WORLDWIDE wwPDB PROTEIN DATA BANK

Full wwPDB X-ray Structure Validation Report (i)

Jun 24, 2025 – 07:03 pm BST

PDB ID	:	4D0M / pdb_00004d0m
Title	:	Phosphatidylinositol 4-kinase III beta in a complex with Rab11a-GTP-gamma-S and the Rab-binding domain of FIP3
Authors	:	Burke, J.E.; Inglis, A.J.; Perisic, O.; Masson, G.R.; McLaughlin, S.H.; Rutaganira, F.; Shokat, K.M.; Williams, R.L.
Deposited on	:	2014-04-29
Resolution	:	6.00 Å(reported)

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

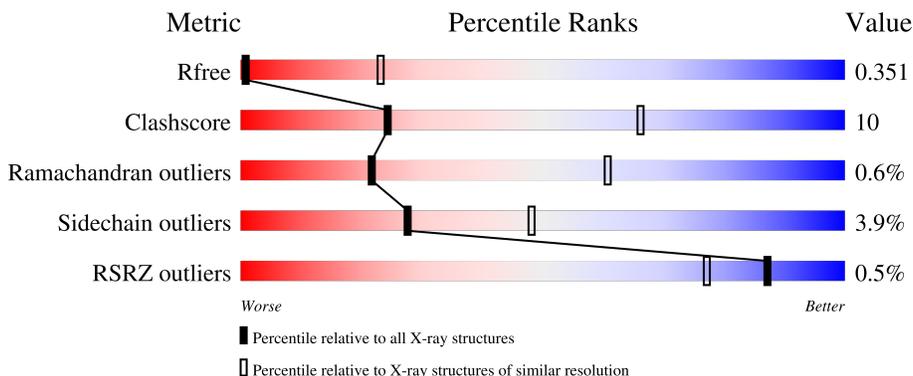|		
MolProbity	:	4-5-2 with Phenix2.0rc1
Mogul	:	1.8.4, CSD as541be (2020)
Xtriage (Phenix)	:	2.0rc1
EDS	:	3.0
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20231227.v01 (using entries in the PDB archive December 27th 2023)
CCP4	:	9.0.003 (Gargrove)
Density-Fitness	:	1.0.11
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.44

1 Overall quality at a glance ⓘ

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

The reported resolution of this entry is 6.00 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.
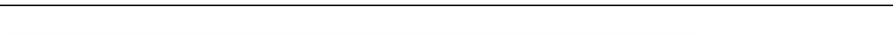
Metric	Percentile Ranks	Value
Rfree		0.351
Clashscore		10
Ramachandran outliers		0.6%
Sidechain outliers		3.9%
RSRZ outliers		0.5%

Worse ———————————————————— *Better*

▮ Percentile relative to all X-ray structures

▯ Percentile relative to X-ray structures of similar resolution

Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R_{free}	164625	1083 (8.00-4.00)
Clashscore	180529	1124 (8.00-4.00)
Ramachandran outliers	177936	1015 (8.00-3.98)
Sidechain outliers	177891	1019 (8.00-3.96)
RSRZ outliers	164620	1078 (8.00-4.00)

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	566	69% 12% • 17%
1	C	566	.% 68% 13% • 17%
1	G	566	69% 13% • 17%
1	I	566	.% 69% 13% • 17%

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Mol	Chain	Length	Quality of chain
1	M	566	69%　13%　•　17%
1	O	566	68%　13%　•　17%
1	Q	566	68%　14%　•　17%
1	S	566	%　68%　13%　•　17%
1	W	566	%　68%　13%　•　17%
1	Y	566	%　68%　13%　•　17%
1	c	566	68%　13%　•　17%
1	g	566	%　68%　14%　•　17%
2	B	219	60%　18%　•　21%
2	D	219	%　62%　16%　•　21%
2	H	219	61%　17%　•　21%
2	J	219	63%　16%　•　21%
2	N	219	62%　16%　•　21%
2	P	219	61%　17%　•　21%
2	R	219	61%　17%　•　21%
2	T	219	62%　16%　•　21%
2	X	219	%　61%　17%　•　21%
2	Z	219	%　60%　18%　•　21%
2	d	219	61%　17%　•　21%
2	h	219	%　61%　17%　•　21%
3	E	48	63%　17%　6%　15%
3	F	48	46%　19%　•　33%
3	K	48	63%　17%　•　•　15%
3	L	48	42%　21%　•　33%
3	U	48	58%　23%　•　15%

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Mol	Chain	Length	Quality of chain
3	V	48	46% 17% · 33%
3	a	48	65% 15% · · 15%
3	b	48	50% 17% 33%
3	e	48	60% 21% · 15%
3	f	48	42% 21% · 33%
3	i	48	60% 21% · · 15%
3	j	48	42% 21% · 33%
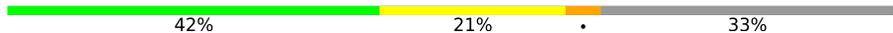
The following table lists non-polymeric compounds, carbohydrate monomers and non-standard residues in protein, DNA, RNA chains that are outliers for geometric or electron-density-fit criteria:

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
5	GSP	d	2000	-	-	X	-
6	MG	Z	2001	-	-	X	-

2 Entry composition ⓘ

There are 6 unique types of molecules in this entry. The entry contains 65970 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 PHOSPHATIDYLINOSITOL 4-KINASE BETA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	470	Total 3788	C 2430	N 654	O 680	S 24	0	0	0
1	C	470	Total 3788	C 2430	N 654	O 680	S 24	0	0	0
1	G	470	Total 3788	C 2430	N 654	O 680	S 24	0	0	0
1	I	470	Total 3788	C 2430	N 654	O 680	S 24	0	0	0
1	M	470	Total 3788	C 2430	N 654	O 680	S 24	0	0	0
1	O	470	Total 3788	C 2430	N 654	O 680	S 24	0	0	0
1	Q	470	Total 3788	C 2430	N 654	O 680	S 24	0	0	0
1	S	470	Total 3788	C 2430	N 654	O 680	S 24	0	0	0
1	W	470	Total 3788	C 2430	N 654	O 680	S 24	0	0	0
1	Y	470	Total 3788	C 2430	N 654	O 680	S 24	0	0	0
1	c	470	Total 3788	C 2430	N 654	O 680	S 24	0	0	0
1	g	470	Total 3788	C 2430	N 654	O 680	S 24	0	0	0

There are 48 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	119	GLY	-	expression tag	UNP Q9UBF8
A	120	SER	-	expression tag	UNP Q9UBF8
A	294	ALA	SER	engineered mutation	UNP Q9UBF8
A	507	ARG	LYS	conflict	UNP Q9UBF8
C	119	GLY	-	expression tag	UNP Q9UBF8

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Chain	Residue	Modelled	Actual	Comment	Reference
C	120	SER	-	expression tag	UNP Q9UBF8
C	294	ALA	SER	engineered mutation	UNP Q9UBF8
C	507	ARG	LYS	conflict	UNP Q9UBF8
G	119	GLY	-	expression tag	UNP Q9UBF8
G	120	SER	-	expression tag	UNP Q9UBF8
G	294	ALA	SER	engineered mutation	UNP Q9UBF8
G	507	ARG	LYS	conflict	UNP Q9UBF8
I	119	GLY	-	expression tag	UNP Q9UBF8
I	120	SER	-	expression tag	UNP Q9UBF8
I	294	ALA	SER	engineered mutation	UNP Q9UBF8
I	507	ARG	LYS	conflict	UNP Q9UBF8
M	119	GLY	-	expression tag	UNP Q9UBF8
M	120	SER	-	expression tag	UNP Q9UBF8
M	294	ALA	SER	engineered mutation	UNP Q9UBF8
M	507	ARG	LYS	conflict	UNP Q9UBF8
O	119	GLY	-	expression tag	UNP Q9UBF8
O	120	SER	-	expression tag	UNP Q9UBF8
O	294	ALA	SER	engineered mutation	UNP Q9UBF8
O	507	ARG	LYS	conflict	UNP Q9UBF8
Q	119	GLY	-	expression tag	UNP Q9UBF8
Q	120	SER	-	expression tag	UNP Q9UBF8
Q	294	ALA	SER	engineered mutation	UNP Q9UBF8
Q	507	ARG	LYS	conflict	UNP Q9UBF8
S	119	GLY	-	expression tag	UNP Q9UBF8
S	120	SER	-	expression tag	UNP Q9UBF8
S	294	ALA	SER	engineered mutation	UNP Q9UBF8
S	507	ARG	LYS	conflict	UNP Q9UBF8
W	119	GLY	-	expression tag	UNP Q9UBF8
W	120	SER	-	expression tag	UNP Q9UBF8
W	294	ALA	SER	engineered mutation	UNP Q9UBF8
W	507	ARG	LYS	conflict	UNP Q9UBF8
Y	119	GLY	-	expression tag	UNP Q9UBF8
Y	120	SER	-	expression tag	UNP Q9UBF8
Y	294	ALA	SER	engineered mutation	UNP Q9UBF8
Y	507	ARG	LYS	conflict	UNP Q9UBF8
c	119	GLY	-	expression tag	UNP Q9UBF8
c	120	SER	-	expression tag	UNP Q9UBF8
c	294	ALA	SER	engineered mutation	UNP Q9UBF8
c	507	ARG	LYS	conflict	UNP Q9UBF8
g	119	GLY	-	expression tag	UNP Q9UBF8
g	120	SER	-	expression tag	UNP Q9UBF8
g	294	ALA	SER	engineered mutation	UNP Q9UBF8

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Chain	Residue	Modelled	Actual	Comment	Reference
g	507	ARG	LYS	conflict	UNP Q9UBF8

- Molecule 2 is a protein called RAS-RELATED PROTEIN RAB-11A.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
2	B	173	Total 1377	C 872	N 238	O 266	S 1	0	0	0
2	D	173	Total 1377	C 872	N 238	O 266	S 1	0	0	0
2	H	173	Total 1377	C 872	N 238	O 266	S 1	0	0	0
2	J	173	Total 1377	C 872	N 238	O 266	S 1	0	0	0
2	N	173	Total 1377	C 872	N 238	O 266	S 1	0	0	0
2	P	173	Total 1377	C 872	N 238	O 266	S 1	0	0	0
2	R	173	Total 1377	C 872	N 238	O 266	S 1	0	0	0
2	T	173	Total 1377	C 872	N 238	O 266	S 1	0	0	0
2	X	173	Total 1377	C 872	N 238	O 266	S 1	0	0	0
2	Z	173	Total 1377	C 872	N 238	O 266	S 1	0	0	0
2	d	173	Total 1377	C 872	N 238	O 266	S 1	0	0	0
2	h	173	Total 1377	C 872	N 238	O 266	S 1	0	0	0

There are 48 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
B	-2	GLY	-	expression tag	UNP P62491
B	-1	SER	-	expression tag	UNP P62491
B	0	HIS	-	expression tag	UNP P62491
B	70	LEU	GLN	engineered mutation	UNP P62491
D	-2	GLY	-	expression tag	UNP P62491
D	-1	SER	-	expression tag	UNP P62491
D	0	HIS	-	expression tag	UNP P62491
D	70	LEU	GLN	engineered mutation	UNP P62491
H	-2	GLY	-	expression tag	UNP P62491

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Chain	Residue	Modelled	Actual	Comment	Reference
H	-1	SER	-	expression tag	UNP P62491
H	0	HIS	-	expression tag	UNP P62491
H	70	LEU	GLN	engineered mutation	UNP P62491
J	-2	GLY	-	expression tag	UNP P62491
J	-1	SER	-	expression tag	UNP P62491
J	0	HIS	-	expression tag	UNP P62491
J	70	LEU	GLN	engineered mutation	UNP P62491
N	-2	GLY	-	expression tag	UNP P62491
N	-1	SER	-	expression tag	UNP P62491
N	0	HIS	-	expression tag	UNP P62491
N	70	LEU	GLN	engineered mutation	UNP P62491
P	-2	GLY	-	expression tag	UNP P62491
P	-1	SER	-	expression tag	UNP P62491
P	0	HIS	-	expression tag	UNP P62491
P	70	LEU	GLN	engineered mutation	UNP P62491
R	-2	GLY	-	expression tag	UNP P62491
R	-1	SER	-	expression tag	UNP P62491
R	0	HIS	-	expression tag	UNP P62491
R	70	LEU	GLN	engineered mutation	UNP P62491
T	-2	GLY	-	expression tag	UNP P62491
T	-1	SER	-	expression tag	UNP P62491
T	0	HIS	-	expression tag	UNP P62491
T	70	LEU	GLN	engineered mutation	UNP P62491
X	-2	GLY	-	expression tag	UNP P62491
X	-1	SER	-	expression tag	UNP P62491
X	0	HIS	-	expression tag	UNP P62491
X	70	LEU	GLN	engineered mutation	UNP P62491
Z	-2	GLY	-	expression tag	UNP P62491
Z	-1	SER	-	expression tag	UNP P62491
Z	0	HIS	-	expression tag	UNP P62491
Z	70	LEU	GLN	engineered mutation	UNP P62491
d	-2	GLY	-	expression tag	UNP P62491
d	-1	SER	-	expression tag	UNP P62491
d	0	HIS	-	expression tag	UNP P62491
d	70	LEU	GLN	engineered mutation	UNP P62491
h	-2	GLY	-	expression tag	UNP P62491
h	-1	SER	-	expression tag	UNP P62491
h	0	HIS	-	expression tag	UNP P62491
h	70	LEU	GLN	engineered mutation	UNP P62491

- Molecule 3 is a protein called RAB11 FAMILY-INTERACTING PROTEIN 3.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
3	E	41	Total 314	C 199	N 54	O 60	S 1	0	0	0
3	F	32	Total 237	C 153	N 41	O 42	S 1	0	0	0
3	K	41	Total 314	C 199	N 54	O 60	S 1	0	0	0
3	L	32	Total 237	C 153	N 41	O 42	S 1	0	0	0
3	U	41	Total 314	C 199	N 54	O 60	S 1	0	0	0
3	V	32	Total 237	C 153	N 41	O 42	S 1	0	0	0
3	a	41	Total 314	C 199	N 54	O 60	S 1	0	0	0
3	b	32	Total 237	C 153	N 41	O 42	S 1	0	0	0
3	e	41	Total 314	C 199	N 54	O 60	S 1	0	0	0
3	f	32	Total 237	C 153	N 41	O 42	S 1	0	0	0
3	i	41	Total 314	C 199	N 54	O 60	S 1	0	0	0
3	j	32	Total 237	C 153	N 41	O 42	S 1	0	0	0

There are 48 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
E	709	GLY	-	expression tag	UNP O75154
E	710	SER	-	expression tag	UNP O75154
E	711	HIS	-	expression tag	UNP O75154
E	712	MET	-	expression tag	UNP O75154
F	709	GLY	-	expression tag	UNP O75154
F	710	SER	-	expression tag	UNP O75154
F	711	HIS	-	expression tag	UNP O75154
F	712	MET	-	expression tag	UNP O75154
K	709	GLY	-	expression tag	UNP O75154
K	710	SER	-	expression tag	UNP O75154
K	711	HIS	-	expression tag	UNP O75154
K	712	MET	-	expression tag	UNP O75154
L	709	GLY	-	expression tag	UNP O75154
L	710	SER	-	expression tag	UNP O75154
L	711	HIS	-	expression tag	UNP O75154
L	712	MET	-	expression tag	UNP O75154

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Chain	Residue	Modelled	Actual	Comment	Reference
U	709	GLY	-	expression tag	UNP O75154
U	710	SER	-	expression tag	UNP O75154
U	711	HIS	-	expression tag	UNP O75154
U	712	MET	-	expression tag	UNP O75154
V	709	GLY	-	expression tag	UNP O75154
V	710	SER	-	expression tag	UNP O75154
V	711	HIS	-	expression tag	UNP O75154
V	712	MET	-	expression tag	UNP O75154
a	709	GLY	-	expression tag	UNP O75154
a	710	SER	-	expression tag	UNP O75154
a	711	HIS	-	expression tag	UNP O75154
a	712	MET	-	expression tag	UNP O75154
b	709	GLY	-	expression tag	UNP O75154
b	710	SER	-	expression tag	UNP O75154
b	711	HIS	-	expression tag	UNP O75154
b	712	MET	-	expression tag	UNP O75154
e	709	GLY	-	expression tag	UNP O75154
e	710	SER	-	expression tag	UNP O75154
e	711	HIS	-	expression tag	UNP O75154
e	712	MET	-	expression tag	UNP O75154
f	709	GLY	-	expression tag	UNP O75154
f	710	SER	-	expression tag	UNP O75154
f	711	HIS	-	expression tag	UNP O75154
f	712	MET	-	expression tag	UNP O75154
i	709	GLY	-	expression tag	UNP O75154
i	710	SER	-	expression tag	UNP O75154
i	711	HIS	-	expression tag	UNP O75154
i	712	MET	-	expression tag	UNP O75154
j	709	GLY	-	expression tag	UNP O75154
j	710	SER	-	expression tag	UNP O75154
j	711	HIS	-	expression tag	UNP O75154
j	712	MET	-	expression tag	UNP O75154

- Molecule 4 is N-(5-(4-CHLORO-3-(2-HYDROXY-ETHYLSULFAMOYL)- PHENYLTHIAZOLE-2-YL)-ACETAMIDE (CCD ID: 093) (formula: $C_{14}H_{16}ClN_3O_4S_2$).

093

Mol	Chain	Residues	Atoms						ZeroOcc	AltConf
4	A	1	Total	C	Cl	N	O	S	24	0
			24	14	1	3	4	2		
4	C	1	Total	C	Cl	N	O	S	24	0
			24	14	1	3	4	2		
4	G	1	Total	C	Cl	N	O	S	24	0
			24	14	1	3	4	2		
4	I	1	Total	C	Cl	N	O	S	24	0
			24	14	1	3	4	2		
4	M	1	Total	C	Cl	N	O	S	24	0
			24	14	1	3	4	2		
4	O	1	Total	C	Cl	N	O	S	24	0
			24	14	1	3	4	2		
4	Q	1	Total	C	Cl	N	O	S	24	0
			24	14	1	3	4	2		
4	S	1	Total	C	Cl	N	O	S	24	0
			24	14	1	3	4	2		
4	W	1	Total	C	Cl	N	O	S	24	0
			24	14	1	3	4	2		
4	Y	1	Total	C	Cl	N	O	S	24	0
			24	14	1	3	4	2		
4	c	1	Total	C	Cl	N	O	S	24	0
			24	14	1	3	4	2		
4	g	1	Total	C	Cl	N	O	S	24	0
			24	14	1	3	4	2		

- Molecule 5 is 5'-GUANOSINE-DIPHOSPHATE-MONOTHIOPHOSPHATE (CCD ID: GSP) (formula: $C_{10}H_{16}N_5O_{13}P_3S$).

Mol	Chain	Residues	Atoms						ZeroOcc	AltConf
5	B	1	Total	C	N	O	P	S	0	0
			32	10	5	13	3	1		
5	D	1	Total	C	N	O	P	S	0	0
			32	10	5	13	3	1		
5	H	1	Total	C	N	O	P	S	0	0
			32	10	5	13	3	1		
5	J	1	Total	C	N	O	P	S	0	0
			32	10	5	13	3	1		
5	N	1	Total	C	N	O	P	S	0	0
			32	10	5	13	3	1		
5	P	1	Total	C	N	O	P	S	0	0
			32	10	5	13	3	1		
5	R	1	Total	C	N	O	P	S	0	0
			32	10	5	13	3	1		
5	T	1	Total	C	N	O	P	S	0	0
			32	10	5	13	3	1		
5	X	1	Total	C	N	O	P	S	0	0
			32	10	5	13	3	1		
5	Z	1	Total	C	N	O	P	S	0	0
			32	10	5	13	3	1		
5	d	1	Total	C	N	O	P	S	0	0
			32	10	5	13	3	1		
5	h	1	Total	C	N	O	P	S	0	0
			32	10	5	13	3	1		

- Molecule 6 is MAGNESIUM ION (CCD ID: MG) (formula: Mg).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
6	B	1	Total 1	Mg 1	0	0
6	D	1	Total 1	Mg 1	0	0
6	H	1	Total 1	Mg 1	0	0
6	J	1	Total 1	Mg 1	0	0
6	N	1	Total 1	Mg 1	0	0
6	P	1	Total 1	Mg 1	0	0
6	R	1	Total 1	Mg 1	0	0
6	T	1	Total 1	Mg 1	0	0
6	X	1	Total 1	Mg 1	0	0
6	Z	1	Total 1	Mg 1	0	0
6	d	1	Total 1	Mg 1	0	0
6	h	1	Total 1	Mg 1	0	0

3 Residue-property plots ⓘ

These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry 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.
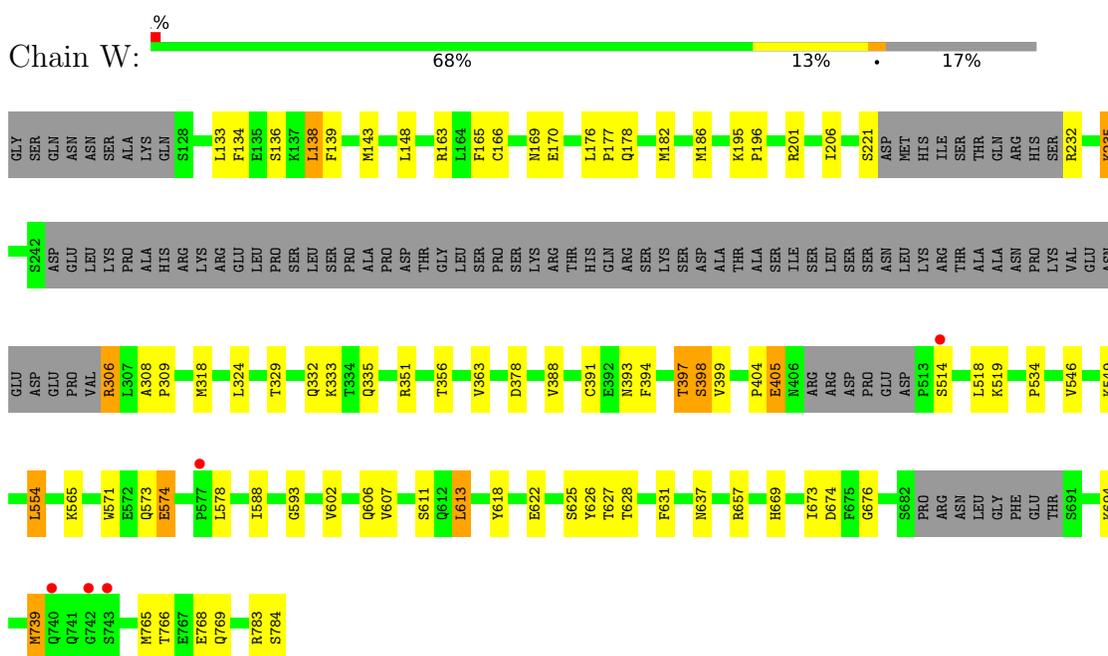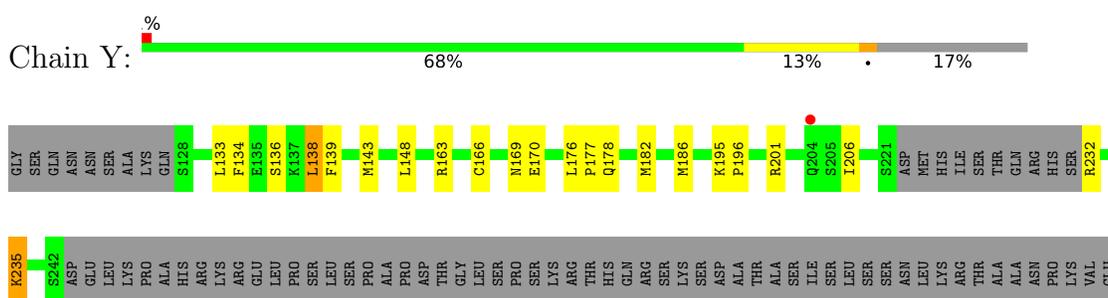
- Molecule 1: PHOSPHATIDYLINOSITOL 4-KINASE BETA
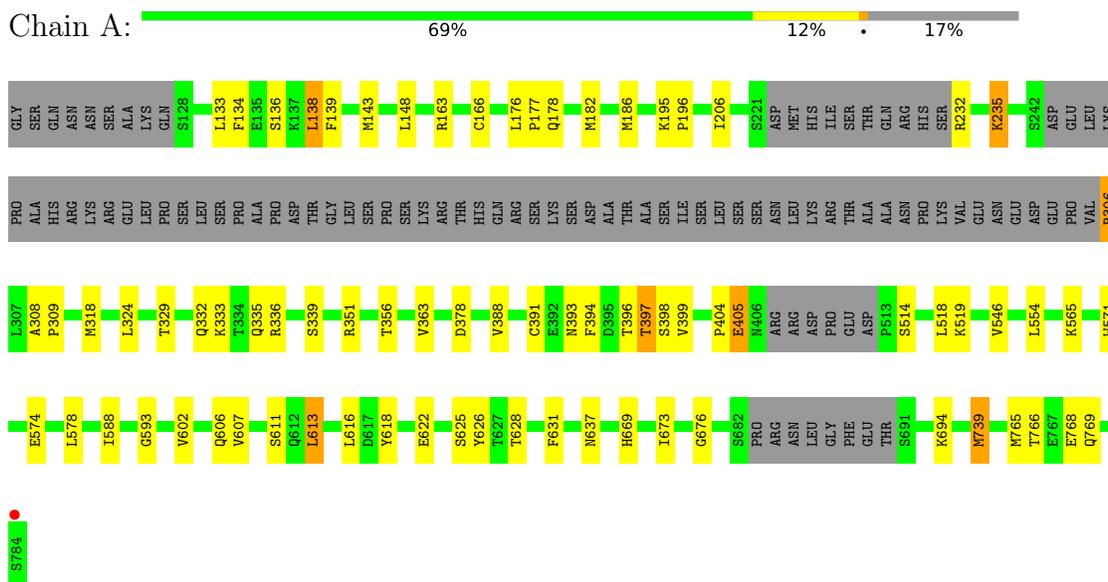
- Molecule 1: PHOSPHATIDYLINOSITOL 4-KINASE BETA
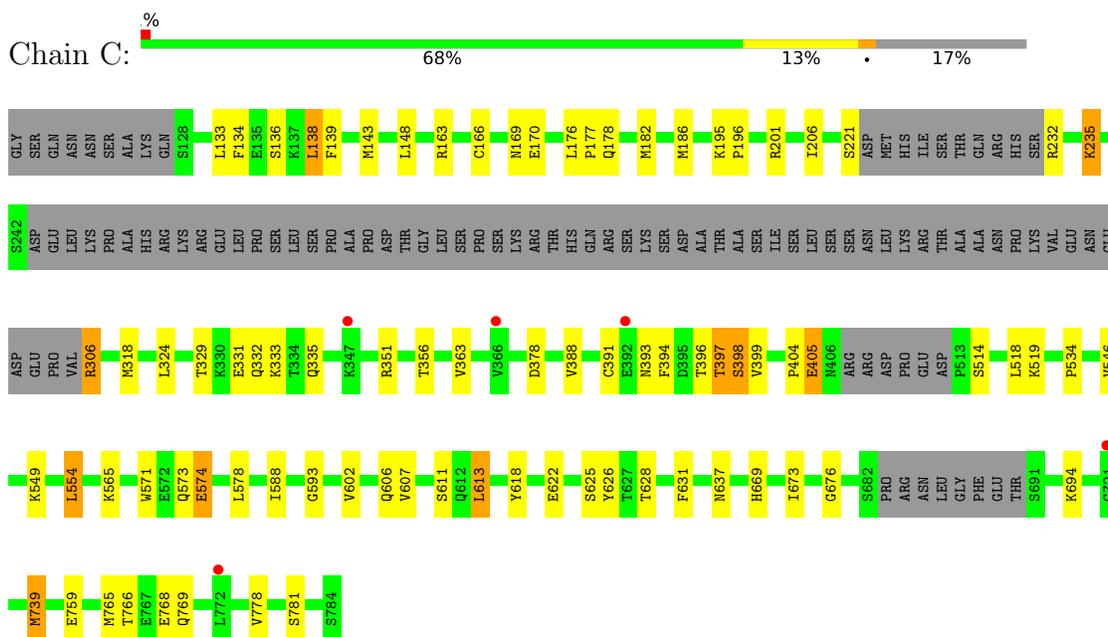
• Molecule 1: PHOSPHATIDYLINOSITOL 4-KINASE BETA
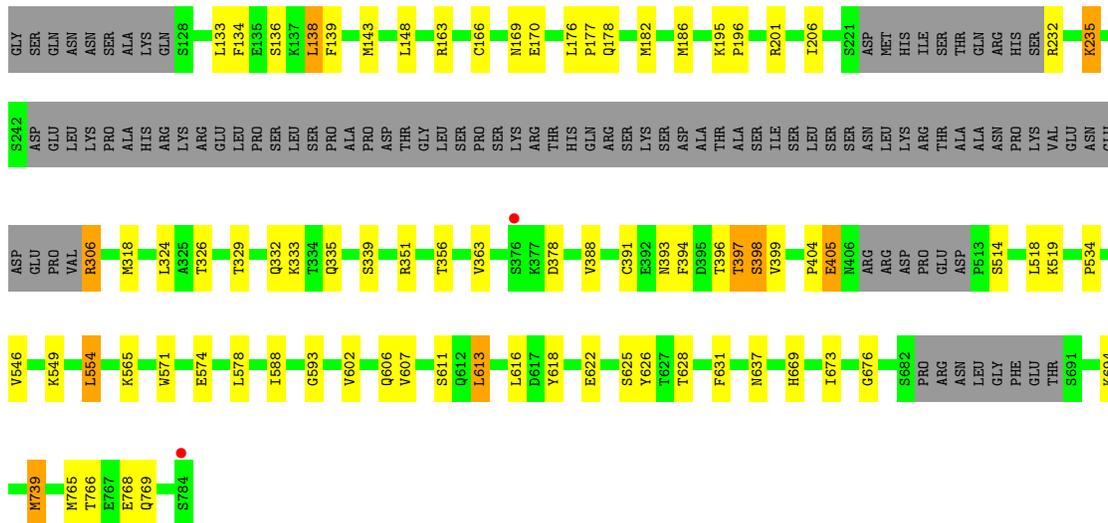
Chain G:

• Molecule 1: PHOSPHATIDYLINOSITOL 4-KINASE BETA

Chain I:
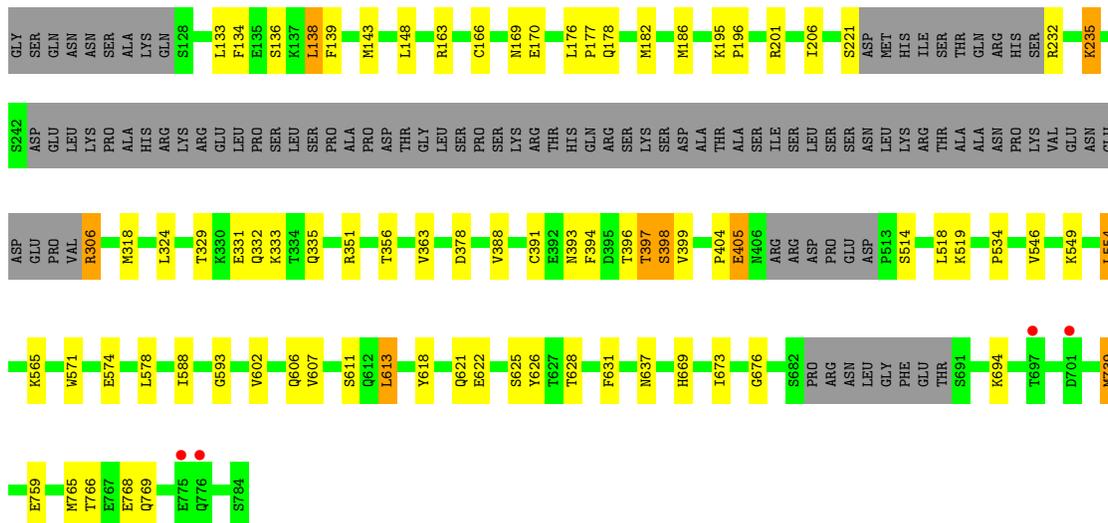
• Molecule 1: PHOSPHATIDYLINOSITOL 4-KINASE BETA

Chain M:
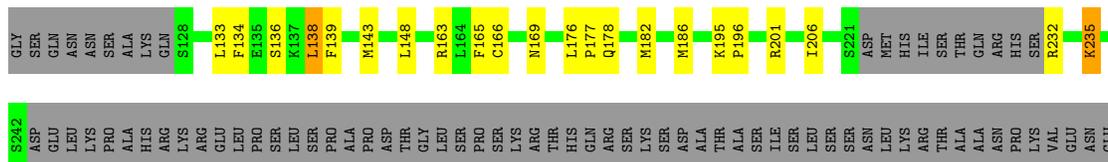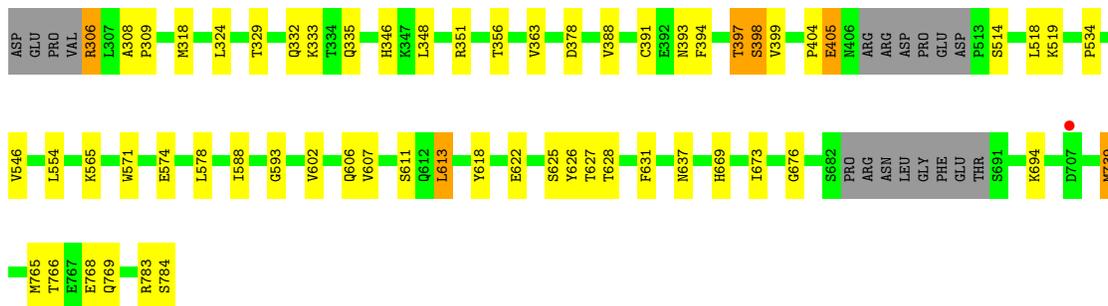
• Molecule 1: PHOSPHATIDYLINOSITOL 4-KINASE BETA
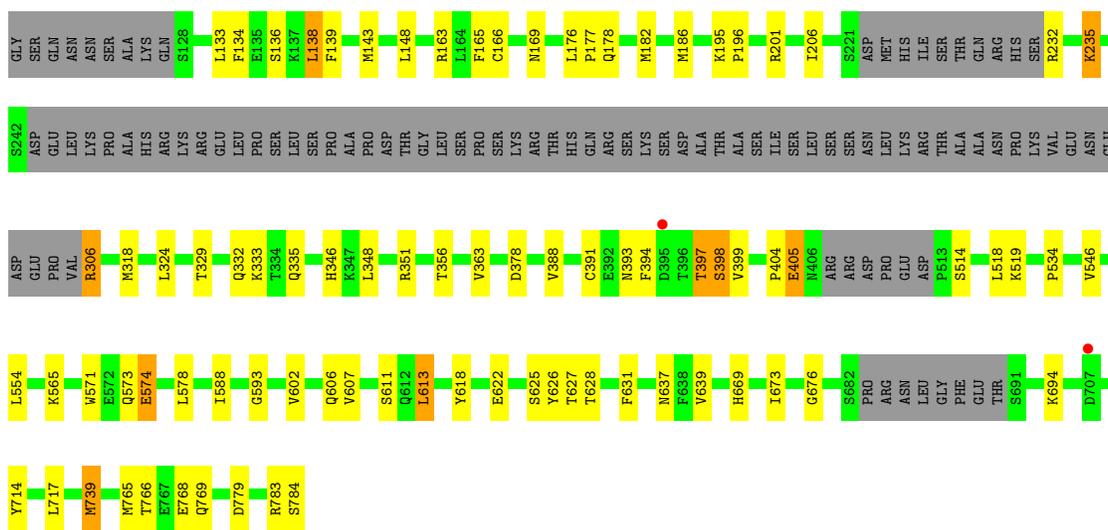
Chain O:

• Molecule 1: PHOSPHATIDYLINOSITOL 4-KINASE BETA

Chain Q:

• Molecule 1: PHOSPHATIDYLINOSITOL 4-KINASE BETA

Chain S:

68%   13%   •   17%

• Molecule 1: PHOSPHATIDYLINOSITOL 4-KINASE BETA

Chain W:

68%   13%   •   17%

• Molecule 1: PHOSPHATIDYLINOSITOL 4-KINASE BETA

Chain Y:

68%   13%   •   17%

• Molecule 1: PHOSPHATIDYLINOSITOL 4-KINASE BETA

Chain c:

• Molecule 1: PHOSPHATIDYLINOSITOL 4-KINASE BETA
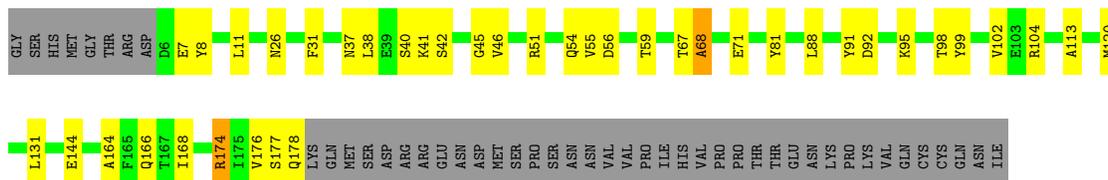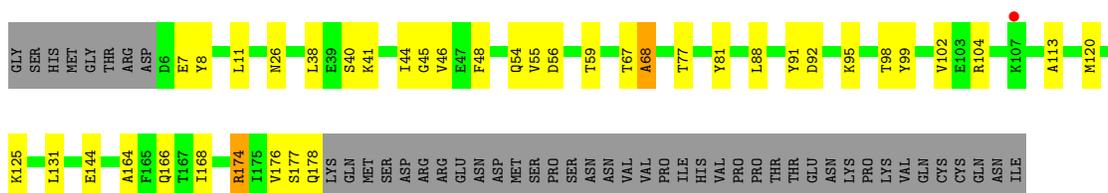
Chain g:

• Molecule 2: RAS-RELATED PROTEIN RAB-11A

Chain B:

• Molecule 2: RAS-RELATED PROTEIN RAB-11A

Chain D:

• Molecule 2: RAS-RELATED PROTEIN RAB-11A

Chain H:

• Molecule 2: RAS-RELATED PROTEIN RAB-11A

Chain J:

• Molecule 2: RAS-RELATED PROTEIN RAB-11A

Chain N:
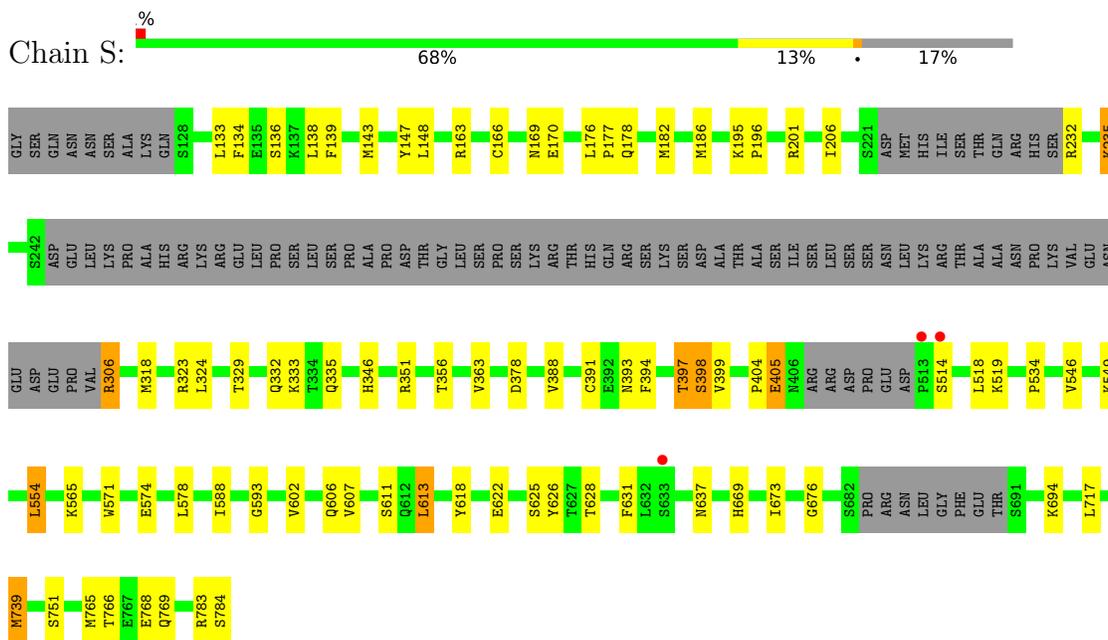
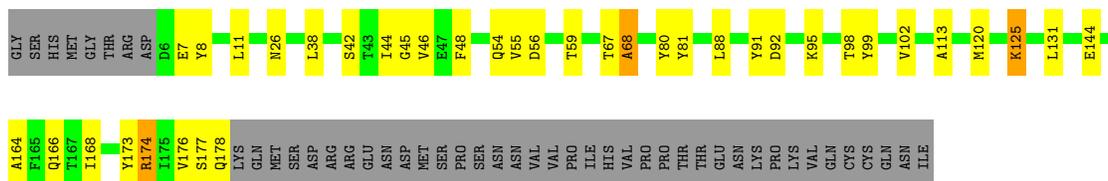• Molecule 2: RAS-RELATED PROTEIN RAB-11A

Chain P:

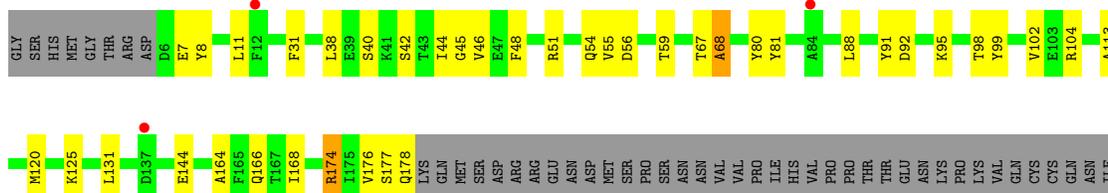• Molecule 2: RAS-RELATED PROTEIN RAB-11A

Chain R:

• Molecule 2: RAS-RELATED PROTEIN RAB-11A

Chain T:

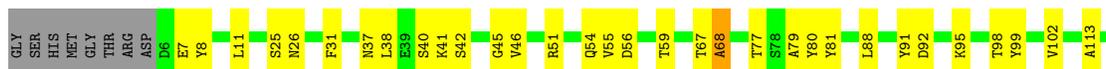• Molecule 2: RAS-RELATED PROTEIN RAB-11A

Chain X:

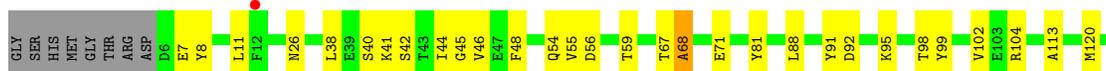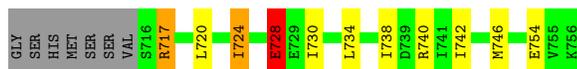• Molecule 2: RAS-RELATED PROTEIN RAB-11A

Chain Z:

A113 M120 K125 E144 T159 A164 F165 Q166 T167 I168 Y173 R174 Q178 LYS GLN MET SER ASP ARG ARG GLU ASN ASP SER MET SER PRO SER ASN ASN VAL VAL PRO ILE HIS VAL PRO PRO THR THR GLU ASN LYS PRO LYS VAL GLN CYS CYS GLN ASN ILE

• Molecule 2: RAS-RELATED PROTEIN RAB-11A

Chain d:

| 61% | 17% | • | 21% |

GLY SER HIS MET GLY THR ARG ASP D6 E7 Y8 L11 S25 N26 F31 N37 L38 E39 S40 K41 S42 G45 V46 R51 Q54 V55 D56 T59 T67 A68 T77 S78 A79 Y80 Y81 L88 Y91 D92 K95 T98 Y99 V102 A113

M120 H130 E144 A164 I168 R174 I175 V176 S177 Q178 LYS GLN MET SER ASP ARG ARG GLU ASN ASP MET SER PRO SER ASN ASN VAL VAL PRO ILE HIS VAL PRO PRO THR THR GLU ASN LYS PRO LYS VAL GLN CYS CYS GLN ASN ILE

• Molecule 2: RAS-RELATED PROTEIN RAB-11A

Chain h:

| % | 61% | 17% | • | 21% |

GLY SER HIS MET GLY THR ARG ASP D6 E7 Y8 L11 F12 N26 L38 E39 S40 K41 S42 T43 I44 G45 V46 E47 F48 Q54 V55 D56 T59 T67 A68 E71 Y81 L88 Y91 D92 K95 T98 Y99 V102 E103 R104 A113 M120

K125 H130 L131 E144 I151 A164 I168 R174 I175 V176 S177 Q178 LYS GLN MET SER ASP ARG ARG GLU ASN ASP MET SER PRO SER ASN ASN VAL VAL PRO ILE HIS VAL PRO PRO THR THR GLU ASN LYS PRO LYS VAL GLN CYS CYS GLN ASN ILE

• Molecule 3: RAB11 FAMILY-INTERACTING PROTEIN 3

Chain E:

| 63% | 17% | 6% | 15% |

GLY SER HIS MET SER VAL S716 R717 L720 I724 E728 E729 I730 L734 I738 I742 M746 E754 V755 K756

• Molecule 3: RAB11 FAMILY-INTERACTING PROTEIN 3

Chain F:

| 46% | 19% | • | 33% |

GLY SER HIS MET SER SER V715 S716 R717 L720 I724 Q727 E728 N731 Y737 I738 I741 M746 GLU THR ASN PRO SER ILE LEU GLU VAL LYS

• Molecule 3: RAB11 FAMILY-INTERACTING PROTEIN 3

Chain K:

| 63% | 17% | • | • | 15% |

GLY SER HIS MET SER VAL S716 R717 L720 I724 E728 E729 I730 L734 I738 D739 R740 I741 I742 M746 E754 V755 K756

• Molecule 3: RAB11 FAMILY-INTERACTING PROTEIN 3

Chain L:

| 42% | 21% | • | 33% |

GLY SER HIS MET SER V715 S716 R717 L720 I724 Q727 E728 E729 I730 N731 L734 Y737 I738 I741 M746 GLU THR ASN PRO SER ILE LEU GLU VAL LYS

• Molecule 3: RAB11 FAMILY-INTERACTING PROTEIN 3

Chain U: 58%   23%   •   15%

GLY SER HIS MET SER VAL S716 R717 L720 I724 Q725 E728 E729 I730 N731 F732 R733 L734 Q735 I738 M746 E754 V755 K756

• Molecule 3: RAB11 FAMILY-INTERACTING PROTEIN 3

Chain V: 46%   17%   •   33%

GLY SER HIS MET SER V715 S716 R717 L720 I724 Q725 K726 Q727 E728 E729 I730 N731 L734 I738 M746 GLU THR ASN PRO SER ILE LEU GLU VAL LYS

• Molecule 3: RAB11 FAMILY-INTERACTING PROTEIN 3

Chain a: 65%   15%   • •   15%

GLY SER HIS MET SER VAL S716 R717 L720 I724 E728 E729 I730 L734 I738 M746 E754 V755 K756

• Molecule 3: RAB11 FAMILY-INTERACTING PROTEIN 3

Chain b: 50%   17%   33%

GLY SER HIS MET SER V715 S716 R717 L720 I724 Q727 E728 Y737 I738 M746 GLU THR ASN PRO SER ILE LEU GLU VAL LYS

• Molecule 3: RAB11 FAMILY-INTERACTING PROTEIN 3

Chain e: 60%   21%   •   15%

GLY SER HIS MET SER VAL S716 R717 L720 I724 Q725 E728 E729 I730 N731 L734 Q735 I738 I752 L753 E754 V755 K756

• Molecule 3: RAB11 FAMILY-INTERACTING PROTEIN 3

Chain f: 42%   21%   •   33%

GLY SER HIS MET SER V715 S716 R717 L720 I724 Q725 K726 Q727 E728 E729 I730 N731 F732 R733 L734 I738 I745 M746 GLU THR ASN PRO SER ILE LEU GLU VAL LYS

• Molecule 3: RAB11 FAMILY-INTERACTING PROTEIN 3

Chain i: 60%   21%   • •   15%

GLY SER HIS MET SER VAL **S716** R717 L720 I724 E728 E729 I730 N731 F732 R733 L734 Q735 I738 E754 V755 K756

● Molecule 3: RAB11 FAMILY-INTERACTING PROTEIN 3

Chain j:

42%　　　　　　21%　　　・　　　33%

GLY SER HIS MET SER SER V715 S716 R717 L720 M721 E722 A723 I724 Q727 E728 E729 I730 N731 F732 R733 L734 I738 M746 GLU THR ASN PRO SER ILE LEU GLU VAL LYS

4 Data and refinement statistics (i)

Property	Value	Source
Space group	P 1 21 1	Depositor
Cell constants a, b, c, α, β, γ	199.50Å 134.47Å 294.33Å 90.00° 90.33° 90.00°	Depositor
Resolution (Å)	294.32 – 6.00 294.32 – 6.00	Depositor EDS
% Data completeness (in resolution range)	94.3 (294.32-6.00) 92.8 (294.32-6.00)	Depositor EDS
R_{merge}	0.17	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	2.83 (at 6.15Å)	Xtriage
Refinement program	REFMAC 5.8.0069	Depositor
R, R_{free}	0.253 , 0.359 0.252 , 0.351	Depositor DCC
R_{free} test set	1925 reflections (5.16%)	wwPDB-VP
Wilson B-factor (Å^2)	248.6	Xtriage
Anisotropy	0.345	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.43 , 943.6	EDS
L-test for twinning[2]	$< |L| > = 0.46, < L^2 > = 0.29$	Xtriage
Estimated twinning fraction	0.389 for h,-k,-l	Xtriage
F_o,F_c correlation	0.90	EDS
Total number of atoms	65970	wwPDB-VP
Average B, all atoms (Å^2)	264.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 3.53% of the height of the origin peak. No significant pseudotranslation is detected.*

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[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: MG, 093, GSP

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	0.75	0/3866	0.95	6/5219 (0.1%)
1	C	0.73	0/3866	0.94	6/5219 (0.1%)
1	G	0.74	0/3866	0.95	6/5219 (0.1%)
1	I	0.72	0/3866	0.93	5/5219 (0.1%)
1	M	0.74	0/3866	0.95	6/5219 (0.1%)
1	O	0.75	0/3866	0.95	6/5219 (0.1%)
1	Q	0.73	0/3866	0.95	6/5219 (0.1%)
1	S	0.73	0/3866	0.94	6/5219 (0.1%)
1	W	0.75	0/3866	0.94	6/5219 (0.1%)
1	Y	0.74	0/3866	0.94	2/5219 (0.0%)
1	c	0.77	0/3866	0.95	4/5219 (0.1%)
1	g	0.75	0/3866	0.94	6/5219 (0.1%)
2	B	0.82	0/1399	0.98	1/1892 (0.1%)
2	D	0.81	0/1399	0.96	0/1892
2	H	0.80	0/1399	0.97	0/1892
2	J	0.82	0/1399	0.97	0/1892
2	N	0.77	0/1399	0.94	0/1892
2	P	0.77	0/1399	0.94	0/1892
2	R	0.76	0/1399	0.94	1/1892 (0.1%)
2	T	0.75	0/1399	0.94	0/1892
2	X	0.76	0/1399	0.94	0/1892
2	Z	0.77	0/1399	0.93	0/1892
2	d	0.77	0/1399	0.94	1/1892 (0.1%)
2	h	0.78	0/1399	0.93	0/1892
3	E	1.23	2/316 (0.6%)	1.25	1/429 (0.2%)
3	F	1.18	1/238 (0.4%)	1.23	0/323
3	K	1.24	2/316 (0.6%)	1.25	1/429 (0.2%)
3	L	1.20	2/238 (0.8%)	1.24	0/323
3	U	1.11	1/316 (0.3%)	1.13	0/429
3	V	1.26	0/238	1.21	1/323 (0.3%)
3	a	1.25	2/316 (0.6%)	1.24	1/429 (0.2%)
3	b	1.22	0/238	1.21	0/323

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#|Z| >5	RMSZ	#|Z| >5
3	e	1.15	1/316 (0.3%)	1.15	0/429
3	f	1.24	0/238	1.22	1/323 (0.3%)
3	i	1.16	1/316 (0.3%)	1.15	1/429 (0.2%)
3	j	1.27	0/238	1.19	1/323 (0.3%)
All	All	0.78	12/66504 (0.0%)	0.96	75/89844 (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	C	0	1
1	G	0	1
1	I	0	1
1	M	0	1
1	O	0	1
1	Q	0	1
1	S	0	1
1	W	0	1
1	Y	0	1
1	c	0	1
1	g	0	1
All	All	0	12

All (12) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	a	717	ARG	CD-NE	6.71	1.55	1.46
3	E	717	ARG	CD-NE	6.36	1.55	1.46
3	K	724	ILE	C-O	6.33	1.31	1.24
3	K	717	ARG	CD-NE	6.29	1.55	1.46
3	E	724	ILE	C-O	6.17	1.31	1.24
3	a	724	ILE	C-O	6.13	1.30	1.24
3	e	724	ILE	C-O	6.06	1.30	1.24
3	i	724	ILE	C-O	5.55	1.30	1.24
3	U	724	ILE	C-O	5.55	1.30	1.24
3	L	724	ILE	C-O	5.41	1.30	1.24
3	F	728	GLU	C-O	5.24	1.30	1.24
3	L	728	GLU	C-O	5.23	1.30	1.24

All (75) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	g	676	GLY	N-CA-C	-8.07	102.21	112.54
1	W	574	GLU	N-CA-C	-8.00	100.28	110.19
1	O	574	GLU	N-CA-C	-7.71	100.63	110.19
1	g	574	GLU	N-CA-C	-7.53	100.85	110.19
1	G	574	GLU	N-CA-C	-7.52	100.86	110.19
1	S	676	GLY	N-CA-C	-7.47	102.50	112.14
1	c	676	GLY	N-CA-C	-7.46	102.99	112.54
1	W	676	GLY	N-CA-C	-7.45	103.00	112.54
1	M	574	GLU	N-CA-C	-7.42	100.99	110.19
1	A	574	GLU	N-CA-C	-7.38	101.04	110.19
1	M	676	GLY	N-CA-C	-7.33	103.15	112.54
1	C	574	GLU	N-CA-C	-7.33	101.10	110.19
1	G	676	GLY	N-CA-C	-7.15	103.39	112.54
1	A	676	GLY	N-CA-C	-7.11	103.44	112.54
1	C	676	GLY	N-CA-C	-7.05	103.52	112.54
1	S	574	GLU	N-CA-C	-7.03	101.47	110.19
1	Q	574	GLU	N-CA-C	-7.02	101.48	110.19
1	I	676	GLY	N-CA-C	-6.97	103.62	112.54
1	O	676	GLY	N-CA-C	-6.93	103.20	112.14
1	C	673	ILE	N-CA-C	6.91	123.71	109.34
1	A	673	ILE	N-CA-C	6.83	123.54	109.34
1	M	673	ILE	N-CA-C	6.76	123.40	109.34
1	Y	676	GLY	N-CA-C	-6.76	103.42	112.14
1	S	673	ILE	N-CA-C	6.75	123.39	109.34
1	Q	673	ILE	N-CA-C	6.75	123.38	109.34
1	O	673	ILE	N-CA-C	6.74	123.35	109.34
1	I	673	ILE	N-CA-C	6.71	123.30	109.34
1	G	673	ILE	N-CA-C	6.55	122.97	109.34
1	Q	676	GLY	N-CA-C	-6.52	103.72	112.14
1	g	673	ILE	N-CA-C	6.46	122.77	109.34
1	W	673	ILE	N-CA-C	6.39	122.64	109.34
1	Y	673	ILE	N-CA-C	6.33	122.52	109.34
1	c	673	ILE	N-CA-C	6.30	122.44	109.34
1	W	514	SER	N-CA-C	-5.51	105.82	112.54
1	W	574	GLU	CA-C-N	-5.43	115.71	123.20
1	W	574	GLU	C-N-CA	-5.43	115.71	123.20
1	C	514	SER	N-CA-C	-5.41	106.18	112.89
1	O	574	GLU	CA-C-N	-5.41	115.74	123.20
1	O	574	GLU	C-N-CA	-5.41	115.74	123.20
3	i	728	GLU	N-CA-CB	5.38	118.63	110.28
1	Q	514	SER	N-CA-C	-5.38	105.98	112.54
1	G	574	GLU	CA-C-N	-5.37	115.78	123.20

Continued on next page...

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	G	574	GLU	C-N-CA	-5.37	115.78	123.20
1	g	574	GLU	CA-C-N	-5.31	115.87	123.20
1	g	574	GLU	C-N-CA	-5.31	115.87	123.20
1	G	514	SER	N-CA-C	-5.29	106.08	112.54
3	f	728	GLU	N-CA-C	5.29	117.13	111.36
3	a	728	GLU	N-CA-CB	5.29	118.47	110.28
1	S	514	SER	N-CA-C	-5.29	106.09	112.54
3	j	728	GLU	N-CA-C	5.27	117.10	111.36
3	E	728	GLU	N-CA-CB	5.24	118.37	110.30
3	V	728	GLU	N-CA-C	5.24	117.07	111.36
1	M	514	SER	N-CA-C	-5.22	106.17	112.54
1	A	514	SER	N-CA-C	-5.20	106.19	112.54
1	C	574	GLU	CA-C-N	-5.20	116.03	123.20
1	C	574	GLU	C-N-CA	-5.20	116.03	123.20
3	K	728	GLU	N-CA-CB	5.20	118.31	110.30
1	S	574	GLU	CA-C-N	-5.19	116.04	123.20
1	S	574	GLU	C-N-CA	-5.19	116.04	123.20
1	c	574	GLU	CA-C-N	-5.17	116.07	123.20
1	c	574	GLU	C-N-CA	-5.17	116.07	123.20
1	M	574	GLU	CA-C-N	-5.16	116.08	123.20
1	M	574	GLU	C-N-CA	-5.16	116.08	123.20
1	Q	574	GLU	CA-C-N	-5.16	116.08	123.20
1	Q	574	GLU	C-N-CA	-5.16	116.08	123.20
1	A	574	GLU	CA-C-N	-5.15	116.09	123.20
1	A	574	GLU	C-N-CA	-5.15	116.09	123.20
2	B	77	THR	N-CA-CB	5.14	117.77	110.16
1	I	514	SER	N-CA-C	-5.14	106.27	112.54
1	g	514	SER	N-CA-C	-5.11	106.31	112.54
1	O	514	SER	N-CA-C	-5.10	106.32	112.54
1	I	574	GLU	CA-C-N	-5.06	116.22	123.20
1	I	574	GLU	C-N-CA	-5.06	116.22	123.20
2	R	77	THR	N-CA-CB	5.01	117.58	110.16
2	d	77	THR	N-CA-CB	5.00	117.56	110.16

There are no chirality outliers.

All (12) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	A	398	SER	Peptide
1	C	398	SER	Peptide
1	G	398	SER	Peptide
1	I	398	SER	Peptide

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Mol	Chain	Res	Type	Group
1	M	398	SER	Peptide
1	O	398	SER	Peptide
1	Q	398	SER	Peptide
1	S	398	SER	Peptide
1	W	398	SER	Peptide
1	Y	398	SER	Peptide
1	c	398	SER	Peptide
1	g	398	SER	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	3788	0	3838	57	8
1	C	3788	0	3839	85	2
1	G	3788	0	3839	54	10
1	I	3788	0	3839	83	2
1	M	3788	0	3839	58	12
1	O	3788	0	3839	59	17
1	Q	3788	0	3839	65	4
1	S	3788	0	3839	67	12
1	W	3788	0	3838	59	4
1	Y	3788	0	3839	60	12
1	c	3788	0	3839	59	7
1	g	3788	0	3839	62	13
2	B	1377	0	1370	47	9
2	D	1377	0	1370	37	4
2	H	1377	0	1370	38	3
2	J	1377	0	1370	36	4
2	N	1377	0	1370	29	0
2	P	1377	0	1371	32	0
2	R	1377	0	1370	32	0
2	T	1377	0	1370	31	0
2	X	1377	0	1370	39	0
2	Z	1377	0	1371	40	0
2	d	1377	0	1370	33	0
2	h	1377	0	1370	39	1
3	E	314	0	298	62	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
3	F	237	0	222	29	0
3	K	314	0	298	53	0
3	L	237	0	222	35	0
3	U	314	0	298	23	0
3	V	237	0	222	47	0
3	a	314	0	298	45	0
3	b	237	0	222	33	0
3	e	314	0	298	30	0
3	f	237	0	222	49	0
3	i	314	0	298	33	0
3	j	237	0	222	59	0
4	A	24	0	16	0	0
4	C	24	0	16	0	0
4	G	24	0	16	0	0
4	I	24	0	16	0	0
4	M	24	0	16	0	0
4	O	24	0	16	0	0
4	Q	24	0	16	0	0
4	S	24	0	16	0	0
4	W	24	0	16	0	0
4	Y	24	0	16	0	0
4	c	24	0	16	0	0
4	g	24	0	16	0	0
5	B	32	0	12	6	0
5	D	32	0	12	6	0
5	H	32	0	12	4	0
5	J	32	0	12	4	0
5	N	32	0	12	6	0
5	P	32	0	12	7	0
5	R	32	0	12	6	0
5	T	32	0	12	6	0
5	X	32	0	12	6	0
5	Z	32	0	12	6	0
5	d	32	0	12	11	0
5	h	32	0	12	7	0
6	B	1	0	0	0	0
6	D	1	0	0	0	0
6	H	1	0	0	0	0
6	J	1	0	0	0	0
6	N	1	0	0	0	0
6	P	1	0	0	0	0
6	R	1	0	0	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
6	T	1	0	0	0	0
6	X	1	0	0	0	0
6	Z	1	0	0	2	0
6	d	1	0	0	0	0
6	h	1	0	0	0	0
All	All	65970	0	65964	1287	62

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 10.

All (1287) 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:J:44:ILE:HD11	3:K:734:LEU:CD2	1.30	1.59
2:J:44:ILE:CD1	3:K:734:LEU:HD22	1.30	1.59
2:D:44:ILE:HD11	3:E:734:LEU:CD2	1.41	1.50
1:C:138:LEU:HG	1:S:769:GLN:CG	1.41	1.48
2:D:44:ILE:CD1	3:E:734:LEU:HD22	1.44	1.47
1:C:138:LEU:CG	1:S:769:GLN:HG2	1.45	1.42
3:a:717:ARG:CG	3:j:728:GLU:OE2	1.69	1.39
1:I:138:LEU:HG	1:Q:769:GLN:CG	1.52	1.38
1:I:138:LEU:CG	1:Q:769:GLN:HG2	1.53	1.34
3:a:717:ARG:HG3	3:j:728:GLU:OE2	1.18	1.33
1:G:138:LEU:HD21	1:M:765:MET:CE	1.59	1.30
1:A:138:LEU:HD21	1:O:765:MET:CE	1.63	1.27
3:K:717:ARG:HD3	3:f:728:GLU:CD	1.58	1.27
2:Z:44:ILE:HD11	3:a:734:LEU:CD2	1.66	1.25
2:Z:44:ILE:CD1	3:a:734:LEU:HD22	1.66	1.24
3:a:717:ARG:CD	3:j:728:GLU:OE2	1.91	1.18
2:B:80:TYR:OH	3:E:746:MET:CG	1.94	1.15
3:e:731:ASN:HD21	3:f:731:ASN:CG	1.54	1.14
2:B:80:TYR:OH	3:E:746:MET:HG2	1.45	1.14
1:G:138:LEU:CD2	1:M:765:MET:HE2	1.77	1.13
2:H:80:TYR:OH	3:K:746:MET:HG2	1.48	1.12
1:A:138:LEU:HD21	1:O:765:MET:HE2	1.13	1.12
3:i:731:ASN:ND2	3:j:731:ASN:OD1	1.83	1.12
3:K:717:ARG:CD	3:f:728:GLU:CD	2.23	1.11
1:C:138:LEU:HD21	1:S:769:GLN:HB3	1.29	1.09
1:A:138:LEU:CD2	1:O:765:MET:HE2	1.84	1.08
2:Z:79:ALA:HB3	3:b:746:MET:HE3	1.25	1.08
3:E:717:ARG:HD3	3:V:728:GLU:CD	1.80	1.06

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:d:56:ASP:OD2	2:d:174:ARG:NH1	1.90	1.05
2:X:56:ASP:OD2	2:X:174:ARG:NH1	1.89	1.04
2:J:79:ALA:CB	3:L:746:MET:HE3	1.86	1.04
2:R:56:ASP:OD2	2:R:174:ARG:NH1	1.90	1.04
3:U:738:ILE:HD13	3:V:738:ILE:HD13	1.40	1.04
2:D:56:ASP:OD2	2:D:174:ARG:NH1	1.90	1.04
2:D:79:ALA:CB	3:F:746:MET:HE3	1.86	1.04
3:E:717:ARG:CG	3:V:728:GLU:OE2	2.06	1.04
1:I:138:LEU:HD21	1:Q:769:GLN:HB3	1.34	1.04
2:J:56:ASP:OD2	2:J:174:ARG:NH1	1.90	1.04
2:T:56:ASP:OD2	2:T:174:ARG:NH1	1.90	1.04
2:h:56:ASP:OD2	2:h:174:ARG:NH1	1.89	1.04
2:N:56:ASP:OD2	2:N:174:ARG:NH1	1.90	1.03
2:P:56:ASP:OD2	2:P:174:ARG:NH1	1.90	1.03
3:K:717:ARG:CD	3:f:728:GLU:OE1	2.05	1.03
1:W:765:MET:HE2	1:c:138:LEU:HD21	1.39	1.03
1:Y:138:LEU:HG	1:g:769:GLN:HG2	1.39	1.02
2:Z:79:ALA:CB	3:b:746:MET:HE3	1.89	1.02
3:e:738:ILE:HG21	3:f:738:ILE:HD11	1.41	1.02
2:H:56:ASP:OD2	2:H:174:ARG:NH1	1.91	1.02
2:Z:56:ASP:OD2	2:Z:174:ARG:NH1	1.90	1.02
3:K:738:ILE:HD13	3:L:738:ILE:CD1	1.90	1.01
2:B:56:ASP:OD2	2:B:174:ARG:NH1	1.92	1.01
1:W:765:MET:CE	1:c:138:LEU:HD21	1.90	1.01
2:J:44:ILE:HD11	3:K:734:LEU:HD21	1.43	1.00
2:J:79:ALA:HB3	3:L:746:MET:HE3	1.43	1.00
3:e:731:ASN:ND2	3:f:731:ASN:CG	2.18	1.00
2:D:79:ALA:HB3	3:F:746:MET:HE3	1.39	0.99
2:H:48:PHE:HD2	3:K:754:GLU:HA	1.26	0.99
2:J:44:ILE:HD13	3:K:734:LEU:HD22	1.43	0.99
1:C:138:LEU:CG	1:S:769:GLN:CG	2.20	0.99
3:K:717:ARG:CG	3:f:728:GLU:OE2	2.11	0.98
3:K:717:ARG:HD3	3:f:728:GLU:OE2	1.61	0.97
2:D:44:ILE:HD11	3:E:734:LEU:HD21	1.46	0.97
1:G:138:LEU:HD21	1:M:765:MET:HE2	1.00	0.97
2:J:79:ALA:CB	3:L:746:MET:CE	2.43	0.97
3:E:717:ARG:CD	3:V:728:GLU:CD	2.37	0.96
2:B:48:PHE:HD2	3:E:754:GLU:HA	1.29	0.96
1:C:138:LEU:HD23	1:S:769:GLN:CD	1.92	0.95
2:H:80:TYR:OH	3:K:746:MET:CG	2.13	0.95
3:a:717:ARG:HD3	3:j:728:GLU:OE2	1.67	0.95

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:W:138:LEU:HD21	1:c:765:MET:HE3	1.50	0.94
3:i:735:GLN:HE22	3:j:734:LEU:HD13	1.29	0.94
3:i:738:ILE:HD13	3:j:738:ILE:CD1	1.98	0.94
2:d:38:LEU:O	5:d:2000:GSP:O3'	1.85	0.93
2:X:80:TYR:OH	3:a:746:MET:HG2	1.66	0.93
3:U:738:ILE:HG21	3:V:738:ILE:HD11	1.51	0.92
3:i:735:GLN:NE2	3:j:734:LEU:HD13	1.83	0.92
2:Z:71:GLU:OE2	1:c:221:SER:O	1.88	0.92
3:e:738:ILE:HD13	3:f:738:ILE:HD13	1.52	0.92
3:E:717:ARG:HG3	3:V:728:GLU:CD	1.95	0.91
2:D:79:ALA:CB	3:F:746:MET:CE	2.48	0.91
1:C:332:GLN:HE22	1:I:331:GLU:HG3	1.35	0.91
3:E:717:ARG:CD	3:V:724:ILE:HG22	2.01	0.90
2:T:44:ILE:HD11	3:V:734:LEU:CD2	2.01	0.89
1:I:138:LEU:HD23	1:Q:769:GLN:CD	1.98	0.89
1:C:138:LEU:HD21	1:S:765:MET:HG2	1.55	0.89
3:E:738:ILE:HD13	3:F:738:ILE:HG12	1.54	0.88
2:h:44:ILE:HD11	3:j:734:LEU:CD2	2.04	0.88
1:Y:138:LEU:HD21	1:g:765:MET:HG2	1.54	0.88
2:B:48:PHE:CD2	3:E:754:GLU:HA	2.08	0.87
1:Y:759:GLU:OE2	1:g:147:TYR:OH	1.92	0.87
2:H:48:PHE:CD2	3:K:754:GLU:HA	2.09	0.87
2:R:44:ILE:HD11	3:f:734:LEU:CD2	2.05	0.86
3:i:735:GLN:NE2	3:j:734:LEU:CD1	2.38	0.86
3:E:717:ARG:CG	3:V:728:GLU:CD	2.48	0.86
3:E:717:ARG:HG3	3:V:728:GLU:OE2	1.72	0.86
3:K:717:ARG:CD	3:f:728:GLU:OE2	2.17	0.86
3:E:717:ARG:CD	3:V:728:GLU:OE1	2.24	0.86
3:U:731:ASN:HD21	3:V:731:ASN:CG	1.83	0.86
1:C:138:LEU:CD2	1:S:769:GLN:HB3	2.06	0.86
1:Y:138:LEU:HG	1:g:769:GLN:CG	2.05	0.85
1:A:339:SER:OG	1:Y:537:HIS:HB2	1.75	0.85
3:a:717:ARG:CD	3:j:728:GLU:CD	2.48	0.85
2:R:44:ILE:HD11	3:f:734:LEU:HD21	1.56	0.84
1:C:138:LEU:CD2	1:S:769:GLN:CG	2.54	0.84
1:I:138:LEU:CG	1:Q:769:GLN:CG	2.30	0.84
1:C:138:LEU:HD21	1:S:769:GLN:CB	2.05	0.84
3:K:717:ARG:CG	3:f:728:GLU:CD	2.50	0.84
2:H:95:LYS:O	2:H:98:THR:HG22	1.78	0.84
2:X:48:PHE:HD2	3:a:754:GLU:HA	1.39	0.84
1:C:138:LEU:CD2	1:S:769:GLN:CD	2.50	0.83

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:95:LYS:O	2:B:98:THR:HG22	1.78	0.83
2:d:37:ASN:O	5:d:2000:GSP:O2'	1.94	0.83
2:R:95:LYS:O	2:R:98:THR:HG22	1.78	0.83
2:N:95:LYS:O	2:N:98:THR:HG22	1.79	0.83
2:T:95:LYS:O	2:T:98:THR:HG22	1.78	0.83
2:P:95:LYS:O	2:P:98:THR:HG22	1.79	0.83
2:B:44:ILE:HB	3:F:737:TYR:CZ	2.14	0.82
2:h:95:LYS:O	2:h:98:THR:HG22	1.78	0.82
3:a:717:ARG:CD	3:j:724:ILE:HG22	2.09	0.82
2:Z:95:LYS:O	2:Z:98:THR:HG22	1.78	0.82
3:a:717:ARG:CD	3:j:724:ILE:CG2	2.58	0.82
3:K:738:ILE:HD13	3:L:738:ILE:CG1	2.09	0.82
2:X:95:LYS:O	2:X:98:THR:HG22	1.79	0.82
3:U:738:ILE:HG21	3:V:738:ILE:CD1	2.09	0.82
2:J:79:ALA:HB3	3:L:746:MET:CE	2.09	0.82
2:D:44:ILE:HD11	3:E:734:LEU:HD22	0.87	0.81
2:J:95:LYS:O	2:J:98:THR:HG22	1.79	0.81
1:M:163:ARG:O	1:M:166:CYS:SG	2.38	0.81
3:i:738:ILE:HD13	3:j:738:ILE:HD11	1.62	0.81
2:D:95:LYS:O	2:D:98:THR:HG22	1.79	0.81
1:A:163:ARG:O	1:A:166:CYS:SG	2.39	0.81
3:a:717:ARG:NE	3:j:724:ILE:HG22	1.94	0.81
2:d:95:LYS:O	2:d:98:THR:HG22	1.79	0.81
3:a:717:ARG:HD2	3:j:724:ILE:CG2	2.11	0.81
2:D:44:ILE:HD13	3:E:734:LEU:HD22	1.59	0.81
1:G:163:ARG:O	1:G:166:CYS:SG	2.39	0.81
3:K:717:ARG:NE	3:f:728:GLU:OE1	2.14	0.81
2:Z:79:ALA:CB	3:b:746:MET:CE	2.58	0.81
1:O:163:ARG:O	1:O:166:CYS:SG	2.39	0.80
3:E:724:ILE:CG2	3:V:717:ARG:CZ	2.59	0.80
1:I:138:LEU:HD21	1:Q:765:MET:HG2	1.61	0.80
1:W:163:ARG:O	1:W:166:CYS:SG	2.39	0.80
3:K:738:ILE:HD13	3:L:738:ILE:HG12	1.61	0.80
1:c:163:ARG:O	1:c:166:CYS:SG	2.39	0.80
1:g:163:ARG:O	1:g:166:CYS:SG	2.39	0.80
3:a:720:LEU:HD13	3:i:724:ILE:HD11	1.64	0.80
2:T:44:ILE:CD1	3:V:734:LEU:HD22	2.11	0.80
3:E:717:ARG:NH2	3:V:725:GLN:CB	2.45	0.79
1:Y:138:LEU:HD21	1:g:769:GLN:HB3	1.65	0.79
1:C:163:ARG:O	1:C:166:CYS:SG	2.39	0.79
3:E:717:ARG:HD3	3:V:728:GLU:OE2	1.83	0.79

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:K:717:ARG:CG	3:f:728:GLU:OE1	2.30	0.79
1:Y:138:LEU:CD2	1:g:765:MET:HG2	2.11	0.79
1:I:138:LEU:CD2	1:Q:769:GLN:CG	2.60	0.79
1:I:163:ARG:O	1:I:166:CYS:SG	2.39	0.79
3:a:717:ARG:HD2	3:j:724:ILE:HG21	1.65	0.79
3:i:735:GLN:HE22	3:j:734:LEU:CD1	1.96	0.79
1:Y:163:ARG:O	1:Y:166:CYS:SG	2.39	0.79
3:K:717:ARG:HG3	3:f:728:GLU:CD	2.08	0.79
1:S:163:ARG:O	1:S:166:CYS:SG	2.39	0.79
1:Q:163:ARG:O	1:Q:166:CYS:SG	2.39	0.78
3:a:728:GLU:HB2	3:j:717:ARG:NH1	1.99	0.78
1:I:138:LEU:HD21	1:Q:769:GLN:CB	2.12	0.78
3:e:738:ILE:HG21	3:f:738:ILE:CD1	2.13	0.78
1:A:138:LEU:CD2	1:O:765:MET:CE	2.51	0.78
2:d:42:SER:HA	5:d:2000:GSP:S1G	2.23	0.77
3:E:717:ARG:CG	3:V:728:GLU:OE1	2.32	0.77
1:I:138:LEU:CD2	1:Q:769:GLN:CD	2.57	0.77
1:C:331:GLU:CG	1:I:332:GLN:HE22	1.98	0.77
2:X:48:PHE:CD2	3:a:754:GLU:HA	2.20	0.77
3:K:738:ILE:CD1	3:L:738:ILE:CD1	2.62	0.77
1:W:765:MET:HE2	1:c:138:LEU:CD2	2.14	0.77
3:E:717:ARG:CD	3:V:728:GLU:OE2	2.32	0.77
3:a:724:ILE:HG22	3:j:717:ARG:CZ	2.15	0.76
1:Q:232:ARG:O	1:Q:235:LYS:NZ	2.18	0.76
2:h:48:PHE:HD2	3:i:754:GLU:HA	1.50	0.76
3:i:738:ILE:CD1	3:j:738:ILE:HD13	2.16	0.76
3:E:717:ARG:HG3	3:V:728:GLU:OE1	1.82	0.76
1:S:232:ARG:O	1:S:235:LYS:NZ	2.18	0.75
3:E:724:ILE:HG23	3:V:717:ARG:CZ	2.16	0.75
1:I:138:LEU:CD2	1:Q:769:GLN:HB3	2.13	0.75
2:T:44:ILE:HD11	3:V:734:LEU:HD21	1.67	0.75
1:C:332:GLN:HE22	1:I:331:GLU:CG	2.00	0.75
3:i:738:ILE:HD13	3:j:738:ILE:HD13	1.68	0.75
3:U:731:ASN:ND2	3:V:731:ASN:CG	2.45	0.75
3:i:731:ASN:ND2	3:j:731:ASN:CG	2.45	0.74
2:B:80:TYR:OH	3:E:746:MET:SD	2.45	0.74
2:B:80:TYR:HH	3:E:746:MET:HG2	1.51	0.74
1:G:138:LEU:CD2	1:M:765:MET:CE	2.49	0.74
2:R:44:ILE:CD1	3:f:734:LEU:HD22	2.16	0.74
2:Z:37:ASN:O	5:Z:2000:GSP:O2'	2.05	0.74
2:h:44:ILE:HD11	3:j:734:LEU:HD21	1.68	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:d:38:LEU:HA	5:d:2000:GSP:O2'	1.86	0.74
2:B:44:ILE:O	3:F:737:TYR:OH	2.05	0.74
3:E:738:ILE:HD13	3:F:738:ILE:CG1	2.18	0.74
2:X:80:TYR:OH	3:a:746:MET:CG	2.36	0.74
2:D:44:ILE:CD1	3:E:734:LEU:CD2	2.27	0.73
1:S:393:ASN:O	1:S:397:THR:OG1	2.07	0.73
1:W:232:ARG:O	1:W:235:LYS:NZ	2.19	0.73
3:b:717:ARG:NH1	3:i:728:GLU:HB3	2.03	0.73
1:I:232:ARG:O	1:I:235:LYS:NZ	2.19	0.73
3:e:735:GLN:NE2	3:f:734:LEU:CD1	2.51	0.73
1:Q:393:ASN:O	1:Q:397:THR:OG1	2.07	0.73
3:e:735:GLN:NE2	3:f:734:LEU:HD12	2.03	0.73
3:E:717:ARG:HD2	3:V:724:ILE:HG22	1.71	0.73
1:Y:232:ARG:O	1:Y:235:LYS:NZ	2.19	0.73
1:C:232:ARG:O	1:C:235:LYS:NZ	2.19	0.73
1:C:332:GLN:HE21	1:I:332:GLN:HG3	1.53	0.73
2:Z:44:ILE:HD11	3:a:734:LEU:HD22	0.81	0.73
2:J:79:ALA:HB1	3:L:746:MET:HE3	1.71	0.73
1:Y:138:LEU:CD2	1:g:769:GLN:HB3	2.18	0.73
3:a:717:ARG:NE	3:j:728:GLU:OE1	2.22	0.72
2:D:79:ALA:HB3	3:F:746:MET:CE	2.12	0.72
1:g:232:ARG:O	1:g:235:LYS:NZ	2.19	0.72
2:B:44:ILE:HD12	3:F:737:TYR:CD2	2.24	0.72
1:c:393:ASN:O	1:c:397:THR:OG1	2.08	0.72
1:O:393:ASN:O	1:O:397:THR:OG1	2.07	0.72
1:W:393:ASN:O	1:W:397:THR:OG1	2.08	0.72
2:Z:71:GLU:OE2	1:c:221:SER:C	2.33	0.72
1:A:393:ASN:O	1:A:397:THR:OG1	2.07	0.72
1:C:393:ASN:O	1:C:397:THR:OG1	2.07	0.72
1:G:393:ASN:O	1:G:397:THR:OG1	2.07	0.72
1:M:393:ASN:O	1:M:397:THR:OG1	2.07	0.72
3:E:717:ARG:HD2	3:V:724:ILE:CG2	2.20	0.72
1:I:393:ASN:O	1:I:397:THR:OG1	2.07	0.72
1:M:232:ARG:O	1:M:235:LYS:NZ	2.18	0.72
1:g:393:ASN:O	1:g:397:THR:OG1	2.08	0.72
2:d:40:SER:HB3	5:d:2000:GSP:H3'	1.71	0.71
3:a:729:GLU:HG3	1:g:751:SER:OG	1.90	0.71
1:Y:393:ASN:O	1:Y:397:THR:OG1	2.07	0.71
3:K:717:ARG:HG3	3:f:728:GLU:OE1	1.90	0.71
1:O:232:ARG:O	1:O:235:LYS:NZ	2.19	0.71
1:G:232:ARG:O	1:G:235:LYS:NZ	2.19	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:T:44:ILE:CD1	3:V:734:LEU:CD2	2.69	0.71
1:A:232:ARG:O	1:A:235:LYS:NZ	2.19	0.71
2:J:44:ILE:HD11	3:K:734:LEU:HD22	0.73	0.71
3:E:724:ILE:O	3:V:717:ARG:NH1	2.24	0.70
2:T:44:ILE:HD13	3:V:734:LEU:HD22	1.73	0.70
1:C:138:LEU:CD2	1:S:769:GLN:CB	2.68	0.70
2:H:44:ILE:HB	3:L:737:TYR:CZ	2.26	0.70
3:K:717:ARG:HG3	3:f:728:GLU:OE2	1.92	0.70
1:c:232:ARG:O	1:c:235:LYS:NZ	2.19	0.70
2:h:44:ILE:CD1	3:j:734:LEU:HD22	2.22	0.70
2:P:38:LEU:O	5:P:2000:GSP:O3'	2.10	0.70
3:a:717:ARG:CZ	3:j:724:ILE:HG22	2.21	0.70
2:B:80:TYR:CZ	3:E:746:MET:HE2	2.26	0.70
3:E:738:ILE:HD13	3:F:738:ILE:CD1	2.21	0.70
3:K:738:ILE:CD1	3:L:738:ILE:HD13	2.22	0.69
2:B:80:TYR:OH	3:E:746:MET:CB	2.41	0.69
3:e:738:ILE:HD13	3:f:738:ILE:CD1	2.21	0.69
3:L:731:ASN:HD22	3:e:717:ARG:NH2	1.91	0.69
2:J:44:ILE:CD1	3:K:734:LEU:CD2	2.17	0.69
2:R:44:ILE:CD1	3:f:734:LEU:CD2	2.70	0.68
2:B:38:LEU:HA	5:B:2000:GSP:O2'	1.94	0.68
1:C:332:GLN:HG3	1:I:332:GLN:CG	2.24	0.68
1:c:139:PHE:HA	1:c:143:MET:HE2	1.76	0.68
1:O:139:PHE:HA	1:O:143:MET:HE2	1.75	0.67
2:J:38:LEU:HA	5:J:2000:GSP:O2'	1.94	0.67
2:h:44:ILE:CD1	3:j:734:LEU:CD2	2.72	0.67
3:E:717:ARG:HH21	3:V:725:GLN:CB	2.04	0.67
1:Q:139:PHE:HA	1:Q:143:MET:HE2	1.77	0.67
2:Z:80:TYR:HE1	3:b:746:MET:HG2	1.59	0.67
3:K:724:ILE:O	3:f:717:ARG:NH1	2.28	0.67
3:K:728:GLU:HB2	3:f:717:ARG:NH1	2.09	0.67
1:M:139:PHE:HA	1:M:143:MET:HE2	1.76	0.67
1:Y:139:PHE:HA	1:Y:143:MET:HE2	1.76	0.67
1:C:221:SER:C	2:P:71:GLU:OE2	2.37	0.67
2:Z:79:ALA:HB3	3:b:746:MET:CE	2.14	0.67
1:g:139:PHE:HA	1:g:143:MET:HE2	1.77	0.67
1:S:139:PHE:HA	1:S:143:MET:HE2	1.78	0.66
1:W:138:LEU:HD21	1:c:765:MET:CE	2.24	0.66
2:N:38:LEU:O	5:N:2000:GSP:O3'	2.13	0.66
1:C:138:LEU:CG	1:S:769:GLN:CB	2.73	0.66
3:U:738:ILE:HD13	3:V:738:ILE:CD1	2.22	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:138:LEU:HD23	1:S:769:GLN:OE1	1.95	0.66
2:X:44:ILE:HB	3:b:737:TYR:CZ	2.30	0.66
1:W:139:PHE:HA	1:W:143:MET:HE2	1.78	0.66
1:C:139:PHE:HA	1:C:143:MET:HE2	1.78	0.66
3:a:717:ARG:HD3	3:j:728:GLU:CD	2.17	0.66
3:a:738:ILE:HD13	3:b:738:ILE:CD1	2.26	0.66
3:e:752:ILE:HG21	3:f:745:ILE:HD11	1.77	0.65
1:A:139:PHE:HA	1:A:143:MET:HE2	1.77	0.65
3:E:742:ILE:HD11	3:F:741:ILE:HG21	1.79	0.65
1:I:139:PHE:HA	1:I:143:MET:HE2	1.78	0.65
3:K:738:ILE:HD13	3:L:738:ILE:HD11	1.73	0.65
3:a:724:ILE:O	3:j:717:ARG:NH1	2.28	0.65
1:W:221:SER:C	2:h:71:GLU:OE2	2.38	0.65
1:G:139:PHE:HA	1:G:143:MET:HE2	1.77	0.65
2:h:48:PHE:CD2	3:i:754:GLU:HA	2.32	0.65
2:N:38:LEU:HA	5:N:2000:GSP:O2'	1.96	0.65
2:T:26:ASN:ND2	5:T:2000:GSP:O1A	2.29	0.65
1:Y:138:LEU:HG	1:g:769:GLN:CB	2.27	0.64
1:A:138:LEU:HD21	1:O:765:MET:HE3	1.72	0.64
3:K:717:ARG:NH2	3:f:725:GLN:CB	2.60	0.64
3:e:738:ILE:CD1	3:f:738:ILE:HD13	2.25	0.64
2:Z:45:GLY:O	2:Z:67:THR:O	2.16	0.64
3:a:717:ARG:HE	3:j:728:GLU:CD	2.06	0.64
3:b:717:ARG:CZ	3:i:728:GLU:HB3	2.28	0.64
2:h:45:GLY:O	2:h:67:THR:O	2.16	0.64
2:N:45:GLY:O	2:N:67:THR:O	2.16	0.64
2:P:40:SER:HB3	5:P:2000:GSP:H3'	1.79	0.64
2:P:45:GLY:O	2:P:67:THR:O	2.16	0.64
2:T:80:TYR:OH	3:U:746:MET:HB3	1.98	0.64
2:X:45:GLY:O	2:X:67:THR:O	2.16	0.64
1:A:765:MET:HE2	1:O:138:LEU:HD21	1.79	0.63
2:R:45:GLY:O	2:R:67:THR:O	2.16	0.63
2:T:45:GLY:O	2:T:67:THR:O	2.16	0.63
2:H:45:GLY:O	2:H:67:THR:O	2.16	0.63
1:Y:618:TYR:CZ	1:Y:622:GLU:HG3	2.33	0.63
2:d:45:GLY:O	2:d:67:THR:O	2.16	0.63
1:A:138:LEU:CD1	1:O:765:MET:HE2	2.29	0.63
1:G:765:MET:HE2	1:M:138:LEU:HD21	1.79	0.63
2:D:45:GLY:O	2:D:67:THR:O	2.16	0.63
2:Z:25:SER:OG	6:Z:2001:MG:MG	1.40	0.63
2:J:45:GLY:O	2:J:67:THR:O	2.16	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:a:717:ARG:NE	3:j:728:GLU:CD	2.56	0.63
2:B:45:GLY:O	2:B:67:THR:O	2.16	0.63
3:K:717:ARG:CD	3:f:724:ILE:HG22	2.28	0.63
2:X:44:ILE:HD12	3:b:737:TYR:CD2	2.34	0.63
1:A:138:LEU:HD11	1:O:765:MET:HE2	1.80	0.62
1:C:221:SER:HA	2:P:71:GLU:OE2	1.99	0.62
2:B:81:TYR:HB3	2:B:113:ALA:HB2	1.82	0.62
3:b:717:ARG:CZ	3:i:728:GLU:CB	2.77	0.62
2:H:67:THR:O	2:H:68:ALA:HB3	2.00	0.62
1:Q:618:TYR:CZ	1:Q:622:GLU:HG3	2.35	0.62
1:S:618:TYR:CZ	1:S:622:GLU:HG3	2.35	0.62
2:D:38:LEU:HA	5:D:2000:GSP:O2'	2.00	0.62
1:G:765:MET:HA	1:G:769:GLN:OE1	1.99	0.62
1:I:138:LEU:CD2	1:Q:769:GLN:CB	2.75	0.62
2:Z:67:THR:O	2:Z:68:ALA:HB3	2.00	0.62
3:b:728:GLU:HA	3:i:717:ARG:HH21	1.64	0.62
1:I:221:SER:HA	2:N:71:GLU:OE2	1.99	0.62
2:d:81:TYR:HB3	2:d:113:ALA:HB2	1.82	0.62
2:B:67:THR:O	2:B:68:ALA:HB3	2.00	0.62
3:F:731:ASN:HD22	3:U:717:ARG:NH2	1.98	0.62
1:Q:765:MET:HA	1:Q:769:GLN:OE1	1.99	0.62
2:d:26:ASN:ND2	5:d:2000:GSP:O1A	2.33	0.62
2:H:44:ILE:HD12	3:L:737:TYR:CD2	2.35	0.61
2:P:67:THR:O	2:P:68:ALA:HB3	2.00	0.61
1:O:765:MET:HA	1:O:769:GLN:OE1	1.99	0.61
2:X:81:TYR:HB3	2:X:113:ALA:HB2	1.82	0.61
1:Y:626:TYR:HA	1:Y:631:PHE:CD1	2.35	0.61
2:D:67:THR:O	2:D:68:ALA:HB3	2.01	0.61
2:J:67:THR:O	2:J:68:ALA:HB3	2.01	0.61
3:e:731:ASN:ND2	3:f:731:ASN:ND2	2.47	0.61
2:h:44:ILE:HD13	3:j:734:LEU:HD22	1.82	0.61
2:N:67:THR:O	2:N:68:ALA:HB3	2.00	0.61
1:M:765:MET:HA	1:M:769:GLN:OE1	2.00	0.61
1:W:765:MET:HA	1:W:769:GLN:OE1	2.00	0.61
1:Y:765:MET:HA	1:Y:769:GLN:OE1	2.01	0.61
2:Z:38:LEU:O	5:Z:2000:GSP:O3'	2.16	0.61
3:a:717:ARG:HG3	3:j:728:GLU:CD	2.19	0.61
2:h:120:MET:HE1	2:h:164:ALA:O	2.00	0.61
2:H:81:TYR:HB3	2:H:113:ALA:HB2	1.83	0.61
2:R:44:ILE:HD13	3:f:734:LEU:HD22	1.82	0.61
1:A:626:TYR:HA	1:A:631:PHE:CD1	2.35	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:618:TYR:CZ	1:G:622:GLU:HG3	2.36	0.61
2:J:81:TYR:HB3	2:J:113:ALA:HB2	1.82	0.61
2:J:120:MET:HE1	2:J:164:ALA:O	2.01	0.61
2:P:38:LEU:HA	5:P:2000:GSP:O2'	2.01	0.61
2:R:81:TYR:HB3	2:R:113:ALA:HB2	1.82	0.61
2:B:80:TYR:CE1	3:E:746:MET:SD	2.94	0.61
2:D:81:TYR:HB3	2:D:113:ALA:HB2	1.82	0.61
2:D:120:MET:HE1	2:D:164:ALA:O	2.01	0.61
1:G:626:TYR:HA	1:G:631:PHE:CD2	2.35	0.61
1:I:134:PHE:O	1:I:163:ARG:NH1	2.34	0.61
2:N:120:MET:HE1	2:N:164:ALA:O	2.01	0.61
2:P:120:MET:HE1	2:P:164:ALA:O	2.01	0.61
1:W:618:TYR:CZ	1:W:622:GLU:HG3	2.35	0.61
1:Y:134:PHE:O	1:Y:163:ARG:NH1	2.34	0.61
2:Z:25:SER:HG	6:Z:2001:MG:MG	1.09	0.61
2:h:81:TYR:HB3	2:h:113:ALA:HB2	1.83	0.61
2:B:120:MET:HE1	2:B:164:ALA:O	2.01	0.61
1:S:765:MET:HA	1:S:769:GLN:OE1	2.00	0.61
2:T:81:TYR:HB3	2:T:113:ALA:HB2	1.82	0.61
1:C:134:PHE:O	1:C:163:ARG:NH1	2.34	0.60
1:G:138:LEU:HD21	1:M:765:MET:HE3	1.75	0.60
1:c:637:ASN:HB3	1:c:669:HIS:CD2	2.36	0.60
2:Z:120:MET:HE1	2:Z:164:ALA:O	2.01	0.60
3:a:724:ILE:CG2	3:j:717:ARG:NH2	2.64	0.60
1:A:765:MET:HA	1:A:769:GLN:OE1	2.01	0.60
2:D:80:TYR:CE1	3:F:746:MET:HG2	2.36	0.60
2:H:120:MET:HE1	2:H:164:ALA:O	2.01	0.60
1:M:637:ASN:HB3	1:M:669:HIS:CD2	2.37	0.60
2:X:120:MET:HE1	2:X:164:ALA:O	2.00	0.60
2:d:67:THR:O	2:d:68:ALA:HB3	2.01	0.60
1:g:765:MET:HA	1:g:769:GLN:OE1	2.01	0.60
1:A:618:TYR:CZ	1:A:622:GLU:HG3	2.36	0.60
1:C:759:GLU:OE2	1:S:147:TYR:OH	2.19	0.60
1:I:637:ASN:HB3	1:I:669:HIS:CD2	2.37	0.60
1:W:637:ASN:HB3	1:W:669:HIS:CD2	2.36	0.60
1:Y:637:ASN:HB3	1:Y:669:HIS:CD2	2.37	0.60
3:b:728:GLU:OE2	3:i:717:ARG:HB3	2.01	0.60
3:E:717:ARG:NE	3:V:728:GLU:OE1	2.35	0.60
2:N:81:TYR:HB3	2:N:113:ALA:HB2	1.82	0.60
2:T:67:THR:O	2:T:68:ALA:HB3	2.00	0.60
2:X:67:THR:O	2:X:68:ALA:HB3	2.01	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:Z:76:ILE:HB	3:b:746:MET:SD	2.41	0.60
1:c:765:MET:HA	1:c:769:GLN:OE1	2.01	0.60
1:g:618:TYR:CZ	1:g:622:GLU:HG3	2.36	0.60
1:A:134:PHE:O	1:A:163:ARG:NH1	2.35	0.60
1:A:138:LEU:CG	1:O:765:MET:HE2	2.31	0.60
1:A:765:MET:CE	1:O:138:LEU:HD21	2.32	0.60
1:I:765:MET:HA	1:I:769:GLN:OE1	2.01	0.60
2:Z:80:TYR:CE1	3:b:746:MET:HG2	2.36	0.60
2:d:120:MET:HE1	2:d:164:ALA:O	2.01	0.60
2:R:67:THR:O	2:R:68:ALA:HB3	2.00	0.60
1:C:637:ASN:HB3	1:C:669:HIS:CD2	2.37	0.60
1:C:765:MET:HA	1:C:769:GLN:OE1	2.01	0.60
3:K:742:ILE:HD11	3:L:741:ILE:HG21	1.82	0.60
2:Z:81:TYR:HB3	2:Z:113:ALA:HB2	1.82	0.60
1:c:618:TYR:CZ	1:c:622:GLU:HG3	2.36	0.60
3:E:724:ILE:HG22	3:V:717:ARG:CZ	2.31	0.60
1:G:765:MET:CE	1:M:138:LEU:HD21	2.32	0.60
2:H:38:LEU:HA	5:H:2000:GSP:O2'	2.01	0.60
1:Q:637:ASN:HB3	1:Q:669:HIS:CD2	2.37	0.60
2:H:44:ILE:O	3:L:737:TYR:OH	2.15	0.60
1:M:134:PHE:O	1:M:163:ARG:NH1	2.35	0.60
1:g:637:ASN:HB3	1:g:669:HIS:CD2	2.37	0.60
1:G:134:PHE:O	1:G:163:ARG:NH1	2.35	0.59
2:R:120:MET:HE1	2:R:164:ALA:O	2.01	0.59
1:I:178:GLN:HA	1:I:739:MET:HE1	1.84	0.59
2:T:120:MET:HE1	2:T:164:ALA:O	2.01	0.59
3:b:717:ARG:NH2	3:i:728:GLU:HB2	2.17	0.59
1:A:637:ASN:HB3	1:A:669:HIS:CD2	2.36	0.59
2:P:42:SER:HA	5:P:2000:GSP:S1G	2.43	0.59
2:X:40:SER:HB3	5:X:2000:GSP:H3'	1.83	0.59
1:Y:138:LEU:HD21	1:g:765:MET:CG	2.28	0.59
1:C:138:LEU:CD2	1:S:765:MET:HG2	2.27	0.59
1:O:637:ASN:HB3	1:O:669:HIS:CD2	2.38	0.59
2:P:81:TYR:HB3	2:P:113:ALA:HB2	1.83	0.59
1:W:138:LEU:HD11	1:c:765:MET:HE2	1.83	0.59
2:h:67:THR:O	2:h:68:ALA:HB3	2.01	0.59
1:C:332:GLN:NE2	1:I:331:GLU:HG3	2.15	0.59
1:I:618:TYR:CZ	1:I:622:GLU:HG3	2.38	0.59
3:a:724:ILE:CG2	3:j:717:ARG:CZ	2.81	0.59
1:c:134:PHE:O	1:c:163:ARG:NH1	2.36	0.59
2:B:80:TYR:OH	3:E:746:MET:HB3	2.04	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:79:ALA:HB1	3:F:746:MET:HE3	1.79	0.58
1:Q:134:PHE:O	1:Q:163:ARG:NH1	2.36	0.58
1:S:637:ASN:HB3	1:S:669:HIS:CD2	2.38	0.58
1:C:332:GLN:CG	1:I:332:GLN:HG2	2.33	0.58
1:O:134:PHE:O	1:O:163:ARG:NH1	2.36	0.58
1:Q:178:GLN:HA	1:Q:739:MET:HE1	1.85	0.58
1:C:178:GLN:HA	1:C:739:MET:HE1	1.85	0.58
2:J:79:ALA:CB	3:L:746:MET:HE1	2.33	0.58
1:A:178:GLN:HA	1:A:739:MET:HE1	1.85	0.58
2:P:88:LEU:HD21	2:P:120:MET:HE2	1.84	0.58
1:Q:626:TYR:HA	1:Q:631:PHE:CD2	2.38	0.58
2:T:38:LEU:HA	5:T:2000:GSP:O2'	2.03	0.58
1:G:637:ASN:HB3	1:G:669:HIS:CD2	2.37	0.58
1:S:178:GLN:HA	1:S:739:MET:HE1	1.86	0.58
2:B:42:SER:HA	5:B:2000:GSP:S1G	2.43	0.58
2:N:40:SER:HB3	5:N:2000:GSP:H3'	1.85	0.58
1:C:332:GLN:CG	1:I:332:GLN:CG	2.82	0.58
1:C:618:TYR:CZ	1:C:622:GLU:HG3	2.39	0.58
1:C:332:GLN:HG3	1:I:332:GLN:HG3	1.85	0.58
1:W:138:LEU:HD11	1:c:765:MET:CE	2.34	0.58
1:S:626:TYR:HA	1:S:631:PHE:CD1	2.38	0.58
1:A:625:SER:O	1:A:628:THR:HG22	2.04	0.58
1:S:134:PHE:O	1:S:163:ARG:NH1	2.37	0.58
1:Y:138:LEU:CG	1:g:769:GLN:HB3	2.34	0.58
1:Y:625:SER:O	1:Y:628:THR:HG22	2.03	0.58
1:c:625:SER:O	1:c:628:THR:HG22	2.04	0.58
1:M:618:TYR:CZ	1:M:622:GLU:HG3	2.40	0.57
1:C:133:LEU:O	1:C:136:SER:OG	2.21	0.57
1:S:625:SER:O	1:S:628:THR:HG22	2.04	0.57
1:W:134:PHE:O	1:W:163:ARG:NH1	2.37	0.57
1:G:625:SER:O	1:G:628:THR:HG22	2.04	0.57
1:I:133:LEU:O	1:I:136:SER:OG	2.21	0.57
1:O:618:TYR:CZ	1:O:622:GLU:HG3	2.40	0.57
2:X:44:ILE:HD13	3:b:737:TYR:CD1	2.40	0.57
2:B:88:LEU:HD21	2:B:120:MET:HE2	1.86	0.57
2:D:26:ASN:ND2	5:D:2000:GSP:O1A	2.36	0.57
1:G:178:GLN:HA	1:G:739:MET:HE1	1.86	0.57
2:J:26:ASN:ND2	5:J:2000:GSP:O1A	2.37	0.57
1:Q:625:SER:O	1:Q:628:THR:HG22	2.04	0.57
1:C:138:LEU:HG	1:S:769:GLN:CB	2.28	0.57
1:g:134:PHE:O	1:g:163:ARG:NH1	2.37	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:g:626:TYR:HA	1:g:631:PHE:CD1	2.40	0.57
3:i:735:GLN:NE2	3:j:734:LEU:HD12	2.18	0.57
1:M:626:TYR:HA	1:M:631:PHE:CD1	2.40	0.57
2:N:42:SER:HA	5:N:2000:GSP:S1G	2.45	0.57
2:h:40:SER:HB3	5:h:2000:GSP:H3'	1.85	0.57
1:G:611:SER:HB2	1:G:613:LEU:HD22	1.87	0.57
1:M:625:SER:O	1:M:628:THR:HG22	2.04	0.57
1:W:626:TYR:HA	1:W:631:PHE:CD1	2.40	0.57
1:W:765:MET:HE2	1:c:138:LEU:HD11	1.86	0.57
1:W:625:SER:O	1:W:628:THR:HG22	2.04	0.57
2:X:88:LEU:HD21	2:X:120:MET:HE2	1.87	0.57
1:g:178:GLN:HA	1:g:739:MET:HE1	1.86	0.57
2:h:42:SER:HA	5:h:2000:GSP:S1G	2.45	0.57
1:C:329:THR:HG21	1:I:329:THR:HG21	1.86	0.56
2:N:88:LEU:HD21	2:N:120:MET:HE2	1.86	0.56
1:Y:178:GLN:HA	1:Y:739:MET:HE1	1.85	0.56
1:C:138:LEU:CG	1:S:769:GLN:CD	2.79	0.56
1:C:221:SER:CA	2:P:71:GLU:OE2	2.53	0.56
1:W:178:GLN:HA	1:W:739:MET:HE1	1.86	0.56
3:e:735:GLN:NE2	3:f:734:LEU:HD13	2.19	0.56
1:C:332:GLN:HG2	1:I:332:GLN:HG2	1.87	0.56
2:H:88:LEU:HD21	2:H:120:MET:HE2	1.87	0.56
1:I:625:SER:O	1:I:628:THR:HG22	2.05	0.56
1:O:625:SER:O	1:O:628:THR:HG22	2.04	0.56
2:Z:88:LEU:HD21	2:Z:120:MET:HE2	1.88	0.56
1:c:178:GLN:HA	1:c:739:MET:HE1	1.86	0.56
1:I:138:LEU:CG	1:Q:769:GLN:CB	2.84	0.56
1:I:611:SER:HB2	1:I:613:LEU:HD22	1.88	0.56
1:g:625:SER:O	1:g:628:THR:HG22	2.04	0.56
1:C:625:SER:O	1:C:628:THR:HG22	2.05	0.56
2:J:88:LEU:HD21	2:J:120:MET:HE2	1.87	0.56
1:C:611:SER:HB2	1:C:613:LEU:HD22	1.88	0.56
1:M:178:GLN:HA	1:M:739:MET:HE1	1.86	0.56
1:O:626:TYR:HA	1:O:631:PHE:CD1	2.41	0.56
3:a:717:ARG:NH1	3:j:724:ILE:CG2	2.68	0.56
2:d:88:LEU:HD21	2:d:120:MET:HE2	1.87	0.56
2:h:88:LEU:HD21	2:h:120:MET:HE2	1.87	0.56
1:A:611:SER:HB2	1:A:613:LEU:HD22	1.88	0.56
2:H:80:TYR:CZ	3:K:746:MET:HE2	2.41	0.56
1:M:611:SER:HB2	1:M:613:LEU:HD22	1.88	0.56
1:O:178:GLN:HA	1:O:739:MET:HE1	1.86	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:X:38:LEU:HA	5:X:2000:GSP:O2'	2.05	0.56
2:J:80:TYR:CE1	3:L:746:MET:HG2	2.40	0.56
2:h:38:LEU:O	5:h:2000:GSP:O3'	2.19	0.56
2:d:144:GLU:HA	2:d:144:GLU:OE1	2.06	0.56
2:P:144:GLU:HA	2:P:144:GLU:OE1	2.06	0.56
2:D:88:LEU:HD21	2:D:120:MET:HE2	1.87	0.55
1:Y:611:SER:HB2	1:Y:613:LEU:HD22	1.88	0.55
2:d:25:SER:OG	5:d:2000:GSP:O2B	2.24	0.55
3:e:731:ASN:ND2	3:f:731:ASN:OD1	2.31	0.55
1:I:626:TYR:HA	1:I:631:PHE:CD1	2.40	0.55
3:L:717:ARG:NH2	3:e:725:GLN:HA	2.22	0.55
1:c:611:SER:HB2	1:c:613:LEU:HD22	1.88	0.55
1:A:178:GLN:CD	1:A:739:MET:CE	2.79	0.55
1:G:138:LEU:CG	1:M:765:MET:HE2	2.35	0.55
2:J:144:GLU:OE1	2:J:144:GLU:HA	2.06	0.55
2:N:144:GLU:HA	2:N:144:GLU:OE1	2.06	0.55
2:X:144:GLU:HA	2:X:144:GLU:OE1	2.07	0.55
2:Z:40:SER:HB3	5:Z:2000:GSP:H3'	1.87	0.55
2:B:144:GLU:HA	2:B:144:GLU:OE1	2.07	0.55
1:W:611:SER:HB2	1:W:613:LEU:HD22	1.87	0.55
2:X:38:LEU:O	5:X:2000:GSP:O3'	2.18	0.55
3:a:724:ILE:HG23	3:j:717:ARG:NH2	2.22	0.55
1:M:607:VAL:O	1:M:611:SER:OG	2.20	0.55
1:O:607:VAL:O	1:O:611:SER:OG	2.20	0.55
1:O:611:SER:HB2	1:O:613:LEU:HD22	1.89	0.55
2:R:88:LEU:HD21	2:R:120:MET:HE2	1.88	0.55
1:g:611:SER:HB2	1:g:613:LEU:HD22	1.88	0.55
2:B:80:TYR:HE1	3:E:746:MET:SD	2.30	0.55
3:E:717:ARG:HD3	3:V:724:ILE:HG22	1.85	0.55
2:h:144:GLU:OE1	2:h:144:GLU:HA	2.07	0.55
1:S:611:SER:HB2	1:S:613:LEU:HD22	1.88	0.55
3:b:717:ARG:NH1	3:i:728:GLU:CB	2.68	0.55
2:T:88:LEU:HD21	2:T:120:MET:HE2	1.88	0.55
1:Q:611:SER:HB2	1:Q:613:LEU:HD22	1.88	0.55
1:c:607:VAL:O	1:c:611:SER:OG	2.20	0.55
3:E:717:ARG:CD	3:V:724:ILE:CG2	2.77	0.54
2:H:144:GLU:OE1	2:H:144:GLU:HA	2.07	0.54
2:T:38:LEU:O	5:T:2000:GSP:O3'	2.22	0.54
1:O:196:PRO:HG2	2:P:131:LEU:HD22	1.89	0.54
2:T:144:GLU:OE1	2:T:144:GLU:HA	2.07	0.54
2:Z:144:GLU:HA	2:Z:144:GLU:OE1	2.07	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:144:GLU:HA	2:D:144:GLU:OE1	2.07	0.54
3:E:717:ARG:NH2	3:V:725:GLN:CA	2.71	0.54
3:L:728:GLU:CG	3:e:717:ARG:NH2	2.70	0.54
1:O:133:LEU:O	1:O:136:SER:OG	2.21	0.54
2:B:38:LEU:O	5:B:2000:GSP:O3'	2.14	0.54
2:R:125:LYS:HG2	5:R:2000:GSP:C6	2.42	0.54
1:c:133:LEU:O	1:c:136:SER:OG	2.21	0.54
2:B:40:SER:HB3	5:B:2000:GSP:H3'	1.89	0.54
2:h:125:LYS:HG2	5:h:2000:GSP:C6	2.43	0.54
1:M:133:LEU:O	1:M:136:SER:OG	2.21	0.54
2:R:144:GLU:OE1	2:R:144:GLU:HA	2.07	0.54
1:c:626:TYR:HA	1:c:631:PHE:CD1	2.43	0.54
1:c:768:GLU:CD	1:c:768:GLU:H	2.16	0.54
3:K:724:ILE:CG2	3:f:717:ARG:CZ	2.85	0.53
3:L:728:GLU:HG2	3:e:717:ARG:NH2	2.22	0.53
1:W:607:VAL:O	1:W:611:SER:OG	2.20	0.53
1:M:178:GLN:CD	1:M:739:MET:CE	2.81	0.53
1:M:196:PRO:HG2	2:N:131:LEU:HD22	1.89	0.53
2:X:80:TYR:CE1	3:a:746:MET:HE2	2.43	0.53
2:H:80:TYR:OH	3:K:746:MET:CB	2.56	0.53
1:M:306:ARG:O	1:M:351:ARG:NH1	2.41	0.53
1:O:306:ARG:O	1:O:351:ARG:NH1	2.41	0.53
1:A:178:GLN:CD	1:A:739:MET:HE3	2.34	0.53
2:P:88:LEU:CD2	2:P:120:MET:HE2	2.38	0.53
1:Q:602:VAL:HG23	1:Q:607:VAL:HG23	1.90	0.53
2:X:8:TYR:HA	2:X:59:THR:OG1	2.08	0.53
2:h:8:TYR:HA	2:h:59:THR:OG1	2.08	0.53
3:b:728:GLU:HG3	3:i:717:ARG:NH2	2.24	0.53
3:E:724:ILE:HG23	3:V:717:ARG:NH2	2.23	0.53
1:c:602:VAL:HG23	1:c:607:VAL:HG23	1.91	0.53
1:C:331:GLU:HG3	1:I:332:GLN:HE22	1.73	0.53
1:I:602:VAL:HG23	1:I:607:VAL:HG23	1.91	0.53
1:M:768:GLU:CD	1:M:768:GLU:H	2.17	0.53
2:Z:67:THR:O	2:Z:68:ALA:CB	2.57	0.53
2:d:8:TYR:CE2	2:d:11:LEU:HB2	2.43	0.53
1:C:626:TYR:HA	1:C:631:PHE:CD1	2.43	0.53
2:H:80:TYR:CE1	3:K:746:MET:HE2	2.44	0.53
1:I:138:LEU:HD23	1:Q:769:GLN:OE1	2.06	0.53
1:M:602:VAL:HG23	1:M:607:VAL:HG23	1.91	0.53
2:R:8:TYR:HA	2:R:59:THR:OG1	2.09	0.53
1:S:306:ARG:O	1:S:351:ARG:NH1	2.42	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:h:67:THR:O	2:h:68:ALA:CB	2.57	0.53
1:C:602:VAL:HG23	1:C:607:VAL:HG23	1.92	0.52
1:O:768:GLU:CD	1:O:768:GLU:H	2.17	0.52
2:R:40:SER:HB3	5:R:2000:GSP:H3'	1.91	0.52
1:S:602:VAL:HG23	1:S:607:VAL:HG23	1.90	0.52
5:X:2000:GSP:O3G	5:X:2000:GSP:O2B	2.27	0.52
1:Y:133:LEU:O	1:Y:136:SER:OG	2.21	0.52
1:W:768:GLU:CD	1:W:768:GLU:H	2.17	0.52
5:d:2000:GSP:O2B	5:d:2000:GSP:O3G	2.27	0.52
1:A:306:ARG:O	1:A:351:ARG:NH1	2.42	0.52
2:N:8:TYR:CE2	2:N:11:LEU:HB2	2.44	0.52
2:P:8:TYR:CE2	2:P:11:LEU:HB2	2.44	0.52
2:R:92:ASP:H	2:R:98:THR:HG21	1.74	0.52
1:S:768:GLU:H	1:S:768:GLU:CD	2.17	0.52
5:T:2000:GSP:O2B	5:T:2000:GSP:O3G	2.27	0.52
1:g:768:GLU:H	1:g:768:GLU:CD	2.16	0.52
2:D:92:ASP:H	2:D:98:THR:HG21	1.74	0.52
2:H:26:ASN:ND2	5:H:2000:GSP:O1A	2.40	0.52
1:O:602:VAL:HG23	1:O:607:VAL:HG23	1.92	0.52
2:T:8:TYR:HA	2:T:59:THR:OG1	2.10	0.52
2:X:67:THR:O	2:X:68:ALA:CB	2.58	0.52
1:g:306:ARG:O	1:g:351:ARG:NH1	2.43	0.52
1:g:607:VAL:O	1:g:611:SER:OG	2.20	0.52
3:i:738:ILE:CD1	3:j:738:ILE:CD1	2.74	0.52
1:G:133:LEU:O	1:G:136:SER:OG	2.21	0.52
3:U:735:GLN:NE2	3:V:734:LEU:CD1	2.72	0.52
1:W:306:ARG:O	1:W:351:ARG:NH1	2.43	0.52
2:Z:8:TYR:CE2	2:Z:11:LEU:HB2	2.45	0.52
1:A:602:VAL:HG23	1:A:607:VAL:HG23	1.92	0.52
2:D:67:THR:O	2:D:68:ALA:CB	2.57	0.52
3:b:717:ARG:CZ	3:i:728:GLU:HB2	2.40	0.52
2:d:67:THR:O	2:d:68:ALA:CB	2.57	0.52
2:H:67:THR:O	2:H:68:ALA:CB	2.57	0.52
2:P:26:ASN:ND2	5:P:2000:GSP:O1A	2.39	0.52
1:Q:306:ARG:O	1:Q:351:ARG:NH1	2.42	0.52
1:Q:628:THR:HG23	1:Q:631:PHE:H	1.75	0.52
1:Q:768:GLU:H	1:Q:768:GLU:CD	2.17	0.52
2:h:41:LYS:CD	3:j:733:ARG:HD2	2.39	0.52
2:h:41:LYS:HD2	3:j:733:ARG:HD2	1.91	0.52
1:A:133:LEU:O	1:A:136:SER:OG	2.21	0.52
2:R:67:THR:O	2:R:68:ALA:CB	2.57	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:Z:2000:GSP:O3G	5:Z:2000:GSP:O2B	2.27	0.52
3:a:717:ARG:NH1	3:j:724:ILE:HB	2.25	0.52
2:H:92:ASP:H	2:H:98:THR:HG21	1.75	0.52
1:I:138:LEU:CD2	1:Q:765:MET:HG2	2.35	0.52
2:N:8:TYR:HA	2:N:59:THR:OG1	2.09	0.52
2:N:88:LEU:CD2	2:N:120:MET:HE2	2.39	0.52
1:Y:306:ARG:O	1:Y:351:ARG:NH1	2.43	0.52
1:C:306:ARG:O	1:C:351:ARG:NH1	2.43	0.52
1:I:306:ARG:O	1:I:351:ARG:NH1	2.43	0.52
1:I:607:VAL:O	1:I:611:SER:OG	2.20	0.52
2:T:67:THR:O	2:T:68:ALA:CB	2.57	0.52
3:U:738:ILE:CD1	3:V:738:ILE:HD13	2.26	0.52
1:Y:602:VAL:HG23	1:Y:607:VAL:HG23	1.92	0.52
2:d:8:TYR:HA	2:d:59:THR:OG1	2.10	0.52
5:h:2000:GSP:O2B	5:h:2000:GSP:O3G	2.28	0.52
2:B:67:THR:O	2:B:68:ALA:CB	2.57	0.51
3:E:738:ILE:CD1	3:F:738:ILE:CD1	2.88	0.51
1:G:178:GLN:CD	1:G:739:MET:CE	2.83	0.51
1:G:306:ARG:O	1:G:351:ARG:NH1	2.42	0.51
2:J:8:TYR:HA	2:J:59:THR:OG1	2.09	0.51
2:N:26:ASN:ND2	5:N:2000:GSP:O1A	2.41	0.51
2:P:8:TYR:HA	2:P:59:THR:OG1	2.09	0.51
1:S:196:PRO:HG2	2:T:131:LEU:HD22	1.92	0.51
3:b:728:GLU:OE2	3:i:717:ARG:CB	2.58	0.51
1:c:306:ARG:O	1:c:351:ARG:NH1	2.43	0.51
5:D:2000:GSP:O3G	5:D:2000:GSP:O2B	2.29	0.51
1:S:628:THR:HG23	1:S:631:PHE:H	1.75	0.51
1:g:602:VAL:HG23	1:g:607:VAL:HG23	1.92	0.51
2:h:8:TYR:CE2	2:h:11:LEU:HB2	2.45	0.51
2:B:88:LEU:CD2	2:B:120:MET:HE2	2.40	0.51
1:W:602:VAL:HG23	1:W:607:VAL:HG23	1.91	0.51
2:Z:92:ASP:H	2:Z:98:THR:HG21	1.75	0.51
3:a:720:LEU:HD13	3:i:724:ILE:CD1	2.37	0.51
1:G:602:VAL:HG23	1:G:607:VAL:HG23	1.93	0.51
2:H:8:TYR:HA	2:H:59:THR:OG1	2.10	0.51
2:J:67:THR:O	2:J:68:ALA:CB	2.58	0.51
2:X:88:LEU:CD2	2:X:120:MET:HE2	2.41	0.51
1:I:206:ILE:HD11	1:I:394:PHE:HE2	1.75	0.51
2:P:67:THR:O	2:P:68:ALA:CB	2.57	0.51
1:W:628:THR:HG23	1:W:631:PHE:H	1.75	0.51
1:A:768:GLU:CD	1:A:768:GLU:H	2.18	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:138:LEU:CG	1:S:769:GLN:HB3	2.40	0.51
1:Y:178:GLN:CD	1:Y:739:MET:CE	2.84	0.51
2:Z:8:TYR:HA	2:Z:59:THR:OG1	2.10	0.51
2:Z:26:ASN:ND2	5:Z:2000:GSP:O1A	2.43	0.51
2:Z:79:ALA:HB2	3:b:746:MET:CE	2.39	0.51
2:d:79:ALA:HB3	3:j:746:MET:HE3	1.92	0.51
2:d:88:LEU:CD2	2:d:120:MET:HE2	2.40	0.51
2:h:88:LEU:CD2	2:h:120:MET:HE2	2.40	0.51
3:E:738:ILE:CD1	3:F:738:ILE:HG12	2.33	0.51
2:J:88:LEU:CD2	2:J:120:MET:HE2	2.40	0.51
1:O:178:GLN:CD	1:O:739:MET:CE	2.83	0.51
2:P:92:ASP:H	2:P:98:THR:HG21	1.76	0.51
2:X:8:TYR:CE2	2:X:11:LEU:HB2	2.46	0.51
2:X:92:ASP:H	2:X:98:THR:HG21	1.74	0.51
1:g:178:GLN:CD	1:g:739:MET:CE	2.84	0.51
2:B:8:TYR:HA	2:B:59:THR:OG1	2.10	0.51
1:G:628:THR:HG23	1:G:631:PHE:H	1.75	0.51
2:B:92:ASP:H	2:B:98:THR:HG21	1.76	0.51
1:C:178:GLN:CD	1:C:739:MET:CE	2.84	0.51
1:C:331:GLU:CB	1:I:332:GLN:HE22	2.23	0.51
3:K:738:ILE:CD1	3:L:738:ILE:HG12	2.35	0.51
3:L:728:GLU:HG2	3:e:717:ARG:HH21	1.76	0.51
2:N:67:THR:O	2:N:68:ALA:CB	2.57	0.51
2:N:92:ASP:H	2:N:98:THR:HG21	1.76	0.51
2:X:125:LYS:HG2	5:X:2000:GSP:C6	2.46	0.51
1:Y:768:GLU:CD	1:Y:768:GLU:H	2.18	0.51
1:g:133:LEU:O	1:g:136:SER:OG	2.21	0.51
2:X:42:SER:HA	5:X:2000:GSP:S1G	2.51	0.51
1:Y:628:THR:HG23	1:Y:631:PHE:H	1.77	0.51
2:D:88:LEU:CD2	2:D:120:MET:HE2	2.41	0.50
2:T:8:TYR:CE2	2:T:11:LEU:HB2	2.45	0.50
1:W:133:LEU:O	1:W:136:SER:OG	2.21	0.50
2:Z:76:ILE:HA	3:b:746:MET:HE1	1.92	0.50
1:A:628:THR:HG23	1:A:631:PHE:H	1.76	0.50
1:C:768:GLU:CD	1:C:768:GLU:H	2.19	0.50
1:G:138:LEU:CD1	1:M:765:MET:HE2	2.42	0.50
2:H:88:LEU:CD2	2:H:120:MET:HE2	2.40	0.50
3:K:724:ILE:HG22	3:f:717:ARG:CZ	2.41	0.50
5:N:2000:GSP:O3G	5:N:2000:GSP:O2B	2.28	0.50
1:W:356:THR:HG21	1:W:546:VAL:HG12	1.93	0.50
1:C:206:ILE:HD11	1:C:394:PHE:HE2	1.75	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:768:GLU:H	1:G:768:GLU:CD	2.19	0.50
1:M:178:GLN:CD	1:M:739:MET:HE3	2.36	0.50
1:Q:178:GLN:CD	1:Q:739:MET:CE	2.84	0.50
1:S:133:LEU:O	1:S:136:SER:OG	2.21	0.50
1:g:628:THR:HG23	1:g:631:PHE:H	1.75	0.50
2:D:91:TYR:HB2	2:D:98:THR:HG23	1.94	0.50
3:L:728:GLU:HA	3:e:717:ARG:NH2	2.27	0.50
1:I:178:GLN:CD	1:I:739:MET:CE	2.84	0.50
2:R:8:TYR:CE2	2:R:11:LEU:HB2	2.46	0.50
2:T:92:ASP:H	2:T:98:THR:HG21	1.76	0.50
2:Z:88:LEU:CD2	2:Z:120:MET:HE2	2.41	0.50
2:h:92:ASP:H	2:h:98:THR:HG21	1.76	0.50
2:D:8:TYR:HA	2:D:59:THR:OG1	2.11	0.50
2:H:8:TYR:CE2	2:H:11:LEU:HB2	2.47	0.50
1:I:768:GLU:CD	1:I:768:GLU:H	2.19	0.50
1:Q:356:THR:HG21	1:Q:546:VAL:HG12	1.93	0.50
1:g:196:PRO:HG2	2:h:131:LEU:HD22	1.94	0.50
1:Q:133:LEU:O	1:Q:136:SER:OG	2.21	0.50
2:R:88:LEU:CD2	2:R:120:MET:HE2	2.42	0.50
5:B:2000:GSP:O3G	5:B:2000:GSP:O2B	2.29	0.49
3:K:720:LEU:O	3:K:724:ILE:HG12	2.11	0.49
3:a:717:ARG:CZ	3:j:724:ILE:CG2	2.90	0.49
1:O:628:THR:HG23	1:O:631:PHE:H	1.77	0.49
5:P:2000:GSP:O3G	5:P:2000:GSP:O2B	2.29	0.49
5:R:2000:GSP:O2B	5:R:2000:GSP:O3G	2.30	0.49
1:I:628:THR:HG23	1:I:631:PHE:H	1.76	0.49
2:H:38:LEU:O	5:H:2000:GSP:O3'	2.20	0.49
3:L:717:ARG:NH2	3:e:728:GLU:CB	2.75	0.49
1:S:356:THR:HG21	1:S:546:VAL:HG12	1.94	0.49
1:c:178:GLN:CD	1:c:739:MET:CE	2.85	0.49
1:A:765:MET:HE2	1:O:138:LEU:HD11	1.93	0.49
1:G:178:GLN:CD	1:G:739:MET:HE3	2.37	0.49
1:M:518:LEU:HG	1:M:519:LYS:H	1.77	0.49
1:M:628:THR:HG23	1:M:631:PHE:H	1.78	0.49
2:d:92:ASP:H	2:d:98:THR:HG21	1.76	0.49
3:K:717:ARG:HD2	3:f:724:ILE:HG22	1.94	0.49
3:L:728:GLU:HA	3:e:717:ARG:HH21	1.77	0.49
1:O:356:THR:HG21	1:O:546:VAL:HG12	1.95	0.49
2:T:88:LEU:CD2	2:T:120:MET:HE2	2.42	0.49
2:B:80:TYR:OH	3:E:746:MET:HE2	2.12	0.49
2:B:91:TYR:HB2	2:B:98:THR:HG23	1.95	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:628:THR:HG23	1:C:631:PHE:H	1.76	0.49
2:J:91:TYR:HB2	2:J:98:THR:HG23	1.95	0.49
1:W:611:SER:HB2	1:W:613:LEU:CD2	2.43	0.49
1:g:356:THR:HG21	1:g:546:VAL:HG12	1.95	0.49
1:g:518:LEU:HG	1:g:519:LYS:H	1.77	0.49
2:h:38:LEU:HA	5:h:2000:GSP:O2'	2.13	0.49
1:A:138:LEU:HD21	1:O:765:MET:SD	2.50	0.49
1:I:356:THR:HG21	1:I:546:VAL:HG12	1.95	0.49
1:W:178:GLN:CD	1:W:739:MET:CE	2.85	0.49
3:a:720:LEU:O	3:a:724:ILE:HG12	2.13	0.49
2:H:91:TYR:HB2	2:H:98:THR:HG23	1.95	0.49
1:S:178:GLN:CD	1:S:739:MET:CE	2.85	0.49
1:Y:138:LEU:HG	1:g:769:GLN:HB3	1.93	0.49
3:a:738:ILE:HD13	3:b:738:ILE:HG12	1.95	0.49
1:G:356:THR:HG21	1:G:546:VAL:HG12	1.95	0.48
3:K:717:ARG:HH21	3:f:725:GLN:CB	2.25	0.48
1:Q:607:VAL:O	1:Q:611:SER:OG	2.20	0.48
3:a:717:ARG:HH11	3:j:724:ILE:HG21	1.78	0.48
2:d:120:MET:HB2	2:d:168:ILE:HD12	1.95	0.48
2:D:8:TYR:CE2	2:D:11:LEU:HB2	2.47	0.48
3:E:717:ARG:HD2	3:V:724:ILE:HG21	1.94	0.48
1:I:611:SER:HB2	1:I:613:LEU:CD2	2.43	0.48
2:J:92:ASP:H	2:J:98:THR:HG21	1.78	0.48
1:S:766:THR:HG22	1:S:769:GLN:HG3	1.95	0.48
3:U:735:GLN:NE2	3:V:734:LEU:HD12	2.27	0.48
1:M:206:ILE:HD11	1:M:394:PHE:HE2	1.77	0.48
1:g:152:LYS:CD	3:j:722:GLU:CB	2.91	0.48
1:g:611:SER:HB2	1:g:613:LEU:CD2	2.43	0.48
3:i:720:LEU:O	3:i:724:ILE:HG12	2.13	0.48
1:A:356:THR:HG21	1:A:546:VAL:HG12	1.95	0.48
2:B:8:TYR:CE2	2:B:11:LEU:HB2	2.48	0.48
1:C:611:SER:HB2	1:C:613:LEU:CD2	2.44	0.48
3:E:729:GLU:HG3	1:S:751:SER:OG	2.13	0.48
1:I:221:SER:CA	2:N:71:GLU:OE2	2.61	0.48
1:I:518:LEU:HG	1:I:519:LYS:H	1.79	0.48
1:M:518:LEU:HG	1:M:519:LYS:N	2.29	0.48
1:Q:766:THR:HG22	1:Q:769:GLN:HG3	1.95	0.48
2:T:42:SER:HA	5:T:2000:GSP:S1G	2.53	0.48
3:e:752:ILE:HG21	3:f:745:ILE:CD1	2.43	0.48
2:P:91:TYR:HB2	2:P:98:THR:HG23	1.95	0.48
2:R:91:TYR:HB2	2:R:98:THR:HG23	1.94	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:e:720:LEU:O	3:e:724:ILE:HG12	2.13	0.48
1:g:178:GLN:CD	1:g:739:MET:HE3	2.38	0.48
3:E:720:LEU:O	3:E:724:ILE:HG12	2.12	0.48
2:N:91:TYR:HB2	2:N:98:THR:HG23	1.95	0.48
1:Q:178:GLN:CD	1:Q:739:MET:HE3	2.39	0.48
1:W:206:ILE:HD11	1:W:394:PHE:HE2	1.79	0.48
1:c:206:ILE:HD11	1:c:394:PHE:HE1	1.78	0.48
1:G:611:SER:HB2	1:G:613:LEU:CD2	2.43	0.48
3:L:731:ASN:ND2	3:e:717:ARG:NH2	2.61	0.48
1:S:607:VAL:O	1:S:611:SER:OG	2.20	0.48
1:S:611:SER:HB2	1:S:613:LEU:CD2	2.43	0.48
2:X:91:TYR:HB2	2:X:98:THR:HG23	1.95	0.48
1:Y:206:ILE:HD11	1:Y:394:PHE:HE1	1.79	0.48
2:B:120:MET:HB2	2:B:168:ILE:HD12	1.96	0.48
1:C:178:GLN:CD	1:C:739:MET:HE3	2.39	0.48
3:L:720:LEU:O	3:L:724:ILE:HG13	2.14	0.48
1:M:356:THR:HG21	1:M:546:VAL:HG12	1.96	0.48
1:S:588:ILE:HD12	1:S:593:GLY:HA2	1.95	0.48
1:Y:356:THR:HG21	1:Y:546:VAL:HG12	1.96	0.48
1:C:518:LEU:HG	1:C:519:LYS:H	1.79	0.48
1:I:221:SER:C	2:N:71:GLU:OE2	2.56	0.48
2:J:8:TYR:CE2	2:J:11:LEU:HB2	2.48	0.48
2:P:41:LYS:HD2	3:U:733:ARG:NH2	2.29	0.48
3:U:720:LEU:O	3:U:724:ILE:HG12	2.14	0.48
1:g:182:MET:HA	1:g:186:MET:HG3	1.96	0.48
2:h:91:TYR:HB2	2:h:98:THR:HG23	1.95	0.48
1:C:356:THR:HG21	1:C:546:VAL:HG12	1.96	0.48
2:J:79:ALA:HB1	3:L:746:MET:CE	2.33	0.48
1:O:178:GLN:CD	1:O:739:MET:HE3	2.38	0.48
2:R:41:LYS:HD2	3:f:733:ARG:HD2	1.96	0.48
2:X:80:TYR:CZ	3:a:746:MET:HE2	2.49	0.48
1:c:628:THR:HG23	1:c:631:PHE:H	1.79	0.48
2:J:120:MET:HB2	2:J:168:ILE:HD12	1.95	0.47
1:c:356:THR:HG21	1:c:546:VAL:HG12	1.96	0.47
1:g:206:ILE:HD11	1:g:394:PHE:HE1	1.79	0.47
3:F:717:ARG:NH2	3:U:728:GLU:HB3	2.29	0.47
2:X:31:PHE:O	2:X:51:ARG:NH1	2.46	0.47
1:Y:178:GLN:CD	1:Y:739:MET:HE3	2.38	0.47
3:F:720:LEU:O	3:F:724:ILE:HG13	2.15	0.47
1:I:178:GLN:CD	1:I:739:MET:HE3	2.39	0.47
1:A:611:SER:HB2	1:A:613:LEU:CD2	2.44	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:O:766:THR:HG22	1:O:769:GLN:HG3	1.97	0.47
1:Q:611:SER:HB2	1:Q:613:LEU:CD2	2.44	0.47
1:S:518:LEU:HG	1:S:519:LYS:H	1.78	0.47
2:T:91:TYR:HB2	2:T:98:THR:HG23	1.95	0.47
1:Y:611:SER:HB2	1:Y:613:LEU:CD2	2.43	0.47
2:D:31:PHE:O	2:D:51:ARG:NH1	2.45	0.47
1:G:182:MET:HA	1:G:186:MET:HG3	1.97	0.47
1:Q:206:ILE:HD11	1:Q:394:PHE:HE2	1.79	0.47
2:Z:120:MET:HB2	2:Z:168:ILE:HD12	1.96	0.47
1:c:178:GLN:CD	1:c:739:MET:HE3	2.39	0.47
2:d:91:TYR:HB2	2:d:98:THR:HG23	1.96	0.47
2:h:120:MET:HB2	2:h:168:ILE:HD12	1.95	0.47
3:F:717:ARG:NH2	3:U:725:GLN:HA	2.29	0.47
1:A:324:LEU:O	1:A:333:LYS:HE3	2.15	0.47
1:I:138:LEU:HG	1:Q:769:GLN:CB	2.37	0.47
2:J:31:PHE:O	2:J:51:ARG:NH1	2.46	0.47
1:O:518:LEU:HG	1:O:519:LYS:H	1.80	0.47
2:P:120:MET:HB2	2:P:168:ILE:HD12	1.96	0.47
1:W:518:LEU:HG	1:W:519:LYS:H	1.80	0.47
1:W:765:MET:HE2	1:c:138:LEU:CD1	2.44	0.47
2:Z:91:TYR:HB2	2:Z:98:THR:HG23	1.95	0.47
1:g:152:LYS:HZ3	3:j:722:GLU:HA	1.80	0.47
1:C:331:GLU:HB3	1:I:332:GLN:HE22	1.79	0.47
2:D:120:MET:HB2	2:D:168:ILE:HD12	1.95	0.47
1:S:178:GLN:CD	1:S:739:MET:HE3	2.40	0.47
3:V:720:LEU:O	3:V:724:ILE:HG13	2.15	0.47
1:g:324:LEU:O	1:g:333:LYS:HE3	2.14	0.47
2:B:80:TYR:CE1	3:E:746:MET:CE	2.98	0.47
1:G:518:LEU:HG	1:G:519:LYS:H	1.80	0.47
1:Q:195:LYS:HB3	1:Q:196:PRO:HD3	1.97	0.47
1:Q:602:VAL:HG23	1:Q:607:VAL:CG2	2.45	0.47
3:F:728:GLU:HG2	3:U:717:ARG:HH21	1.80	0.47
1:G:324:LEU:O	1:G:333:LYS:HE3	2.15	0.47
2:H:120:MET:HB2	2:H:168:ILE:HD12	1.97	0.47
1:M:611:SER:HB2	1:M:613:LEU:CD2	2.44	0.47
1:Q:329:THR:HG23	1:Q:332:GLN:H	1.80	0.47
1:O:206:ILE:HD11	1:O:394:PHE:HE2	1.79	0.46
2:R:120:MET:HB2	2:R:168:ILE:HD12	1.97	0.46
1:g:363:VAL:HA	1:g:388:VAL:HG12	1.97	0.46
1:C:766:THR:HG22	1:C:769:GLN:HG3	1.98	0.46
2:N:120:MET:HB2	2:N:168:ILE:HD12	1.96	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:T:120:MET:HB2	2:T:168:ILE:HD12	1.97	0.46
1:c:324:LEU:O	1:c:333:LYS:HE3	2.15	0.46
1:g:152:LYS:NZ	3:j:722:GLU:HA	2.30	0.46
1:S:602:VAL:HG23	1:S:607:VAL:CG2	2.45	0.46
1:A:182:MET:HA	1:A:186:MET:HG3	1.98	0.46
1:I:138:LEU:CG	1:Q:769:GLN:CD	2.89	0.46
1:M:324:LEU:O	1:M:333:LYS:HE3	2.15	0.46
1:O:324:LEU:O	1:O:333:LYS:HE3	2.15	0.46
2:P:31:PHE:O	2:P:51:ARG:NH1	2.45	0.46
1:W:178:GLN:CD	1:W:739:MET:HE3	2.40	0.46
1:Y:324:LEU:O	1:Y:333:LYS:HE3	2.15	0.46
1:A:195:LYS:HB3	1:A:196:PRO:HD3	1.98	0.46
3:E:717:ARG:NH1	3:V:724:ILE:HB	2.31	0.46
1:G:766:THR:HG22	1:G:769:GLN:HG3	1.98	0.46
1:I:766:THR:HG22	1:I:769:GLN:HG3	1.98	0.46
1:M:404:PRO:O	1:M:405:GLU:CB	2.64	0.46
1:W:324:LEU:O	1:W:333:LYS:HE3	2.16	0.46
3:b:720:LEU:O	3:b:724:ILE:HG13	2.15	0.46
3:j:720:LEU:O	3:j:724:ILE:HG13	2.15	0.46
1:A:176:LEU:N	1:A:177:PRO:CD	2.78	0.46
2:D:99:TYR:O	2:D:102:VAL:HG22	2.16	0.46
1:G:138:LEU:HD11	1:M:765:MET:HE2	1.97	0.46
2:P:99:TYR:O	2:P:102:VAL:HG22	2.16	0.46
1:Q:518:LEU:HG	1:Q:519:LYS:H	1.79	0.46
2:X:120:MET:HB2	2:X:168:ILE:HD12	1.96	0.46
1:c:611:SER:HB2	1:c:613:LEU:CD2	2.44	0.46
3:f:720:LEU:O	3:f:724:ILE:HG13	2.15	0.46
1:g:518:LEU:HG	1:g:519:LYS:N	2.30	0.46
1:G:138:LEU:HD21	1:M:765:MET:SD	2.53	0.46
2:H:80:TYR:HE1	3:K:746:MET:SD	2.39	0.46
2:N:99:TYR:O	2:N:102:VAL:HG22	2.16	0.46
1:S:329:THR:HG23	1:S:332:GLN:H	1.81	0.46
1:c:182:MET:HA	1:c:186:MET:HG3	1.97	0.46
1:c:602:VAL:HG23	1:c:607:VAL:CG2	2.45	0.46
2:H:176:VAL:HG23	2:H:177:SER:N	2.31	0.46
3:K:717:ARG:NH2	3:f:725:GLN:CA	2.79	0.46
1:M:182:MET:HA	1:M:186:MET:HG3	1.98	0.46
1:O:404:PRO:O	1:O:405:GLU:CB	2.64	0.46
1:O:611:SER:HB2	1:O:613:LEU:CD2	2.45	0.46
1:S:182:MET:HA	1:S:186:MET:HG3	1.98	0.46
1:S:206:ILE:HD11	1:S:394:PHE:HE2	1.80	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:W:182:MET:HA	1:W:186:MET:HG3	1.98	0.46
1:Y:182:MET:HA	1:Y:186:MET:HG3	1.98	0.46
2:B:99:TYR:O	2:B:102:VAL:HG22	2.16	0.46
2:H:99:TYR:O	2:H:102:VAL:HG22	2.16	0.46
2:R:38:LEU:O	5:R:2000:GSP:O3'	2.30	0.46
1:g:766:THR:HG22	1:g:769:GLN:HG3	1.97	0.46
2:B:176:VAL:HG23	2:B:177:SER:N	2.31	0.46
3:E:724:ILE:HG22	3:V:717:ARG:NE	2.31	0.46
1:G:195:LYS:HB3	1:G:196:PRO:HD3	1.98	0.46
1:M:766:THR:HG22	1:M:769:GLN:HG3	1.98	0.46
1:A:518:LEU:HG	1:A:519:LYS:H	1.81	0.45
2:B:80:TYR:OH	3:E:746:MET:CE	2.64	0.45
3:E:724:ILE:CG2	3:V:717:ARG:NE	2.78	0.45
2:H:42:SER:HA	5:H:2000:GSP:S1G	2.56	0.45
2:N:31:PHE:O	2:N:51:ARG:NH1	2.46	0.45
2:B:80:TYR:CZ	3:E:746:MET:SD	3.09	0.45
3:F:728:GLU:CG	3:U:717:ARG:NH2	2.78	0.45
1:G:196:PRO:HG2	2:H:131:LEU:HD22	1.98	0.45
2:J:99:TYR:O	2:J:102:VAL:HG22	2.17	0.45
1:M:329:THR:HG23	1:M:332:GLN:H	1.81	0.45
1:Q:324:LEU:O	1:Q:333:LYS:HE3	2.17	0.45
1:A:363:VAL:HA	1:A:388:VAL:HG12	1.98	0.45
1:C:138:LEU:CD2	1:S:769:GLN:OE1	2.61	0.45
1:M:588:ILE:HD12	1:M:593:GLY:HA2	1.98	0.45
1:O:195:LYS:HB3	1:O:196:PRO:HD3	1.97	0.45
1:O:518:LEU:HG	1:O:519:LYS:N	2.32	0.45
1:Q:363:VAL:HA	1:Q:388:VAL:HG12	1.98	0.45
1:Y:602:VAL:HG23	1:Y:607:VAL:CG2	2.47	0.45
3:F:728:GLU:HG2	3:U:717:ARG:NH2	2.31	0.45
1:I:404:PRO:O	1:I:405:GLU:CB	2.65	0.45
1:O:329:THR:HG23	1:O:332:GLN:H	1.81	0.45
1:C:404:PRO:O	1:C:405:GLU:CB	2.65	0.45
1:I:182:MET:HA	1:I:186:MET:HG3	1.97	0.45
1:Q:404:PRO:O	1:Q:405:GLU:CB	2.64	0.45
1:S:195:LYS:HB3	1:S:196:PRO:HD3	1.99	0.45
1:S:518:LEU:HG	1:S:519:LYS:N	2.31	0.45
1:W:602:VAL:HG23	1:W:607:VAL:CG2	2.46	0.45
2:X:99:TYR:O	2:X:102:VAL:HG22	2.16	0.45
1:I:206:ILE:HD11	1:I:394:PHE:CE2	2.51	0.45
2:R:38:LEU:HA	5:R:2000:GSP:O2'	2.16	0.45
2:R:99:TYR:O	2:R:102:VAL:HG22	2.16	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:S:404:PRO:O	1:S:405:GLU:CB	2.64	0.45
1:Y:607:VAL:O	1:Y:611:SER:OG	2.20	0.45
2:Z:38:LEU:HA	5:Z:2000:GSP:O2'	2.16	0.45
3:a:717:ARG:HH11	3:j:724:ILE:CG2	2.29	0.45
1:c:195:LYS:HB3	1:c:196:PRO:HD3	1.99	0.45
2:h:99:TYR:O	2:h:102:VAL:HG22	2.16	0.45
1:C:182:MET:HA	1:C:186:MET:HG3	1.97	0.45
1:C:206:ILE:HD11	1:C:394:PHE:CE2	2.51	0.45
2:D:80:TYR:HE1	3:F:746:MET:HG2	1.82	0.45
1:I:602:VAL:HG23	1:I:607:VAL:CG2	2.47	0.45
3:K:717:ARG:HD2	3:f:724:ILE:CG2	2.47	0.45
1:M:602:VAL:HG23	1:M:607:VAL:CG2	2.46	0.45
1:S:324:LEU:O	1:S:333:LYS:HE3	2.17	0.45
1:Y:363:VAL:HA	1:Y:388:VAL:HG12	1.99	0.45
1:g:602:VAL:HG23	1:g:607:VAL:CG2	2.47	0.45
1:C:602:VAL:HG23	1:C:607:VAL:CG2	2.46	0.45
1:C:607:VAL:O	1:C:611:SER:OG	2.20	0.45
1:G:765:MET:HE2	1:M:138:LEU:HD11	1.98	0.45
1:O:588:ILE:HD12	1:O:593:GLY:HA2	1.99	0.45
1:Q:588:ILE:HD12	1:Q:593:GLY:HA2	1.98	0.45
1:W:404:PRO:O	1:W:405:GLU:CB	2.65	0.45
2:d:99:TYR:O	2:d:102:VAL:HG22	2.16	0.45
1:g:404:PRO:O	1:g:405:GLU:CB	2.65	0.45
2:B:80:TYR:CE1	3:E:746:MET:HE2	2.52	0.45
1:G:329:THR:HG23	1:G:332:GLN:H	1.82	0.45
1:I:329:THR:HG23	1:I:332:GLN:H	1.82	0.45
1:I:518:LEU:HG	1:I:519:LYS:N	2.31	0.45
2:J:38:LEU:O	5:J:2000:GSP:O3'	2.22	0.45
1:M:176:LEU:N	1:M:177:PRO:CD	2.80	0.45
1:M:363:VAL:HA	1:M:388:VAL:HG12	1.99	0.45
1:Q:182:MET:HA	1:Q:186:MET:HG3	1.99	0.45
1:Q:196:PRO:HG2	2:R:131:LEU:HD22	1.98	0.45
2:T:99:TYR:O	2:T:102:VAL:HG22	2.16	0.45
1:A:329:THR:HG23	1:A:332:GLN:H	1.82	0.45
1:C:324:LEU:O	1:C:333:LYS:HE3	2.16	0.45
1:C:518:LEU:HG	1:C:519:LYS:N	2.31	0.45
2:D:38:LEU:O	5:D:2000:GSP:O3'	2.20	0.45
1:G:363:VAL:HA	1:G:388:VAL:HG12	1.99	0.45
1:Y:588:ILE:HD12	1:Y:593:GLY:HA2	1.99	0.45
1:Y:766:THR:HG22	1:Y:769:GLN:HG3	1.99	0.45
1:c:363:VAL:HA	1:c:388:VAL:HG12	1.99	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:d:31:PHE:O	2:d:51:ARG:NH1	2.46	0.45
3:E:717:ARG:HG2	3:V:728:GLU:OE2	2.12	0.44
1:S:363:VAL:HA	1:S:388:VAL:HG12	1.99	0.44
1:S:405:GLU:HA	1:S:534:PRO:HG3	1.99	0.44
1:Y:195:LYS:HB3	1:Y:196:PRO:HD3	1.99	0.44
1:Y:518:LEU:HG	1:Y:519:LYS:H	1.83	0.44
2:d:38:LEU:CA	5:d:2000:GSP:O2'	2.63	0.44
3:a:717:ARG:CG	3:j:728:GLU:CD	2.71	0.44
3:b:728:GLU:HG2	3:i:717:ARG:HE	1.82	0.44
1:A:766:THR:HG22	1:A:769:GLN:HG3	2.00	0.44
1:C:588:ILE:HD12	1:C:593:GLY:HA2	1.98	0.44
1:I:178:GLN:CA	1:I:739:MET:HE1	2.47	0.44
1:I:324:LEU:O	1:I:333:LYS:HE3	2.16	0.44
1:M:195:LYS:HB3	1:M:196:PRO:HD3	1.98	0.44
1:O:602:VAL:HG23	1:O:607:VAL:CG2	2.47	0.44
1:Q:518:LEU:HG	1:Q:519:LYS:N	2.31	0.44
2:h:48:PHE:O	3:i:755:VAL:HG23	2.18	0.44
1:A:336:ARG:HA	1:Y:537:HIS:CD2	2.53	0.44
1:I:195:LYS:HB3	1:I:196:PRO:HD3	1.99	0.44
2:P:120:MET:HE1	2:P:164:ALA:C	2.43	0.44
2:T:125:LYS:HG2	5:T:2000:GSP:C6	2.53	0.44
1:W:518:LEU:HG	1:W:519:LYS:N	2.32	0.44
1:g:176:LEU:N	1:g:177:PRO:CD	2.80	0.44
1:A:206:ILE:HD11	1:A:394:PHE:HE1	1.81	0.44
1:G:206:ILE:HD11	1:G:394:PHE:HE2	1.81	0.44
1:G:518:LEU:HG	1:G:519:LYS:N	2.32	0.44
1:I:759:GLU:OE2	1:Q:147:TYR:OH	2.33	0.44
2:R:26:ASN:ND2	5:R:2000:GSP:O1A	2.50	0.44
2:Z:99:TYR:O	2:Z:102:VAL:HG22	2.17	0.44
1:c:176:LEU:N	1:c:177:PRO:CD	2.81	0.44
1:c:404:PRO:O	1:c:405:GLU:CB	2.64	0.44
2:B:44:ILE:HD12	3:F:737:TYR:CE2	2.51	0.44
1:C:329:THR:HG23	1:C:332:GLN:H	1.83	0.44
1:G:176:LEU:N	1:G:177:PRO:CD	2.80	0.44
3:K:740:ARG:HH22	1:Q:682:SER:HB3	1.83	0.44
2:h:104:ARG:HD2	2:h:104:ARG:HA	1.79	0.44
1:C:176:LEU:N	1:C:177:PRO:CD	2.81	0.44
2:R:41:LYS:HB3	3:f:733:ARG:CZ	2.46	0.44
2:T:176:VAL:HG23	2:T:177:SER:N	2.33	0.44
1:W:765:MET:CE	1:c:138:LEU:CD2	2.78	0.44
1:W:766:THR:HG22	1:W:769:GLN:HG3	1.98	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:Y:329:THR:HG23	1:Y:332:GLN:H	1.83	0.44
1:Y:404:PRO:O	1:Y:405:GLU:CB	2.65	0.44
1:c:518:LEU:HG	1:c:519:LYS:H	1.83	0.44
1:g:195:LYS:HB3	1:g:196:PRO:HD3	1.98	0.44
1:I:588:ILE:HD12	1:I:593:GLY:HA2	1.98	0.44
3:K:728:GLU:HB2	3:f:717:ARG:HH11	1.81	0.44
3:K:738:ILE:HD11	3:L:738:ILE:HD13	1.99	0.44
2:N:120:MET:HE1	2:N:164:ALA:C	2.43	0.44
1:Y:178:GLN:CA	1:Y:739:MET:HE1	2.48	0.44
1:c:329:THR:HG23	1:c:332:GLN:H	1.83	0.44
1:g:329:THR:HG23	1:g:332:GLN:H	1.81	0.44
1:A:178:GLN:CA	1:A:739:MET:HE1	2.47	0.44
1:A:588:ILE:HD12	1:A:593:GLY:HA2	1.99	0.44
2:B:26:ASN:ND2	5:B:2000:GSP:O1A	2.48	0.44
2:D:40:SER:HB3	5:D:2000:GSP:H3'	1.99	0.44
1:M:206:ILE:HD11	1:M:394:PHE:CE2	2.53	0.44
1:O:363:VAL:HA	1:O:388:VAL:HG12	2.00	0.44
2:X:44:ILE:HD12	3:b:737:TYR:CG	2.53	0.44
1:c:206:ILE:HD11	1:c:394:PHE:CE1	2.53	0.44
3:e:735:GLN:HE22	3:f:734:LEU:CD1	2.30	0.44
1:g:178:GLN:CA	1:g:739:MET:HE1	2.48	0.44
1:G:588:ILE:HD12	1:G:593:GLY:HA2	1.99	0.43
1:O:169:ASN:OD1	1:O:201:ARG:CZ	2.66	0.43
2:R:176:VAL:HG23	2:R:177:SER:N	2.34	0.43
1:W:176:LEU:N	1:W:177:PRO:CD	2.81	0.43
1:W:363:VAL:HA	1:W:388:VAL:HG12	2.00	0.43
2:X:120:MET:HE1	2:X:164:ALA:C	2.43	0.43
1:C:195:LYS:HB3	1:C:196:PRO:HD3	1.99	0.43
1:G:404:PRO:O	1:G:405:GLU:CB	2.65	0.43
1:I:405:GLU:HA	1:I:534:PRO:HG3	2.00	0.43
2:R:104:ARG:HD2	2:R:104:ARG:HA	1.79	0.43
1:c:571:TRP:CE2	1:c:578:LEU:HD12	2.52	0.43
2:d:79:ALA:CB	3:j:746:MET:HE3	2.48	0.43
1:A:404:PRO:O	1:A:405:GLU:CB	2.65	0.43
1:W:138:LEU:CD1	1:c:765:MET:HE2	2.49	0.43
2:X:44:ILE:CD1	3:b:737:TYR:CG	3.02	0.43
1:C:405:GLU:HA	1:C:534:PRO:HG3	2.00	0.43
2:J:40:SER:HB3	5:J:2000:GSP:H3'	2.00	0.43
2:d:37:ASN:C	5:d:2000:GSP:HO2'	2.09	0.43
3:e:752:ILE:HD13	3:f:745:ILE:CD1	2.48	0.43
1:A:571:TRP:CE2	1:A:578:LEU:HD12	2.53	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:331:GLU:HG3	1:I:332:GLN:NE2	2.32	0.43
2:D:79:ALA:CB	3:F:746:MET:HE1	2.44	0.43
2:N:104:ARG:HD2	2:N:104:ARG:HA	1.77	0.43
2:X:44:ILE:CD1	3:b:737:TYR:CD1	3.02	0.43
1:Y:518:LEU:HG	1:Y:519:LYS:N	2.34	0.43
1:c:588:ILE:HD12	1:c:593:GLY:HA2	2.00	0.43
1:c:766:THR:HG22	1:c:769:GLN:HG3	1.98	0.43
1:C:178:GLN:CA	1:C:739:MET:HE1	2.48	0.43
3:F:731:ASN:ND2	3:U:717:ARG:NH2	2.64	0.43
1:W:178:GLN:CA	1:W:739:MET:HE1	2.49	0.43
1:Y:206:ILE:HD11	1:Y:394:PHE:CE1	2.54	0.43
3:j:724:ILE:HA	3:j:727:GLN:HE21	1.83	0.43
1:A:518:LEU:HG	1:A:519:LYS:N	2.33	0.43
1:O:176:LEU:N	1:O:177:PRO:CD	2.82	0.43
1:W:195:LYS:HB3	1:W:196:PRO:HD3	1.99	0.43
1:Y:176:LEU:N	1:Y:177:PRO:CD	2.81	0.43
1:g:152:LYS:HD3	3:j:722:GLU:CB	2.49	0.43
1:C:138:LEU:HA	1:S:769:GLN:HE21	1.84	0.43
1:W:573:GLN:C	1:W:574:GLU:O	2.60	0.43
1:c:178:GLN:CA	1:c:739:MET:HE1	2.49	0.43
1:g:206:ILE:HD11	1:g:394:PHE:CE1	2.53	0.43
1:G:139:PHE:HD1	1:G:143:MET:HE2	1.84	0.43
1:G:178:GLN:CA	1:G:739:MET:HE1	2.48	0.43
1:M:169:ASN:OD1	1:M:201:ARG:CZ	2.67	0.43
1:c:549:LYS:HD3	1:c:554:LEU:HD21	2.01	0.43
3:f:730:ILE:O	3:f:734:LEU:HG	2.19	0.43
2:h:120:MET:HE1	2:h:164:ALA:C	2.44	0.43
1:O:405:GLU:HA	1:O:534:PRO:HG3	1.99	0.43
1:Q:206:ILE:HD11	1:Q:394:PHE:CE2	2.54	0.43
1:Q:405:GLU:HA	1:Q:534:PRO:HG3	2.01	0.43
1:W:588:ILE:HD12	1:W:593:GLY:HA2	1.99	0.43
1:c:518:LEU:HG	1:c:519:LYS:N	2.34	0.43
1:G:571:TRP:CE2	1:G:578:LEU:HD12	2.54	0.42
2:H:80:TYR:CE1	3:K:746:MET:SD	3.12	0.42
1:M:571:TRP:CE2	1:M:578:LEU:HD12	2.54	0.42
2:P:37:ASN:O	5:P:2000:GSP:O2'	2.21	0.42
1:Q:308:ALA:N	1:Q:309:PRO:CD	2.81	0.42
1:W:329:THR:HG23	1:W:332:GLN:H	1.82	0.42
3:b:728:GLU:CG	3:i:717:ARG:NH2	2.82	0.42
1:A:602:VAL:HG23	1:A:607:VAL:CG2	2.48	0.42
2:B:80:TYR:CZ	3:E:746:MET:CE	2.99	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:125:LYS:HG2	5:D:2000:GSP:C6	2.55	0.42
1:I:363:VAL:HA	1:I:388:VAL:HG12	2.01	0.42
3:V:730:ILE:O	3:V:734:LEU:HG	2.20	0.42
3:F:717:ARG:NH2	3:U:728:GLU:CB	2.82	0.42
1:I:138:LEU:CG	1:Q:769:GLN:HB3	2.49	0.42
1:I:176:LEU:N	1:I:177:PRO:CD	2.82	0.42
3:L:717:ARG:CZ	3:e:728:GLU:HB3	2.50	0.42
1:O:178:GLN:CA	1:O:739:MET:HE1	2.48	0.42
1:O:182:MET:HA	1:O:186:MET:HG3	2.02	0.42
2:P:176:VAL:HG23	2:P:177:SER:N	2.34	0.42
1:W:206:ILE:HD11	1:W:394:PHE:CE2	2.53	0.42
2:X:44:ILE:HD12	3:b:737:TYR:CE2	2.53	0.42
2:d:40:SER:HB3	5:d:2000:GSP:C3'	2.46	0.42
1:g:588:ILE:HD12	1:g:593:GLY:HA2	2.00	0.42
3:E:730:ILE:O	3:E:734:LEU:HG	2.20	0.42
1:G:602:VAL:HG23	1:G:607:VAL:CG2	2.48	0.42
1:I:139:PHE:HD1	1:I:143:MET:HE2	1.84	0.42
1:I:571:TRP:CE2	1:I:578:LEU:HD12	2.54	0.42
1:M:178:GLN:CA	1:M:739:MET:HE1	2.48	0.42
1:M:405:GLU:HA	1:M:534:PRO:HG3	2.00	0.42
2:N:176:VAL:HG23	2:N:177:SER:N	2.34	0.42
2:X:176:VAL:HG23	2:X:177:SER:N	2.34	0.42
1:C:571:TRP:CE2	1:C:578:LEU:HD12	2.55	0.42
1:S:206:ILE:HD11	1:S:394:PHE:CE2	2.55	0.42
3:a:738:ILE:HD13	3:b:738:ILE:CG1	2.50	0.42
1:c:405:GLU:HA	1:c:534:PRO:HG3	2.02	0.42
1:A:139:PHE:HD1	1:A:143:MET:HE2	1.84	0.42
1:A:178:GLN:NE2	1:A:739:MET:HE3	2.34	0.42
1:C:363:VAL:HA	1:C:388:VAL:HG12	2.01	0.42
1:O:206:ILE:HD11	1:O:394:PHE:CE2	2.54	0.42
1:Q:178:GLN:CA	1:Q:739:MET:HE1	2.48	0.42
1:g:152:LYS:HD2	3:j:722:GLU:CB	2.49	0.42
3:L:717:ARG:NH2	3:e:728:GLU:HB3	2.34	0.42
1:Q:139:PHE:HD1	1:Q:143:MET:HE2	1.85	0.42
1:c:657:ARG:NH2	1:c:674:ASP:O	2.53	0.42
2:d:41:LYS:HB3	3:i:733:ARG:HH22	1.84	0.42
1:S:178:GLN:CA	1:S:739:MET:HE1	2.48	0.42
1:Y:405:GLU:HA	1:Y:534:PRO:HG3	2.02	0.42
2:d:80:TYR:HE1	3:j:746:MET:HG2	1.85	0.42
2:d:176:VAL:HG23	2:d:177:SER:N	2.34	0.42
1:A:206:ILE:HD11	1:A:394:PHE:CE1	2.55	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:K:730:ILE:O	3:K:734:LEU:HG	2.20	0.42
1:Q:176:LEU:N	1:Q:177:PRO:CD	2.83	0.42
2:R:48:PHE:HD2	3:e:754:GLU:HA	1.84	0.42
1:Y:571:TRP:CE2	1:Y:578:LEU:HD12	2.55	0.42
2:Z:173:TYR:O	2:Z:173:TYR:CG	2.73	0.42
2:d:120:MET:HE1	2:d:164:ALA:C	2.45	0.42
1:S:169:ASN:OD1	1:S:201:ARG:CZ	2.68	0.41
1:W:196:PRO:HG2	2:X:131:LEU:HD22	2.02	0.41
1:W:405:GLU:HA	1:W:534:PRO:HG3	2.02	0.41
1:g:549:LYS:HD3	1:g:554:LEU:HD21	2.02	0.41
2:B:173:TYR:O	2:B:173:TYR:CG	2.72	0.41
1:C:139:PHE:HD1	1:C:143:MET:HE2	1.85	0.41
1:I:169:ASN:OD1	1:I:201:ARG:CZ	2.68	0.41
2:J:173:TYR:O	2:J:173:TYR:CG	2.73	0.41
2:P:41:LYS:HB3	3:U:733:ARG:HH22	1.83	0.41
1:S:176:LEU:N	1:S:177:PRO:CD	2.83	0.41
1:c:571:TRP:CD2	1:c:578:LEU:HD12	2.54	0.41
3:f:724:ILE:HA	3:f:727:GLN:HE21	1.85	0.41
2:h:41:LYS:HB3	3:j:733:ARG:CZ	2.50	0.41
2:H:80:TYR:OH	3:K:746:MET:HB3	2.19	0.41
1:M:308:ALA:N	1:M:309:PRO:CD	2.83	0.41
3:b:724:ILE:HA	3:b:727:GLN:HE21	1.85	0.41
1:g:169:ASN:OD1	1:g:201:ARG:CZ	2.68	0.41
1:g:573:GLN:C	1:g:574:GLU:O	2.62	0.41
2:h:26:ASN:ND2	5:h:2000:GSP:O1A	2.51	0.41
2:h:176:VAL:HG23	2:h:177:SER:N	2.36	0.41
2:B:44:ILE:HD13	3:F:737:TYR:CD1	2.56	0.41
2:P:104:ARG:HD2	2:P:104:ARG:HA	1.79	0.41
1:g:405:GLU:HA	1:g:534:PRO:HG3	2.02	0.41
3:j:730:ILE:O	3:j:734:LEU:HG	2.21	0.41
1:A:308:ALA:N	1:A:309:PRO:CD	2.83	0.41
1:C:169:ASN:OD1	1:C:201:ARG:CZ	2.68	0.41
1:G:169:ASN:OD1	1:G:201:ARG:CZ	2.68	0.41
1:G:206:ILE:HD11	1:G:394:PHE:CE2	2.55	0.41
1:S:139:PHE:HD1	1:S:143:MET:HE2	1.86	0.41
1:W:169:ASN:OD1	1:W:201:ARG:CZ	2.68	0.41
1:Y:139:PHE:HD1	1:Y:143:MET:HE2	1.86	0.41
1:A:571:TRP:CD2	1:A:578:LEU:HD12	2.56	0.41
2:H:80:TYR:CE1	3:K:746:MET:CE	3.04	0.41
1:I:549:LYS:HD3	1:I:554:LEU:HD21	2.02	0.41
1:Q:169:ASN:OD1	1:Q:201:ARG:CZ	2.68	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:Z:31:PHE:O	2:Z:51:ARG:NH1	2.46	0.41
1:C:332:GLN:NE2	1:I:332:GLN:HG3	2.30	0.41
1:C:778:VAL:O	1:C:781:SER:OG	2.37	0.41
1:G:405:GLU:HA	1:G:534:PRO:HG3	2.02	0.41
3:V:724:ILE:HA	3:V:727:GLN:HE21	1.85	0.41
2:h:48:PHE:O	3:i:755:VAL:CG2	2.68	0.41
1:A:336:ARG:HE	1:Y:537:HIS:CE1	2.37	0.41
2:H:31:PHE:O	2:H:51:ARG:NH1	2.46	0.41
1:S:549:LYS:HD3	1:S:554:LEU:HD21	2.02	0.41
1:S:578:LEU:CD2	1:S:717:LEU:HB3	2.51	0.41
1:Y:549:LYS:HD3	1:Y:554:LEU:HD21	2.02	0.41
1:Y:578:LEU:CD2	1:Y:717:LEU:HB3	2.50	0.41
1:g:695:LEU:HD12	1:g:695:LEU:HA	1.94	0.41
1:A:196:PRO:HG2	2:B:131:LEU:HD22	2.01	0.41
2:B:31:PHE:O	2:B:51:ARG:NH1	2.46	0.41
3:F:724:ILE:HA	3:F:727:GLN:HE21	1.85	0.41
3:L:730:ILE:O	3:L:734:LEU:HG	2.19	0.41
1:O:139:PHE:HD1	1:O:143:MET:HE2	1.86	0.41
1:O:571:TRP:CE2	1:O:578:LEU:HD12	2.56	0.41
1:Q:571:TRP:CE2	1:Q:578:LEU:HD12	2.55	0.41
1:S:766:THR:O	1:S:769:GLN:HB2	2.21	0.41
1:W:308:ALA:N	1:W:309:PRO:CD	2.84	0.41
1:Y:695:LEU:HD12	1:Y:695:LEU:HA	1.96	0.41
1:C:332:GLN:HG3	1:I:332:GLN:HE21	1.85	0.41
1:C:549:LYS:HD3	1:C:554:LEU:HD21	2.02	0.41
1:I:133:LEU:HD11	1:I:138:LEU:HD22	2.03	0.41
1:M:139:PHE:HD1	1:M:143:MET:HE2	1.86	0.41
1:O:573:GLN:C	1:O:574:GLU:O	2.61	0.41
1:Q:578:LEU:CD2	1:Q:717:LEU:HB3	2.52	0.41
3:U:730:ILE:O	3:U:734:LEU:HG	2.21	0.41
1:W:571:TRP:CE2	1:W:578:LEU:HD12	2.56	0.41
1:W:783:ARG:O	1:W:784:SER:CB	2.69	0.41
1:Y:657:ARG:NH2	1:Y:674:ASP:O	2.54	0.41
2:Z:120:MET:HE1	2:Z:164:ALA:C	2.46	0.41
2:H:104:ARG:HA	2:H:104:ARG:HD2	1.79	0.40
1:I:621:GLN:NE2	1:I:622:GLU:OE2	2.53	0.40
1:O:578:LEU:HD21	1:O:717:LEU:HB3	2.03	0.40
1:O:639:VAL:HG13	1:O:714:TYR:HB2	2.03	0.40
1:Q:549:LYS:HD3	1:Q:554:LEU:HD21	2.03	0.40
1:W:138:LEU:CG	1:c:765:MET:HE2	2.51	0.40
1:c:639:VAL:HG13	1:c:714:TYR:HB2	2.02	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:c:783:ARG:O	1:c:784:SER:CB	2.69	0.40
3:i:730:ILE:O	3:i:734:LEU:HG	2.21	0.40
1:M:571:TRP:CD2	1:M:578:LEU:HD12	2.55	0.40
1:S:571:TRP:CE2	1:S:578:LEU:HD12	2.55	0.40
2:T:48:PHE:HD2	3:U:754:GLU:HA	1.86	0.40
2:T:173:TYR:O	2:T:173:TYR:CG	2.74	0.40
1:W:549:LYS:HD3	1:W:554:LEU:HD21	2.03	0.40
2:X:104:ARG:HA	2:X:104:ARG:HD2	1.78	0.40
1:Y:783:ARG:O	1:Y:784:SER:CB	2.70	0.40
1:c:169:ASN:OD1	1:c:201:ARG:CZ	2.69	0.40
3:e:730:ILE:O	3:e:734:LEU:HG	2.21	0.40
1:g:571:TRP:CD2	1:g:578:LEU:HD12	2.57	0.40
1:G:549:LYS:HD3	1:G:554:LEU:HD21	2.03	0.40
1:Q:766:THR:O	1:Q:769:GLN:HB2	2.22	0.40
1:S:783:ARG:O	1:S:784:SER:CB	2.69	0.40
3:a:730:ILE:O	3:a:734:LEU:HG	2.21	0.40
1:g:783:ARG:O	1:g:784:SER:CB	2.69	0.40
2:D:176:VAL:HG23	2:D:177:SER:N	2.36	0.40
3:K:742:ILE:HD11	3:L:741:ILE:HD13	2.04	0.40
3:L:724:ILE:HA	3:L:727:GLN:HE21	1.86	0.40
1:M:178:GLN:NE2	1:M:739:MET:HE3	2.37	0.40
1:O:578:LEU:CD2	1:O:717:LEU:HB3	2.51	0.40
1:O:783:ARG:O	1:O:784:SER:CB	2.69	0.40
1:W:657:ARG:NH2	1:W:674:ASP:O	2.54	0.40
1:Y:169:ASN:OD1	1:Y:201:ARG:CZ	2.69	0.40
1:C:133:LEU:HD11	1:C:138:LEU:HD22	2.04	0.40
1:C:573:GLN:C	1:C:574:GLU:O	2.63	0.40
1:I:139:PHE:HD1	1:I:143:MET:CE	2.34	0.40
1:M:783:ARG:O	1:M:784:SER:CB	2.70	0.40

All (62) symmetry-related close contacts are listed below. The label for Atom-2 includes the symmetry operator and encoded unit-cell translations to be applied.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:J:174:ARG:NH2	1:M:166:CYS:O[2_545]	0.72	1.48
2:D:174:ARG:NH2	1:O:166:CYS:O[2_556]	0.76	1.44
2:B:174:ARG:NH2	1:g:166:CYS:O[2_656]	0.78	1.42
1:I:396:THR:OG1	1:M:627:THR:OG1[2_545]	0.85	1.35
1:C:396:THR:OG1	1:O:627:THR:OG1[2_556]	1.08	1.12
2:H:174:ARG:NH2	1:W:166:CYS:O[2_655]	1.08	1.12

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:S:346:HIS:O	1:Y:626:TYR:CE1[2_656]	1.08	1.12
1:S:346:HIS:CA	1:Y:626:TYR:OH[2_656]	1.20	1.00
1:Q:343:LEU:O	1:c:626:TYR:OH[2_655]	1.29	0.91
1:O:779:ASP:OD2	1:g:537:HIS:CD2[2_656]	1.37	0.83
2:D:174:ARG:CZ	1:O:166:CYS:O[2_556]	1.41	0.79
2:J:56:ASP:OD1	1:M:165:PHE:O[2_545]	1.44	0.76
2:B:56:ASP:OD1	1:g:165:PHE:O[2_656]	1.47	0.73
2:D:56:ASP:OD1	1:O:165:PHE:O[2_556]	1.47	0.73
2:J:174:ARG:CZ	1:M:166:CYS:O[2_545]	1.51	0.69
1:A:626:TYR:CD2	1:O:346:HIS:O[2_546]	1.53	0.67
1:G:626:TYR:OH	1:M:348:LEU:N[2_555]	1.55	0.65
1:G:339:SER:OG	1:c:537:HIS:CB[1_565]	1.56	0.64
1:G:626:TYR:CD2	1:M:346:HIS:O[2_555]	1.56	0.64
1:S:346:HIS:C	1:Y:626:TYR:OH[2_656]	1.61	0.59
1:S:346:HIS:O	1:Y:626:TYR:CZ[2_656]	1.61	0.59
1:A:626:TYR:OH	1:O:348:LEU:N[2_546]	1.63	0.57
1:G:626:TYR:CE2	1:M:346:HIS:O[2_555]	1.69	0.51
1:A:626:TYR:OH	1:O:348:LEU:O[2_546]	1.72	0.48
1:S:346:HIS:CA	1:Y:626:TYR:CZ[2_656]	1.75	0.45
1:A:626:TYR:CE2	1:O:346:HIS:O[2_546]	1.76	0.44
1:G:626:TYR:OH	1:M:348:LEU:O[2_555]	1.80	0.40
1:A:396:THR:OG1	1:g:627:THR:OG1[2_656]	1.81	0.39
1:S:323:ARG:NH1	1:Y:707:ASP:OD2[2_656]	1.81	0.39
2:B:174:ARG:CZ	1:g:166:CYS:O[2_656]	1.84	0.36
1:Q:346:HIS:CB	1:c:626:TYR:CZ[2_655]	1.84	0.36
2:B:174:ARG:NH2	1:g:166:CYS:C[2_656]	1.87	0.33
2:H:56:ASP:OD1	1:W:165:PHE:O[2_655]	1.87	0.33
1:I:396:THR:CB	1:M:627:THR:OG1[2_545]	1.87	0.33
2:H:174:ARG:CZ	1:W:166:CYS:O[2_655]	1.88	0.32
1:S:346:HIS:C	1:Y:626:TYR:CZ[2_656]	1.88	0.32
2:B:56:ASP:OD2	1:g:166:CYS:CA[2_656]	1.89	0.31
2:J:174:ARG:NH2	1:M:166:CYS:C[2_545]	1.93	0.27
1:G:339:SER:OG	1:c:537:HIS:CG[1_565]	1.94	0.26
2:D:174:ARG:NH2	1:O:166:CYS:C[2_556]	1.97	0.23
1:S:346:HIS:O	1:Y:626:TYR:OH[2_656]	1.98	0.22
1:S:346:HIS:CB	1:Y:626:TYR:CE2[2_656]	2.00	0.20
2:B:56:ASP:CG	1:g:166:CYS:CA[2_656]	2.01	0.19
1:A:616:LEU:CD2	1:O:346:HIS:CD2[2_546]	2.03	0.17
1:Q:346:HIS:CB	1:c:626:TYR:OH[2_655]	2.03	0.17
1:G:616:LEU:CD2	1:M:346:HIS:CD2[2_555]	2.07	0.13
1:S:346:HIS:C	1:Y:626:TYR:CE1[2_656]	2.07	0.13

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:396:THR:CB	1:O:627:THR:OG1[2_556]	2.08	0.12
2:B:56:ASP:O	2:h:130:HIS:CE1[2_656]	2.09	0.11
1:Q:323:ARG:NH1	1:c:707:ASP:OD2[2_655]	2.09	0.11
2:B:56:ASP:OD1	1:g:166:CYS:C[2_656]	2.10	0.10
2:B:56:ASP:OD1	1:g:166:CYS:CA[2_656]	2.10	0.10
1:G:326:THR:O	1:c:404:PRO:CD[1_565]	2.10	0.10
1:O:779:ASP:OD2	1:g:537:HIS:NE2[2_656]	2.10	0.10
1:G:396:THR:OG1	1:W:627:THR:OG1[2_655]	2.11	0.09
1:O:779:ASP:CG	1:g:537:HIS:CD2[2_656]	2.14	0.06
1:O:779:ASP:OD2	1:g:537:HIS:CG[2_656]	2.15	0.05
1:S:346:HIS:CB	1:Y:626:TYR:CZ[2_656]	2.17	0.03
1:A:626:TYR:CG	1:O:346:HIS:O[2_546]	2.18	0.02
1:S:346:HIS:N	1:Y:626:TYR:OH[2_656]	2.18	0.02
1:A:626:TYR:OH	1:O:348:LEU:C[2_546]	2.19	0.01
1:G:626:TYR:OH	1:M:348:LEU:CA[2_555]	2.19	0.01

5.3 Torsion angles ⓘ

5.3.1 Protein backbone ⓘ

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	460/566 (81%)	442 (96%)	16 (4%)	2 (0%)	30	68
1	C	460/566 (81%)	439 (95%)	18 (4%)	3 (1%)	19	57
1	G	460/566 (81%)	439 (95%)	18 (4%)	3 (1%)	19	57
1	I	460/566 (81%)	440 (96%)	17 (4%)	3 (1%)	19	57
1	M	460/566 (81%)	441 (96%)	16 (4%)	3 (1%)	19	57
1	O	460/566 (81%)	442 (96%)	15 (3%)	3 (1%)	19	57
1	Q	460/566 (81%)	439 (95%)	19 (4%)	2 (0%)	30	68
1	S	460/566 (81%)	439 (95%)	18 (4%)	3 (1%)	19	57
1	W	460/566 (81%)	442 (96%)	15 (3%)	3 (1%)	19	57
1	Y	460/566 (81%)	439 (95%)	18 (4%)	3 (1%)	19	57

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	c	460/566 (81%)	440 (96%)	18 (4%)	2 (0%)	30	68
1	g	460/566 (81%)	440 (96%)	18 (4%)	2 (0%)	30	68
2	B	171/219 (78%)	163 (95%)	7 (4%)	1 (1%)	22	61
2	D	171/219 (78%)	163 (95%)	7 (4%)	1 (1%)	22	61
2	H	171/219 (78%)	163 (95%)	7 (4%)	1 (1%)	22	61
2	J	171/219 (78%)	163 (95%)	7 (4%)	1 (1%)	22	61
2	N	171/219 (78%)	163 (95%)	7 (4%)	1 (1%)	22	61
2	P	171/219 (78%)	162 (95%)	8 (5%)	1 (1%)	22	61
2	R	171/219 (78%)	163 (95%)	7 (4%)	1 (1%)	22	61
2	T	171/219 (78%)	163 (95%)	6 (4%)	2 (1%)	11	44
2	X	171/219 (78%)	163 (95%)	7 (4%)	1 (1%)	22	61
2	Z	171/219 (78%)	163 (95%)	6 (4%)	2 (1%)	11	44
2	d	171/219 (78%)	163 (95%)	7 (4%)	1 (1%)	22	61
2	h	171/219 (78%)	163 (95%)	7 (4%)	1 (1%)	22	61
3	E	39/48 (81%)	38 (97%)	1 (3%)	0	100	100
3	F	30/48 (62%)	30 (100%)	0	0	100	100
3	K	39/48 (81%)	38 (97%)	1 (3%)	0	100	100
3	L	30/48 (62%)	30 (100%)	0	0	100	100
3	U	39/48 (81%)	38 (97%)	1 (3%)	0	100	100
3	V	30/48 (62%)	30 (100%)	0	0	100	100
3	a	39/48 (81%)	38 (97%)	1 (3%)	0	100	100
3	b	30/48 (62%)	30 (100%)	0	0	100	100
3	e	39/48 (81%)	38 (97%)	1 (3%)	0	100	100
3	f	30/48 (62%)	30 (100%)	0	0	100	100
3	i	39/48 (81%)	38 (97%)	1 (3%)	0	100	100
3	j	30/48 (62%)	30 (100%)	0	0	100	100
All	All	7986/9996 (80%)	7645 (96%)	295 (4%)	46 (1%)	22	61

All (46) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	405	GLU
2	B	68	ALA

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Mol	Chain	Res	Type
1	C	405	GLU
2	D	68	ALA
1	G	405	GLU
2	H	68	ALA
1	I	405	GLU
2	J	68	ALA
1	M	405	GLU
2	N	68	ALA
1	O	405	GLU
2	P	68	ALA
1	Q	405	GLU
2	R	68	ALA
1	S	405	GLU
2	T	68	ALA
1	W	405	GLU
2	X	68	ALA
1	Y	405	GLU
2	Z	68	ALA
1	c	405	GLU
2	d	68	ALA
1	g	405	GLU
2	h	68	ALA
1	W	398	SER
1	C	398	SER
1	G	398	SER
1	I	398	SER
1	M	398	SER
1	O	398	SER
1	S	398	SER
2	T	125	LYS
1	Y	398	SER
2	Z	125	LYS
1	A	399	VAL
1	O	399	VAL
1	W	399	VAL
1	g	399	VAL
1	C	399	VAL
1	G	399	VAL
1	I	399	VAL
1	M	399	VAL
1	Q	399	VAL
1	Y	399	VAL

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Mol	Chain	Res	Type
1	c	399	VAL
1	S	399	VAL

5.3.2 Protein sidechains ⓘ

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	A	422/508 (83%)	407 (96%)	15 (4%)	30	50
1	C	422/508 (83%)	406 (96%)	16 (4%)	28	49
1	G	422/508 (83%)	406 (96%)	16 (4%)	28	49
1	I	422/508 (83%)	406 (96%)	16 (4%)	28	49
1	M	422/508 (83%)	407 (96%)	15 (4%)	30	50
1	O	422/508 (83%)	407 (96%)	15 (4%)	30	50
1	Q	422/508 (83%)	406 (96%)	16 (4%)	28	49
1	S	422/508 (83%)	406 (96%)	16 (4%)	28	49
1	W	422/508 (83%)	406 (96%)	16 (4%)	28	49
1	Y	422/508 (83%)	406 (96%)	16 (4%)	28	49
1	c	422/508 (83%)	407 (96%)	15 (4%)	30	50
1	g	422/508 (83%)	406 (96%)	16 (4%)	28	49
2	B	147/191 (77%)	140 (95%)	7 (5%)	21	43
2	D	147/191 (77%)	140 (95%)	7 (5%)	21	43
2	H	147/191 (77%)	140 (95%)	7 (5%)	21	43
2	J	147/191 (77%)	140 (95%)	7 (5%)	21	43
2	N	147/191 (77%)	140 (95%)	7 (5%)	21	43
2	P	147/191 (77%)	140 (95%)	7 (5%)	21	43
2	R	147/191 (77%)	140 (95%)	7 (5%)	21	43
2	T	147/191 (77%)	140 (95%)	7 (5%)	21	43
2	X	147/191 (77%)	140 (95%)	7 (5%)	21	43
2	Z	147/191 (77%)	140 (95%)	7 (5%)	21	43

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
2	d	147/191 (77%)	141 (96%)	6 (4%)	26	47
2	h	147/191 (77%)	141 (96%)	6 (4%)	26	47
3	E	31/45 (69%)	30 (97%)	1 (3%)	34	53
3	F	21/45 (47%)	21 (100%)	0	100	100
3	K	31/45 (69%)	30 (97%)	1 (3%)	34	53
3	L	21/45 (47%)	21 (100%)	0	100	100
3	U	31/45 (69%)	30 (97%)	1 (3%)	34	53
3	V	21/45 (47%)	20 (95%)	1 (5%)	21	43
3	a	31/45 (69%)	30 (97%)	1 (3%)	34	53
3	b	21/45 (47%)	21 (100%)	0	100	100
3	e	31/45 (69%)	30 (97%)	1 (3%)	34	53
3	f	21/45 (47%)	20 (95%)	1 (5%)	21	43
3	i	31/45 (69%)	30 (97%)	1 (3%)	34	53
3	j	21/45 (47%)	20 (95%)	1 (5%)	21	43
All	All	7140/8928 (80%)	6861 (96%)	279 (4%)	27	48

All (279) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	138	LEU
1	A	148	LEU
1	A	235	LYS
1	A	306	ARG
1	A	318	MET
1	A	335	GLN
1	A	378	ASP
1	A	391	CYS
1	A	397	THR
1	A	554	LEU
1	A	565	LYS
1	A	606	GLN
1	A	613	LEU
1	A	694	LYS
1	A	739	MET
2	B	7	GLU
2	B	46	VAL
2	B	54	GLN

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Mol	Chain	Res	Type
2	B	55	VAL
2	B	166	GLN
2	B	174	ARG
2	B	178	GLN
1	C	138	LEU
1	C	148	LEU
1	C	170	GLU
1	C	235	LYS
1	C	306	ARG
1	C	318	MET
1	C	335	GLN
1	C	378	ASP
1	C	391	CYS
1	C	397	THR
1	C	554	LEU
1	C	565	LYS
1	C	606	GLN
1	C	613	LEU
1	C	694	LYS
1	C	739	MET
2	D	7	GLU
2	D	46	VAL
2	D	54	GLN
2	D	55	VAL
2	D	166	GLN
2	D	174	ARG
2	D	178	GLN
3	E	728	GLU
1	G	138	LEU
1	G	148	LEU
1	G	170	GLU
1	G	235	LYS
1	G	306	ARG
1	G	318	MET
1	G	335	GLN
1	G	378	ASP
1	G	391	CYS
1	G	397	THR
1	G	554	LEU
1	G	565	LYS
1	G	606	GLN
1	G	613	LEU

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Mol	Chain	Res	Type
1	G	694	LYS
1	G	739	MET
2	H	7	GLU
2	H	46	VAL
2	H	54	GLN
2	H	55	VAL
2	H	166	GLN
2	H	174	ARG
2	H	178	GLN
1	I	138	LEU
1	I	148	LEU
1	I	170	GLU
1	I	235	LYS
1	I	306	ARG
1	I	318	MET
1	I	335	GLN
1	I	378	ASP
1	I	391	CYS
1	I	397	THR
1	I	554	LEU
1	I	565	LYS
1	I	606	GLN
1	I	613	LEU
1	I	694	LYS
1	I	739	MET
2	J	7	GLU
2	J	46	VAL
2	J	54	GLN
2	J	55	VAL
2	J	166	GLN
2	J	174	ARG
2	J	178	GLN
3	K	728	GLU
1	M	138	LEU
1	M	148	LEU
1	M	235	LYS
1	M	306	ARG
1	M	318	MET
1	M	335	GLN
1	M	378	ASP
1	M	391	CYS
1	M	397	THR

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Mol	Chain	Res	Type
1	M	554	LEU
1	M	565	LYS
1	M	606	GLN
1	M	613	LEU
1	M	694	LYS
1	M	739	MET
2	N	7	GLU
2	N	46	VAL
2	N	54	GLN
2	N	55	VAL
2	N	166	GLN
2	N	174	ARG
2	N	178	GLN
1	O	138	LEU
1	O	148	LEU
1	O	235	LYS
1	O	306	ARG
1	O	318	MET
1	O	335	GLN
1	O	378	ASP
1	O	391	CYS
1	O	397	THR
1	O	554	LEU
1	O	565	LYS
1	O	606	GLN
1	O	613	LEU
1	O	694	LYS
1	O	739	MET
2	P	7	GLU
2	P	46	VAL
2	P	54	GLN
2	P	55	VAL
2	P	166	GLN
2	P	174	ARG
2	P	178	GLN
1	Q	138	LEU
1	Q	148	LEU
1	Q	170	GLU
1	Q	235	LYS
1	Q	306	ARG
1	Q	318	MET
1	Q	335	GLN

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Mol	Chain	Res	Type
1	Q	378	ASP
1	Q	391	CYS
1	Q	397	THR
1	Q	554	LEU
1	Q	565	LYS
1	Q	606	GLN
1	Q	613	LEU
1	Q	694	LYS
1	Q	739	MET
2	R	7	GLU
2	R	46	VAL
2	R	54	GLN
2	R	55	VAL
2	R	166	GLN
2	R	174	ARG
2	R	178	GLN
1	S	138	LEU
1	S	148	LEU
1	S	170	GLU
1	S	235	LYS
1	S	306	ARG
1	S	318	MET
1	S	335	GLN
1	S	378	ASP
1	S	391	CYS
1	S	397	THR
1	S	554	LEU
1	S	565	LYS
1	S	606	GLN
1	S	613	LEU
1	S	694	LYS
1	S	739	MET
2	T	7	GLU
2	T	46	VAL
2	T	54	GLN
2	T	55	VAL
2	T	166	GLN
2	T	174	ARG
2	T	178	GLN
3	U	728	GLU
3	V	717	ARG
1	W	138	LEU

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Mol	Chain	Res	Type
1	W	148	LEU
1	W	170	GLU
1	W	235	LYS
1	W	306	ARG
1	W	318	MET
1	W	335	GLN
1	W	378	ASP
1	W	391	CYS
1	W	397	THR
1	W	554	LEU
1	W	565	LYS
1	W	606	GLN
1	W	613	LEU
1	W	694	LYS
1	W	739	MET
2	X	7	GLU
2	X	46	VAL
2	X	54	GLN
2	X	55	VAL
2	X	166	GLN
2	X	174	ARG
2	X	178	GLN
1	Y	138	LEU
1	Y	148	LEU
1	Y	170	GLU
1	Y	235	LYS
1	Y	306	ARG
1	Y	318	MET
1	Y	335	GLN
1	Y	378	ASP
1	Y	391	CYS
1	Y	397	THR
1	Y	554	LEU
1	Y	565	LYS
1	Y	606	GLN
1	Y	613	LEU
1	Y	694	LYS
1	Y	739	MET
2	Z	7	GLU
2	Z	46	VAL
2	Z	54	GLN
2	Z	55	VAL

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Mol	Chain	Res	Type
2	Z	166	GLN
2	Z	174	ARG
2	Z	178	GLN
3	a	728	GLU
1	c	138	LEU
1	c	148	LEU
1	c	235	LYS
1	c	306	ARG
1	c	318	MET
1	c	335	GLN
1	c	378	ASP
1	c	391	CYS
1	c	397	THR
1	c	554	LEU
1	c	565	LYS
1	c	606	GLN
1	c	613	LEU
1	c	694	LYS
1	c	739	MET
2	d	7	GLU
2	d	46	VAL
2	d	54	GLN
2	d	55	VAL
2	d	174	ARG
2	d	178	GLN
3	e	728	GLU
3	f	717	ARG
1	g	138	LEU
1	g	148	LEU
1	g	170	GLU
1	g	235	LYS
1	g	306	ARG
1	g	318	MET
1	g	335	GLN
1	g	378	ASP
1	g	391	CYS
1	g	397	THR
1	g	554	LEU
1	g	565	LYS
1	g	606	GLN
1	g	613	LEU
1	g	694	LYS

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Mol	Chain	Res	Type
1	g	739	MET
2	h	7	GLU
2	h	46	VAL
2	h	54	GLN
2	h	55	VAL
2	h	174	ARG
2	h	178	GLN
3	i	728	GLU
3	j	717	ARG

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (122) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	162	ASN
1	A	185	HIS
1	A	335	GLN
1	A	362	HIS
1	A	393	ASN
1	A	540	ASN
1	A	566	GLN
1	A	606	GLN
1	A	621	GLN
1	A	776	GLN
1	C	162	ASN
1	C	185	HIS
1	C	332	GLN
1	C	362	HIS
1	C	393	ASN
1	C	566	GLN
1	C	606	GLN
1	C	621	GLN
1	C	776	GLN
3	F	727	GLN
3	F	731	ASN
1	G	162	ASN
1	G	362	HIS
1	G	393	ASN
1	G	540	ASN
1	G	566	GLN
1	G	606	GLN
1	G	621	GLN
1	G	776	GLN

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Mol	Chain	Res	Type
2	H	130	HIS
1	I	162	ASN
1	I	185	HIS
1	I	332	GLN
1	I	362	HIS
1	I	540	ASN
1	I	566	GLN
1	I	606	GLN
1	I	621	GLN
1	I	776	GLN
3	K	731	ASN
3	K	735	GLN
3	L	727	GLN
3	L	731	ASN
1	M	162	ASN
1	M	185	HIS
1	M	362	HIS
1	M	393	ASN
1	M	566	GLN
1	M	606	GLN
1	M	621	GLN
1	M	728	HIS
1	M	776	GLN
2	N	130	HIS
1	O	162	ASN
1	O	185	HIS
1	O	207	ASN
1	O	362	HIS
1	O	393	ASN
1	O	540	ASN
1	O	566	GLN
1	O	606	GLN
1	O	621	GLN
1	O	776	GLN
1	Q	162	ASN
1	Q	362	HIS
1	Q	393	ASN
1	Q	540	ASN
1	Q	566	GLN
1	Q	606	GLN
1	Q	621	GLN
1	Q	776	GLN

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Mol	Chain	Res	Type
1	S	162	ASN
1	S	362	HIS
1	S	393	ASN
1	S	540	ASN
1	S	566	GLN
1	S	606	GLN
1	S	621	GLN
1	S	776	GLN
3	U	731	ASN
3	U	735	GLN
3	V	727	GLN
1	W	162	ASN
1	W	362	HIS
1	W	540	ASN
1	W	566	GLN
1	W	606	GLN
1	W	621	GLN
1	W	659	ASN
1	W	776	GLN
1	Y	185	HIS
1	Y	362	HIS
1	Y	393	ASN
1	Y	540	ASN
1	Y	566	GLN
1	Y	606	GLN
1	Y	621	GLN
1	Y	659	ASN
1	Y	776	GLN
3	a	731	ASN
3	b	727	GLN
3	b	731	ASN
1	c	185	HIS
1	c	362	HIS
1	c	393	ASN
1	c	540	ASN
1	c	566	GLN
1	c	606	GLN
1	c	621	GLN
1	c	776	GLN
3	e	731	ASN
3	e	735	GLN
3	f	727	GLN

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Mol	Chain	Res	Type
1	g	162	ASN
1	g	362	HIS
1	g	540	ASN
1	g	566	GLN
1	g	606	GLN
1	g	621	GLN
1	g	776	GLN
3	i	735	GLN
3	j	727	GLN

5.3.3 RNA ⓘ

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates ⓘ

There are no oligosaccharides in this entry.

5.6 Ligand geometry ⓘ

Of 36 ligands modelled in this entry, 12 are monoatomic - leaving 24 for Mogul analysis.

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	#$|Z| > 2$
4	093	A	2002	-	19,25,25	2.19	7 (36%)	23,36,36	4.91	10 (43%)
5	GSP	h	2000	6	26,34,34	1.47	5 (19%)	27,54,54	1.52	5 (18%)
5	GSP	J	2000	6	26,34,34	1.43	3 (11%)	27,54,54	1.45	4 (14%)
4	093	G	2002	-	19,25,25	2.21	7 (36%)	23,36,36	4.91	10 (43%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	#|Z| > 2	Counts	RMSZ	#|Z| > 2
4	093	Q	2002	-	19,25,25	2.21	7 (36%)	23,36,36	4.91	10 (43%)
5	GSP	R	2000	6	26,34,34	1.23	2 (7%)	27,54,54	1.40	5 (18%)
4	093	M	2002	-	19,25,25	2.22	8 (42%)	23,36,36	4.91	10 (43%)
4	093	c	2002	-	19,25,25	2.22	8 (42%)	23,36,36	4.91	10 (43%)
4	093	C	2002	-	19,25,25	2.21	8 (42%)	23,36,36	4.91	10 (43%)
5	GSP	N	2000	6	26,34,34	1.24	4 (15%)	27,54,54	1.50	5 (18%)
4	093	g	2002	-	19,25,25	2.20	8 (42%)	23,36,36	4.92	10 (43%)
5	GSP	D	2000	6	26,34,34	1.37	5 (19%)	27,54,54	1.47	6 (22%)
5	GSP	B	2000	6	26,34,34	1.42	3 (11%)	27,54,54	1.48	4 (14%)
5	GSP	P	2000	6	26,34,34	1.28	4 (15%)	27,54,54	1.49	6 (22%)
5	GSP	T	2000	6	26,34,34	1.20	3 (11%)	27,54,54	1.47	6 (22%)
5	GSP	d	2000	6	26,34,34	1.35	4 (15%)	27,54,54	1.45	5 (18%)
5	GSP	Z	2000	6	26,34,34	1.36	5 (19%)	27,54,54	1.37	5 (18%)
4	093	O	2002	-	19,25,25	2.23	8 (42%)	23,36,36	4.91	10 (43%)
5	GSP	X	2000	6	26,34,34	1.38	5 (19%)	27,54,54	1.52	6 (22%)
4	093	S	2002	-	19,25,25	2.21	7 (36%)	23,36,36	4.93	10 (43%)
5	GSP	H	2000	6	26,34,34	1.29	3 (11%)	27,54,54	1.44	6 (22%)
4	093	I	2002	-	19,25,25	2.20	7 (36%)	23,36,36	4.91	10 (43%)
4	093	Y	2002	-	19,25,25	2.20	7 (36%)	23,36,36	4.91	10 (43%)
4	093	W	2002	-	19,25,25	2.20	7 (36%)	23,36,36	4.91	10 (43%)

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
4	093	A	2002	-	-	6/13/19/19	0/2/2/2
5	GSP	h	2000	6	-	3/17/38/38	0/3/3/3
5	GSP	J	2000	6	-	3/17/38/38	0/3/3/3
4	093	G	2002	-	-	6/13/19/19	0/2/2/2
4	093	Q	2002	-	-	6/13/19/19	0/2/2/2
5	GSP	R	2000	6	-	3/17/38/38	0/3/3/3
4	093	M	2002	-	-	6/13/19/19	0/2/2/2
4	093	c	2002	-	-	6/13/19/19	0/2/2/2
4	093	C	2002	-	-	6/13/19/19	0/2/2/2

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WORLDWIDE
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PROTEIN DATA BANK

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
5	GSP	N	2000	6	-	3/17/38/38	0/3/3/3
4	093	g	2002	-	-	6/13/19/19	0/2/2/2
5	GSP	D	2000	6	-	3/17/38/38	0/3/3/3
5	GSP	B	2000	6	-	3/17/38/38	0/3/3/3
5	GSP	P	2000	6	-	3/17/38/38	0/3/3/3
5	GSP	T	2000	6	-	3/17/38/38	0/3/3/3
5	GSP	d	2000	6	-	3/17/38/38	0/3/3/3
5	GSP	Z	2000	6	-	3/17/38/38	0/3/3/3
4	093	O	2002	-	-	6/13/19/19	0/2/2/2
5	GSP	X	2000	6	-	3/17/38/38	0/3/3/3
4	093	S	2002	-	-	6/13/19/19	0/2/2/2
5	GSP	H	2000	6	-	3/17/38/38	0/3/3/3
4	093	I	2002	-	-	6/13/19/19	0/2/2/2
4	093	Y	2002	-	-	6/13/19/19	0/2/2/2
4	093	W	2002	-	-	6/13/19/19	0/2/2/2

All (135) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
4	Q	2002	093	CAQ-NAR	4.19	1.45	1.33
4	S	2002	093	CAQ-NAR	4.18	1.45	1.33
4	W	2002	093	CAQ-NAR	4.17	1.45	1.33
4	O	2002	093	CAQ-NAR	4.17	1.45	1.33
4	g	2002	093	CAQ-NAR	4.16	1.45	1.33
4	M	2002	093	CAQ-NAR	4.16	1.45	1.33
4	c	2002	093	CAQ-NAR	4.16	1.45	1.33
4	G	2002	093	CAQ-NAR	4.15	1.45	1.33
4	Y	2002	093	CAQ-NAR	4.14	1.45	1.33
4	A	2002	093	CAQ-NAR	4.14	1.45	1.33
4	I	2002	093	CAQ-NAR	4.13	1.45	1.33
4	C	2002	093	CAQ-NAR	4.11	1.45	1.33
4	c	2002	093	SAN-NAU	4.08	1.67	1.61
4	G	2002	093	SAN-NAU	4.06	1.67	1.61
4	M	2002	093	SAN-NAU	4.06	1.67	1.61
4	Y	2002	093	SAN-NAU	4.06	1.67	1.61
4	O	2002	093	SAN-NAU	4.06	1.67	1.61
4	W	2002	093	SAN-NAU	4.05	1.67	1.61
4	Q	2002	093	SAN-NAU	4.05	1.67	1.61
4	C	2002	093	SAN-NAU	4.04	1.67	1.61

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
4	I	2002	093	SAN-NAU	4.01	1.67	1.61
4	S	2002	093	SAN-NAU	4.00	1.67	1.61
4	A	2002	093	SAN-NAU	3.99	1.67	1.61
4	g	2002	093	SAN-NAU	3.96	1.67	1.61
5	B	2000	GSP	C6-N1	-3.53	1.32	1.37
5	h	2000	GSP	O4'-C1'	3.46	1.45	1.41
5	B	2000	GSP	PG-O2G	3.30	1.65	1.54
5	X	2000	GSP	O4'-C1'	3.25	1.45	1.41
5	Z	2000	GSP	PG-O2G	3.21	1.65	1.54
5	H	2000	GSP	C6-N1	-3.12	1.33	1.37
4	c	2002	093	OAM-SAN	-3.11	1.40	1.43
5	J	2000	GSP	PG-O2G	3.10	1.65	1.54
5	h	2000	GSP	PG-O2G	3.09	1.65	1.54
4	O	2002	093	OAM-SAN	-3.07	1.40	1.43
5	d	2000	GSP	PG-O2G	3.07	1.64	1.54
4	M	2002	093	OAM-SAN	-3.06	1.40	1.43
5	J	2000	GSP	PG-S1G	3.05	1.97	1.90
4	g	2002	093	OAM-SAN	-3.04	1.40	1.43
4	W	2002	093	OAM-SAN	-3.02	1.40	1.43
5	N	2000	GSP	PG-O2G	3.01	1.64	1.54
5	B	2000	GSP	PG-S1G	3.00	1.97	1.90
4	C	2002	093	OAM-SAN	-2.99	1.40	1.43
5	P	2000	GSP	C6-N1	-2.99	1.33	1.37
4	S	2002	093	OAM-SAN	-2.98	1.40	1.43
4	A	2002	093	OAM-SAN	-2.98	1.40	1.43
4	Q	2002	093	OAM-SAN	-2.97	1.40	1.43
5	R	2000	GSP	PG-O2G	2.95	1.64	1.54
4	I	2002	093	OAM-SAN	-2.93	1.40	1.43
4	G	2002	093	OAM-SAN	-2.93	1.40	1.43
4	Y	2002	093	OAM-SAN	-2.90	1.40	1.43
5	T	2000	GSP	C6-N1	-2.90	1.33	1.37
5	H	2000	GSP	PG-O2G	2.88	1.64	1.54
5	X	2000	GSP	C6-N1	-2.87	1.33	1.37
5	D	2000	GSP	PG-O2G	2.82	1.64	1.54
4	M	2002	093	CAG-CAF	2.82	1.40	1.37
4	G	2002	093	CAS-NAR	2.81	1.44	1.37
5	h	2000	GSP	C6-N1	-2.81	1.33	1.37
4	O	2002	093	CAG-CAF	2.80	1.40	1.37
5	D	2000	GSP	PG-S1G	2.80	1.96	1.90
4	C	2002	093	CAG-CAF	2.80	1.40	1.37
4	I	2002	093	CAG-CAF	2.80	1.40	1.37
4	C	2002	093	CAS-NAR	2.79	1.44	1.37

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
4	M	2002	093	CAS-NAR	2.79	1.44	1.37
4	c	2002	093	CAS-NAR	2.79	1.44	1.37
4	O	2002	093	CAS-NAR	2.76	1.44	1.37
5	h	2000	GSP	PG-S1G	2.76	1.96	1.90
4	c	2002	093	CAG-CAF	2.76	1.40	1.37
4	Y	2002	093	CAG-CAF	2.75	1.40	1.37
4	A	2002	093	CAS-NAR	2.75	1.44	1.37
4	A	2002	093	CAG-CAF	2.75	1.40	1.37
4	I	2002	093	CAS-NAR	2.74	1.44	1.37
4	G	2002	093	CAG-CAF	2.74	1.40	1.37
4	S	2002	093	CAS-NAR	2.73	1.44	1.37
4	W	2002	093	CAG-CAF	2.73	1.40	1.37
4	g	2002	093	CAS-NAR	2.73	1.44	1.37
4	S	2002	093	CAG-CAF	2.73	1.40	1.37
4	Q	2002	093	CAS-NAR	2.73	1.44	1.37
4	W	2002	093	CAS-NAR	2.72	1.44	1.37
4	Y	2002	093	CAS-NAR	2.72	1.44	1.37
4	Q	2002	093	CAG-CAF	2.72	1.40	1.37
5	Z	2000	GSP	C6-N1	-2.71	1.33	1.37
4	g	2002	093	CAG-CAF	2.69	1.40	1.37
5	P	2000	GSP	PG-O2G	2.68	1.63	1.54
5	N	2000	GSP	C6-N1	-2.66	1.33	1.37
5	P	2000	GSP	PG-S1G	2.64	1.96	1.90
5	J	2000	GSP	C6-N1	-2.62	1.34	1.37
4	I	2002	093	CAT-CAS	2.57	1.53	1.49
4	Y	2002	093	CAT-CAS	2.57	1.53	1.49
4	C	2002	093	CAT-CAS	2.55	1.53	1.49
4	O	2002	093	CAT-CAS	2.52	1.53	1.49
4	Q	2002	093	CAT-CAS	2.52	1.53	1.49
5	d	2000	GSP	C6-N1	-2.52	1.34	1.37
4	A	2002	093	CAT-CAS	2.50	1.53	1.49
4	M	2002	093	CAT-CAS	2.50	1.53	1.49
4	g	2002	093	CAT-CAS	2.50	1.53	1.49
4	I	2002	093	CAV-CAW	-2.49	1.41	1.50
5	d	2000	GSP	PG-O3G	2.48	1.63	1.54
4	G	2002	093	CAV-CAW	-2.48	1.42	1.50
4	G	2002	093	CAT-CAS	2.48	1.53	1.49
4	C	2002	093	CAV-CAW	-2.47	1.42	1.50
4	Y	2002	093	CAV-CAW	-2.47	1.42	1.50
4	g	2002	093	CAV-CAW	-2.47	1.42	1.50
4	Q	2002	093	CAV-CAW	-2.46	1.42	1.50
4	S	2002	093	CAV-CAW	-2.46	1.42	1.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
5	X	2000	GSP	PG-O2G	2.46	1.62	1.54
4	W	2002	093	CAV-CAW	-2.46	1.42	1.50
4	c	2002	093	CAV-CAW	-2.46	1.42	1.50
4	c	2002	093	CAT-CAS	2.45	1.53	1.49
4	W	2002	093	CAT-CAS	2.45	1.53	1.49
4	A	2002	093	CAV-CAW	-2.45	1.42	1.50
4	M	2002	093	CAV-CAW	-2.44	1.42	1.50
4	S	2002	093	CAT-CAS	2.44	1.53	1.49
4	O	2002	093	CAV-CAW	-2.43	1.42	1.50
5	T	2000	GSP	PG-O2G	2.42	1.62	1.54
5	D	2000	GSP	C6-N1	-2.39	1.34	1.37
5	P	2000	GSP	PG-O3G	2.37	1.62	1.54
5	d	2000	GSP	PG-S1G	2.32	1.95	1.90
5	h	2000	GSP	PG-O3G	2.28	1.62	1.54
5	Z	2000	GSP	PG-S1G	2.25	1.95	1.90
5	Z	2000	GSP	PG-O3G	2.22	1.62	1.54
5	H	2000	GSP	PG-S1G	2.18	1.95	1.90
5	N	2000	GSP	PG-S1G	2.15	1.95	1.90
5	X	2000	GSP	PG-O3G	2.10	1.61	1.54
5	R	2000	GSP	PG-S1G	2.09	1.95	1.90
5	N	2000	GSP	PG-O3G	2.09	1.61	1.54
5	T	2000	GSP	O4'-C1'	2.09	1.44	1.41
5	D	2000	GSP	O4'-C1'	2.08	1.44	1.41
5	Z	2000	GSP	O4'-C1'	2.07	1.44	1.41
5	X	2000	GSP	PG-S1G	2.06	1.95	1.90
5	D	2000	GSP	PG-O3G	2.05	1.61	1.54
4	g	2002	093	CAG-CAH	-2.02	1.37	1.42
4	c	2002	093	CAG-CAH	-2.01	1.37	1.42
4	M	2002	093	CAG-CAH	-2.00	1.37	1.42
4	O	2002	093	CAG-CAH	-2.00	1.37	1.42
4	C	2002	093	CAG-CAH	-2.00	1.37	1.42

All (183) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
4	S	2002	093	OAO-SAN-OAM	-20.37	94.51	119.55
4	g	2002	093	OAO-SAN-OAM	-20.35	94.53	119.55
4	Q	2002	093	OAO-SAN-OAM	-20.34	94.55	119.55
4	G	2002	093	OAO-SAN-OAM	-20.33	94.56	119.55
4	C	2002	093	OAO-SAN-OAM	-20.33	94.56	119.55
4	A	2002	093	OAO-SAN-OAM	-20.32	94.57	119.55
4	I	2002	093	OAO-SAN-OAM	-20.32	94.57	119.55

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
4	Y	2002	093	OAO-SAN-OAM	-20.31	94.58	119.55
4	M	2002	093	OAO-SAN-OAM	-20.31	94.58	119.55
4	W	2002	093	OAO-SAN-OAM	-20.31	94.59	119.55
4	O	2002	093	OAO-SAN-OAM	-20.30	94.60	119.55
4	c	2002	093	OAO-SAN-OAM	-20.29	94.61	119.55
4	S	2002	093	OAO-SAN-NAU	5.21	115.18	107.04
4	Q	2002	093	OAO-SAN-NAU	5.19	115.15	107.04
4	Y	2002	093	OAO-SAN-NAU	5.19	115.15	107.04
4	O	2002	093	OAO-SAN-NAU	5.18	115.13	107.04
4	A	2002	093	OAO-SAN-NAU	5.18	115.12	107.04
4	W	2002	093	OAO-SAN-NAU	5.17	115.11	107.04
4	G	2002	093	OAO-SAN-NAU	5.17	115.11	107.04
4	c	2002	093	OAO-SAN-NAU	5.16	115.10	107.04
4	g	2002	093	OAO-SAN-NAU	5.15	115.08	107.04
4	M	2002	093	OAO-SAN-NAU	5.15	115.08	107.04
4	C	2002	093	OAO-SAN-NAU	5.14	115.07	107.04
4	I	2002	093	OAO-SAN-NAU	5.14	115.07	107.04
4	g	2002	093	OAM-SAN-NAU	4.66	114.32	107.04
4	S	2002	093	OAM-SAN-NAU	4.64	114.28	107.04
4	Q	2002	093	OAM-SAN-NAU	4.63	114.27	107.04
4	A	2002	093	OAM-SAN-NAU	4.62	114.26	107.04
4	I	2002	093	OAM-SAN-NAU	4.62	114.26	107.04
4	W	2002	093	OAM-SAN-NAU	4.61	114.25	107.04
4	G	2002	093	OAM-SAN-NAU	4.61	114.24	107.04
4	M	2002	093	OAM-SAN-NAU	4.59	114.21	107.04
4	c	2002	093	OAM-SAN-NAU	4.59	114.20	107.04
4	C	2002	093	OAM-SAN-NAU	4.58	114.20	107.04
4	Y	2002	093	OAM-SAN-NAU	4.57	114.18	107.04
4	O	2002	093	OAM-SAN-NAU	4.57	114.18	107.04
4	C	2002	093	CAT-CAS-NAR	3.97	121.00	114.85
4	G	2002	093	CAT-CAS-NAR	3.97	121.00	114.85
4	A	2002	093	CAT-CAS-NAR	3.96	120.98	114.85
4	W	2002	093	CAT-CAS-NAR	3.96	120.98	114.85
4	I	2002	093	CAT-CAS-NAR	3.95	120.98	114.85
4	Y	2002	093	CAT-CAS-NAR	3.94	120.96	114.85
4	C	2002	093	OAM-SAN-CAF	3.94	114.14	107.66
4	c	2002	093	OAM-SAN-CAF	3.93	114.13	107.66
4	g	2002	093	CAT-CAS-NAR	3.93	120.95	114.85
4	S	2002	093	CAT-CAS-NAR	3.93	120.94	114.85
4	c	2002	093	CAT-CAS-NAR	3.93	120.94	114.85
4	Q	2002	093	CAT-CAS-NAR	3.91	120.91	114.85
4	M	2002	093	OAM-SAN-CAF	3.91	114.09	107.66

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
4	M	2002	093	CAT-CAS-NAR	3.90	120.90	114.85
4	I	2002	093	OAM-SAN-CAF	3.90	114.08	107.66
4	O	2002	093	CAT-CAS-NAR	3.90	120.90	114.85
4	Y	2002	093	OAM-SAN-CAF	3.90	114.07	107.66
4	G	2002	093	OAM-SAN-CAF	3.89	114.06	107.66
4	Q	2002	093	OAO-SAN-CAF	3.89	114.05	107.66
4	O	2002	093	OAO-SAN-CAF	3.89	114.05	107.66
4	S	2002	093	OAO-SAN-CAF	3.89	114.05	107.66
4	Y	2002	093	OAO-SAN-CAF	3.89	114.05	107.66
4	O	2002	093	OAM-SAN-CAF	3.88	114.05	107.66
4	C	2002	093	OAO-SAN-CAF	3.88	114.05	107.66
4	W	2002	093	OAM-SAN-CAF	3.88	114.04	107.66
4	g	2002	093	OAM-SAN-CAF	3.88	114.04	107.66
4	A	2002	093	OAM-SAN-CAF	3.87	114.03	107.66
4	M	2002	093	OAO-SAN-CAF	3.87	114.03	107.66
4	W	2002	093	OAO-SAN-CAF	3.87	114.02	107.66
4	Q	2002	093	OAM-SAN-CAF	3.86	114.02	107.66
4	S	2002	093	OAM-SAN-CAF	3.86	114.01	107.66
4	G	2002	093	OAO-SAN-CAF	3.86	114.01	107.66
4	g	2002	093	OAO-SAN-CAF	3.85	114.00	107.66
4	I	2002	093	OAO-SAN-CAF	3.85	113.99	107.66
4	c	2002	093	OAO-SAN-CAF	3.84	113.98	107.66
4	A	2002	093	OAO-SAN-CAF	3.84	113.98	107.66
5	N	2000	GSP	PA-O3A-PB	-3.69	120.16	132.83
5	H	2000	GSP	PA-O3A-PB	-3.55	120.64	132.83
5	B	2000	GSP	PA-O3A-PB	-3.53	120.71	132.83
5	P	2000	GSP	PA-O3A-PB	-3.40	121.16	132.83
4	g	2002	093	OAX-CAW-CAV	-3.32	99.44	111.59
4	A	2002	093	OAX-CAW-CAV	-3.32	99.45	111.59
4	G	2002	093	OAX-CAW-CAV	-3.32	99.46	111.59
4	W	2002	093	OAX-CAW-CAV	-3.31	99.47	111.59
4	c	2002	093	OAX-CAW-CAV	-3.31	99.47	111.59
4	O	2002	093	OAX-CAW-CAV	-3.31	99.49	111.59
4	Q	2002	093	OAX-CAW-CAV	-3.31	99.49	111.59
4	M	2002	093	OAX-CAW-CAV	-3.31	99.49	111.59
5	D	2000	GSP	PA-O3A-PB	-3.30	121.49	132.83
5	d	2000	GSP	PA-O3A-PB	-3.30	121.49	132.83
4	S	2002	093	OAX-CAW-CAV	-3.30	99.51	111.59
4	C	2002	093	OAX-CAW-CAV	-3.30	99.52	111.59
4	Y	2002	093	OAX-CAW-CAV	-3.30	99.53	111.59
4	M	2002	093	CAG-CAH-CAD	3.29	122.25	118.15
4	I	2002	093	OAX-CAW-CAV	-3.28	99.60	111.59

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
4	c	2002	093	CAG-CAH-CAD	3.27	122.23	118.15
4	g	2002	093	CAG-CAH-CAD	3.26	122.22	118.15
4	C	2002	093	CAG-CAH-CAD	3.26	122.21	118.15
4	O	2002	093	CAG-CAH-CAD	3.26	122.21	118.15
4	I	2002	093	CAG-CAH-CAD	3.25	122.20	118.15
4	Y	2002	093	CAG-CAH-CAD	3.25	122.20	118.15
4	S	2002	093	CAG-CAH-CAD	3.25	122.19	118.15
4	W	2002	093	CAG-CAH-CAD	3.23	122.18	118.15
4	Q	2002	093	CAG-CAH-CAD	3.22	122.16	118.15
4	G	2002	093	CAG-CAH-CAD	3.20	122.14	118.15
4	A	2002	093	CAG-CAH-CAD	3.19	122.13	118.15
5	R	2000	GSP	PA-O3A-PB	-3.19	121.87	132.83
5	X	2000	GSP	PA-O3A-PB	-3.18	121.92	132.83
5	T	2000	GSP	PA-O3A-PB	-3.16	121.97	132.83
5	h	2000	GSP	PA-O3A-PB	-3.13	122.09	132.83
5	D	2000	GSP	C8-N7-C5	3.10	108.89	102.99
5	Z	2000	GSP	PA-O3A-PB	-3.08	122.25	132.83
5	X	2000	GSP	C2'-C3'-C4'	3.08	108.63	102.64
5	J	2000	GSP	PA-O3A-PB	-3.07	122.28	132.83
5	J	2000	GSP	C8-N7-C5	3.06	108.82	102.99
5	H	2000	GSP	C8-N7-C5	2.95	108.60	102.99
5	h	2000	GSP	C5-C6-N1	2.87	119.02	113.95
5	h	2000	GSP	C2'-C3'-C4'	2.86	108.19	102.64
5	B	2000	GSP	C8-N7-C5	2.85	108.43	102.99
5	T	2000	GSP	O2G-PG-O3B	2.85	114.15	104.64
4	c	2002	093	OAL-CAS-NAR	-2.84	118.23	123.67
4	G	2002	093	OAL-CAS-NAR	-2.83	118.25	123.67
4	S	2002	093	OAL-CAS-NAR	-2.83	118.25	123.67
4	O	2002	093	OAL-CAS-NAR	-2.82	118.26	123.67
5	X	2000	GSP	C5-C6-N1	2.82	118.92	113.95
4	g	2002	093	OAL-CAS-NAR	-2.82	118.27	123.67
4	C	2002	093	OAL-CAS-NAR	-2.81	118.28	123.67
4	A	2002	093	OAL-CAS-NAR	-2.81	118.28	123.67
4	W	2002	093	OAL-CAS-NAR	-2.81	118.29	123.67
4	I	2002	093	OAL-CAS-NAR	-2.80	118.30	123.67
4	M	2002	093	OAL-CAS-NAR	-2.80	118.30	123.67
4	Q	2002	093	OAL-CAS-NAR	-2.79	118.33	123.67
4	Y	2002	093	OAL-CAS-NAR	-2.78	118.33	123.67
5	h	2000	GSP	C8-N7-C5	2.78	108.28	102.99
5	P	2000	GSP	C8-N7-C5	2.75	108.24	102.99
5	Z	2000	GSP	C8-N7-C5	2.70	108.13	102.99
5	R	2000	GSP	O2G-PG-O3B	2.67	113.56	104.64

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
5	B	2000	GSP	C5-C6-N1	2.66	118.65	113.95
5	N	2000	GSP	C8-N7-C5	2.64	108.01	102.99
5	d	2000	GSP	C5-C6-N1	2.57	118.49	113.95
5	X	2000	GSP	C8-N7-C5	2.56	107.87	102.99
5	T	2000	GSP	C8-N7-C5	2.56	107.86	102.99
5	d	2000	GSP	C8-N7-C5	2.46	107.69	102.99
5	B	2000	GSP	C2-N1-C6	-2.45	120.58	125.10
5	N	2000	GSP	O2G-PG-O3B	2.44	112.79	104.64
5	R	2000	GSP	C8-N7-C5	2.37	107.51	102.99
5	H	2000	GSP	C5-C6-N1	2.36	118.11	113.95
5	D	2000	GSP	O2G-PG-O3B	2.35	112.50	104.64
5	P	2000	GSP	C5-C6-N1	2.35	118.11	113.95
5	N	2000	GSP	O2B-PB-O1B	2.35	123.86	112.24
5	J	2000	GSP	O2B-PB-O1B	2.33	123.78	112.24
5	D	2000	GSP	C2'-C3'-C4'	2.33	107.17	102.64
5	P	2000	GSP	O2B-PB-O1B	2.32	123.72	112.24
5	d	2000	GSP	C2'-C3'-C4'	2.32	107.15	102.64
5	X	2000	GSP	O2B-PB-O1B	2.31	123.67	112.24
5	D	2000	GSP	O2B-PB-O1B	2.31	123.64	112.24
5	d	2000	GSP	O2G-PG-O3B	2.29	112.29	104.64
5	h	2000	GSP	O2B-PB-O1B	2.28	123.50	112.24
5	J	2000	GSP	O2G-PG-O3B	2.25	112.16	104.64
5	R	2000	GSP	C5-C6-N1	2.16	117.76	113.95
5	Z	2000	GSP	C2'-C3'-C4'	2.14	106.79	102.64
5	H	2000	GSP	O2G-PG-O3B	2.13	111.74	104.64
4	Q	2002	093	CAF-SAN-NAU	-2.12	105.07	107.82
5	T	2000	GSP	C2'-C3'-C4'	2.11	106.75	102.64
4	S	2002	093	CAF-SAN-NAU	-2.11	105.08	107.82
4	c	2002	093	CAF-SAN-NAU	-2.11	105.08	107.82
4	Y	2002	093	CAF-SAN-NAU	-2.11	105.08	107.82
5	H	2000	GSP	C2-N1-C6	-2.11	121.22	125.10
4	C	2002	093	CAF-SAN-NAU	-2.10	105.09	107.82
5	Z	2000	GSP	O2B-PB-O1B	2.10	122.61	112.24
4	O	2002	093	CAF-SAN-NAU	-2.10	105.10	107.82
4	W	2002	093	CAF-SAN-NAU	-2.09	105.10	107.82
4	M	2002	093	CAF-SAN-NAU	-2.09	105.11	107.82
4	G	2002	093	CAF-SAN-NAU	-2.08	105.12	107.82
4	g	2002	093	CAF-SAN-NAU	-2.07	105.13	107.82
4	I	2002	093	CAF-SAN-NAU	-2.07	105.13	107.82
5	D	2000	GSP	C5-C6-N1	2.07	117.61	113.95
4	A	2002	093	CAF-SAN-NAU	-2.07	105.14	107.82
5	R	2000	GSP	O6-C6-C5	-2.06	120.34	124.37

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
5	T	2000	GSP	O2B-PB-O1B	2.06	122.44	112.24
5	X	2000	GSP	C2-N1-C6	-2.05	121.33	125.10
5	P	2000	GSP	C2-N1-C6	-2.04	121.35	125.10
5	Z	2000	GSP	C5-C6-N1	2.03	117.53	113.95
5	P	2000	GSP	O2G-PG-O3B	2.02	111.40	104.64
5	N	2000	GSP	C5-C6-N1	2.02	117.52	113.95
5	T	2000	GSP	C5-C6-N1	2.00	117.49	113.95
5	H	2000	GSP	O2B-PB-O1B	2.00	122.13	112.24

There are no chirality outliers.

All (108) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
5	B	2000	GSP	C5'-O5'-PA-O2A
5	D	2000	GSP	C5'-O5'-PA-O2A
5	H	2000	GSP	C5'-O5'-PA-O2A
5	J	2000	GSP	C5'-O5'-PA-O2A
5	N	2000	GSP	C5'-O5'-PA-O2A
5	P	2000	GSP	C5'-O5'-PA-O2A
5	R	2000	GSP	C5'-O5'-PA-O2A
5	T	2000	GSP	C5'-O5'-PA-O2A
5	X	2000	GSP	C5'-O5'-PA-O2A
5	Z	2000	GSP	C5'-O5'-PA-O2A
5	d	2000	GSP	C5'-O5'-PA-O2A
5	h	2000	GSP	C5'-O5'-PA-O2A
4	A	2002	093	CAV-NAU-SAN-OAO
4	C	2002	093	CAV-NAU-SAN-OAO
4	G	2002	093	CAV-NAU-SAN-OAO
4	I	2002	093	CAV-NAU-SAN-OAO
4	M	2002	093	CAV-NAU-SAN-OAO
4	O	2002	093	CAV-NAU-SAN-OAO
4	Q	2002	093	CAV-NAU-SAN-OAO
4	S	2002	093	CAV-NAU-SAN-OAO
4	W	2002	093	CAV-NAU-SAN-OAO
4	Y	2002	093	CAV-NAU-SAN-OAO
4	c	2002	093	CAV-NAU-SAN-OAO
4	g	2002	093	CAV-NAU-SAN-OAO
4	A	2002	093	NAU-CAV-CAW-OAX
4	C	2002	093	NAU-CAV-CAW-OAX
4	G	2002	093	NAU-CAV-CAW-OAX
4	I	2002	093	NAU-CAV-CAW-OAX
4	M	2002	093	NAU-CAV-CAW-OAX

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Mol	Chain	Res	Type	Atoms
4	O	2002	093	NAU-CAV-CAW-OAX
4	Q	2002	093	NAU-CAV-CAW-OAX
4	S	2002	093	NAU-CAV-CAW-OAX
4	W	2002	093	NAU-CAV-CAW-OAX
4	Y	2002	093	NAU-CAV-CAW-OAX
4	c	2002	093	NAU-CAV-CAW-OAX
4	g	2002	093	NAU-CAV-CAW-OAX
4	A	2002	093	CAV-NAU-SAN-CAF
4	C	2002	093	CAV-NAU-SAN-CAF
4	G	2002	093	CAV-NAU-SAN-CAF
4	I	2002	093	CAV-NAU-SAN-CAF
4	M	2002	093	CAV-NAU-SAN-CAF
4	O	2002	093	CAV-NAU-SAN-CAF
4	Q	2002	093	CAV-NAU-SAN-CAF
4	S	2002	093	CAV-NAU-SAN-CAF
4	W	2002	093	CAV-NAU-SAN-CAF
4	Y	2002	093	CAV-NAU-SAN-CAF
4	c	2002	093	CAV-NAU-SAN-CAF
4	g	2002	093	CAV-NAU-SAN-CAF
4	A	2002	093	CAV-NAU-SAN-OAM
4	C	2002	093	CAV-NAU-SAN-OAM
4	G	2002	093	CAV-NAU-SAN-OAM
4	I	2002	093	CAV-NAU-SAN-OAM
4	M	2002	093	CAV-NAU-SAN-OAM
4	O	2002	093	CAV-NAU-SAN-OAM
4	Q	2002	093	CAV-NAU-SAN-OAM
4	S	2002	093	CAV-NAU-SAN-OAM
4	W	2002	093	CAV-NAU-SAN-OAM
4	Y	2002	093	CAV-NAU-SAN-OAM
4	c	2002	093	CAV-NAU-SAN-OAM
4	g	2002	093	CAV-NAU-SAN-OAM
4	A	2002	093	CAB-CAF-SAN-OAO
4	C	2002	093	CAB-CAF-SAN-OAO
4	G	2002	093	CAB-CAF-SAN-OAO
4	I	2002	093	CAB-CAF-SAN-OAO
4	M	2002	093	CAB-CAF-SAN-OAO
4	O	2002	093	CAB-CAF-SAN-OAO
4	Q	2002	093	CAB-CAF-SAN-OAO
4	S	2002	093	CAB-CAF-SAN-OAO
4	W	2002	093	CAB-CAF-SAN-OAO
4	Y	2002	093	CAB-CAF-SAN-OAO
4	c	2002	093	CAB-CAF-SAN-OAO

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Mol	Chain	Res	Type	Atoms
4	g	2002	093	CAB-CAF-SAN-OAO
5	B	2000	GSP	C5'-O5'-PA-O3A
5	D	2000	GSP	C5'-O5'-PA-O3A
5	H	2000	GSP	C5'-O5'-PA-O3A
5	J	2000	GSP	C5'-O5'-PA-O3A
5	N	2000	GSP	C5'-O5'-PA-O3A
5	P	2000	GSP	C5'-O5'-PA-O3A
5	R	2000	GSP	C5'-O5'-PA-O3A
5	T	2000	GSP	C5'-O5'-PA-O3A
5	X	2000	GSP	C5'-O5'-PA-O3A
5	Z	2000	GSP	C5'-O5'-PA-O3A
5	d	2000	GSP	C5'-O5'-PA-O3A
5	h	2000	GSP	C5'-O5'-PA-O3A
5	B	2000	GSP	C5'-O5'-PA-O1A
5	D	2000	GSP	C5'-O5'-PA-O1A
5	H	2000	GSP	C5'-O5'-PA-O1A
5	J	2000	GSP	C5'-O5'-PA-O1A
5	N	2000	GSP	C5'-O5'-PA-O1A
5	P	2000	GSP	C5'-O5'-PA-O1A
5	R	2000	GSP	C5'-O5'-PA-O1A
5	T	2000	GSP	C5'-O5'-PA-O1A
5	X	2000	GSP	C5'-O5'-PA-O1A
5	Z	2000	GSP	C5'-O5'-PA-O1A
5	d	2000	GSP	C5'-O5'-PA-O1A
5	h	2000	GSP	C5'-O5'-PA-O1A
4	Q	2002	093	CAG-CAF-SAN-OAO
4	S	2002	093	CAG-CAF-SAN-OAO
4	g	2002	093	CAG-CAF-SAN-OAO
4	A	2002	093	CAG-CAF-SAN-OAO
4	I	2002	093	CAG-CAF-SAN-OAO
4	M	2002	093	CAG-CAF-SAN-OAO
4	O	2002	093	CAG-CAF-SAN-OAO
4	W	2002	093	CAG-CAF-SAN-OAO
4	Y	2002	093	CAG-CAF-SAN-OAO
4	G	2002	093	CAG-CAF-SAN-OAO
4	c	2002	093	CAG-CAF-SAN-OAO
4	C	2002	093	CAG-CAF-SAN-OAO

There are no ring outliers.

12 monomers are involved in 75 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
5	h	2000	GSP	7	0
5	J	2000	GSP	4	0
5	R	2000	GSP	6	0
5	N	2000	GSP	6	0
5	D	2000	GSP	6	0
5	B	2000	GSP	6	0
5	P	2000	GSP	7	0
5	T	2000	GSP	6	0
5	d	2000	GSP	11	0
5	Z	2000	GSP	6	0
5	X	2000	GSP	6	0
5	H	2000	GSP	4	0

The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included. For torsion angles, if less 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 093 A 2002

Bond lengths

Bond angles

Torsions

Rings

Ligand GSP h 2000

Bond lengths

Bond angles

Torsions

Rings

Ligand GSP J 2000

Bond lengths

Bond angles

Torsions

Rings

Ligand 093 G 2002

Bond lengths

Bond angles

Torsions

Rings

Ligand 093 Q 2002

Bond lengths

Bond angles

Torsions

Rings

Ligand GSP R 2000

Bond lengths

Bond angles

Torsions

Rings

Ligand 093 M 2002

Bond lengths

Bond angles

Torsions

Rings

Ligand 093 c 2002

Bond lengths

Bond angles

Torsions

Rings

Ligand 093 C 2002

Bond lengths

Bond angles

Torsions

Rings

Ligand GSP N 2000

Bond lengths

Bond angles

Torsions

Rings

Ligand 093 g 2002

Bond lengths

Bond angles

Torsions

Rings

Ligand GSP D 2000

Bond lengths

Bond angles

Torsions

Rings

Ligand GSP B 2000

Bond lengths

Bond angles

Torsions

Rings

Ligand GSP P 2000

Bond lengths

Bond angles

Torsions

Rings

Ligand GSP T 2000

Bond lengths

Bond angles

Torsions

Rings

Ligand GSP d 2000

Bond lengths

Bond angles

Torsions

Rings

Ligand GSP Z 2000

Bond lengths

Bond angles

Torsions

Rings

Ligand 093 O 2002

Bond lengths

Bond angles

Torsions

Rings

Ligand GSP X 2000

Bond lengths

Bond angles

Torsions

Rings

Ligand 093 S 2002

Bond lengths

Bond angles

Torsions

Rings

Ligand GSP H 2000

Bond lengths

Bond angles

Torsions

Rings

Ligand 093 I 2002

Bond lengths

Bond angles

Torsions

Rings

Ligand 093 Y 2002

Bond lengths

Bond angles

Torsions

Rings

Ligand 093 W 2002

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 (i)

6.1 Protein, DNA and RNA chains (i)

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

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2			OWAB(Å^2)	Q<0.9
1	A	470/566 (83%)	-0.73	1 (0%)	92	85	95, 212, 331, 500	0
1	C	470/566 (83%)	-0.51	5 (1%)	77	64	126, 300, 456, 500	0
1	G	470/566 (83%)	-0.69	2 (0%)	89	80	98, 214, 342, 500	0
1	I	470/566 (83%)	-0.48	4 (0%)	81	68	124, 306, 474, 500	0
1	M	470/566 (83%)	-0.64	1 (0%)	92	85	95, 217, 341, 500	0
1	O	470/566 (83%)	-0.62	2 (0%)	89	80	102, 208, 335, 500	0
1	Q	470/566 (83%)	-0.61	1 (0%)	92	85	102, 247, 364, 498	0
1	S	470/566 (83%)	-0.56	3 (0%)	85	74	114, 251, 389, 500	0
1	W	470/566 (83%)	-0.54	5 (1%)	77	64	99, 253, 387, 500	0
1	Y	470/566 (83%)	-0.49	3 (0%)	85	74	115, 250, 364, 474	0
1	c	470/566 (83%)	-0.54	1 (0%)	92	85	119, 305, 478, 500	0
1	g	470/566 (83%)	-0.53	4 (0%)	81	68	126, 268, 416, 500	0
2	B	173/219 (78%)	-0.71	0	100	100	94, 201, 375, 493	0
2	D	173/219 (78%)	-0.53	2 (1%)	76	63	95, 220, 341, 488	0
2	H	173/219 (78%)	-0.64	0	100	100	94, 207, 382, 499	0
2	J	173/219 (78%)	-0.66	0	100	100	92, 198, 338, 500	0
2	N	173/219 (78%)	-0.59	0	100	100	137, 282, 424, 496	0
2	P	173/219 (78%)	-0.49	0	100	100	132, 277, 432, 496	0
2	R	173/219 (78%)	-0.47	1 (0%)	85	74	139, 269, 415, 496	0
2	T	173/219 (78%)	-0.49	0	100	100	136, 266, 407, 493	0
2	X	173/219 (78%)	-0.45	3 (1%)	69	56	146, 282, 453, 500	0
2	Z	173/219 (78%)	-0.33	2 (1%)	76	63	165, 262, 362, 494	0
2	d	173/219 (78%)	-0.36	1 (0%)	85	74	146, 308, 447, 500	0
2	h	173/219 (78%)	-0.40	2 (1%)	76	63	158, 294, 440, 500	0

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2			OWAB(Å²)	Q<0.9
3	E	41/48 (85%)	-0.69	0	100	100	153, 251, 365, 489	0
3	F	32/48 (66%)	-0.62	0	100	100	169, 285, 399, 466	0
3	K	41/48 (85%)	-0.66	0	100	100	131, 240, 410, 465	0
3	L	32/48 (66%)	-0.67	0	100	100	170, 263, 384, 436	0
3	U	41/48 (85%)	-0.28	0	100	100	175, 284, 408, 494	0
3	V	32/48 (66%)	-0.83	0	100	100	170, 260, 403, 435	0
3	a	41/48 (85%)	-0.51	0	100	100	195, 318, 423, 476	0
3	b	32/48 (66%)	-0.51	0	100	100	213, 309, 428, 479	0
3	e	41/48 (85%)	-0.55	0	100	100	175, 255, 384, 478	0
3	f	32/48 (66%)	-0.66	0	100	100	194, 288, 337, 363	0
3	i	41/48 (85%)	-0.63	0	100	100	202, 325, 441, 500	0
3	j	32/48 (66%)	-0.41	0	100	100	194, 282, 404, 462	0
All	All	8154/9996 (81%)	-0.56	43 (0%)	87	77	92, 255, 416, 500	0

All (43) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	G	784	SER	5.9
1	I	775	GLU	5.0
1	Q	624	GLY	4.2
1	S	513	PRO	3.6
1	g	405	GLU	3.3
1	M	707	ASP	3.1
1	C	721	GLY	3.0
1	S	514	SER	3.0
1	G	376	SER	2.9
1	Y	698	GLU	2.9
1	W	742	GLY	2.9
1	W	743	SER	2.9
2	X	84	ALA	2.8
2	D	72	ARG	2.8
2	h	12	PHE	2.8
1	A	784	SER	2.5
1	I	776	GLN	2.5
1	c	746	PRO	2.5
1	C	392	GLU	2.5
1	g	128	SER	2.5
1	S	633	SER	2.5

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Mol	Chain	Res	Type	RSRZ
1	C	772	LEU	2.5
2	Z	159	THR	2.5
2	R	107	LYS	2.4
1	O	707	ASP	2.4
1	Y	404	PRO	2.4
1	g	742	GLY	2.4
2	D	83	GLY	2.4
1	g	539	PRO	2.3
1	O	395	ASP	2.3
1	W	514	SER	2.3
2	X	137	ASP	2.3
2	Z	52	SER	2.1
1	I	697	THR	2.1
1	I	701	ASP	2.1
1	W	740	GLN	2.1
1	C	347	LYS	2.1
1	C	366	VAL	2.0
2	d	130	HIS	2.0
2	h	151	ILE	2.0
2	X	12	PHE	2.0
1	W	577	PRO	2.0
1	Y	204	GLN	2.0

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

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

6.3 Carbohydrates ⓘ

There are no oligosaccharides in this entry.

6.4 Ligands ⓘ

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

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
4	093	A	2002	24/24	-	-	60,76,105,130	24

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
4	093	C	2002	24/24	-	-	60,76,105,130	24
4	093	G	2002	24/24	-	-	60,76,105,130	24
4	093	I	2002	24/24	-	-	60,76,105,130	24
4	093	M	2002	24/24	-	-	60,76,105,130	24
4	093	O	2002	24/24	-	-	60,76,105,130	24
4	093	Q	2002	24/24	-	-	60,76,105,130	24
4	093	S	2002	24/24	-	-	60,76,105,130	24
4	093	W	2002	24/24	-	-	60,76,105,130	24
4	093	Y	2002	24/24	-	-	60,76,105,130	24
4	093	c	2002	24/24	-	-	60,76,105,130	24
4	093	g	2002	24/24	-	-	60,76,105,130	24
5	GSP	J	2000	32/32	0.97	0.07	94,165,285,323	0
6	MG	X	2001	1/1	0.97	0.06	255,255,255,255	0
5	GSP	R	2000	32/32	0.98	0.05	108,197,262,274	0
5	GSP	B	2000	32/32	0.99	0.04	141,197,232,249	0
5	GSP	N	2000	32/32	0.99	0.04	97,151,255,301	0
5	GSP	P	2000	32/32	0.99	0.06	111,168,247,275	0
5	GSP	D	2000	32/32	0.99	0.05	110,193,250,272	0
5	GSP	T	2000	32/32	0.99	0.05	123,205,238,264	0
5	GSP	X	2000	32/32	0.99	0.05	134,226,322,330	0
5	GSP	Z	2000	32/32	0.99	0.06	176,212,274,298	0
5	GSP	d	2000	32/32	0.99	0.05	174,212,349,391	0
5	GSP	h	2000	32/32	0.99	0.06	123,249,350,363	0
6	MG	H	2001	1/1	0.99	0.03	139,139,139,139	0
6	MG	N	2001	1/1	0.99	0.05	240,240,240,240	0
5	GSP	H	2000	32/32	0.99	0.04	141,183,247,282	0
6	MG	h	2001	1/1	0.99	0.04	190,190,190,190	0
6	MG	D	2001	1/1	1.00	0.03	64,64,64,64	0
6	MG	P	2001	1/1	1.00	0.06	244,244,244,244	0
6	MG	R	2001	1/1	1.00	0.02	106,106,106,106	0
6	MG	T	2001	1/1	1.00	0.03	127,127,127,127	0
6	MG	B	2001	1/1	1.00	0.02	159,159,159,159	0
6	MG	Z	2001	1/1	1.00	0.04	178,178,178,178	0
6	MG	d	2001	1/1	1.00	0.03	167,167,167,167	0
6	MG	J	2001	1/1	1.00	0.04	142,142,142,142	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 093 A 2002:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
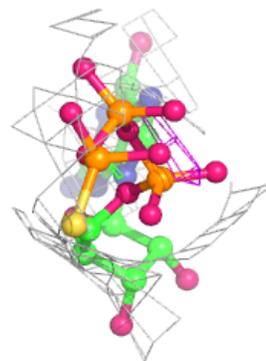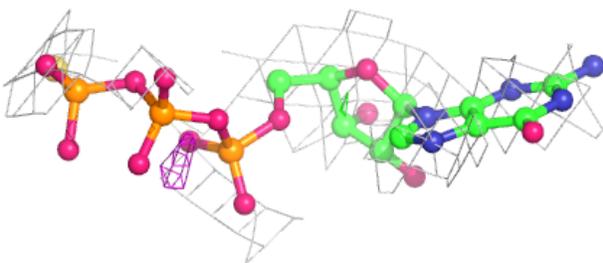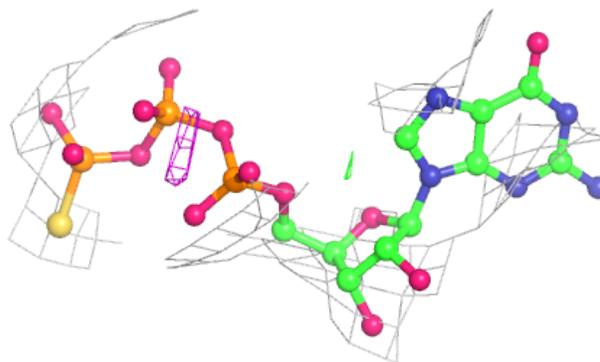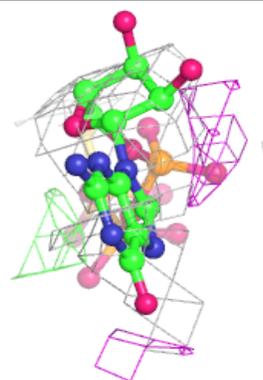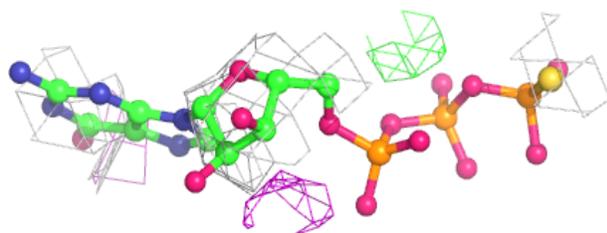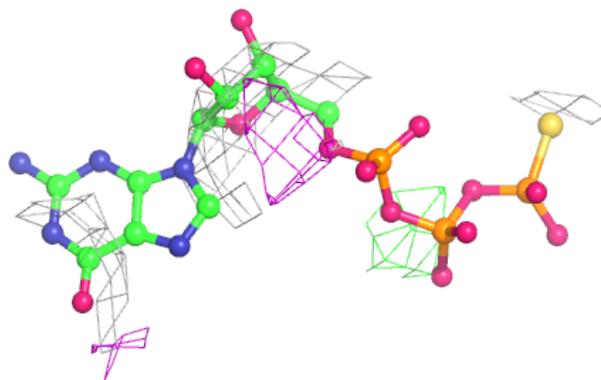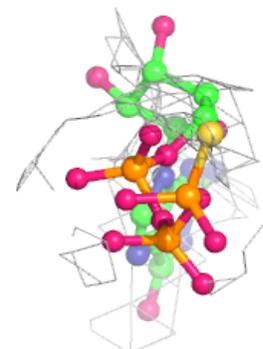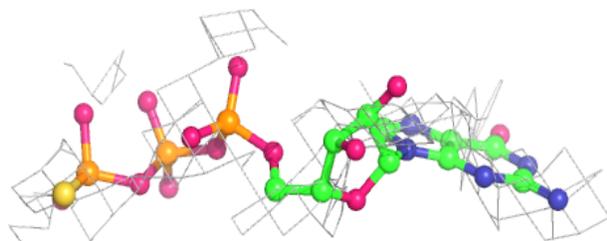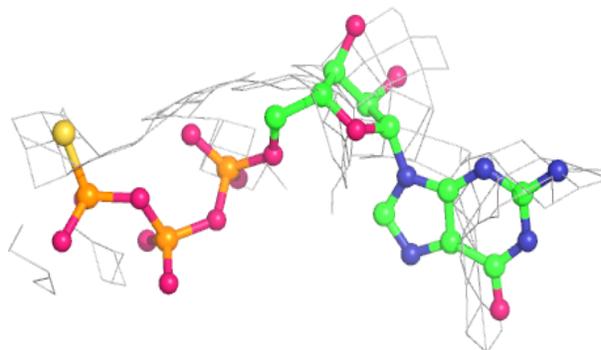mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)
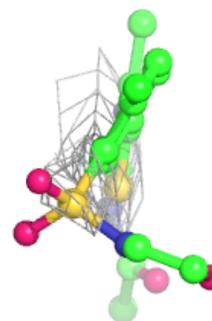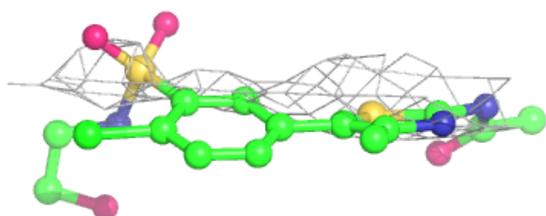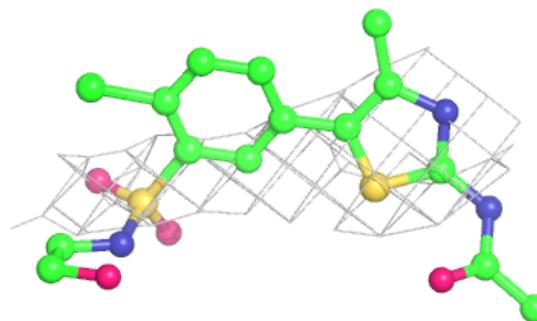
Electron density around 093 C 2002:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative)
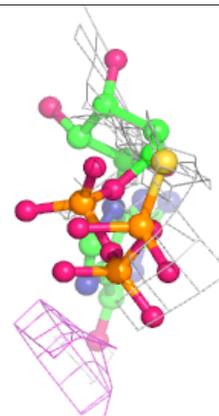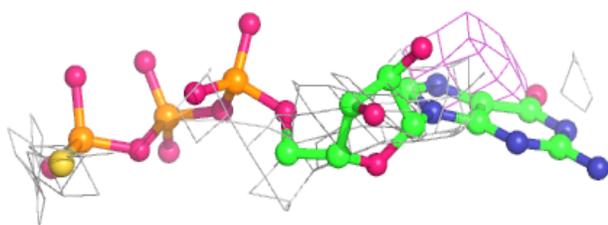and green (positive)
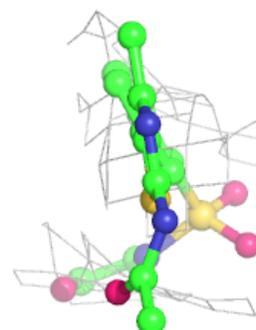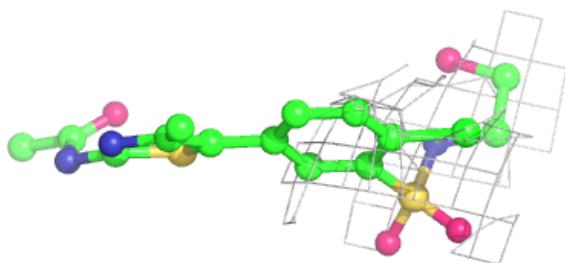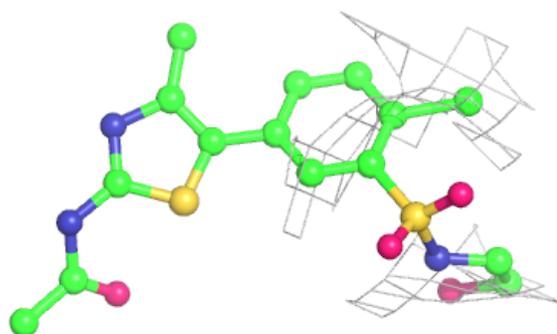
Electron density around 093 G 2002:

2mF$_o$-DF$_c$ (at 0.7 rmsd) in gray
mF$_o$-DF$_c$ (at 3 rmsd) in purple (negative)
and green (positive)
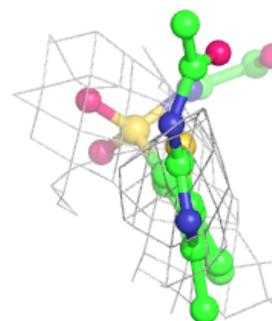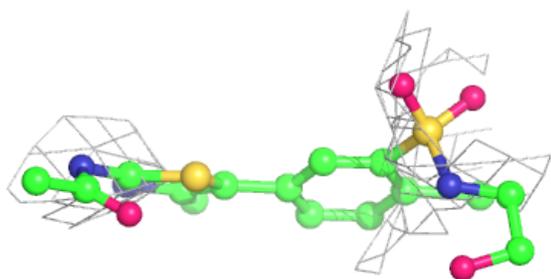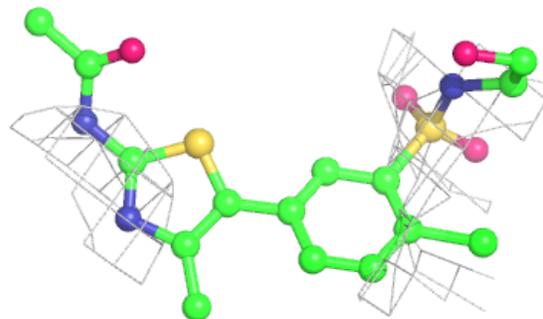
Electron density around 093 I 2002:

2mF$_o$-DF$_c$ (at 0.7 rmsd) in gray
mF$_o$-DF$_c$ (at 3 rmsd) in purple (negative)
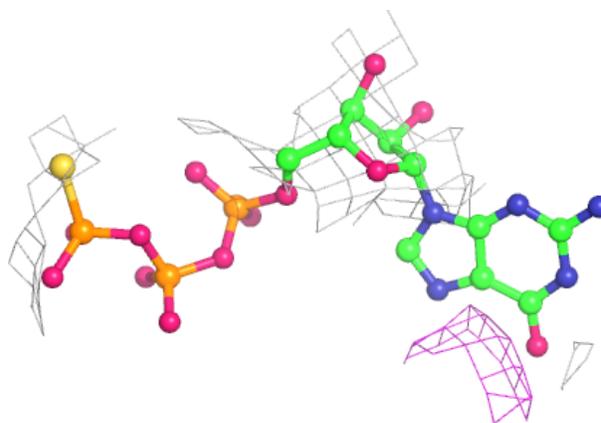and green (positive)
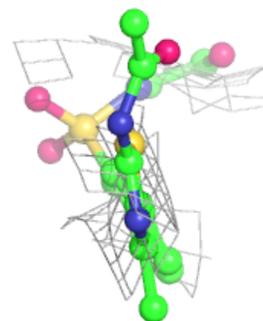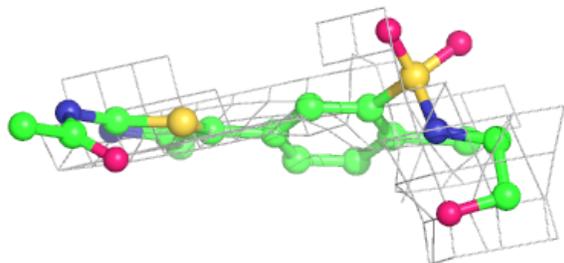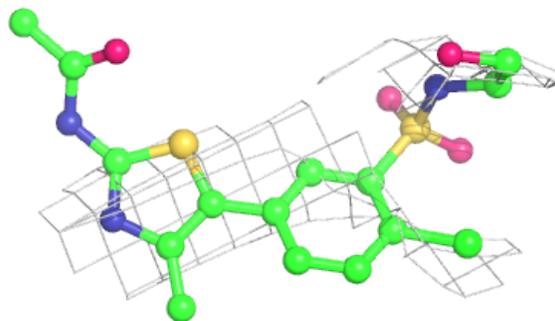
Electron density around 093 M 2002:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative)
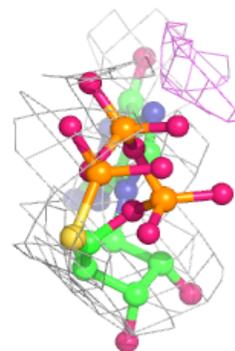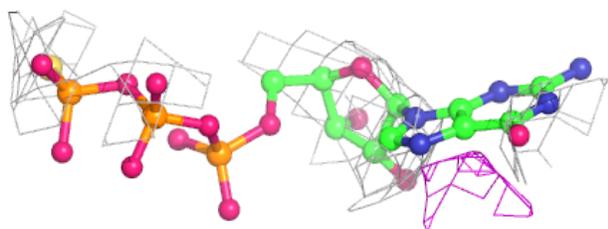and green (positive)
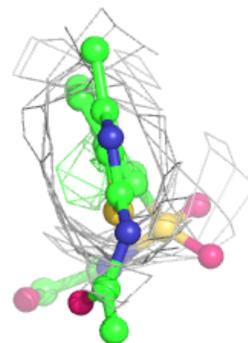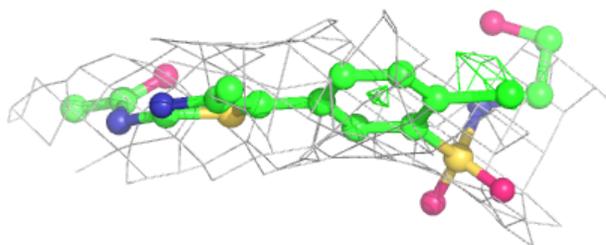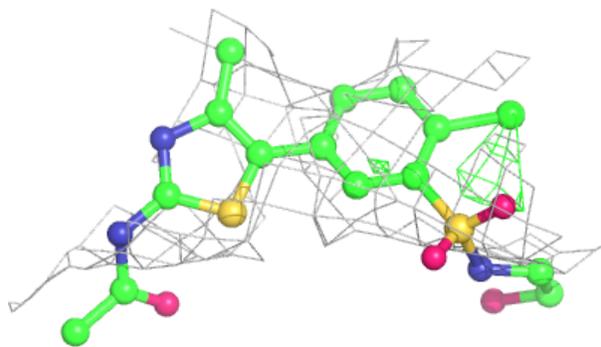
Electron density around 093 O 2002:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)
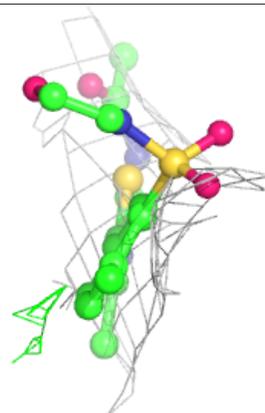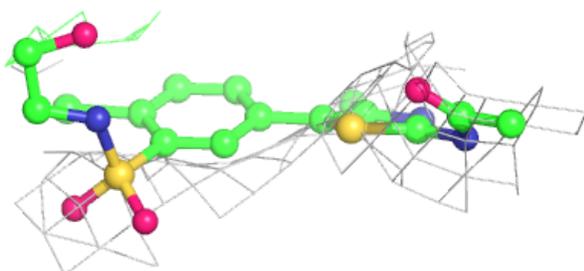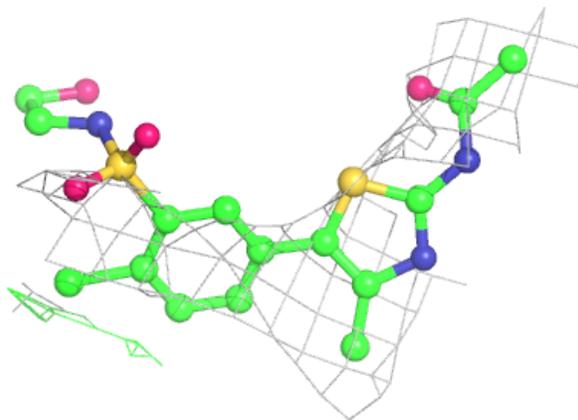
Electron density around 093 Q 2002:

$2mF_o\text{-}DF_c$ (at 0.7 rmsd) in gray
$mF_o\text{-}DF_c$ (at 3 rmsd) in purple (negative)
and green (positive)
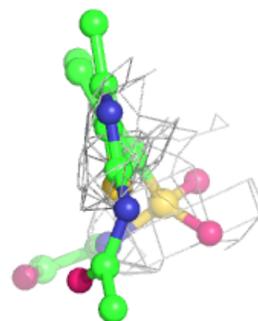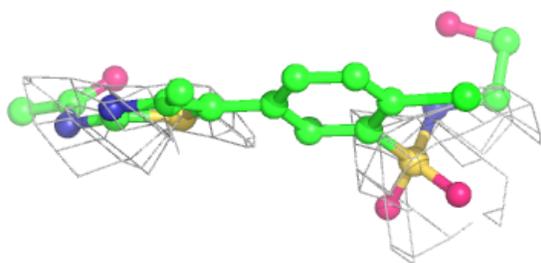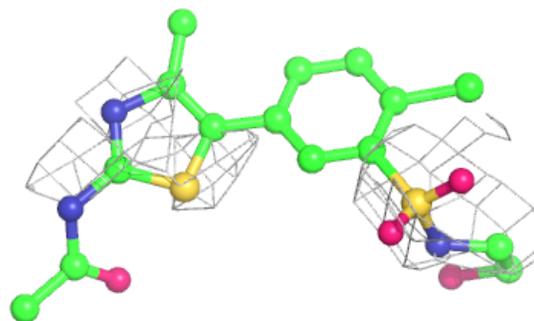
Electron density around 093 S 2002:

$2mF_o\text{-}DF_c$ (at 0.7 rmsd) in gray
$mF_o\text{-}DF_c$ (at 3 rmsd) in purple (negative)
and green (positive)
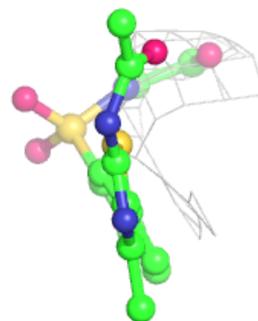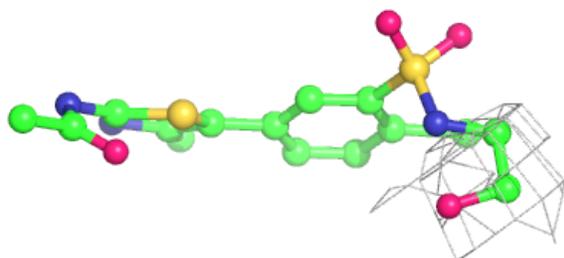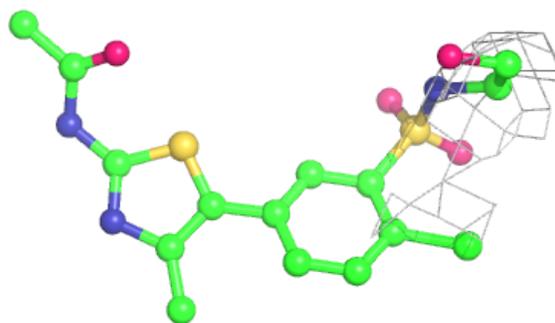
Electron density around 093 W 2002:

$2mF_o\text{-}DF_c$ (at 0.7 rmsd) in gray
$mF_o\text{-}DF_c$ (at 3 rmsd) in purple (negative)
and green (positive)
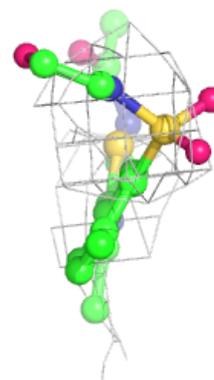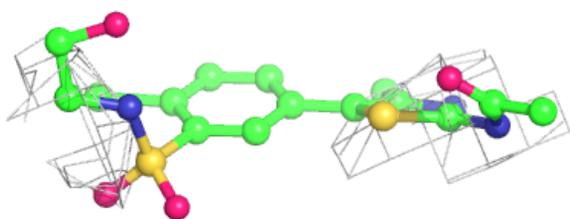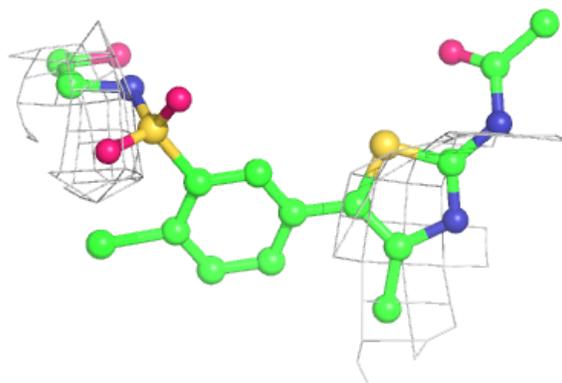
Electron density around 093 Y 2002:

$2mF_o\text{-}DF_c$ (at 0.7 rmsd) in gray
$mF_o\text{-}DF_c$ (at 3 rmsd) in purple (negative)
and green (positive)
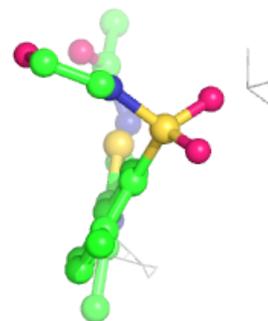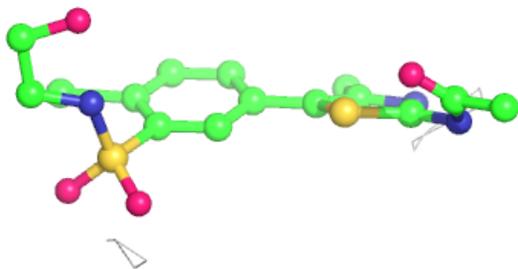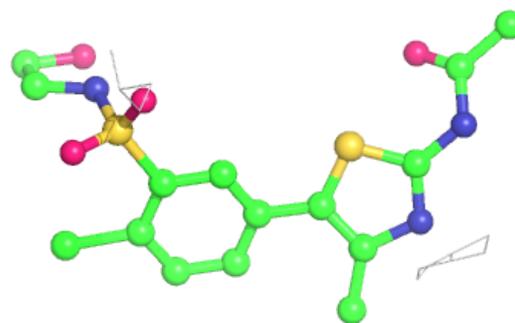
Electron density around 093 c 2002:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
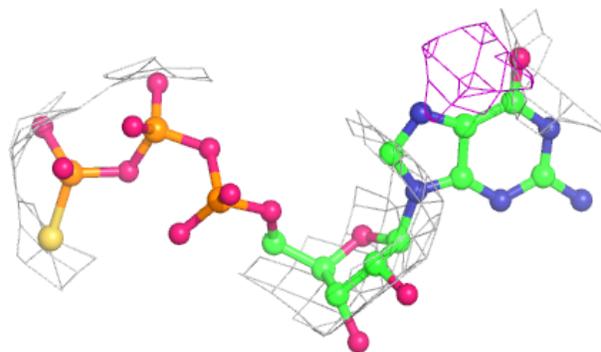mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)
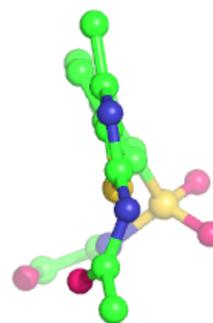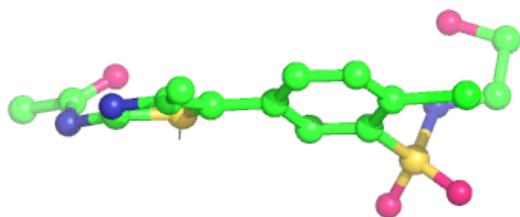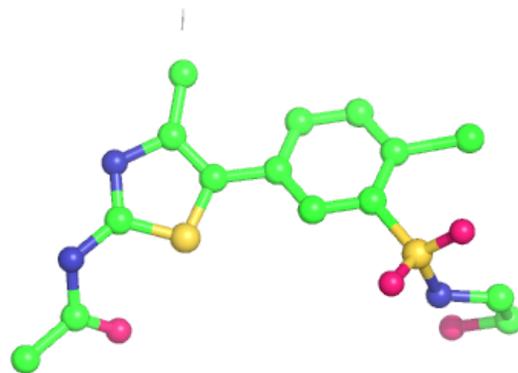
Electron density around 093 g 2002:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative)
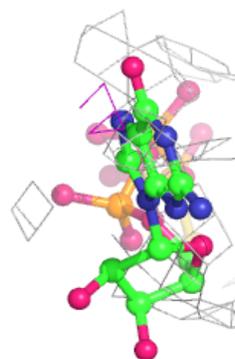and green (positive)
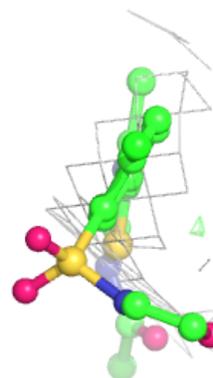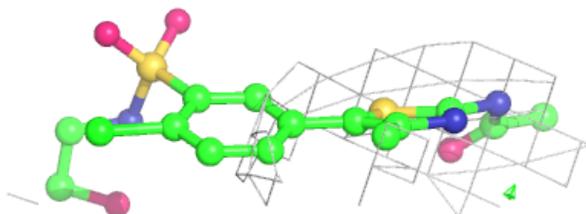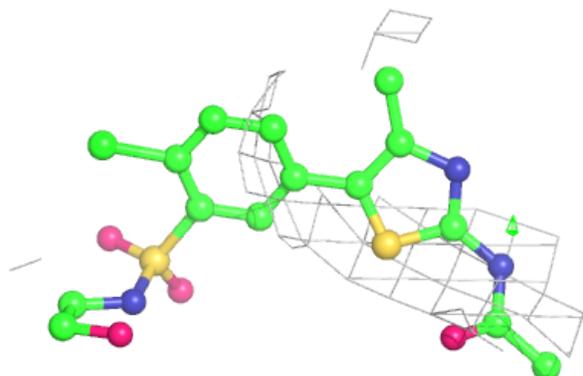
Electron density around GSP J 2000:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)
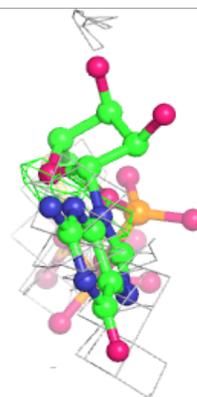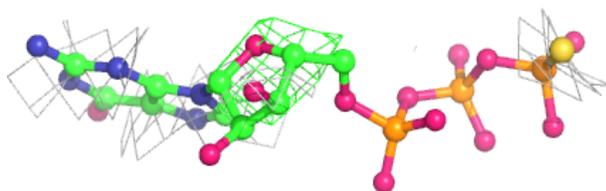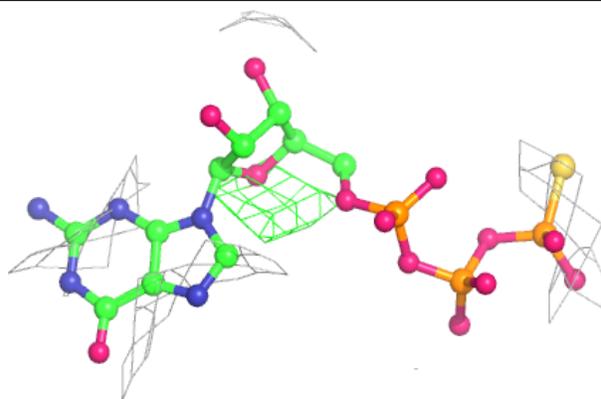
Electron density around GSP R 2000:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative)
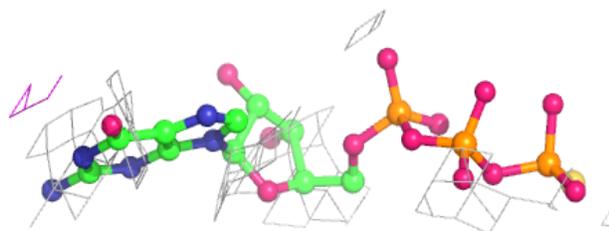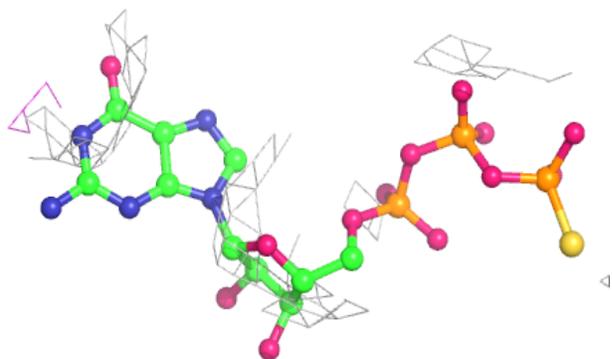and green (positive)
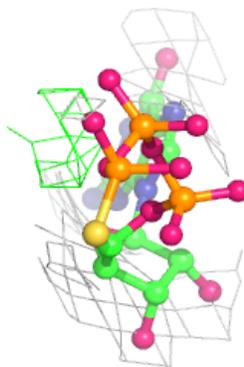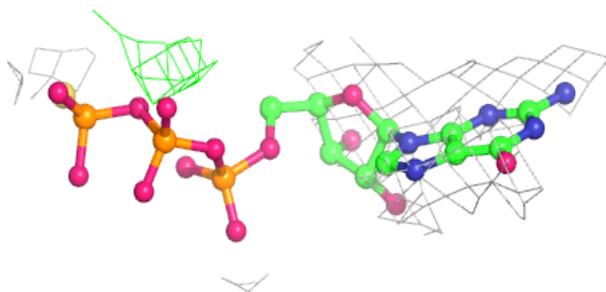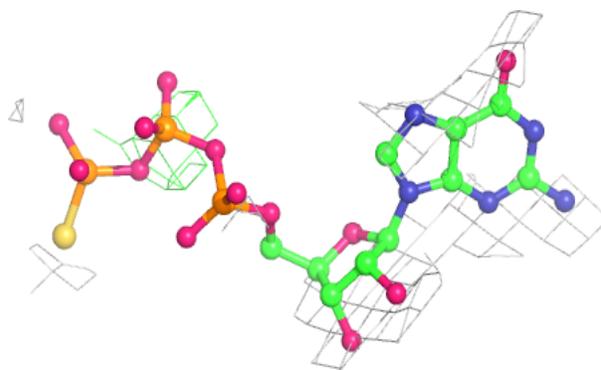
Electron density around GSP B 2000:

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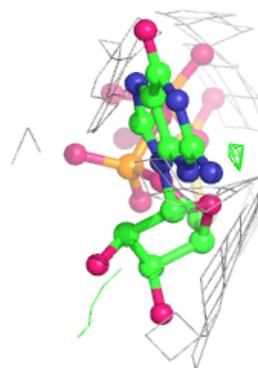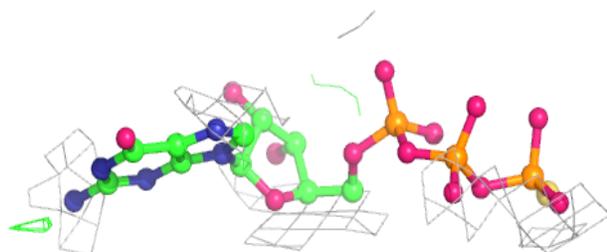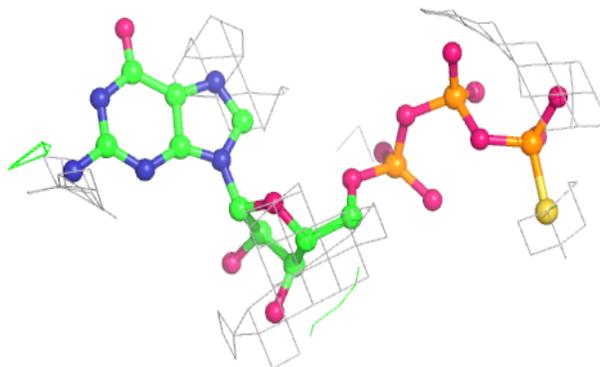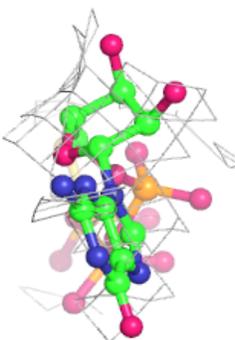

Electron density around GSP N 2000:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)
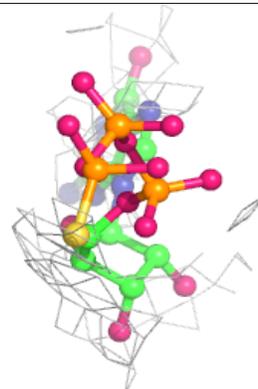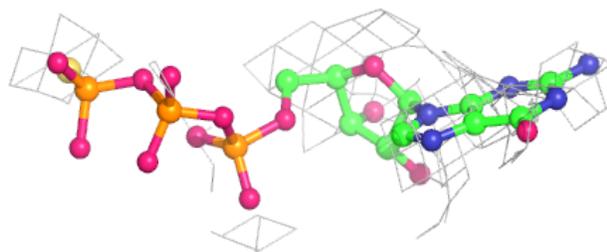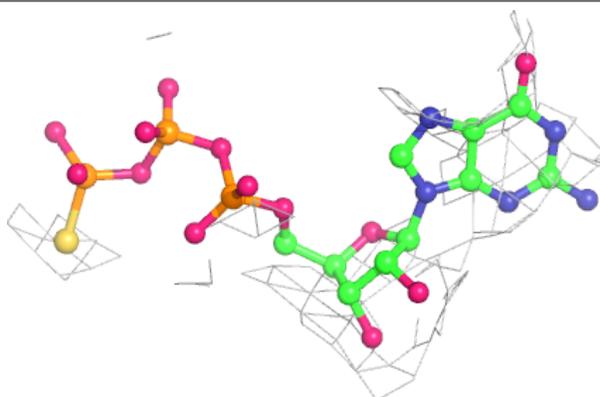
Electron density around GSP P 2000:

$2mF_o\text{-}DF_c$ (at 0.7 rmsd) in gray
$mF_o\text{-}DF_c$ (at 3 rmsd) in purple (negative)
and green (positive)
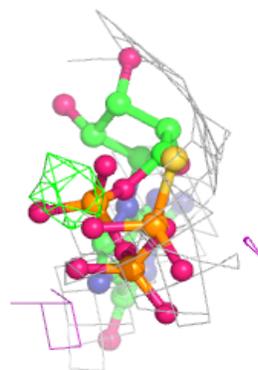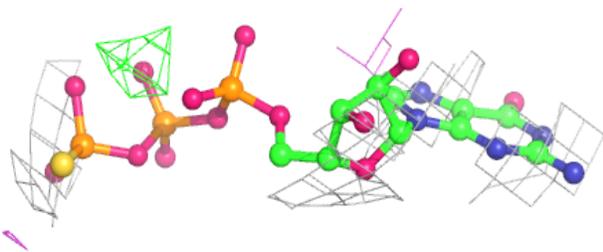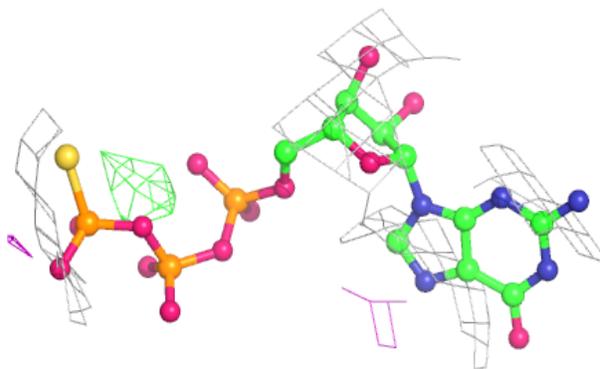
Electron density around GSP D 2000:

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

Electron density around GSP T 2000:

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

Electron density around GSP X 2000:

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

Electron density around GSP Z 2000:

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 GSP d 2000:

2mF$_o$-DF$_c$ (at 0.7 rmsd) in gray
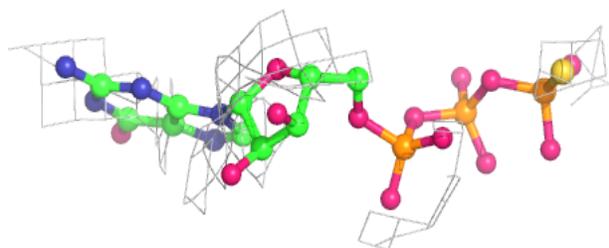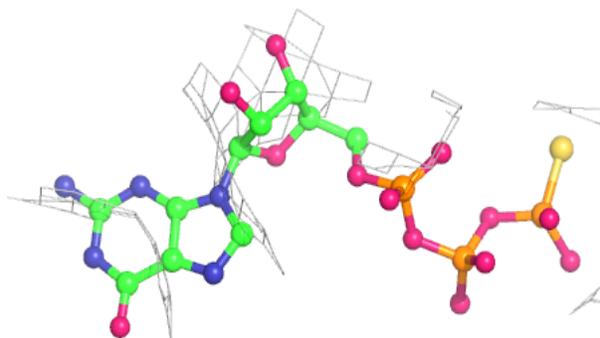mF$_o$-DF$_c$ (at 3 rmsd) in purple (negative)
and green (positive)

Electron density around GSP h 2000:

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

Electron density around GSP H 2000:

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

6.5 Other polymers ⓘ

There are no such residues in this entry.