Full wwPDB X-ray Structure Validation Report ⓘ

Apr 17, 2025 – 02:23 PM EDT

PDB ID	:	9NSS / pdb_00009nss
Title	:	Bacterial Pictet-Spenglerase KslB in complex with L-Trp alternative binding mode
Authors	:	Kim, K.; Kim, W.
Deposited on	:	2025-03-17
Resolution	:	2.68 Å(reported)

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

We welcome your comments at *validation@mail.wwpdb.org*
A user guide is available at
https://www.wwpdb.org/validation/2017/XrayValidationReportHelp
with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at
http://www.wwpdb.org/validation/2017/FAQs#types.

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

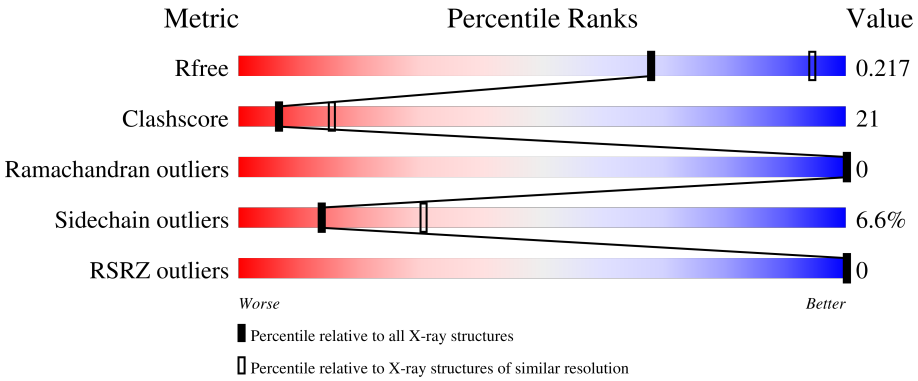
MolProbity	:	4.02b-467
Mogul	:	2022.3.0, CSD as543be (2022)
Xtriage (Phenix)	:	2.0rc1
EDS	:	3.0
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20231227.v01 (using entries in the PDB archive December 27th 2023)
CCP4	:	9.0.006 (Gargrove)
Density-Fitness	:	1.0.12
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.42

1 Overall quality at a glance (i)

The following experimental techniques were used to determine the structure:
X-RAY DIFFRACTION

The reported resolution of this entry is 2.68 Å.

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



Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R_{free}	164625	4708 (2.70-2.66)
Clashscore	180529	5138 (2.70-2.66)
Ramachandran outliers	177936	5071 (2.70-2.66)
Sidechain outliers	177891	5071 (2.70-2.66)
RSRZ outliers	164620	4708 (2.70-2.66)

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% The upper red bar (where present) indicates the fraction of residues that have poor fit to the electron density. The numeric value is given above the bar.

Mol	Chain	Length	Quality of chain
1	A	317	60% 33% • 5%
1	B	317	62% 34% • •
1	C	317	59% 35% • 5%
1	D	317	51% 35% • • 11%
1	E	317	49% 35% 5% 11%

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Mol	Chain	Length	Quality of chain
1	F	317	

2 Entry composition (i)

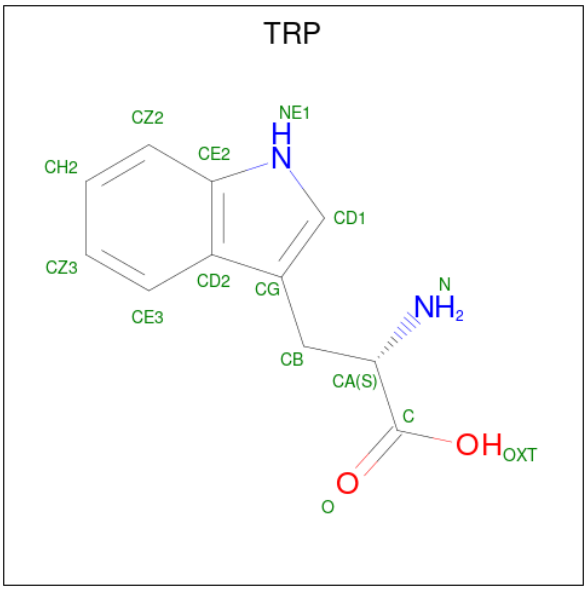
There are 2 unique types of molecules in this entry. The entry contains 13924 atoms, of which 0 are hydrogens and 0 are deuteriums.

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 Pictet-Spenglerase.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	300	Total	C	N	O	S	0	0	0
			2371	1518	398	452	3			
1	B	307	Total	C	N	O	S	0	0	0
			2411	1538	406	464	3			
1	C	300	Total	C	N	O	S	0	0	0
			2374	1520	398	453	3			
1	D	282	Total	C	N	O	S	0	0	0
			2232	1433	376	420	3			
1	E	283	Total	C	N	O	S	0	0	0
			2249	1442	378	426	3			
1	F	278	Total	C	N	O	S	0	0	0
			2197	1408	372	414	3			

- Molecule 2 is TRYPTOPHAN (CCD ID: TRP) (formula: $C_{11}H_{12}N_2O_2$) (labeled as "Ligand of Interest" by depositor).



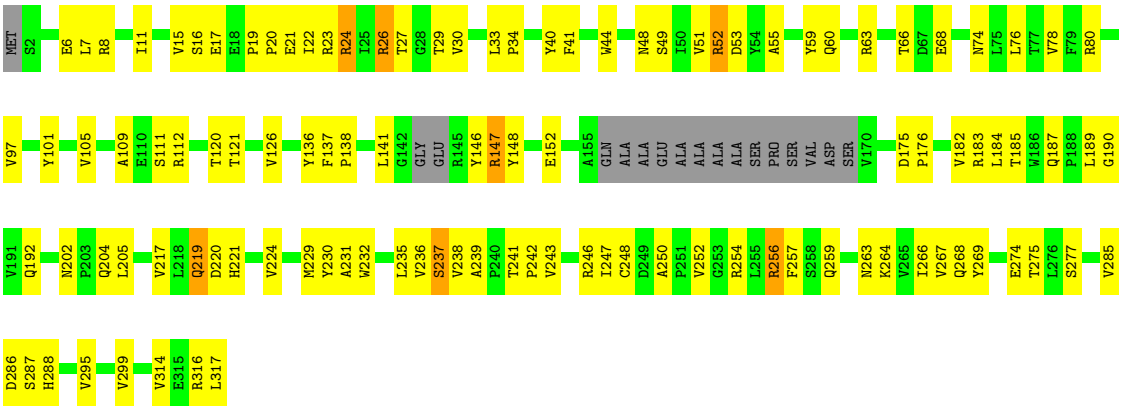
Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
2	A	1	Total	C	N	O	0	0
			15	11	2	2		
2	B	1	Total	C	N	O	0	0
			15	11	2	2		
2	C	1	Total	C	N	O	0	0
			15	11	2	2		
2	D	1	Total	C	N	O	0	0
			15	11	2	2		
2	E	1	Total	C	N	O	0	0
			15	11	2	2		
2	F	1	Total	C	N	O	0	0
			15	11	2	2		

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 and electron density. Residues are color-coded according to the number of geometric quality criteria for which they contain at least one outlier: green = 0, yellow = 1, orange = 2 and red = 3 or more. A red dot above a residue indicates a poor fit to the electron density (RSRZ > 2). Stretches of 2 or more consecutive residues without any outlier are shown as a green connector. Residues present in the sample, but not in the model, are shown in grey.

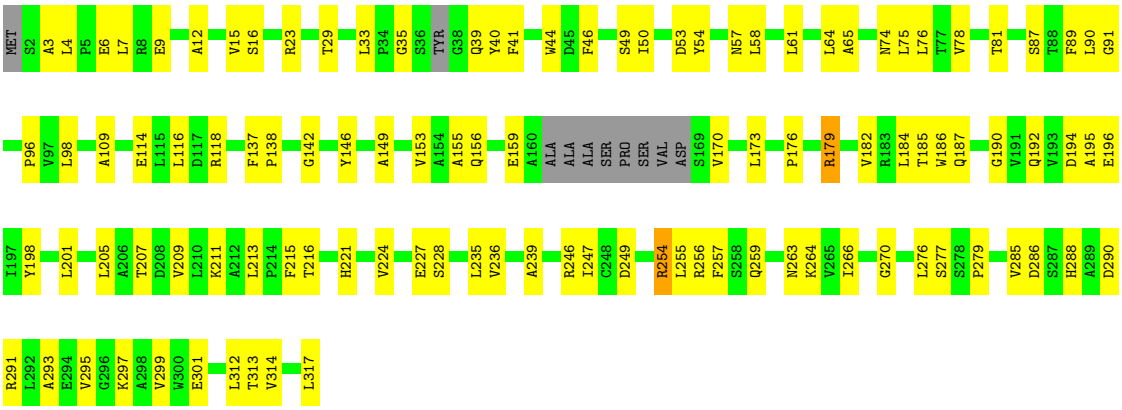
• Molecule 1: Pictet-Spenglerase

Chain A:



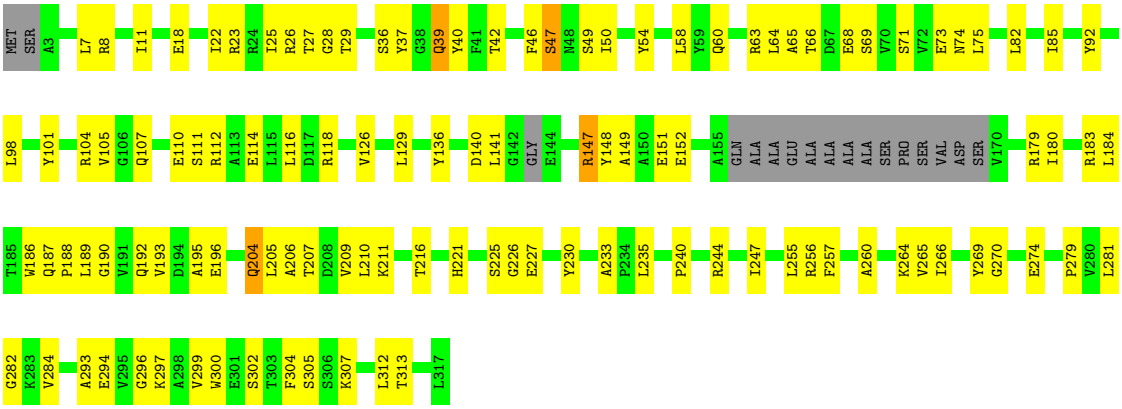
• Molecule 1: Pictet-Spenglerase

Chain B:



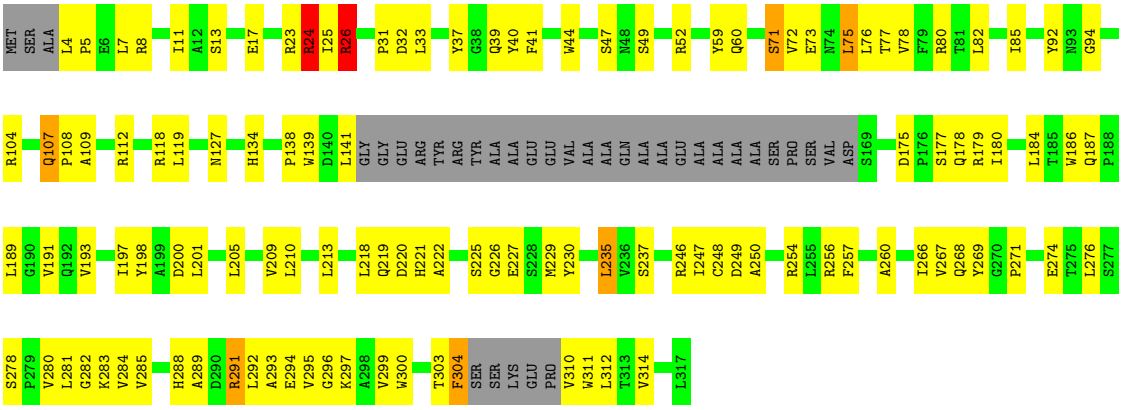
• Molecule 1: Pictet-Spenglerase

Chain C:



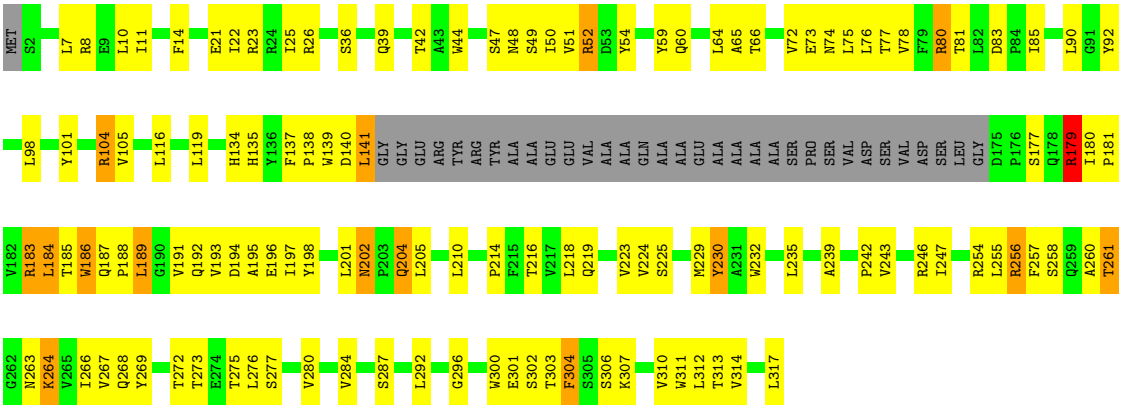
• Molecule 1: Pictet-Spenglerase

Chain D:



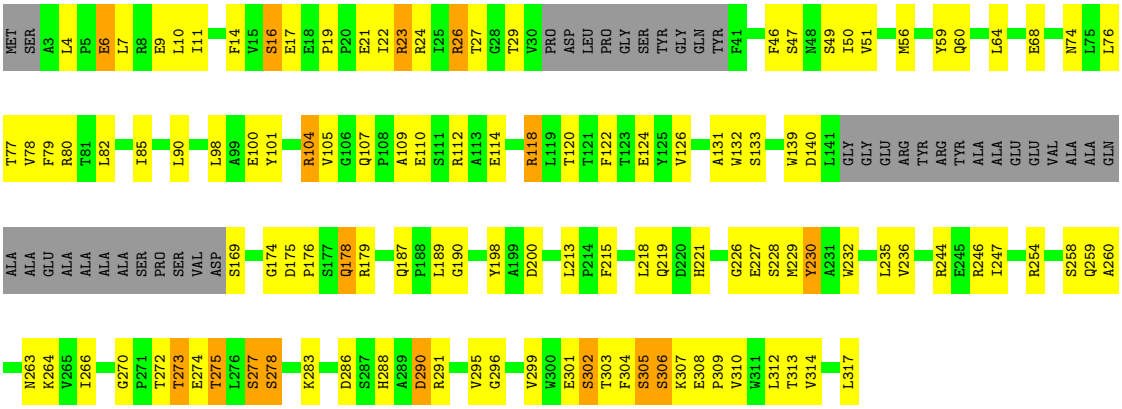
• Molecule 1: Pictet-Spenglerase

Chain E:



• Molecule 1: Pictet-Spenglerase

Chain F:


MET SER A3 L4 P5 E6 L7 R8 E9 L10 I11 F14 V15 S16 E17 E18 P19 P20 E21 I22 R23 R24 I25 R26 T27 G28 T29 V30 PRO ASP LEU PRO GLY SER TYR GLY GLN TYR F41 F46 S47 M48 S49 I50 V51 M56 Y59 Q60 L64 E68 N74 L75 L76
T77 V78 F79 R80 T81 L82 I85 L90 L98 A99 E100 Y101 R104 V105 G106 Q107 P108 A109 E110 S111 R112 A113 E114 R118 L119 T120 T121 F122 T123 E124 Y125 V126 A131 W132 S133 W139 D140 L141 GLY GLY GLU ARG TYR ARG TYR ALA ALA GLU GLU VAL ALA ALA GLN
ALA ALA GLU ALA ALA ALA SER PRO SER VAL ASP S169 G174 D175 P176 S177 Q178 R179 Q187 P188 L189 G190 Y198 A199 D200 L213 P214 F215 L218 Q219 D220 H221 G226 E227 S228 M229 Y230 A231 W232 L235 V236 R244 E245 R246 I247 R254 S258 Q259 A260
N263 K264 V265 I266 G270 P271 T272 T273 E274 T275 L276 S277 S278 K283 D286 S287 H288 A289 D290 R291 V295 G296 V299 W300 E301 S302 T303 F304 S305 S306 K307 E308 P309 V310 W311 L312 T313 V314 L317

4 Data and refinement statistics (i)

Property	Value	Source
Space group	P 32	Depositor
Cell constants a, b, c, α, β, γ	95.20Å 95.20Å 193.49Å 90.00° 90.00° 120.00°	Depositor
Resolution (Å)	47.60 – 2.68 47.60 – 2.68	Depositor EDS
% Data completeness (in resolution range)	97.5 (47.60-2.68) 97.5 (47.60-2.68)	Depositor EDS
R_{merge}	(Not available)	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	1.32 (at 2.69Å)	Xtriage
Refinement program	PHENIX 1.21.2_5419	Depositor
R, R_{free}	0.203 , 0.223 0.203 , 0.217	Depositor DCC
R_{free} test set	51741 reflections (3.69%)	wwPDB-VP
Wilson B-factor (Å^2)	48.2	Xtriage
Anisotropy	0.280	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.37 , 29.7	EDS
L-test for twinning[2]	$< \|L\| > = 0.46$, $< L^2 > = 0.29$	Xtriage
Estimated twinning fraction	0.031 for -h,-k,l 0.397 for h,-h-k,-l 0.039 for -k,-h,-l	Xtriage
Reported twinning fraction	0.410 for h,-h-k,-l	Depositor
Outliers	0 of 53758 reflections	Xtriage
F_o,F_c correlation	0.96	EDS
Total number of atoms	13924	wwPDB-VP
Average B, all atoms (Å^2)	43.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 3.93% of the height of the origin peak. No significant pseudotranslation is detected.*

[1] Intensities estimated from amplitudes.

[2] Theoretical values of $< |L| >$, $< L^2 >$ for acentric reflections are 0.5, 0.333 respectively for untwinned datasets, and 0.375, 0.2 for perfectly twinned datasets.

5 Model quality

5.1 Standard geometry

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	0.64	0/2432	0.72	0/3328
1	B	0.50	0/2471	0.69	0/3380
1	C	0.62	0/2435	0.74	0/3332
1	D	0.64	0/2290	0.70	0/3136
1	E	0.68	0/2309	0.70	0/3162
1	F	0.49	0/2252	0.68	0/3082
All	All	0.60	0/14189	0.71	0/19420

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

Mol	Chain	#Chirality outliers	#Planarity outliers
1	A	0	4
1	D	0	4
1	E	0	4
All	All	0	12

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

All (12) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	A	24	ARG	Sidechain
1	A	256	ARG	Sidechain
1	A	26	ARG	Sidechain
1	A	52	ARG	Sidechain
1	D	112	ARG	Sidechain
1	D	24	ARG	Sidechain

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Mol	Chain	Res	Type	Group
1	D	26	ARG	Sidechain
1	D	291	ARG	Sidechain
1	E	179	ARG	Sidechain
1	E	183	ARG	Sidechain
1	E	52	ARG	Sidechain
1	E	80	ARG	Sidechain

5.2 Too-close contacts (i)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	2371	0	2316	100	0
1	B	2411	0	2350	88	0
1	C	2374	0	2317	83	0
1	D	2232	0	2190	100	0
1	E	2249	0	2208	153	0
1	F	2197	0	2165	106	0
2	A	15	0	9	0	0
2	B	15	0	9	1	0
2	C	15	0	9	0	0
2	D	15	0	9	5	0
2	E	15	0	9	3	0
2	F	15	0	9	1	0
All	All	13924	0	13600	584	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 21.

All (584) 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:B:12:ALA:O	1:B:15:VAL:HG12	1.45	1.14
1:E:76:LEU:HB3	1:E:80:ARG:HH11	1.12	1.09
1:F:27:THR:OG1	1:F:29:THR:HG22	1.52	1.06
1:C:23:ARG:O	1:C:27:THR:HG23	1.61	1.00
1:C:204:GLN:HG3	1:C:240:PRO:HD2	1.43	1.00

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:250:ALA:HB3	1:D:268:GLN:HE22	1.26	0.99
1:E:300:TRP:CH2	1:E:304:PHE:CE2	2.54	0.96
1:B:74:ASN:O	1:B:78:VAL:HG23	1.67	0.94
1:E:246:ARG:HD2	1:E:275:THR:O	1.66	0.94
1:D:213:LEU:HD21	1:D:314:VAL:HG12	1.50	0.94
1:F:288:HIS:CD2	1:F:291:ARG:HH21	1.86	0.92
1:E:204:GLN:HG3	1:E:239:ALA:HB1	1.52	0.92
1:F:288:HIS:CD2	1:F:291:ARG:NH2	2.37	0.92
1:B:295:VAL:O	1:B:299:VAL:HG23	1.71	0.90
1:A:26:ARG:NH1	1:A:136:TYR:CZ	2.40	0.89
1:C:230:TYR:HB3	1:C:266:ILE:HG12	1.56	0.88
1:D:213:LEU:HD21	1:D:314:VAL:CG1	2.04	0.88
1:E:186:TRP:HZ3	1:E:193:VAL:CG2	1.87	0.87
1:F:246:ARG:HA	1:F:277:SER:HA	1.58	0.86
1:A:202:ASN:HD22	1:A:242:PRO:HD2	1.40	0.86
1:D:300:TRP:CZ2	1:D:304:PHE:CD1	2.66	0.83
1:B:293:ALA:O	1:B:297:LYS:HG3	1.78	0.83
1:E:39:GLN:HE22	1:E:42:THR:HG23	1.43	0.83
1:F:229:MET:CG	1:F:299:VAL:HG21	2.09	0.83
1:D:8:ARG:HG3	1:D:8:ARG:HH11	1.44	0.82
1:E:76:LEU:HB3	1:E:80:ARG:NH1	1.94	0.82
1:F:246:ARG:HH21	1:F:275:THR:HG22	1.44	0.82
1:F:100:GLU:O	1:F:104:ARG:HD3	1.80	0.82
1:E:183:ARG:HA	1:E:194:ASP:HA	1.61	0.81
1:E:247:ILE:HD12	1:E:276:LEU:O	1.81	0.81
1:A:7:LEU:O	1:A:11:ILE:HG13	1.80	0.81
1:C:39:GLN:HE22	1:C:42:THR:H	1.26	0.81
1:E:300:TRP:CZ2	1:E:304:PHE:CE2	2.69	0.81
1:D:250:ALA:HB3	1:D:268:GLN:NE2	1.96	0.81
1:F:295:VAL:O	1:F:299:VAL:HG13	1.80	0.81
1:E:300:TRP:CZ2	1:E:304:PHE:CD2	2.70	0.80
1:E:204:GLN:HG3	1:E:239:ALA:CB	2.13	0.79
1:E:216:THR:CG2	1:E:313:THR:HG23	2.11	0.79
1:B:257:PHE:HZ	1:B:263:ASN:HB3	1.47	0.79
1:E:246:ARG:HA	1:E:277:SER:HA	1.63	0.79
1:E:258:SER:OG	1:E:261:THR:HG23	1.82	0.79
1:E:186:TRP:CZ3	1:E:193:VAL:CG2	2.67	0.78
1:E:139:TRP:CD1	1:E:303:THR:HG22	2.19	0.77
1:A:24:ARG:HB2	1:A:24:ARG:HH11	1.49	0.77
1:E:81:THR:HG22	1:F:60:GLN:HB3	1.65	0.77
1:A:232:TRP:CE2	1:A:264:LYS:HD3	2.20	0.77

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:7:LEU:O	1:F:11:ILE:HG13	1.84	0.77
1:B:257:PHE:CZ	1:B:263:ASN:HB3	2.20	0.76
1:E:8:ARG:HA	1:E:11:ILE:HD12	1.67	0.76
1:E:50:ILE:HG22	1:E:90:LEU:HD21	1.65	0.76
1:A:230:TYR:HB3	1:A:266:ILE:HG12	1.69	0.75
1:E:258:SER:HB2	1:E:266:ILE:HD11	1.66	0.75
1:D:300:TRP:CZ2	1:D:304:PHE:CE1	2.75	0.74
1:A:74:ASN:HD22	1:B:74:ASN:HD22	1.35	0.74
1:B:109:ALA:HB2	1:B:118:ARG:HH22	1.53	0.74
1:F:229:MET:HG3	1:F:299:VAL:HG21	1.70	0.74
1:F:7:LEU:HD12	1:F:10:LEU:HD12	1.69	0.74
1:F:230:TYR:HB3	1:F:266:ILE:HG13	1.69	0.73
1:E:187:GLN:HG3	1:E:188:PRO:HA	1.71	0.73
1:E:85:ILE:HG13	1:F:56:MET:CE	2.20	0.72
1:C:49:SER:HB3	1:D:49:SER:HB2	1.71	0.72
1:F:24:ARG:HA	1:F:29:THR:HG23	1.72	0.71
1:E:39:GLN:HE22	1:E:42:THR:CG2	2.03	0.71
1:C:299:VAL:O	1:C:302:SER:HB3	1.91	0.71
1:C:82:LEU:O	1:C:85:ILE:HG22	1.91	0.71
1:E:7:LEU:O	1:E:11:ILE:HG13	1.91	0.71
1:A:250:ALA:HB3	1:A:268:GLN:NE2	2.06	0.70
1:E:258:SER:HG	1:E:261:THR:HG23	1.56	0.70
1:F:296:GLY:O	1:F:299:VAL:HG22	1.90	0.70
1:E:186:TRP:HZ3	1:E:193:VAL:HG21	1.57	0.70
1:F:288:HIS:NE2	1:F:291:ARG:NH2	2.39	0.69
1:A:26:ARG:NH1	1:A:136:TYR:CE2	2.60	0.69
1:B:109:ALA:HB2	1:B:118:ARG:NH2	2.06	0.69
1:B:257:PHE:HE2	1:B:263:ASN:OD1	1.76	0.69
1:B:109:ALA:CB	1:B:118:ARG:HH22	2.06	0.69
1:E:284:VAL:HG21	1:E:292:LEU:HD11	1.73	0.69
1:D:8:ARG:HH11	1:D:8:ARG:CG	2.06	0.69
1:E:85:ILE:HG13	1:F:56:MET:HE1	1.75	0.69
1:A:24:ARG:HB2	1:A:24:ARG:NH1	2.06	0.69
1:A:230:TYR:CG	1:A:264:LYS:HE2	2.27	0.68
1:B:184:LEU:CD1	1:B:314:VAL:HG22	2.22	0.68
1:E:189:LEU:HD12	1:E:189:LEU:H	1.57	0.68
1:E:21:GLU:O	1:E:25:ILE:HG13	1.94	0.68
1:F:74:ASN:HA	1:F:77:THR:HG22	1.76	0.68
1:E:22:ILE:O	1:E:26:ARG:HG2	1.92	0.68
1:B:195:ALA:HB1	1:B:255:LEU:HD11	1.74	0.68
1:E:260:ALA:HB3	1:F:85:ILE:HD13	1.76	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:59:TYR:OH	1:A:259:GLN:HG3	1.94	0.67
1:C:148:TYR:CE2	1:D:40:TYR:HB3	2.29	0.67
1:D:175:ASP:HB3	1:D:178:GLN:HG3	1.77	0.67
1:B:12:ALA:O	1:B:15:VAL:CG1	2.34	0.66
1:F:109:ALA:HB2	1:F:118:ARG:NH2	2.11	0.66
1:D:291:ARG:HA	1:D:294:GLU:OE1	1.96	0.66
1:B:23:ARG:HH22	1:F:110:GLU:HG3	1.60	0.65
1:F:246:ARG:NH2	1:F:275:THR:HG22	2.10	0.65
1:F:175:ASP:HB3	1:F:178:GLN:HG3	1.78	0.65
1:E:216:THR:HG22	1:E:313:THR:HG23	1.77	0.65
1:E:202:ASN:HD22	1:E:242:PRO:HD2	1.62	0.65
1:F:50:ILE:HG22	1:F:90:LEU:HD21	1.79	0.65
1:B:6:GLU:HA	1:B:9:GLU:HG3	1.79	0.64
1:B:64:LEU:HB3	1:B:75:LEU:HD21	1.79	0.64
1:C:187:GLN:HE22	1:C:190:GLY:HA2	1.61	0.64
1:B:256:ARG:NH2	1:B:266:ILE:HG21	2.12	0.64
1:A:254:ARG:HG3	1:A:256:ARG:HG3	1.78	0.64
1:B:205:LEU:O	1:B:209:VAL:HG23	1.98	0.64
1:A:41:PHE:HB2	1:B:142:GLY:HA3	1.80	0.64
1:E:23:ARG:HA	1:E:26:ARG:HE	1.62	0.64
1:D:179:ARG:O	1:D:180:ILE:HD12	1.97	0.64
1:F:109:ALA:HB2	1:F:118:ARG:HH21	1.63	0.63
1:E:81:THR:HG22	1:F:60:GLN:OE1	1.98	0.63
1:A:76:LEU:HD11	1:A:109:ALA:H	1.64	0.63
1:D:52:ARG:HD2	2:D:401:TRP:CZ2	2.33	0.63
1:F:174:GLY:HA3	1:F:200:ASP:OD2	1.98	0.63
1:D:24:ARG:HD2	1:D:31:PRO:HD3	1.81	0.62
1:E:179:ARG:HA	1:E:198:TYR:HA	1.80	0.62
1:A:76:LEU:O	1:A:80:ARG:HG3	1.99	0.62
1:F:23:ARG:HH11	1:F:26:ARG:HH12	1.47	0.62
1:E:44:TRP:CZ2	1:E:138:PRO:HD3	2.35	0.62
1:E:72:VAL:HG23	1:E:73:GLU:OE2	1.99	0.62
1:A:202:ASN:HD21	1:A:243:VAL:H	1.46	0.62
1:A:247:ILE:HG12	1:A:256:ARG:NH2	2.15	0.62
1:B:247:ILE:HG23	1:B:256:ARG:NH1	2.15	0.62
1:C:247:ILE:HG12	1:C:256:ARG:CZ	2.30	0.61
1:C:274:GLU:HA	1:D:92:TYR:CE1	2.35	0.61
1:E:101:TYR:HA	1:E:104:ARG:HG3	1.82	0.61
1:A:232:TRP:CZ2	1:A:264:LYS:HD3	2.35	0.61
1:E:185:THR:HA	1:E:192:GLN:HA	1.81	0.61
1:F:27:THR:OG1	1:F:29:THR:CG2	2.38	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:213:LEU:HD22	1:F:314:VAL:HG12	1.81	0.61
1:B:109:ALA:CB	1:B:118:ARG:NH2	2.64	0.61
1:D:7:LEU:O	1:D:11:ILE:HG13	2.00	0.61
1:E:225:SER:N	2:E:401:TRP:OXT	2.34	0.61
1:B:54:TYR:CE2	1:B:98:LEU:HD21	2.36	0.61
1:B:187:GLN:OE1	1:B:190:GLY:HA2	2.01	0.60
1:D:73:GLU:O	1:D:77:THR:HG23	2.00	0.60
1:A:182:VAL:HG12	1:A:316:ARG:HA	1.82	0.60
1:B:216:THR:HA	1:B:312:LEU:O	2.02	0.60
1:B:156:GLN:HA	1:B:159:GLU:HG2	1.83	0.60
1:B:227:GLU:OE1	1:B:270:GLY:HA3	2.02	0.60
1:D:256:ARG:NH1	1:D:266:ILE:HG21	2.16	0.60
1:E:201:LEU:HD12	1:E:243:VAL:HG11	1.82	0.60
1:D:76:LEU:O	1:D:80:ARG:HG3	2.01	0.60
1:A:202:ASN:ND2	1:A:242:PRO:HD2	2.13	0.60
1:C:27:THR:OG1	1:C:29:THR:HG23	2.02	0.60
1:E:66:THR:HG22	1:E:116:LEU:HD11	1.84	0.60
1:B:257:PHE:CE2	1:B:263:ASN:OD1	2.55	0.59
1:C:148:TYR:CZ	1:D:40:TYR:HB3	2.37	0.59
1:D:213:LEU:HD21	1:D:314:VAL:CB	2.33	0.59
1:E:247:ILE:HG22	1:E:272:THR:HB	1.83	0.59
1:A:78:VAL:HG13	1:B:64:LEU:HD11	1.85	0.59
1:C:68:GLU:HA	1:C:112:ARG:NH2	2.18	0.58
1:C:307:LYS:N	1:C:307:LYS:HD3	2.18	0.58
1:E:186:TRP:CZ3	1:E:193:VAL:HG23	2.39	0.58
1:F:264:LYS:O	1:F:266:ILE:HD12	2.03	0.58
1:A:257:PHE:CZ	1:A:263:ASN:HB3	2.38	0.58
1:C:149:ALA:HB3	1:C:152:GLU:HB2	1.86	0.58
1:D:76:LEU:HD13	1:D:108:PRO:HA	1.86	0.58
1:E:25:ILE:HD13	1:E:47:SER:HB3	1.86	0.58
1:E:246:ARG:HG3	1:E:276:LEU:O	2.02	0.58
1:B:194:ASP:O	1:B:285:VAL:HG22	2.04	0.58
1:B:176:PRO:O	1:B:179:ARG:HG3	2.04	0.57
1:E:202:ASN:ND2	1:E:243:VAL:H	2.02	0.57
1:C:260:ALA:HB1	1:D:85:ILE:HG12	1.86	0.57
1:C:206:ALA:O	1:C:210:LEU:HG	2.04	0.57
1:A:252:VAL:HG13	1:A:269:TYR:HA	1.86	0.57
1:B:207:THR:O	1:B:211:LYS:HG3	2.05	0.57
1:C:140:ASP:HA	1:C:304:PHE:CZ	2.39	0.57
1:A:219:GLN:HE21	1:A:219:GLN:HA	1.69	0.57
1:C:294:GLU:OE1	1:C:297:LYS:HE3	2.04	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:24:ARG:HG2	1:A:29:THR:OG1	2.04	0.57
1:F:219:GLN:HG2	1:F:312:LEU:HB2	1.88	0.56
1:A:230:TYR:CD1	1:A:264:LYS:HE2	2.40	0.56
1:A:237:SER:O	1:A:259:GLN:HG3	2.04	0.56
1:E:258:SER:OG	1:E:261:THR:CG2	2.51	0.56
1:D:76:LEU:HD11	1:D:109:ALA:H	1.70	0.56
1:D:300:TRP:HZ2	1:D:304:PHE:CE1	2.19	0.56
1:D:59:TYR:CD2	1:D:260:ALA:HA	2.41	0.56
1:E:189:LEU:CD1	1:E:310:VAL:HG13	2.36	0.56
1:A:219:GLN:HE21	1:A:220:ASP:H	1.54	0.55
1:A:247:ILE:HG21	1:A:274:GLU:HB3	1.88	0.55
1:C:179:ARG:C	1:C:180:ILE:HD13	2.26	0.55
1:A:8:ARG:HD2	1:A:121:THR:HG23	1.87	0.55
1:C:255:LEU:HD21	1:C:284:VAL:HG23	1.89	0.55
1:D:225:SER:HB3	1:D:274:GLU:OE1	2.06	0.55
1:F:76:LEU:O	1:F:80:ARG:HD2	2.05	0.55
1:C:8:ARG:HA	1:C:11:ILE:HD12	1.88	0.55
1:A:26:ARG:NH1	1:A:136:TYR:CE1	2.74	0.55
1:D:299:VAL:HG22	1:D:310:VAL:HG21	1.89	0.55
1:E:137:PHE:CD1	1:E:138:PRO:HD2	2.42	0.55
1:E:139:TRP:HD1	1:E:303:THR:HG22	1.67	0.55
1:E:185:THR:HG23	1:E:192:GLN:HG2	1.87	0.55
1:E:186:TRP:CE3	1:E:193:VAL:HG23	2.41	0.55
1:C:221:HIS:HE1	1:C:226:GLY:O	1.90	0.55
1:C:233:ALA:HB2	1:C:265:VAL:HG23	1.88	0.55
1:D:187:GLN:HB2	1:D:311:TRP:HB2	1.89	0.55
1:E:64:LEU:HD21	1:F:78:VAL:HG22	1.88	0.55
1:E:186:TRP:CZ3	1:E:193:VAL:HG21	2.36	0.55
1:B:184:LEU:HD12	1:B:314:VAL:HG22	1.89	0.55
1:C:98:LEU:HD12	1:C:126:VAL:HG22	1.89	0.55
1:F:176:PRO:HA	1:F:179:ARG:HG2	1.87	0.55
1:A:76:LEU:HD13	1:A:80:ARG:NH2	2.22	0.55
1:D:221:HIS:HD1	1:D:222:ALA:N	2.05	0.55
1:E:201:LEU:HG	1:E:280:VAL:HB	1.89	0.55
1:E:255:LEU:N	1:E:255:LEU:HD23	2.21	0.55
1:C:209:VAL:HG11	1:C:281:LEU:HD21	1.89	0.55
1:E:269:TYR:CE2	1:E:296:GLY:HA3	2.42	0.55
1:D:284:VAL:HG12	1:D:289:ALA:HA	1.88	0.54
1:A:20:PRO:C	1:A:24:ARG:HH12	2.11	0.54
1:E:254:ARG:C	1:E:255:LEU:HD23	2.27	0.54
1:F:301:GLU:HA	1:F:304:PHE:HB3	1.89	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:219:GLN:NE2	1:A:231:ALA:HB2	2.22	0.54
1:E:180:ILE:HG21	1:E:210:LEU:HD21	1.90	0.54
1:A:120:THR:HG23	1:A:236:VAL:HB	1.89	0.54
1:E:263:ASN:HD22	1:E:263:ASN:H	1.54	0.54
1:F:98:LEU:HG	1:F:122:PHE:HZ	1.71	0.54
1:B:254:ARG:CG	1:B:256:ARG:HG2	2.38	0.54
1:D:235:LEU:HD12	1:D:237:SER:HB2	1.88	0.54
1:A:147:ARG:HH11	1:A:147:ARG:HB3	1.72	0.54
1:E:247:ILE:HG22	1:E:272:THR:CB	2.37	0.54
1:C:64:LEU:HD21	1:D:78:VAL:HG22	1.90	0.54
1:D:205:LEU:HD11	1:D:257:PHE:CD2	2.43	0.54
1:E:191:VAL:HG12	1:E:193:VAL:CG2	2.38	0.54
1:B:170:VAL:HA	1:B:173:LEU:HG	1.90	0.53
1:E:186:TRP:HZ3	1:E:193:VAL:CB	2.20	0.53
1:B:54:TYR:HE2	1:B:98:LEU:HD21	1.73	0.53
1:D:193:VAL:HB	1:D:288:HIS:HB3	1.90	0.53
1:F:254:ARG:HH12	1:F:283:LYS:HD2	1.73	0.53
1:A:204:GLN:HB2	1:A:239:ALA:HB1	1.90	0.53
1:A:229:MET:CE	1:A:267:VAL:HB	2.39	0.53
1:D:139:TRP:HD1	1:D:303:THR:O	1.90	0.53
1:E:60:GLN:HG3	1:F:82:LEU:HA	1.90	0.53
1:A:15:VAL:HG13	1:A:217:VAL:HG12	1.91	0.53
1:F:179:ARG:HD2	1:F:198:TYR:CD1	2.43	0.53
1:E:65:ALA:HA	1:E:75:LEU:HD11	1.90	0.53
1:E:180:ILE:HB	1:E:197:ILE:HB	1.90	0.53
1:E:184:LEU:HD23	1:E:186:TRP:CH2	2.43	0.53
1:E:216:THR:HG23	1:E:313:THR:HG23	1.90	0.53
1:A:202:ASN:ND2	1:A:241:THR:HA	2.24	0.53
1:F:4:LEU:HD11	1:F:118:ARG:HB3	1.90	0.53
1:A:68:GLU:HA	1:A:112:ARG:NH1	2.24	0.52
1:C:82:LEU:HD12	1:D:60:GLN:HB3	1.90	0.52
1:D:269:TYR:CZ	1:D:296:GLY:HA3	2.44	0.52
1:A:152:GLU:CG	1:B:33:LEU:HD21	2.38	0.52
1:B:65:ALA:HA	1:B:75:LEU:CD1	2.40	0.52
1:D:219:GLN:NE2	1:D:229:MET:HB2	2.25	0.52
1:A:74:ASN:O	1:A:78:VAL:HG23	2.10	0.52
1:D:52:ARG:HG3	2:D:401:TRP:CH2	2.45	0.52
1:D:284:VAL:CG1	1:D:289:ALA:HA	2.39	0.52
1:B:288:HIS:HB3	1:B:291:ARG:HD2	1.92	0.52
1:C:73:GLU:CD	1:C:73:GLU:H	2.14	0.52
1:E:300:TRP:CH2	1:E:304:PHE:HE2	2.24	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:131:ALA:HB2	1:F:232:TRP:CG	2.44	0.52
1:A:219:GLN:HA	1:A:219:GLN:NE2	2.24	0.51
1:E:92:TYR:OH	1:F:273:THR:HB	2.10	0.51
1:A:7:LEU:HD23	1:A:121:THR:HG22	1.92	0.51
1:A:148:TYR:CZ	1:B:40:TYR:HB3	2.44	0.51
1:D:213:LEU:HD22	1:D:314:VAL:C	2.31	0.51
1:C:269:TYR:CZ	1:C:296:GLY:HA3	2.46	0.51
1:E:205:LEU:HD21	1:E:257:PHE:CD2	2.44	0.51
1:A:41:PHE:CB	1:B:142:GLY:HA3	2.40	0.51
1:D:197:ILE:HD13	1:D:210:LEU:HG	1.93	0.51
1:F:140:ASP:OD2	1:F:305:SER:HA	2.11	0.51
1:C:50:ILE:O	1:C:54:TYR:HB2	2.11	0.51
1:B:65:ALA:HB3	1:B:116:LEU:HD13	1.92	0.51
1:C:110:GLU:HG2	1:C:111:SER:N	2.25	0.51
1:D:213:LEU:CD2	1:D:314:VAL:C	2.79	0.51
1:E:48:ASN:O	1:E:51:VAL:HG12	2.11	0.51
1:E:300:TRP:CE2	1:E:304:PHE:CD2	2.99	0.51
1:A:27:THR:HG22	1:A:29:THR:HG23	1.93	0.51
1:B:57:ASN:O	1:B:61:LEU:HG	2.11	0.51
1:C:204:GLN:HG2	1:C:205:LEU:H	1.75	0.51
1:C:216:THR:OG1	1:C:313:THR:HG23	2.11	0.51
1:F:302:SER:HA	1:F:308:GLU:H	1.76	0.51
1:E:230:TYR:HB3	1:E:266:ILE:HG12	1.93	0.50
1:E:256:ARG:HG3	1:E:266:ILE:HB	1.92	0.50
1:F:101:TYR:O	1:F:105:VAL:HG23	2.10	0.50
1:C:244:ARG:CZ	1:C:279:PRO:HD3	2.42	0.50
1:A:137:PHE:CD1	1:A:138:PRO:HD2	2.47	0.50
1:A:175:ASP:OD1	1:A:176:PRO:HD2	2.09	0.50
1:D:25:ILE:HD11	1:D:94:GLY:HA3	1.93	0.50
1:E:85:ILE:CG1	1:F:56:MET:CE	2.89	0.50
1:E:223:VAL:N	2:E:401:TRP:O	2.45	0.50
1:A:44:TRP:CZ2	1:A:138:PRO:HD3	2.46	0.50
1:F:68:GLU:HA	1:F:112:ARG:NH2	2.27	0.50
1:F:187:GLN:OE1	1:F:190:GLY:HA2	2.10	0.50
1:C:147:ARG:NH1	1:C:147:ARG:HG2	2.26	0.50
1:D:179:ARG:C	1:D:180:ILE:HD12	2.31	0.50
1:D:247:ILE:HG13	1:D:276:LEU:O	2.12	0.50
1:D:189:LEU:HB3	1:D:191:VAL:HG23	1.94	0.50
1:C:46:PHE:CE2	2:D:401:TRP:CG	3.00	0.50
1:E:187:GLN:CG	1:E:188:PRO:HA	2.40	0.50
1:E:276:LEU:N	1:E:276:LEU:HD12	2.26	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:246:ARG:HH21	1:A:248:CYS:HB2	1.76	0.49
1:F:301:GLU:O	1:F:305:SER:N	2.44	0.49
1:A:183:ARG:CZ	1:A:317:LEU:HD21	2.42	0.49
1:B:246:ARG:HB2	1:B:249:ASP:OD2	2.11	0.49
1:F:274:GLU:OE1	2:F:401:TRP:O	2.30	0.49
1:D:283:LYS:HE3	1:D:285:VAL:HA	1.94	0.49
1:F:218:LEU:HD11	1:F:309:PRO:HB2	1.95	0.49
1:A:184:LEU:HD12	1:A:184:LEU:N	2.27	0.49
1:C:22:ILE:O	1:C:26:ARG:HG2	2.12	0.49
1:E:263:ASN:H	1:E:263:ASN:ND2	2.11	0.49
1:F:14:PHE:CE1	1:F:19:PRO:HA	2.47	0.49
1:A:52:ARG:NH1	1:A:53:ASP:OD2	2.45	0.49
1:E:49:SER:HB2	1:F:49:SER:CB	2.41	0.49
1:E:74:ASN:O	1:E:78:VAL:HG23	2.12	0.49
1:E:101:TYR:O	1:E:105:VAL:HG23	2.13	0.49
1:E:193:VAL:HG12	1:E:284:VAL:HG11	1.94	0.49
1:F:23:ARG:HH11	1:F:26:ARG:NH1	2.09	0.49
1:C:293:ALA:O	1:C:297:LYS:HG3	2.12	0.49
1:E:186:TRP:NE1	1:E:312:LEU:HD13	2.27	0.49
1:A:187:GLN:HE22	1:A:190:GLY:HA2	1.77	0.49
1:B:65:ALA:HA	1:B:75:LEU:HD11	1.93	0.49
1:B:198:TYR:N	1:B:198:TYR:CD1	2.78	0.49
1:D:213:LEU:HD21	1:D:314:VAL:HB	1.94	0.49
1:F:104:ARG:HD3	1:F:104:ARG:N	2.27	0.49
1:A:185:THR:HG22	1:A:187:GLN:HE21	1.76	0.49
1:D:184:LEU:HD12	1:D:314:VAL:HG13	1.94	0.49
1:D:221:HIS:ND1	1:D:222:ALA:O	2.45	0.49
1:D:198:TYR:CG	1:D:282:GLY:HA2	2.47	0.49
1:F:122:PHE:O	1:F:126:VAL:HG23	2.13	0.49
1:B:198:TYR:HB3	1:B:201:LEU:HG	1.95	0.49
1:E:229:MET:HE3	1:E:267:VAL:HG11	1.95	0.49
1:A:53:ASP:OD2	1:B:53:ASP:OD2	2.30	0.48
1:C:244:ARG:NH2	1:C:279:PRO:HD3	2.28	0.48
1:D:107:GLN:O	1:D:118:ARG:NH2	2.45	0.48
1:E:181:PRO:HB2	1:E:317:LEU:HB2	1.95	0.48
1:A:230:TYR:CD1	1:A:264:LYS:CE	2.96	0.48
1:D:52:ARG:HD2	2:D:401:TRP:CE2	2.49	0.48
1:A:49:SER:HB3	1:B:49:SER:HB2	1.96	0.48
1:A:246:ARG:NH2	1:A:275:THR:HG22	2.28	0.48
1:B:257:PHE:O	1:B:279:PRO:HD2	2.13	0.48
1:E:202:ASN:HB2	1:E:205:LEU:HB3	1.96	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:59:TYR:CZ	1:F:259:GLN:HB3	2.49	0.48
1:B:137:PHE:CD1	1:B:138:PRO:HD2	2.48	0.48
1:F:229:MET:SD	1:F:299:VAL:HG11	2.53	0.48
1:B:221:HIS:HE1	1:B:228:SER:H	1.61	0.48
1:D:254:ARG:HD2	1:D:280:VAL:HG13	1.95	0.48
1:E:54:TYR:CE2	1:E:98:LEU:HD21	2.49	0.48
1:E:85:ILE:CG1	1:F:56:MET:HE3	2.44	0.48
1:F:98:LEU:HG	1:F:122:PHE:CZ	2.48	0.48
1:F:109:ALA:CB	1:F:118:ARG:HH21	2.27	0.48
1:B:257:PHE:CZ	1:B:263:ASN:CB	2.95	0.48
1:A:66:THR:HG21	1:A:238:VAL:HG21	1.96	0.47
1:B:264:LYS:O	1:B:266:ILE:HD12	2.13	0.47
1:F:22:ILE:HD12	1:F:133:SER:HA	1.96	0.47
1:F:23:ARG:HD2	1:F:26:ARG:NH1	2.29	0.47
1:F:24:ARG:HA	1:F:29:THR:CG2	2.42	0.47
1:F:215:PHE:O	1:F:313:THR:HA	2.15	0.47
1:B:182:VAL:HA	1:B:317:LEU:H	1.80	0.47
1:D:41:PHE:O	1:D:44:TRP:HB3	2.14	0.47
1:F:213:LEU:HD22	1:F:314:VAL:CG1	2.44	0.47
1:E:258:SER:HB3	1:E:264:LYS:HG2	1.97	0.47
1:A:147:ARG:HA	1:B:39:GLN:HA	1.96	0.47
1:C:207:THR:HG22	1:C:211:LYS:HE2	1.96	0.47
1:E:59:TYR:CD2	1:E:260:ALA:HA	2.50	0.47
1:E:219:GLN:HE21	1:E:229:MET:HB2	1.80	0.47
1:F:139:TRP:HB2	1:F:304:PHE:CD1	2.50	0.47
1:F:187:GLN:HA	1:F:189:LEU:N	2.29	0.47
1:C:65:ALA:HA	1:C:75:LEU:HD13	1.96	0.47
1:D:178:GLN:O	1:D:180:ILE:HD13	2.14	0.47
1:D:213:LEU:CD2	1:D:314:VAL:HG12	2.32	0.47
1:E:85:ILE:HG13	1:E:85:ILE:O	2.13	0.47
1:E:256:ARG:HH21	1:E:268:GLN:HB2	1.78	0.47
1:F:227:GLU:OE1	1:F:270:GLY:HA3	2.15	0.47
1:F:301:GLU:HA	1:F:305:SER:H	1.80	0.47
1:C:230:TYR:CD1	1:C:264:LYS:HD2	2.50	0.47
1:D:44:TRP:CZ2	1:D:138:PRO:HD3	2.50	0.47
1:A:146:TYR:HB2	1:B:41:PHE:HB2	1.97	0.47
1:A:224:VAL:HA	1:B:35:GLY:HA2	1.97	0.47
1:D:78:VAL:O	1:D:82:LEU:HB2	2.15	0.47
1:E:232:TRP:HA	1:E:264:LYS:HB2	1.97	0.47
1:F:244:ARG:HA	1:F:278:SER:O	2.14	0.47
1:A:152:GLU:HG3	1:B:33:LEU:HD21	1.96	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:179:ARG:O	1:C:180:ILE:HD13	2.15	0.46
1:F:23:ARG:NH1	1:F:26:ARG:HH22	2.13	0.46
1:A:59:TYR:HH	1:A:259:GLN:HG3	1.80	0.46
1:B:224:VAL:N	2:B:401:TRP:OXT	2.44	0.46
1:B:247:ILE:HG13	1:B:276:LEU:O	2.14	0.46
1:D:218:LEU:HD23	1:D:220:ASP:OD2	2.14	0.46
1:C:257:PHE:HA	1:C:264:LYS:O	2.16	0.46
1:E:81:THR:CG2	1:F:60:GLN:HB3	2.40	0.46
1:E:260:ALA:CB	1:F:85:ILE:HD13	2.44	0.46
1:F:120:THR:HG23	1:F:236:VAL:HB	1.97	0.46
1:A:285:VAL:HG22	1:A:288:HIS:HD2	1.81	0.46
1:D:221:HIS:HE1	1:D:226:GLY:O	1.99	0.46
1:F:104:ARG:HA	1:F:107:GLN:HE21	1.81	0.46
1:A:205:LEU:HD11	1:A:257:PHE:CD1	2.50	0.46
1:A:263:ASN:H	1:A:263:ASN:HD22	1.64	0.46
1:B:23:ARG:NH2	1:F:110:GLU:HG3	2.31	0.46
1:E:8:ARG:HA	1:E:11:ILE:CD1	2.43	0.46
1:E:50:ILE:CG2	1:E:90:LEU:HD21	2.39	0.46
1:C:25:ILE:HD13	1:C:47:SER:HB3	1.98	0.46
1:D:134:HIS:CD2	1:D:139:TRP:CZ2	3.04	0.46
1:F:22:ILE:HD11	1:F:133:SER:HB2	1.97	0.46
1:C:187:GLN:OE1	1:C:188:PRO:HA	2.16	0.45
1:E:36:SER:O	1:E:39:GLN:HG3	2.16	0.45
1:E:49:SER:HB2	1:F:49:SER:HB2	1.97	0.45
1:E:224:VAL:HB	2:E:401:TRP:OXT	2.15	0.45
1:A:20:PRO:HG2	1:A:21:GLU:OE1	2.16	0.45
1:E:302:SER:HA	1:E:306:SER:OG	2.16	0.45
1:A:52:ARG:HH11	1:A:53:ASP:CG	2.20	0.45
1:A:63:ARG:HG2	1:A:238:VAL:HG12	1.98	0.45
1:E:10:LEU:HD22	1:E:14:PHE:CZ	2.50	0.45
1:E:229:MET:HE2	1:E:267:VAL:HG12	1.99	0.45
1:E:76:LEU:O	1:E:80:ARG:HD2	2.16	0.45
1:E:214:PRO:HA	1:E:314:VAL:O	2.16	0.45
1:E:230:TYR:HB2	1:E:264:LYS:HD2	1.98	0.45
1:F:258:SER:O	1:F:263:ASN:HA	2.17	0.45
1:A:101:TYR:O	1:A:105:VAL:HG23	2.16	0.45
1:C:183:ARG:HD3	1:C:192:GLN:HB3	1.99	0.45
1:C:204:GLN:CG	1:C:240:PRO:HD2	2.31	0.45
1:D:187:GLN:O	1:D:311:TRP:N	2.50	0.45
1:D:291:ARG:CA	1:D:294:GLU:OE1	2.63	0.45
1:A:175:ASP:OD1	1:A:176:PRO:CD	2.65	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:135:HIS:CG	1:E:218:LEU:HD21	2.50	0.45
1:C:195:ALA:HB2	1:C:284:VAL:HG22	1.98	0.45
1:D:189:LEU:HD12	1:D:295:VAL:HG13	1.98	0.45
1:B:149:ALA:O	1:B:153:VAL:HG23	2.16	0.45
1:B:155:ALA:O	1:B:159:GLU:HG2	2.16	0.45
1:D:8:ARG:CG	1:D:8:ARG:NH1	2.70	0.45
1:C:104:ARG:HA	1:C:107:GLN:HG2	1.97	0.45
1:E:232:TRP:HA	1:E:264:LYS:CB	2.47	0.45
1:B:213:LEU:HA	1:B:213:LEU:HD23	1.67	0.45
1:C:39:GLN:NE2	1:C:42:THR:H	2.04	0.45
1:C:60:GLN:OE1	1:C:63:ARG:NH1	2.50	0.45
1:E:258:SER:O	1:E:263:ASN:HA	2.17	0.45
1:E:261:THR:HG22	1:F:85:ILE:HD11	1.99	0.45
1:C:7:LEU:HD12	1:C:7:LEU:HA	1.57	0.44
1:C:147:ARG:HG2	1:C:147:ARG:HH11	1.81	0.44
1:E:269:TYR:CZ	1:E:296:GLY:HA3	2.52	0.44
1:F:7:LEU:HA	1:F:10:LEU:HD12	1.99	0.44
1:A:184:LEU:HG	1:A:314:VAL:HG22	1.99	0.44
1:C:66:THR:HG22	1:C:116:LEU:HD21	1.98	0.44
1:D:221:HIS:HA	1:D:229:MET:HA	1.99	0.44
1:B:58:LEU:HD23	1:B:61:LEU:HD12	1.99	0.44
1:D:52:ARG:HD2	2:D:401:TRP:CH2	2.52	0.44
1:F:23:ARG:NH1	1:F:26:ARG:NH2	2.66	0.44
1:D:209:VAL:HG11	1:D:281:LEU:HD21	1.99	0.44
1:A:40:TYR:CZ	1:B:146:TYR:HB3	2.52	0.44
1:C:221:HIS:HB2	1:C:299:VAL:HG12	1.98	0.44
1:D:269:TYR:CD2	1:D:293:ALA:HA	2.53	0.44
1:E:195:ALA:HA	1:E:284:VAL:HA	1.99	0.44
1:A:68:GLU:HA	1:A:112:ARG:NH2	2.33	0.44
1:A:78:VAL:HA	1:B:64:LEU:HD11	1.99	0.44
1:C:126:VAL:HA	1:C:129:LEU:HD12	2.00	0.44
1:D:256:ARG:HH12	1:D:266:ILE:HG21	1.80	0.44
1:E:134:HIS:CE1	1:E:303:THR:HG21	2.53	0.44
1:B:91:GLY:HA2	1:B:96:PRO:HA	2.00	0.44
1:D:246:ARG:HG2	1:D:248:CYS:SG	2.58	0.44
1:A:48:ASN:O	1:A:51:VAL:HG12	2.18	0.44
1:A:202:ASN:ND2	1:A:242:PRO:CD	2.80	0.44
1:E:59:TYR:HD2	1:E:260:ALA:HA	1.82	0.44
1:F:29:THR:O	1:F:29:THR:OG1	2.31	0.44
1:A:141:LEU:HD23	1:A:141:LEU:HA	1.79	0.44
1:E:193:VAL:HG11	1:E:292:LEU:HG	2.00	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:68:GLU:HA	1:A:112:ARG:CZ	2.48	0.43
1:E:202:ASN:HD21	1:E:243:VAL:H	1.66	0.43
1:A:185:THR:HG23	1:A:192:GLN:HB3	2.00	0.43
1:C:147:ARG:HA	1:D:39:GLN:HA	1.98	0.43
1:B:179:ARG:HD2	1:B:196:GLU:OE1	2.18	0.43
1:C:196:GLU:O	1:C:282:GLY:HA3	2.18	0.43
1:E:78:VAL:HA	1:F:64:LEU:HD11	2.01	0.43
1:E:116:LEU:HD23	1:E:116:LEU:HA	1.71	0.43
1:E:141:LEU:HD22	1:E:141:LEU:HA	1.71	0.43
1:A:23:ARG:O	1:A:26:ARG:HG2	2.18	0.43
1:C:28:GLY:HA3	1:C:40:TYR:CE2	2.54	0.43
1:D:76:LEU:HD23	1:D:76:LEU:HA	1.88	0.43
1:D:85:ILE:HD12	1:D:85:ILE:HA	1.75	0.43
1:E:73:GLU:CD	1:E:73:GLU:H	2.22	0.43
1:D:227:GLU:OE1	1:D:271:PRO:HD2	2.18	0.43
1:E:85:ILE:HD13	1:F:260:ALA:HB1	2.01	0.43
1:F:301:GLU:O	1:F:306:SER:N	2.51	0.43
1:A:8:ARG:HD2	1:A:121:THR:CG2	2.49	0.43
1:D:119:LEU:HD23	1:D:119:LEU:HA	1.76	0.43
1:E:65:ALA:HB2	1:E:119:LEU:HD12	2.01	0.43
1:E:191:VAL:HG12	1:E:193:VAL:HG23	2.01	0.43
1:F:221:HIS:HE1	1:F:226:GLY:O	2.02	0.43
1:B:184:LEU:HD13	1:B:314:VAL:HG22	2.00	0.43
1:C:71:SER:OG	1:C:73:GLU:OE1	2.35	0.43
1:D:229:MET:HG3	1:D:267:VAL:HB	2.00	0.43
1:E:204:GLN:OE1	1:E:204:GLN:O	2.37	0.43
1:F:46:PHE:O	1:F:50:ILE:HB	2.19	0.43
1:B:3:ALA:HB3	1:B:4:LEU:HD12	2.01	0.43
1:B:156:GLN:O	1:B:156:GLN:HG2	2.19	0.43
1:E:255:LEU:HD22	1:E:267:VAL:HG22	2.01	0.43
1:B:239:ALA:H	1:B:259:GLN:HE22	1.66	0.42
1:C:184:LEU:HA	1:C:313:THR:O	2.19	0.42
1:C:37:TYR:HD2	1:D:300:TRP:CE2	2.37	0.42
1:C:50:ILE:O	1:C:54:TYR:CB	2.66	0.42
1:C:64:LEU:HB3	1:C:75:LEU:HD21	2.01	0.42
1:F:19:PRO:HD3	1:F:132:TRP:CD1	2.54	0.42
1:C:110:GLU:OE1	1:C:114:GLU:OE1	2.36	0.42
1:F:124:GLU:HB2	1:F:236:VAL:HG23	2.00	0.42
1:F:290:ASP:OD1	1:F:290:ASP:N	2.52	0.42
1:A:68:GLU:HA	1:A:112:ARG:HH12	1.84	0.42
1:B:109:ALA:HB2	1:B:118:ARG:CZ	2.50	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:222:ALA:HB1	1:D:225:SER:OG	2.19	0.42
1:E:64:LEU:HD23	1:E:75:LEU:HD23	2.01	0.42
1:F:247:ILE:HG22	1:F:272:THR:OG1	2.19	0.42
1:C:186:TRP:HZ3	1:C:193:VAL:HG13	1.84	0.42
1:A:30:VAL:O	1:A:33:LEU:HD23	2.19	0.42
1:A:204:GLN:CD	1:A:204:GLN:H	2.21	0.42
1:B:215:PHE:O	1:B:313:THR:HA	2.19	0.42
1:D:71:SER:O	1:D:75:LEU:HB2	2.19	0.42
1:D:175:ASP:CB	1:D:178:GLN:HG3	2.46	0.42
1:F:307:LYS:HD3	1:F:307:LYS:HA	1.67	0.42
1:D:13:SER:O	1:D:17:GLU:OE1	2.37	0.42
1:E:216:THR:HA	1:E:312:LEU:O	2.19	0.42
1:E:229:MET:CE	1:E:267:VAL:HG11	2.50	0.42
1:A:60:GLN:OE1	1:B:81:THR:HG22	2.19	0.42
1:B:254:ARG:HG3	1:B:256:ARG:HG2	2.01	0.42
1:D:23:ARG:HA	1:D:26:ARG:HD2	2.01	0.42
1:E:85:ILE:HG12	1:F:56:MET:HE3	2.00	0.42
1:E:201:LEU:HD22	1:E:201:LEU:H	1.83	0.42
1:D:246:ARG:HB3	1:D:249:ASP:OD2	2.20	0.42
1:F:74:ASN:O	1:F:78:VAL:HG23	2.20	0.42
1:B:50:ILE:HD12	1:B:89:PHE:CE2	2.55	0.42
1:C:26:ARG:CZ	1:C:136:TYR:CE2	3.03	0.42
1:C:105:VAL:HA	1:C:118:ARG:HD3	2.02	0.41
1:F:21:GLU:HG3	1:F:24:ARG:NH2	2.35	0.41
1:C:58:LEU:HD23	1:C:58:LEU:HA	1.79	0.41
1:E:54:TYR:HE2	1:E:98:LEU:HD21	1.83	0.41
1:E:186:TRP:HZ3	1:E:193:VAL:HB	1.85	0.41
1:E:186:TRP:CZ3	1:E:193:VAL:HB	2.55	0.41
1:A:247:ILE:HD12	1:A:274:GLU:HG2	2.02	0.41
1:B:185:THR:HG23	1:B:192:GLN:CG	2.50	0.41
1:D:250:ALA:CB	1:D:268:GLN:NE2	2.78	0.41
1:F:114:GLU:O	1:F:118:ARG:HG2	2.21	0.41
1:A:221:HIS:HB2	1:A:299:VAL:HG12	2.02	0.41
1:C:151:GLU:CD	1:C:151:GLU:H	2.24	0.41
1:C:300:TRP:CE2	1:D:37:TYR:HD2	2.38	0.41
1:A:76:LEU:HD23	1:A:76:LEU:HA	1.82	0.41
1:C:39:GLN:HE22	1:C:42:THR:HG23	1.85	0.41
1:C:230:TYR:CB	1:C:266:ILE:HG12	2.37	0.41
1:D:127:ASN:HD22	1:D:127:ASN:HA	1.73	0.41
1:D:213:LEU:CD2	1:D:314:VAL:O	2.69	0.41
1:B:198:TYR:HD2	1:B:201:LEU:HD12	1.86	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:7:LEU:HA	1:E:7:LEU:HD12	1.74	0.41
1:E:137:PHE:CD2	1:E:139:TRP:CZ3	3.09	0.41
1:E:140:ASP:O	1:E:141:LEU:C	2.59	0.41
1:E:187:GLN:N	1:E:311:TRP:O	2.54	0.41
1:E:255:LEU:HA	1:E:266:ILE:O	2.20	0.41
1:F:7:LEU:HD13	1:F:101:TYR:CD1	2.56	0.41
1:A:19:PRO:HB2	1:A:22:ILE:HG12	2.02	0.41
1:A:30:VAL:HB	1:A:34:PRO:HD2	2.02	0.41
1:A:175:ASP:HA	1:A:176:PRO:HD3	1.97	0.41
1:B:44:TRP:CZ2	1:B:138:PRO:HD3	2.55	0.41
1:B:76:LEU:HD23	1:B:76:LEU:HA	1.88	0.41
1:B:90:LEU:HD23	1:B:90:LEU:HA	1.79	0.41
1:C:101:TYR:O	1:C:105:VAL:HG23	2.21	0.41
1:C:105:VAL:HG13	1:C:118:ARG:HB3	2.03	0.41
1:C:141:LEU:HD13	1:D:141:LEU:HB3	2.03	0.41
1:D:186:TRP:CD2	1:D:295:VAL:HG11	2.56	0.41
1:D:283:LYS:HG2	1:D:284:VAL:N	2.36	0.41
1:E:179:ARG:HB3	1:E:196:GLU:OE1	2.20	0.41
1:E:256:ARG:NH1	1:E:266:ILE:HG21	2.35	0.41
1:E:304:PHE:O	1:E:307:LYS:HE2	2.21	0.41
1:F:6:GLU:O	1:F:9:GLU:HG2	2.20	0.41
1:F:16:SER:HB2	1:F:17:GLU:HG3	2.03	0.41
1:A:55:ALA:HB2	1:A:126:VAL:HG12	2.02	0.41
1:D:184:LEU:HG	1:D:312:LEU:HD11	2.03	0.41
1:F:317:LEU:HD23	1:F:317:LEU:HA	1.71	0.41
1:C:186:TRP:NE1	1:C:312:LEU:HD13	2.37	0.40
1:E:301:GLU:HG3	1:E:301:GLU:O	2.21	0.40
1:F:79:PHE:CZ	1:F:105:VAL:HB	2.56	0.40
1:B:7:LEU:HD23	1:B:7:LEU:HA	1.94	0.40
1:B:236:VAL:HA	1:B:263:ASN:ND2	2.36	0.40
1:C:112:ARG:HG3	1:C:112:ARG:HH11	1.86	0.40
1:E:72:VAL:HG23	1:E:73:GLU:CD	2.41	0.40
1:E:246:ARG:HD2	1:E:275:THR:C	2.35	0.40
1:D:198:TYR:CD1	1:D:282:GLY:HA2	2.56	0.40
1:D:198:TYR:HD2	1:D:201:LEU:CD1	2.34	0.40
1:B:15:VAL:HG13	1:B:16:SER:N	2.36	0.40
1:B:186:TRP:NE1	1:B:312:LEU:HD13	2.36	0.40
1:C:18:GLU:OE2	1:C:23:ARG:HD3	2.22	0.40
1:C:227:GLU:HB2	1:C:270:GLY:HA3	2.04	0.40
1:A:8:ARG:HE	1:A:8:ARG:HB3	1.75	0.40
1:A:259:GLN:HA	1:A:263:ASN:HA	2.04	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:4:LEU:HA	1:D:5:PRO:HD3	1.97	0.40
1:D:72:VAL:O	1:D:76:LEU:HB2	2.22	0.40
1:E:73:GLU:O	1:E:77:THR:HG23	2.21	0.40
1:E:135:HIS:CD2	1:E:218:LEU:HD21	2.57	0.40
1:F:176:PRO:HA	1:F:179:ARG:CG	2.51	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	294/317 (93%)	279 (95%)	15 (5%)	0	100	100
1	B	301/317 (95%)	288 (96%)	13 (4%)	0	100	100
1	C	294/317 (93%)	276 (94%)	18 (6%)	0	100	100
1	D	276/317 (87%)	259 (94%)	17 (6%)	0	100	100
1	E	279/317 (88%)	257 (92%)	22 (8%)	0	100	100
1	F	272/317 (86%)	260 (96%)	12 (4%)	0	100	100
All	All	1716/1902 (90%)	1619 (94%)	97 (6%)	0	100	100

There are no Ramachandran outliers to report.

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	257/268 (96%)	243 (95%)	14 (5%)	18 39
1	B	260/268 (97%)	249 (96%)	11 (4%)	25 49
1	C	257/268 (96%)	245 (95%)	12 (5%)	22 45
1	D	244/268 (91%)	227 (93%)	17 (7%)	12 28
1	E	247/268 (92%)	228 (92%)	19 (8%)	10 24
1	F	241/268 (90%)	217 (90%)	24 (10%)	6 14
All	All	1506/1608 (94%)	1409 (94%)	97 (6%)	14 32

All (97) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	6	GLU
1	A	16	SER
1	A	17	GLU
1	A	97	VAL
1	A	111	SER
1	A	147	ARG
1	A	189	LEU
1	A	219	GLN
1	A	235	LEU
1	A	237	SER
1	A	277	SER
1	A	286	ASP
1	A	287	SER
1	A	295	VAL
1	B	29	THR
1	B	46	PHE
1	B	87	SER
1	B	114	GLU
1	B	179	ARG
1	B	235	LEU
1	B	254	ARG
1	B	277	SER
1	B	286	ASP
1	B	290	ASP
1	B	301	GLU
1	C	36	SER
1	C	39	GLN
1	C	47	SER
1	C	69	SER
1	C	74	ASN

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Mol	Chain	Res	Type
1	C	92	TYR
1	C	147	ARG
1	C	189	LEU
1	C	204	GLN
1	C	225	SER
1	C	235	LEU
1	C	305	SER
1	D	24	ARG
1	D	26	ARG
1	D	32	ASP
1	D	33	LEU
1	D	47	SER
1	D	71	SER
1	D	75	LEU
1	D	104	ARG
1	D	107	GLN
1	D	177	SER
1	D	200	ASP
1	D	230	TYR
1	D	235	LEU
1	D	278	SER
1	D	292	LEU
1	D	297	LYS
1	D	304	PHE
1	E	52	ARG
1	E	83	ASP
1	E	104	ARG
1	E	141	LEU
1	E	177	SER
1	E	179	ARG
1	E	184	LEU
1	E	186	TRP
1	E	189	LEU
1	E	202	ASN
1	E	204	GLN
1	E	230	TYR
1	E	235	LEU
1	E	256	ARG
1	E	261	THR
1	E	264	LYS
1	E	273	THR
1	E	287	SER

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Mol	Chain	Res	Type
1	E	304	PHE
1	F	6	GLU
1	F	16	SER
1	F	23	ARG
1	F	26	ARG
1	F	47	SER
1	F	51	VAL
1	F	104	ARG
1	F	118	ARG
1	F	169	SER
1	F	178	GLN
1	F	228	SER
1	F	230	TYR
1	F	235	LEU
1	F	273	THR
1	F	275	THR
1	F	277	SER
1	F	278	SER
1	F	286	ASP
1	F	290	ASP
1	F	302	SER
1	F	303	THR
1	F	305	SER
1	F	306	SER
1	F	310	VAL

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (20) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	74	ASN
1	A	134	HIS
1	A	187	GLN
1	A	202	ASN
1	A	219	GLN
1	B	192	GLN
1	B	259	GLN
1	B	263	ASN
1	B	268	GLN
1	C	39	GLN
1	C	187	GLN
1	D	93	ASN
1	D	127	ASN

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Mol	Chain	Res	Type
1	D	268	GLN
1	E	39	GLN
1	E	103	GLN
1	E	178	GLN
1	E	187	GLN
1	E	202	ASN
1	F	57	ASN

5.3.3 RNA

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates

There are no oligosaccharides in this entry.

5.6 Ligand geometry

6 ligands are modelled in this entry.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\| > 2$	Counts	RMSZ	$\#\|Z\| > 2$
2	TRP	A	401	-	14,16,16	0.79	1 (7%)	13,22,22	0.89	0
2	TRP	C	401	-	14,16,16	0.85	1 (7%)	13,22,22	0.88	0
2	TRP	B	401	-	14,16,16	0.90	0	13,22,22	1.22	2 (15%)
2	TRP	E	401	-	14,16,16	0.80	1 (7%)	13,22,22	0.92	0
2	TRP	F	401	-	14,16,16	1.20	1 (7%)	13,22,22	1.20	2 (15%)
2	TRP	D	401	-	14,16,16	0.75	0	13,22,22	0.94	1 (7%)

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
2	TRP	A	401	-	-	2/7/8/8	0/2/2/2
2	TRP	C	401	-	-	2/7/8/8	0/2/2/2
2	TRP	B	401	-	-	3/7/8/8	0/2/2/2
2	TRP	E	401	-	-	0/7/8/8	0/2/2/2
2	TRP	F	401	-	-	2/7/8/8	0/2/2/2
2	TRP	D	401	-	-	0/7/8/8	0/2/2/2

All (4) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	F	401	TRP	CB-CG	-3.13	1.43	1.51
2	C	401	TRP	OXT-C	-2.22	1.23	1.30
2	E	401	TRP	OXT-C	-2.14	1.23	1.30
2	A	401	TRP	OXT-C	-2.12	1.23	1.30

All (5) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	B	401	TRP	OXT-C-O	-2.88	117.55	124.08
2	F	401	TRP	OXT-C-O	-2.62	118.13	124.08
2	B	401	TRP	CH2-CZ2-CE2	-2.17	117.13	120.09
2	F	401	TRP	CH2-CZ2-CE2	-2.15	117.15	120.09
2	D	401	TRP	CH2-CZ2-CE2	-2.08	117.25	120.09

There are no chirality outliers.

All (9) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
2	A	401	TRP	N-CA-CB-CG
2	A	401	TRP	C-CA-CB-CG
2	B	401	TRP	N-CA-CB-CG
2	B	401	TRP	C-CA-CB-CG
2	C	401	TRP	C-CA-CB-CG
2	C	401	TRP	N-CA-CB-CG
2	F	401	TRP	OXT-C-CA-CB
2	F	401	TRP	O-C-CA-CB
2	B	401	TRP	O-C-CA-N

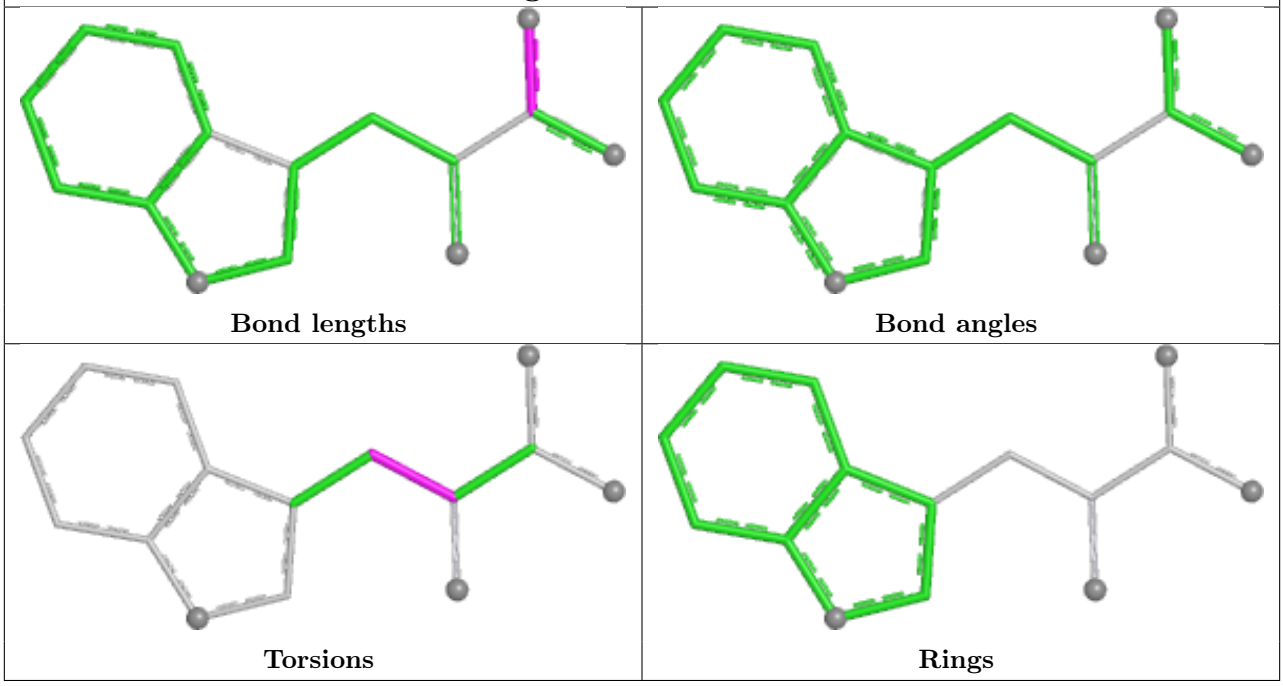
There are no ring outliers.

4 monomers are involved in 10 short contacts:

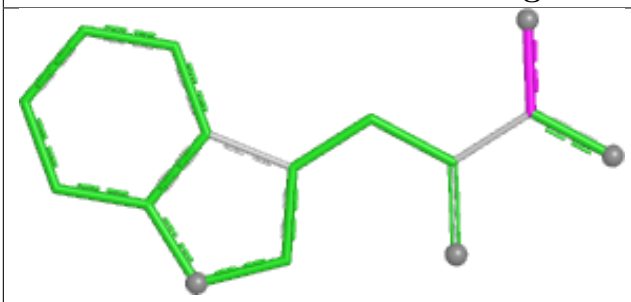
Mol	Chain	Res	Type	Clashes	Symm-Clashes
2	B	401	TRP	1	0
2	E	401	TRP	3	0
2	F	401	TRP	1	0
2	D	401	TRP	5	0

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.

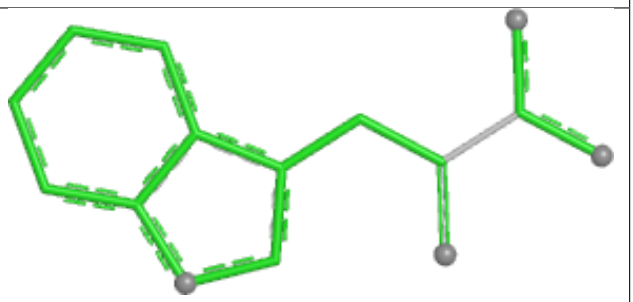
Ligand TRP A 401



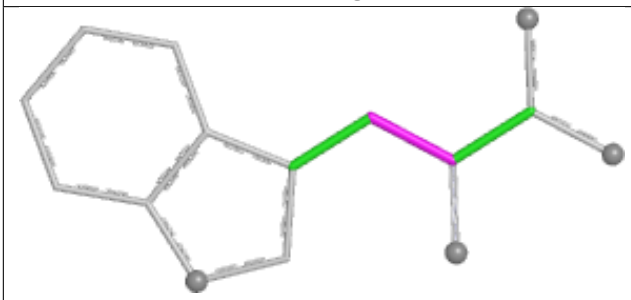
Ligand TRP C 401



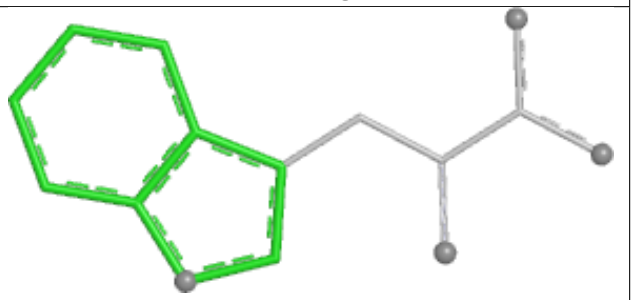
Bond lengths



Bond angles

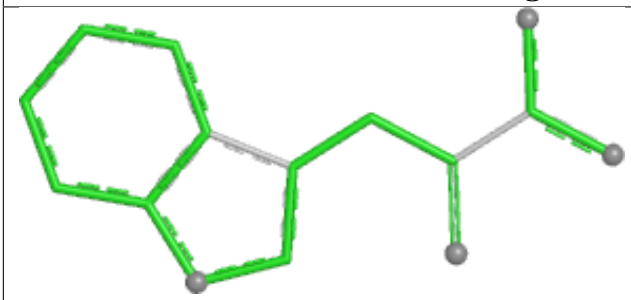


Torsions

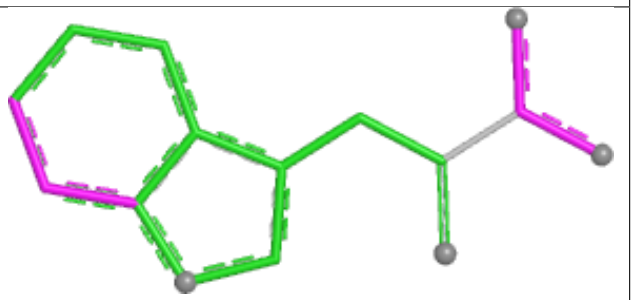


Rings

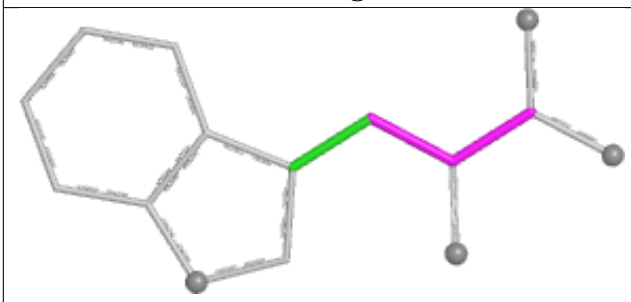
Ligand TRP B 401



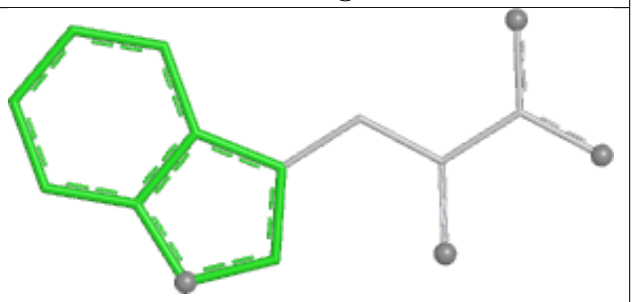
Bond lengths



Bond angles

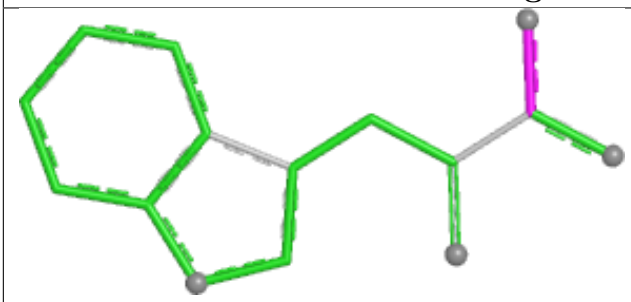


Torsions

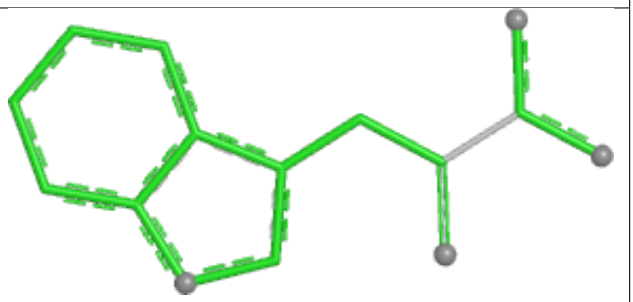


Rings

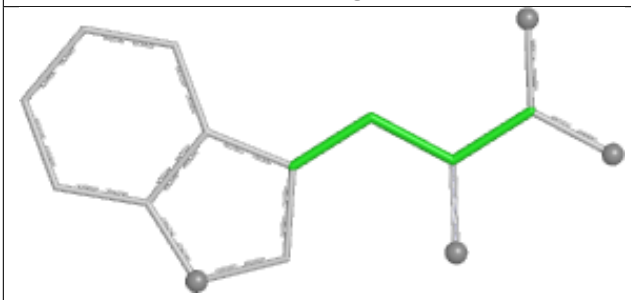
Ligand TRP E 401



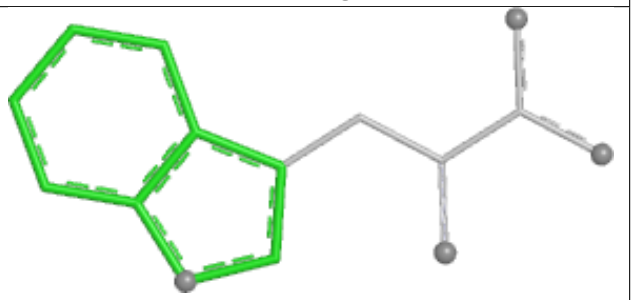
Bond lengths



Bond angles

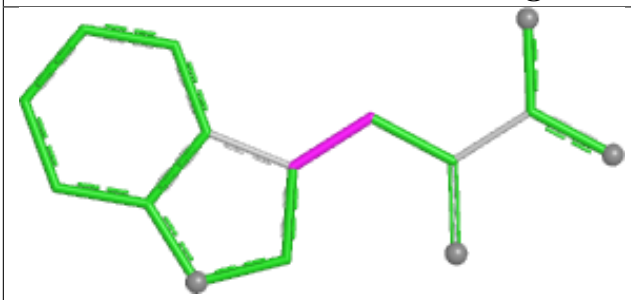


Torsions

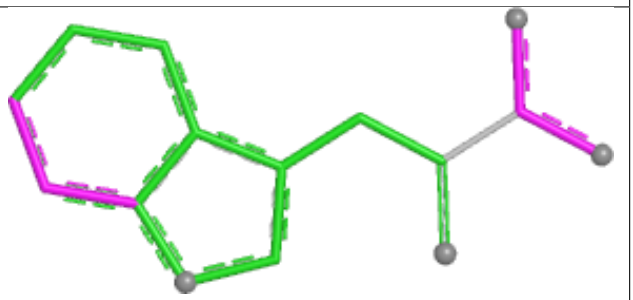


Rings

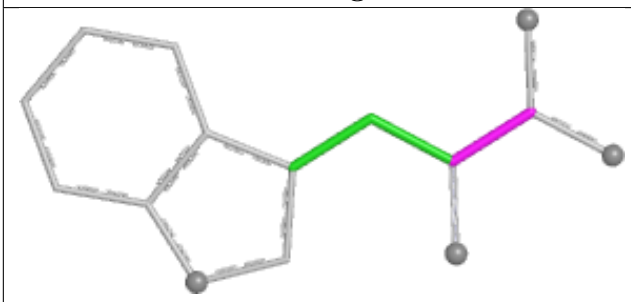
Ligand TRP F 401



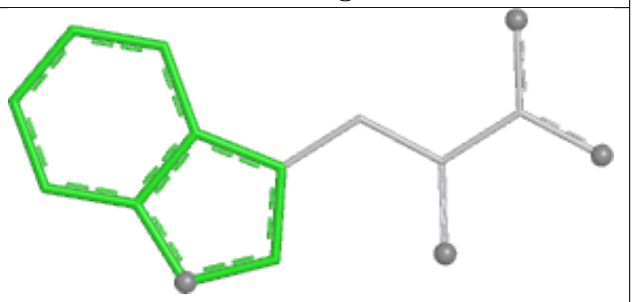
Bond lengths



Bond angles

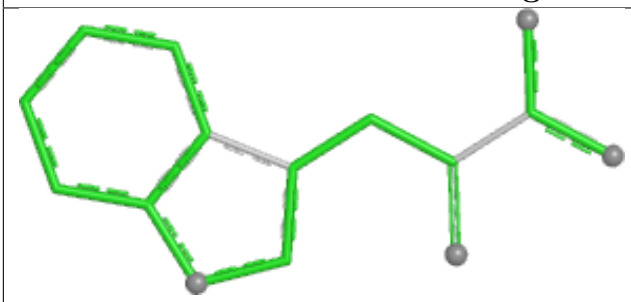


Torsions

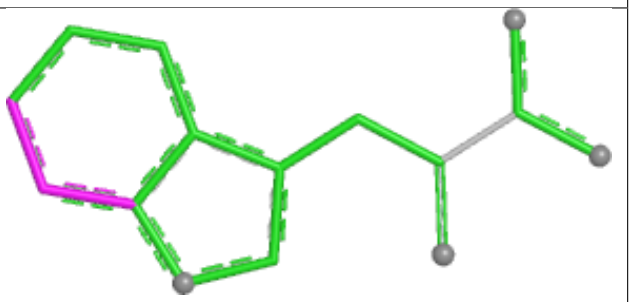


Rings

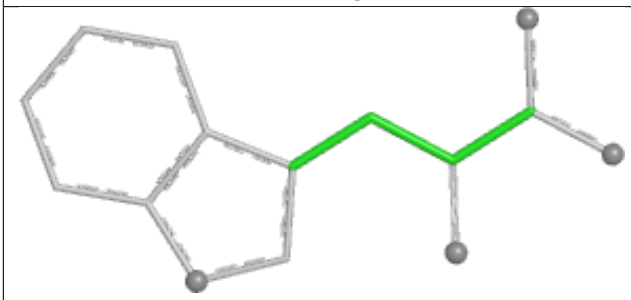
Ligand TRP D 401



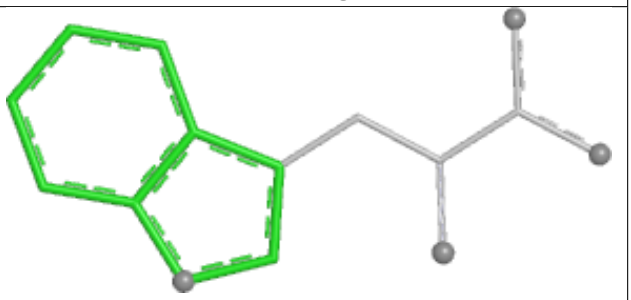
Bond lengths



Bond angles



Torsions



Rings

5.7 Other polymers

There are no such residues in this entry.

5.8 Polymer linkage issues

There are no chain breaks in this entry.

6 Fit of model and data

6.1 Protein, DNA and RNA chains

In the following table, the column labelled '#RSRZ> 2' contains the number (and percentage) of RSRZ outliers, followed by percent RSRZ outliers for the chain as percentile scores relative to all X-ray entries and entries of similar resolution. The OWAB column contains the minimum, median, 95^{th} percentile and maximum values of the occupancy-weighted average B-factor per residue. The column labelled 'Q< 0.9' lists the number of (and percentage) of residues with an average occupancy less than 0.9.

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2			OWAB(Å^2)	Q<0.9
1	A	300/317 (94%)	-1.69	0	100	100	22, 40, 66, 84	0
1	B	307/317 (96%)	-1.72	0	100	100	22, 38, 57, 71	0
1	C	300/317 (94%)	-1.71	0	100	100	25, 36, 57, 76	0
1	D	282/317 (88%)	-1.66	0	100	100	25, 40, 60, 75	0
1	E	283/317 (89%)	-1.60	0	100	100	36, 50, 73, 102	0
1	F	278/317 (87%)	-1.68	0	100	100	32, 47, 63, 78	0
All	All	1750/1902 (92%)	-1.68	0	100	100	22, 42, 65, 102	0

There are no RSRZ outliers to report.

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

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

6.3 Carbohydrates

There are no monosaccharides in this entry.

6.4 Ligands

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

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
2	TRP	A	401	15/15	0.99	0.04	35,46,49,50	0

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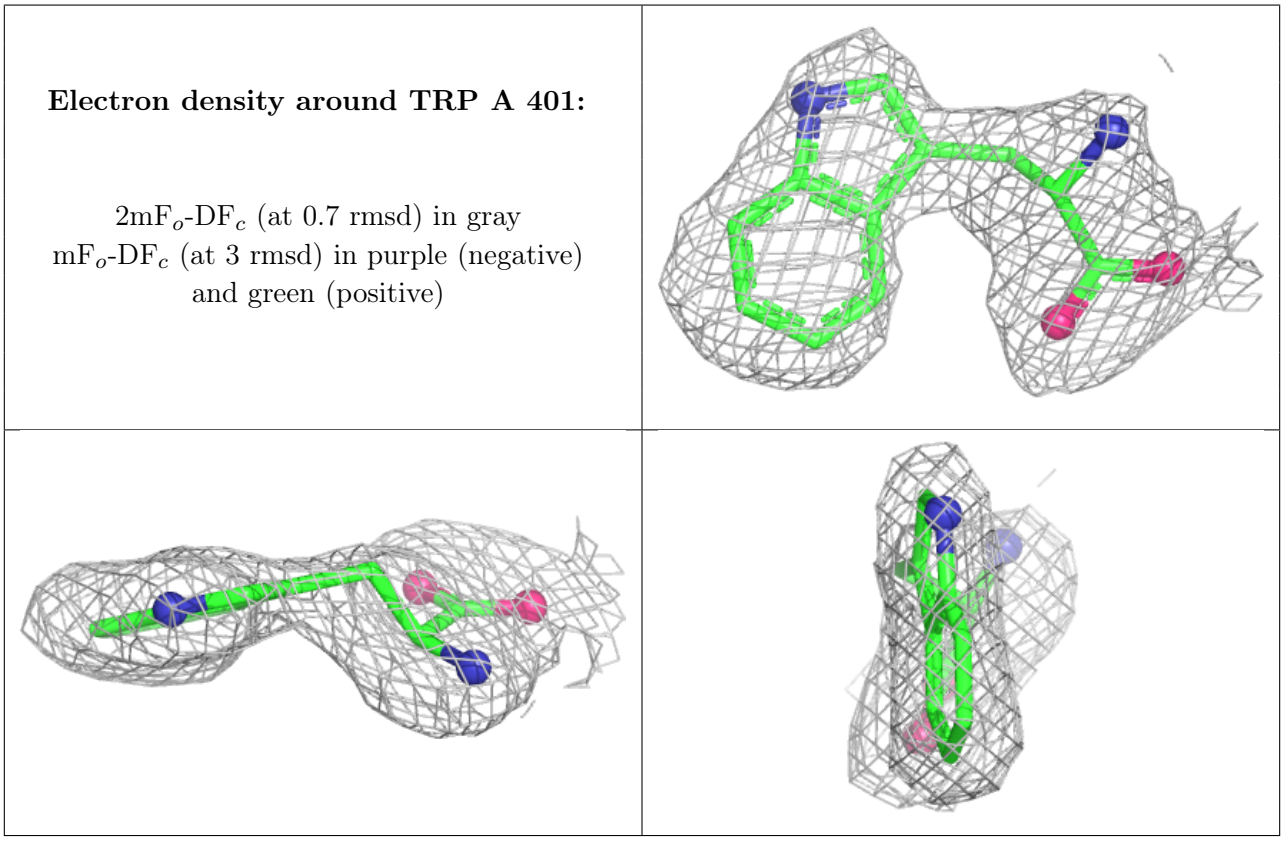
Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
2	TRP	B	401	15/15	0.99	0.04	26,31,35,40	0
2	TRP	C	401	15/15	0.99	0.03	33,38,41,43	0
2	TRP	D	401	15/15	0.99	0.03	26,36,38,39	0
2	TRP	E	401	15/15	0.99	0.04	39,47,51,52	0
2	TRP	F	401	15/15	0.99	0.04	32,40,48,48	0

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

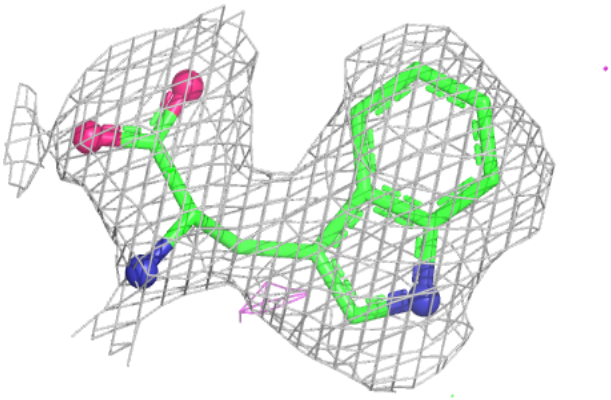
Electron density around TRP A 401:

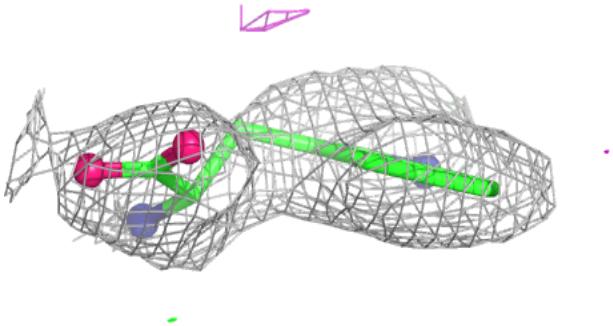
$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

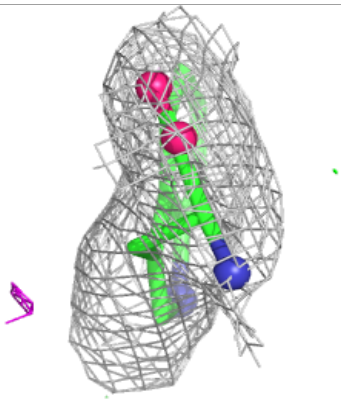


Electron density around TRP B 401:

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

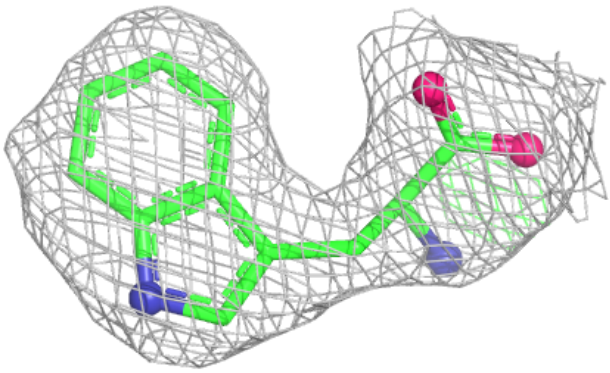


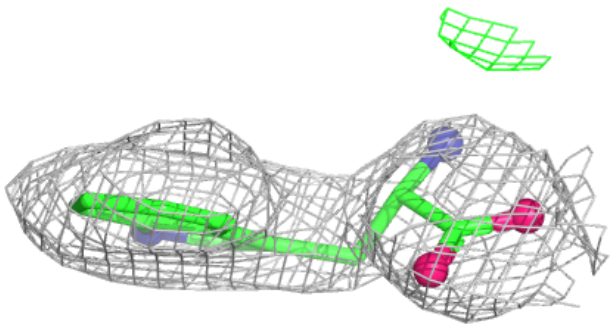


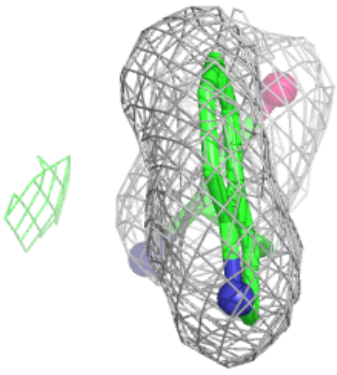


Electron density around TRP C 401:

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

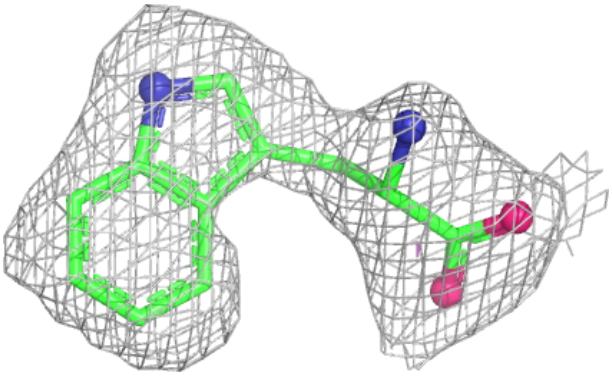


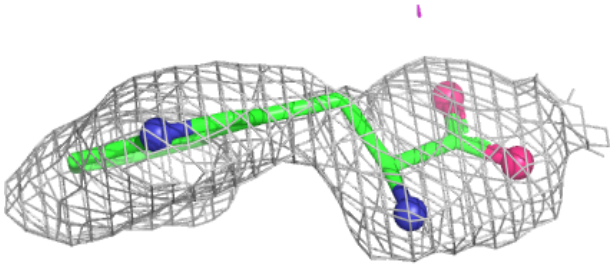


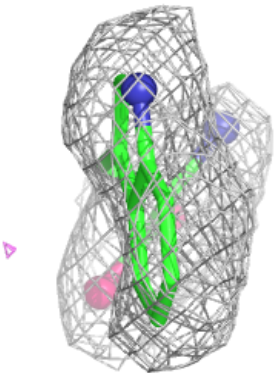


Electron density around TRP D 401:

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

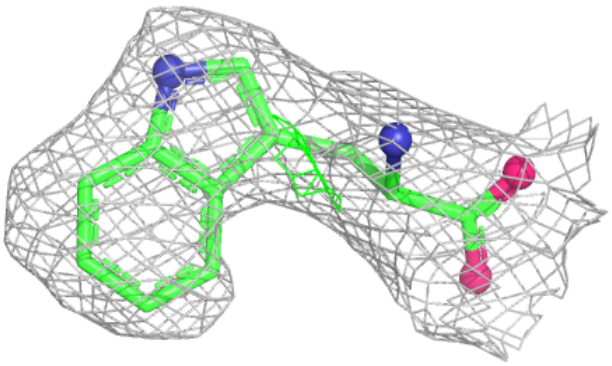


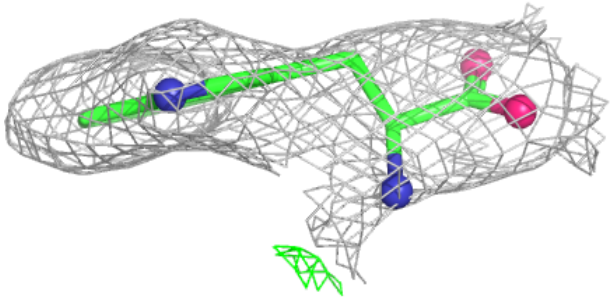


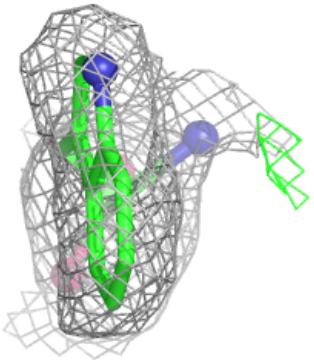


Electron density around TRP E 401:

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

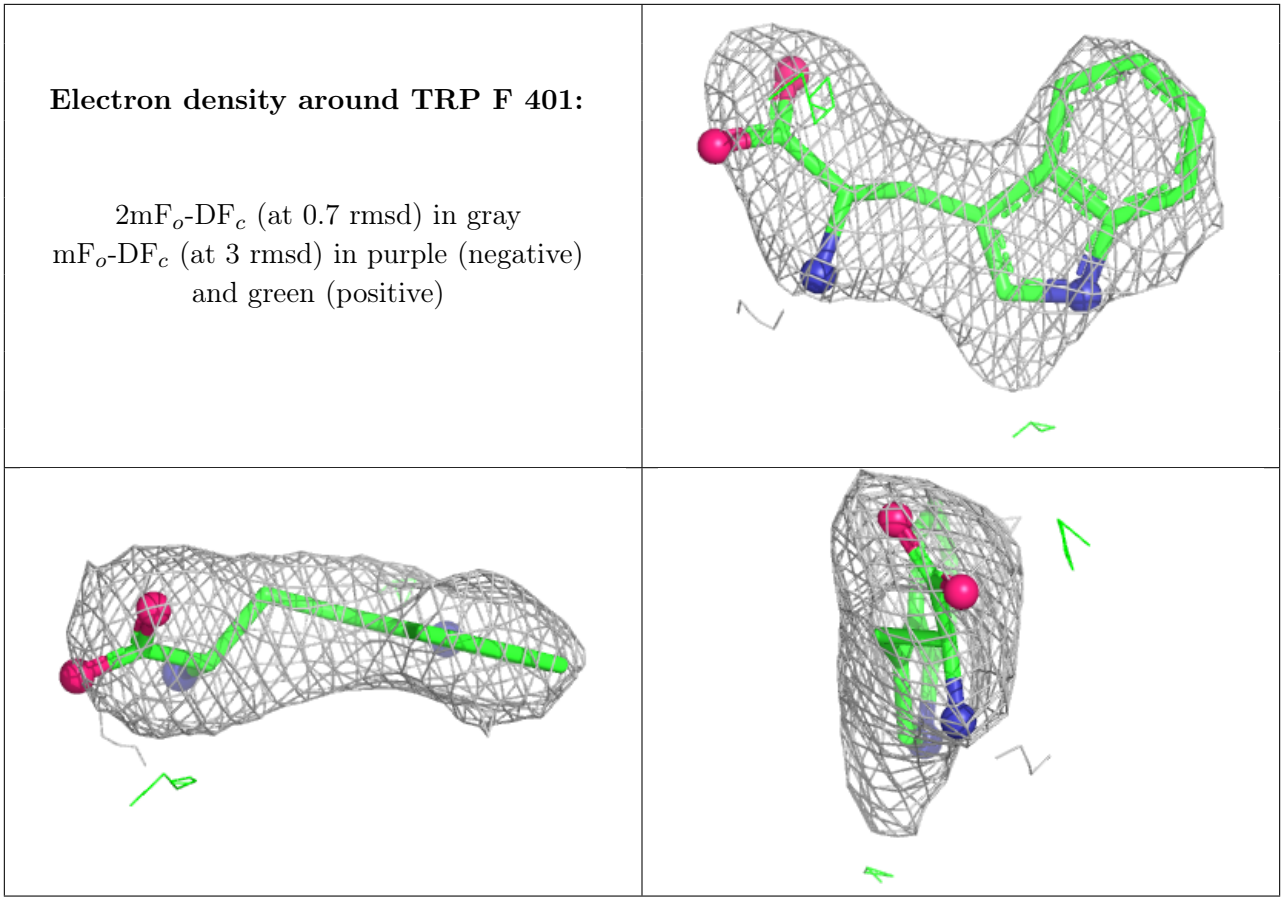






Electron density around TRP F 401:

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



6.5 Other polymers (i)

There are no such residues in this entry.