



Full wwPDB X-ray Structure Validation Report ⓘ

Mar 4, 2026 – 07:52 PM UTC

PDB ID : 3CUK / pdb_00003cuk
Title : Crystal structure of human D-amino acid oxidase: bound to an inhibitor
Authors : Prasad, S.; Munshi, S.
Deposited on : 2008-04-16
Resolution : 2.49 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 : 4-5-2 with Phenix2.0
Mogul : 2022.3.0, CSD as543be (2022)
Xtriage (Phenix) : 2.0
EDS : 3.0
Buster-report : wwPDB partial adaption of 1.1.7 (2018)
Percentile statistics : 20250101.v01 (using entries in the PDB archive January 1st 2025)
CCP4 : 9.0.010 (Gargrove)
Density-Fitness : 1.0.12
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.49

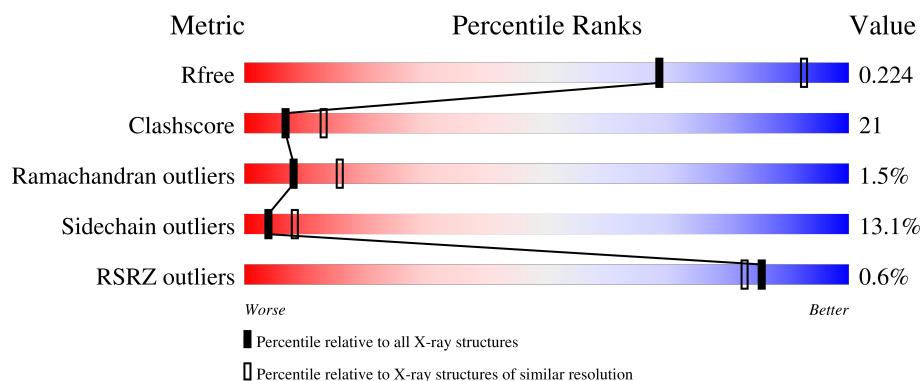
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 2.49 Å.

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



Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R_{free}	180053	5829 (2.50-2.50)
Clashscore	190562	6492 (2.50-2.50)
Ramachandran outliers	187476	6378 (2.50-2.50)
Sidechain outliers	187428	6380 (2.50-2.50)
RSRZ outliers	180081	5833 (2.50-2.50)

The table below summarises the geometric issues observed across the polymeric chains and their fit to the electron density. The red, orange, yellow and green segments of the lower bar indicate the fraction of residues that contain outliers for ≥ 3 , 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions $\leq 5\%$. The upper red bar (where present) indicates the fraction of residues that have poor fit to the electron density. The numeric value is given above the bar.

Mol	Chain	Length	Quality of chain
1	A	347	<div> <div>%</div> <div> <div></div> <div>52%</div> <div>34%</div> <div>7%</div> <div>• 6%</div> </div> </div>
1	B	347	<div> <div>%</div> <div> <div></div> <div>51%</div> <div>31%</div> <div>11%</div> <div>• 6%</div> </div> </div>
1	C	347	<div> <div>%</div> <div> <div></div> <div>47%</div> <div>34%</div> <div>12%</div> <div>• 6%</div> </div> </div>
1	D	347	<div> <div></div> <div> <div>46%</div> <div>35%</div> <div>12%</div> <div>• 6%</div> </div> </div>

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
3	4P5	A	402	-	X	-	-
3	4P5	C	402	-	X	-	-

2 Entry composition [i](#)

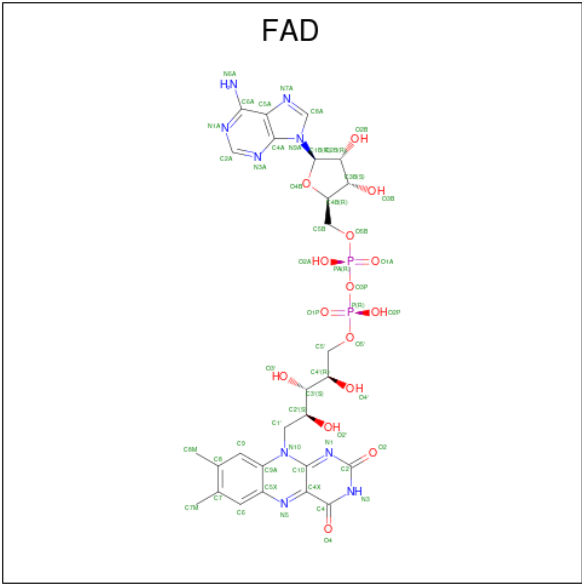
There are 4 unique types of molecules in this entry. The entry contains 10850 atoms, of which 0 are hydrogens and 0 are deuteriums.

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 D-amino-acid oxidase.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	327	Total	C	N	O	S	0	0	0
			2638	1696	460	473	9			
1	B	327	Total	C	N	O	S	0	0	0
			2638	1696	460	473	9			
1	C	327	Total	C	N	O	S	0	0	0
			2638	1696	460	473	9			
1	D	327	Total	C	N	O	S	0	0	0
			2638	1696	460	473	9			

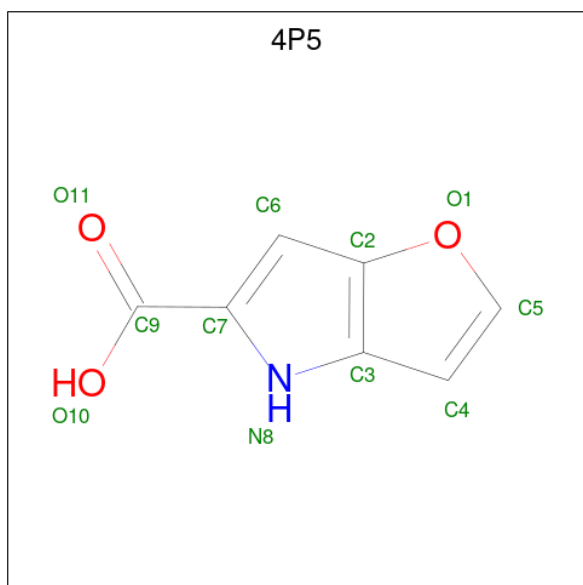
- Molecule 2 is FLAVIN-ADENINE DINUCLEOTIDE (CCD ID: FAD) (formula: C₂₇H₃₃N₉O₁₅P₂).



Continued from previous page...

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf
2	C	1	Total	C	N	O	P	0	0
			53	27	9	15	2		
2	D	1	Total	C	N	O	P	0	0
			53	27	9	15	2		

- Molecule 3 is 4H-furo[3,2-b]pyrrole-5-carboxylic acid (CCD ID: 4P5) (formula: $C_7H_5NO_3$).



Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
3	A	1	Total	C	N	O	0	0
			11	7	1	3		
3	B	1	Total	C	N	O	0	0
			11	7	1	3		
3	C	1	Total	C	N	O	0	0
			11	7	1	3		
3	D	1	Total	C	N	O	0	0
			11	7	1	3		

- Molecule 4 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
4	A	13	Total	O	0	0
			13	13		
4	B	13	Total	O	0	0
			13	13		
4	C	7	Total	O	0	0
			7	7		

Continued on next page...

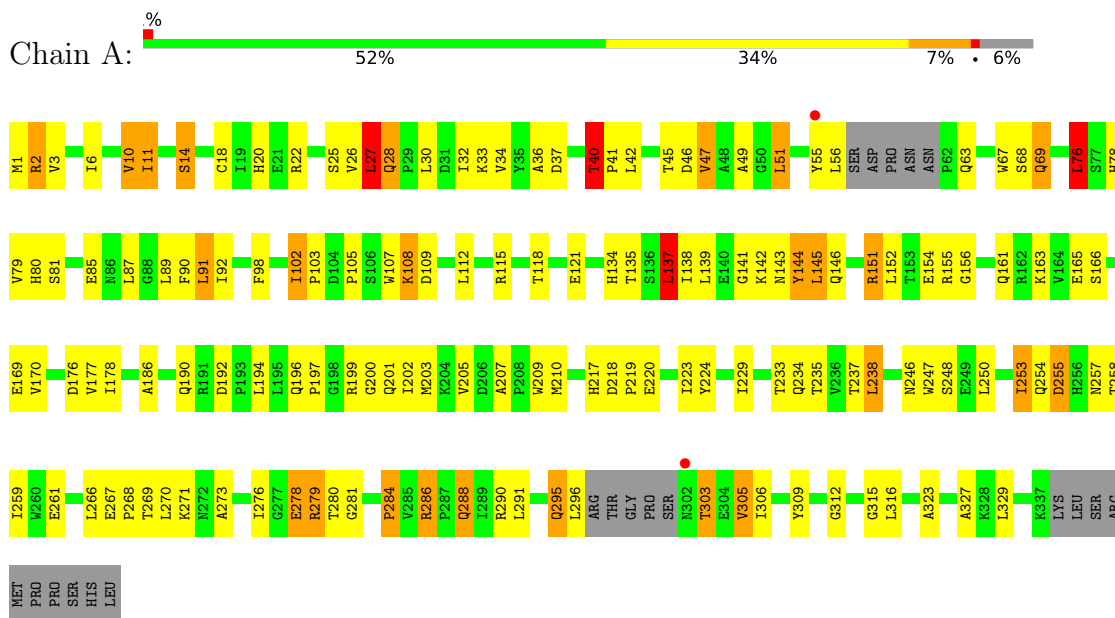
Continued from previous page...

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
4	D	9	Total	O	0	0
			9	9		

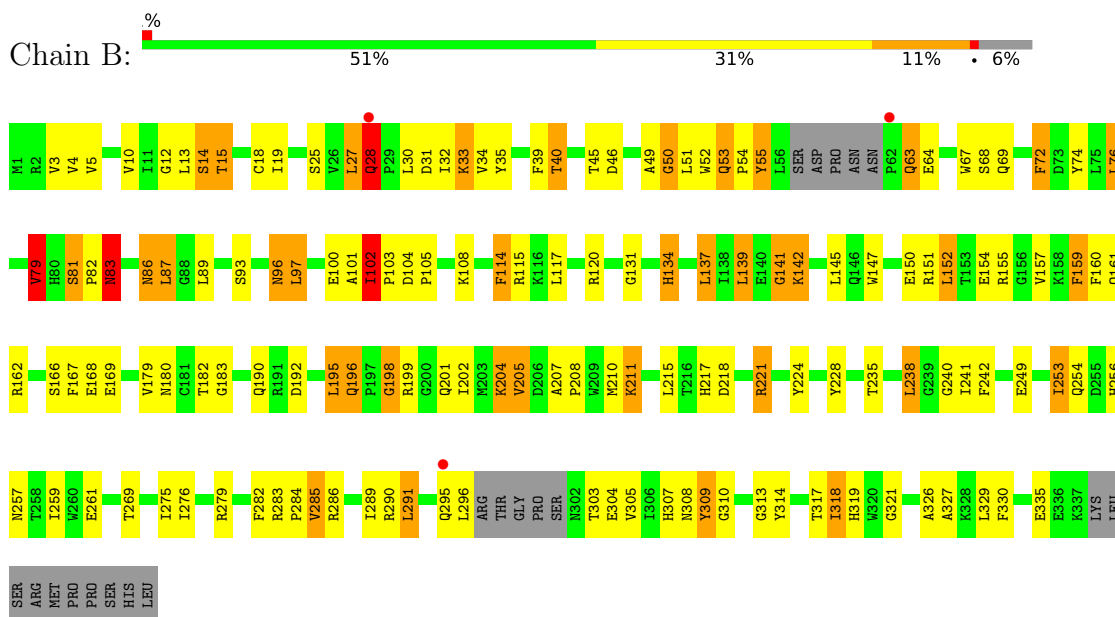
3 Residue-property plots

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

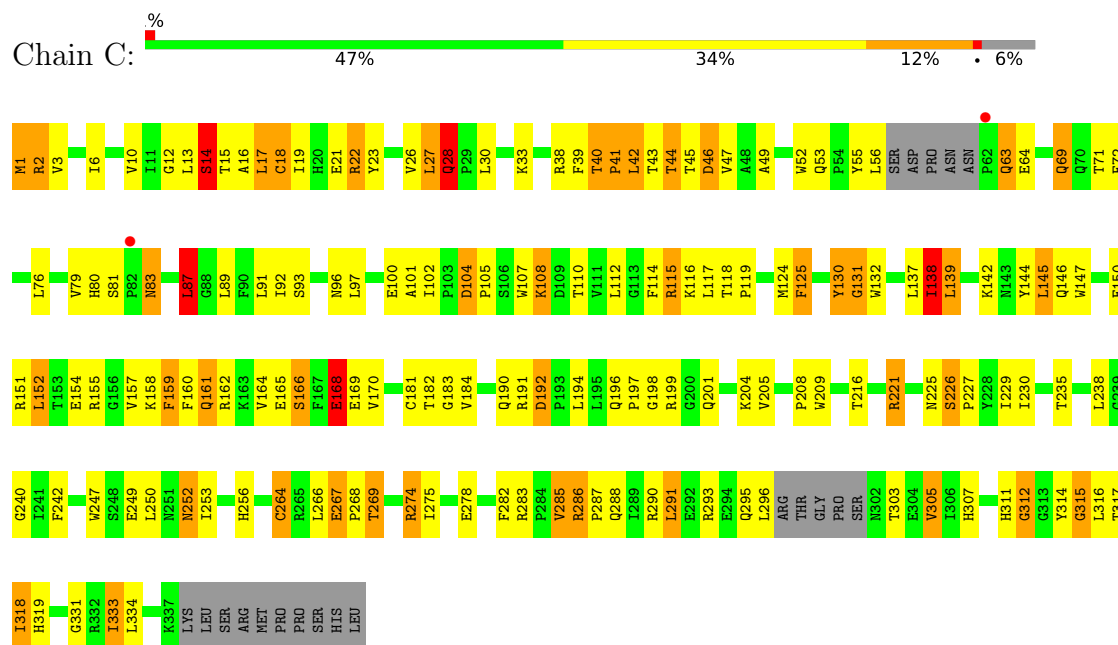
• Molecule 1: D-amino-acid oxidase



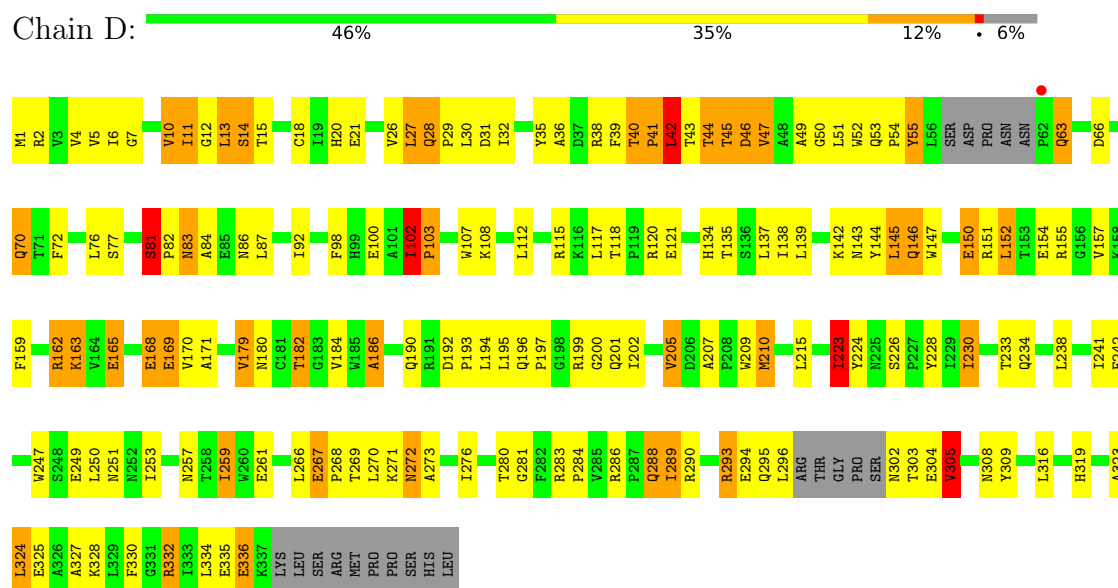
• Molecule 1: D-amino-acid oxidase



- Molecule 1: D-amino-acid oxidase



- Molecule 1: D-amino-acid oxidase



4 Data and refinement statistics

Property	Value	Source
Space group	C 1 2 1	Depositor
Cell constants a, b, c, α , β , γ	187.73Å 51.15Å 153.29Å 90.00° 110.45° 90.00°	Depositor
Resolution (Å)	42.52 – 2.49 42.52 – 2.49	Depositor EDS
% Data completeness (in resolution range)	96.5 (42.52-2.49) 82.9 (42.52-2.49)	Depositor EDS
R_{merge}	0.10	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	1.79 (at 2.48Å)	Xtriage
Refinement program	REFMAC 5.1.24	Depositor
R, R_{free}	0.239 , 0.329 0.237 , 0.224	Depositor DCC
R_{free} test set	No test flags present.	wwPDB-VP
Wilson B-factor (Å ²)	31.4	Xtriage
Anisotropy	0.525	Xtriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.33 , 40.5	EDS
L-test for twinning ²	$\langle L \rangle = 0.50$, $\langle L^2 \rangle = 0.33$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o, F_c correlation	0.93	EDS
Total number of atoms	10850	wwPDB-VP
Average B, all atoms (Å ²)	23.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The analyses of the Patterson function reveals a significant off-origin peak that is 75.06 % of the origin peak, indicating pseudo-translational symmetry. The chance of finding a peak of this or larger height randomly in a structure without pseudo-translational symmetry is equal to 1.3595e-06. The detected translational NCS is most likely also responsible for the elevated intensity ratio.*

¹Intensities estimated from amplitudes.

²Theoretical values of $\langle |L| \rangle$, $\langle L^2 \rangle$ for acentric reflections are 0.5, 0.333 respectively for untwinned datasets, and 0.375, 0.2 for perfectly twinned datasets.

5 Model quality [i](#)

5.1 Standard geometry [i](#)

Bond lengths and bond angles in the following residue types are not validated in this section: FAD, 4P5

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	1.64	28/2711 (1.0%)	1.55	27/3685 (0.7%)
1	B	1.63	26/2711 (1.0%)	1.59	42/3685 (1.1%)
1	C	1.55	23/2711 (0.8%)	1.58	34/3685 (0.9%)
1	D	1.57	21/2711 (0.8%)	1.57	38/3685 (1.0%)
All	All	1.60	98/10844 (0.9%)	1.57	141/14740 (1.0%)

All (98) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	C	208	PRO	CA-C	8.10	1.60	1.52
1	C	318	ILE	N-CA	7.92	1.56	1.46
1	C	285	VAL	CA-CB	7.88	1.64	1.54
1	B	275	ILE	CA-CB	7.76	1.63	1.54
1	D	170	VAL	CA-CB	7.75	1.63	1.54
1	A	92	ILE	CA-CB	-7.39	1.44	1.54
1	C	49	ALA	C-O	-7.39	1.14	1.24
1	B	114	PHE	N-CA	7.29	1.55	1.46
1	A	278	GLU	CA-C	7.05	1.61	1.52
1	B	318	ILE	CA-CB	6.86	1.63	1.54
1	A	286	ARG	CA-C	6.84	1.59	1.52
1	A	134	HIS	C-O	-6.79	1.15	1.23
1	B	318	ILE	N-CA	6.58	1.52	1.46
1	D	11	ILE	CA-CB	-6.52	1.47	1.54
1	A	170	VAL	CA-CB	6.49	1.62	1.54
1	A	102	ILE	CA-C	6.47	1.59	1.52
1	C	286	ARG	C-O	-6.45	1.17	1.24
1	B	253	ILE	CA-C	6.43	1.60	1.52
1	A	327	ALA	N-CA	6.40	1.54	1.46
1	A	91	LEU	CA-C	-6.33	1.45	1.52
1	C	3	VAL	CA-CB	6.30	1.62	1.54
1	A	102	ILE	CA-CB	6.27	1.62	1.54

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	D	46	ASP	N-CA	6.24	1.54	1.46
1	D	259	ILE	CA-CB	6.22	1.61	1.54
1	C	71	THR	CA-CB	6.21	1.62	1.53
1	D	42	LEU	CA-C	6.12	1.61	1.52
1	C	146	GLN	N-CA	6.06	1.53	1.46
1	D	41	PRO	CB-CG	6.05	1.74	1.51
1	C	138	ILE	CA-CB	5.98	1.61	1.54
1	C	196	GLN	N-CA	5.94	1.51	1.45
1	A	27	LEU	CA-C	5.93	1.60	1.52
1	B	142	LYS	C-O	-5.91	1.17	1.24
1	D	157	VAL	C-O	-5.86	1.18	1.24
1	B	68	SER	N-CA	-5.85	1.39	1.46
1	A	68	SER	N-CA	5.77	1.53	1.46
1	A	144	TYR	N-CA	-5.76	1.38	1.46
1	B	18	CYS	N-CA	-5.76	1.39	1.46
1	B	79	VAL	CA-CB	5.75	1.62	1.54
1	D	223	ILE	CG1-CD1	5.72	1.74	1.51
1	A	316	LEU	C-O	-5.71	1.17	1.24
1	A	11	ILE	CA-CB	-5.71	1.47	1.54
1	A	69	GLN	N-CA	-5.70	1.39	1.46
1	B	53	GLN	CA-C	5.68	1.59	1.52
1	A	329	LEU	CG-CD1	-5.67	1.33	1.52
1	C	125	PHE	N-CA	-5.60	1.40	1.46
1	D	26	VAL	CA-C	5.57	1.59	1.52
1	B	208	PRO	CA-C	5.56	1.58	1.52
1	A	137	LEU	C-O	5.56	1.30	1.23
1	C	157	VAL	CA-C	5.53	1.59	1.52
1	B	317	THR	C-N	5.52	1.39	1.33
1	D	92	ILE	C-O	5.52	1.30	1.23
1	D	92	ILE	CA-CB	-5.51	1.47	1.55
1	A	306	ILE	CA-C	5.49	1.59	1.52
1	D	276	ILE	CA-CB	5.47	1.62	1.54
1	B	115	ARG	N-CA	5.47	1.52	1.46
1	B	256	HIS	CA-C	5.46	1.60	1.52
1	D	49	ALA	CA-CB	-5.45	1.44	1.53
1	D	102	ILE	CA-CB	5.44	1.61	1.54
1	D	328	LYS	C-O	-5.43	1.17	1.24
1	B	19	ILE	CA-CB	5.42	1.61	1.54
1	A	255	ASP	CA-C	5.41	1.59	1.52
1	C	161	GLN	C-O	-5.40	1.17	1.24
1	B	134	HIS	C-O	5.39	1.29	1.23
1	B	228	TYR	CA-C	5.38	1.59	1.52

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	76	LEU	N-CA	-5.37	1.39	1.46
1	C	275	ILE	CA-CB	5.35	1.60	1.54
1	B	14	SER	N-CA	-5.33	1.39	1.46
1	D	251	ASN	CA-C	-5.33	1.45	1.52
1	B	137	LEU	C-O	5.32	1.30	1.23
1	A	49	ALA	CA-CB	-5.31	1.44	1.53
1	C	225	ASN	CA-C	-5.28	1.46	1.52
1	A	10	VAL	CA-CB	-5.28	1.47	1.54
1	C	184	VAL	N-CA	-5.27	1.39	1.46
1	A	47	VAL	CA-CB	-5.25	1.48	1.54
1	D	45	THR	CA-CB	5.24	1.62	1.53
1	C	18	CYS	CB-SG	-5.23	1.64	1.81
1	B	49	ALA	C-O	-5.22	1.17	1.24
1	B	195	LEU	CA-C	5.22	1.59	1.52
1	D	207	ALA	CA-CB	5.21	1.59	1.53
1	A	235	THR	CA-C	-5.18	1.46	1.52
1	B	285	VAL	CA-CB	5.16	1.60	1.54
1	C	252	ASN	CA-C	5.14	1.58	1.52
1	B	12	GLY	C-O	5.13	1.30	1.23
1	C	18	CYS	N-CA	-5.13	1.39	1.46
1	C	168	GLU	CA-C	-5.13	1.46	1.52
1	A	237	THR	C-O	5.12	1.30	1.24
1	A	284	PRO	C-O	5.11	1.30	1.24
1	C	144	TYR	N-CA	-5.08	1.40	1.46
1	B	97	LEU	N-CA	5.08	1.52	1.46
1	C	41	PRO	CB-CG	5.08	1.70	1.51
1	B	180	ASN	CA-C	5.08	1.59	1.53
1	D	43	THR	N-CA	5.05	1.51	1.45
1	A	45	THR	CA-CB	5.03	1.61	1.53
1	B	5	VAL	CA-CB	5.03	1.59	1.54
1	C	44	THR	CA-CB	5.03	1.62	1.53
1	D	289	ILE	N-CA	-5.03	1.40	1.46
1	A	276	ILE	CA-CB	5.02	1.60	1.54
1	D	92	ILE	N-CA	-5.02	1.40	1.46

All (141) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	D	53	GLN	CA-C-N	11.26	131.01	120.21
1	D	53	GLN	C-N-CA	11.26	131.01	120.21
1	C	286	ARG	CA-C-N	-11.25	106.90	119.28
1	C	286	ARG	C-N-CA	-11.25	106.90	119.28

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	C	53	GLN	CA-C-N	10.99	130.76	120.21
1	C	53	GLN	C-N-CA	10.99	130.76	120.21
1	C	104	ASP	CA-C-N	-8.89	111.60	120.31
1	C	104	ASP	C-N-CA	-8.89	111.60	120.31
1	A	176	ASP	N-CA-C	-8.79	102.69	113.41
1	A	40	THR	CB-CA-C	-8.63	95.40	109.56
1	B	207	ALA	CA-C-N	-8.56	111.07	121.00
1	B	207	ALA	C-N-CA	-8.56	111.07	121.00
1	B	198	GLY	N-CA-C	-8.14	93.89	113.18
1	B	102	ILE	CA-C-N	7.87	127.91	119.89
1	B	102	ILE	C-N-CA	7.87	127.91	119.89
1	B	13	LEU	N-CA-C	-7.57	103.03	111.82
1	D	21	GLU	N-CA-C	-7.34	102.45	111.40
1	D	118	THR	CA-C-N	-7.25	111.43	118.97
1	D	118	THR	C-N-CA	-7.25	111.43	118.97
1	A	6	ILE	CB-CA-C	-7.22	102.22	110.96
1	D	27	LEU	CA-C-N	7.22	134.70	121.70
1	D	27	LEU	C-N-CA	7.22	134.70	121.70
1	C	166	SER	N-CA-C	7.08	117.86	107.88
1	A	26	VAL	N-CA-C	7.00	120.85	112.80
1	D	324	LEU	N-CA-C	-6.91	103.75	111.28
1	A	327	ALA	N-CA-C	6.90	119.65	111.71
1	B	196	GLN	CA-C-N	-6.90	110.94	120.25
1	B	196	GLN	C-N-CA	-6.90	110.94	120.25
1	A	316	LEU	CA-CB-CG	-6.88	92.23	116.30
1	C	17	LEU	N-CA-C	-6.83	103.89	111.82
1	C	221	ARG	N-CA-C	-6.74	104.94	113.43
1	B	15	THR	N-CA-C	-6.70	103.13	112.45
1	B	4	VAL	N-CA-C	6.68	117.49	107.80
1	B	74	TYR	N-CA-C	6.65	118.22	110.97
1	C	170	VAL	CB-CA-C	-6.57	103.56	111.97
1	C	130	TYR	N-CA-C	6.54	118.09	108.14
1	B	329	LEU	N-CA-C	-6.54	104.24	111.82
1	D	186	ALA	N-CA-C	6.51	118.38	111.28
1	A	278	GLU	O-C-N	-6.44	116.44	123.52
1	A	40	THR	N-CA-CB	6.37	119.12	109.75
1	D	170	VAL	N-CA-C	6.36	116.51	110.53
1	B	72	PHE	N-CA-C	6.32	118.73	111.02
1	B	180	ASN	N-CA-C	6.30	119.47	107.75
1	C	71	THR	N-CA-C	-6.25	104.38	111.07
1	D	272	ASN	N-CA-C	6.25	120.91	113.16
1	C	168	GLU	N-CA-C	-6.22	104.42	111.14

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	D	70	GLN	N-CA-C	-6.22	104.50	111.28
1	B	131	GLY	N-CA-C	6.19	118.50	110.45
1	B	309	TYR	N-CA-C	6.18	117.63	108.60
1	D	43	THR	CB-CA-C	-6.18	99.75	110.45
1	D	107	TRP	N-CA-C	6.09	120.32	113.01
1	B	28	GLN	CA-C-N	6.09	141.61	127.00
1	B	28	GLN	C-N-CA	6.09	141.61	127.00
1	B	28	GLN	C-N-CD	-6.04	107.31	120.60
1	A	276	ILE	N-CA-C	-6.03	106.63	111.81
1	B	27	LEU	CA-C-O	-6.02	114.33	120.71
1	C	22	ARG	N-CA-C	5.99	120.72	113.41
1	C	155	ARG	N-CA-C	5.97	120.30	113.19
1	D	40	THR	CA-C-N	-5.96	112.68	127.00
1	D	40	THR	C-N-CA	-5.96	112.68	127.00
1	C	46	ASP	N-CA-C	-5.94	106.02	113.20
1	B	53	GLN	CA-C-N	5.93	125.91	120.21
1	B	53	GLN	C-N-CA	5.93	125.91	120.21
1	D	13	LEU	N-CA-C	5.93	117.74	111.28
1	D	40	THR	C-N-CD	5.93	133.64	120.60
1	D	44	THR	CB-CA-C	-5.89	101.63	110.88
1	D	196	GLN	CA-C-N	5.84	126.03	119.90
1	D	196	GLN	C-N-CA	5.84	126.03	119.90
1	A	51	LEU	CA-C-N	-5.81	114.45	122.30
1	A	51	LEU	C-N-CA	-5.81	114.45	122.30
1	A	203	MET	CB-CG-SD	-5.78	95.37	112.70
1	A	109	ASP	N-CA-C	5.75	120.42	113.17
1	D	152	LEU	N-CA-C	-5.75	105.01	111.28
1	B	276	ILE	CB-CA-C	-5.71	104.98	111.55
1	D	327	ALA	N-CA-C	5.70	118.23	111.33
1	D	47	VAL	CB-CA-C	-5.70	103.03	112.26
1	C	315	GLY	N-CA-C	5.69	119.56	112.73
1	A	305	VAL	N-CA-C	5.69	116.06	107.75
1	A	34	VAL	CB-CA-C	-5.66	102.18	110.62
1	B	319	HIS	N-CA-C	5.66	118.17	111.33
1	B	326	ALA	N-CA-C	5.62	117.08	111.07
1	B	14	SER	N-CA-CB	-5.61	101.85	110.16
1	C	264	CYS	N-CA-C	-5.59	105.72	112.54
1	B	208	PRO	CB-CA-C	5.58	116.25	110.00
1	B	142	LYS	N-CA-CB	5.57	118.09	110.01
1	C	87	LEU	N-CA-C	5.57	119.18	112.38
1	C	192	ASP	CA-C-N	-5.57	114.27	120.45
1	C	192	ASP	C-N-CA	-5.57	114.27	120.45

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	D	118	THR	N-CA-C	-5.55	103.75	110.13
1	A	258	THR	N-CA-C	-5.55	105.39	111.82
1	D	226	SER	CB-CA-C	5.52	118.02	108.91
1	C	63	GLN	N-CA-C	5.45	117.30	111.36
1	A	253	ILE	N-CA-C	5.37	115.58	110.53
1	A	295	GLN	CB-CA-C	5.36	118.49	109.48
1	B	304	GLU	N-CA-C	5.34	118.94	109.96
1	D	226	SER	N-CA-C	-5.34	99.80	108.82
1	C	26	VAL	CB-CA-C	5.32	116.49	111.44
1	D	84	ALA	N-CA-C	5.31	117.14	111.36
1	B	34	VAL	CA-C-N	-5.31	114.74	122.65
1	B	34	VAL	C-N-CA	-5.31	114.74	122.65
1	C	131	GLY	N-CA-C	5.30	117.34	110.45
1	A	134	HIS	N-CA-C	5.29	116.32	108.60
1	A	186	ALA	N-CA-C	5.29	119.22	112.34
1	B	50	GLY	N-CA-C	-5.29	107.73	115.72
1	B	76	LEU	N-CA-C	5.28	117.78	111.71
1	B	142	LYS	N-CA-C	-5.28	105.42	111.07
1	D	330	PHE	CA-C-N	5.26	125.93	120.03
1	D	330	PHE	C-N-CA	5.26	125.93	120.03
1	C	198	GLY	N-CA-C	-5.23	100.80	113.18
1	C	168	GLU	N-CA-CB	5.22	117.64	110.07
1	D	81	SER	N-CA-C	5.20	116.55	110.31
1	B	33	LYS	CA-C-N	-5.18	116.39	123.12
1	B	33	LYS	C-N-CA	-5.18	116.39	123.12
1	B	150	GLU	N-CA-C	5.17	118.06	111.69
1	C	305	VAL	CB-CA-C	-5.16	103.45	110.42
1	D	305	VAL	N-CA-C	5.16	115.28	107.75
1	A	103	PRO	N-CA-C	5.12	119.12	111.14
1	A	90	PHE	N-CA-C	5.11	115.28	108.38
1	B	86	ASN	N-CA-C	5.11	121.68	110.80
1	B	308	ASN	CA-C-N	-5.10	113.08	121.80
1	B	308	ASN	C-N-CA	-5.10	113.08	121.80
1	C	230	ILE	CA-C-N	5.10	125.01	119.76
1	C	230	ILE	C-N-CA	5.10	125.01	119.76
1	D	5	VAL	CB-CA-C	-5.10	104.79	110.96
1	C	229	ILE	N-CA-C	-5.10	98.36	107.18
1	B	83	ASN	N-CA-C	5.08	119.11	113.01
1	C	314	TYR	N-CA-C	-5.08	106.10	113.21
1	D	86	ASN	CB-CA-C	-5.07	102.37	110.79
1	B	205	VAL	N-CA-CB	-5.07	103.92	112.44
1	D	267	GLU	CA-C-N	-5.07	113.59	119.47

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	D	267	GLU	C-N-CA	-5.07	113.59	119.47
1	A	279	ARG	CG-CD-NE	-5.04	100.90	112.00
1	D	10	VAL	N-CA-C	-5.04	105.58	110.42
1	A	151	ARG	N-CA-C	-5.04	105.89	112.23
1	C	142	LYS	N-CA-CB	5.04	117.26	109.91
1	D	157	VAL	CA-C-O	-5.02	114.81	120.74
1	A	49	ALA	CA-C-O	5.01	125.73	120.42
1	C	115	ARG	NE-CZ-NH2	5.01	123.70	119.20
1	C	230	ILE	N-CA-C	-5.01	98.07	108.88
1	A	207	ALA	CA-C-N	-5.00	114.90	120.45
1	A	207	ALA	C-N-CA	-5.00	114.90	120.45

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	2638	0	2587	96	0
1	B	2638	0	2587	100	0
1	C	2638	0	2587	128	0
1	D	2638	0	2587	134	0
2	A	53	0	31	2	0
2	B	53	0	31	1	0
2	C	53	0	31	3	0
2	D	53	0	31	2	0
3	A	11	0	4	1	0
3	B	11	0	4	1	0
3	C	11	0	4	0	0
3	D	11	0	4	3	0
4	A	13	0	0	2	0
4	B	13	0	0	2	0
4	C	7	0	0	0	0
4	D	9	0	0	2	0
All	All	10850	0	10488	455	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 (455) 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:D:41:PRO:CB	1:D:41:PRO:CG	1.74	1.44
1:B:117:LEU:HD12	4:B:1001:HOH:O	1.32	1.23
1:D:40:THR:HG22	1:D:46:ASP:OD2	1.40	1.18
1:B:10:VAL:O	1:B:14:SER:HB2	1.44	1.15
1:A:55:TYR:HE2	1:A:224:TYR:OH	1.30	1.15
1:B:40:THR:HG22	1:B:46:ASP:OD2	1.47	1.10
1:C:27:LEU:HA	1:C:28:GLN:HB3	1.22	1.10
1:C:10:VAL:O	1:C:14:SER:HB2	1.54	1.08
1:B:104:ASP:HB3	1:B:108:LYS:HE2	1.11	1.06
1:C:40:THR:HG22	1:C:46:ASP:OD2	1.59	1.03
1:A:40:THR:HG22	1:A:46:ASP:OD2	1.59	1.02
1:B:199:ARG:HH22	1:B:201:GLN:NE2	1.57	1.02
1:D:165:GLU:OE2	1:D:165:GLU:HA	1.62	0.99
1:C:209:TRP:HE1	1:C:269:THR:CG2	1.75	0.98
1:B:104:ASP:CB	1:B:108:LYS:HE2	1.97	0.94
1:C:201:GLN:HE22	1:C:252:ASN:H	1.15	0.92
1:D:192:ASP:OD2	1:D:286:ARG:NH1	2.02	0.92
1:D:55:TYR:HE2	1:D:224:TYR:OH	1.53	0.91
1:D:195:LEU:HD13	1:D:309:TYR:HE2	1.36	0.90
1:C:139:LEU:HD13	1:C:316:LEU:HD22	1.52	0.90
1:B:199:ARG:NH2	1:B:201:GLN:NE2	2.21	0.88
1:A:55:TYR:CE2	1:A:224:TYR:OH	2.10	0.88
1:C:201:GLN:NE2	1:C:252:ASN:H	1.72	0.87
1:D:209:TRP:NE1	1:D:269:THR:HG21	1.89	0.86
1:C:209:TRP:NE1	1:C:269:THR:CG2	2.38	0.86
1:C:27:LEU:CA	1:C:28:GLN:HB3	2.06	0.86
1:B:79:VAL:HG23	1:B:89:LEU:HG	1.58	0.86
1:A:27:LEU:HA	1:A:28:GLN:CB	2.04	0.85
1:B:190:GLN:HE22	1:B:290:ARG:HH22	1.24	0.85
1:C:291:LEU:HA	1:C:307:HIS:O	1.75	0.85
1:A:27:LEU:CA	1:A:28:GLN:HB3	2.05	0.85
1:D:195:LEU:HD13	1:D:309:TYR:CE2	2.12	0.85
1:C:40:THR:CG2	1:C:46:ASP:OD2	2.25	0.84
1:B:199:ARG:HH22	1:B:201:GLN:HE22	1.23	0.83
1:D:233:THR:HG22	1:D:234:GLN:NE2	1.94	0.82
1:D:209:TRP:HZ2	1:D:269:THR:HG22	1.44	0.82
1:B:10:VAL:O	1:B:14:SER:CB	2.28	0.82

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:97:LEU:HD23	4:B:1001:HOH:O	1.78	0.82
1:B:151:ARG:O	1:B:155:ARG:HG3	1.79	0.82
1:C:40:THR:HG22	1:C:46:ASP:CG	2.04	0.82
1:C:199:ARG:HH22	1:C:201:GLN:NE2	1.78	0.81
1:C:209:TRP:HE1	1:C:269:THR:HG21	1.42	0.81
1:D:209:TRP:CZ2	1:D:269:THR:HG22	2.15	0.81
1:C:209:TRP:NE1	1:C:269:THR:HG21	1.95	0.80
1:D:40:THR:HG22	1:D:46:ASP:CG	2.09	0.78
1:D:197:PRO:HG3	1:D:247:TRP:CE2	2.18	0.78
1:B:192:ASP:OD2	1:B:286:ARG:NH1	2.15	0.78
1:D:40:THR:CG2	1:D:46:ASP:OD2	2.29	0.78
1:D:55:TYR:HE2	1:D:224:TYR:HH	0.80	0.77
1:C:104:ASP:CG	1:C:108:LYS:HE3	2.10	0.77
1:C:40:THR:HG23	1:C:145:LEU:HD23	1.66	0.76
1:D:190:GLN:HE22	1:D:290:ARG:HH22	1.31	0.76
1:D:20:HIS:CE1	1:D:155:ARG:HB3	2.22	0.75
1:C:92:ILE:HG21	1:C:138:ILE:HD12	1.67	0.75
1:C:27:LEU:CD1	1:C:30:LEU:HD13	2.18	0.74
1:D:209:TRP:CZ2	1:D:269:THR:CG2	2.70	0.74
1:A:27:LEU:CB	1:A:28:GLN:HB3	2.18	0.74
1:C:267:GLU:OE2	1:C:269:THR:HB	1.88	0.73
1:C:199:ARG:HH22	1:C:201:GLN:HE21	1.33	0.73
1:A:27:LEU:HA	1:A:28:GLN:HB3	1.64	0.73
1:B:199:ARG:NH2	1:B:201:GLN:HE21	1.87	0.73
1:B:218:ASP:OD2	1:B:221:ARG:HG2	1.90	0.72
1:A:47:VAL:HG22	1:A:279:ARG:HG2	1.70	0.72
1:D:233:THR:CG2	1:D:234:GLN:HE21	2.02	0.72
1:A:27:LEU:HA	1:A:28:GLN:HB2	1.70	0.72
1:D:171:ALA:HB2	1:D:303:THR:HG21	1.73	0.71
1:A:192:ASP:OD2	1:A:286:ARG:NH1	2.24	0.71
1:C:27:LEU:HD12	1:C:30:LEU:HD13	1.73	0.69
1:A:55:TYR:HE2	1:A:224:TYR:CZ	2.10	0.69
1:D:142:LYS:O	1:D:146:GLN:HG3	1.93	0.68
1:D:134:HIS:HD2	4:D:1046:HOH:O	1.75	0.68
1:C:2:ARG:HH22	1:C:33:LYS:HE2	1.58	0.68
1:B:27:LEU:HA	1:B:28:GLN:HB2	1.74	0.68
1:C:150:GLU:O	1:C:154:GLU:HG3	1.95	0.67
1:D:184:VAL:HG22	1:D:184:VAL:O	1.93	0.67
1:C:139:LEU:CD1	1:C:316:LEU:HD22	2.24	0.67
1:D:209:TRP:HE1	1:D:269:THR:HG21	1.56	0.66
1:B:327:ALA:O	1:B:330:PHE:HB3	1.95	0.66

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:142:LYS:O	1:D:146:GLN:CG	2.44	0.66
1:D:134:HIS:CD2	4:D:1046:HOH:O	2.49	0.65
1:C:201:GLN:HE22	1:C:252:ASN:N	1.91	0.65
1:D:233:THR:CG2	1:D:234:GLN:NE2	2.58	0.65
1:C:190:GLN:HE22	1:C:290:ARG:HH22	1.43	0.65
1:D:209:TRP:CE2	1:D:269:THR:HG21	2.31	0.65
1:C:72:PHE:C	1:C:72:PHE:CD2	2.75	0.64
1:D:199:ARG:NH2	1:D:250:LEU:O	2.30	0.64
1:D:197:PRO:HG3	1:D:247:TRP:CZ2	2.31	0.64
1:A:112:LEU:HB2	1:A:135:THR:HB	1.79	0.64
1:A:255:ASP:O	1:A:259:ILE:HG13	1.98	0.64
1:A:151:ARG:O	1:A:155:ARG:HG3	1.97	0.64
1:A:47:VAL:CG2	1:A:279:ARG:HG2	2.27	0.64
1:B:291:LEU:HA	1:B:307:HIS:O	1.97	0.64
1:A:27:LEU:CA	1:A:28:GLN:CB	2.67	0.63
1:A:40:THR:HG23	1:A:145:LEU:HD23	1.80	0.63
1:C:38:ARG:HB2	2:C:401:FAD:O2B	1.98	0.63
1:B:45:THR:HG21	1:B:145:LEU:HD11	1.79	0.63
1:D:190:GLN:NE2	1:D:290:ARG:HH22	1.95	0.63
1:C:2:ARG:NH2	1:C:33:LYS:HE2	2.13	0.62
1:A:205:VAL:CG1	1:A:273:ALA:HB1	2.29	0.62
1:D:40:THR:CB	1:D:41:PRO:HA	2.23	0.62
1:A:210:MET:HE1	1:A:267:GLU:HG2	1.80	0.62
1:C:101:ALA:O	1:C:102:ILE:CG2	2.47	0.62
1:C:226:SER:HB2	1:C:227:PRO:CD	2.29	0.62
1:C:162:ARG:O	2:C:401:FAD:H2A	1.99	0.62
1:D:39:PHE:CE1	1:D:159:PHE:CD2	2.88	0.62
1:A:42:LEU:HD22	1:C:42:LEU:HD22	1.82	0.61
1:D:39:PHE:CE1	1:D:159:PHE:HD2	2.18	0.61
1:D:150:GLU:HB2	1:D:151:ARG:NH2	2.15	0.61
1:B:192:ASP:CG	1:B:286:ARG:HH12	2.08	0.61
1:C:267:GLU:OE2	1:C:267:GLU:C	2.43	0.61
1:D:27:LEU:HA	1:D:28:GLN:HB2	1.83	0.61
1:A:190:GLN:HE22	1:A:290:ARG:HH22	1.49	0.61
1:A:279:ARG:NH1	1:A:279:ARG:HG3	2.14	0.61
1:B:190:GLN:HE22	1:B:290:ARG:NH2	1.96	0.61
1:D:18:CYS:SG	1:D:324:LEU:HD23	2.40	0.60
1:D:293:ARG:NH1	1:D:304:GLU:OE1	2.32	0.60
1:A:257:ASN:HB3	1:A:261:GLU:OE1	2.02	0.60
1:C:104:ASP:CB	1:C:108:LYS:HE3	2.31	0.60
1:C:209:TRP:NE1	1:C:269:THR:HG23	2.16	0.60

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:257:ASN:O	1:B:261:GLU:OE2	2.19	0.60
1:C:116:LYS:HE2	1:C:130:TYR:OH	2.01	0.60
1:D:165:GLU:OE2	1:D:165:GLU:CA	2.44	0.60
1:A:200:GLY:O	1:A:280:THR:HG23	2.02	0.60
1:B:242:PHE:CZ	1:B:285:VAL:HG21	2.37	0.59
1:C:226:SER:HB2	1:C:227:PRO:HD2	1.84	0.59
1:D:144:TYR:CE2	1:D:319:HIS:CE1	2.91	0.59
1:C:130:TYR:CG	1:C:131:GLY:N	2.68	0.59
1:B:224:TYR:HD2	1:B:242:PHE:CD2	2.19	0.59
1:C:104:ASP:HB3	1:C:108:LYS:HE3	1.83	0.58
1:A:161:GLN:HG3	1:C:249:GLU:O	2.02	0.58
1:A:233:THR:HG22	1:A:234:GLN:NE2	2.18	0.58
1:A:267:GLU:OE2	1:A:269:THR:HB	2.04	0.58
1:A:55:TYR:CE2	1:A:224:TYR:CZ	2.88	0.58
1:D:233:THR:HG21	1:D:234:GLN:HE21	1.69	0.57
1:D:209:TRP:CE2	1:D:269:THR:CG2	2.88	0.57
1:C:39:PHE:O	1:C:40:THR:C	2.47	0.57
1:D:44:THR:OG1	2:D:401:FAD:O1A	2.17	0.57
1:B:314:TYR:O	1:B:318:ILE:HG22	2.05	0.57
1:A:224:TYR:HE1	4:A:1044:HOH:O	1.88	0.56
1:B:67:TRP:HB3	1:B:321:GLY:HA3	1.87	0.56
1:C:249:GLU:HB2	1:C:282:PHE:CZ	2.41	0.56
1:D:138:ILE:HD11	1:D:230:ILE:CG2	2.36	0.56
1:A:199:ARG:NH2	1:A:250:LEU:O	2.33	0.56
1:A:286:ARG:C	1:A:288:GLN:N	2.64	0.55
1:B:40:THR:HG23	1:B:145:LEU:CD2	2.36	0.55
1:D:280:THR:HG22	1:D:281:GLY:N	2.21	0.55
1:B:40:THR:HG21	1:B:145:LEU:HB2	1.89	0.55
1:A:210:MET:CE	1:A:267:GLU:HG2	2.35	0.55
1:C:56:LEU:HD22	1:C:132:TRP:HH2	1.71	0.55
1:C:118:THR:HB	1:C:119:PRO:HD2	1.89	0.55
1:C:296:LEU:HG	1:C:305:VAL:HG21	1.88	0.55
1:B:64:GLU:CD	1:B:289:ILE:HD12	2.32	0.55
1:C:199:ARG:NH2	1:C:201:GLN:HE21	2.02	0.55
1:D:18:CYS:CB	1:D:323:ALA:HB1	2.36	0.55
1:C:56:LEU:HD22	1:C:132:TRP:CH2	2.42	0.55
1:D:184:VAL:HG22	1:D:247:TRP:CH2	2.42	0.54
1:A:56:LEU:N	1:A:56:LEU:HD23	2.18	0.54
1:A:137:LEU:C	1:A:137:LEU:HD12	2.32	0.54
1:B:211:LYS:HD2	1:B:211:LYS:N	2.22	0.54
1:A:199:ARG:HH22	1:A:201:GLN:NE2	2.04	0.54

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:242:PHE:HZ	1:B:285:VAL:HG21	1.72	0.54
1:D:180:ASN:ND2	1:D:182:THR:OG1	2.40	0.54
1:D:112:LEU:HB2	1:D:135:THR:HB	1.91	0.53
1:D:294:GLU:OE2	1:D:296:LEU:HD21	2.08	0.53
1:D:205:VAL:HG13	1:D:273:ALA:HB1	1.90	0.53
1:C:158:LYS:C	1:C:159:PHE:HD1	2.17	0.53
1:D:332:ARG:NH1	1:D:332:ARG:HB3	2.24	0.53
1:C:293:ARG:CZ	1:C:333:ILE:HG13	2.39	0.53
1:A:10:VAL:O	1:A:14:SER:OG	2.26	0.53
1:C:28:GLN:CG	1:C:28:GLN:O	2.56	0.53
1:C:27:LEU:HD13	1:C:30:LEU:CD1	2.39	0.53
1:B:39:PHE:O	1:B:40:THR:C	2.51	0.53
1:A:284:PRO:O	1:A:312:GLY:N	2.37	0.52
1:A:79:VAL:HG13	1:A:80:HIS:CD2	2.44	0.52
1:A:279:ARG:HG3	1:A:279:ARG:HH11	1.74	0.52
1:C:197:PRO:HG3	1:C:247:TRP:CE2	2.44	0.52
1:D:27:LEU:CD1	1:D:30:LEU:HD13	2.39	0.52
1:B:50:GLY:HA3	1:B:139:LEU:O	2.09	0.52
1:B:210:MET:C	1:B:211:LYS:HD2	2.35	0.52
1:C:190:GLN:HE21	1:C:290:ARG:HH12	1.58	0.52
1:B:190:GLN:NE2	1:B:290:ARG:HH12	2.06	0.52
1:C:79:VAL:HG13	1:C:80:HIS:CD2	2.45	0.52
1:C:249:GLU:HB2	1:C:282:PHE:HZ	1.73	0.52
1:D:81:SER:CB	1:D:82:PRO:HD2	2.40	0.52
1:D:115:ARG:NH1	1:D:121:GLU:OE2	2.31	0.52
1:C:27:LEU:CD1	1:C:30:LEU:CD1	2.87	0.52
1:D:184:VAL:HG22	1:D:247:TRP:HH2	1.75	0.52
1:A:27:LEU:HB2	1:A:28:GLN:HB3	1.92	0.52
1:A:151:ARG:HH21	1:A:154:GLU:CD	2.18	0.52
1:B:105:PRO:O	1:B:108:LYS:HB2	2.10	0.52
1:D:45:THR:CG2	1:D:145:LEU:HD21	2.40	0.52
1:C:108:LYS:HE2	1:C:114:PHE:CD2	2.44	0.51
1:D:144:TYR:HE2	1:D:319:HIS:CE1	2.26	0.51
1:D:197:PRO:CG	1:D:247:TRP:CE2	2.91	0.51
1:D:238:LEU:HD21	1:D:270:LEU:HD13	1.92	0.51
1:C:23:TYR:OH	1:C:331:GLY:HA3	2.11	0.51
1:D:286:ARG:O	1:D:288:GLN:N	2.44	0.51
1:B:151:ARG:O	1:B:155:ARG:CG	2.55	0.51
1:D:50:GLY:HA2	1:D:316:LEU:HD13	1.93	0.51
1:D:66:ASP:O	1:D:70:GLN:HB2	2.11	0.51
1:C:226:SER:CB	1:C:227:PRO:CD	2.89	0.51

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:223:ILE:HG13	1:D:224:TYR:CD2	2.46	0.51
1:C:79:VAL:HG13	1:C:80:HIS:HD2	1.75	0.51
1:D:294:GLU:N	1:D:305:VAL:O	2.40	0.51
1:A:37:ASP:HA	1:A:161:GLN:HE21	1.75	0.50
1:A:286:ARG:C	1:A:288:GLN:H	2.17	0.50
1:B:284:PRO:HB2	1:B:310:GLY:HA2	1.92	0.50
1:D:195:LEU:CD1	1:D:309:TYR:CE2	2.90	0.50
1:C:205:VAL:O	1:C:235:THR:HB	2.12	0.50
1:D:209:TRP:CD1	1:D:210:MET:HG2	2.46	0.50
1:B:27:LEU:HB3	1:B:28:GLN:HB3	1.94	0.50
1:C:15:THR:HG22	1:C:19:ILE:HD12	1.94	0.50
1:C:159:PHE:HD1	1:C:159:PHE:N	2.09	0.50
1:C:286:ARG:HB3	1:C:288:GLN:O	2.12	0.50
1:B:40:THR:HG23	1:B:145:LEU:HD23	1.93	0.50
1:A:233:THR:HG22	1:A:234:GLN:HE21	1.77	0.50
1:D:36:ALA:HA	2:D:401:FAD:N3A	2.27	0.50
1:C:124:MET:HE3	1:C:125:PHE:CE2	2.47	0.49
1:D:39:PHE:HE1	1:D:159:PHE:CD2	2.30	0.49
1:A:67:TRP:CH2	1:A:291:LEU:HD23	2.48	0.49
1:D:11:ILE:CG2	1:D:308:ASN:ND2	2.75	0.49
1:B:218:ASP:OD2	1:B:221:ARG:CG	2.60	0.49
1:C:83:ASN:O	1:C:87:LEU:HD12	2.12	0.49
1:A:192:ASP:O	1:A:194:LEU:N	2.46	0.49
1:B:96:ASN:ND2	1:B:217:HIS:NE2	2.60	0.49
1:A:1:MET:SD	1:A:177:VAL:HG23	2.52	0.49
1:B:51:LEU:HD12	1:B:137:LEU:O	2.12	0.49
1:C:10:VAL:HG21	1:C:316:LEU:HD23	1.95	0.49
1:A:79:VAL:HG13	1:A:80:HIS:HD2	1.78	0.49
1:D:115:ARG:HH22	1:D:121:GLU:CD	2.20	0.49
1:A:76:LEU:C	1:A:78:HIS:H	2.21	0.48
1:B:40:THR:CG2	1:B:145:LEU:HB2	2.42	0.48
1:C:28:GLN:O	1:C:28:GLN:HG2	2.14	0.48
1:D:168:GLU:H	1:D:168:GLU:CD	2.20	0.48
1:A:2:ARG:HB3	1:A:2:ARG:CZ	2.43	0.48
1:A:178:ILE:HB	1:A:305:VAL:HG22	1.95	0.48
1:B:81:SER:HB2	1:B:82:PRO:HD2	1.95	0.48
1:B:182:THR:O	1:B:183:GLY:C	2.54	0.48
1:B:83:ASN:O	1:B:86:ASN:HB2	2.13	0.48
1:C:159:PHE:N	1:C:159:PHE:CD1	2.81	0.48
1:D:18:CYS:HB2	1:D:323:ALA:HB1	1.96	0.48
1:A:14:SER:HB2	1:A:323:ALA:HB2	1.96	0.48

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:14:SER:OG	1:C:319:HIS:HD2	1.97	0.48
1:B:157:VAL:O	1:B:159:PHE:CE1	2.66	0.48
1:A:209:TRP:NE1	1:A:269:THR:HG21	2.29	0.48
1:B:81:SER:CB	1:B:82:PRO:HD2	2.44	0.48
1:B:159:PHE:N	1:B:159:PHE:CD1	2.80	0.48
1:B:224:TYR:CD2	1:B:242:PHE:CD2	3.00	0.48
1:A:76:LEU:C	1:A:78:HIS:N	2.71	0.48
1:C:101:ALA:O	1:C:102:ILE:HG22	2.12	0.48
1:D:10:VAL:HG13	1:D:11:ILE:N	2.29	0.48
1:A:205:VAL:CG1	1:A:273:ALA:CB	2.92	0.47
1:B:33:LYS:HD2	1:B:160:PHE:CE2	2.49	0.47
1:B:313:GLY:HA2	2:B:401:FAD:H1'1	1.96	0.47
1:A:118:THR:OG1	1:A:121:GLU:HG3	2.13	0.47
1:B:159:PHE:N	1:B:159:PHE:HD1	2.12	0.47
1:C:89:LEU:HA	1:C:138:ILE:O	2.15	0.47
1:D:28:GLN:O	1:D:28:GLN:HG2	2.14	0.47
1:B:283:ARG:NE	3:B:402:4P5:O10	2.34	0.47
1:C:96:ASN:O	1:C:131:GLY:HA3	2.15	0.47
1:B:83:ASN:O	1:B:87:LEU:HD13	2.15	0.47
1:B:168:GLU:OE2	1:B:168:GLU:N	2.41	0.47
1:C:147:TRP:NE1	1:C:151:ARG:HH11	2.13	0.47
1:C:168:GLU:O	1:C:169:GLU:C	2.58	0.47
1:D:28:GLN:N	1:D:29:PRO:HA	2.29	0.47
1:C:38:ARG:HG2	1:C:42:LEU:HB2	1.96	0.47
1:D:83:ASN:O	1:D:87:LEU:HD13	2.14	0.47
1:C:101:ALA:O	1:C:102:ILE:HG23	2.15	0.47
1:D:137:LEU:HD12	1:D:137:LEU:C	2.40	0.47
1:A:309:TYR:C	1:A:309:TYR:CD2	2.92	0.47
1:B:309:TYR:C	1:B:309:TYR:CD2	2.93	0.47
1:C:334:LEU:N	1:C:334:LEU:HD23	2.30	0.47
1:D:1:MET:HE3	1:D:334:LEU:HD22	1.97	0.47
1:D:168:GLU:O	1:D:169:GLU:C	2.58	0.47
1:C:264:CYS:O	1:C:268:PRO:HA	2.14	0.46
1:C:44:THR:HG21	1:C:282:PHE:O	2.15	0.46
1:D:335:GLU:O	1:D:336:GLU:C	2.58	0.46
1:B:202:ILE:HD11	1:B:279:ARG:HB2	1.97	0.46
1:D:223:ILE:HG13	1:D:224:TYR:CE2	2.50	0.46
1:D:228:TYR:CE2	3:D:402:4P5:O11	2.68	0.46
1:A:246:ASN:OD1	1:A:246:ASN:C	2.55	0.46
1:D:286:ARG:C	1:D:288:GLN:N	2.73	0.46
1:A:280:THR:HG22	1:A:281:GLY:N	2.29	0.46

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:102:ILE:HG13	1:B:103:PRO:N	2.31	0.46
1:D:143:ASN:HA	1:D:146:GLN:HG3	1.98	0.46
1:B:195:LEU:HD12	1:B:196:GLN:H	1.81	0.46
1:C:267:GLU:O	1:C:269:THR:N	2.48	0.46
1:A:192:ASP:C	1:A:194:LEU:H	2.24	0.46
1:D:201:GLN:HB3	1:D:259:ILE:HD11	1.97	0.46
1:D:286:ARG:C	1:D:288:GLN:H	2.24	0.46
1:D:309:TYR:CD2	1:D:309:TYR:C	2.93	0.46
1:B:63:GLN:H	1:B:63:GLN:HG3	1.57	0.46
1:B:241:ILE:HD12	1:B:241:ILE:HG23	1.71	0.46
1:A:20:HIS:CE1	1:A:155:ARG:HB3	2.51	0.45
1:A:41:PRO:HA	1:A:46:ASP:OD2	2.16	0.45
1:B:30:LEU:HG	1:B:32:ILE:HG13	1.96	0.45
1:B:55:TYR:HE2	1:B:224:TYR:OH	1.99	0.45
1:A:139:LEU:HD13	1:A:144:TYR:CD2	2.52	0.45
1:B:40:THR:CG2	1:B:46:ASP:OD2	2.40	0.45
1:D:11:ILE:O	1:D:12:GLY:C	2.57	0.45
1:D:47:VAL:O	1:D:202:ILE:HD13	2.17	0.45
1:A:218:ASP:OD1	1:A:219:PRO:HD2	2.16	0.45
1:B:87:LEU:HD12	1:B:147:TRP:CD1	2.51	0.45
1:B:238:LEU:HB3	1:B:259:ILE:CG2	2.47	0.45
1:D:242:PHE:CD1	1:D:242:PHE:C	2.93	0.45
1:D:200:GLY:HA2	1:D:241:ILE:O	2.17	0.45
1:A:197:PRO:HD3	1:A:247:TRP:CZ2	2.51	0.45
1:C:209:TRP:CE2	1:C:269:THR:HG23	2.52	0.45
1:D:13:LEU:O	1:D:14:SER:C	2.58	0.45
1:D:38:ARG:NH1	1:D:42:LEU:O	2.45	0.45
1:D:81:SER:HB2	1:D:82:PRO:HD2	1.99	0.45
1:A:224:TYR:CE1	4:A:1044:HOH:O	2.56	0.45
1:B:33:LYS:HD2	1:B:160:PHE:HE2	1.81	0.45
1:B:40:THR:HG22	1:B:46:ASP:CG	2.35	0.45
1:D:257:ASN:HB3	1:D:261:GLU:OE1	2.16	0.45
1:B:3:VAL:N	1:B:31:ASP:O	2.49	0.45
1:B:87:LEU:N	1:B:87:LEU:CD1	2.80	0.45
1:B:296:LEU:HD23	1:B:305:VAL:HG21	1.97	0.45
1:B:114:PHE:HA	1:B:134:HIS:HB3	1.98	0.44
1:B:289:ILE:HG22	1:B:290:ARG:N	2.31	0.44
1:D:137:LEU:HD12	1:D:137:LEU:O	2.17	0.44
1:A:141:GLY:O	1:A:145:LEU:HB2	2.16	0.44
1:B:35:TYR:CD2	1:B:162:ARG:HD3	2.52	0.44
1:C:13:LEU:O	1:C:16:ALA:HB3	2.16	0.44

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:142:LYS:O	1:A:146:GLN:HG3	2.18	0.44
1:D:288:GLN:O	1:D:289:ILE:C	2.61	0.44
1:B:52:TRP:O	1:B:53:GLN:HB2	2.17	0.44
1:C:315:GLY:O	1:C:319:HIS:HB3	2.16	0.44
1:A:55:TYR:CE2	1:A:224:TYR:CE2	3.06	0.44
1:B:198:GLY:O	1:B:199:ARG:C	2.59	0.44
1:C:107:TRP:CD1	1:C:107:TRP:H	2.35	0.44
1:D:87:LEU:HD11	1:D:147:TRP:CE2	2.52	0.44
1:D:184:VAL:O	1:D:184:VAL:CG2	2.62	0.44
1:A:144:TYR:HD1	1:A:144:TYR:HA	1.70	0.44
1:A:288:GLN:HE21	1:A:288:GLN:HB3	1.48	0.44
1:C:115:ARG:O	1:C:132:TRP:HA	2.17	0.44
1:C:194:LEU:HB3	1:C:287:PRO:HD2	2.00	0.44
1:D:51:LEU:HD22	1:D:230:ILE:HD13	2.00	0.44
1:C:256:HIS:ND1	1:C:278:GLU:OE1	2.31	0.44
1:C:101:ALA:C	1:C:102:ILE:HG23	2.43	0.44
1:C:165:GLU:O	1:C:166:SER:HB3	2.18	0.44
1:C:242:PHE:CZ	1:C:285:VAL:HG21	2.53	0.44
1:D:293:ARG:HE	1:D:293:ARG:HB3	1.70	0.44
1:C:91:LEU:HD23	1:C:91:LEU:HA	1.77	0.44
1:C:253:ILE:O	1:C:256:HIS:HB3	2.18	0.44
1:D:54:PRO:C	1:D:55:TYR:O	2.60	0.44
1:D:324:LEU:HD23	1:D:324:LEU:HA	1.91	0.44
1:B:87:LEU:HD11	1:B:147:TRP:CE2	2.53	0.43
1:C:6:ILE:O	1:C:181:CYS:HB2	2.17	0.43
1:D:1:MET:HE3	1:D:334:LEU:CD2	2.48	0.43
1:D:325:GLU:OE1	1:D:325:GLU:HA	2.18	0.43
1:A:315:GLY:HA3	2:A:401:FAD:H4'	1.99	0.43
1:B:296:LEU:N	1:B:303:THR:O	2.33	0.43
1:B:27:LEU:CA	1:B:28:GLN:HB2	2.44	0.43
1:C:242:PHE:HZ	1:C:285:VAL:HG21	1.84	0.43
1:A:165:GLU:HB2	1:A:169:GLU:OE1	2.19	0.43
1:C:45:THR:C	1:C:47:VAL:N	2.77	0.43
1:C:190:GLN:NE2	1:C:290:ARG:HH22	2.14	0.43
1:A:51:LEU:HB3	3:A:402:4P5:C5	2.49	0.43
1:B:204:LYS:HG3	1:B:235:THR:OG1	2.18	0.43
1:B:224:TYR:HD2	1:B:242:PHE:CE2	2.36	0.43
1:D:233:THR:HB	1:D:234:GLN:HG2	2.00	0.43
1:B:53:GLN:HA	1:B:54:PRO:HD3	1.72	0.43
1:C:296:LEU:HG	1:C:305:VAL:CG2	2.47	0.43
1:D:7:GLY:O	1:D:12:GLY:HA3	2.18	0.43

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:145:LEU:HD12	1:D:145:LEU:HA	1.95	0.43
1:D:47:VAL:O	1:D:47:VAL:HG12	2.19	0.43
1:B:249:GLU:HB2	1:B:282:PHE:CE2	2.54	0.43
1:B:283:ARG:HA	1:B:284:PRO:HD3	1.63	0.43
1:D:163:LYS:HB2	1:D:163:LYS:HE2	1.54	0.43
1:A:10:VAL:HG13	1:A:11:ILE:N	2.34	0.42
1:A:98:PHE:CE1	1:A:217:HIS:CD2	3.07	0.42
1:A:248:SER:OG	1:A:250:LEU:HB3	2.19	0.42
1:B:242:PHE:HZ	1:B:285:VAL:CG2	2.32	0.42
1:C:64:GLU:HB3	1:C:318:ILE:HD11	2.01	0.42
1:C:286:ARG:CZ	1:C:290:ARG:HB2	2.49	0.42
1:D:102:ILE:O	1:D:103:PRO:C	2.61	0.42
1:B:145:LEU:CD1	1:B:145:LEU:N	2.82	0.42
1:B:161:GLN:HG3	1:D:249:GLU:O	2.19	0.42
1:D:52:TRP:CD2	1:D:72:PHE:HD1	2.37	0.42
1:A:210:MET:CE	1:A:229:ILE:HG21	2.50	0.42
1:B:152:LEU:HB3	1:B:159:PHE:HZ	1.85	0.42
1:A:192:ASP:C	1:A:194:LEU:N	2.77	0.42
1:C:52:TRP:CD1	1:C:317:THR:HA	2.54	0.42
1:D:15:THR:HG21	1:D:179:VAL:HG11	2.02	0.42
1:D:102:ILE:HA	1:D:103:PRO:HD2	1.65	0.42
1:D:223:ILE:HD12	1:D:224:TYR:H	1.84	0.42
1:A:108:LYS:HE3	1:A:108:LYS:HB2	1.84	0.42
1:A:143:ASN:O	1:A:144:TYR:C	2.62	0.42
1:C:17:LEU:O	1:C:21:GLU:HB2	2.19	0.42
1:A:56:LEU:HD23	1:A:56:LEU:HA	1.53	0.42
1:D:63:GLN:H	1:D:63:GLN:HG3	1.55	0.42
1:A:41:PRO:HA	1:A:46:ASP:CG	2.45	0.42
1:B:192:ASP:CG	1:B:286:ARG:NH1	2.72	0.42
1:A:36:ALA:O	1:A:161:GLN:HA	2.20	0.42
1:C:274:ARG:HH11	1:C:274:ARG:HB3	1.83	0.42
1:A:253:ILE:HG23	1:A:254:GLN:NE2	2.35	0.42
1:C:17:LEU:HA	1:C:152:LEU:HD11	2.00	0.42
1:C:40:THR:HA	1:C:41:PRO:HA	1.83	0.42
1:C:69:GLN:HG3	1:C:110:THR:HG23	2.02	0.42
1:D:184:VAL:N	1:D:284:PRO:HB3	2.35	0.42
1:B:87:LEU:HD12	1:B:147:TRP:CG	2.55	0.41
1:C:160:PHE:CD2	1:C:160:PHE:N	2.87	0.41
1:C:216:THR:HG23	1:C:266:LEU:HD11	2.02	0.41
1:D:27:LEU:HD13	1:D:30:LEU:HD13	2.02	0.41
1:D:35:TYR:CG	1:D:162:ARG:HD2	2.55	0.41

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:178:ILE:HD12	1:A:303:THR:HG21	2.02	0.41
1:A:205:VAL:HG21	1:A:238:LEU:CD2	2.50	0.41
1:C:97:LEU:HD11	1:C:125:PHE:CD1	2.54	0.41
1:C:283:ARG:HG3	2:C:401:FAD:HM82	2.02	0.41
1:D:267:GLU:O	1:D:268:PRO:C	2.63	0.41
1:B:52:TRP:CD2	1:B:72:PHE:HD1	2.38	0.41
1:C:27:LEU:HD13	1:C:30:LEU:HD12	2.02	0.41
1:C:286:ARG:O	1:C:287:PRO:C	2.60	0.41
1:D:44:THR:O	1:D:45:THR:C	2.63	0.41
1:D:192:ASP:HA	1:D:193:PRO:HD2	1.88	0.41
1:D:228:TYR:HE2	3:D:402:4P5:O11	2.04	0.41
1:D:283:ARG:HH21	3:D:402:4P5:C9	2.32	0.41
1:C:45:THR:C	1:C:47:VAL:H	2.28	0.41
1:A:105:PRO:O	1:A:108:LYS:HE2	2.21	0.41
1:C:1:MET:HE2	1:C:1:MET:HB2	1.47	0.41
1:C:92:ILE:HG21	1:C:138:ILE:CD1	2.46	0.41
1:C:311:HIS:O	1:C:312:GLY:C	2.63	0.41
1:D:40:THR:HG22	1:D:41:PRO:HA	2.02	0.41
1:C:12:GLY:O	1:C:16:ALA:HB2	2.21	0.41
1:C:105:PRO:O	1:C:108:LYS:HG3	2.21	0.41
1:C:118:THR:HB	1:C:119:PRO:CD	2.50	0.41
1:D:2:ARG:NH1	1:D:31:ASP:OD2	2.54	0.41
1:D:55:TYR:CE2	1:D:224:TYR:OH	2.42	0.41
1:A:36:ALA:HA	2:A:401:FAD:N3A	2.35	0.41
1:B:27:LEU:CA	1:B:28:GLN:CB	2.99	0.41
1:B:108:LYS:HB2	1:B:108:LYS:HE3	1.88	0.41
1:D:332:ARG:HB3	1:D:332:ARG:HH11	1.86	0.41
1:B:211:LYS:N	1:B:211:LYS:CD	2.82	0.41
1:A:107:TRP:O	1:A:108:LYS:C	2.64	0.41
1:C:190:GLN:NE2	1:C:290:ARG:HH12	2.18	0.41
1:C:293:ARG:NE	1:C:333:ILE:HD11	2.36	0.41
1:D:102:ILE:O	1:D:102:ILE:HG13	2.17	0.41
1:D:117:LEU:HA	1:D:117:LEU:HD23	1.58	0.41
1:A:3:VAL:O	1:A:32:ILE:HA	2.21	0.41
1:A:154:GLU:C	1:A:156:GLY:H	2.28	0.41
1:B:166:SER:O	1:B:167:PHE:C	2.64	0.41
1:C:117:LEU:HA	1:C:117:LEU:HD23	1.79	0.41
1:B:141:GLY:O	1:B:142:LYS:C	2.63	0.40
1:D:186:ALA:HB3	1:D:195:LEU:HD22	2.03	0.40
1:B:15:THR:HG21	1:B:179:VAL:HG11	2.03	0.40
1:C:274:ARG:HH11	1:C:274:ARG:CB	2.34	0.40

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:89:LEU:HA	1:A:138:ILE:O	2.21	0.40
1:A:268:PRO:C	1:A:270:LEU:N	2.79	0.40
1:A:286:ARG:HH11	1:A:286:ARG:HD2	1.73	0.40
1:C:182:THR:O	1:C:183:GLY:C	2.65	0.40
1:C:267:GLU:OE2	1:C:269:THR:N	2.43	0.40
1:A:115:ARG:NH1	1:A:121:GLU:OE2	2.46	0.40
1:C:192:ASP:OD1	1:C:192:ASP:C	2.63	0.40
1:D:194:LEU:O	1:D:286:ARG:HA	2.21	0.40

There are no symmetry-related clashes.

5.3 Torsion angles [i](#)

5.3.1 Protein backbone [i](#)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	A	321/347 (92%)	291 (91%)	27 (8%)	3 (1%)	14	27
1	B	321/347 (92%)	293 (91%)	23 (7%)	5 (2%)	7	14
1	C	321/347 (92%)	294 (92%)	21 (6%)	6 (2%)	6	11
1	D	321/347 (92%)	289 (90%)	27 (8%)	5 (2%)	7	14
All	All	1284/1388 (92%)	1167 (91%)	98 (8%)	19 (2%)	8	16

All (19) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	28	GLN
1	B	28	GLN
1	B	55	TYR
1	C	28	GLN
1	C	55	TYR
1	D	28	GLN
1	D	108	LYS

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	A	108	LYS
1	C	108	LYS
1	D	55	TYR
1	B	101	ALA
1	D	103	PRO
1	D	77	SER
1	A	166	SER
1	B	240	GLY
1	C	14	SER
1	C	312	GLY
1	B	141	GLY
1	C	240	GLY

5.3.2 Protein sidechains ⓘ

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	A	280/299 (94%)	247 (88%)	33 (12%)	5	11
1	B	280/299 (94%)	249 (89%)	31 (11%)	6	12
1	C	280/299 (94%)	239 (85%)	41 (15%)	3	6
1	D	280/299 (94%)	238 (85%)	42 (15%)	3	6
All	All	1120/1196 (94%)	973 (87%)	147 (13%)	4	8

All (147) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	2	ARG
1	A	14	SER
1	A	18	CYS
1	A	22	ARG
1	A	25	SER
1	A	27	LEU
1	A	30	LEU
1	A	33	LYS
1	A	40	THR

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	A	63	GLN
1	A	69	GLN
1	A	76	LEU
1	A	81	SER
1	A	85	GLU
1	A	87	LEU
1	A	91	LEU
1	A	102	ILE
1	A	137	LEU
1	A	145	LEU
1	A	152	LEU
1	A	163	LYS
1	A	196	GLN
1	A	202	ILE
1	A	220	GLU
1	A	223	ILE
1	A	238	LEU
1	A	266	LEU
1	A	271	LYS
1	A	278	GLU
1	A	288	GLN
1	A	295	GLN
1	A	296	LEU
1	A	303	THR
1	B	25	SER
1	B	40	THR
1	B	63	GLN
1	B	69	GLN
1	B	76	LEU
1	B	79	VAL
1	B	81	SER
1	B	83	ASN
1	B	87	LEU
1	B	93	SER
1	B	96	ASN
1	B	100	GLU
1	B	102	ILE
1	B	120	ARG
1	B	139	LEU
1	B	152	LEU
1	B	154	GLU
1	B	159	PHE

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	B	169	GLU
1	B	204	LYS
1	B	205	VAL
1	B	211	LYS
1	B	215	LEU
1	B	221	ARG
1	B	238	LEU
1	B	253	ILE
1	B	254	GLN
1	B	269	THR
1	B	291	LEU
1	B	295	GLN
1	B	335	GLU
1	C	1	MET
1	C	2	ARG
1	C	14	SER
1	C	18	CYS
1	C	22	ARG
1	C	27	LEU
1	C	28	GLN
1	C	40	THR
1	C	42	LEU
1	C	43	THR
1	C	63	GLN
1	C	69	GLN
1	C	76	LEU
1	C	81	SER
1	C	83	ASN
1	C	87	LEU
1	C	93	SER
1	C	100	GLU
1	C	112	LEU
1	C	137	LEU
1	C	138	ILE
1	C	139	LEU
1	C	145	LEU
1	C	152	LEU
1	C	159	PHE
1	C	161	GLN
1	C	164	VAL
1	C	168	GLU
1	C	191	ARG

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	C	204	LYS
1	C	221	ARG
1	C	226	SER
1	C	238	LEU
1	C	250	LEU
1	C	267	GLU
1	C	269	THR
1	C	274	ARG
1	C	291	LEU
1	C	295	GLN
1	C	303	THR
1	C	333	ILE
1	D	4	VAL
1	D	6	ILE
1	D	14	SER
1	D	32	ILE
1	D	42	LEU
1	D	63	GLN
1	D	76	LEU
1	D	81	SER
1	D	83	ASN
1	D	98	PHE
1	D	100	GLU
1	D	102	ILE
1	D	120	ARG
1	D	139	LEU
1	D	145	LEU
1	D	146	GLN
1	D	150	GLU
1	D	152	LEU
1	D	154	GLU
1	D	162	ARG
1	D	163	LYS
1	D	165	GLU
1	D	168	GLU
1	D	169	GLU
1	D	179	VAL
1	D	182	THR
1	D	205	VAL
1	D	210	MET
1	D	215	LEU
1	D	223	ILE

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	D	230	ILE
1	D	253	ILE
1	D	266	LEU
1	D	271	LYS
1	D	272	ASN
1	D	288	GLN
1	D	293	ARG
1	D	295	GLN
1	D	302	ASN
1	D	305	VAL
1	D	332	ARG
1	D	336	GLU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (49) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	53	GLN
1	A	69	GLN
1	A	80	HIS
1	A	96	ASN
1	A	134	HIS
1	A	161	GLN
1	A	180	ASN
1	A	190	GLN
1	A	196	GLN
1	A	201	GLN
1	A	234	GLN
1	A	256	HIS
1	A	288	GLN
1	A	311	HIS
1	B	53	GLN
1	B	80	HIS
1	B	96	ASN
1	B	180	ASN
1	B	190	GLN
1	B	201	GLN
1	B	225	ASN
1	B	234	GLN
1	B	295	GLN
1	B	308	ASN
1	B	319	HIS
1	C	53	GLN

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	C	63	GLN
1	C	70	GLN
1	C	80	HIS
1	C	96	ASN
1	C	134	HIS
1	C	146	GLN
1	C	180	ASN
1	C	190	GLN
1	C	201	GLN
1	D	24	HIS
1	D	63	GLN
1	D	69	GLN
1	D	70	GLN
1	D	83	ASN
1	D	99	HIS
1	D	134	HIS
1	D	180	ASN
1	D	190	GLN
1	D	196	GLN
1	D	201	GLN
1	D	234	GLN
1	D	251	ASN
1	D	295	GLN

5.3.3 RNA [i](#)

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates [i](#)

There are no oligosaccharides 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	4P5	C	402	-	11,12,12	2.25	6 (54%)	14,17,17	4.17	9 (64%)
3	4P5	D	402	-	11,12,12	2.18	3 (27%)	14,17,17	4.09	8 (57%)
3	4P5	A	402	-	11,12,12	2.08	3 (27%)	14,17,17	3.77	9 (64%)
2	FAD	B	401	-	58,58,58	1.28	7 (12%)	85,89,89	2.02	29 (34%)
2	FAD	D	401	-	58,58,58	1.61	8 (13%)	85,89,89	2.02	24 (28%)
2	FAD	A	401	-	58,58,58	1.40	7 (12%)	85,89,89	1.91	26 (30%)
3	4P5	B	402	-	11,12,12	2.09	4 (36%)	14,17,17	3.19	9 (64%)
2	FAD	C	401	-	58,58,58	1.49	9 (15%)	85,89,89	2.19	24 (28%)

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	4P5	C	402	-	-	0/4/4/4	0/2/2/2
3	4P5	D	402	-	-	2/4/4/4	0/2/2/2
3	4P5	A	402	-	-	3/4/4/4	0/2/2/2
2	FAD	B	401	-	-	0/34/50/50	0/6/6/6
2	FAD	D	401	-	-	6/34/50/50	0/6/6/6
2	FAD	A	401	-	-	2/34/50/50	0/6/6/6
3	4P5	B	402	-	-	0/4/4/4	0/2/2/2
2	FAD	C	401	-	-	1/34/50/50	0/6/6/6

All (47) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	D	401	FAD	P-O3P	4.76	1.64	1.59
3	D	402	4P5	C3-N8	-4.66	1.29	1.37
2	D	401	FAD	C4X-N5	4.55	1.40	1.30
3	A	402	4P5	C3-N8	-4.38	1.30	1.37
3	D	402	4P5	O11-C9	4.07	1.32	1.22

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	A	401	FAD	C4X-N5	4.01	1.39	1.30
3	C	402	4P5	O10-C9	-3.99	1.19	1.30
2	A	401	FAD	C2A-N3A	3.80	1.40	1.33
2	D	401	FAD	C2A-N3A	3.69	1.40	1.33
2	A	401	FAD	C10-N1	3.68	1.40	1.33
2	C	401	FAD	C8A-N7A	3.67	1.38	1.31
2	D	401	FAD	C10-N1	3.66	1.40	1.33
2	D	401	FAD	C2A-N1A	3.58	1.40	1.33
2	C	401	FAD	PA-O3P	3.55	1.63	1.59
2	A	401	FAD	C2A-N1A	3.53	1.40	1.33
2	B	401	FAD	C2A-N3A	3.45	1.40	1.33
3	A	402	4P5	O11-C9	3.42	1.31	1.22
3	B	402	4P5	C3-N8	-3.38	1.32	1.37
2	C	401	FAD	C9-C8	3.38	1.44	1.39
3	B	402	4P5	O1-C5	3.31	1.48	1.37
2	B	401	FAD	C2A-N1A	3.29	1.39	1.33
2	C	401	FAD	C4X-N5	3.23	1.37	1.30
3	C	402	4P5	O1-C5	3.15	1.48	1.37
3	B	402	4P5	O11-C9	3.10	1.30	1.22
3	C	402	4P5	C7-C9	-3.09	1.41	1.48
2	C	401	FAD	C4X-C10	-2.95	1.35	1.44
2	B	401	FAD	C4X-N5	2.82	1.36	1.30
2	B	401	FAD	C8A-N7A	2.78	1.37	1.31
2	D	401	FAD	PA-O3P	2.75	1.62	1.59
2	C	401	FAD	C9A-C5X	-2.65	1.37	1.41
3	C	402	4P5	C3-N8	-2.64	1.33	1.37
3	D	402	4P5	O1-C5	2.63	1.46	1.37
2	C	401	FAD	C2A-N3A	2.52	1.38	1.33
2	B	401	FAD	O4B-C4B	-2.50	1.39	1.45
3	A	402	4P5	O1-C5	2.48	1.46	1.37
2	D	401	FAD	O2-C2	2.42	1.29	1.24
2	C	401	FAD	C5X-N5	-2.42	1.35	1.39
2	B	401	FAD	C6A-N1A	2.40	1.42	1.35
2	D	401	FAD	C5'-C4'	2.35	1.55	1.51
2	A	401	FAD	C2-N1	2.35	1.42	1.36
2	A	401	FAD	O4B-C1B	-2.24	1.36	1.42
2	A	401	FAD	P-O3P	-2.12	1.57	1.59
3	B	402	4P5	C4-C3	2.11	1.48	1.43
2	C	401	FAD	C8A-N9A	2.10	1.41	1.37
3	C	402	4P5	C6-C7	2.05	1.43	1.38
2	B	401	FAD	C4X-C10	-2.05	1.38	1.44
3	C	402	4P5	C7-N8	-2.05	1.34	1.37

All (138) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	D	402	4P5	C4-C3-C2	12.85	112.07	107.52
3	A	402	4P5	C4-C3-C2	10.03	111.07	107.52
3	C	402	4P5	C4-C3-C2	9.47	110.87	107.52
3	B	402	4P5	C4-C3-C2	7.69	110.25	107.52
2	B	401	FAD	N3A-C2A-N1A	-7.46	117.29	128.58
3	C	402	4P5	C6-C7-N8	6.15	118.00	107.74
2	D	401	FAD	N9A-C8A-N7A	-5.65	105.91	113.94
2	C	401	FAD	N3A-C2A-N1A	-5.40	120.41	128.58
2	C	401	FAD	C5A-C4A-N3A	-5.37	119.32	126.72
2	A	401	FAD	N9A-C8A-N7A	-5.33	106.37	113.94
2	A	401	FAD	C5A-N7A-C8A	5.32	111.80	103.45
3	C	402	4P5	C6-C7-C9	-5.19	120.57	132.53
2	C	401	FAD	N9A-C8A-N7A	-5.17	106.60	113.94
2	C	401	FAD	O2P-P-O3P	-5.12	93.44	107.27
2	D	401	FAD	C5A-N7A-C8A	5.04	111.36	103.45
2	C	401	FAD	O2A-PA-O3P	4.93	120.59	107.27
3	C	402	4P5	C7-C6-C2	-4.92	98.67	106.09
2	A	401	FAD	C4A-C5A-N7A	-4.92	104.96	110.58
3	B	402	4P5	C6-C7-C9	-4.84	121.37	132.53
2	D	401	FAD	C4A-N9A-C8A	4.69	110.66	105.74
2	D	401	FAD	N3A-C2A-N1A	-4.54	121.71	128.58
3	C	402	4P5	C7-N8-C3	-4.53	101.83	109.78
2	D	401	FAD	O2A-PA-O3P	4.40	119.17	107.27
2	C	401	FAD	C5A-N7A-C8A	4.37	110.32	103.45
2	C	401	FAD	C4X-C10-N10	4.35	122.71	116.48
3	A	402	4P5	C7-C6-C2	-4.33	99.57	106.09
2	B	401	FAD	O2A-PA-O3P	4.23	118.70	107.27
2	B	401	FAD	C2A-N3A-C4A	4.22	122.13	111.83
2	C	401	FAD	C2A-N3A-C4A	4.22	122.13	111.83
3	C	402	4P5	C5-C4-C3	-4.22	101.24	106.11
2	D	401	FAD	C4A-C5A-N7A	-4.21	105.77	110.58
3	A	402	4P5	C6-C7-C9	-4.14	122.99	132.53
2	D	401	FAD	C9A-C5X-N5	-4.06	118.15	122.45
3	A	402	4P5	C6-C7-N8	4.04	114.48	107.74
3	A	402	4P5	C5-C4-C3	-4.00	101.49	106.11
2	A	401	FAD	O2A-PA-O3P	3.95	117.95	107.27
2	B	401	FAD	C4X-C10-N10	3.92	122.10	116.48
2	C	401	FAD	C4-C4X-N5	3.88	123.57	118.21
2	C	401	FAD	C10-C4X-N5	-3.79	117.07	124.81
2	D	401	FAD	O5'-C5'-C4'	-3.79	99.25	109.36
2	C	401	FAD	C4A-C5A-N7A	-3.76	106.29	110.58
2	B	401	FAD	C5A-C4A-N3A	-3.74	121.56	126.72

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	A	402	4P5	C7-N8-C3	-3.74	103.22	109.78
2	D	401	FAD	C4A-N9A-C1B	-3.69	117.99	126.63
3	D	402	4P5	C7-C6-C2	-3.67	100.56	106.09
2	A	401	FAD	C4X-C10-N10	3.61	121.65	116.48
2	A	401	FAD	C10-C4X-N5	-3.59	117.47	124.81
2	A	401	FAD	N3A-C2A-N1A	-3.59	123.15	128.58
2	D	401	FAD	C4-C4X-N5	3.54	123.10	118.21
3	D	402	4P5	C5-C4-C3	-3.51	102.06	106.11
3	B	402	4P5	C5-C4-C3	-3.46	102.11	106.11
2	A	401	FAD	C4-N3-C2	-3.44	119.53	125.64
2	C	401	FAD	C10-N1-C2	3.40	124.21	116.85
2	D	401	FAD	C5'-C4'-C3'	3.37	118.58	112.22
2	D	401	FAD	C5X-C9A-N10	3.36	121.01	117.97
2	A	401	FAD	O4'-C4'-C5'	-3.36	102.57	109.99
3	D	402	4P5	O10-C9-C7	-3.36	107.02	114.27
3	C	402	4P5	O10-C9-C7	3.36	121.51	114.27
2	D	401	FAD	C4'-C3'-C2'	-3.34	108.02	113.57
2	B	401	FAD	C4-N3-C2	-3.32	119.74	125.64
2	C	401	FAD	O4-C4-N3	-3.28	113.95	120.11
2	B	401	FAD	C10-C4X-N5	-3.16	118.36	124.81
2	B	401	FAD	C4A-C5A-N7A	-3.16	106.97	110.58
2	A	401	FAD	C5A-C4A-N3A	-3.14	122.40	126.72
3	B	402	4P5	C6-C7-N8	3.12	112.94	107.74
2	B	401	FAD	O3'-C3'-C4'	-3.11	101.86	108.93
2	B	401	FAD	N9A-C8A-N7A	-3.09	109.55	113.94
3	D	402	4P5	O11-C9-C7	3.06	127.23	121.01
2	D	401	FAD	C9-C9A-N10	-3.05	117.75	121.85
2	B	401	FAD	O3B-C3B-C2B	-3.00	102.20	111.82
2	C	401	FAD	C4-N3-C2	-2.99	120.33	125.64
3	D	402	4P5	C6-C7-N8	2.97	112.70	107.74
2	C	401	FAD	C4X-C4-N3	2.96	120.79	113.25
2	B	401	FAD	C4-C4X-C10	2.93	121.96	116.93
2	C	401	FAD	N3A-C4A-N9A	2.92	132.13	127.17
2	A	401	FAD	O2P-P-O3P	2.90	115.11	107.27
2	A	401	FAD	C4A-N9A-C8A	2.88	108.76	105.74
2	B	401	FAD	C5A-C4A-N9A	2.83	108.89	105.81
2	B	401	FAD	O2P-P-O3P	-2.81	99.67	107.27
2	B	401	FAD	C5A-N7A-C8A	2.78	107.82	103.45
2	C	401	FAD	C4X-C10-N1	-2.77	117.80	124.59
2	A	401	FAD	O3P-PA-O1A	-2.76	102.41	110.70
3	B	402	4P5	C7-N8-C3	-2.75	104.95	109.78
2	B	401	FAD	C9A-C5X-N5	-2.75	119.54	122.45

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	A	401	FAD	C4X-C10-N1	-2.73	117.91	124.59
2	B	401	FAD	C4'-C3'-C2'	-2.71	109.07	113.57
2	A	401	FAD	C4-C4X-N5	2.68	121.91	118.21
2	B	401	FAD	C2B-C3B-C4B	2.68	107.78	102.61
2	B	401	FAD	C2A-N1A-C6A	2.66	123.10	118.73
2	A	401	FAD	C6A-C5A-C4A	2.63	120.77	117.18
2	A	401	FAD	C4X-C4-N3	2.60	119.88	113.25
3	C	402	4P5	O1-C5-C4	2.53	114.69	111.21
3	B	402	4P5	C7-C6-C2	-2.52	102.29	106.09
2	C	401	FAD	C5X-N5-C4X	2.51	122.16	118.09
3	B	402	4P5	O1-C5-C4	2.51	114.66	111.21
2	A	401	FAD	O2-C2-N1	-2.49	117.66	121.80
2	D	401	FAD	O2P-P-O3P	2.49	114.00	107.27
2	D	401	FAD	C4X-C4-N3	2.48	119.57	113.25
3	B	402	4P5	O10-C9-C7	2.46	119.58	114.27
2	B	401	FAD	O4B-C1B-C2B	-2.46	101.36	106.62
2	C	401	FAD	C5A-C4A-N9A	2.46	108.49	105.81
3	D	402	4P5	C7-N8-C3	-2.45	105.48	109.78
2	B	401	FAD	C5X-N5-C4X	2.45	122.05	118.09
3	A	402	4P5	O10-C9-C7	-2.45	108.99	114.27
2	B	401	FAD	C6-C5X-C9A	2.44	122.40	119.05
2	D	401	FAD	C6-C5X-N5	2.41	122.45	118.44
2	C	401	FAD	C5'-C4'-C3'	2.40	116.74	112.22
2	C	401	FAD	C4A-N9A-C8A	2.33	108.19	105.74
2	B	401	FAD	O4'-C4'-C5'	2.33	115.12	109.99
2	B	401	FAD	O4B-C1B-N9A	2.31	112.52	108.09
2	B	401	FAD	C9-C9A-N10	2.26	124.90	121.85
2	A	401	FAD	O4-C4-C4X	-2.24	120.61	126.53
2	C	401	FAD	C6-C7-C8	-2.24	116.40	119.69
2	A	401	FAD	C4A-N9A-C1B	-2.23	121.42	126.63
2	A	401	FAD	C8M-C8-C7	-2.22	116.22	120.76
2	D	401	FAD	O4-C4-C4X	-2.21	120.69	126.53
2	B	401	FAD	O2B-C2B-C1B	2.18	117.62	110.10
2	A	401	FAD	C5X-N5-C4X	2.15	121.56	118.09
2	D	401	FAD	C10-C4X-N5	-2.15	120.43	124.81
3	C	402	4P5	O11-C9-C7	-2.13	116.69	121.01
2	D	401	FAD	C3B-C2B-C1B	-2.13	97.44	101.46
2	A	401	FAD	C4-C4X-C10	2.12	120.58	116.93
2	B	401	FAD	C1'-N10-C9A	2.11	124.73	120.63
2	A	401	FAD	C5A-C4A-N9A	2.10	108.10	105.81
3	D	402	4P5	C6-C7-C9	-2.10	127.70	132.53
2	A	401	FAD	C10-N1-C2	2.08	121.36	116.85

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	D	401	FAD	C4X-C10-N10	2.07	119.44	116.48
3	A	402	4P5	O10-C9-O11	2.06	128.81	123.90
2	B	401	FAD	O3'-C3'-C2'	2.06	113.61	108.93
2	D	401	FAD	O2A-PA-O5B	-2.05	98.30	107.57
3	A	402	4P5	O1-C5-C4	2.04	114.02	111.21
2	C	401	FAD	C2B-C1B-N9A	2.04	118.37	113.30
2	D	401	FAD	O2-C2-N3	2.03	122.48	118.58
2	B	401	FAD	C4X-C10-N1	-2.03	119.61	124.59
2	A	401	FAD	C2A-N3A-C4A	2.02	116.76	111.83
3	B	402	4P5	C9-C7-N8	2.01	125.67	120.52
2	C	401	FAD	O3P-PA-O1A	-2.01	104.67	110.70
2	D	401	FAD	C2A-N3A-C4A	2.01	116.73	111.83

There are no chirality outliers.

All (14) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
2	A	401	FAD	N10-C1'-C2'-O2'
2	D	401	FAD	C5B-O5B-PA-O1A
2	D	401	FAD	N10-C1'-C2'-O2'
3	A	402	4P5	C6-C7-C9-O10
2	D	401	FAD	O3'-C3'-C4'-O4'
2	D	401	FAD	C2'-C3'-C4'-O4'
2	D	401	FAD	C5'-O5'-P-O3P
3	A	402	4P5	N8-C7-C9-O10
3	A	402	4P5	C6-C7-C9-O11
3	D	402	4P5	C6-C7-C9-O11
2	D	401	FAD	O3'-C3'-C4'-C5'
3	D	402	4P5	N8-C7-C9-O11
2	A	401	FAD	O4B-C4B-C5B-O5B
2	C	401	FAD	O4B-C4B-C5B-O5B

There are no ring outliers.

7 monomers are involved in 13 short contacts:

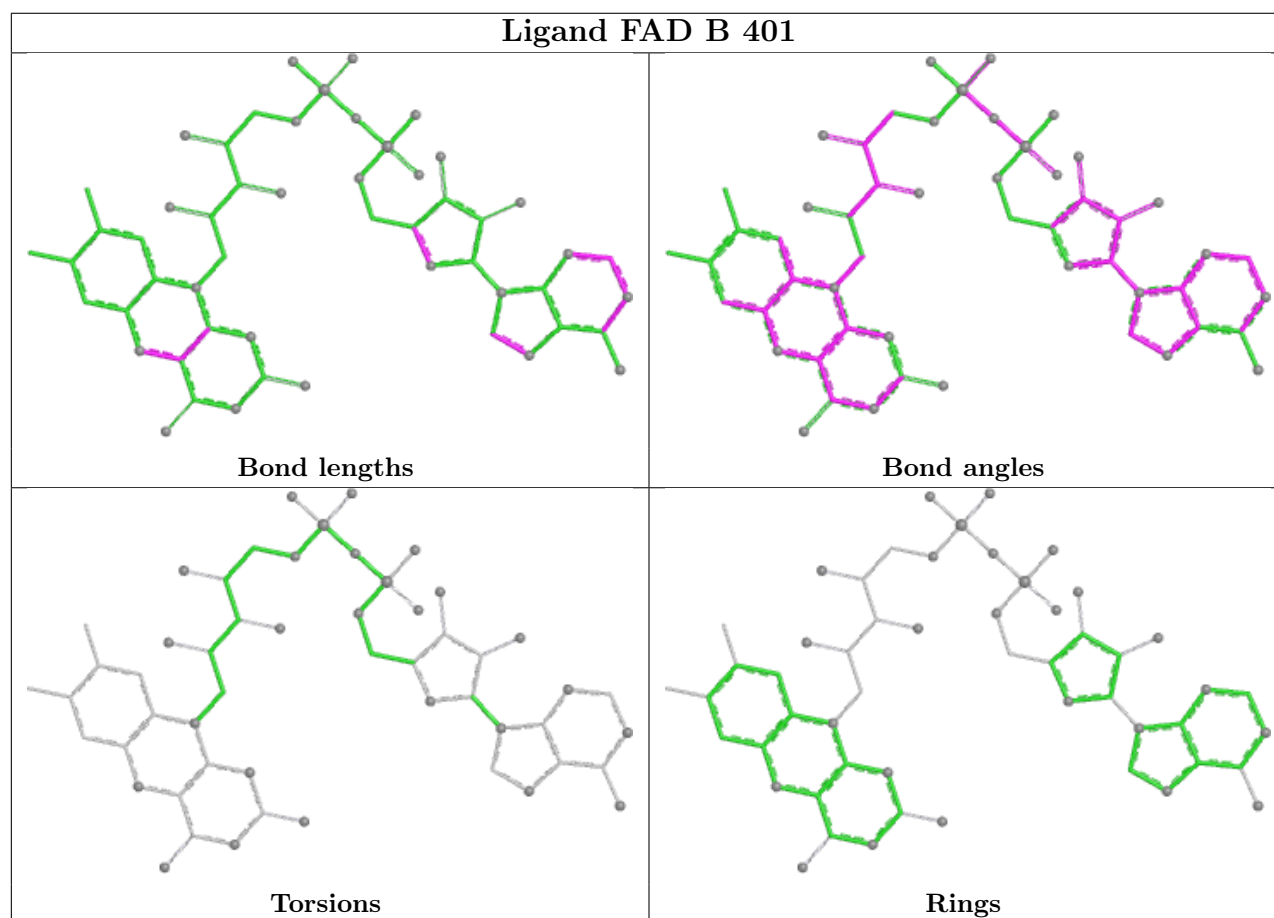
Mol	Chain	Res	Type	Clashes	Symm-Clashes
3	D	402	4P5	3	0
3	A	402	4P5	1	0
2	B	401	FAD	1	0
2	D	401	FAD	2	0
2	A	401	FAD	2	0

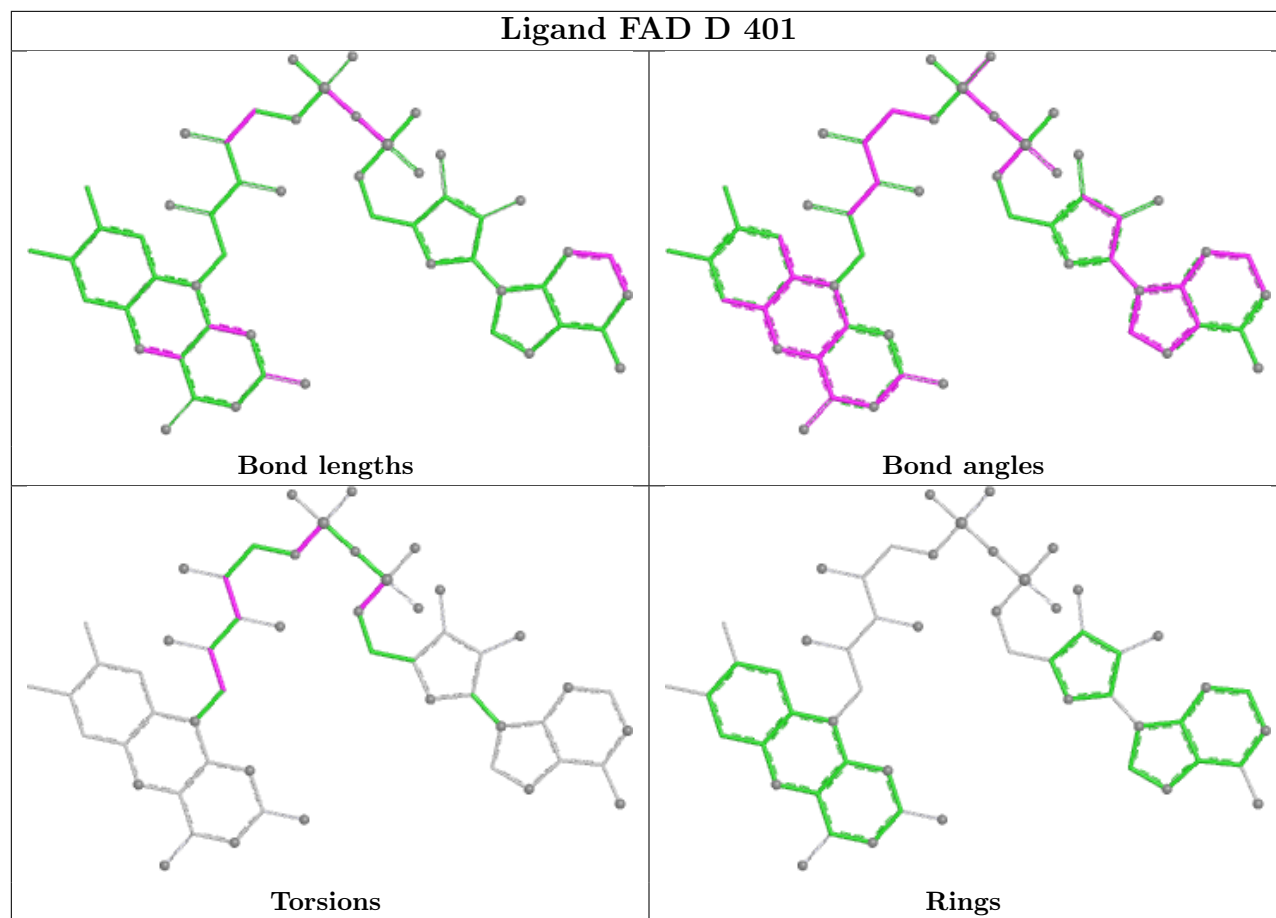
Continued on next page...

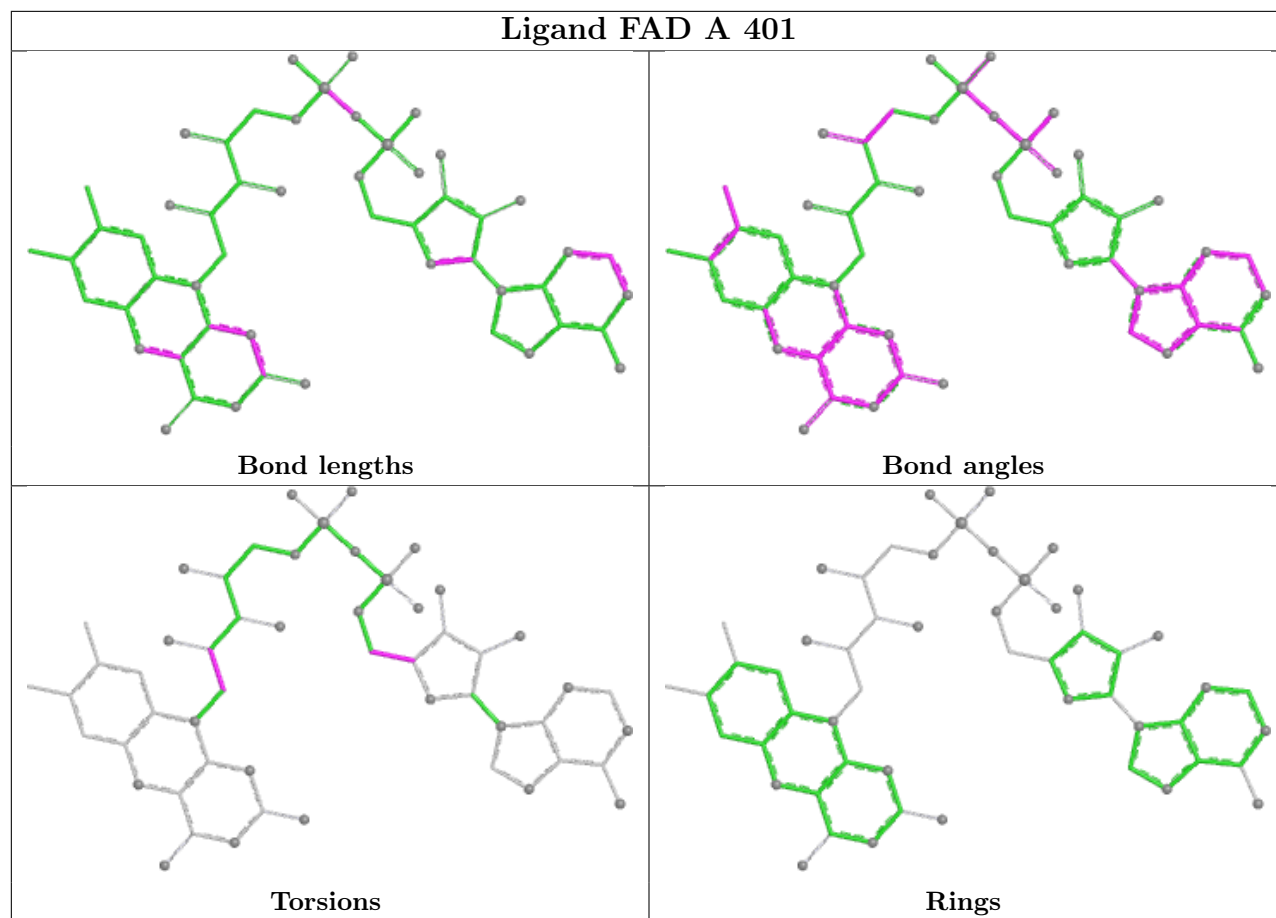
Continued from previous page...

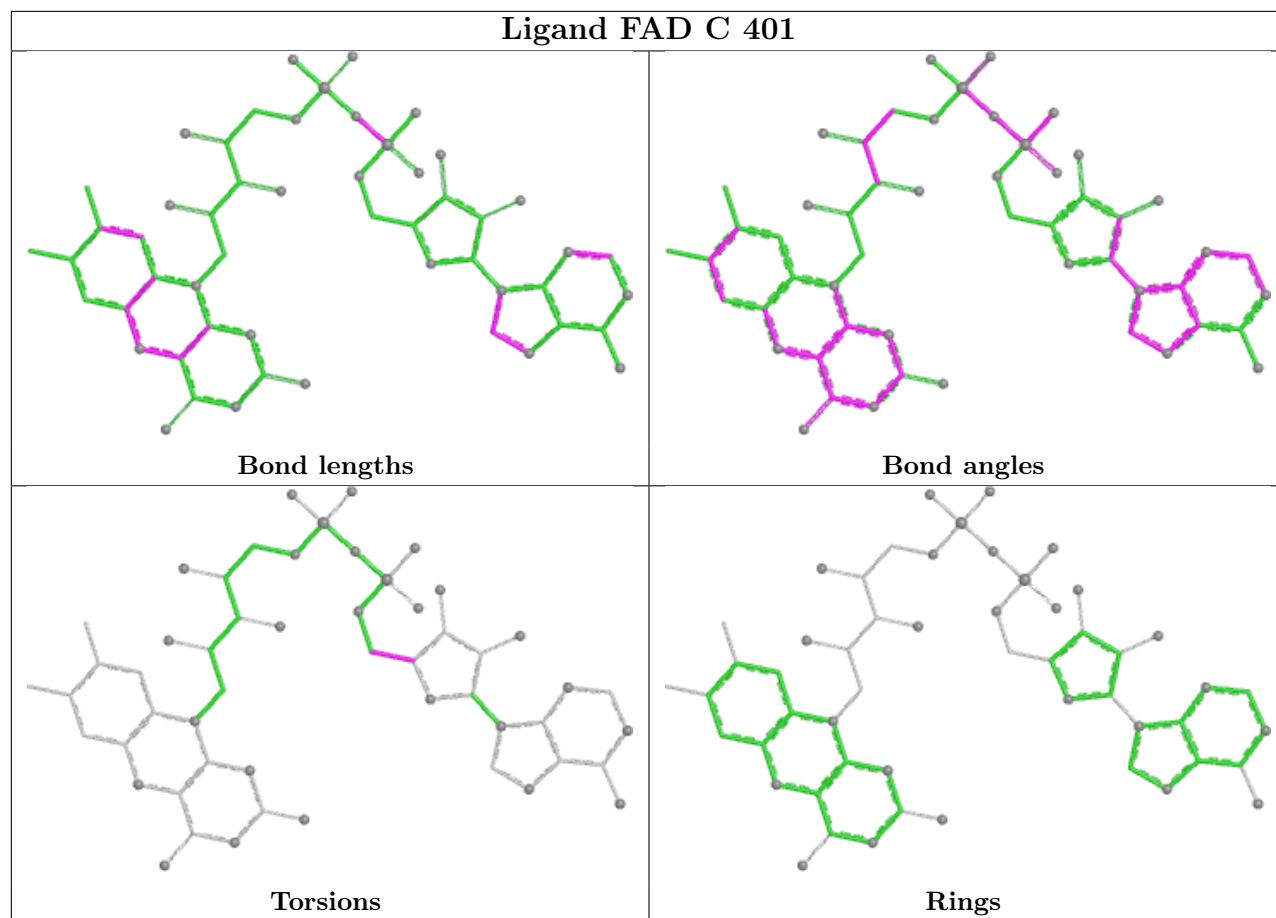
Mol	Chain	Res	Type	Clashes	Symm-Clashes
3	B	402	4P5	1	0
2	C	401	FAD	3	0

The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included. For torsion angles, if less than 5% of the Mogul distribution of torsion angles is within 10 degrees of the torsion angle in question, then that torsion angle is considered an outlier. Any bond that is central to one or more torsion angles identified as an outlier by Mogul will be highlighted in the graph. For rings, the root-mean-square deviation (RMSD) between the ring in question and similar rings identified by Mogul is calculated over all ring torsion angles. If the average RMSD is greater than 60 degrees and the minimal RMSD between the ring in question and any Mogul-identified rings is also greater than 60 degrees, then that ring is considered an outlier. The outliers are highlighted in purple. The color gray indicates Mogul did not find sufficient equivalents in the CSD to analyse the geometry.









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 [i](#)

6.1 Protein, DNA and RNA chains [i](#)

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

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å ²)	Q<0.9
1	A	327/347 (94%)	-0.05	2 (0%) 85 83	11, 21, 34, 44	0
1	B	327/347 (94%)	-0.05	3 (0%) 81 78	11, 22, 34, 44	0
1	C	327/347 (94%)	-0.07	2 (0%) 85 83	10, 22, 33, 46	0
1	D	327/347 (94%)	0.04	1 (0%) 90 87	11, 22, 34, 45	0
All	All	1308/1388 (94%)	-0.03	8 (0%) 85 83	10, 22, 34, 46	0

All (8) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	B	28	GLN	3.4
1	D	62	PRO	2.9
1	A	302	ASN	2.9
1	C	62	PRO	2.6
1	C	82	PRO	2.3
1	A	55	TYR	2.3
1	B	295	GLN	2.3
1	B	62	PRO	2.2

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

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

6.3 Carbohydrates [i](#)

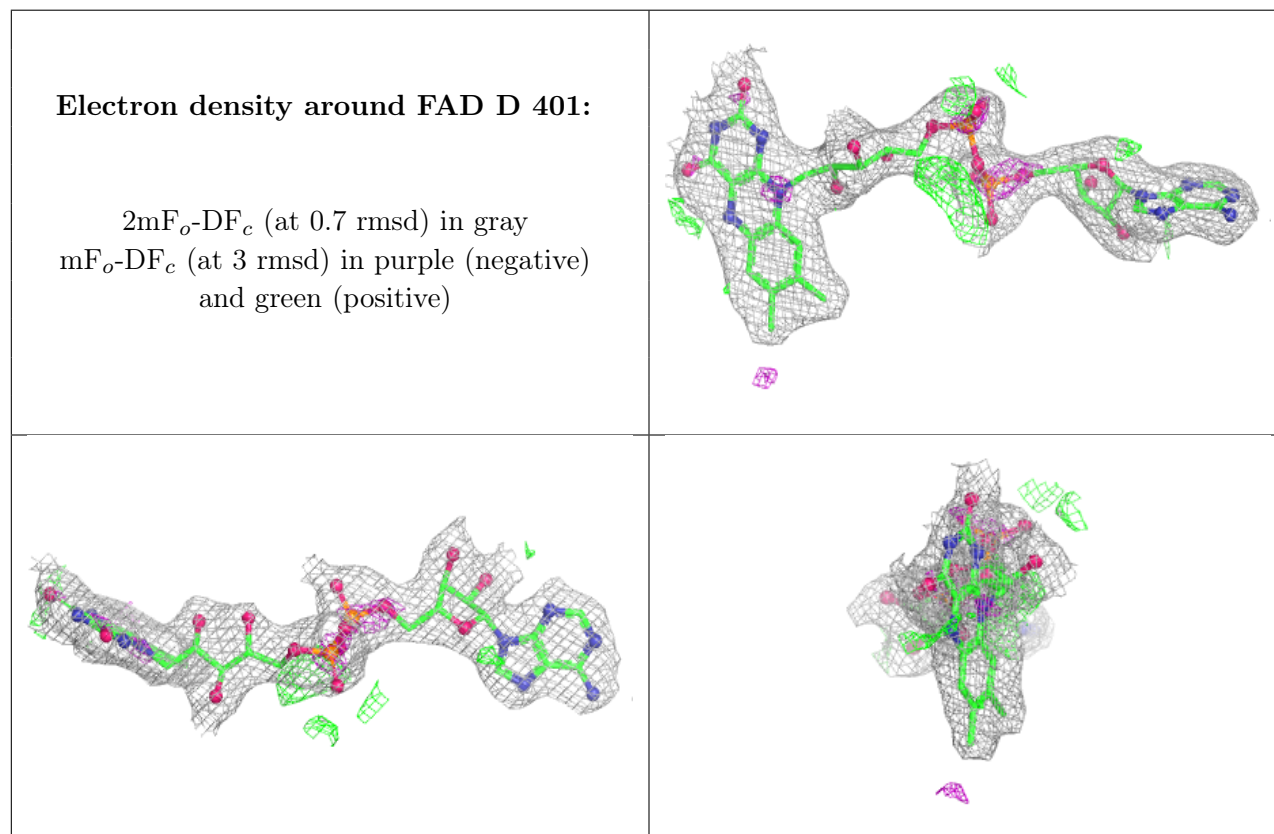
There are no oligosaccharides in this entry.

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, 95th percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9' lists the number of atoms with occupancy less than 0.9.

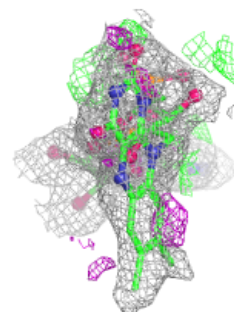
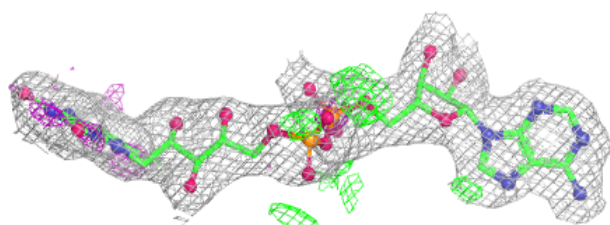
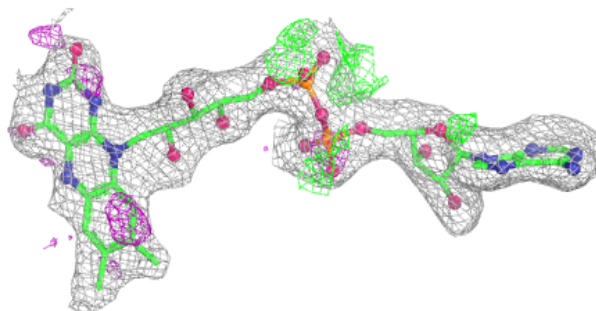
Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å ²)	Q<0.9
3	4P5	D	402	11/11	0.87	0.14	26,28,29,30	0
2	FAD	D	401	53/53	0.93	0.08	11,19,23,26	0
2	FAD	C	401	53/53	0.93	0.09	12,22,24,29	0
2	FAD	B	401	53/53	0.94	0.09	10,19,24,26	0
3	4P5	B	402	11/11	0.94	0.12	14,18,19,19	0
2	FAD	A	401	53/53	0.94	0.09	7,19,27,32	0
3	4P5	C	402	11/11	0.95	0.09	10,11,16,21	0
3	4P5	A	402	11/11	0.95	0.09	15,25,26,28	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.

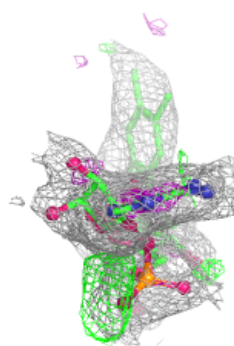
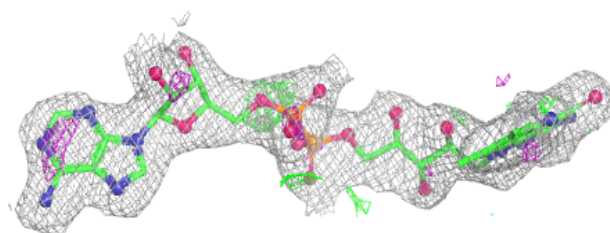
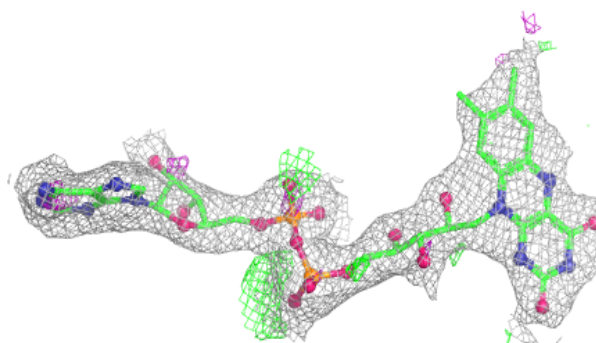


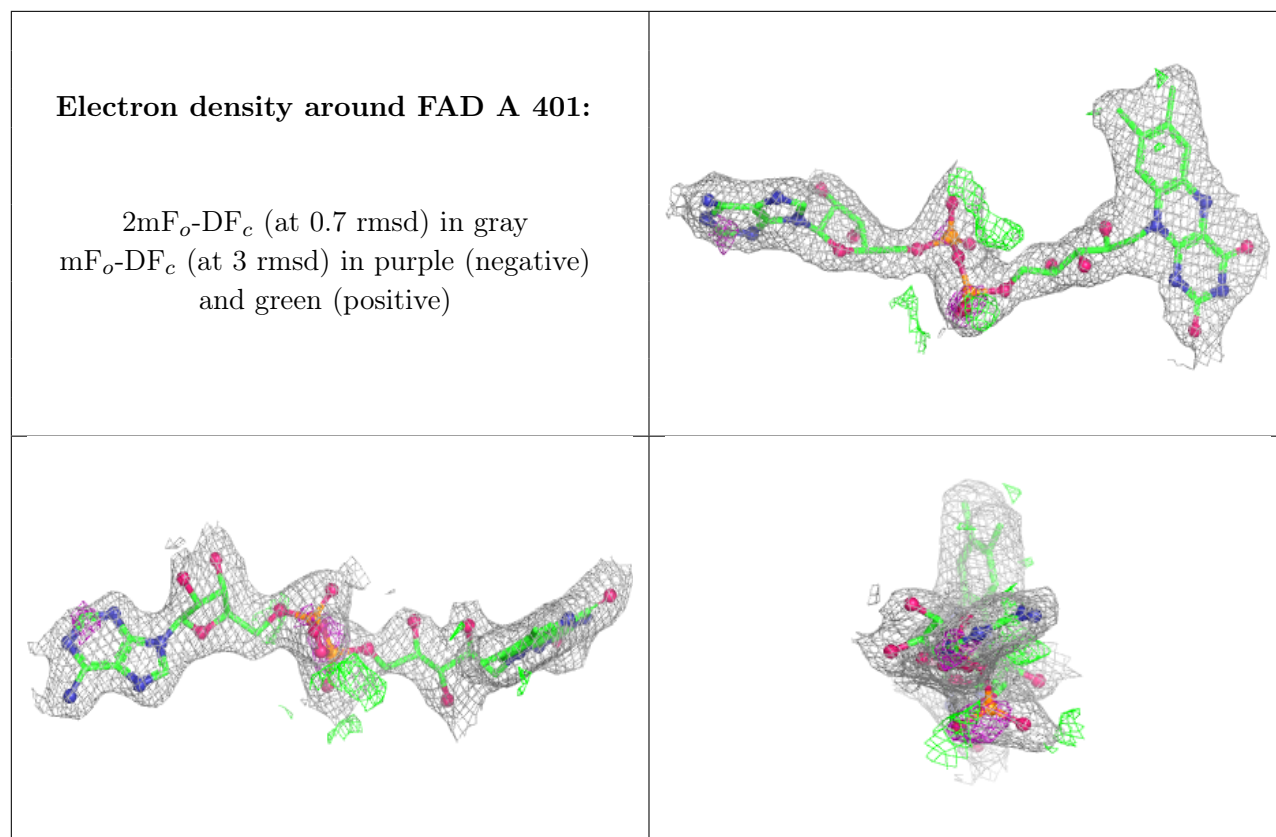
Electron density around FAD C 401:

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

**Electron density around FAD 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)





6.5 Other polymers [i](#)

There are no such residues in this entry.