Full wwPDB X-ray Structure Validation Report (i)

May 7, 2026 – 07:45 AM EDT

PDB ID	:	6V4K / pdb_00006v4k
Title	:	Structure of TrkH-TrkA in complex with ADP
Authors	:	Zhou, M.; Zhang, H.
Deposited on	:	2019-11-27
Resolution	:	3.53 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 (i) 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 (i)) were used in the production of this report:

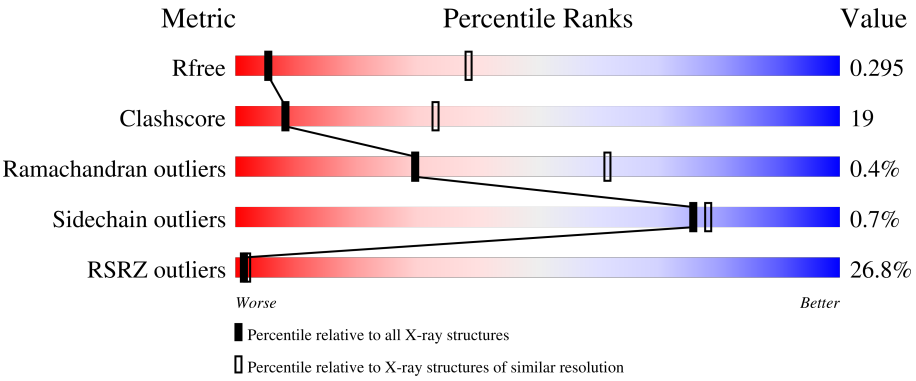
MolProbity	:	4-5-2 with Phenix2.0
Mogul	:	2022.3.0, CSD as543be (2022)
Xtriage (Phenix)	:	2.0
EDS	:	3.0
Buster-report	:	wwPDB partial adaption of 1.1.7 (2018)
Percentile statistics	:	20250101.v01 (using entries in the PDB archive January 1st 2025)
CCP4	:	9.0.010 (Gargrove)
Density-Fitness	:	1.0.12
Ideal 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 (i)

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

The reported resolution of this entry is 3.53 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	1008 (3.58-3.50)
Clashscore	190562	1062 (3.58-3.50)
Ramachandran outliers	187476	1033 (3.58-3.50)
Sidechain outliers	187428	1034 (3.58-3.50)
RSRZ outliers	180081	1007 (3.58-3.50)

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 <=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	485	16% 63% 30% • 5%
1	B	485	16% 65% 29% • 5%
1	C	485	15% 68% 26% 5%
1	D	485	18% 65% 29% 5%
2	E	458	25% 66% 33% ••

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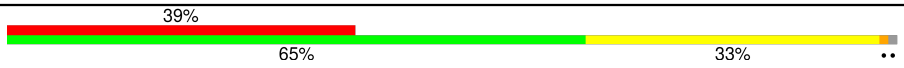
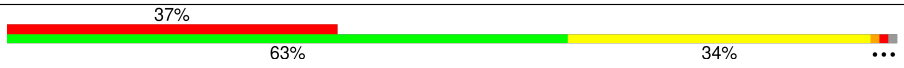
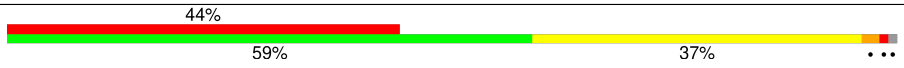
Mol	Chain	Length	Quality of chain
2	F	458	
2	G	458	
2	H	458	

2 Entry composition (i)

There are 3 unique types of molecules in this entry. The entry contains 28234 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.

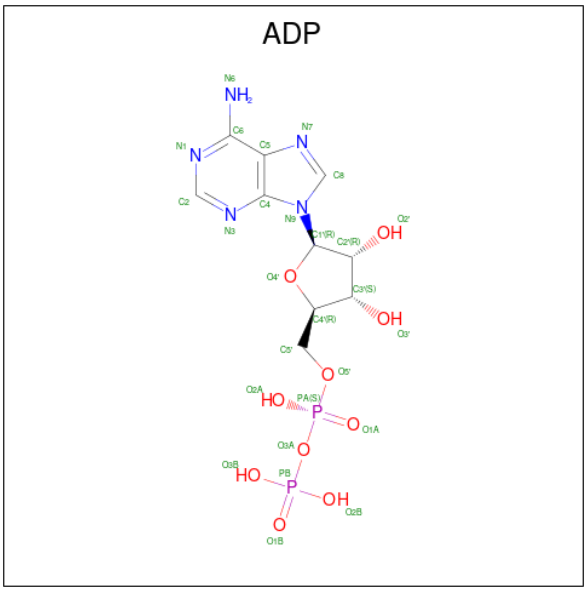
- Molecule 1 is a protein called Trk system potassium uptake protein.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	459	Total	C	N	O	S	0	0	0
			3539	2370	559	593	17			
1	B	459	Total	C	N	O	S	0	0	0
			3549	2377	559	596	17			
1	C	459	Total	C	N	O	S	0	0	0
			3549	2377	559	596	17			
1	D	459	Total	C	N	O	S	0	0	0
			3549	2377	559	596	17			

- Molecule 2 is a protein called Potassium transporter peripheral membrane component.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
2	E	455	Total	C	N	O	S	0	0	0
			3490	2190	614	674	12			
2	F	455	Total	C	N	O	S	0	0	0
			3496	2193	617	674	12			
2	G	455	Total	C	N	O	S	0	0	0
			3464	2172	611	669	12			
2	H	455	Total	C	N	O	S	0	0	0
			3490	2190	614	674	12			

- Molecule 3 is ADENOSINE-5'-DIPHOSPHATE (CCD ID: ADP) (formula: $C_{10}H_{15}N_5O_{10}P_2$).



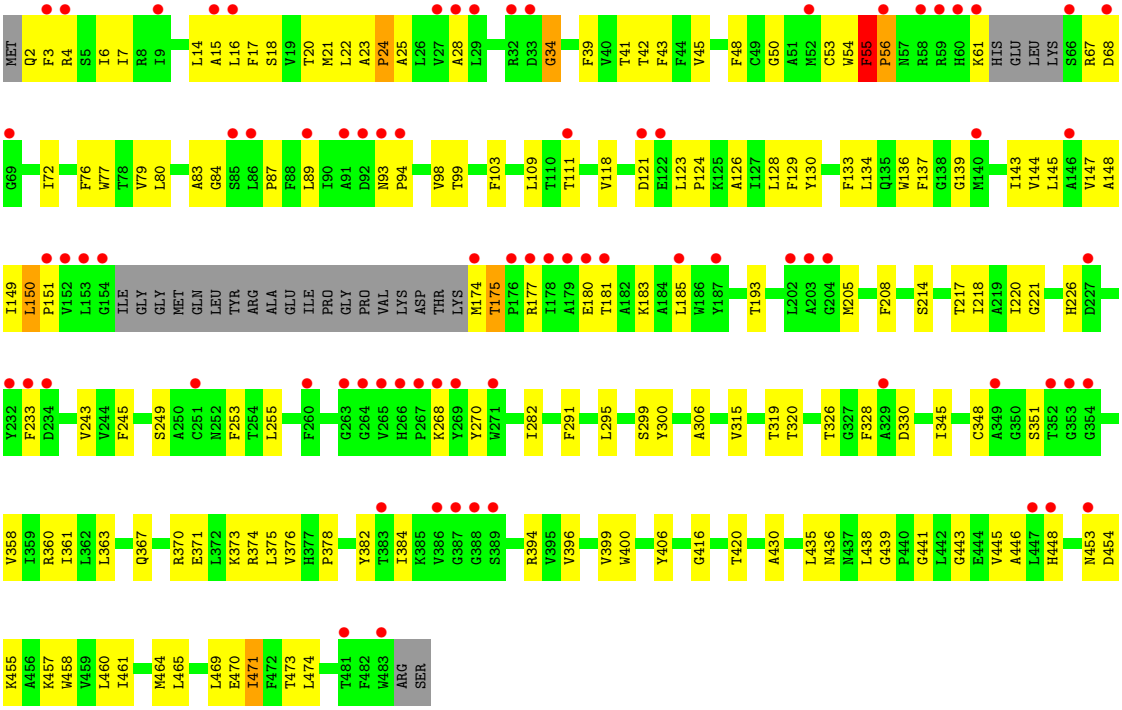
Mol	Chain	Residues	Atoms					ZeroOcc	AltConf
3	E	1	Total	C	N	O	P	0	0
			27	10	5	10	2		
3	F	1	Total	C	N	O	P	0	0
			27	10	5	10	2		
3	G	1	Total	C	N	O	P	0	0
			27	10	5	10	2		
3	H	1	Total	C	N	O	P	0	0
			27	10	5	10	2		

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.

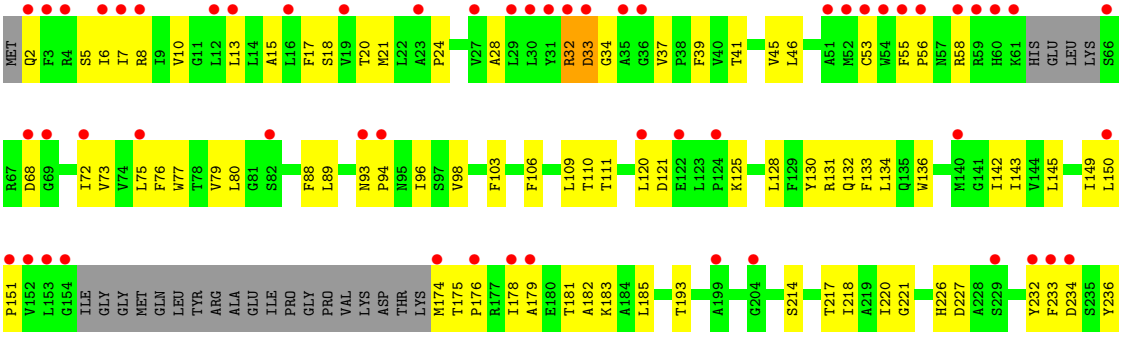
• Molecule 1: Trk system potassium uptake protein

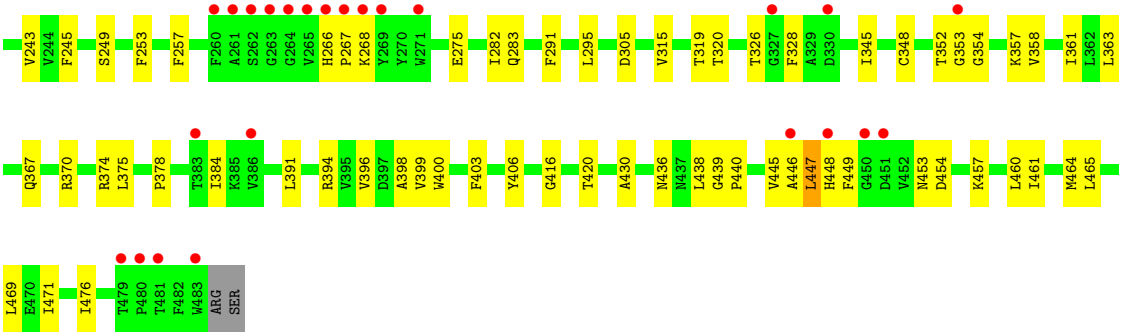
Chain A:



• Molecule 1: Trk system potassium uptake protein

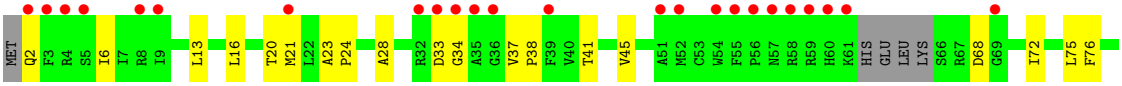
Chain B:

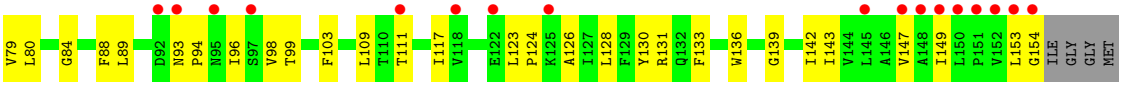


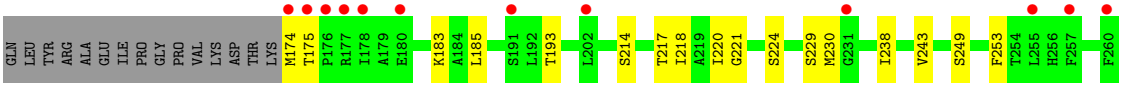


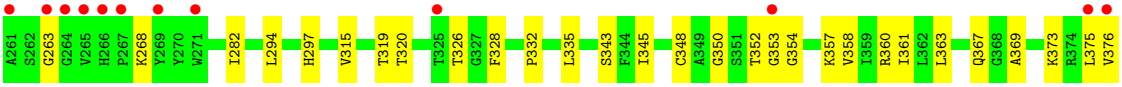
• Molecule 1: Trk system potassium uptake protein

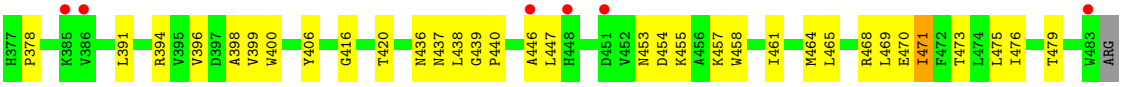
Chain C:





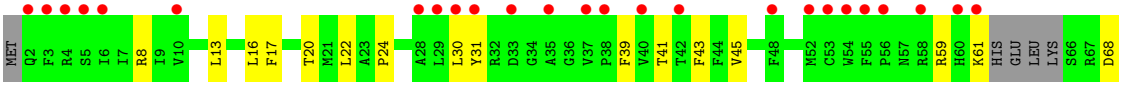


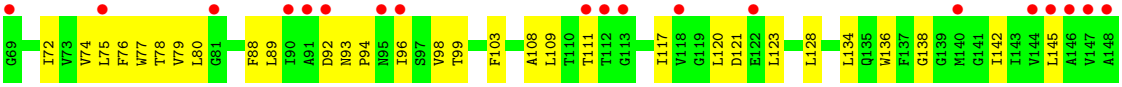


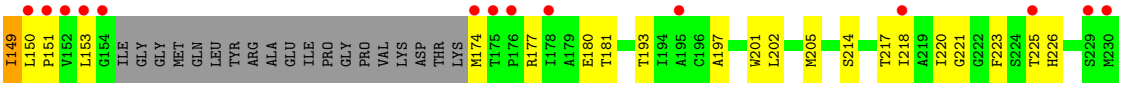


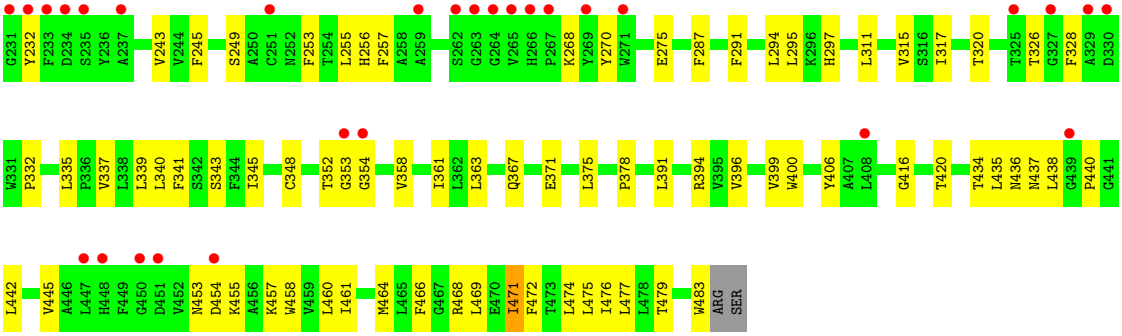
• Molecule 1: Trk system potassium uptake protein

Chain D:



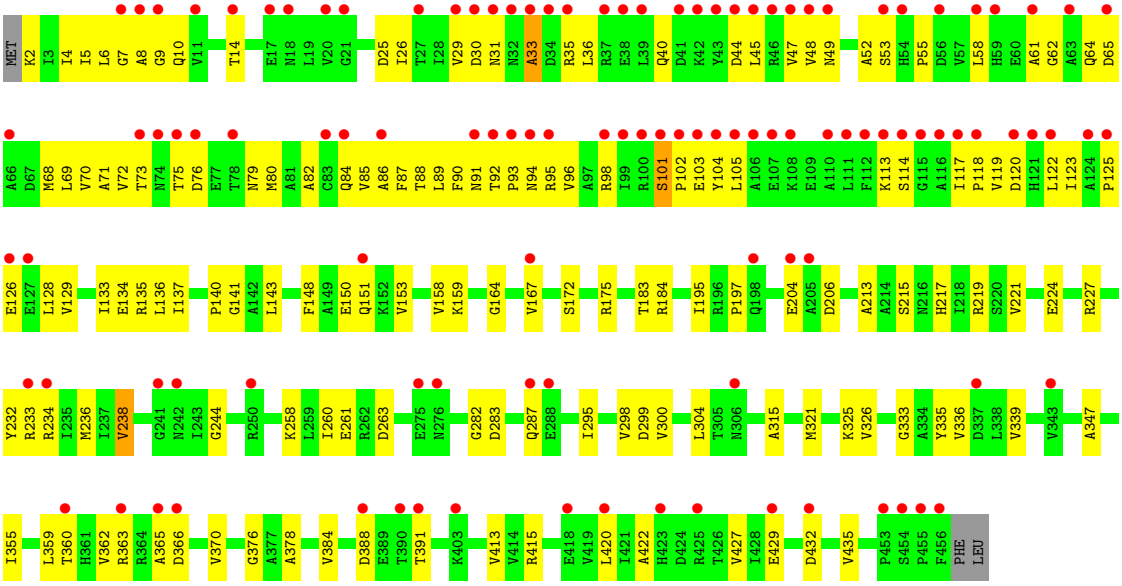






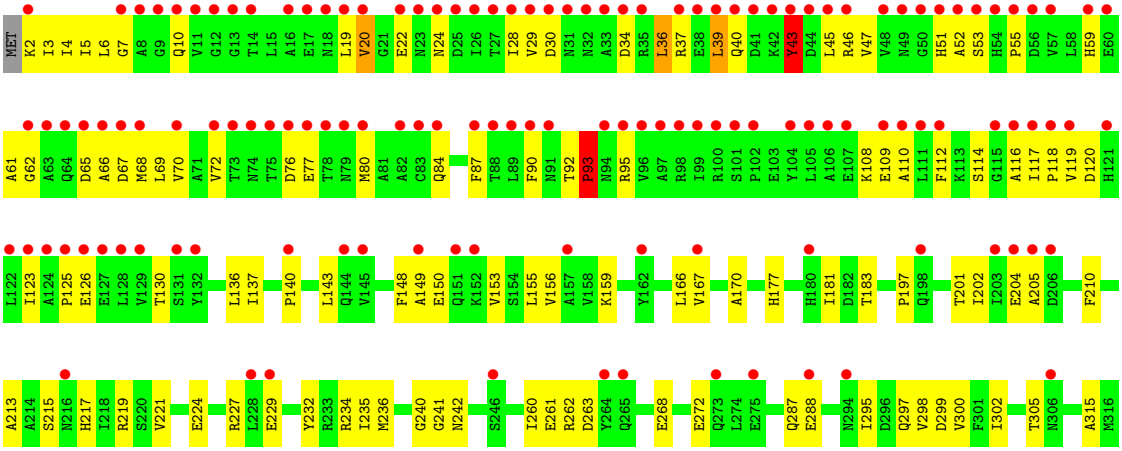
• Molecule 2: Potassium transporter peripheral membrane component

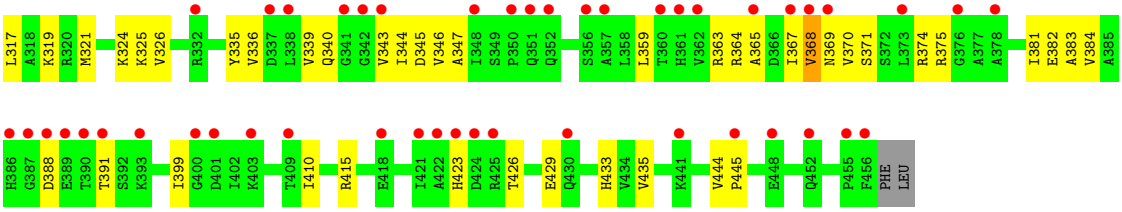
Chain E:



• Molecule 2: Potassium transporter peripheral membrane component

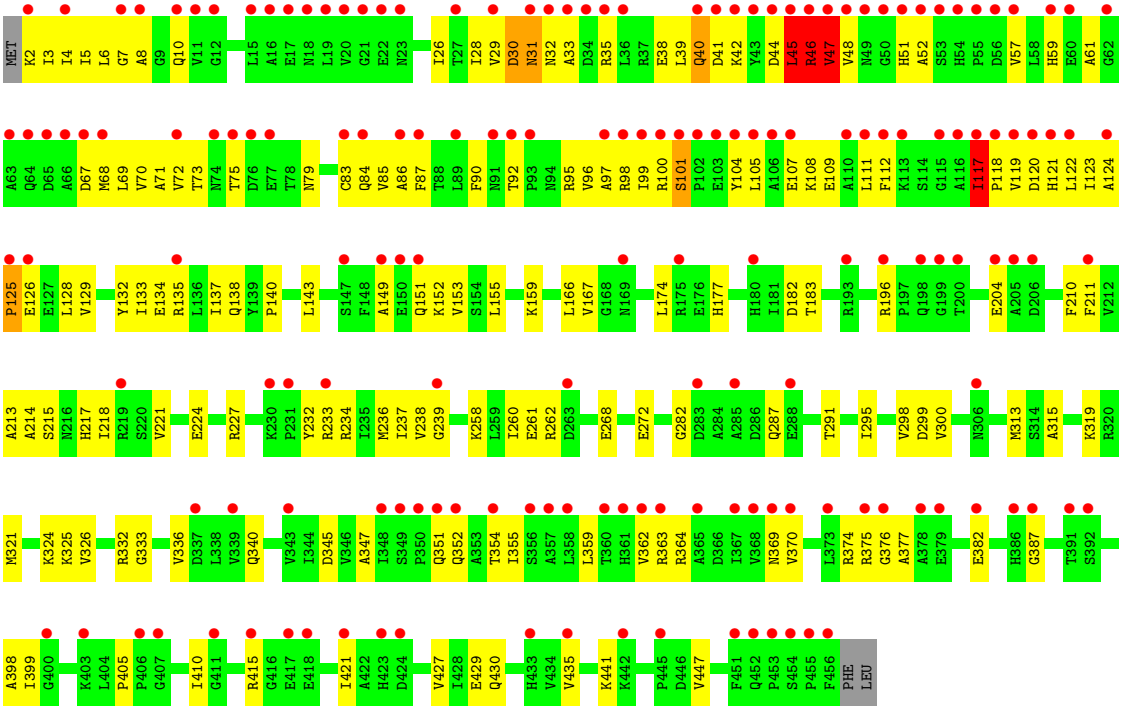
Chain F:





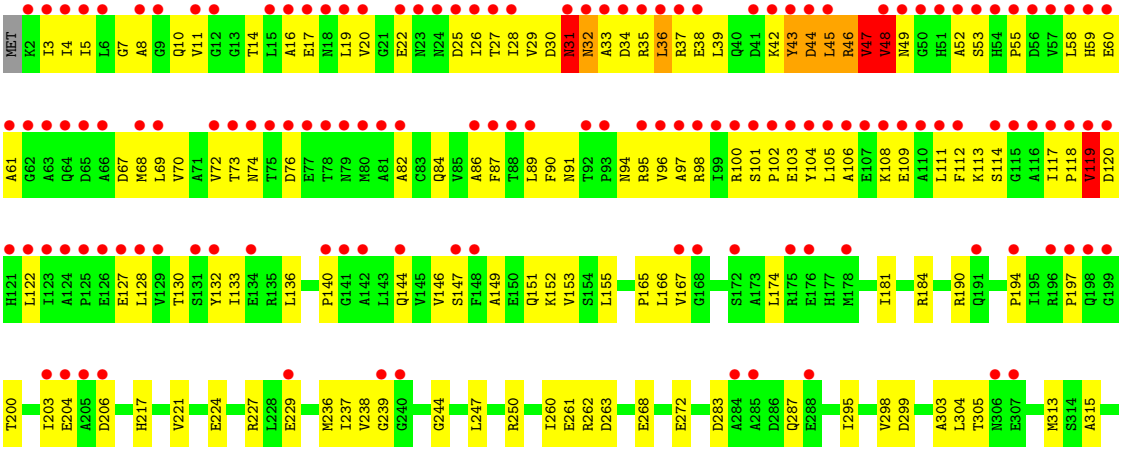
• Molecule 2: Potassium transporter peripheral membrane component

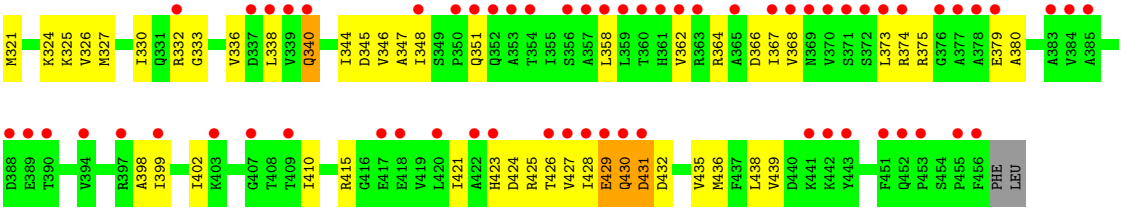
Chain G:



• Molecule 2: Potassium transporter peripheral membrane component

Chain H:




M321
K324
K325
V326
M327
I330
Q331
R332
G333
V336
D337
L338
V339
Q340
I344
D345
V346
A347
I348
S349
P350
Q351
Q352
A353
T354
I355
S356
A357
L358
L359
T360
H361
V362
R363
R364
A365
D366
I367
V368
N369
V370
S371
S372
L373
R374
R375
G376
A377
A378
E379
A380
A383
V384
A385
D388
E389
T390
V394
R397
A398
I399
I402
K403
G407
T408
T409
I410
R415
G416
E417
E418
V419
L420
I421
A422
H423
D424
R425
T426
V427
I428
E429
Q430
D431
D432
V435
M436
F437
L438
V439
D440
K441
K442
Y443
F451
Q452
P453
S454
P455
F456
PHE
LEU

4 Data and refinement statistics (i)

Property	Value	Source
Space group	C 1 2 1	Depositor
Cell constants a, b, c, α, β, γ	262.10Å 188.50Å 187.91Å 90.00° 133.16° 90.00°	Depositor
Resolution (Å)	49.82 – 3.53 49.82 – 3.53	Depositor EDS
% Data completeness (in resolution range)	84.3 (49.82-3.53) 84.3 (49.82-3.53)	Depositor EDS
R_{merge}	0.07	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	2.55 (at 3.57Å)	Xtriage
Refinement program	PHENIX 1.11.1_2575	Depositor
R, R_{free}	0.250 , 0.291 0.252 , 0.295	Depositor DCC
R_{free} test set	3406 reflections (4.17%)	wwPDB-VP
Wilson B-factor (Å^2)	21.4	Xtriage
Anisotropy	0.170	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.26 , 56.5	EDS
L-test for twinning[2]	$< \|L\| > = 0.49$, $< L^2 > = 0.32$	Xtriage
Estimated twinning fraction	0.001 for h+2*l,k,-h-l 0.011 for k+l,h+l,-l 0.005 for -k+l,-h-l,-l 0.007 for -h+k-l,-l,-k 0.000 for -h-k-l,l,k 0.001 for h-k+l,l,-h-l 0.000 for -k-l,-h-l,k 0.001 for h+k+l,-l,-h-l 0.002 for k-l,h+l,-k 0.007 for h,-k,-h-l 0.017 for -h-2*l,-k,l	Xtriage
F_o,F_c correlation	0.81	EDS
Total number of atoms	28234	wwPDB-VP
Average B, all atoms (Å^2)	80.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 3.37% 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

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

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	0.22	0/3639	0.55	2/4961 (0.0%)
1	B	0.17	0/3650	0.48	2/4976 (0.0%)
1	C	0.17	0/3650	0.46	0/4976
1	D	0.18	0/3650	0.46	1/4976 (0.0%)
2	E	0.24	0/3540	0.62	1/4805 (0.0%)
2	F	0.25	0/3546	0.56	3/4812 (0.1%)
2	G	0.26	0/3513	0.74	11/4770 (0.2%)
2	H	0.29	0/3540	0.70	6/4805 (0.1%)
All	All	0.23	0/28728	0.58	26/39081 (0.1%)

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	1
1	B	0	4
1	C	0	1
2	E	0	2
2	F	0	2
2	G	0	2
2	H	0	6
All	All	0	18

There are no bond length outliers.

All (26) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	G	32	ASN	N-CA-C	17.21	129.48	111.07

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	G	42	LYS	N-CA-C	12.04	128.10	110.28
2	H	44	ASP	N-CA-C	11.18	128.14	112.04
2	F	34	ASP	N-CA-C	8.84	120.99	111.36
2	G	117	ILE	CG1-CB-CG2	-8.78	84.37	110.70
2	H	45	LEU	N-CA-C	8.20	126.85	113.89
2	G	45	LEU	N-CA-C	8.17	121.76	110.24
2	H	31	ASN	N-CA-C	8.02	119.71	110.97
2	G	44	ASP	N-CA-C	7.29	120.84	108.67
2	H	46	ARG	N-CA-C	7.11	117.26	107.73
2	G	46	ARG	N-CA-C	6.61	119.34	110.35
1	A	24	PRO	CA-N-CD	-6.56	102.81	112.00
2	G	47	VAL	N-CA-C	6.50	117.47	108.12
1	B	175	THR	CA-C-N	6.07	126.53	120.52
1	B	175	THR	C-N-CA	6.07	126.53	120.52
2	G	33	ALA	N-CA-C	5.80	120.43	111.56
2	G	45	LEU	CA-C-N	5.79	129.49	120.75
2	G	45	LEU	C-N-CA	5.79	129.49	120.75
2	E	33	ALA	N-CA-C	5.48	119.81	113.18
2	H	119	VAL	N-CA-C	5.47	120.72	109.34
2	G	38	GLU	N-CA-C	-5.27	105.53	111.28
2	H	31	ASN	CB-CA-C	-5.26	102.86	110.96
2	F	43	TYR	N-CA-C	5.16	123.84	113.31
1	A	55	PHE	CB-CA-C	5.12	120.25	110.17
1	D	149	ILE	CA-CB-CG1	5.03	118.95	110.40
2	F	93	PRO	CA-N-CD	-5.03	104.96	112.00

There are no chirality outliers.

All (18) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	A	34	GLY	Peptide
1	B	32	ARG	Peptide
1	B	33	ASP	Peptide
1	B	34	GLY	Peptide
1	B	447	LEU	Peptide
1	C	263	GLY	Peptide
2	E	101	SER	Peptide
2	E	238	VAL	Peptide
2	F	114	SER	Peptide
2	F	205	ALA	Peptide
2	G	101	SER	Peptide
2	G	61	ALA	Peptide

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Mol	Chain	Res	Type	Group
2	H	340	GLN	Peptide
2	H	429	GLU	Peptide
2	H	430	GLN	Peptide
2	H	431	ASP	Peptide
2	H	432	ASP	Peptide
2	H	47	VAL	Peptide

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	3539	0	3609	133	0
1	B	3549	0	3618	120	0
1	C	3549	0	3618	96	0
1	D	3549	0	3618	105	0
2	E	3490	0	3517	147	0
2	F	3496	0	3529	150	0
2	G	3464	0	3477	161	0
2	H	3490	0	3519	232	0
3	E	27	0	12	2	0
3	F	27	0	12	7	0
3	G	27	0	12	2	0
3	H	27	0	11	5	0
All	All	28234	0	28552	1093	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 19.

All (1093) 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)
2:G:30:ASP:HB3	2:G:35:ARG:CB	1.26	1.56
2:F:36:LEU:HD21	2:F:47:VAL:CG2	1.12	1.54
2:H:30:ASP:CB	2:H:35:ARG:CB	1.85	1.53
2:H:30:ASP:HB2	2:H:35:ARG:CB	0.99	1.46
2:F:36:LEU:CD2	2:F:47:VAL:HG21	0.92	1.39

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:178:ILE:HG21	2:F:43:TYR:CD2	1.56	1.38
2:H:29:VAL:HA	2:H:47:VAL:CG2	1.58	1.34
2:G:39:LEU:CB	2:G:47:VAL:HG11	1.64	1.26
2:H:29:VAL:CA	2:H:47:VAL:HG22	1.56	1.25
2:G:30:ASP:CB	2:G:35:ARG:CB	2.14	1.25
1:B:178:ILE:CG2	2:F:43:TYR:CD2	2.17	1.24
2:H:261:GLU:OE2	3:H:501:ADP:O3'	1.54	1.22
2:G:26:ILE:O	2:G:45:LEU:CB	1.78	1.15
1:B:178:ILE:CG2	2:F:43:TYR:HD2	1.53	1.12
2:H:47:VAL:HG13	2:H:48:VAL:N	1.66	1.10
2:G:40:GLN:HA	2:G:40:GLN:HE21	1.17	1.10
2:F:36:LEU:CD2	2:F:47:VAL:CG2	1.87	1.09
1:B:178:ILE:HG13	2:F:43:TYR:O	1.51	1.09
2:F:36:LEU:HD23	2:F:47:VAL:HG21	1.26	1.09
2:H:28:ILE:HD13	2:H:43:TYR:HE2	1.11	1.07
2:F:261:GLU:OE2	3:F:501:ADP:O2'	1.70	1.05
2:H:100:ARG:CZ	2:H:127:GLU:OE2	2.05	1.04
2:H:36:LEU:HD11	2:H:47:VAL:CG1	1.87	1.03
2:H:47:VAL:CG1	2:H:48:VAL:N	2.21	1.02
2:G:26:ILE:O	2:G:45:LEU:HB2	1.56	1.02
1:B:178:ILE:HG21	2:F:43:TYR:CE2	1.95	1.01
2:F:36:LEU:HD22	2:F:47:VAL:HG21	1.42	1.01
2:H:146:VAL:HG22	2:H:374:ARG:HH22	1.21	1.00
1:B:178:ILE:CG2	2:F:43:TYR:CE2	2.44	0.99
2:H:30:ASP:HB2	2:H:35:ARG:CA	1.93	0.99
2:H:100:ARG:NH2	2:H:127:GLU:OE2	1.95	0.99
2:H:36:LEU:CD1	2:H:47:VAL:HG11	1.90	0.99
2:H:36:LEU:HD11	2:H:48:VAL:O	1.62	0.99
2:F:36:LEU:HD21	2:F:47:VAL:HG23	1.45	0.98
2:H:112:PHE:HA	2:H:117:ILE:HG12	1.43	0.97
2:H:36:LEU:CD1	2:H:47:VAL:CG1	2.42	0.97
2:H:28:ILE:HD13	2:H:43:TYR:CE2	1.99	0.96
2:H:36:LEU:HD12	2:H:47:VAL:HG11	1.45	0.96
1:B:178:ILE:CG1	2:F:43:TYR:O	2.13	0.96
2:H:47:VAL:HG22	2:H:48:VAL:HG12	1.49	0.93
2:E:36:LEU:HD21	2:E:47:VAL:HG11	1.50	0.93
2:H:100:ARG:NH1	2:H:127:GLU:OE2	2.01	0.93
2:H:340:GLN:HE21	2:H:375:ARG:HD2	1.33	0.93
1:C:320:THR:HG21	1:C:354:GLY:H	1.34	0.92
2:H:7:GLY:C	2:H:31:ASN:OD1	2.11	0.92
2:G:31:ASN:O	2:G:35:ARG:CB	2.19	0.91

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:H:30:ASP:CA	2:H:35:ARG:CB	2.49	0.90
2:H:36:LEU:HD21	2:H:48:VAL:O	1.70	0.90
2:H:133:ILE:HD11	2:H:348:ILE:HD13	1.53	0.90
2:G:26:ILE:O	2:G:45:LEU:HB3	1.69	0.90
1:B:178:ILE:HG23	2:F:43:TYR:HD2	1.36	0.89
2:G:111:LEU:HB3	2:G:118:PRO:HD2	1.54	0.89
2:G:95:ARG:NE	2:G:119:VAL:O	2.07	0.88
2:H:46:ARG:O	2:H:47:VAL:HB	1.72	0.88
2:H:8:ALA:N	2:H:31:ASN:OD1	2.10	0.85
2:E:287:GLN:HB3	2:E:321:MET:HE1	1.59	0.85
2:H:84:GLN:HA	2:H:119:VAL:HG21	1.56	0.85
1:C:142:ILE:HG12	1:C:468:ARG:HH11	1.42	0.85
2:E:6:LEU:HG	2:E:71:ALA:HA	1.58	0.84
2:G:39:LEU:CB	2:G:47:VAL:CG1	2.53	0.84
2:H:39:LEU:HD21	2:H:47:VAL:HB	1.60	0.84
1:B:447:LEU:HD22	1:B:448:HIS:HA	1.60	0.83
1:C:320:THR:HG21	1:C:354:GLY:N	1.93	0.83
2:H:36:LEU:HD11	2:H:47:VAL:HG13	1.59	0.83
1:C:360:ARG:NH2	1:C:470:GLU:OE2	2.12	0.83
2:H:47:VAL:CG1	2:H:48:VAL:H	1.88	0.82
1:A:438:LEU:HB3	1:A:439:GLY:HA2	1.61	0.82
2:G:261:GLU:OE2	3:G:501:ADP:O3'	1.97	0.82
1:A:315:VAL:O	1:A:319:THR:OG1	1.97	0.82
2:H:39:LEU:CD2	2:H:47:VAL:HG11	2.09	0.82
1:D:437:ASN:OD1	1:D:468:ARG:NH1	2.12	0.82
2:H:146:VAL:HG22	2:H:374:ARG:NH2	1.93	0.81
1:C:345:ILE:HG22	1:C:361:ILE:HG13	1.63	0.81
2:H:3:ILE:HA	2:H:68:MET:HB3	1.60	0.81
2:H:29:VAL:HA	2:H:47:VAL:HG22	0.82	0.81
2:H:340:GLN:HE22	2:H:347:ALA:H	1.27	0.81
1:B:178:ILE:HG23	2:F:43:TYR:CD2	2.09	0.80
1:C:438:LEU:HB3	1:C:439:GLY:HA2	1.64	0.80
1:B:315:VAL:O	1:B:319:THR:OG1	2.00	0.79
2:H:47:VAL:HG13	2:H:48:VAL:H	1.46	0.79
1:A:55:PHE:HD2	1:A:56:PRO:HD2	1.45	0.79
1:A:249:SER:O	1:A:351:SER:OG	2.01	0.79
1:A:345:ILE:HG22	1:A:361:ILE:HG13	1.65	0.79
1:B:438:LEU:HB3	1:B:439:GLY:HA2	1.63	0.78
2:H:146:VAL:HG13	2:H:374:ARG:HH12	1.48	0.78
2:E:261:GLU:OE2	3:E:501:ADP:O2'	2.02	0.78
1:B:345:ILE:HG22	1:B:361:ILE:HG13	1.66	0.78

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:H:95:ARG:HG3	2:H:119:VAL:O	1.82	0.78
2:H:287:GLN:HB3	2:H:321:MET:HE1	1.65	0.78
2:H:36:LEU:CD1	2:H:48:VAL:O	2.31	0.77
2:F:30:ASP:HB2	2:F:36:LEU:HD21	1.65	0.77
2:G:26:ILE:HG12	2:G:45:LEU:HD21	1.65	0.77
1:A:136:TRP:HE1	1:A:193:THR:HG21	1.49	0.77
1:B:136:TRP:HE1	1:B:193:THR:HG21	1.49	0.76
1:D:177:ARG:NH1	2:E:44:ASP:OD1	2.18	0.76
1:A:378:PRO:O	1:C:394:ARG:NH2	2.18	0.76
2:E:33:ALA:HA	2:E:36:LEU:HB2	1.65	0.75
2:F:6:LEU:HA	2:F:29:VAL:HB	1.69	0.75
2:G:4:ILE:HD11	2:G:69:LEU:HD13	1.67	0.75
2:G:40:GLN:HA	2:G:40:GLN:NE2	1.97	0.75
2:H:340:GLN:HG2	2:H:375:ARG:HD2	1.69	0.75
1:B:214:SER:HA	1:B:217:THR:HG22	1.69	0.75
1:D:174:MET:N	2:E:49:ASN:OD1	2.20	0.74
1:A:360:ARG:NH2	1:A:470:GLU:OE2	2.18	0.74
1:C:136:TRP:HE1	1:C:193:THR:HG21	1.52	0.74
1:A:28:ALA:HB2	1:A:126:ALA:HB2	1.69	0.74
1:A:370:ARG:HH21	1:A:374:ARG:HH12	1.36	0.74
1:C:214:SER:HA	1:C:217:THR:HG22	1.70	0.74
2:G:39:LEU:CB	2:G:47:VAL:HG21	2.17	0.74
2:H:29:VAL:CA	2:H:47:VAL:CG2	2.32	0.74
1:A:220:ILE:HD11	1:A:249:SER:HB3	1.69	0.73
2:H:47:VAL:HG22	2:H:48:VAL:CG1	2.18	0.73
1:D:320:THR:HG21	1:D:354:GLY:N	2.03	0.73
2:F:39:LEU:HD12	2:F:45:LEU:HB2	1.70	0.73
2:G:143:LEU:HD11	2:G:159:LYS:HB2	1.69	0.73
2:E:91:ASN:OD1	2:E:92:THR:N	2.22	0.72
2:E:87:PHE:HB3	2:E:119:VAL:HG11	1.71	0.72
2:H:36:LEU:CD2	2:H:48:VAL:O	2.36	0.72
1:A:214:SER:HA	1:A:217:THR:HG22	1.70	0.72
2:F:4:ILE:HD12	2:F:61:ALA:HB1	1.72	0.72
2:E:55:PRO:HD2	2:H:103:GLU:OE1	1.90	0.71
1:B:445:VAL:N	1:B:446:ALA:HA	2.04	0.71
2:E:36:LEU:CD2	2:E:47:VAL:HG11	2.20	0.71
2:F:66:ALA:HB3	2:F:92:THR:HG23	1.72	0.71
1:A:34:GLY:HA3	1:A:124:PRO:HB3	1.72	0.71
2:F:36:LEU:HD21	2:F:47:VAL:HG22	1.59	0.71
2:F:150:GLU:OE2	2:F:364:ARG:HB2	1.90	0.71
2:G:287:GLN:HB3	2:G:321:MET:HE1	1.71	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:8:ALA:HA	2:G:30:ASP:OD1	1.90	0.71
2:H:7:GLY:HA3	2:H:31:ASN:N	2.05	0.71
2:E:84:GLN:HG3	2:E:117:ILE:O	1.90	0.71
2:F:30:ASP:HB2	2:F:36:LEU:CD2	1.76	0.71
1:D:406:TYR:OH	1:D:436:ASN:OD1	2.08	0.70
1:D:317:ILE:HG23	1:D:438:LEU:HD21	1.72	0.70
1:C:143:ILE:HG21	1:C:253:PHE:HD2	1.56	0.70
2:G:92:THR:O	2:G:95:ARG:NH1	2.21	0.70
1:C:353:GLY:O	1:C:357:LYS:NZ	2.23	0.70
1:D:320:THR:HG21	1:D:354:GLY:H	1.56	0.70
2:H:190:ARG:HD3	2:H:203:ILE:HD12	1.74	0.70
1:D:136:TRP:HE1	1:D:193:THR:HG21	1.56	0.70
2:E:8:ALA:O	2:E:35:ARG:NH1	2.23	0.70
1:D:24:PRO:HB2	1:D:39:PHE:CE2	2.27	0.70
2:H:340:GLN:NE2	2:H:347:ALA:H	1.89	0.70
1:A:55:PHE:CD2	1:A:56:PRO:HD2	2.26	0.69
1:A:177:ARG:HH22	2:H:25:ASP:HB3	1.57	0.69
2:F:149:ALA:N	2:F:382:GLU:OE2	2.24	0.69
2:F:95:ARG:NH2	2:F:120:ASP:OD2	2.24	0.69
2:G:46:ARG:O	2:G:46:ARG:HG2	1.90	0.69
2:H:60:GLU:OE1	2:H:60:GLU:N	2.25	0.69
2:E:117:ILE:HG21	2:H:118:PRO:HB3	1.73	0.69
2:G:315:ALA:HB1	2:G:326:VAL:HG13	1.72	0.69
2:G:30:ASP:CG	2:G:35:ARG:CB	2.66	0.69
1:D:435:LEU:HD11	1:D:471:ILE:HD11	1.74	0.69
1:B:406:TYR:OH	1:B:436:ASN:OD1	2.09	0.69
2:H:87:PHE:HB3	2:H:119:VAL:HG11	1.73	0.69
1:A:370:ARG:HH11	1:A:384:ILE:HG13	1.58	0.68
2:H:20:VAL:HG23	2:H:26:ILE:HG21	1.75	0.68
2:H:153:VAL:HG21	2:H:435:VAL:HG21	1.75	0.68
2:F:287:GLN:HB3	2:F:321:MET:HE1	1.74	0.68
1:B:394:ARG:NH2	1:D:378:PRO:O	2.25	0.68
1:D:121:ASP:OD1	1:D:226:HIS:ND1	2.26	0.68
2:H:340:GLN:NE2	2:H:375:ARG:HD2	2.07	0.68
2:H:147:SER:HB2	2:H:151:GLN:HA	1.76	0.68
2:H:340:GLN:HE21	2:H:375:ARG:CD	2.04	0.68
2:H:39:LEU:HD21	2:H:47:VAL:CB	2.23	0.68
2:H:76:ASP:OD2	2:H:101:SER:OG	2.07	0.68
2:E:6:LEU:HD22	2:E:29:VAL:HG21	1.77	0.67
2:F:137:ILE:HG23	2:F:300:VAL:HG21	1.77	0.67
2:F:84:GLN:NE2	2:F:116:ALA:O	2.26	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:406:TYR:OH	1:A:436:ASN:OD1	2.11	0.67
2:F:369:ASN:HA	2:F:383:ALA:HA	1.75	0.67
1:B:143:ILE:HG21	1:B:253:PHE:HD2	1.58	0.67
2:E:236:MET:HE2	2:E:260:ILE:HD11	1.76	0.67
2:G:232:TYR:HD1	2:G:299:ASP:HB3	1.59	0.67
2:H:374:ARG:HG2	2:H:374:ARG:HH11	1.58	0.67
2:G:40:GLN:HE21	2:G:40:GLN:CA	2.00	0.67
2:H:87:PHE:CB	2:H:119:VAL:HG11	2.25	0.67
1:D:24:PRO:HB2	1:D:39:PHE:HE2	1.59	0.66
2:E:55:PRO:HA	2:E:58:LEU:HB2	1.76	0.66
2:H:167:VAL:HG23	2:H:204:GLU:HB3	1.78	0.66
1:A:469:LEU:HB3	1:A:473:THR:HB	1.77	0.66
1:D:420:THR:O	1:D:453:ASN:ND2	2.29	0.66
2:G:117:ILE:HG22	2:G:118:PRO:HD3	1.77	0.66
1:C:13:LEU:HD21	1:C:76:PHE:HD1	1.60	0.66
1:D:343:SER:OG	1:D:436:ASN:ND2	2.27	0.66
2:H:22:GLU:OE2	2:H:364:ARG:NH2	2.28	0.66
1:D:343:SER:HB2	1:D:438:LEU:HD22	1.78	0.66
2:H:36:LEU:HD12	2:H:39:LEU:HD23	1.78	0.66
2:H:98:ARG:HH22	2:H:100:ARG:HD2	1.61	0.66
1:A:469:LEU:HD12	1:A:474:LEU:HB2	1.78	0.65
2:E:159:LYS:HE3	2:E:206:ASP:HB3	1.78	0.65
2:F:148:PHE:HB2	2:F:153:VAL:HG13	1.79	0.65
2:G:105:LEU:HD21	2:G:128:LEU:HD22	1.78	0.65
1:D:434:THR:HG21	1:D:460:LEU:HD22	1.78	0.65
2:G:129:VAL:HG21	2:G:354:THR:HG22	1.78	0.65
2:E:7:GLY:O	2:E:35:ARG:NH2	2.30	0.65
2:G:155:LEU:HD22	2:G:374:ARG:HH22	1.62	0.65
2:F:346:VAL:HA	2:F:375:ARG:HH12	1.61	0.65
2:F:143:LEU:HD11	2:F:159:LYS:HD2	1.77	0.65
2:E:53:SER:HB3	2:E:82:ALA:HB2	1.78	0.65
2:H:421:ILE:HD13	2:H:423:HIS:HB2	1.79	0.65
1:B:367:GLN:HG3	1:B:400:TRP:CH2	2.32	0.65
2:E:84:GLN:O	2:E:88:THR:HG22	1.97	0.65
2:F:136:LEU:O	2:F:325:LYS:NZ	2.30	0.65
2:H:73:THR:O	2:H:98:ARG:NH1	2.27	0.65
1:A:430:ALA:HB2	1:A:445:VAL:HG11	1.79	0.64
1:B:178:ILE:CD1	2:F:43:TYR:O	2.46	0.64
2:H:43:TYR:HE1	2:H:46:ARG:H	1.43	0.64
2:H:47:VAL:HG12	2:H:48:VAL:H	1.63	0.64
1:D:466:PHE:HE1	1:D:474:LEU:HD22	1.63	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:F:232:TYR:HD2	2:F:300:VAL:HG23	1.63	0.64
2:G:377:ALA:O	2:G:441:LYS:N	2.31	0.64
2:H:340:GLN:HE22	2:H:347:ALA:N	1.96	0.64
1:C:420:THR:O	1:C:453:ASN:ND2	2.30	0.63
2:G:30:ASP:OD1	2:G:35:ARG:CB	2.46	0.63
1:B:13:LEU:HD21	1:B:76:PHE:HD1	1.63	0.63
1:C:34:GLY:HA2	1:C:124:PRO:HB3	1.81	0.63
1:A:420:THR:O	1:A:453:ASN:ND2	2.31	0.63
2:G:355:ILE:O	2:G:359:LEU:HB2	1.98	0.63
1:A:93:ASN:HB3	1:A:94:PRO:HD3	1.81	0.63
2:E:153:VAL:HG21	2:E:435:VAL:HG21	1.81	0.63
2:F:242:ASN:OD1	3:F:501:ADP:O1A	2.17	0.63
2:G:340:GLN:HB3	2:G:375:ARG:HG2	1.81	0.63
2:H:268:GLU:O	2:H:272:GLU:HG3	1.99	0.63
2:G:2:LYS:O	2:G:67:ASP:N	2.22	0.63
2:G:319:LYS:HB2	2:G:326:VAL:HG21	1.81	0.63
2:H:10:GLN:HG3	2:H:74:ASN:HD21	1.62	0.63
2:E:9:GLY:O	2:E:35:ARG:NH2	2.32	0.62
2:E:62:GLY:HA3	2:E:90:PHE:CG	2.34	0.62
1:C:139:GLY:HA2	1:C:142:ILE:HD12	1.81	0.62
1:C:326:THR:HG23	1:C:328:PHE:H	1.62	0.62
1:C:406:TYR:OH	1:C:436:ASN:OD1	2.16	0.62
2:G:30:ASP:HB3	2:G:35:ARG:CA	2.22	0.62
2:G:7:GLY:O	2:G:30:ASP:OD2	2.17	0.62
1:A:20:THR:HB	1:A:133:PHE:CE2	2.34	0.62
2:F:261:GLU:OE1	2:F:263:ASP:N	2.27	0.62
2:E:300:VAL:HG22	2:E:325:LYS:HB3	1.81	0.62
2:G:234:ARG:HH11	2:G:234:ARG:HB2	1.64	0.62
2:H:47:VAL:HG13	2:H:48:VAL:CA	2.28	0.62
2:H:98:ARG:NH2	2:H:100:ARG:HD2	2.15	0.62
1:A:16:LEU:O	1:A:20:THR:HG23	2.00	0.62
2:H:236:MET:HE2	2:H:260:ILE:HD11	1.82	0.62
2:E:26:ILE:HD13	2:E:45:LEU:HD12	1.82	0.62
2:F:2:LYS:NZ	2:F:65:ASP:OD2	2.29	0.62
1:B:121:ASP:OD1	1:B:226:HIS:HA	2.00	0.61
2:G:149:ALA:N	2:G:382:GLU:OE2	2.23	0.61
2:H:415:ARG:HH22	2:H:428:ILE:HG22	1.64	0.61
2:F:166:LEU:HB3	2:F:202:ILE:HD11	1.80	0.61
2:H:410:ILE:HG12	2:H:436:MET:HG3	1.81	0.61
1:A:2:GLN:HE22	1:A:61:LYS:HA	1.65	0.61
1:A:67:ARG:HH21	1:C:376:VAL:HG21	1.65	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:H:33:ALA:HB1	2:H:37:ARG:HD3	1.82	0.61
2:H:28:ILE:CD1	2:H:43:TYR:HE2	2.01	0.61
2:H:431:ASP:N	2:H:431:ASP:OD1	2.32	0.61
1:D:466:PHE:CE1	1:D:474:LEU:HD22	2.35	0.61
1:B:367:GLN:HG3	1:B:400:TRP:HH2	1.64	0.61
1:D:153:LEU:HD11	1:D:472:PHE:HD2	1.66	0.61
1:C:93:ASN:HB3	1:C:94:PRO:HD3	1.81	0.61
2:E:333:GLY:HA2	2:E:336:VAL:HG12	1.81	0.61
2:F:315:ALA:HB1	2:F:326:VAL:HG13	1.82	0.61
2:F:234:ARG:HG3	2:F:298:VAL:HA	1.83	0.60
1:C:88:PHE:HB3	1:C:96:ILE:HD11	1.83	0.60
2:E:315:ALA:HB1	2:E:326:VAL:HG13	1.83	0.60
1:B:233:PHE:N	1:B:234:ASP:HA	2.16	0.60
2:E:336:VAL:HG23	2:E:347:ALA:HB3	1.82	0.60
2:F:112:PHE:HB2	2:F:117:ILE:HD11	1.82	0.60
1:D:218:ILE:HD11	1:D:245:PHE:HD2	1.67	0.60
2:E:6:LEU:O	2:E:8:ALA:N	2.29	0.60
2:E:261:GLU:O	2:E:282:GLY:N	2.34	0.60
1:C:142:ILE:HG12	1:C:468:ARG:NH1	2.12	0.60
1:C:230:MET:HE1	1:C:238:ILE:HG22	1.81	0.60
1:A:326:THR:HG23	1:A:328:PHE:H	1.64	0.60
2:F:22:GLU:OE1	2:F:22:GLU:N	2.33	0.60
2:F:423:HIS:O	2:F:426:THR:OG1	2.19	0.60
2:H:39:LEU:CD2	2:H:47:VAL:CG1	2.79	0.60
1:D:13:LEU:HD21	1:D:76:PHE:HD1	1.67	0.60
1:D:320:THR:HA	1:D:438:LEU:HD13	1.84	0.60
2:G:236:MET:HE2	2:G:260:ILE:HD11	1.83	0.60
2:G:415:ARG:CZ	2:G:429:GLU:OE2	2.50	0.59
2:E:91:ASN:OD1	2:E:93:PRO:HD3	2.01	0.59
2:E:58:LEU:HD13	2:E:86:ALA:HA	1.83	0.59
2:E:85:VAL:O	2:E:89:LEU:HB2	2.02	0.59
2:F:30:ASP:OD1	2:F:36:LEU:HB2	1.99	0.59
1:A:83:ALA:O	1:A:87:PRO:HD2	2.02	0.59
1:B:6:ILE:HG23	1:B:72:ILE:HD13	1.83	0.59
2:F:55:PRO:HB3	2:F:90:PHE:HE2	1.67	0.59
2:G:152:LYS:O	2:G:215:SER:N	2.31	0.59
1:B:460:LEU:O	1:B:464:MET:HG2	2.02	0.59
2:F:325:LYS:HA	2:F:345:ASP:OD2	2.03	0.59
2:G:333:GLY:HA2	2:G:336:VAL:HG12	1.83	0.59
1:B:378:PRO:O	1:D:394:ARG:NH2	2.35	0.59
1:C:469:LEU:HB3	1:C:473:THR:HB	1.85	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:E:73:THR:HG22	2:E:75:THR:H	1.68	0.59
2:E:184:ARG:NH2	2:E:422:ALA:O	2.36	0.59
2:H:428:ILE:HB	2:H:430:GLN:HG3	1.85	0.59
2:F:137:ILE:HG21	2:F:235:ILE:HD11	1.84	0.58
2:H:262:ARG:NH1	3:H:501:ADP:C2	2.70	0.58
1:D:345:ILE:HG22	1:D:361:ILE:HG13	1.85	0.58
1:A:177:ARG:HH12	2:H:25:ASP:CG	2.12	0.58
2:G:117:ILE:HG22	2:G:118:PRO:CD	2.32	0.58
1:B:218:ILE:O	1:B:249:SER:OG	2.21	0.58
1:B:326:THR:HG23	1:B:328:PHE:H	1.67	0.58
2:E:72:VAL:HA	2:E:98:ARG:HB3	1.86	0.58
2:F:39:LEU:HD12	2:F:45:LEU:CB	2.32	0.58
1:B:142:ILE:HG21	1:B:352:THR:HA	1.86	0.58
1:D:16:LEU:O	1:D:20:THR:HG23	2.03	0.58
2:E:143:LEU:HD11	2:E:159:LYS:HD2	1.84	0.58
2:F:67:ASP:O	2:F:93:PRO:HD2	2.02	0.58
2:F:268:GLU:O	2:F:272:GLU:HG3	2.02	0.58
2:H:10:GLN:NE2	2:H:74:ASN:OD1	2.34	0.58
2:H:424:ASP:O	2:H:426:THR:HG23	2.04	0.58
1:B:178:ILE:CG2	2:F:43:TYR:HE2	2.11	0.58
1:C:143:ILE:HG21	1:C:253:PHE:CD2	2.38	0.58
1:C:80:LEU:HB3	1:C:109:LEU:HD11	1.85	0.58
2:E:388:ASP:H	2:E:391:THR:HG22	1.69	0.58
2:H:39:LEU:HD23	2:H:47:VAL:HG11	1.86	0.58
2:E:415:ARG:NH2	2:E:427:VAL:O	2.37	0.57
2:F:183:THR:HA	2:F:213:ALA:HB2	1.86	0.57
1:B:476:ILE:HD11	1:D:375:LEU:HB3	1.85	0.57
2:F:242:ASN:N	3:F:501:ADP:O1A	2.34	0.57
2:H:102:PRO:O	2:H:106:ALA:N	2.37	0.57
1:A:319:THR:O	1:A:320:THR:HG22	2.04	0.57
2:H:399:ILE:HD12	2:H:426:THR:HG21	1.85	0.57
1:C:375:LEU:HG	1:C:376:VAL:HG12	1.86	0.57
2:E:58:LEU:O	2:E:62:GLY:N	2.26	0.57
1:D:340:LEU:HD22	1:D:442:LEU:HD22	1.87	0.57
2:H:29:VAL:CB	2:H:47:VAL:HG22	2.32	0.57
1:A:76:PHE:HE1	1:A:80:LEU:HD22	1.70	0.57
2:E:359:LEU:O	2:E:362:VAL:HG12	2.04	0.57
2:H:43:TYR:CG	2:H:44:ASP:N	2.72	0.57
1:A:76:PHE:CE1	1:A:80:LEU:HD22	2.38	0.57
2:G:268:GLU:O	2:G:272:GLU:HG3	2.04	0.57
2:G:340:GLN:O	2:G:375:ARG:HG2	2.04	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:28:ALA:CB	1:A:126:ALA:HB2	2.35	0.57
1:A:282:ILE:HD13	1:A:345:ILE:HD12	1.87	0.57
1:B:143:ILE:HG21	1:B:253:PHE:CD2	2.39	0.57
1:C:153:LEU:HD12	1:C:154:GLY:N	2.20	0.57
1:C:461:ILE:HA	1:C:464:MET:SD	2.45	0.57
1:A:460:LEU:O	1:A:464:MET:HG2	2.05	0.56
2:E:84:GLN:HE22	2:H:118:PRO:HG3	1.70	0.56
1:A:435:LEU:HD11	1:A:471:ILE:HD11	1.86	0.56
1:B:266:HIS:ND1	1:B:267:PRO:HD2	2.20	0.56
1:C:16:LEU:O	1:C:20:THR:HG23	2.05	0.56
2:E:8:ALA:C	2:E:35:ARG:HH22	2.13	0.56
2:E:101:SER:OG	2:E:104:TYR:HD2	1.88	0.56
2:H:4:ILE:HD12	2:H:61:ALA:HB2	1.87	0.56
2:H:111:LEU:O	2:H:114:SER:OG	2.23	0.56
1:B:7:ILE:HG22	1:B:53:CYS:HB3	1.88	0.56
2:E:4:ILE:HG23	2:E:69:LEU:HA	1.87	0.56
2:E:102:PRO:O	2:E:105:LEU:N	2.38	0.56
2:E:376:GLY:HA2	2:E:378:ALA:H	1.70	0.56
2:F:69:LEU:HB3	2:F:95:ARG:HA	1.87	0.56
2:G:26:ILE:CG1	2:G:45:LEU:HD21	1.98	0.56
2:H:3:ILE:HD12	2:H:26:ILE:HG13	1.86	0.56
2:H:36:LEU:HD12	2:H:47:VAL:CG1	2.18	0.56
2:H:327:MET:HA	2:H:346:VAL:O	2.05	0.56
2:E:224:GLU:OE1	2:E:227:ARG:NH2	2.38	0.56
2:H:11:VAL:O	2:H:14:THR:OG1	2.23	0.56
1:B:374:ARG:HH21	1:D:394:ARG:HD2	1.71	0.56
1:D:138:GLY:O	1:D:142:ILE:HG13	2.06	0.56
2:E:58:LEU:HB3	2:E:90:PHE:HE1	1.71	0.56
2:G:234:ARG:HB2	2:G:234:ARG:NH1	2.20	0.56
2:H:140:PRO:HG2	2:H:229:GLU:HB3	1.87	0.56
1:B:24:PRO:HB2	1:B:39:PHE:CE2	2.41	0.56
1:B:370:ARG:HH11	1:B:384:ILE:HG13	1.70	0.56
2:E:30:ASP:OD2	2:E:36:LEU:HG	2.05	0.56
2:E:129:VAL:O	2:E:133:ILE:HG13	2.06	0.56
2:F:62:GLY:HA3	2:F:66:ALA:HB2	1.88	0.56
2:H:27:THR:HG22	2:H:46:ARG:HG2	1.87	0.56
1:A:177:ARG:NH2	2:H:25:ASP:HB3	2.20	0.56
2:H:151:GLN:O	2:H:151:GLN:HG2	2.06	0.56
2:G:3:ILE:HG12	2:G:68:MET:HG2	1.87	0.56
2:H:100:ARG:HH12	2:H:127:GLU:CG	2.19	0.56
1:A:20:THR:HB	1:A:133:PHE:HE2	1.71	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:179:ALA:O	1:B:182:ALA:N	2.39	0.56
2:E:55:PRO:HD2	2:H:103:GLU:CD	2.31	0.56
2:G:100:ARG:HG3	2:G:100:ARG:O	2.06	0.56
1:D:214:SER:HA	1:D:217:THR:HG22	1.88	0.55
1:A:453:ASN:OD1	1:A:454:ASP:N	2.40	0.55
2:E:233:ARG:HG2	2:E:233:ARG:HH11	1.71	0.55
2:E:125:PRO:HD2	2:E:128:LEU:HD21	1.87	0.55
2:G:72:VAL:HG12	2:G:98:ARG:HB3	1.88	0.55
2:H:379:GLU:OE2	2:H:380:ALA:N	2.39	0.55
1:D:149:ILE:O	1:D:149:ILE:HD12	2.05	0.55
2:F:345:ASP:O	2:F:375:ARG:NH2	2.39	0.55
2:F:240:GLY:HA3	2:F:261:GLU:HG2	1.88	0.55
2:F:415:ARG:CZ	2:F:429:GLU:OE2	2.54	0.55
2:G:6:LEU:HD23	2:G:52:ALA:HB1	1.88	0.55
2:H:16:ALA:HB1	2:H:28:ILE:HG12	1.88	0.55
1:C:375:LEU:HG	1:C:376:VAL:N	2.21	0.55
2:H:315:ALA:HB1	2:H:326:VAL:HG13	1.87	0.55
1:C:174:MET:HB2	2:G:48:VAL:HG23	1.89	0.55
1:C:220:ILE:HD11	1:C:249:SER:HB3	1.89	0.55
1:C:367:GLN:HG3	1:C:400:TRP:CH2	2.42	0.55
2:H:27:THR:CG2	2:H:46:ARG:HG2	2.37	0.55
1:D:68:ASP:O	1:D:72:ILE:HG12	2.07	0.55
2:E:134:GLU:O	2:E:137:ILE:HG22	2.06	0.55
2:F:299:ASP:OD2	2:F:324:LYS:HE2	2.06	0.55
2:F:399:ILE:HG23	2:F:410:ILE:HD12	1.88	0.55
2:G:132:TYR:HD2	2:G:135:ARG:HH21	1.55	0.55
2:H:43:TYR:CD1	2:H:43:TYR:C	2.85	0.55
1:B:80:LEU:HB3	1:B:109:LEU:HD11	1.89	0.55
2:E:315:ALA:HB1	2:E:326:VAL:CG1	2.36	0.55
2:G:100:ARG:HD3	2:G:126:GLU:OE2	2.07	0.55
1:D:326:THR:HG23	1:D:328:PHE:H	1.72	0.54
2:E:10:GLN:H	2:E:10:GLN:CD	2.14	0.54
1:A:14:LEU:HD11	1:A:50:GLY:CA	2.37	0.54
2:G:399:ILE:HG23	2:G:410:ILE:HD12	1.90	0.54
1:B:37:VAL:O	1:B:41:THR:OG1	2.24	0.54
2:G:336:VAL:HG23	2:G:347:ALA:HB3	1.89	0.54
2:H:132:TYR:HE1	2:H:348:ILE:HG22	1.71	0.54
1:B:420:THR:O	1:B:453:ASN:ND2	2.40	0.54
1:D:335:LEU:O	1:D:339:LEU:HG	2.07	0.54
2:G:112:PHE:CE1	2:G:118:PRO:HG3	2.43	0.54
2:G:87:PHE:CB	2:G:119:VAL:HG21	2.37	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:18:SER:HB3	1:B:46:LEU:HB2	1.90	0.54
1:C:136:TRP:NE1	1:C:193:THR:HG21	2.22	0.54
2:G:69:LEU:O	2:G:96:VAL:N	2.41	0.54
1:A:15:ALA:O	1:A:18:SER:OG	2.21	0.54
2:E:355:ILE:O	2:E:359:LEU:HB3	2.08	0.54
2:H:340:GLN:NE2	2:H:347:ALA:N	2.55	0.54
1:C:153:LEU:HD12	1:C:154:GLY:H	1.73	0.54
1:D:469:LEU:HD23	1:D:474:LEU:HB2	1.89	0.54
2:H:166:LEU:HD22	2:H:174:LEU:HD21	1.90	0.54
1:B:128:LEU:O	1:B:132:GLN:HG2	2.08	0.54
1:B:453:ASN:OD1	1:B:454:ASP:N	2.41	0.54
2:E:58:LEU:HD12	2:E:85:VAL:HG12	1.89	0.54
1:A:28:ALA:HB2	1:A:126:ALA:CB	2.37	0.53
2:F:84:GLN:CD	2:G:117:ILE:HG13	2.33	0.53
2:E:30:ASP:CG	2:E:36:LEU:HG	2.33	0.53
1:B:15:ALA:O	1:B:18:SER:OG	2.20	0.53
1:C:476:ILE:O	1:C:479:THR:OG1	2.22	0.53
1:D:123:LEU:HB3	1:D:128:LEU:HD23	1.91	0.53
2:G:100:ARG:NH1	2:G:126:GLU:OE2	2.41	0.53
2:H:100:ARG:HH12	2:H:127:GLU:HG3	1.73	0.53
2:H:184:ARG:NH2	2:H:421:ILE:O	2.42	0.53
2:H:425:ARG:H	2:H:425:ARG:HD2	1.73	0.53
1:D:253:PHE:CE1	1:D:256:HIS:HD2	2.26	0.53
2:G:111:LEU:O	2:G:118:PRO:HG2	2.09	0.53
2:F:415:ARG:HD3	2:F:429:GLU:OE2	2.08	0.53
2:G:262:ARG:NH1	3:G:501:ADP:N7	2.57	0.53
1:D:8:ARG:NH1	1:D:59:ARG:O	2.42	0.53
2:F:2:LYS:N	2:F:24:ASN:HD21	2.06	0.53
2:F:261:GLU:CD	3:F:501:ADP:O2'	2.51	0.53
1:C:34:GLY:CA	1:C:124:PRO:HB3	2.39	0.53
1:A:17:PHE:O	1:A:21:MET:HG3	2.09	0.53
1:B:120:LEU:HD12	1:B:227:ASP:HA	1.91	0.53
2:H:43:TYR:CD1	2:H:44:ASP:N	2.77	0.53
1:D:150:LEU:N	1:D:151:PRO:HD3	2.23	0.52
1:A:3:PHE:CZ	1:A:4:ARG:HD3	2.44	0.52
1:D:103:PHE:CD2	1:D:457:LYS:HG2	2.44	0.52
2:E:6:LEU:HA	2:E:29:VAL:HG23	1.91	0.52
2:H:181:ILE:HG23	2:H:217:HIS:HB3	1.90	0.52
2:F:87:PHE:CD2	2:F:118:PRO:HG3	2.44	0.52
1:A:363:LEU:HD12	1:A:399:VAL:HG21	1.91	0.52
1:B:178:ILE:HG22	2:F:43:TYR:HE2	1.73	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:H:283:ASP:OD1	3:H:501:ADP:N6	2.42	0.52
1:A:394:ARG:NH2	1:C:378:PRO:O	2.31	0.52
1:B:283:GLN:HE22	1:B:319:THR:HG23	1.74	0.52
1:C:68:ASP:O	1:C:72:ILE:HG12	2.08	0.52
2:F:2:LYS:HD2	2:F:65:ASP:O	2.09	0.52
1:A:24:PRO:HB2	1:A:39:PHE:HE2	1.74	0.52
1:B:8:ARG:NH1	1:B:58:ARG:O	2.42	0.52
1:A:68:ASP:O	1:A:72:ILE:HG12	2.10	0.52
1:B:111:THR:HG22	1:B:221:GLY:HA2	1.90	0.52
1:C:243:VAL:HG13	1:C:315:VAL:HG21	1.91	0.52
1:C:345:ILE:CG2	1:C:361:ILE:HG13	2.38	0.52
2:G:232:TYR:CD1	2:G:299:ASP:HB3	2.42	0.52
2:H:299:ASP:OD2	2:H:324:LYS:HE2	2.10	0.52
2:F:335:TYR:O	2:F:339:VAL:HG22	2.10	0.52
2:G:355:ILE:HG23	2:G:359:LEU:HD22	1.92	0.52
1:B:218:ILE:HD11	1:B:245:PHE:HD2	1.74	0.52
2:F:22:GLU:HB3	2:F:367:ILE:HG12	1.91	0.52
2:F:315:ALA:HB1	2:F:326:VAL:CG1	2.39	0.52
1:D:93:ASN:HB3	1:D:94:PRO:HD3	1.91	0.52
1:D:453:ASN:OD1	1:D:454:ASP:N	2.42	0.52
2:E:72:VAL:HG13	2:E:98:ARG:HD2	1.92	0.52
2:F:336:VAL:O	2:F:340:GLN:HB2	2.09	0.52
2:H:84:GLN:CA	2:H:119:VAL:HG21	2.35	0.52
2:F:4:ILE:CD1	2:F:61:ALA:HB1	2.38	0.51
2:G:107:GLU:HB3	2:G:109:GLU:HG2	1.92	0.51
2:H:29:VAL:HA	2:H:47:VAL:HG21	1.78	0.51
1:A:23:ALA:HB3	1:A:24:PRO:HD2	1.91	0.51
1:C:297:HIS:ND1	1:C:332:PRO:HG3	2.25	0.51
2:G:351:GLN:OE1	2:G:352:GLN:N	2.44	0.51
2:H:118:PRO:C	2:H:119:VAL:HG22	2.35	0.51
2:E:217:HIS:O	2:E:221:VAL:HG13	2.11	0.51
2:H:5:ILE:HG12	2:H:28:ILE:HG23	1.92	0.51
2:H:105:LEU:O	2:H:108:LYS:HD2	2.09	0.51
1:A:143:ILE:HG21	1:A:253:PHE:CD2	2.46	0.51
1:A:177:ARG:HH22	2:H:25:ASP:CB	2.22	0.51
1:C:348:CYS:HA	1:C:358:VAL:HG12	1.91	0.51
2:H:112:PHE:CA	2:H:117:ILE:HG12	2.28	0.51
2:H:144:GLN:OE1	2:H:375:ARG:NH1	2.40	0.51
1:C:438:LEU:HG	1:C:440:PRO:HD2	1.92	0.51
2:G:111:LEU:HD12	2:G:117:ILE:HB	1.92	0.51
1:A:24:PRO:HB2	1:A:39:PHE:CE2	2.45	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:136:TRP:NE1	1:A:193:THR:HG21	2.21	0.51
1:A:147:VAL:HG11	1:A:185:LEU:HD11	1.93	0.51
1:B:33:ASP:OD2	1:B:125:LYS:HB2	2.11	0.51
1:C:37:VAL:N	1:C:38:PRO:HD2	2.26	0.51
1:C:367:GLN:HG3	1:C:400:TRP:HH2	1.76	0.51
2:E:36:LEU:HD21	2:E:47:VAL:CG1	2.31	0.51
2:E:61:ALA:O	2:E:64:GLN:O	2.29	0.51
2:H:426:THR:O	2:H:428:ILE:HG13	2.10	0.51
1:A:174:MET:SD	1:A:174:MET:C	2.94	0.51
1:D:220:ILE:HD11	1:D:249:SER:HB3	1.93	0.51
2:G:217:HIS:O	2:G:221:VAL:HG13	2.11	0.51
1:D:30:LEU:O	1:D:31:TYR:HD1	1.93	0.51
2:F:217:HIS:O	2:F:221:VAL:HG13	2.11	0.51
2:F:336:VAL:HG23	2:F:347:ALA:HB3	1.91	0.51
2:G:107:GLU:HB3	2:G:109:GLU:CG	2.41	0.51
2:H:46:ARG:HG3	2:H:47:VAL:H	1.76	0.51
2:H:67:ASP:O	2:H:94:ASN:HB2	2.10	0.51
1:A:443:GLY:O	1:A:446:ALA:HB2	2.11	0.50
1:B:106:PHE:O	1:B:110:THR:OG1	2.26	0.50
1:C:13:LEU:HD21	1:C:76:PHE:CD1	2.45	0.50
2:H:224:GLU:OE1	2:H:227:ARG:NH2	2.44	0.50
1:A:2:GLN:NE2	1:A:61:LYS:HA	2.26	0.50
1:D:353:GLY:O	1:D:468:ARG:NH2	2.29	0.50
2:G:375:ARG:HH11	2:G:376:GLY:H	1.59	0.50
2:H:146:VAL:CG1	2:H:374:ARG:HH12	2.22	0.50
1:A:25:ALA:HB2	1:A:39:PHE:HB3	1.94	0.50
2:F:117:ILE:HG13	2:F:117:ILE:O	2.11	0.50
2:H:108:LYS:HD3	2:H:109:GLU:N	2.26	0.50
1:A:143:ILE:HD12	1:A:144:VAL:N	2.26	0.50
1:B:348:CYS:HA	1:B:358:VAL:HG12	1.94	0.50
1:B:416:GLY:O	1:B:420:THR:HG23	2.12	0.50
1:C:315:VAL:O	1:C:319:THR:OG1	2.20	0.50
2:E:148:PHE:HB2	2:E:153:VAL:HG23	1.94	0.50
2:E:415:ARG:HH12	2:E:429:GLU:HG3	1.76	0.50
2:H:20:VAL:HA	2:H:26:ILE:HG12	1.93	0.50
2:H:70:VAL:HG12	2:H:72:VAL:HG23	1.92	0.50
1:B:103:PHE:CD2	1:B:457:LYS:HG2	2.46	0.50
1:B:178:ILE:HG22	2:F:43:TYR:CE2	2.40	0.50
2:E:365:ALA:HB3	2:E:370:VAL:HG11	1.94	0.50
2:G:39:LEU:CA	2:G:47:VAL:HG11	2.37	0.50
2:H:14:THR:HG21	2:H:351:GLN:CD	2.37	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:H:104:TYR:O	2:H:108:LYS:HB3	2.11	0.50
1:A:367:GLN:HG3	1:A:400:TRP:CH2	2.46	0.50
1:B:20:THR:HB	1:B:133:PHE:CE2	2.46	0.50
1:B:20:THR:HB	1:B:133:PHE:HE2	1.75	0.50
1:C:453:ASN:OD1	1:C:454:ASP:N	2.44	0.50
2:G:140:PRO:HA	2:G:232:TYR:HE2	1.77	0.50
2:H:425:ARG:H	2:H:425:ARG:CD	2.24	0.50
1:A:80:LEU:HB3	1:A:109:LEU:HD11	1.93	0.50
1:A:103:PHE:CD2	1:A:457:LYS:HG2	2.47	0.50
1:C:99:THR:HG23	1:C:458:TRP:CE2	2.47	0.50
2:E:335:TYR:CE1	2:G:313:MET:HB3	2.46	0.50
2:F:5:ILE:HA	2:F:70:VAL:HB	1.94	0.50
2:F:340:GLN:CD	2:F:375:ARG:HG2	2.36	0.50
2:E:93:PRO:HA	2:E:95:ARG:NH2	2.27	0.50
2:E:151:GLN:O	2:E:215:SER:OG	2.28	0.50
1:A:375:LEU:HB2	1:C:476:ILE:HD11	1.93	0.50
2:E:140:PRO:HA	2:E:232:TYR:CE2	2.47	0.50
1:A:144:VAL:O	1:A:148:ALA:HB3	2.12	0.49
1:A:243:VAL:HG13	1:A:315:VAL:HG21	1.94	0.49
2:E:40:GLN:HA	2:E:45:LEU:HD23	1.94	0.49
2:F:224:GLU:OE1	2:F:227:ARG:NH2	2.44	0.49
2:E:65:ASP:OD2	2:E:92:THR:HA	2.11	0.49
2:E:234:ARG:HD3	2:E:258:LYS:NZ	2.27	0.49
2:F:234:ARG:HD3	2:F:297:GLN:O	2.12	0.49
1:A:218:ILE:HD11	1:A:245:PHE:HD2	1.76	0.49
2:F:126:GLU:O	2:F:130:THR:OG1	2.29	0.49
2:G:234:ARG:HD3	2:G:258:LYS:NZ	2.27	0.49
2:H:95:ARG:H	2:H:95:ARG:CD	2.25	0.49
2:H:315:ALA:HB1	2:H:326:VAL:CG1	2.42	0.49
1:A:77:TRP:CD1	1:A:469:LEU:HD21	2.46	0.49
2:E:126:GLU:O	2:E:129:VAL:HG12	2.12	0.49
2:F:181:ILE:HG23	2:F:217:HIS:HB3	1.94	0.49
1:B:145:LEU:O	1:B:149:ILE:HG12	2.12	0.49
1:B:447:LEU:HD13	1:B:448:HIS:CG	2.48	0.49
2:E:96:VAL:HG22	2:E:122:LEU:HB3	1.94	0.49
1:A:21:MET:HE1	1:A:87:PRO:HG2	1.93	0.49
2:F:365:ALA:HB1	2:F:370:VAL:HG21	1.95	0.49
2:G:30:ASP:CB	2:G:35:ARG:CA	2.88	0.49
1:A:129:PHE:HB2	1:A:208:PHE:CZ	2.47	0.49
1:B:68:ASP:O	1:B:72:ILE:HG12	2.13	0.49
1:D:13:LEU:HD21	1:D:76:PHE:CD1	2.48	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:77:TRP:CD1	1:D:469:LEU:HD11	2.48	0.49
2:E:6:LEU:HA	2:E:29:VAL:CG2	2.43	0.49
2:E:167:VAL:HG23	2:E:204:GLU:HB3	1.94	0.49
2:E:283:ASP:OD1	3:E:501:ADP:N6	2.30	0.49
2:F:415:ARG:NH1	2:F:429:GLU:OE2	2.46	0.49
2:G:340:GLN:HB3	2:G:375:ARG:CG	2.43	0.49
2:G:340:GLN:C	2:G:375:ARG:HG2	2.38	0.49
2:H:91:ASN:O	2:H:91:ASN:ND2	2.44	0.49
1:C:28:ALA:HB2	1:C:126:ALA:HB2	1.95	0.49
2:E:65:ASP:OD2	2:E:93:PRO:HD2	2.13	0.49
1:A:255:LEU:HD21	1:A:270:TYR:HA	1.94	0.49
1:A:348:CYS:HA	1:A:358:VAL:HG12	1.95	0.49
1:C:75:LEU:O	1:C:79:VAL:HB	2.13	0.49
1:C:416:GLY:O	1:C:420:THR:HG23	2.13	0.49
1:D:460:LEU:O	1:D:464:MET:HG2	2.12	0.49
1:D:471:ILE:O	1:D:475:LEU:HD12	2.13	0.49
2:E:183:THR:HA	2:E:213:ALA:HB2	1.94	0.49
2:H:194:PRO:HG3	2:H:439:VAL:HG11	1.95	0.49
2:F:369:ASN:O	2:F:369:ASN:ND2	2.44	0.48
2:H:155:LEU:HD22	2:H:374:ARG:HH21	1.77	0.48
1:A:218:ILE:O	1:A:249:SER:OG	2.26	0.48
2:G:155:LEU:HD21	2:G:210:PHE:HD2	1.78	0.48
2:H:108:LYS:O	2:H:112:PHE:HB2	2.13	0.48
2:H:117:ILE:HD12	2:H:117:ILE:O	2.14	0.48
2:E:87:PHE:CB	2:E:119:VAL:HG11	2.43	0.48
1:A:371:GLU:HG2	1:C:398:ALA:HA	1.95	0.48
2:F:45:LEU:HD12	2:F:46:ARG:H	1.78	0.48
2:G:83:CYS:SG	2:G:95:ARG:HG3	2.54	0.48
2:G:137:ILE:HD13	2:G:300:VAL:HG21	1.94	0.48
2:H:217:HIS:O	2:H:221:VAL:HG13	2.14	0.48
2:H:261:GLU:OE2	3:H:501:ADP:H1'	2.13	0.48
1:B:438:LEU:HG	1:B:440:PRO:HD2	1.95	0.48
2:F:261:GLU:OE1	2:F:262:ARG:N	2.46	0.48
1:A:99:THR:HG23	1:A:458:TRP:CE2	2.48	0.48
2:E:118:PRO:O	2:E:119:VAL:HG12	2.13	0.48
2:E:365:ALA:HB1	2:E:370:VAL:HG21	1.96	0.48
2:F:112:PHE:CD2	2:F:119:VAL:HG11	2.49	0.48
2:H:7:GLY:CA	2:H:31:ASN:OD1	2.62	0.48
1:B:77:TRP:CD1	1:B:469:LEU:HD11	2.49	0.48
1:D:205:MET:HE2	1:D:232:TYR:OH	2.13	0.48
2:F:155:LEU:HD21	2:F:210:PHE:HD2	1.79	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:51:HIS:O	2:G:57:VAL:HG21	2.13	0.48
2:H:39:LEU:CD2	2:H:47:VAL:CB	2.91	0.48
2:E:102:PRO:O	2:E:105:LEU:HB2	2.14	0.48
2:F:359:LEU:HD12	2:F:363:ARG:HB3	1.95	0.48
2:G:84:GLN:NE2	2:G:85:VAL:HG23	2.28	0.48
2:H:27:THR:HA	2:H:46:ARG:HB3	1.96	0.48
1:C:89:LEU:HD21	1:C:98:VAL:HA	1.95	0.48
1:D:41:THR:O	1:D:45:VAL:HG23	2.14	0.48
1:D:396:VAL:HG12	1:D:400:TRP:CH2	2.49	0.48
2:E:232:TYR:CD1	2:E:299:ASP:HB3	2.48	0.48
2:E:415:ARG:HG3	2:E:432:ASP:OD2	2.13	0.48
2:G:375:ARG:HG3	2:G:376:GLY:N	2.29	0.48
1:C:396:VAL:HG12	1:C:400:TRP:CH2	2.49	0.48
2:F:288:GLU:OE1	2:H:42:LYS:HE3	2.14	0.48
1:A:291:PHE:CZ	1:A:295:LEU:HD11	2.49	0.47
1:A:370:ARG:HE	1:A:374:ARG:NH1	2.11	0.47
1:D:291:PHE:CZ	1:D:295:LEU:HD11	2.49	0.47
2:G:291:THR:HA	2:G:295:ILE:HG22	1.96	0.47
2:H:165:PRO:HD3	2:H:229:GLU:HG2	1.96	0.47
1:A:42:THR:HG21	1:A:87:PRO:HG3	1.96	0.47
1:B:464:MET:HG2	1:B:464:MET:H	1.55	0.47
2:E:70:VAL:HG12	2:E:72:VAL:HG23	1.96	0.47
2:F:108:LYS:HB2	2:F:112:PHE:CE1	2.49	0.47
2:H:237:ILE:HG22	2:H:239:GLY:H	1.79	0.47
1:A:4:ARG:HA	1:A:4:ARG:HD2	1.57	0.47
1:A:55:PHE:HB2	1:A:56:PRO:HD3	1.96	0.47
1:A:174:MET:SD	1:A:175:THR:N	2.87	0.47
1:B:41:THR:O	1:B:45:VAL:HG23	2.14	0.47
1:B:178:ILE:HD12	2:F:43:TYR:O	2.13	0.47
1:C:2:GLN:HA	1:C:2:GLN:OE1	2.14	0.47
2:E:113:LYS:HD2	2:E:114:SER:H	1.79	0.47
2:G:5:ILE:HA	2:G:70:VAL:O	2.14	0.47
2:H:374:ARG:HG2	2:H:374:ARG:NH1	2.26	0.47
1:B:446:ALA:HB3	1:B:447:LEU:C	2.40	0.47
2:E:68:MET:HA	2:E:94:ASN:HB2	1.96	0.47
2:H:43:TYR:OH	2:H:46:ARG:N	2.48	0.47
1:B:89:LEU:HD21	1:B:98:VAL:HA	1.96	0.47
1:D:177:ARG:HH21	2:E:25:ASP:HA	1.80	0.47
1:D:457:LYS:O	1:D:461:ILE:HG13	2.15	0.47
2:F:3:ILE:HG12	2:F:68:MET:HB2	1.96	0.47
2:G:233:ARG:HG3	2:G:233:ARG:HH11	1.80	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:H:155:LEU:HD22	2:H:374:ARG:NH2	2.28	0.47
1:A:123:LEU:HB3	1:A:128:LEU:HD23	1.96	0.47
1:B:220:ILE:HD11	1:B:249:SER:HB3	1.97	0.47
2:E:36:LEU:HA	2:E:36:LEU:HD23	1.41	0.47
2:G:299:ASP:OD2	2:G:324:LYS:HE2	2.14	0.47
2:H:14:THR:O	2:H:17:GLU:HG2	2.14	0.47
2:H:128:LEU:HD12	2:H:128:LEU:HA	1.77	0.47
1:A:2:GLN:OE1	1:A:61:LYS:HA	2.14	0.47
1:A:4:ARG:NE	1:A:7:ILE:HD11	2.29	0.47
1:A:18:SER:HB2	1:A:43:PHE:CD2	2.50	0.47
1:B:2:GLN:HG3	1:B:5:SER:HB3	1.97	0.47
1:B:291:PHE:CZ	1:B:295:LEU:HD11	2.50	0.47
1:D:225:THR:HG23	1:D:226:HIS:CE1	2.49	0.47
2:G:5:ILE:HG22	2:G:70:VAL:HB	1.96	0.47
2:G:153:VAL:HG21	2:G:435:VAL:HG21	1.97	0.47
2:H:58:LEU:HB2	2:H:90:PHE:HE2	1.79	0.47
2:H:333:GLY:HA2	2:H:336:VAL:HG12	1.96	0.47
1:B:93:ASN:HB3	1:B:94:PRO:HD3	1.97	0.47
1:B:283:GLN:NE2	1:B:319:THR:HG23	2.30	0.47
1:C:103:PHE:CD2	1:C:457:LYS:HG2	2.50	0.47
2:H:415:ARG:NH2	2:H:428:ILE:HG22	2.30	0.47
1:A:373:LYS:HG2	1:A:382:TYR:CZ	2.50	0.47
1:C:268:LYS:HA	1:C:268:LYS:HD3	1.79	0.47
2:G:182:ASP:HB3	2:G:421:ILE:HD13	1.96	0.47
2:E:5:ILE:HG22	2:E:70:VAL:HB	1.97	0.47
2:E:73:THR:HB	2:E:79:ASN:HB2	1.97	0.47
2:G:362:VAL:HG12	2:G:363:ARG:HG2	1.97	0.47
2:H:136:LEU:O	2:H:325:LYS:NZ	2.41	0.47
1:B:183:LYS:HA	1:B:183:LYS:HD3	1.73	0.46
2:F:236:MET:HE2	2:F:260:ILE:HD11	1.97	0.46
2:F:319:LYS:HB2	2:F:326:VAL:HG21	1.96	0.46
2:F:335:TYR:CE1	2:H:313:MET:HB3	2.50	0.46
2:H:108:LYS:HB2	2:H:112:PHE:CD1	2.50	0.46
1:A:465:LEU:HD23	1:A:465:LEU:HA	1.82	0.46
1:C:457:LYS:O	1:C:461:ILE:HG13	2.16	0.46
1:B:236:TYR:OH	1:B:305:ASP:OD1	2.21	0.46
2:F:343:VAL:O	2:F:344:ILE:HD13	2.15	0.46
2:G:120:ASP:OD1	2:G:122:LEU:N	2.48	0.46
1:A:22:LEU:HG	1:A:43:PHE:CD2	2.51	0.46
1:A:396:VAL:HG12	1:A:400:TRP:CH2	2.50	0.46
2:G:295:ILE:O	2:G:298:VAL:HG12	2.16	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:H:348:ILE:HG13	2:H:348:ILE:O	2.15	0.46
1:B:457:LYS:O	1:B:461:ILE:HG13	2.15	0.46
1:C:6:ILE:HG23	1:C:72:ILE:HD13	1.98	0.46
1:C:111:THR:OG1	1:C:142:ILE:HD11	2.16	0.46
1:D:43:PHE:C	1:D:43:PHE:CD2	2.93	0.46
2:G:73:THR:OG1	2:G:75:THR:O	2.33	0.46
2:H:101:SER:OG	2:H:104:TYR:HD2	1.97	0.46
1:B:88:PHE:HB3	1:B:96:ILE:HD11	1.97	0.46
1:C:41:THR:O	1:C:45:VAL:HG23	2.15	0.46
1:D:117:ILE:HG13	1:D:120:LEU:HD21	1.97	0.46
2:E:172:SER:HB3	2:E:175:ARG:HH21	1.81	0.46
1:A:43:PHE:CD1	1:A:43:PHE:C	2.94	0.46
1:A:145:LEU:O	1:A:149:ILE:N	2.47	0.46
1:B:149:ILE:HG13	1:B:149:ILE:O	2.16	0.46
2:H:32:ASN:HB3	2:H:33:ALA:H	1.54	0.46
2:H:261:GLU:OE1	2:H:263:ASP:N	2.30	0.46
1:A:7:ILE:HG22	1:A:53:CYS:O	2.16	0.46
1:B:128:LEU:HA	1:B:131:ARG:HD3	1.98	0.46
2:E:164:GLY:O	2:E:167:VAL:HG12	2.16	0.46
2:G:39:LEU:CB	2:G:47:VAL:CG2	2.91	0.46
2:G:261:GLU:OE1	2:G:262:ARG:N	2.49	0.46
2:H:340:GLN:CG	2:H:375:ARG:HD2	2.44	0.46
1:A:300:TYR:HD2	1:A:306:ALA:HA	1.81	0.46
2:F:5:ILE:HG12	2:F:28:ILE:HG22	1.97	0.46
2:F:10:GLN:CD	2:F:10:GLN:H	2.23	0.46
2:H:47:VAL:HG12	2:H:48:VAL:N	2.18	0.46
1:A:370:ARG:HH21	1:A:374:ARG:NH1	2.08	0.46
1:B:232:TYR:HA	1:B:233:PHE:HA	1.73	0.46
1:D:294:LEU:HD13	1:D:335:LEU:HD12	1.98	0.46
1:D:337:VAL:O	1:D:341:PHE:HD2	1.99	0.46
2:E:125:PRO:HD2	2:E:128:LEU:CD2	2.45	0.46
2:H:415:ARG:NH1	2:H:429:GLU:H	2.14	0.46
1:B:55:PHE:CD1	1:B:56:PRO:HD3	2.51	0.45
1:B:367:GLN:HG2	1:B:384:ILE:HD11	1.97	0.45
2:F:7:GLY:HA2	2:F:72:VAL:O	2.15	0.45
2:H:36:LEU:N	2:H:36:LEU:HD13	2.30	0.45
2:H:149:ALA:O	2:H:152:LYS:HB2	2.16	0.45
1:B:181:THR:O	1:B:185:LEU:HG	2.16	0.45
1:D:99:THR:HG23	1:D:458:TRP:CE2	2.50	0.45
1:D:145:LEU:O	1:D:149:ILE:HG13	2.16	0.45
1:D:416:GLY:O	1:D:420:THR:HG23	2.16	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:E:135:ARG:HG2	2:E:135:ARG:HH11	1.81	0.45
2:F:30:ASP:OD1	2:F:36:LEU:CB	2.54	0.45
2:F:137:ILE:HD11	2:F:302:ILE:HD11	1.96	0.45
1:B:363:LEU:HD12	1:B:399:VAL:HG21	1.99	0.45
1:C:111:THR:HG22	1:C:221:GLY:HA2	1.97	0.45
1:C:319:THR:O	1:C:320:THR:HG22	2.16	0.45
2:E:87:PHE:HA	2:E:90:PHE:O	2.15	0.45
2:F:39:LEU:HD12	2:F:45:LEU:CD2	2.46	0.45
2:F:415:ARG:HE	2:F:415:ARG:HB2	1.65	0.45
2:G:112:PHE:CE2	2:G:123:ILE:HG21	2.51	0.45
1:B:136:TRP:NE1	1:B:193:THR:HG21	2.26	0.45
1:B:400:TRP:HD1	1:B:403:PHE:HD2	1.64	0.45
1:D:88:PHE:HB3	1:D:96:ILE:HD11	1.99	0.45
1:D:174:MET:HA	2:E:48:VAL:HA	1.97	0.45
2:E:413:VAL:HB	2:E:420:LEU:CD1	2.47	0.45
2:F:55:PRO:HB3	2:F:90:PHE:CE2	2.49	0.45
2:G:374:ARG:HH11	2:G:374:ARG:HG3	1.79	0.45
2:G:405:PRO:HG2	2:G:447:VAL:HG22	1.98	0.45
2:H:100:ARG:NH1	2:H:127:GLU:CD	2.73	0.45
1:A:79:VAL:HG12	1:A:80:LEU:HD12	1.97	0.45
1:A:118:VAL:HB	1:A:448:HIS:CD2	2.52	0.45
1:D:445:VAL:HG12	1:D:445:VAL:O	2.17	0.45
2:F:52:ALA:HA	2:F:53:SER:HA	1.59	0.45
2:G:112:PHE:CD1	2:G:118:PRO:HG3	2.52	0.45
2:G:415:ARG:HD3	2:G:429:GLU:OE2	2.17	0.45
2:H:5:ILE:HG22	2:H:70:VAL:HB	1.98	0.45
1:C:183:LYS:HA	1:C:183:LYS:HD3	1.72	0.45
2:F:167:VAL:CG2	2:F:204:GLU:HB3	2.47	0.45
2:H:373:LEU:HD21	2:H:379:GLU:HG2	1.99	0.45
1:A:367:GLN:HG2	1:A:384:ILE:HD11	1.99	0.45
1:A:268:LYS:HA	1:A:268:LYS:HD3	1.75	0.45
1:D:111:THR:HG22	1:D:221:GLY:HA2	1.99	0.45
1:D:255:LEU:HD21	1:D:270:TYR:HA	1.98	0.45
1:D:367:GLN:HG3	1:D:400:TRP:CZ2	2.51	0.45
2:E:195:ILE:O	2:E:197:PRO:HD3	2.17	0.45
2:G:415:ARG:NH1	2:G:429:GLU:OE2	2.50	0.45
1:A:17:PHE:HZ	1:A:134:LEU:HD21	1.82	0.45
2:G:8:ALA:CA	2:G:30:ASP:OD1	2.61	0.45
2:H:67:ASP:O	2:H:94:ASN:ND2	2.45	0.45
1:B:28:ALA:O	1:B:32:ARG:HD2	2.17	0.45
1:C:149:ILE:HG13	1:C:149:ILE:O	2.15	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:363:LEU:HD12	1:C:399:VAL:HG21	1.98	0.45
2:E:87:PHE:CD2	2:E:119:VAL:HG11	2.52	0.45
2:F:384:VAL:HG22	2:F:433:HIS:HD1	1.82	0.45
1:A:80:LEU:HD23	1:A:137:PHE:CE2	2.52	0.44
2:E:31:ASN:OD1	2:E:31:ASN:N	2.49	0.44
2:E:150:GLU:OE2	2:E:363:ARG:O	2.34	0.44
2:G:121:HIS:ND1	2:G:122:LEU:HB2	2.31	0.44
2:G:155:LEU:HA	2:G:211:PHE:O	2.17	0.44
2:G:387:GLY:O	2:G:430:GLN:NE2	2.49	0.44
2:H:5:ILE:CG1	2:H:28:ILE:HG23	2.47	0.44
1:A:181:THR:O	1:A:185:LEU:HG	2.17	0.44
1:B:21:MET:HE1	1:B:130:TYR:CE1	2.53	0.44
1:D:153:LEU:HD11	1:D:472:PHE:CD2	2.51	0.44
2:F:6:LEU:HG	2:F:29:VAL:HG21	1.99	0.44
2:F:123:ILE:O	2:F:125:PRO:HD3	2.16	0.44
2:F:305:THR:HG23	3:F:501:ADP:C8	2.53	0.44
2:H:238:VAL:HA	2:H:260:ILE:HB	2.00	0.44
1:A:89:LEU:HD21	1:A:98:VAL:HA	2.00	0.44
1:A:205:MET:HE2	1:A:233:PHE:CG	2.51	0.44
1:C:471:ILE:O	1:C:475:LEU:HB2	2.17	0.44
2:E:5:ILE:O	2:E:29:VAL:HG22	2.17	0.44
2:F:84:GLN:OE1	2:F:117:ILE:HG22	2.17	0.44
2:F:374:ARG:HB3	2:F:375:ARG:H	1.68	0.44
2:G:111:LEU:C	2:G:118:PRO:HG2	2.42	0.44
2:H:30:ASP:C	2:H:35:ARG:CB	2.90	0.44
2:H:89:LEU:HB3	2:H:90:PHE:CD1	2.52	0.44
1:A:299:SER:OG	1:A:330:ASP:O	2.33	0.44
1:D:75:LEU:O	1:D:79:VAL:HB	2.17	0.44
2:F:19:LEU:HD12	2:F:20:VAL:HG13	1.98	0.44
2:G:224:GLU:OE1	2:G:227:ARG:NH2	2.51	0.44
2:H:59:HIS:O	2:H:59:HIS:ND1	2.45	0.44
2:G:300:VAL:HG22	2:G:325:LYS:HB3	2.00	0.44
2:H:118:PRO:C	2:H:119:VAL:CG2	2.91	0.44
2:H:373:LEU:HA	2:H:373:LEU:HD23	1.49	0.44
1:C:282:ILE:HD13	1:C:345:ILE:HD12	2.00	0.44
1:D:181:THR:HG22	1:D:257:PHE:CE2	2.52	0.44
2:E:6:LEU:HD13	2:E:52:ALA:HB1	2.00	0.44
2:E:335:TYR:O	2:E:339:VAL:HG22	2.17	0.44
2:E:365:ALA:O	2:E:366:ASP:OD1	2.36	0.44
2:F:43:TYR:CD2	2:F:43:TYR:O	2.70	0.44
2:F:317:LEU:HA	2:H:338:LEU:HD11	2.00	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:F:388:ASP:H	2:F:391:THR:CG2	2.31	0.44
2:G:59:HIS:HA	2:G:90:PHE:CE2	2.53	0.44
2:H:379:GLU:HB3	2:H:438:LEU:HB2	1.99	0.44
2:H:398:ALA:O	2:H:402:ILE:HG12	2.18	0.44
1:A:457:LYS:O	1:A:461:ILE:HG13	2.18	0.44
1:D:134:LEU:HD23	1:D:134:LEU:HA	1.84	0.44
2:E:167:VAL:CG2	2:E:204:GLU:HB3	2.48	0.44
2:F:335:TYR:CZ	2:H:313:MET:HB3	2.53	0.44
2:G:10:GLN:H	2:G:10:GLN:CD	2.25	0.44
2:G:71:ALA:O	2:G:97:ALA:HA	2.18	0.44
2:H:197:PRO:O	2:H:200:THR:HG22	2.18	0.44
1:C:294:LEU:HD13	1:C:335:LEU:HD12	1.99	0.44
2:H:53:SER:OG	2:H:82:ALA:HA	2.18	0.44
2:E:295:ILE:O	2:E:298:VAL:HG12	2.18	0.44
2:E:300:VAL:HA	2:E:325:LYS:O	2.18	0.44
2:G:123:ILE:O	2:G:123:ILE:HD12	2.18	0.44
2:G:369:ASN:ND2	2:G:369:ASN:O	2.50	0.44
2:H:206:ASP:OD1	2:H:206:ASP:N	2.51	0.44
1:B:181:THR:HG22	1:B:257:PHE:HE2	1.83	0.43
1:C:23:ALA:HB3	1:C:24:PRO:HD3	1.99	0.43
1:D:117:ILE:HG13	1:D:120:LEU:CD2	2.48	0.43
2:G:101:SER:OG	2:G:104:TYR:HD2	2.01	0.43
1:A:441:GLY:O	1:A:446:ALA:HA	2.18	0.43
1:A:464:MET:HG2	1:A:464:MET:H	1.59	0.43
1:C:84:GLY:O	1:C:130:TYR:OH	2.35	0.43
2:E:76:ASP:O	2:E:80:MET:HG3	2.17	0.43
2:G:125:PRO:O	2:G:129:VAL:HG22	2.18	0.43
1:A:205:MET:HE3	1:A:205:MET:HB2	1.91	0.43
1:B:121:ASP:OD2	1:B:232:TYR:OH	2.24	0.43
1:B:134:LEU:HD23	1:B:134:LEU:HA	1.89	0.43
1:B:353:GLY:O	1:B:357:LYS:NZ	2.47	0.43
2:E:151:GLN:OE1	2:E:219:ARG:NH2	2.51	0.43
2:F:39:LEU:HD13	2:F:39:LEU:O	2.18	0.43
2:G:86:ALA:HB1	2:G:92:THR:HG21	2.01	0.43
2:G:108:LYS:HB3	2:G:112:PHE:HB2	2.00	0.43
2:H:86:ALA:O	2:H:91:ASN:N	2.51	0.43
2:H:97:ALA:HB2	2:H:120:ASP:CG	2.44	0.43
2:H:130:THR:HG23	2:H:247:LEU:HD13	2.00	0.43
1:D:89:LEU:HD21	1:D:98:VAL:HA	2.01	0.43
2:G:134:GLU:HA	2:G:137:ILE:HG22	2.00	0.43
2:H:29:VAL:HG11	2:H:48:VAL:HG21	1.99	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:243:VAL:HG13	1:B:315:VAL:HG21	2.00	0.43
2:E:103:GLU:OE1	2:H:55:PRO:HD2	2.17	0.43
2:G:87:PHE:HB3	2:G:119:VAL:HG21	1.99	0.43
2:G:374:ARG:HG3	2:G:374:ARG:NH1	2.34	0.43
1:C:174:MET:HE2	2:G:48:VAL:HG23	2.01	0.43
1:D:30:LEU:C	1:D:31:TYR:HD1	2.26	0.43
1:D:476:ILE:O	1:D:479:THR:OG1	2.28	0.43
2:E:2:LYS:HD3	2:E:64:GLN:HE22	1.84	0.43
2:E:261:GLU:OE1	2:E:263:ASP:N	2.34	0.43
2:F:232:TYR:N	2:F:232:TYR:CD1	2.87	0.43
2:H:250:ARG:HE	2:H:250:ARG:HB2	1.71	0.43
1:B:178:ILE:HG21	2:F:43:TYR:O	2.18	0.43
1:B:445:VAL:O	1:B:449:PHE:HA	2.18	0.43
1:C:218:ILE:O	1:C:249:SER:OG	2.24	0.43
1:C:438:LEU:HB3	1:C:439:GLY:CA	2.42	0.43
1:D:297:HIS:ND1	1:D:332:PRO:HG3	2.34	0.43
2:G:28:ILE:HG23	2:G:45:LEU:HD13	2.00	0.43
2:H:430:GLN:O	2:H:430:GLN:OE1	2.37	0.43
1:C:117:ILE:HD11	1:C:131:ARG:NE	2.34	0.43
1:C:369:ALA:O	1:C:373:LYS:HG3	2.18	0.43
2:E:58:LEU:HD23	2:E:58:LEU:HA	1.81	0.43
2:E:238:VAL:HG12	2:E:260:ILE:HB	2.00	0.43
2:F:76:ASP:O	2:F:80:MET:HG3	2.19	0.43
2:G:375:ARG:HD2	2:G:376:GLY:H	1.83	0.43
2:H:58:LEU:HB2	2:H:90:PHE:CE2	2.54	0.43
2:H:295:ILE:O	2:H:298:VAL:HG12	2.19	0.43
1:A:6:ILE:HG23	1:A:72:ILE:HD12	2.00	0.43
1:D:61:LYS:HE3	1:D:61:LYS:HB2	1.89	0.43
2:E:6:LEU:HD22	2:E:29:VAL:CG2	2.48	0.43
2:F:167:VAL:HG23	2:F:204:GLU:HB3	2.01	0.43
2:H:16:ALA:CB	2:H:28:ILE:HG12	2.48	0.43
2:H:113:LYS:HB2	2:H:113:LYS:HE2	1.86	0.43
2:H:379:GLU:CB	2:H:438:LEU:HB2	2.49	0.43
1:A:6:ILE:HG12	1:A:72:ILE:HD11	2.01	0.43
1:B:430:ALA:HB1	1:B:460:LEU:HD21	2.01	0.43
1:C:253:PHE:N	1:C:350:GLY:O	2.34	0.43
1:D:348:CYS:HA	1:D:358:VAL:HG12	2.00	0.43
1:D:371:GLU:O	1:D:375:LEU:HD13	2.19	0.43
2:F:215:SER:O	2:F:219:ARG:HG3	2.18	0.43
2:F:371:SER:HA	2:F:381:ILE:HA	2.00	0.43
2:G:5:ILE:O	2:G:29:VAL:HG22	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:73:THR:OG1	2:G:79:ASN:HB2	2.19	0.43
2:H:76:ASP:OD1	2:H:76:ASP:N	2.50	0.43
2:H:90:PHE:CD1	2:H:90:PHE:N	2.87	0.43
2:H:340:GLN:HG3	2:H:344:ILE:O	2.18	0.43
2:H:367:ILE:HG22	2:H:368:VAL:N	2.34	0.43
1:A:48:PHE:CD1	1:A:48:PHE:C	2.96	0.42
2:F:28:ILE:HD13	2:F:45:LEU:HD21	2.01	0.42
2:F:170:ALA:HA	2:F:201:THR:HA	2.01	0.42
2:G:59:HIS:O	2:G:59:HIS:ND1	2.46	0.42
2:G:134:GLU:O	2:G:138:GLN:HB2	2.19	0.42
2:G:177:HIS:O	2:G:177:HIS:ND1	2.51	0.42
2:G:233:ARG:HA	2:G:233:ARG:HD2	1.88	0.42
1:B:150:LEU:N	1:B:151:PRO:CD	2.82	0.42
1:B:320:THR:HG21	1:B:354:GLY:N	2.34	0.42
2:E:26:ILE:HD12	2:E:26:ILE:O	2.18	0.42
2:E:167:VAL:HG23	2:E:204:GLU:CB	2.49	0.42
2:F:368:VAL:O	2:F:384:VAL:HG23	2.19	0.42
2:G:70:VAL:HA	2:G:96:VAL:HB	2.01	0.42
1:A:18:SER:O	1:A:43:PHE:HD2	2.02	0.42
2:E:120:ASP:OD2	2:E:123:ILE:HG22	2.19	0.42
2:E:122:LEU:HD13	2:E:123:ILE:N	2.35	0.42
2:F:51:HIS:CD2	2:F:52:ALA:H	2.37	0.42
2:F:140:PRO:HG2	2:F:229:GLU:HB3	2.02	0.42
1:A:41:THR:O	1:A:45:VAL:HG23	2.19	0.42
1:B:174:MET:HG3	1:B:176:PRO:HG3	2.00	0.42
1:D:92:ASP:OD1	1:D:92:ASP:N	2.51	0.42
2:G:31:ASN:N	2:G:35:ARG:CB	2.82	0.42
2:G:261:GLU:O	2:G:282:GLY:N	2.48	0.42
2:H:96:VAL:HG23	2:H:122:LEU:HG	2.02	0.42
1:A:3:PHE:CE1	1:A:4:ARG:HD3	2.53	0.42
1:B:181:THR:HG22	1:B:257:PHE:CE2	2.54	0.42
1:D:17:PHE:HZ	1:D:134:LEU:HD21	1.84	0.42
1:D:275:GLU:CD	1:D:348:CYS:HB3	2.45	0.42
1:D:455:LYS:H	1:D:455:LYS:HG3	1.63	0.42
2:F:153:VAL:HG11	2:F:435:VAL:HG21	2.02	0.42
2:G:28:ILE:HD11	2:G:39:LEU:HA	2.02	0.42
2:G:167:VAL:CG2	2:G:204:GLU:HB3	2.49	0.42
2:H:39:LEU:HD22	2:H:47:VAL:HG21	2.00	0.42
1:A:430:ALA:HB1	1:A:460:LEU:HD21	2.00	0.42
2:E:71:ALA:C	2:E:79:ASN:HD21	2.27	0.42
2:E:117:ILE:CG2	2:H:118:PRO:HB3	2.48	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:E:366:ASP:HA	2:E:384:VAL:HG21	2.00	0.42
2:H:4:ILE:CD1	2:H:61:ALA:HB2	2.49	0.42
1:B:275:GLU:HG3	1:B:358:VAL:HG13	2.02	0.42
1:C:21:MET:HE2	1:C:21:MET:HA	2.02	0.42
1:C:446:ALA:HA	1:C:447:LEU:HA	1.62	0.42
2:F:177:HIS:O	2:F:177:HIS:ND1	2.52	0.42
2:F:295:ILE:O	2:F:298:VAL:HG12	2.20	0.42
2:G:143:LEU:HD23	2:G:345:ASP:O	2.20	0.42
2:G:151:GLN:O	2:G:215:SER:OG	2.33	0.42
1:A:2:GLN:O	1:A:2:GLN:HG2	2.20	0.42
2:E:14:THR:HG22	2:E:355:ILE:HD12	2.01	0.42
2:F:39:LEU:HA	2:F:39:LEU:HD22	1.39	0.42
1:A:150:LEU:N	1:A:151:PRO:CD	2.82	0.42
1:B:178:ILE:HD12	2:F:43:TYR:HD2	1.85	0.42
1:A:20:THR:HB	1:A:133:PHE:CZ	2.55	0.42
1:A:111:THR:HG22	1:A:221:GLY:HA2	2.01	0.42
1:C:343:SER:OG	1:C:436:ASN:ND2	2.46	0.42
1:C:391:LEU:HD23	1:C:391:LEU:HA	1.85	0.42
2:E:26:ILE:HD13	2:E:45:LEU:CD1	2.50	0.42
2:G:152:LYS:O	2:G:214:ALA:HA	2.19	0.42
2:G:340:GLN:CB	2:G:375:ARG:HG2	2.50	0.42
2:H:305:THR:HG23	3:H:501:ADP:C4	2.55	0.42
1:A:121:ASP:OD1	1:A:226:HIS:ND1	2.49	0.41
1:A:374:ARG:HG2	1:A:374:ARG:O	2.19	0.41
1:B:282:ILE:HD13	1:B:345:ILE:HD12	2.02	0.41
2:E:40:GLN:HA	2:E:45:LEU:CD2	2.50	0.41
2:H:89:LEU:HB3	2:H:90:PHE:CE1	2.55	0.41
1:A:183:LYS:HA	1:A:183:LYS:HD3	1.73	0.41
1:D:317:ILE:HG21	1:D:339:LEU:HB3	2.02	0.41
2:E:14:THR:HG22	2:E:355:ILE:CD1	2.50	0.41
2:F:19:LEU:CD1	2:F:20:VAL:HG13	2.50	0.41
2:G:237:ILE:HG22	2:G:239:GLY:H	1.86	0.41
1:A:441:GLY:O	1:A:445:VAL:O	2.39	0.41
1:C:123:LEU:HB3	1:C:128:LEU:HD23	2.03	0.41
1:D:80:LEU:HB3	1:D:109:LEU:HD11	2.02	0.41
1:D:108:ALA:HB2	1:D:223:PHE:HE2	1.85	0.41
1:D:177:ARG:HB2	1:D:180:GLU:CD	2.45	0.41
2:E:68:MET:HA	2:E:94:ASN:CB	2.50	0.41
2:E:148:PHE:HB2	2:E:153:VAL:CG2	2.50	0.41
2:F:36:LEU:HD22	2:F:47:VAL:CG2	2.18	0.41
2:G:117:ILE:HD13	2:G:117:ILE:HG21	1.78	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:363:ARG:O	2:G:364:ARG:HG2	2.20	0.41
2:H:261:GLU:OE1	2:H:262:ARG:N	2.54	0.41
1:B:75:LEU:O	1:B:79:VAL:HB	2.21	0.41
1:B:375:LEU:CB	1:D:476:ILE:HD11	2.51	0.41
1:C:224:SER:HB3	1:C:229:SER:HA	2.02	0.41
1:D:74:VAL:O	1:D:78:THR:OG1	2.30	0.41
1:D:197:ALA:N	1:D:214:SER:OG	2.52	0.41
1:D:201:TRP:CE3	1:D:202:LEU:HD12	2.55	0.41
1:D:243:VAL:HG13	1:D:315:VAL:HG21	2.01	0.41
1:D:287:PHE:CE1	1:D:311:LEU:HB2	2.55	0.41
2:E:40:GLN:NE2	2:E:45:LEU:HD23	2.36	0.41
2:E:47:VAL:HG12	2:E:48:VAL:N	2.35	0.41
2:G:183:THR:HA	2:G:213:ALA:HB2	2.03	0.41
2:G:336:VAL:O	2:G:375:ARG:HD3	2.21	0.41
2:H:36:LEU:CD1	2:H:36:LEU:N	2.84	0.41
2:H:204:GLU:OE1	2:H:204:GLU:N	2.27	0.41
1:A:374:ARG:HD3	1:C:394:ARG:CZ	2.50	0.41
1:C:20:THR:HB	1:C:133:PHE:CE2	2.55	0.41
1:D:218:ILE:O	1:D:249:SER:OG	2.30	0.41
2:G:129:VAL:CG2	2:G:354:THR:HG22	2.47	0.41
2:G:166:LEU:HD22	2:G:174:LEU:HD21	2.01	0.41
1:A:84:GLY:HA2	1:A:130:TYR:OH	2.20	0.41
1:B:73:VAL:O	1:B:77:TRP:HD1	2.04	0.41
2:E:141:GLY:O	2:E:158:VAL:HA	2.20	0.41
2:E:151:GLN:HB2	2:E:360:THR:CG2	2.50	0.41
2:F:40:GLN:HA	2:F:40:GLN:OE1	2.21	0.41
2:F:59:HIS:HB2	2:F:90:PHE:CE1	2.55	0.41
2:H:36:LEU:HD12	2:H:36:LEU:HA	1.73	0.41
2:H:69:LEU:O	2:H:96:VAL:HG12	2.20	0.41
2:H:330:ILE:HG22	2:H:332:ARG:H	1.86	0.41
1:A:139:GLY:O	1:A:143:ILE:HG13	2.21	0.41
1:B:398:ALA:HA	1:D:371:GLU:HG2	2.03	0.41
1:C:175:THR:O	2:G:46:ARG:HB2	2.20	0.41
2:E:6:LEU:O	2:E:72:VAL:O	2.39	0.41
2:E:53:SER:HB3	2:E:82:ALA:CB	2.48	0.41
2:E:295:ILE:HD12	2:E:298:VAL:HG11	2.02	0.41
3:F:501:ADP:C5'	3:F:501:ADP:O3B	2.69	0.41
1:A:376:VAL:O	1:A:378:PRO:HD3	2.21	0.41
1:B:142:ILE:HB	1:B:352:THR:HG22	2.02	0.41
1:C:147:VAL:HG11	1:C:185:LEU:HD11	2.02	0.41
1:C:455:LYS:H	1:C:455:LYS:HG3	1.66	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:363:LEU:HD12	1:D:399:VAL:HG21	2.03	0.41
2:G:98:ARG:HA	2:G:124:ALA:O	2.21	0.41
2:G:99:ILE:O	2:G:99:ILE:HG13	2.20	0.41
1:A:50:GLY:O	1:A:54:TRP:N	2.51	0.41
1:A:55:PHE:CD2	1:A:56:PRO:CD	3.01	0.41
1:A:177:ARG:HB2	1:A:180:GLU:HB3	2.02	0.41
1:A:455:LYS:H	1:A:455:LYS:HG3	1.64	0.41
1:B:268:LYS:HA	1:B:268:LYS:HD3	1.79	0.41
1:B:438:LEU:HB3	1:B:439:GLY:CA	2.43	0.41
1:C:437:ASN:OD1	1:C:468:ARG:NH2	2.53	0.41
1:C:465:LEU:HA	1:C:465:LEU:HD23	1.86	0.41
1:D:22:LEU:HG	1:D:43:PHE:HE1	1.85	0.41
1:D:391:LEU:HD23	1:D:391:LEU:HA	1.87	0.41
2:E:413:VAL:HB	2:E:420:LEU:HD12	2.01	0.41
2:F:241:GLY:CA	3:F:501:ADP:O1A	2.69	0.41
2:G:133:ILE:O	2:G:137:ILE:HG22	2.21	0.41
2:G:238:VAL:HA	2:G:260:ILE:HB	2.02	0.41
2:G:345:ASP:OD1	2:G:345:ASP:N	2.53	0.41
2:H:364:ARG:HB2	2:H:366:ASP:OD2	2.21	0.41
2:H:399:ILE:HB	2:H:426:THR:HG21	2.03	0.41
1:A:416:GLY:O	1:A:420:THR:HG23	2.20	0.41
1:C:33:ASP:OD1	1:C:33:ASP:N	2.53	0.41
2:E:136:LEU:O	2:E:325:LYS:NZ	2.53	0.41
2:F:95:ARG:HE	2:F:95:ARG:H	1.69	0.41
2:F:109:GLU:HA	2:F:110:ALA:HA	1.76	0.41
2:G:69:LEU:O	2:G:95:ARG:HA	2.21	0.41
2:H:96:VAL:HG23	2:H:122:LEU:HB3	2.02	0.41
1:A:14:LEU:HD11	1:A:50:GLY:HA2	2.03	0.40
1:B:396:VAL:HG12	1:B:400:TRP:CH2	2.56	0.40
1:D:142:ILE:HG21	1:D:352:THR:HG22	2.01	0.40
1:D:243:VAL:HG13	1:D:315:VAL:HG11	2.04	0.40
2:E:62:GLY:HA3	2:E:90:PHE:CD1	2.56	0.40
2:G:196:ARG:H	2:G:196:ARG:HG2	1.25	0.40
2:H:19:LEU:HD11	2:H:358:LEU:HD11	2.02	0.40
2:H:238:VAL:HG22	2:H:303:ALA:HA	2.02	0.40
2:H:345:ASP:N	2:H:345:ASP:OD1	2.54	0.40
1:B:10:VAL:HG13	1:B:79:VAL:HG11	2.03	0.40
2:E:244:GLY:HA2	2:E:304:LEU:HD12	2.04	0.40
2:F:444:VAL:N	2:F:445:PRO:HD2	2.36	0.40
2:H:358:LEU:O	2:H:362:VAL:N	2.54	0.40
1:B:17:PHE:O	1:B:20:THR:OG1	2.34	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:178:ILE:HD12	2:F:43:TYR:HB2	2.02	0.40
1:B:370:ARG:HE	1:B:374:ARG:NH1	2.19	0.40
1:D:477:LEU:O	1:D:483:TRP:NE1	2.53	0.40
2:E:365:ALA:CB	2:E:370:VAL:HG21	2.51	0.40
2:G:295:ILE:HD12	2:G:298:VAL:HG11	2.02	0.40
2:H:244:GLY:HA2	2:H:304:LEU:HD12	2.03	0.40
2:H:426:THR:O	2:H:427:VAL:C	2.65	0.40
1:B:391:LEU:HD23	1:B:391:LEU:HA	1.85	0.40
1:B:465:LEU:HD23	1:B:465:LEU:HA	1.91	0.40
1:C:471:ILE:O	1:C:471:ILE:HG22	2.22	0.40
2:F:156:VAL:O	2:F:210:PHE:HA	2.21	0.40
2:G:332:ARG:HA	2:G:332:ARG:HD3	1.89	0.40
2:G:370:VAL:HG13	2:G:382:GLU:HB3	2.04	0.40
2:G:398:ALA:HA	2:G:427:VAL:HA	2.03	0.40
2:H:45:LEU:O	2:H:46:ARG:HD3	2.22	0.40
1:A:367:GLN:HG3	1:A:400:TRP:HH2	1.84	0.40
1:C:142:ILE:HG21	1:C:352:THR:HA	2.03	0.40
1:D:268:LYS:HA	1:D:268:LYS:HD3	1.78	0.40
2:F:77:GLU:H	2:F:77:GLU:HG2	1.69	0.40
2:F:87:PHE:HB3	2:F:118:PRO:HG3	2.04	0.40
2:G:218:ILE:HD13	2:G:218:ILE:HA	1.94	0.40
2:H:52:ALA:HA	2:H:53:SER:HA	1.67	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	453/485 (93%)	428 (94%)	21 (5%)	4 (1%)	14 47
1	B	453/485 (93%)	434 (96%)	18 (4%)	1 (0%)	43 73
1	C	453/485 (93%)	431 (95%)	21 (5%)	1 (0%)	43 73

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
1	D	453/485 (93%)	432 (95%)	19 (4%)	2 (0%)	30 61
2	E	453/458 (99%)	437 (96%)	16 (4%)	0	100 100
2	F	453/458 (99%)	426 (94%)	24 (5%)	3 (1%)	18 52
2	G	453/458 (99%)	429 (95%)	22 (5%)	2 (0%)	30 61
2	H	453/458 (99%)	423 (93%)	27 (6%)	3 (1%)	18 52
All	All	3624/3772 (96%)	3440 (95%)	168 (5%)	16 (0%)	30 61

All (16) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	55	PHE
1	A	471	ILE
1	B	471	ILE
1	D	471	ILE
2	G	117	ILE
2	H	47	VAL
2	H	119	VAL
1	C	471	ILE
2	H	48	VAL
2	F	93	PRO
1	A	56	PRO
2	F	368	VAL
2	G	125	PRO
1	D	440	PRO
2	F	197	PRO
1	A	150	LEU

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	371/395 (94%)	370 (100%)	1 (0%)	86 83
1	B	373/395 (94%)	373 (100%)	0	100 100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
1	C	373/395 (94%)	373 (100%)	0	100 100
1	D	373/395 (94%)	373 (100%)	0	100 100
2	E	374/378 (99%)	374 (100%)	0	100 100
2	F	375/378 (99%)	370 (99%)	5 (1%)	61 72
2	G	368/378 (97%)	361 (98%)	7 (2%)	50 67
2	H	374/378 (99%)	365 (98%)	9 (2%)	43 64
All	All	2981/3092 (96%)	2959 (99%)	22 (1%)	76 78

All (22) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	175	THR
2	F	20	VAL
2	F	36	LEU
2	F	37	ARG
2	F	39	LEU
2	F	43	TYR
2	G	30	ASP
2	G	31	ASN
2	G	40	GLN
2	G	41	ASP
2	G	45	LEU
2	G	46	ARG
2	G	47	VAL
2	H	31	ASN
2	H	32	ASN
2	H	34	ASP
2	H	36	LEU
2	H	38	GLU
2	H	43	TYR
2	H	47	VAL
2	H	48	VAL
2	H	49	ASN

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (18) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	283	GLN
1	B	283	GLN

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Mol	Chain	Res	Type
1	B	437	ASN
1	C	132	GLN
1	D	377	HIS
2	E	40	GLN
2	E	74	ASN
2	G	24	ASN
2	G	40	GLN
2	G	84	GLN
2	G	138	GLN
2	H	10	GLN
2	H	18	ASN
2	H	74	ASN
2	H	84	GLN
2	H	294	ASN
2	H	340	GLN
2	H	352	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)

4 ligands are modelled in this entry.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
3	ADP	F	501	-	28,29,29	1.60	7 (25%)	43,45,45	2.22	14 (32%)
3	ADP	E	501	-	28,29,29	1.41	4 (14%)	43,45,45	1.84	9 (20%)
3	ADP	G	501	-	28,29,29	1.42	4 (14%)	43,45,45	2.14	11 (25%)
3	ADP	H	501	-	28,29,29	1.47	4 (14%)	43,45,45	2.04	14 (32%)

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	ADP	F	501	-	-	7/16/32/32	0/3/3/3
3	ADP	E	501	-	-	3/16/32/32	0/3/3/3
3	ADP	G	501	-	-	5/16/32/32	0/3/3/3
3	ADP	H	501	-	-	8/16/32/32	0/3/3/3

All (19) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	E	501	ADP	C5-C4	4.74	1.47	1.39
3	G	501	ADP	C5-C4	4.65	1.47	1.39
3	H	501	ADP	C5-C4	4.07	1.46	1.39
3	F	501	ADP	C5-C4	3.64	1.45	1.39
3	H	501	ADP	C5-N7	-3.53	1.32	1.39
3	F	501	ADP	PA-O3A	-3.51	1.55	1.59
3	F	501	ADP	C5-N7	-3.41	1.32	1.39
3	H	501	ADP	C4-N9	-2.89	1.31	1.37
3	G	501	ADP	C5-C6	2.80	1.48	1.41
3	E	501	ADP	C5-C6	2.71	1.48	1.41
3	F	501	ADP	C8-N9	-2.69	1.33	1.37
3	G	501	ADP	C8-N7	2.49	1.36	1.31
3	F	501	ADP	C4-N9	-2.42	1.32	1.37
3	E	501	ADP	C8-N7	2.38	1.36	1.31
3	F	501	ADP	C5-C6	2.26	1.47	1.41
3	E	501	ADP	C5-N7	-2.23	1.35	1.39
3	G	501	ADP	C5-N7	-2.12	1.35	1.39
3	F	501	ADP	C8-N7	2.10	1.35	1.31
3	H	501	ADP	C8-N9	-2.02	1.34	1.37

All (48) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
3	F	501	ADP	C5-C4-N3	-6.84	117.30	126.72
3	G	501	ADP	O4'-C1'-N9	5.83	119.29	108.09
3	E	501	ADP	C5-C4-N3	-5.81	118.72	126.72
3	G	501	ADP	C5-C4-N3	-5.80	118.72	126.72
3	H	501	ADP	C5-C4-N3	-4.82	120.08	126.72
3	E	501	ADP	N3-C4-N9	4.62	135.02	127.17
3	F	501	ADP	N3-C4-N9	4.52	134.85	127.17
3	G	501	ADP	N3-C4-N9	4.49	134.80	127.17
3	H	501	ADP	N3-C4-N9	4.33	134.53	127.17
3	F	501	ADP	C4-C5-N7	-4.24	105.74	110.58
3	H	501	ADP	O4'-C1'-N9	4.05	115.86	108.09
3	F	501	ADP	C2-N3-C4	3.99	121.59	111.83
3	G	501	ADP	C4'-O4'-C1'	-3.91	100.84	109.47
3	G	501	ADP	C4-C5-N7	-3.70	106.35	110.58
3	G	501	ADP	C2-N3-C4	3.69	120.84	111.83
3	E	501	ADP	C2-N3-C4	3.64	120.73	111.83
3	F	501	ADP	O4'-C1'-C2'	-3.61	98.89	106.62
3	H	501	ADP	C3'-C2'-C1'	-3.51	94.82	101.46
3	H	501	ADP	O4'-C1'-C2'	-3.50	99.13	106.62
3	E	501	ADP	C4-C5-N7	-3.41	106.68	110.58
3	F	501	ADP	O3A-PA-O1A	-3.39	100.51	110.70
3	H	501	ADP	N3-C2-N1	-3.38	123.47	128.58
3	G	501	ADP	N3-C2-N1	-3.25	123.66	128.58
3	E	501	ADP	N3-C2-N1	-3.16	123.79	128.58
3	H	501	ADP	C2-N3-C4	3.01	119.18	111.83
3	H	501	ADP	C4-N9-C8	2.97	108.86	105.74
3	H	501	ADP	C4'-O4'-C1'	-2.90	103.06	109.47
3	F	501	ADP	N3-C2-N1	-2.82	124.31	128.58
3	G	501	ADP	C4-N9-C8	2.78	108.65	105.74
3	F	501	ADP	O3'-C3'-C4'	-2.73	103.25	111.08
3	G	501	ADP	C5-N7-C8	2.70	107.69	103.45
3	E	501	ADP	C4-N9-C8	2.65	108.53	105.74
3	F	501	ADP	C5-N7-C8	2.65	107.61	103.45
3	H	501	ADP	C2-N1-C6	2.58	122.97	118.73
3	F	501	ADP	O4'-C1'-N9	2.53	112.95	108.09
3	E	501	ADP	C5-N7-C8	2.52	107.41	103.45
3	H	501	ADP	C4-C5-N7	-2.41	107.83	110.58
3	H	501	ADP	O3'-C3'-C4'	-2.36	104.31	111.08
3	F	501	ADP	O3B-PB-O2B	2.34	116.58	107.80
3	H	501	ADP	N6-C6-N1	2.24	123.37	118.38
3	G	501	ADP	N9-C8-N7	-2.19	110.83	113.94
3	G	501	ADP	C6-C5-N7	2.19	136.31	132.09
3	F	501	ADP	O2A-PA-O1A	2.15	122.46	112.44

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
3	F	501	ADP	O3A-PB-O1B	-2.12	99.87	111.04
3	E	501	ADP	C3'-C2'-C1'	2.08	105.39	101.46
3	F	501	ADP	C6-C5-N7	2.07	136.09	132.09
3	E	501	ADP	C6-C5-N7	2.02	135.98	132.09
3	H	501	ADP	C5-N7-C8	2.01	106.60	103.45

There are no chirality outliers.

All (23) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
3	E	501	ADP	PA-O3A-PB-O2B
3	E	501	ADP	C5'-O5'-PA-O1A
3	F	501	ADP	C5'-O5'-PA-O1A
3	F	501	ADP	C5'-O5'-PA-O2A
3	F	501	ADP	C5'-O5'-PA-O3A
3	F	501	ADP	O4'-C4'-C5'-O5'
3	F	501	ADP	C3'-C4'-C5'-O5'
3	G	501	ADP	C5'-O5'-PA-O2A
3	G	501	ADP	C5'-O5'-PA-O3A
3	H	501	ADP	C5'-O5'-PA-O1A
3	H	501	ADP	C5'-O5'-PA-O3A
3	H	501	ADP	C3'-C4'-C5'-O5'
3	H	501	ADP	O4'-C4'-C5'-O5'
3	G	501	ADP	O4'-C4'-C5'-O5'
3	G	501	ADP	C3'-C4'-C5'-O5'
3	F	501	ADP	PB-O3A-PA-O5'
3	H	501	ADP	C2'-C1'-N9-C4
3	E	501	ADP	C5'-O5'-PA-O3A
3	G	501	ADP	C5'-O5'-PA-O1A
3	H	501	ADP	C5'-O5'-PA-O2A
3	H	501	ADP	C2'-C1'-N9-C8
3	F	501	ADP	C4'-C5'-O5'-PA
3	H	501	ADP	O4'-C1'-N9-C8

There are no ring outliers.

4 monomers are involved in 16 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
3	F	501	ADP	7	0
3	E	501	ADP	2	0
3	G	501	ADP	2	0

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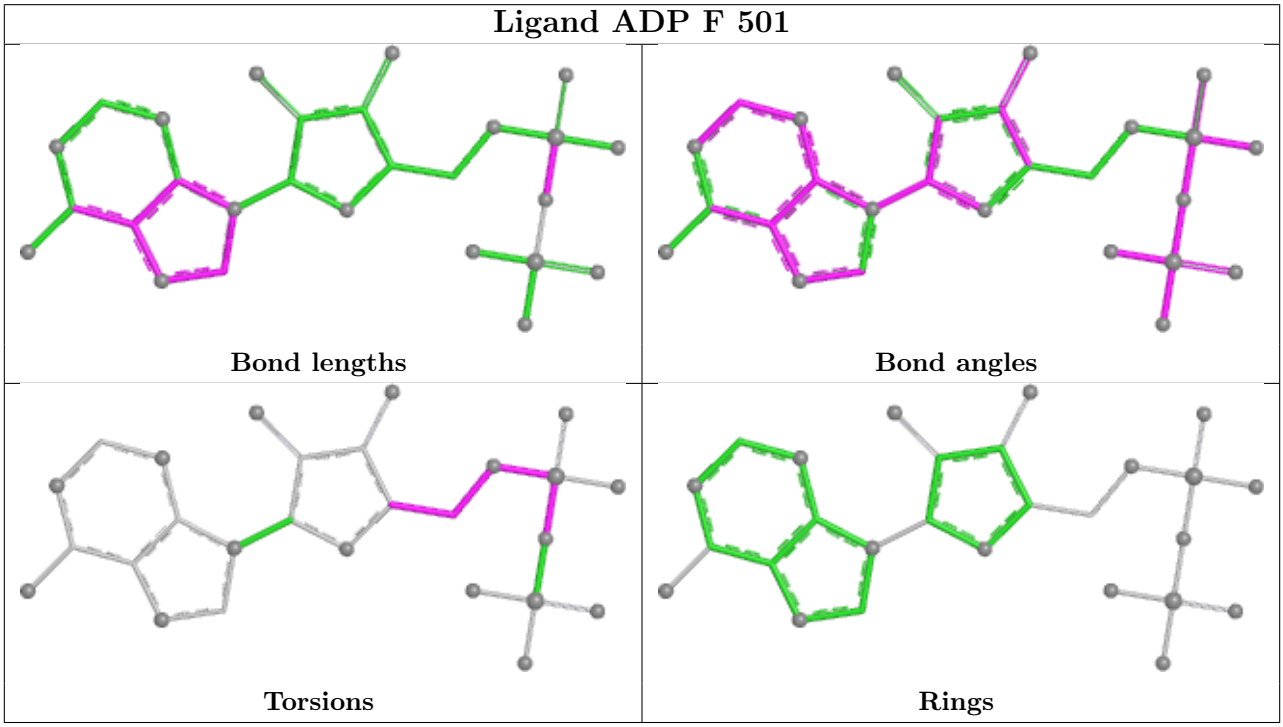
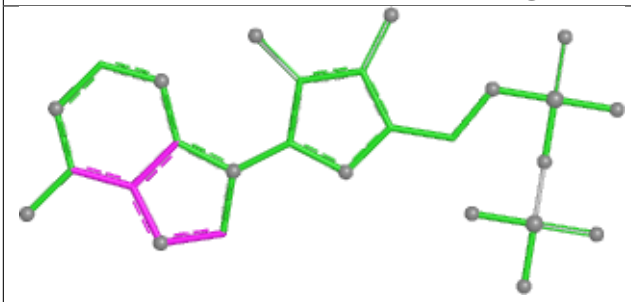
Mol	Chain	Res	Type	Clashes	Symm-Clashes
3	H	501	ADP	5	0

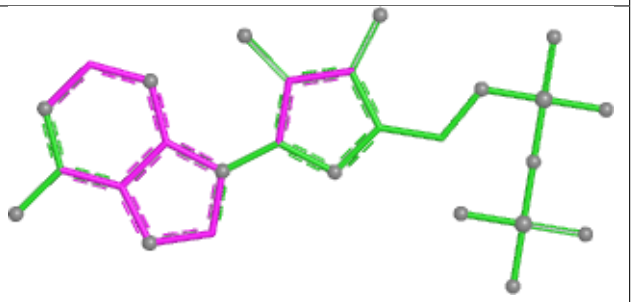
The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included. 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.



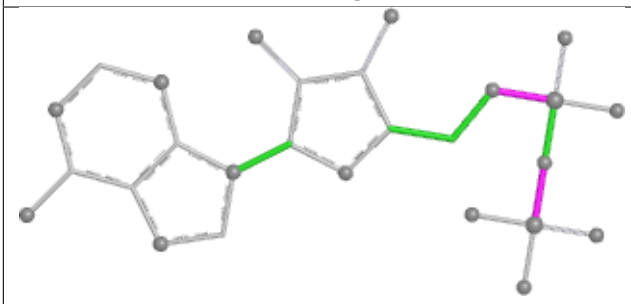
Ligand ADP E 501



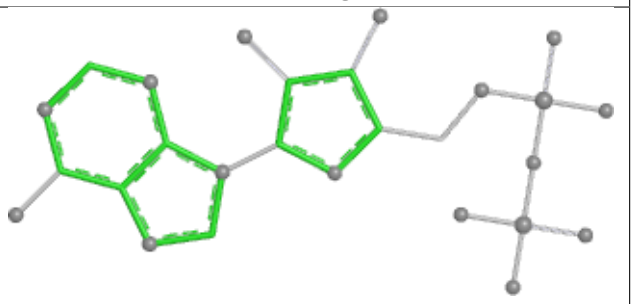
Bond lengths



Bond angles

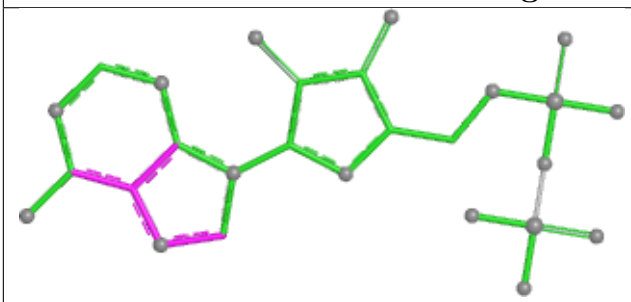


Torsions

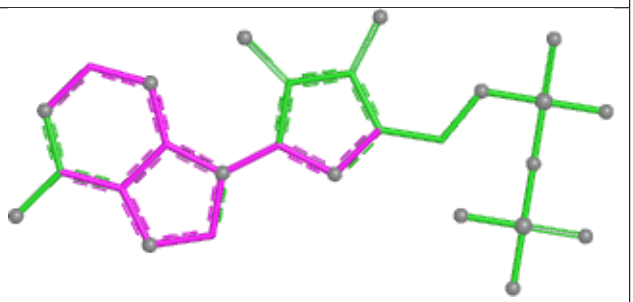


Rings

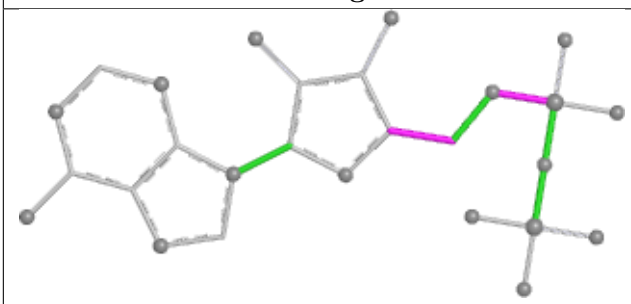
Ligand ADP G 501



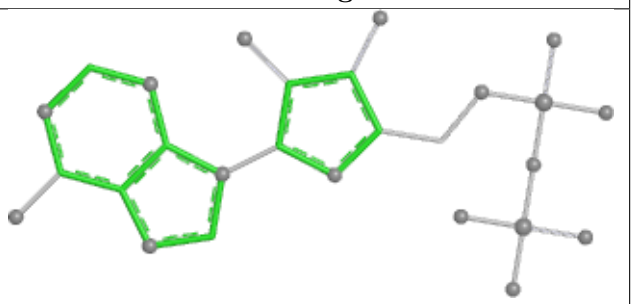
Bond lengths



Bond angles

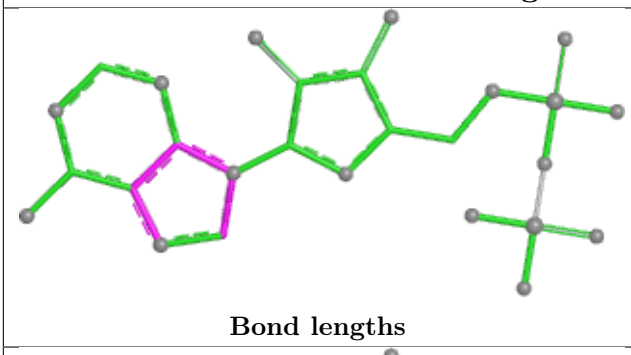


Torsions

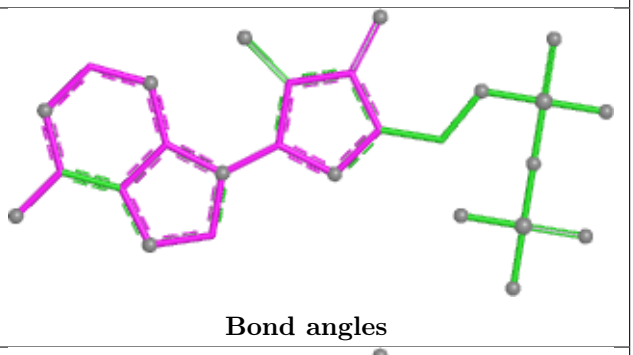


Rings

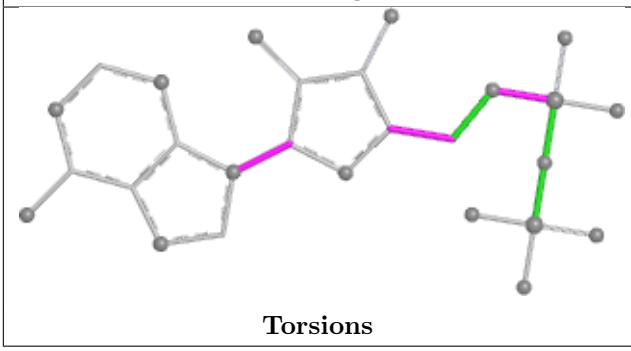
Ligand ADP H 501



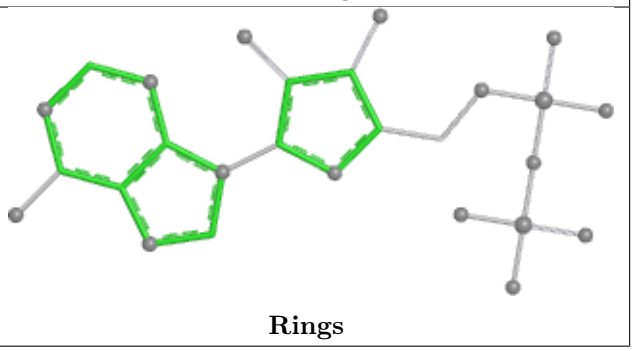
Bond lengths



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	459/485 (94%)	0.94	76 (16%)	4 4	13, 56, 126, 182	0
1	B	459/485 (94%)	1.01	80 (17%)	4 3	23, 63, 139, 171	0
1	C	459/485 (94%)	0.89	71 (15%)	5 4	12, 52, 123, 170	0
1	D	459/485 (94%)	1.13	87 (18%)	3 3	30, 72, 127, 171	0
2	E	455/458 (99%)	1.32	113 (24%)	2 2	20, 63, 143, 180	0
2	F	455/458 (99%)	1.89	180 (39%)	1 1	32, 90, 162, 209	0
2	G	455/458 (99%)	1.72	169 (37%)	1 1	29, 92, 151, 191	0
2	H	455/458 (99%)	2.05	203 (44%)	0 1	26, 98, 172, 221	0
All	All	3656/3772 (96%)	1.37	979 (26%)	1 2	12, 73, 150, 221	0

All (979) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
2	H	50	GLY	11.2
2	F	30	ASP	9.0
2	F	204	GLU	8.9
2	H	51	HIS	8.8
2	G	33	ALA	8.5
2	H	33	ALA	8.2
2	F	52	ALA	8.1
2	G	65	ASP	7.9
2	H	106	ALA	7.2
2	G	34	ASP	7.2
2	H	126	GLU	7.1
2	F	122	LEU	7.0
2	H	127	GLU	6.9
2	H	120	ASP	6.8
2	F	126	GLU	6.8
2	H	25	ASP	6.8

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Mol	Chain	Res	Type	RSRZ
2	F	75	THR	6.6
1	B	266	HIS	6.6
2	H	121	HIS	6.6
2	F	100	ARG	6.5
2	G	121	HIS	6.5
2	F	98	ARG	6.4
2	E	8	ALA	6.3
2	F	205	ALA	6.2
2	H	100	ARG	6.2
2	H	49	ASN	6.2
2	G	35	ARG	6.1
2	E	117	ILE	6.1
2	E	114	SER	6.1
2	H	32	ASN	6.1
2	H	111	LEU	6.0
2	E	121	HIS	6.0
2	H	361	HIS	6.0
2	H	20	VAL	6.0
2	F	99	ILE	5.8
2	F	73	THR	5.8
1	A	66	SER	5.7
1	C	150	LEU	5.7
1	A	387	GLY	5.7
1	A	61	LYS	5.7
1	B	267	PRO	5.7
2	G	122	LEU	5.7
2	H	110	ALA	5.7
1	D	264	GLY	5.6
2	E	126	GLU	5.6
2	G	196	ARG	5.5
2	H	52	ALA	5.5
1	D	448	HIS	5.5
1	A	267	PRO	5.4
2	H	359	LEU	5.4
2	E	7	GLY	5.4
2	H	18	ASN	5.4
1	D	231	GLY	5.4
2	G	106	ALA	5.3
1	B	4	ARG	5.3
2	H	104	TYR	5.3
2	E	106	ALA	5.3
2	E	34	ASP	5.3

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Mol	Chain	Res	Type	RSRZ
2	E	76	ASP	5.2
2	H	105	LEU	5.2
2	G	7	GLY	5.2
2	F	76	ASP	5.1
2	F	31	ASN	5.1
2	G	453	PRO	5.1
2	G	205	ALA	5.1
1	B	150	LEU	5.1
2	G	75	THR	5.1
1	B	265	VAL	5.1
2	H	427	VAL	5.1
2	F	455	PRO	5.0
2	H	116	ALA	5.0
2	E	49	ASN	5.0
2	G	10	GLN	5.0
2	F	53	SER	5.0
2	H	11	VAL	4.9
1	B	233	PHE	4.9
1	D	60	HIS	4.9
2	H	357	ALA	4.9
1	B	151	PRO	4.9
1	D	262	SER	4.8
1	A	176	PRO	4.8
2	G	105	LEU	4.8
2	F	418	GLU	4.8
2	E	122	LEU	4.8
2	F	112	PHE	4.8
1	B	153	LEU	4.7
1	C	178	ILE	4.7
2	G	49	ASN	4.7
2	H	379	GLU	4.7
2	H	66	ALA	4.7
2	G	100	ARG	4.7
2	H	97	ALA	4.7
2	E	205	ALA	4.7
2	F	51	HIS	4.7
2	F	403	LYS	4.6
2	F	32	ASN	4.6
1	D	2	GLN	4.6
2	E	455	PRO	4.6
2	G	206	ASP	4.6
2	G	456	PHE	4.6

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Mol	Chain	Res	Type	RSRZ
2	H	108	LYS	4.6
2	E	167	VAL	4.5
2	H	205	ALA	4.5
2	E	111	LEU	4.5
2	E	115	GLY	4.5
2	H	114	SER	4.5
2	G	98	ARG	4.5
2	F	59	HIS	4.5
2	F	423	HIS	4.5
2	E	110	ALA	4.5
1	A	69	GLY	4.5
2	E	93	PRO	4.5
1	A	152	VAL	4.5
2	F	72	VAL	4.5
2	G	365	ALA	4.5
2	G	74	ASN	4.5
2	H	118	PRO	4.5
1	B	54	TRP	4.5
2	F	203	ILE	4.5
2	H	75	THR	4.4
1	A	233	PHE	4.4
2	E	101	SER	4.4
1	D	154	GLY	4.4
2	F	43	TYR	4.4
1	B	61	LYS	4.4
2	G	351	GLN	4.4
2	F	121	HIS	4.4
2	H	115	GLY	4.4
2	F	94	ASN	4.4
2	G	76	ASP	4.4
2	G	32	ASN	4.4
1	D	3	PHE	4.4
1	B	60	HIS	4.4
1	C	376	VAL	4.3
2	G	8	ALA	4.3
2	H	65	ASP	4.3
2	F	104	TYR	4.3
2	G	370	VAL	4.3
1	D	266	HIS	4.3
2	F	8	ALA	4.3
1	C	4	ARG	4.3
2	H	35	ARG	4.3

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Mol	Chain	Res	Type	RSRZ
1	D	232	TYR	4.3
1	A	264	GLY	4.3
2	G	375	ARG	4.3
1	C	51	ALA	4.3
2	F	101	SER	4.3
2	H	73	THR	4.2
1	C	152	VAL	4.2
2	G	368	VAL	4.2
1	A	269	TYR	4.2
2	E	116	ALA	4.2
1	A	266	HIS	4.2
2	E	204	GLU	4.2
2	H	430	GLN	4.2
1	D	147	VAL	4.2
1	B	53	CYS	4.2
2	E	35	ARG	4.2
1	B	33	ASP	4.2
2	H	23	ASN	4.2
1	A	447	LEU	4.2
2	H	354	THR	4.2
2	G	53	SER	4.2
2	G	21	GLY	4.2
1	A	122	GLU	4.2
2	H	55	PRO	4.1
1	C	148	ALA	4.1
1	C	264	GLY	4.1
2	G	50	GLY	4.1
1	D	151	PRO	4.1
2	H	58	LEU	4.1
2	F	50	GLY	4.1
2	H	107	GLU	4.1
1	C	375	LEU	4.1
2	G	126	GLU	4.0
1	B	448	HIS	4.0
2	F	386	HIS	4.0
2	H	353	ALA	4.0
2	H	101	SER	4.0
2	H	337	ASP	4.0
1	A	60	HIS	4.0
2	G	361	HIS	4.0
2	H	45	LEU	4.0
1	C	265	VAL	4.0

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Mol	Chain	Res	Type	RSRZ
2	H	374	ARG	4.0
1	D	229	SER	4.0
2	F	124	ALA	4.0
2	E	29	VAL	4.0
1	A	271	TRP	4.0
1	C	175	THR	4.0
1	A	4	ARG	4.0
2	E	100	ARG	4.0
1	D	150	LEU	3.9
2	H	3	ILE	3.9
2	E	43	TYR	3.9
2	G	204	GLU	3.9
2	H	109	GLU	3.9
2	F	116	ALA	3.9
2	F	365	ALA	3.9
2	F	18	ASN	3.9
2	H	98	ARG	3.9
2	F	167	VAL	3.9
2	F	362	VAL	3.9
2	H	38	GLU	3.9
2	F	111	LEU	3.9
1	A	448	HIS	3.9
1	B	264	GLY	3.9
2	G	92	THR	3.9
1	B	269	TYR	3.9
2	E	288	GLU	3.9
2	H	144	GLN	3.9
2	H	53	SER	3.9
2	H	16	ALA	3.9
1	D	53	CYS	3.8
2	F	119	VAL	3.8
1	C	35	ALA	3.8
1	D	69	GLY	3.8
2	H	112	PHE	3.8
2	H	339	VAL	3.8
2	E	120	ASP	3.8
1	A	154	GLY	3.8
2	F	376	GLY	3.8
2	G	66	ALA	3.8
1	C	60	HIS	3.8
2	E	127	GLU	3.8
2	F	29	VAL	3.8

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Mol	Chain	Res	Type	RSRZ
1	D	61	LYS	3.8
2	F	128	LEU	3.8
1	B	36	GLY	3.8
1	D	148	ALA	3.8
2	G	175	ARG	3.8
2	E	30	ASP	3.8
2	F	13	GLY	3.8
2	H	409	THR	3.8
2	G	288	GLU	3.8
2	H	167	VAL	3.8
1	C	174	MET	3.8
2	E	38	GLU	3.8
2	H	350	PRO	3.8
2	H	423	HIS	3.8
1	A	16	LEU	3.7
1	D	95	ASN	3.7
1	C	34	GLY	3.7
2	E	104	TYR	3.7
2	G	11	VAL	3.7
2	H	59	HIS	3.7
2	E	94	ASN	3.7
1	A	388	GLY	3.7
1	B	154	GLY	3.7
2	E	75	THR	3.7
2	H	62	GLY	3.7
1	D	153	LEU	3.7
2	E	65	ASP	3.7
2	H	99	ILE	3.7
2	F	125	PRO	3.7
2	F	11	VAL	3.7
2	G	455	PRO	3.7
1	C	3	PHE	3.7
1	B	35	ALA	3.7
1	C	446	ALA	3.7
2	F	49	ASN	3.7
2	F	97	ALA	3.7
1	B	262	SER	3.7
2	F	78	THR	3.7
1	A	483	TRP	3.7
2	F	35	ARG	3.7
1	B	56	PRO	3.7
1	D	267	PRO	3.7

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Mol	Chain	Res	Type	RSRZ
2	F	102	PRO	3.7
1	C	154	GLY	3.6
2	F	27	THR	3.6
2	F	55	PRO	3.6
2	E	59	HIS	3.6
2	F	26	ILE	3.6
2	F	348	ILE	3.6
2	H	348	ILE	3.6
2	F	357	ALA	3.6
2	F	129	VAL	3.6
2	H	368	VAL	3.6
2	F	356	SER	3.6
1	C	176	PRO	3.6
2	G	104	TYR	3.6
2	F	66	ALA	3.6
2	H	61	ALA	3.6
2	E	9	GLY	3.6
2	H	72	VAL	3.6
2	G	116	ALA	3.6
1	B	204	GLY	3.6
2	G	115	GLY	3.6
2	F	105	LEU	3.6
2	F	33	ALA	3.6
2	H	376	GLY	3.6
2	F	40	GLN	3.6
2	G	367	ILE	3.6
2	H	429	GLU	3.6
2	G	110	ALA	3.6
2	H	196	ARG	3.6
2	H	48	VAL	3.6
1	C	33	ASP	3.6
2	F	65	ASP	3.6
2	G	44	ASP	3.6
2	H	76	ASP	3.6
1	D	6	ILE	3.5
2	H	117	ILE	3.5
1	B	232	TYR	3.5
2	F	110	ALA	3.5
2	H	74	ASN	3.5
2	H	64	GLN	3.5
1	B	122	GLU	3.5
2	G	17	GLU	3.5

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Mol	Chain	Res	Type	RSRZ
2	H	63	ALA	3.5
2	G	20	VAL	3.5
2	F	79	ASN	3.5
2	H	6	LEU	3.5
2	E	456	PHE	3.5
1	B	51	ALA	3.5
1	B	174	MET	3.5
1	D	175	THR	3.5
2	E	92	THR	3.5
2	H	122	LEU	3.5
2	H	340	GLN	3.5
2	F	361	HIS	3.5
2	H	123	ILE	3.4
2	H	367	ILE	3.4
1	B	55	PHE	3.4
2	G	23	ASN	3.4
2	G	403	LYS	3.4
2	H	383	ALA	3.4
2	G	360	THR	3.4
2	H	456	PHE	3.4
2	E	242	ASN	3.4
1	A	232	TYR	3.4
1	A	180	GLU	3.4
1	B	451	ASP	3.4
2	F	41	ASP	3.4
2	F	77	GLU	3.4
2	H	131	SER	3.4
2	F	425	ARG	3.4
2	H	26	ILE	3.4
1	B	480	PRO	3.4
2	G	43	TYR	3.4
2	F	10	GLN	3.4
1	D	29	LEU	3.4
2	E	56	ASP	3.4
1	D	447	LEU	3.4
2	E	198	GLN	3.4
2	F	39	LEU	3.4
2	G	89	LEU	3.4
2	E	98	ARG	3.4
2	F	16	ALA	3.3
1	A	260	PHE	3.3
2	H	5	ILE	3.3

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Mol	Chain	Res	Type	RSRZ
1	C	61	LYS	3.3
2	G	363	ARG	3.3
2	H	204	GLU	3.3
2	F	84	GLN	3.3
2	G	64	GLN	3.3
1	D	54	TRP	3.3
2	F	34	ASP	3.3
2	F	401	ASP	3.3
2	F	424	ASP	3.3
2	G	424	ASP	3.3
2	G	48	VAL	3.3
2	H	172	SER	3.3
2	E	113	LYS	3.3
1	D	451	ASP	3.3
2	F	106	ALA	3.3
2	H	8	ALA	3.3
2	E	390	THR	3.3
1	B	29	LEU	3.3
2	H	422	ALA	3.3
2	H	79	ASN	3.3
1	A	481	THR	3.3
2	H	92	THR	3.3
2	F	144	GLN	3.3
2	H	42	LYS	3.3
1	C	448	HIS	3.3
2	G	111	LEU	3.2
1	D	28	ALA	3.2
2	F	96	VAL	3.2
1	D	92	ASP	3.2
2	H	206	ASP	3.2
1	A	353	GLY	3.2
1	A	389	SER	3.2
2	H	125	PRO	3.2
1	B	234	ASP	3.2
2	E	107	GLU	3.2
2	E	37	ARG	3.2
2	F	149	ALA	3.2
2	H	362	VAL	3.2
1	C	325	THR	3.2
2	E	74	ASN	3.2
2	F	62	GLY	3.2
2	F	400	GLY	3.2

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Mol	Chain	Res	Type	RSRZ
2	H	351	GLN	3.2
1	D	37	VAL	3.2
2	E	118	PRO	3.2
2	H	19	LEU	3.2
1	D	233	PHE	3.2
1	B	152	VAL	3.2
2	E	33	ALA	3.2
2	H	403	LYS	3.2
1	B	260	PHE	3.2
1	A	93	ASN	3.2
2	E	91	ASN	3.2
1	A	234	ASP	3.2
2	H	443	TYR	3.2
2	F	127	GLU	3.2
2	H	2	LYS	3.2
2	E	53	SER	3.2
2	F	368	VAL	3.2
2	G	180	HIS	3.2
2	E	306	ASN	3.1
1	A	187	TYR	3.1
1	D	5	SER	3.1
1	D	176	PRO	3.1
2	E	102	PRO	3.1
2	E	423	HIS	3.1
1	A	177	ARG	3.1
2	E	363	ARG	3.1
2	G	18	ASN	3.1
1	A	153	LEU	3.1
1	B	66	SER	3.1
2	H	394	VAL	3.1
2	F	25	ASP	3.1
1	B	176	PRO	3.1
2	G	93	PRO	3.1
2	E	425	ARG	3.1
2	F	351	GLN	3.1
2	G	349	SER	3.1
2	E	42	LYS	3.1
2	G	42	LYS	3.1
2	H	352	GLN	3.1
1	D	146	ALA	3.1
2	H	22	GLU	3.1
1	A	33	ASP	3.1

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Mol	Chain	Res	Type	RSRZ
2	G	102	PRO	3.1
1	D	40	VAL	3.1
2	G	57	VAL	3.1
2	E	103	GLU	3.1
2	E	418	GLU	3.1
2	F	90	PHE	3.1
2	H	17	GLU	3.1
1	A	56	PRO	3.1
1	B	327	GLY	3.1
1	B	72	ILE	3.0
2	F	131	SER	3.0
2	G	357	ALA	3.0
1	C	55	PHE	3.0
1	A	58	ARG	3.0
2	F	22	GLU	3.0
2	H	37	ARG	3.0
2	H	455	PRO	3.0
1	B	69	GLY	3.0
2	E	151	GLN	3.0
2	F	63	ALA	3.0
2	H	365	ALA	3.0
2	E	32	ASN	3.0
2	H	24	ASN	3.0
1	D	174	MET	3.0
2	E	105	LEU	3.0
1	C	151	PRO	3.0
2	G	125	PRO	3.0
1	C	231	GLY	3.0
2	E	112	PHE	3.0
1	D	259	ALA	3.0
2	E	54	HIS	3.0
2	E	365	ALA	3.0
2	G	378	ALA	3.0
1	B	32	ARG	3.0
2	E	58	LEU	3.0
2	F	117	ILE	3.0
2	F	409	THR	3.0
2	G	433	HIS	3.0
2	E	429	GLU	3.0
2	H	197	PRO	3.0
2	F	341	GLY	3.0
2	H	78	THR	3.0

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Mol	Chain	Res	Type	RSRZ
1	C	52	MET	3.0
1	D	234	ASP	3.0
2	G	63	ALA	3.0
2	G	120	ASP	3.0
2	H	34	ASP	3.0
2	F	306	ASN	3.0
2	G	117	ILE	3.0
1	B	27	VAL	3.0
2	E	20	VAL	3.0
2	F	332	ARG	3.0
2	F	275	GLU	2.9
1	D	408	LEU	2.9
1	C	5	SER	2.9
1	C	58	ARG	2.9
2	G	348	ILE	2.9
2	G	36	LEU	2.9
2	F	342	GLY	2.9
1	B	481	THR	2.9
2	F	360	THR	2.9
2	G	67	ASP	2.9
1	D	122	GLU	2.9
2	G	199	GLY	2.9
1	A	179	ALA	2.9
2	G	124	ALA	2.9
2	F	67	ASP	2.9
1	B	94	PRO	2.9
2	G	386	HIS	2.9
2	E	95	ARG	2.9
1	D	118	VAL	2.9
2	F	42	LYS	2.9
2	E	124	ALA	2.9
2	F	19	LEU	2.9
2	H	417	GLU	2.9
2	H	356	SER	2.9
2	E	39	LEU	2.9
2	F	388	ASP	2.8
1	D	353	GLY	2.8
2	G	119	VAL	2.8
1	C	153	LEU	2.8
2	F	390	THR	2.8
2	G	15	LEU	2.8
2	F	74	ASN	2.8

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Mol	Chain	Res	Type	RSRZ
2	E	99	ILE	2.8
2	F	145	VAL	2.8
2	E	287	GLN	2.8
2	H	284	ALA	2.8
1	B	82	SER	2.8
1	D	96	ILE	2.8
2	G	77	GLU	2.8
2	G	417	GLU	2.8
2	H	119	VAL	2.8
2	H	288	GLU	2.8
2	H	358	LEU	2.8
2	F	83	CYS	2.8
2	F	115	GLY	2.8
2	H	191	GLN	2.8
1	B	23	ALA	2.8
2	G	149	ALA	2.8
2	E	108	LYS	2.8
2	E	45	LEU	2.8
1	B	2	GLN	2.8
2	E	18	ASN	2.8
2	E	275	GLU	2.8
1	B	383	THR	2.8
1	D	35	ALA	2.8
1	C	260	PHE	2.8
2	E	233	ARG	2.8
2	H	428	ILE	2.8
1	D	31	TYR	2.8
2	F	57	VAL	2.8
2	F	350	PRO	2.8
2	F	448	GLU	2.8
2	H	199	GLY	2.8
1	B	446	ALA	2.8
2	E	61	ALA	2.8
2	F	82	ALA	2.8
1	D	4	ARG	2.8
2	E	41	ASP	2.8
2	E	44	ASP	2.8
2	G	101	SER	2.8
2	G	392	SER	2.8
2	F	229	GLU	2.8
2	G	387	GLY	2.8
1	A	203	ALA	2.8

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Mol	Chain	Res	Type	RSRZ
2	G	113	LYS	2.8
1	C	59	ARG	2.7
2	H	128	LEU	2.7
1	D	144	VAL	2.7
2	E	453	PRO	2.7
2	F	162	TYR	2.7
2	H	198	GLN	2.7
2	H	418	GLU	2.7
2	E	276	ASN	2.7
2	G	369	ASN	2.7
2	H	390	THR	2.7
1	A	32	ARG	2.7
2	H	89	LEU	2.7
1	A	9	ILE	2.7
1	B	271	TRP	2.7
2	G	454	SER	2.7
2	F	12	GLY	2.7
1	A	181	THR	2.7
2	F	228	LEU	2.7
2	G	373	LEU	2.7
1	B	6	ILE	2.7
1	C	266	HIS	2.7
2	E	454	SER	2.7
1	D	152	VAL	2.7
1	D	265	VAL	2.7
2	F	118	PRO	2.7
2	F	387	GLY	2.7
2	G	83	CYS	2.7
1	C	261	ALA	2.7
2	F	337	ASP	2.7
1	C	267	PRO	2.7
2	H	338	LEU	2.7
2	F	452	GLN	2.7
1	B	263	GLY	2.7
1	C	57	ASN	2.7
2	G	68	MET	2.7
2	G	231	PRO	2.7
2	F	28	ILE	2.7
2	G	99	ILE	2.7
2	G	198	GLN	2.7
2	H	399	ILE	2.7
1	C	122	GLU	2.7

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Mol	Chain	Res	Type	RSRZ
1	D	325	THR	2.7
2	F	180	HIS	2.6
2	G	51	HIS	2.6
1	A	94	PRO	2.6
2	E	84	GLN	2.6
2	F	352	GLN	2.6
2	E	63	ALA	2.6
2	G	16	ALA	2.6
2	H	168	GLY	2.6
2	H	407	GLY	2.6
1	C	95	ASN	2.6
1	D	52	MET	2.6
2	H	369	ASN	2.6
2	H	36	LEU	2.6
2	H	147	SER	2.6
2	H	95	ARG	2.6
2	G	12	GLY	2.6
1	A	227	ASP	2.6
1	D	454	ASP	2.6
2	E	14	THR	2.6
2	E	388	ASP	2.6
2	E	47	VAL	2.6
2	F	70	VAL	2.6
2	F	343	VAL	2.6
1	C	149	ILE	2.6
2	F	37	ARG	2.6
2	G	4	ILE	2.6
2	E	86	ALA	2.6
2	F	151	GLN	2.6
2	H	81	ALA	2.6
1	B	75	LEU	2.6
2	H	77	GLU	2.6
2	H	31	ASN	2.6
2	F	152	LYS	2.6
1	C	56	PRO	2.6
2	H	140	PRO	2.6
2	H	124	ALA	2.6
1	A	263	GLY	2.6
1	C	263	GLY	2.6
1	D	30	LEU	2.6
1	D	263	GLY	2.6
1	D	439	GLY	2.6

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Mol	Chain	Res	Type	RSRZ
2	F	89	LEU	2.6
2	G	19	LEU	2.6
1	C	9	ILE	2.6
1	C	191	SER	2.6
2	F	123	ILE	2.6
2	F	421	ILE	2.6
2	G	31	ASN	2.6
2	G	356	SER	2.6
1	D	10	VAL	2.6
2	G	415	ARG	2.6
2	F	80	MET	2.6
1	B	31	TYR	2.6
1	D	111	THR	2.6
1	C	271	TRP	2.6
1	D	269	TYR	2.6
2	E	391	THR	2.6
2	H	132	TYR	2.6
2	F	367	ILE	2.6
2	H	229	GLU	2.6
1	D	235	SER	2.6
1	C	8	ARG	2.6
1	C	32	ARG	2.6
2	E	46	ARG	2.6
2	G	337	ASP	2.6
2	F	2	LYS	2.6
2	G	47	VAL	2.6
2	G	230	LYS	2.6
1	A	52	MET	2.6
1	A	204	GLY	2.6
2	H	9	GLY	2.6
2	H	88	THR	2.5
2	H	360	THR	2.5
1	C	451	ASP	2.5
1	A	29	LEU	2.5
1	B	30	LEU	2.5
2	H	15	LEU	2.5
1	A	15	ALA	2.5
1	C	36	GLY	2.5
1	C	353	GLY	2.5
2	H	203	ILE	2.5
1	D	195	ALA	2.5
2	F	273	GLN	2.5

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Mol	Chain	Res	Type	RSRZ
2	F	378	ALA	2.5
2	F	456	PHE	2.5
2	E	250	ARG	2.5
2	F	107	GLU	2.5
2	H	69	LEU	2.5
2	H	68	MET	2.5
1	C	257	PHE	2.5
2	E	337	ASP	2.5
2	G	112	PHE	2.5
2	F	9	GLY	2.5
2	G	62	GLY	2.5
2	G	407	GLY	2.5
2	H	141	GLY	2.5
2	F	95	ARG	2.5
2	H	363	ARG	2.5
2	G	418	GLU	2.5
2	F	44	ASP	2.5
2	F	56	ASP	2.5
2	H	44	ASP	2.5
2	H	56	ASP	2.5
2	H	377	ALA	2.5
2	H	441	LYS	2.5
2	H	453	PRO	2.5
1	B	59	ARG	2.5
1	C	386	VAL	2.5
2	E	48	VAL	2.5
2	E	343	VAL	2.5
2	G	343	VAL	2.5
2	H	96	VAL	2.5
2	H	134	GLU	2.5
2	E	125	PRO	2.5
1	D	145	LEU	2.5
2	E	360	THR	2.5
1	D	140	MET	2.5
2	F	48	VAL	2.5
2	H	176	GLU	2.4
1	B	93	ASN	2.4
2	F	373	LEU	2.4
1	A	59	ARG	2.4
2	H	175	ARG	2.4
2	H	41	ASP	2.4
2	E	27	THR	2.4

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Mol	Chain	Res	Type	RSRZ
2	F	391	THR	2.4
1	A	265	VAL	2.4
1	B	3	PHE	2.4
1	C	125	LYS	2.4
2	F	38	GLU	2.4
2	F	60	GLU	2.4
2	G	103	GLU	2.4
2	G	452	GLN	2.4
2	H	285	ALA	2.4
2	F	88	THR	2.4
2	G	354	THR	2.4
2	H	388	ASP	2.4
1	C	118	VAL	2.4
2	G	87	PHE	2.4
1	A	185	LEU	2.4
2	G	60	GLU	2.4
1	D	58	ARG	2.4
2	H	194	PRO	2.4
1	A	352	THR	2.4
1	A	386	VAL	2.4
2	F	20	VAL	2.4
2	H	43	TYR	2.4
2	G	59	HIS	2.4
2	G	52	ALA	2.4
2	H	239	GLY	2.4
2	F	246	SER	2.4
1	B	19	VAL	2.4
1	D	55	PHE	2.4
2	E	11	VAL	2.4
1	B	178	ILE	2.4
1	A	202	LEU	2.4
1	C	145	LEU	2.4
1	A	92	ASP	2.4
2	F	132	TYR	2.4
1	B	58	ARG	2.4
2	F	17	GLU	2.4
2	F	109	GLU	2.4
1	A	174	MET	2.4
1	B	52	MET	2.4
1	C	21	MET	2.4
2	H	378	ALA	2.4
1	A	151	PRO	2.4

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Mol	Chain	Res	Type	RSRZ
1	B	483	TRP	2.4
2	F	7	GLY	2.4
1	C	97	SER	2.4
1	D	178	ILE	2.4
2	F	288	GLU	2.4
2	H	385	ALA	2.4
2	F	430	GLN	2.3
1	C	54	TRP	2.3
2	H	12	GLY	2.3
2	H	420	LEU	2.3
1	A	111	THR	2.3
2	G	339	VAL	2.3
2	G	391	THR	2.3
2	H	370	VAL	2.3
2	G	46	ARG	2.3
1	C	269	TYR	2.3
2	F	64	GLN	2.3
2	F	54	HIS	2.3
1	A	85	SER	2.3
2	H	372	SER	2.3
1	B	386	VAL	2.3
1	D	251	CYS	2.3
2	H	27	THR	2.3
1	A	140	MET	2.3
1	B	8	ARG	2.3
1	B	68	ASP	2.3
2	E	366	ASP	2.3
2	G	84	GLN	2.3
2	G	151	GLN	2.3
2	H	389	GLU	2.3
1	A	178	ILE	2.3
1	D	48	PHE	2.3
2	H	451	PHE	2.3
2	G	29	VAL	2.3
1	C	111	THR	2.3
1	D	271	TRP	2.3
2	G	219	ARG	2.3
2	F	422	ALA	2.3
1	C	2	GLN	2.3
1	D	354	GLY	2.3
2	F	140	PRO	2.3
1	A	383	THR	2.3

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Mol	Chain	Res	Type	RSRZ
2	E	78	THR	2.3
2	F	14	THR	2.3
2	F	23	ASN	2.3
2	H	426	THR	2.3
2	G	2	LYS	2.3
2	G	233	ARG	2.3
2	H	80	MET	2.3
1	B	12	LEU	2.3
1	B	16	LEU	2.3
2	G	45	LEU	2.3
2	H	86	ALA	2.3
2	G	22	GLU	2.3
2	E	21	GLY	2.3
2	G	445	PRO	2.3
2	F	68	MET	2.3
1	B	7	ILE	2.3
1	A	329	ALA	2.3
1	A	268	LYS	2.3
1	A	354	GLY	2.3
2	G	55	PRO	2.3
1	B	330	ASP	2.3
2	E	31	ASN	2.2
1	D	90	ILE	2.2
2	G	107	GLU	2.2
1	C	69	GLY	2.2
1	D	81	GLY	2.2
2	E	234	ARG	2.2
2	F	445	PRO	2.2
2	H	129	VAL	2.2
1	B	479	THR	2.2
1	C	92	ASP	2.2
2	E	420	LEU	2.2
2	G	56	ASP	2.2
2	F	369	ASN	2.2
2	F	87	PHE	2.2
1	D	329	ALA	2.2
2	H	82	ALA	2.2
2	G	40	GLN	2.2
1	A	27	VAL	2.2
2	H	103	GLU	2.2
1	D	327	GLY	2.2
2	E	241	GLY	2.2

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Mol	Chain	Res	Type	RSRZ
2	H	332	ARG	2.2
2	G	350	PRO	2.2
1	A	251	CYS	2.2
2	E	83	CYS	2.2
1	D	42	THR	2.2
2	G	27	THR	2.2
1	A	68	ASP	2.2
1	D	330	ASP	2.2
2	G	306	ASN	2.2
2	H	87	PHE	2.2
2	G	54	HIS	2.2
2	G	442	LYS	2.2
2	F	264	TYR	2.2
1	C	202	LEU	2.2
2	G	193	ARG	2.2
2	H	307	GLU	2.2
1	D	225	THR	2.2
2	E	73	THR	2.2
2	G	421	ILE	2.2
2	G	451	PHE	2.2
2	G	91	ASN	2.2
2	G	423	HIS	2.2
2	H	54	HIS	2.2
2	H	371	SER	2.2
1	C	147	VAL	2.2
2	F	389	GLU	2.2
2	H	240	GLY	2.2
1	A	28	ALA	2.2
2	G	283	ASP	2.2
2	H	384	VAL	2.2
2	G	400	GLY	2.2
1	C	255	LEU	2.2
2	E	66	ALA	2.1
2	H	142	ALA	2.1
1	C	177	ARG	2.1
2	E	432	ASP	2.1
2	F	46	ARG	2.1
2	G	263	ASP	2.1
2	H	431	ASP	2.1
2	E	17	GLU	2.1
2	G	118	PRO	2.1
1	B	140	MET	2.1

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Mol	Chain	Res	Type	RSRZ
2	G	358	LEU	2.1
2	H	178	MET	2.1
1	B	179	ALA	2.1
1	B	199	ALA	2.1
1	C	93	ASN	2.1
1	D	33	ASP	2.1
1	C	483	TRP	2.1
2	G	362	VAL	2.1
1	C	385	LYS	2.1
2	E	403	LYS	2.1
1	B	124	PRO	2.1
1	D	56	PRO	2.1
2	G	150	GLU	2.1
1	D	230	MET	2.1
2	F	45	LEU	2.1
1	A	91	ALA	2.1
2	F	157	ALA	2.1
2	F	294	ASN	2.1
2	G	285	ALA	2.1
2	H	57	VAL	2.1
1	A	121	ASP	2.1
2	F	206	ASP	2.1
1	D	450	GLY	2.1
1	A	89	LEU	2.1
1	B	13	LEU	2.1
1	B	120	LEU	2.1
1	D	112	THR	2.1
2	G	135	ARG	2.1
1	D	237	ALA	2.1
2	G	97	ALA	2.1
1	B	268	LYS	2.1
2	F	265	GLN	2.1
2	F	393	LYS	2.1
1	A	3	PHE	2.1
2	G	72	VAL	2.1
1	D	75	LEU	2.1
2	G	379	GLU	2.1
2	H	397	ARG	2.1
1	B	229	SER	2.1
2	H	442	LYS	2.1
2	F	198	GLN	2.1
1	B	353	GLY	2.1

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Mol	Chain	Res	Type	RSRZ
2	G	406	PRO	2.1
1	B	261	ALA	2.1
2	H	148	PHE	2.1
1	A	453	ASN	2.1
2	F	216	ASN	2.1
1	B	450	GLY	2.0
2	H	93	PRO	2.0
2	H	60	GLU	2.0
1	D	91	ALA	2.0
2	G	86	ALA	2.0
1	C	39	PHE	2.0
2	G	211	PHE	2.0
2	F	24	ASN	2.0
2	F	91	ASN	2.0
2	G	169	ASN	2.0
2	G	239	GLY	2.0
1	D	38	PRO	2.0
2	H	102	PRO	2.0
1	C	180	GLU	2.0
2	G	41	ASP	2.0
2	G	382	GLU	2.0
1	A	146	ALA	2.0
2	H	373	LEU	2.0
2	G	352	GLN	2.0
2	H	452	GLN	2.0
2	H	306	ASN	2.0
1	D	113	GLY	2.0
2	F	441	LYS	2.0
2	G	376	GLY	2.0
2	G	411	GLY	2.0
1	D	218	ILE	2.0
2	H	4	ILE	2.0
2	H	28	ILE	2.0
2	G	200	THR	2.0
1	A	86	LEU	2.0
2	F	338	LEU	2.0
1	A	349	ALA	2.0
2	G	147	SER	2.0
2	G	435	VAL	2.0

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 (i)

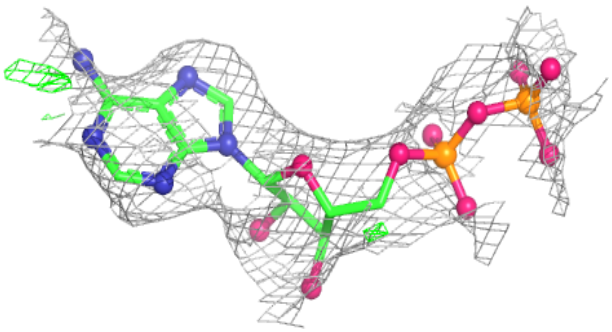
In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 95^{th} percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9'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

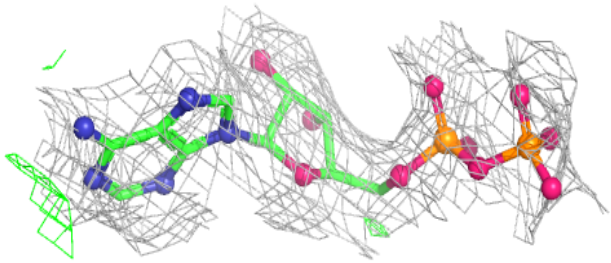
Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
3	ADP	G	501	27/27	0.75	0.20	52,88,144,145	0
3	ADP	H	501	27/27	0.75	0.19	77,107,133,135	0
3	ADP	F	501	27/27	0.85	0.17	67,89,134,136	0
3	ADP	E	501	27/27	0.88	0.15	34,52,128,131	0

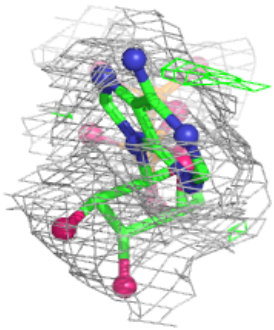
The following is a graphical depiction of the model fit to experimental electron density of all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the geometry validation Tables will also be included. Each fit is shown from different orientation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

Electron density around ADP G 501:

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

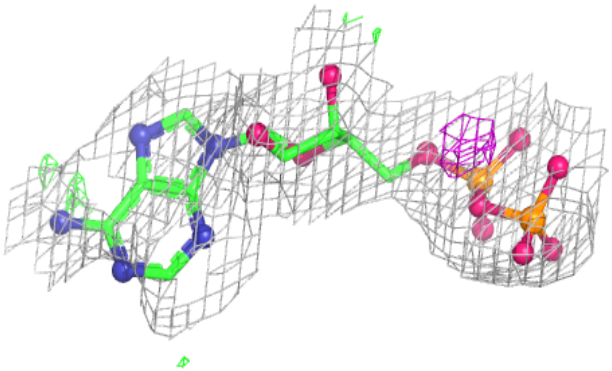


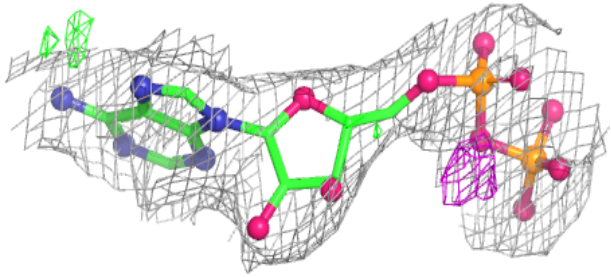


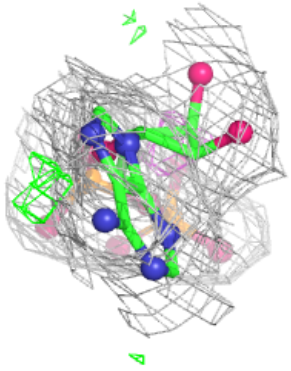


Electron density around ADP H 501:

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

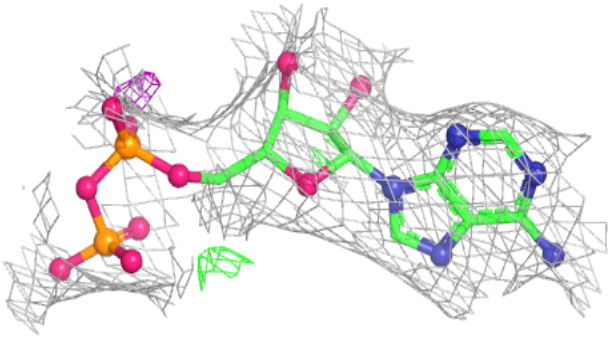


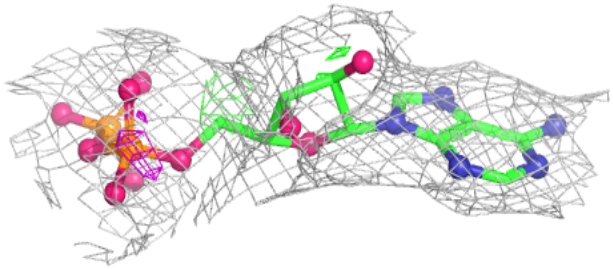


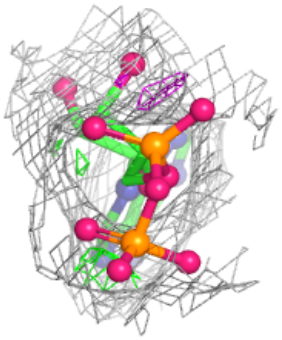


Electron density around ADP F 501:

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

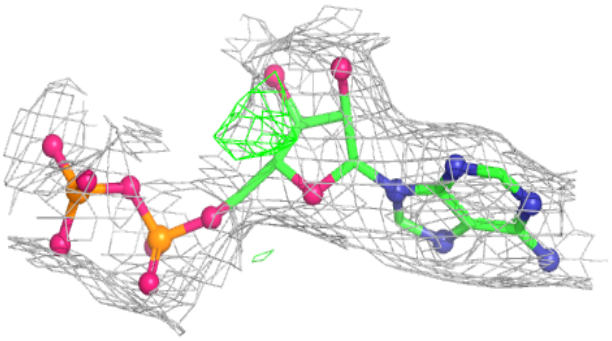


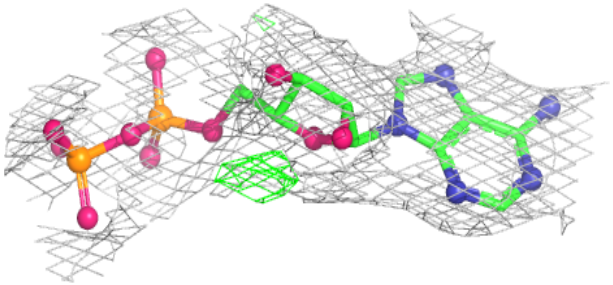


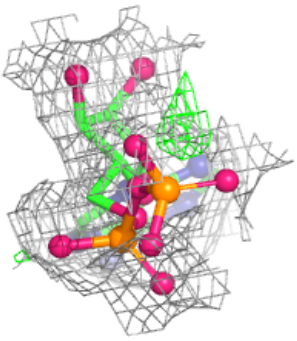


Electron density around ADP E 501:

$2mF_o$-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.