

Integrative Structure Validation Report

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The following software was used in the production of this report:

Python-IHM Version 1.3

MolProbity Version 4.5.2

Integrative Modeling Validation Version 1.2

PDB ID	9A0X
PDB-Dev ID	PDBDEV_00000069
Structure Title	USP7 UBL 1-2 domains in complex with DNA polymerase iota peptide 438-448
Structure Authors	Ashton NW; Valles GJ; Jaiswal N; Bezsonova I; Woodgate R

This is a PDB-Dev IM Structure Validation Report for a publicly released PDB-Dev entry.

We welcome your comments at pdb-dev@mail.wwpdb.org

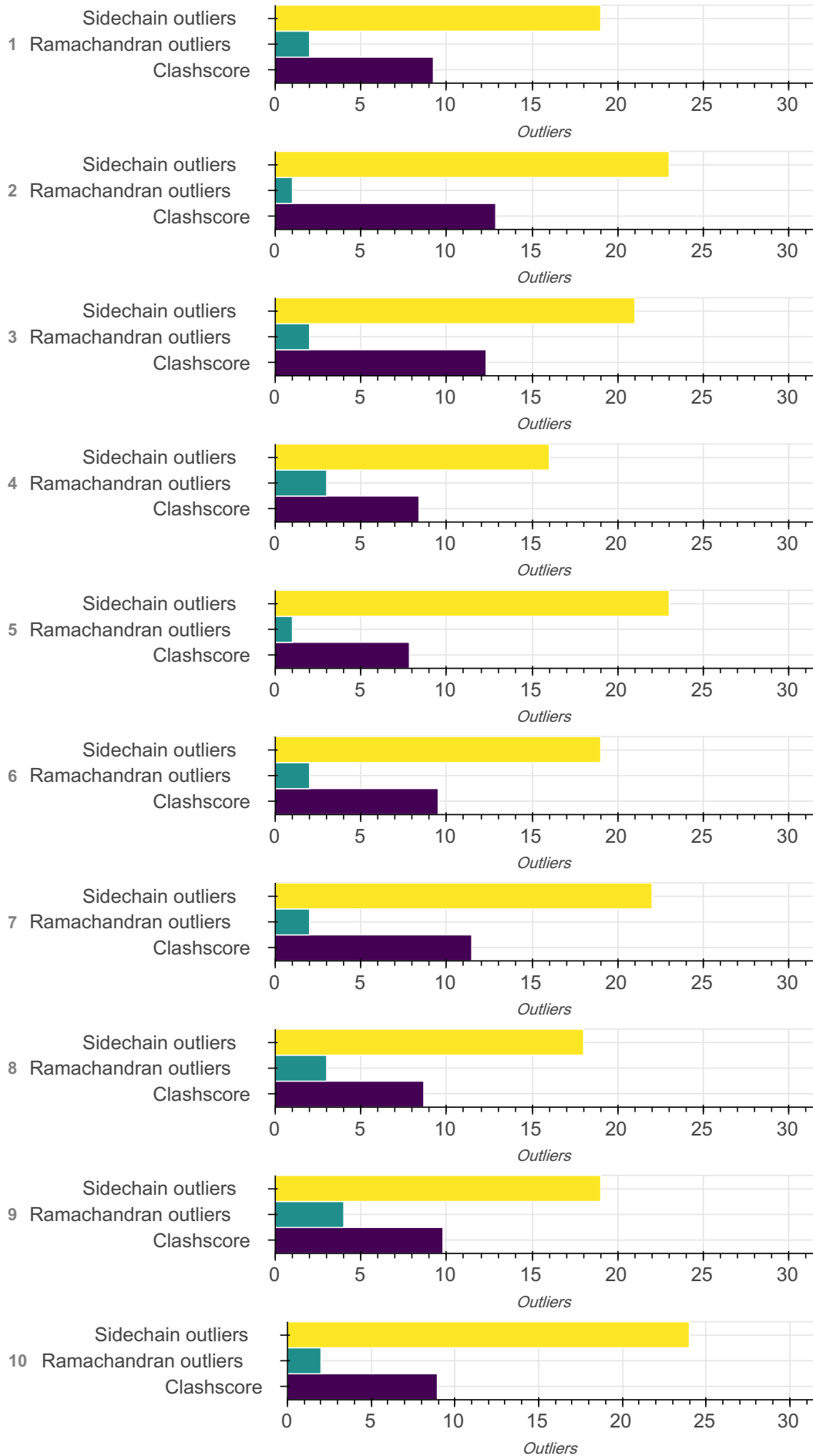
A user guide is available at https://pdb-dev.wwpdb.org/validation_help.html with specific help available everywhere you see the  symbol.

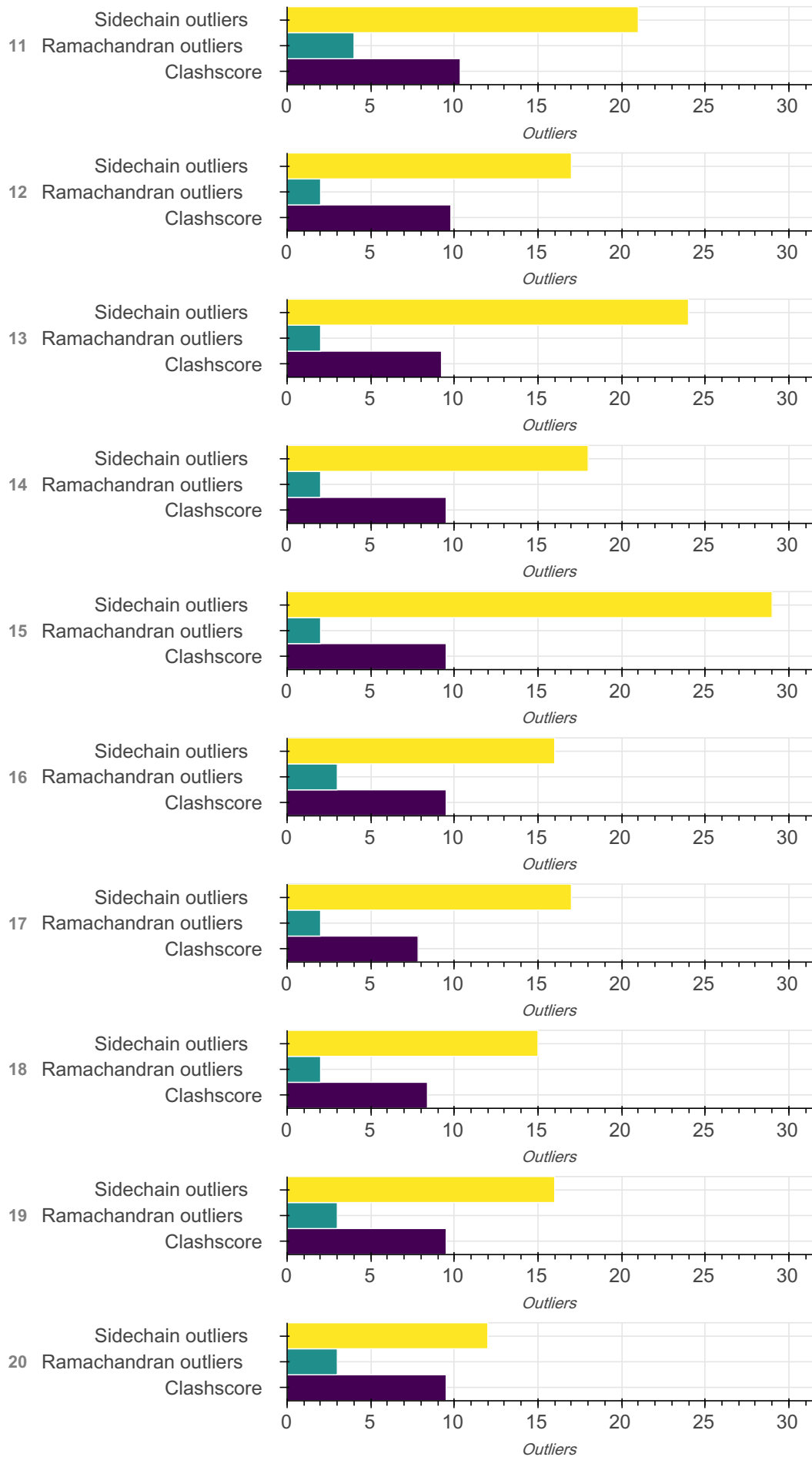
List of references used to build this report is available [here](#).

Overall quality

This validation report contains model quality assessments for all structures, data quality assessment for SAS datasets and fit to model assessments for SAS datasets. Data quality and fit to model assessments for other datasets and model uncertainty are under development. Number of plots is limited to 256.

Model Quality: MolProbity Analysis





Ensemble information ?

This entry consists of 0 distinct ensemble(s).

Summary ?

This entry consists of 20 unique models, with 2 subunits in each model. A total of 5 datasets or restraints were used to build this entry. Each model is represented by 2 rigid bodies and 0 flexible or non-rigid units.

Entry composition ?

There are 20 unique types of models in this entry. These models are titled None, None, None, None, None, None, None, None, None, None, None, None, None, None, None, None, None, None, None, None respectively.

Model ID	Subunit number	Subunit ID	Subunit name	Chain ID	Chain ID [auth]	Total residues
1	1	1	DNA polymerase iota peptide 438-448	A	A	11
1	2	2	USP7 UBL 1-2 domains	B	B	214
2	1	1	DNA polymerase iota peptide 438-448	A	A	11
2	2	2	USP7 UBL 1-2 domains	B	B	214
3	1	1	DNA polymerase iota peptide 438-448	A	A	11
3	2	2	USP7 UBL 1-2 domains	B	B	214
4	1	1	DNA polymerase iota peptide 438-448	A	A	11
4	2	2	USP7 UBL 1-2 domains	B	B	214
5	1	1	DNA polymerase iota peptide 438-448	A	A	11
5	2	2	USP7 UBL 1-2 domains	B	B	214

Model ID	Subunit number	Subunit ID	Subunit name	Chain ID	Chain ID [auth]	Total residues
6	1	1	DNA polymerase iota peptide 438-448	A	A	11
6	2	2	USP7 UBL 1-2 domains	B	B	214
7	1	1	DNA polymerase iota peptide 438-448	A	A	11
7	2	2	USP7 UBL 1-2 domains	B	B	214
8	1	1	DNA polymerase iota peptide 438-448	A	A	11
8	2	2	USP7 UBL 1-2 domains	B	B	214
9	1	1	DNA polymerase iota peptide 438-448	A	A	11
9	2	2	USP7 UBL 1-2 domains	B	B	214
10	1	1	DNA polymerase iota peptide 438-448	A	A	11
10	2	2	USP7 UBL 1-2 domains	B	B	214
11	1	1	DNA polymerase iota peptide 438-448	A	A	11
11	2	2	USP7 UBL 1-2 domains	B	B	214
12	1	1	DNA polymerase iota peptide 438-448	A	A	11
12	2	2	USP7 UBL 1-2 domains	B	B	214
13	1	1	DNA polymerase iota peptide 438-448	A	A	11
13	2	2	USP7 UBL 1-2 domains	B	B	214
14	1	1	DNA polymerase iota peptide 438-448	A	A	11
14	2	2	USP7 UBL 1-2 domains	B	B	214

Model ID	Subunit number	Subunit ID	Subunit name	Chain ID	Chain ID [auth]	Total residues
15	1	1	DNA polymerase iota peptide 438-448	A	A	11
15	2	2	USP7 UBL 1-2 domains	B	B	214
16	1	1	DNA polymerase iota peptide 438-448	A	A	11
16	2	2	USP7 UBL 1-2 domains	B	B	214
17	1	1	DNA polymerase iota peptide 438-448	A	A	11
17	2	2	USP7 UBL 1-2 domains	B	B	214
18	1	1	DNA polymerase iota peptide 438-448	A	A	11
18	2	2	USP7 UBL 1-2 domains	B	B	214
19	1	1	DNA polymerase iota peptide 438-448	A	A	11
19	2	2	USP7 UBL 1-2 domains	B	B	214
20	1	1	DNA polymerase iota peptide 438-448	A	A	11
20	2	2	USP7 UBL 1-2 domains	B	B	214

Datasets used for modeling

There are 5 unique datasets used to build the models in this entry.

ID	Dataset type	Database name	Data access code
1	Comparative model	Not available	Not available
2	Comparative model	Not available	Not available
3	Experimental model	PDB	5gg4
4	NMR data	BMRB	26782

ID	Dataset type	Database name	Data access code
5	Mutagenesis data	File	10.1016/j.jmb.2020.166733

Representation ?

This entry has only one representation and includes 2 rigid bodies and 0 flexible units

Chain ID	Rigid bodies	Non-rigid segments
A	1-11	-
B	1-214	-

Methodology and software ?

This entry is a result of 1 distinct protocol(s).

Step number	Protocol ID	Method name	Method type	Method description	Number of computed models	Multi state modeling	Multi scale modeling
1	1	docking	None	None	-	False	False

There are 3 software packages reported in this entry.

ID	Software name	Software version	Software classification	Software location
1	MODELLER	Not available	model building	https://salilab.org/modeller/
2	HADDOCK	Not available	model building	http://haddock.science.uu.nl/services/HADDOCK/
3	PYMOL	Not available	model building	https://pymol.org/2/

Data quality ?

Mutagenesis

Validation for this section is under development.

NMR

Validation for this section is under development.

Model quality ?

For models with atomic structures, molprobability analysis is performed. For models with coarse-grained or multi-scale structures, excluded volume analysis is performed.

Standard geometry: bond outliers ?

Bond length outliers can not be evaluated for this model

Standard geometry: angle outliers ?

Bond angle outliers do not exist or can not be evaluated for this model

Too-close contacts ?

The following all-atom clashscore is based on a MolProbability analysis. All-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The table below contains clashscores for all the models in this entry.

Model ID	Clash score	Number of clashes
1	9.23	33
2	12.87	46
3	12.31	44
4	8.39	30
5	7.83	28
6	9.51	34
7	11.47	41
8	8.67	31
9	9.79	35
10	8.95	32
11	10.35	37
12	9.79	35
13	9.23	33
14	9.51	34
15	9.51	34

Model ID	Clash score	Number of clashes
16	9.51	34
17	7.83	28
18	8.39	30
19	9.51	34
20	9.51	34

All 687 close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Torsion angles: Protein backbone ?

In the following table, Ramachandran outliers are listed. The Analysed column shows the number of residues for which the backbone conformation was analysed.

Model ID	Analysed	Favored	Allowed	Outliers
1	221	204	15	2
2	221	211	9	1
3	221	205	14	2
4	221	211	7	3
5	221	208	12	1
6	221	209	10	2
7	221	208	11	2
8	221	208	10	3
9	221	203	14	4
10	221	209	10	2
11	221	206	11	4
12	221	205	14	2
13	221	207	12	2
14	221	206	13	2

Model ID	Analyzed	Favored	Allowed	Outliers
15	221	206	13	2
16	221	209	9	3
17	221	210	9	2
18	221	207	12	2
19	221	208	10	3
20	221	205	13	3

Detailed list of outliers are tabulated below.

Torsion angles: Protein sidechains ?

In the following table, sidechain outliers are listed. The Analysed column shows the number of residues for which the sidechain conformation was analysed.

Model ID	Analyzed	Favored	Allowed	Outliers
1	205	162	24	19
2	205	160	22	23
3	205	162	22	21
4	205	167	22	16
5	205	157	25	23
6	205	163	23	19
7	205	160	23	22
8	205	168	19	18
9	205	165	21	19
10	205	166	15	24
11	205	158	26	21
12	205	168	20	17
13	205	167	14	24
14	205	164	23	18

Model ID	Analyzed	Favored	Allowed	Outliers
15	205	158	18	29
16	205	166	23	16
17	205	168	20	17
18	205	165	25	15
19	205	159	30	16
20	205	168	25	12

Detailed list of outliers are tabulated below.

Fit of model to data used for modeling ?

Mutagenesis

Validation for this section is under development.

NMR

Validation for this section is under development.

Fit of model to data used for validation ?

Validation for this section is under development.

Acknowledgements

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