380	VAL
1	A	85	ASP
1	A	424	PHE
1	B	6	TYR
1	D	55	MET
1	D	100	ALA
1	D	123	PRO
1	A	181	ASP
1	A	322	PRO
1	A	380	VAL
1	B	101	TRP
1	B	168	ALA
1	B	181	ASP
1	B	415	TYR
1	B	424	PHE
1	C	28	MET
1	C	181	ASP
1	C	424	PHE

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Mol	Chain	Res	Type
1	D	6	TYR
1	D	424	PHE
1	A	253	MET
1	C	429	TYR
1	D	54	HIS
1	D	83	THR
1	D	181	ASP
1	D	195	ARG
1	D	386	PRO
1	A	386	PRO
1	C	11	ILE
1	B	303	VAL
1	C	425	LYS
1	B	322	PRO
1	D	246	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	353/353 (100%)	282 (80%)	71 (20%)	1 4
1	B	353/353 (100%)	271 (77%)	82 (23%)	1 2
1	C	353/353 (100%)	269 (76%)	84 (24%)	0 2
1	D	353/353 (100%)	281 (80%)	72 (20%)	1 4
All	All	1412/1412 (100%)	1103 (78%)	309 (22%)	1 3

All (309) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	11	ILE
1	A	13	LEU
1	A	26	ASN
1	A	53	LEU
1	A	55	MET
1	A	74	ARG

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Mol	Chain	Res	Type
1	A	79	ASN
1	A	93	LYS
1	A	110	LEU
1	A	114	GLU
1	A	121	ASP
1	A	128	LEU
1	A	134	LEU
1	A	135	THR
1	A	136	ASN
1	A	139	HIS
1	A	144	GLN
1	A	146	LEU
1	A	153	SER
1	A	155	GLU
1	A	158	THR
1	A	163	LEU
1	A	165	LYS
1	A	172	LEU
1	A	174	VAL
1	A	177	ILE
1	A	182	SER
1	A	186	SER
1	A	187	LYS
1	A	198	LEU
1	A	232	ARG
1	A	242	GLU
1	A	257	GLU
1	A	263	GLU
1	A	267	GLU
1	A	275	THR
1	A	277	CYS
1	A	282	LEU
1	A	284	ARG
1	A	298	ILE
1	A	308	LYS
1	A	316	GLU
1	A	320	ILE
1	A	334	ARG
1	A	337	LEU
1	A	342	ARG
1	A	354	SER
1	A	356	VAL

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Mol	Chain	Res	Type
1	A	357	MET
1	A	358	SER
1	A	360	SER
1	A	374	HIS
1	A	376	ASP
1	A	382	VAL
1	A	385	LEU
1	A	387	LYS
1	A	388	LYS
1	A	391	GLU
1	A	395	GLU
1	A	400	LYS
1	A	405	LEU
1	A	407	LYS
1	A	408	LEU
1	A	410	GLU
1	A	411	LYS
1	A	418	MET
1	A	420	ILE
1	A	424	PHE
1	A	425	LYS
1	A	427	ASP
1	A	429	TYR
1	B	3	LYS
1	B	6	TYR
1	B	13	LEU
1	B	26	ASN
1	B	39	SER
1	B	45	LYS
1	B	52	CYS
1	B	53	LEU
1	B	55	MET
1	B	86	HIS
1	B	91	ILE
1	B	93	LYS
1	B	104	GLU
1	B	107	GLU
1	B	110	LEU
1	B	114	GLU
1	B	116	THR
1	B	119	PHE
1	B	121	ASP

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Mol	Chain	Res	Type
1	B	134	LEU
1	B	135	THR
1	B	136	ASN
1	B	137	LEU
1	B	144	GLN
1	B	146	LEU
1	B	153	SER
1	B	154	GLU
1	B	155	GLU
1	B	157	THR
1	B	158	THR
1	B	165	LYS
1	B	172	LEU
1	B	174	VAL
1	B	177	ILE
1	B	182	SER
1	B	186	SER
1	B	196	GLU
1	B	197	SER
1	B	198	LEU
1	B	199	ILE
1	B	209	MET
1	B	232	ARG
1	B	234	PHE
1	B	240	ILE
1	B	242	GLU
1	B	254	GLU
1	B	257	GLU
1	B	266	LYS
1	B	267	GLU
1	B	274	THR
1	B	277	CYS
1	B	278	VAL
1	B	282	LEU
1	B	284	ARG
1	B	297	ASN
1	B	308	LYS
1	B	317	LYS
1	B	320	ILE
1	B	334	ARG
1	B	337	LEU
1	B	357	MET

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Mol	Chain	Res	Type
1	B	358	SER
1	B	371	LEU
1	B	376	ASP
1	B	377	LYS
1	B	382	VAL
1	B	385	LEU
1	B	388	LYS
1	B	390	ASP
1	B	391	GLU
1	B	395	GLU
1	B	405	LEU
1	B	407	LYS
1	B	408	LEU
1	B	411	LYS
1	B	418	MET
1	B	420	ILE
1	B	423	PRO
1	B	424	PHE
1	B	425	LYS
1	B	427	ASP
1	B	429	TYR
1	C	2	ASP
1	C	3	LYS
1	C	13	LEU
1	C	26	ASN
1	C	39	SER
1	C	45	LYS
1	C	49	ILE
1	C	52	CYS
1	C	53	LEU
1	C	55	MET
1	C	57	VAL
1	C	69	LEU
1	C	79	ASN
1	C	86	HIS
1	C	91	ILE
1	C	93	LYS
1	C	98	VAL
1	C	102	LYS
1	C	106	ASP
1	C	110	LEU
1	C	121	ASP

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Mol	Chain	Res	Type
1	C	134	LEU
1	C	135	THR
1	C	136	ASN
1	C	137	LEU
1	C	139	HIS
1	C	144	GLN
1	C	146	LEU
1	C	147	SER
1	C	150	ARG
1	C	154	GLU
1	C	155	GLU
1	C	156	THR
1	C	158	THR
1	C	172	LEU
1	C	174	VAL
1	C	182	SER
1	C	189	ASP
1	C	196	GLU
1	C	198	LEU
1	C	209	MET
1	C	225	LYS
1	C	232	ARG
1	C	240	ILE
1	C	242	GLU
1	C	267	GLU
1	C	274	THR
1	C	277	CYS
1	C	279	ASP
1	C	282	LEU
1	C	297	ASN
1	C	298	ILE
1	C	308	LYS
1	C	320	ILE
1	C	334	ARG
1	C	337	LEU
1	C	342	ARG
1	C	343	LEU
1	C	345	ASN
1	C	346	LEU
1	C	357	MET
1	C	358	SER
1	C	359	ASN

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Mol	Chain	Res	Type
1	C	374	HIS
1	C	376	ASP
1	C	377	LYS
1	C	382	VAL
1	C	385	LEU
1	C	388	LYS
1	C	391	GLU
1	C	398	LEU
1	C	400	LYS
1	C	405	LEU
1	C	406	THR
1	C	407	LYS
1	C	408	LEU
1	C	411	LYS
1	C	418	MET
1	C	420	ILE
1	C	424	PHE
1	C	425	LYS
1	C	427	ASP
1	C	429	TYR
1	C	430	ARG
1	D	2	ASP
1	D	3	LYS
1	D	13	LEU
1	D	23	ILE
1	D	26	ASN
1	D	39	SER
1	D	52	CYS
1	D	53	LEU
1	D	55	MET
1	D	74	ARG
1	D	76	SER
1	D	80	ILE
1	D	86	HIS
1	D	91	ILE
1	D	93	LYS
1	D	98	VAL
1	D	106	ASP
1	D	110	LEU
1	D	114	GLU
1	D	119	PHE
1	D	134	LEU

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Mol	Chain	Res	Type
1	D	135	THR
1	D	136	ASN
1	D	137	LEU
1	D	139	HIS
1	D	141	LYS
1	D	144	GLN
1	D	146	LEU
1	D	149	ILE
1	D	154	GLU
1	D	158	THR
1	D	163	LEU
1	D	169	ASN
1	D	172	LEU
1	D	174	VAL
1	D	182	SER
1	D	186	SER
1	D	213	LYS
1	D	232	ARG
1	D	254	GLU
1	D	267	GLU
1	D	277	CYS
1	D	278	VAL
1	D	281	ILE
1	D	282	LEU
1	D	298	ILE
1	D	308	LYS
1	D	320	ILE
1	D	321	LYS
1	D	334	ARG
1	D	336	ILE
1	D	337	LEU
1	D	342	ARG
1	D	357	MET
1	D	358	SER
1	D	364	GLN
1	D	371	LEU
1	D	374	HIS
1	D	377	LYS
1	D	382	VAL
1	D	388	LYS
1	D	391	GLU
1	D	395	GLU

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Mol	Chain	Res	Type
1	D	405	LEU
1	D	407	LYS
1	D	408	LEU
1	D	418	MET
1	D	420	ILE
1	D	424	PHE
1	D	425	LYS
1	D	427	ASP
1	D	429	TYR

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (65) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	26	ASN
1	A	84	GLN
1	A	161	HIS
1	A	247	ASN
1	A	250	GLN
1	A	269	ASN
1	A	313	ASN
1	A	319	ASN
1	A	323	GLN
1	A	352	HIS
1	A	359	ASN
1	A	364	GLN
1	A	383	HIS
1	A	402	ASN
1	A	412	GLN
1	A	414	GLN
1	A	428	HIS
1	B	26	ASN
1	B	84	GLN
1	B	250	GLN
1	B	269	ASN
1	B	300	HIS
1	B	352	HIS
1	B	359	ASN
1	B	364	GLN
1	B	368	GLN
1	B	402	ASN
1	B	412	GLN
1	B	414	GLN

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Mol	Chain	Res	Type
1	B	428	HIS
1	C	26	ASN
1	C	84	GLN
1	C	161	HIS
1	C	178	ASN
1	C	247	ASN
1	C	250	GLN
1	C	269	ASN
1	C	300	HIS
1	C	313	ASN
1	C	323	GLN
1	C	345	ASN
1	C	352	HIS
1	C	364	GLN
1	C	374	HIS
1	C	383	HIS
1	C	412	GLN
1	C	414	GLN
1	C	428	HIS
1	D	26	ASN
1	D	84	GLN
1	D	169	ASN
1	D	178	ASN
1	D	247	ASN
1	D	250	GLN
1	D	269	ASN
1	D	313	ASN
1	D	352	HIS
1	D	359	ASN
1	D	364	GLN
1	D	368	GLN
1	D	374	HIS
1	D	402	ASN
1	D	412	GLN
1	D	414	GLN
1	D	428	HIS

5.3.3 RNA

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)

8 ligands are modelled in this entry.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\| > 2$	Counts	RMSZ	$\#\|Z\| > 2$
3	ADN	A	601	-	18,21,21	0.92	0	18,31,31	1.65	6 (33%)
2	NAD	C	503	-	42,48,48	1.47	4 (9%)	50,73,73	1.82	12 (24%)
3	ADN	B	602	-	18,21,21	0.88	0	18,31,31	1.89	6 (33%)
3	ADN	D	604	-	18,21,21	0.89	0	18,31,31	2.35	7 (38%)
2	NAD	B	502	-	42,48,48	1.62	5 (11%)	50,73,73	1.67	12 (24%)
2	NAD	A	501	-	42,48,48	1.71	5 (11%)	50,73,73	2.02	14 (28%)
3	ADN	C	603	-	18,21,21	0.82	1 (5%)	18,31,31	2.26	8 (44%)
2	NAD	D	504	-	42,48,48	1.41	4 (9%)	50,73,73	1.71	11 (22%)

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
3	ADN	A	601	-	-	2/2/22/22	0/3/3/3
2	NAD	C	503	-	-	10/26/62/62	0/5/5/5
3	ADN	B	602	-	-	0/2/22/22	0/3/3/3
3	ADN	D	604	-	-	0/2/22/22	0/3/3/3

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
2	NAD	B	502	-	-	8/26/62/62	0/5/5/5
2	NAD	A	501	-	-	10/26/62/62	0/5/5/5
3	ADN	C	603	-	-	0/2/22/22	0/3/3/3
2	NAD	D	504	-	-	12/26/62/62	0/5/5/5

All (19) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	A	501	NAD	C2N-N1N	6.43	1.42	1.35
2	D	504	NAD	C2N-N1N	6.17	1.42	1.35
2	A	501	NAD	O4B-C1B	6.02	1.49	1.41
2	C	503	NAD	C2N-N1N	5.91	1.42	1.35
2	B	502	NAD	C2N-N1N	5.77	1.42	1.35
2	B	502	NAD	O4B-C1B	5.01	1.48	1.41
2	B	502	NAD	O4D-C1D	4.43	1.47	1.41
2	C	503	NAD	O4B-C1B	3.69	1.46	1.41
2	C	503	NAD	C3N-C7N	3.49	1.55	1.50
2	A	501	NAD	C3N-C7N	3.40	1.55	1.50
2	B	502	NAD	C3N-C7N	2.80	1.54	1.50
2	D	504	NAD	C3N-C7N	2.61	1.54	1.50
2	D	504	NAD	O4D-C1D	2.33	1.44	1.41
2	C	503	NAD	O4D-C1D	2.23	1.44	1.41
2	A	501	NAD	C6N-N1N	2.22	1.40	1.35
2	D	504	NAD	C6N-N1N	2.08	1.40	1.35
2	B	502	NAD	C5A-N7A	-2.07	1.32	1.39
2	A	501	NAD	C5A-N7A	-2.02	1.32	1.39
3	C	603	ADN	C5-N7	-2.01	1.32	1.39

All (76) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	A	501	NAD	O4D-C1D-C2D	-7.60	95.82	106.93
2	C	503	NAD	O7N-C7N-C3N	5.15	125.79	119.63
2	B	502	NAD	C6N-N1N-C2N	-4.77	117.63	121.97
2	A	501	NAD	C6N-N1N-C2N	-4.62	117.76	121.97
3	D	604	ADN	O4'-C1'-C2'	-4.47	100.40	106.93
2	D	504	NAD	O4D-C1D-C2D	-4.27	100.68	106.93
2	D	504	NAD	O4D-C4D-C3D	-4.14	96.92	105.11
3	D	604	ADN	O4'-C4'-C3'	-4.01	97.17	105.11
2	C	503	NAD	O4D-C1D-C2D	-3.97	101.12	106.93
2	A	501	NAD	O4D-C4D-C3D	-3.95	97.29	105.11

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
3	C	603	ADN	O2'-C2'-C3'	-3.95	99.04	111.82
2	D	504	NAD	C6N-N1N-C2N	-3.71	118.59	121.97
2	C	503	NAD	C6N-N1N-C2N	-3.70	118.60	121.97
3	C	603	ADN	O4'-C1'-C2'	-3.67	101.57	106.93
3	C	603	ADN	N3-C2-N1	-3.62	123.03	128.68
3	D	604	ADN	N3-C2-N1	-3.52	123.17	128.68
2	D	504	NAD	O4B-C1B-C2B	-3.51	101.80	106.93
3	D	604	ADN	O2'-C2'-C3'	-3.41	100.79	111.82
3	C	603	ADN	C3'-C2'-C1'	3.35	106.03	100.98
3	C	603	ADN	C5-C6-N1	-3.35	112.77	120.35
3	B	602	ADN	N3-C2-N1	-3.29	123.53	128.68
2	C	503	NAD	O2D-C2D-C3D	-3.28	101.21	111.82
2	B	502	NAD	PN-O3-PA	3.26	144.00	132.83
2	B	502	NAD	C5A-C6A-N6A	3.22	125.25	120.35
2	C	503	NAD	N3A-C2A-N1A	-3.21	123.67	128.68
2	D	504	NAD	N3A-C2A-N1A	-3.15	123.75	128.68
2	B	502	NAD	N3A-C2A-N1A	-3.14	123.78	128.68
3	B	602	ADN	C5-C6-N1	-3.12	113.29	120.35
3	B	602	ADN	C3'-C2'-C1'	3.11	105.67	100.98
2	C	503	NAD	C5A-C6A-N6A	3.11	125.07	120.35
2	A	501	NAD	O3D-C3D-C2D	-3.05	101.95	111.82
3	A	601	ADN	N3-C2-N1	-3.03	123.95	128.68
2	C	503	NAD	O7N-C7N-N7N	-3.00	118.32	122.58
3	C	603	ADN	C5-C6-N6	2.95	124.84	120.35
2	C	503	NAD	C5A-C6A-N1A	-2.93	113.70	120.35
2	B	502	NAD	C5A-C6A-N1A	-2.89	113.79	120.35
3	A	601	ADN	C5-C6-N1	-2.88	113.83	120.35
3	D	604	ADN	C5-C6-N1	-2.87	113.84	120.35
3	B	602	ADN	C5-C6-N6	2.86	124.70	120.35
2	C	503	NAD	C3D-C2D-C1D	2.82	105.22	100.98
2	A	501	NAD	C5A-C6A-N1A	-2.80	114.01	120.35
2	B	502	NAD	O2D-C2D-C3D	-2.76	102.89	111.82
2	B	502	NAD	O4D-C1D-C2D	-2.75	102.91	106.93
2	D	504	NAD	C5A-C6A-N1A	-2.71	114.20	120.35
3	C	603	ADN	C2-N1-C6	2.56	123.13	118.75
2	A	501	NAD	O4B-C4B-C3B	2.48	110.03	105.11
2	C	503	NAD	C3N-C2N-N1N	2.46	122.83	120.43
2	A	501	NAD	N3A-C2A-N1A	-2.43	124.88	128.68
2	A	501	NAD	C5A-C6A-N6A	2.40	124.00	120.35
2	D	504	NAD	C3B-C2B-C1B	2.39	104.57	100.98
3	D	604	ADN	C4-C5-N7	2.36	111.86	109.40
3	B	602	ADN	C2-N1-C6	2.34	122.75	118.75

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	A	501	NAD	C2N-C3N-C7N	2.33	126.23	119.46
2	A	501	NAD	O4D-C4D-C5D	-2.31	101.77	109.37
2	D	504	NAD	C4A-C5A-N7A	2.29	111.79	109.40
3	D	604	ADN	C3'-C2'-C1'	2.29	104.42	100.98
2	D	504	NAD	O2D-C2D-C3D	-2.29	104.42	111.82
2	B	502	NAD	C3B-C2B-C1B	2.28	104.41	100.98
2	B	502	NAD	O5D-PN-O1N	2.28	117.97	109.07
3	C	603	ADN	O4'-C4'-C3'	-2.28	100.61	105.11
2	A	501	NAD	C3N-C7N-N7N	2.24	120.44	117.75
3	B	602	ADN	C4-C5-N7	2.23	111.72	109.40
2	B	502	NAD	C2N-N1N-C1D	2.18	123.98	119.14
3	A	601	ADN	C3'-C2'-C1'	2.16	104.23	100.98
2	A	501	NAD	C5B-C4B-C3B	-2.15	107.11	115.18
2	C	503	NAD	C3B-C2B-C1B	2.13	104.18	100.98
2	C	503	NAD	PN-O3-PA	2.11	140.06	132.83
2	D	504	NAD	O3D-C3D-C4D	-2.10	104.97	111.05
2	B	502	NAD	C4N-C3N-C7N	-2.07	115.49	121.04
2	A	501	NAD	C4N-C3N-C7N	-2.05	115.56	121.04
2	D	504	NAD	C5A-C6A-N6A	2.04	123.46	120.35
3	A	601	ADN	O2'-C2'-C3'	-2.04	105.23	111.82
3	A	601	ADN	O4'-C4'-C5'	2.02	113.59	109.21
2	B	502	NAD	C2N-C3N-C7N	2.02	125.32	119.46
2	A	501	NAD	C2N-N1N-C1D	2.01	123.61	119.14
3	A	601	ADN	C5-C6-N6	2.00	123.40	120.35

There are no chirality outliers.

All (42) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
2	A	501	NAD	C3B-C4B-C5B-O5B
2	A	501	NAD	C5D-O5D-PN-O1N
2	A	501	NAD	C5D-O5D-PN-O2N
2	A	501	NAD	O4D-C1D-N1N-C6N
2	B	502	NAD	C3B-C4B-C5B-O5B
2	B	502	NAD	O4D-C4D-C5D-O5D
2	B	502	NAD	C3D-C4D-C5D-O5D
2	B	502	NAD	O4D-C1D-N1N-C6N
2	C	503	NAD	C5B-O5B-PA-O3
2	C	503	NAD	O4B-C4B-C5B-O5B
2	C	503	NAD	C3B-C4B-C5B-O5B
2	C	503	NAD	C5D-O5D-PN-O1N
2	C	503	NAD	O4D-C1D-N1N-C6N

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Mol	Chain	Res	Type	Atoms
2	D	504	NAD	C5B-O5B-PA-O1A
2	D	504	NAD	C5D-O5D-PN-O1N
2	D	504	NAD	O4D-C1D-N1N-C2N
2	D	504	NAD	O4D-C1D-N1N-C6N
2	D	504	NAD	C2D-C1D-N1N-C2N
2	A	501	NAD	O4B-C4B-C5B-O5B
2	B	502	NAD	O4B-C4B-C5B-O5B
3	A	601	ADN	C3'-C4'-C5'-O5'
3	A	601	ADN	O4'-C4'-C5'-O5'
2	A	501	NAD	PA-O3-PN-O5D
2	B	502	NAD	PA-O3-PN-O5D
2	C	503	NAD	C5D-O5D-PN-O3
2	D	504	NAD	C5B-O5B-PA-O3
2	D	504	NAD	C5D-O5D-PN-O3
2	B	502	NAD	PN-O3-PA-O1A
2	C	503	NAD	C5B-O5B-PA-O2A
2	C	503	NAD	C5D-O5D-PN-O2N
2	D	504	NAD	C5B-O5B-PA-O2A
2	D	504	NAD	C5D-O5D-PN-O2N
2	D	504	NAD	C3B-C4B-C5B-O5B
2	D	504	NAD	O4B-C4B-C5B-O5B
2	A	501	NAD	PN-O3-PA-O1A
2	C	503	NAD	C4N-C3N-C7N-O7N
2	A	501	NAD	C5D-O5D-PN-O3
2	A	501	NAD	C2D-C1D-N1N-C2N
2	D	504	NAD	C2D-C1D-N1N-C6N
2	A	501	NAD	PN-O3-PA-O2A
2	B	502	NAD	PN-O3-PA-O2A
2	C	503	NAD	C4N-C3N-C7N-N7N

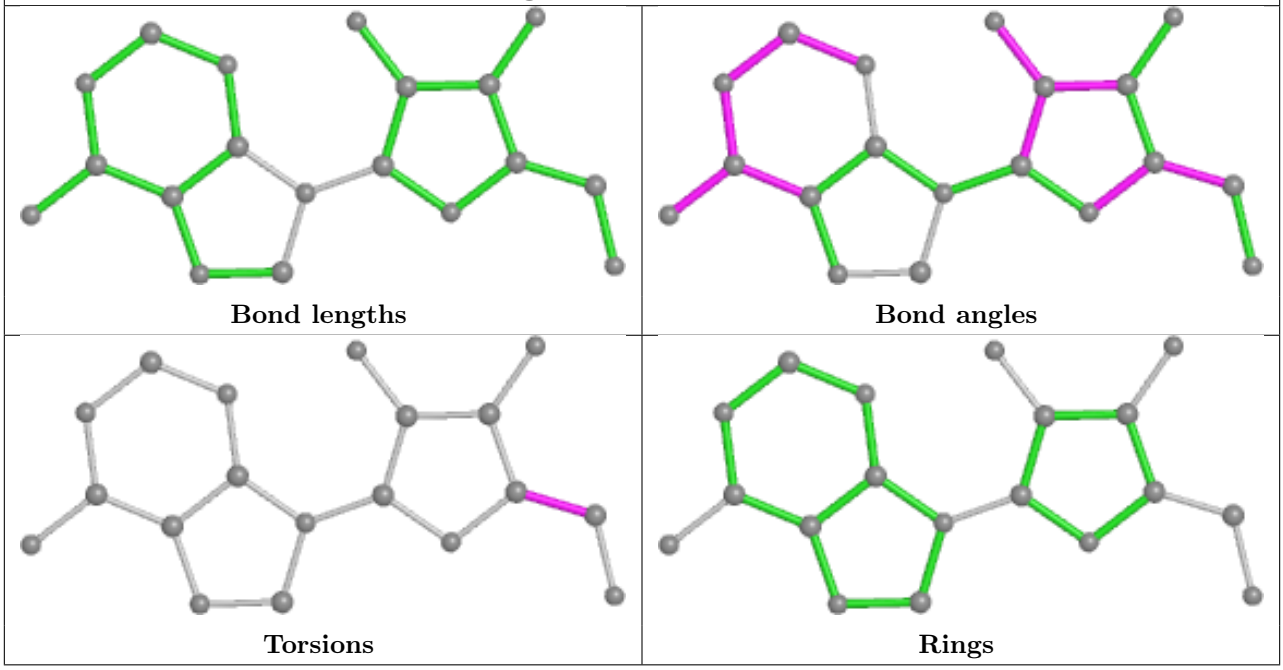
There are no ring outliers.

8 monomers are involved in 57 short contacts:

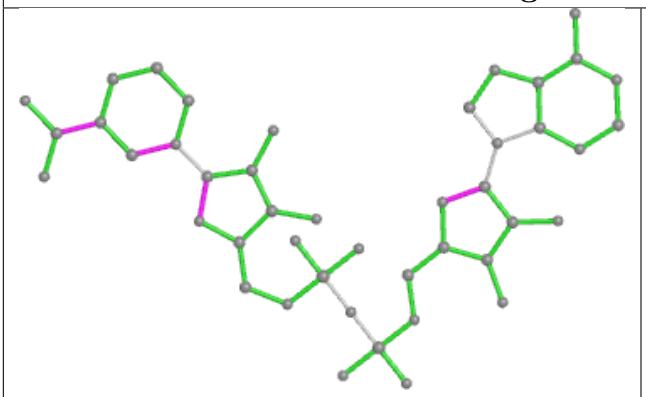
Mol	Chain	Res	Type	Clashes	Symm-Clashes
3	A	601	ADN	3	0
2	C	503	NAD	7	0
3	B	602	ADN	2	0
3	D	604	ADN	1	0
2	B	502	NAD	16	0
2	A	501	NAD	22	0
3	C	603	ADN	1	0
2	D	504	NAD	9	0

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 then 5% of the Mogul distribution of torsion angles is within 10 degrees of the torsion angle in question, then that torsion angle is considered an outlier. Any bond that is central to one or more torsion angles identified as an outlier by Mogul will be highlighted in the graph. For rings, the root-mean-square deviation (RMSD) between the ring in question and similar rings identified by Mogul is calculated over all ring torsion angles. If the average RMSD is greater than 60 degrees and the minimal RMSD between the ring in question and any Mogul-identified rings is also greater than 60 degrees, then that ring is considered an outlier. The outliers are highlighted in purple. The color gray indicates Mogul did not find sufficient equivalents in the CSD to analyse the geometry.

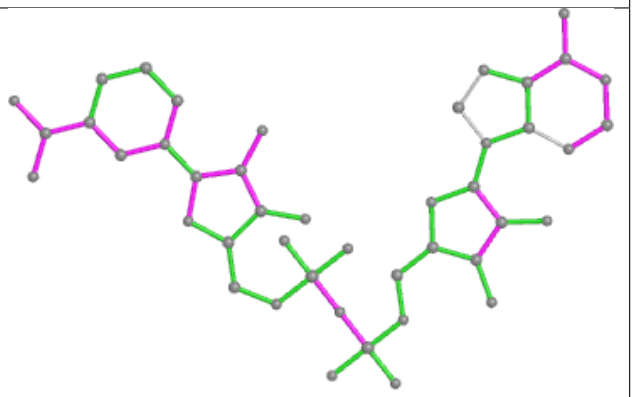
Ligand ADN A 601



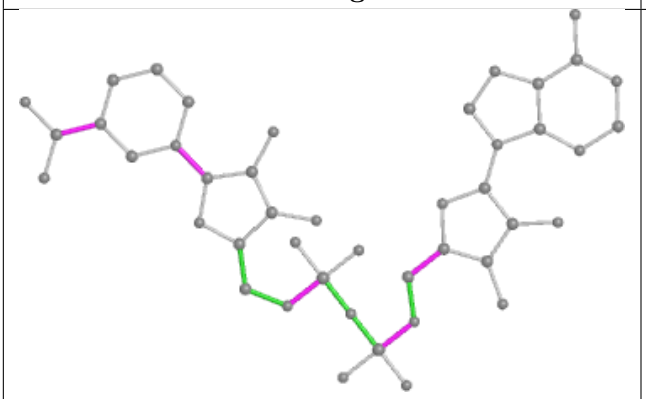
Ligand NAD C 503



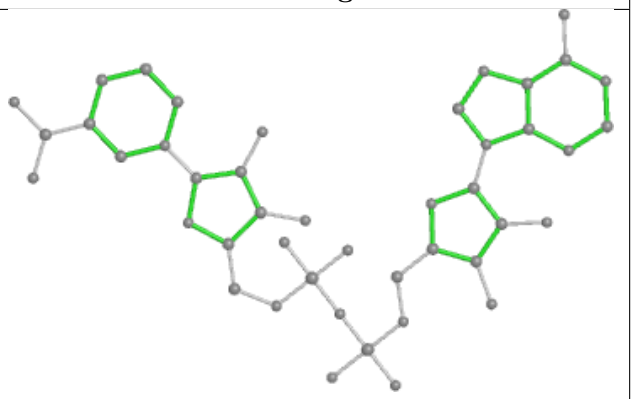
Bond lengths



Bond angles

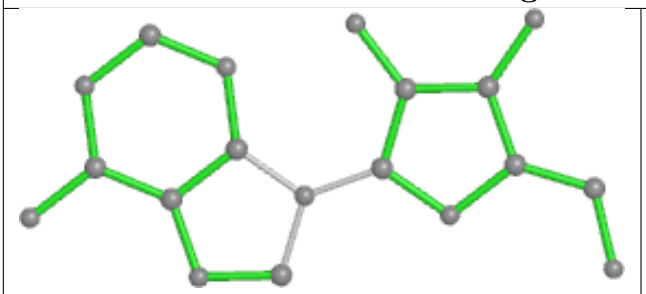


Torsions

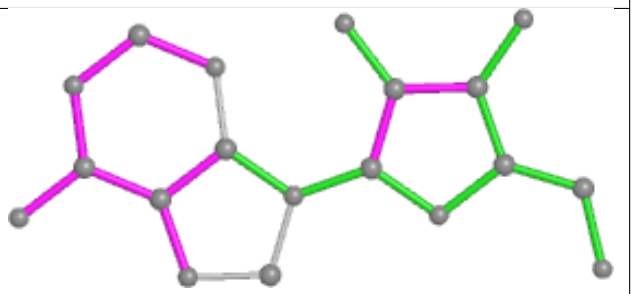


Rings

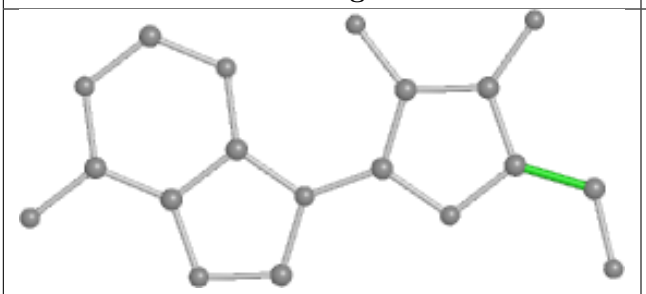
Ligand ADN B 602



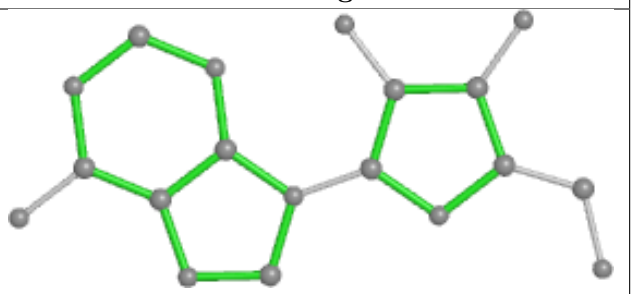
Bond lengths



Bond angles

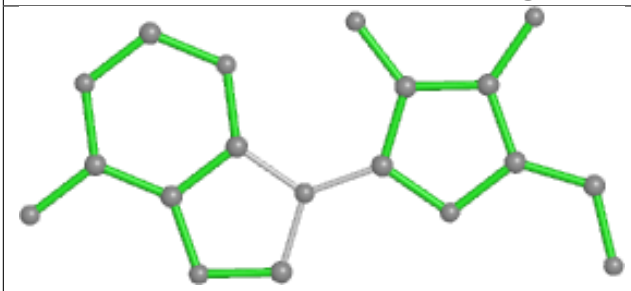


Torsions

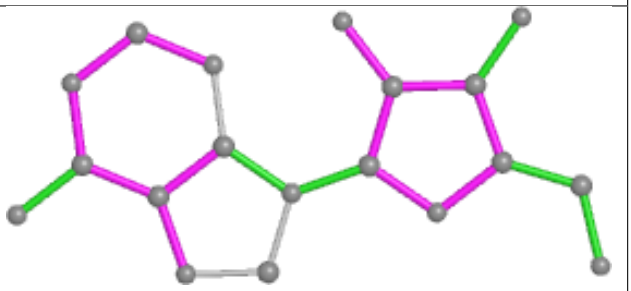


Rings

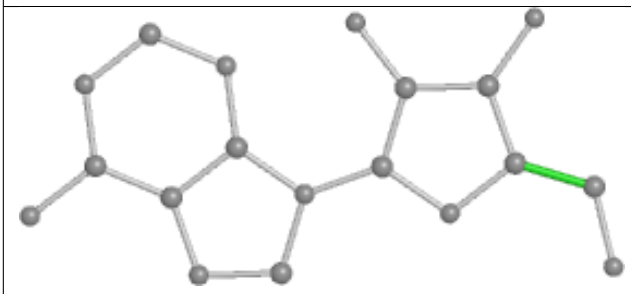
Ligand ADN D 604



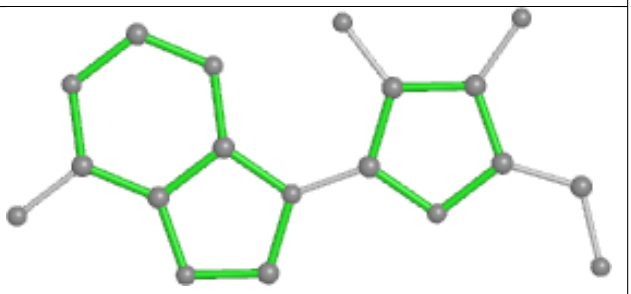
Bond lengths



Bond angles

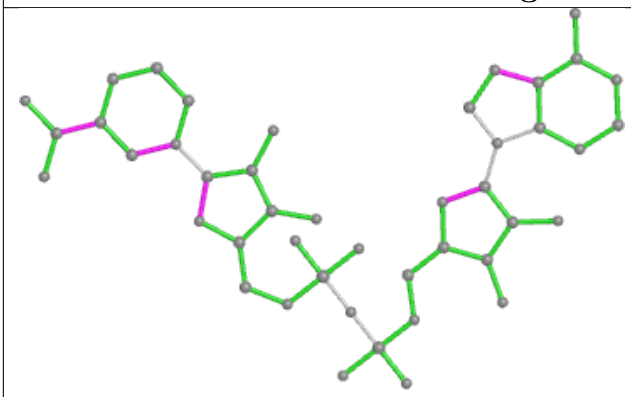


Torsions

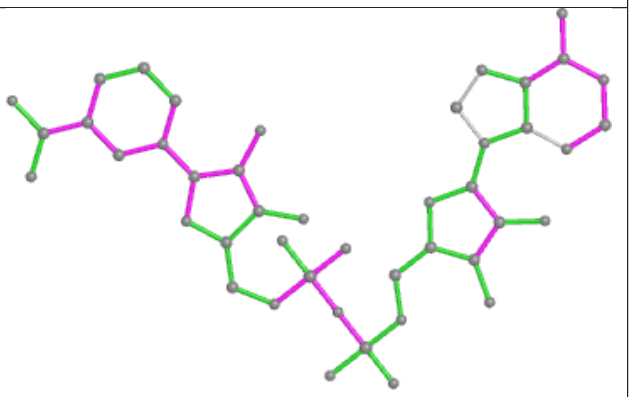


Rings

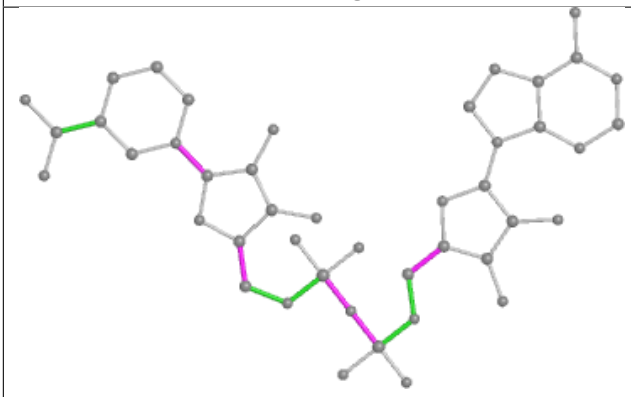
Ligand NAD B 502



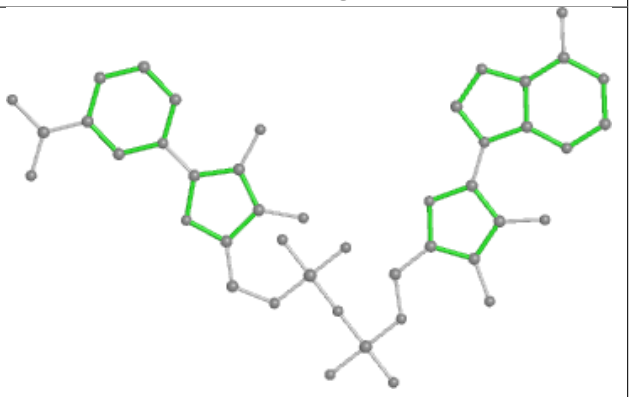
Bond lengths



Bond angles

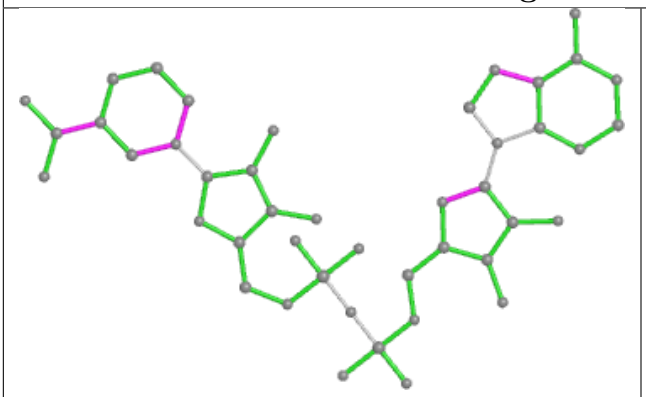


Torsions

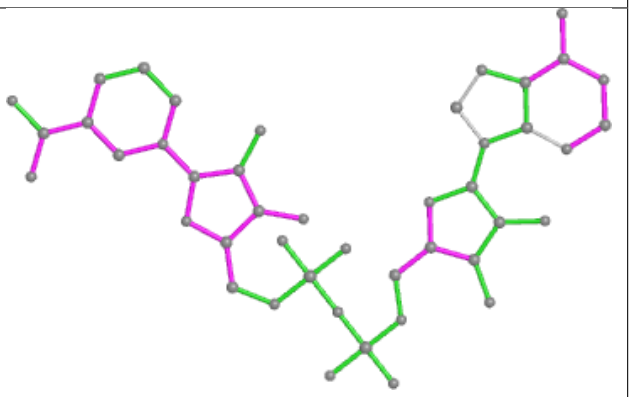


Rings

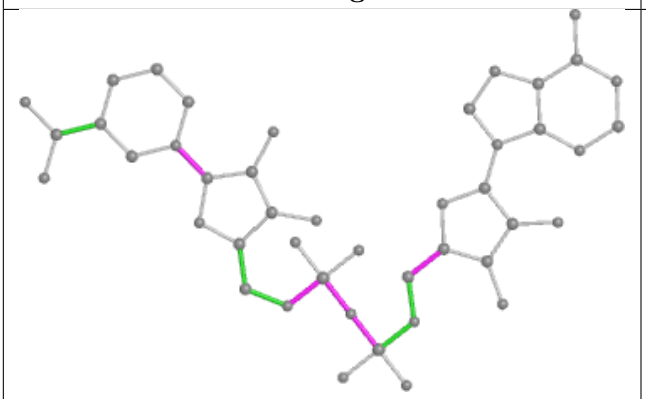
Ligand NAD A 501



Bond lengths



Bond angles



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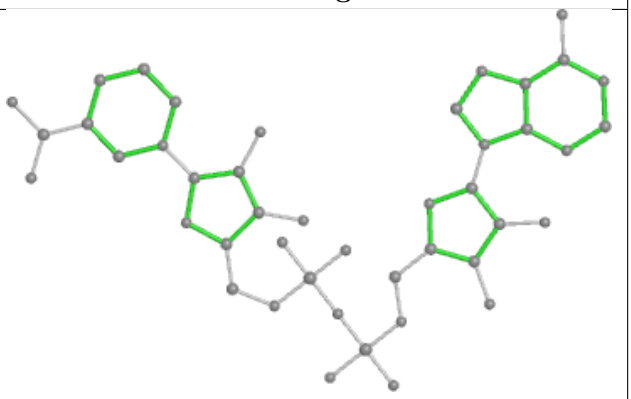
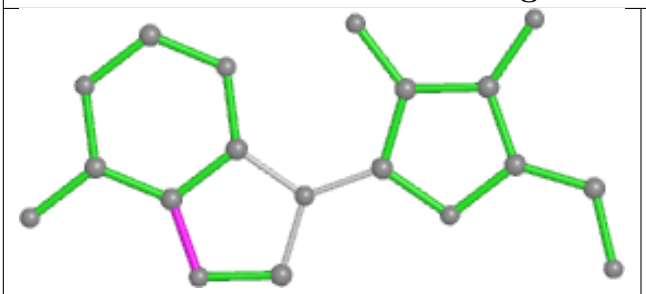


Rings

Ligand ADN C 603



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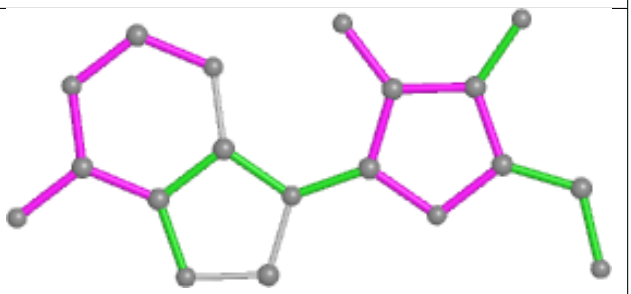
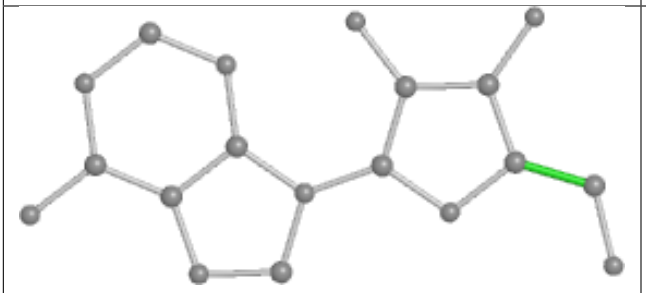


Bond angles



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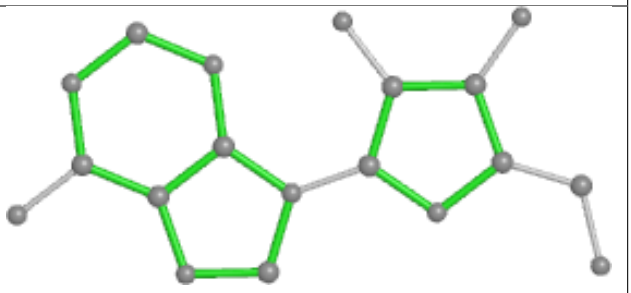
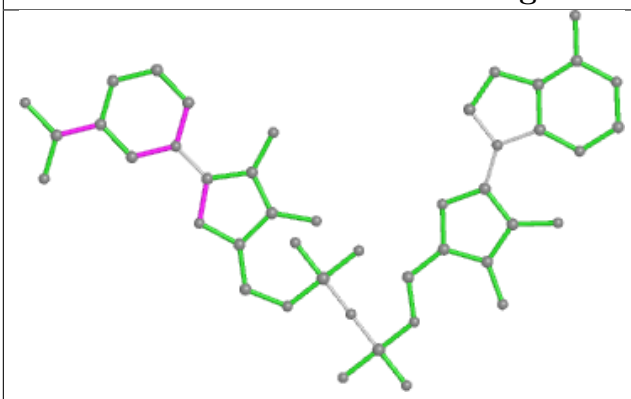
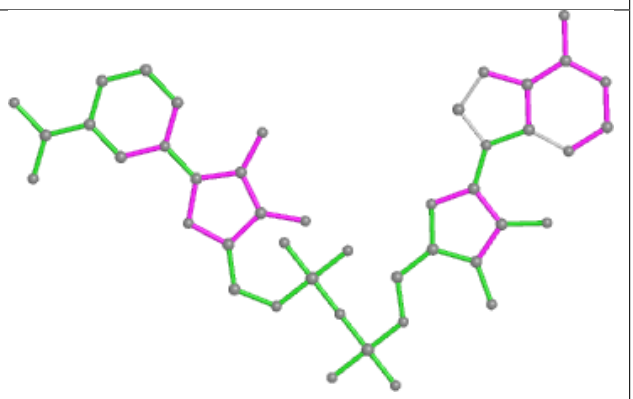


Rings

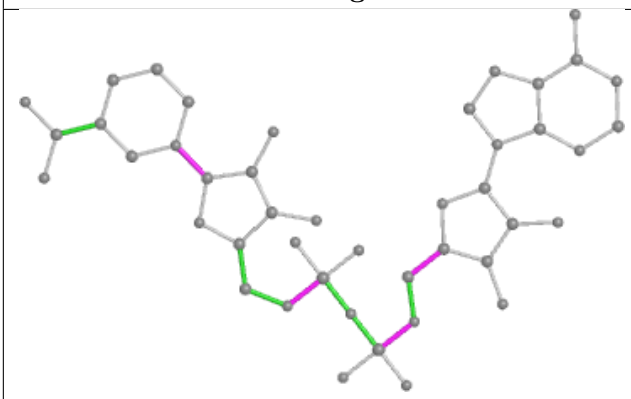
Ligand NAD D 504



Bond lengths



Bond angles



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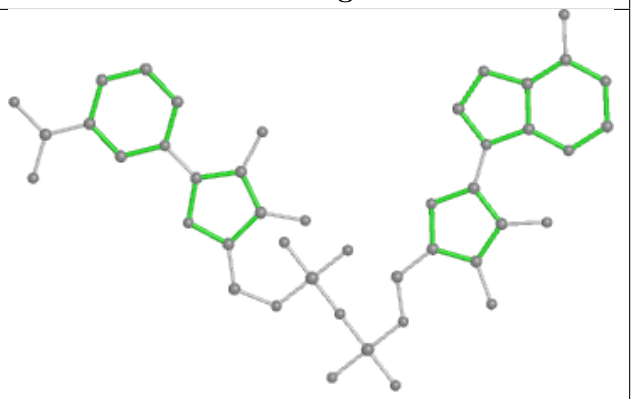

Rings

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.