

Summary of integrative structure determination of Tomaymycin NRPS system: complex of the substrate-loaded peptidyl-carrier-protein domain from the A module (APCP-load) with the adaptor (BN91) and condensation (BC) domains of the B module (PDB ID: 9A82, PDB-Dev ID: PDBDEV_00000367)

1. Model Composition	
Entry composition	<ul style="list-style-type: none"> - Substrate-loaded peptidyl-carrier-protein (APCP) domain of the Tomaymycin A module: Chain B (75 residues) - Adaptor (BN91) and condensation (BC) domains of Tomaymycin B module : Chain A (432 residues) - Adaptor (BN91) and condensation (BC) domains of Tomaymycin B module : Chain A (76 residues)
Datasets used for modeling	<ul style="list-style-type: none"> - NMR data, Not available - Other, Not available - NMR data, Not available - Other, Not available - Experimental model, PDB ID: 8Q SX - Experimental model, PDB ID: 8Q NF - Experimental model, PDB ID: 8Q RX
2. Representation	
Resolution	Atomic
Number of rigid bodies, flexible units	0, 3
Flexible units	<ul style="list-style-type: none"> - A: 1-76, 77-508 - B: 1-75
Structural coverage (rigid bodies)	100%
3. Restraints	
Physical principles	Information about physical principles was not provided
	<ul style="list-style-type: none"> - 4 unique DerivedDistanceRestraint: Lower Upper Bound Distance: 0.0-22.2 - 3 unique DerivedDistanceRestraint: Lower Upper Bound Distance: 0.0-23.3 - 7 unique DerivedDistanceRestraint: Lower Upper Bound Distance: 0.0-24.4 - 1 unique DerivedDistanceRestraint: Lower Upper Bound Distance: 0.0-22.5 - 2 unique DerivedDistanceRestraint: Lower Upper Bound Distance: 0.0-24.0 - 6 unique DerivedDistanceRestraint: Lower Upper Bound Distance: 0.0-23.6 - 1 unique DerivedDistanceRestraint: Lower Upper Bound Distance: 0.0-22.6 - 2 unique DerivedDistanceRestraint: Lower Upper Bound Distance: 0.0-23.1 - 3 unique DerivedDistanceRestraint: Lower Upper Bound Distance: 0.0-24.3 - 3 unique DerivedDistanceRestraint: Lower Upper

[*Experimental data*](#)

Bound Distance: 0.0-24.5
- 2 unique DerivedDistanceRestraint: Lower Upper
Bound Distance: 0.0-24.6
- 1 unique DerivedDistanceRestraint: Lower Upper
Bound Distance: 0.0-21.9
- 2 unique DerivedDistanceRestraint: Lower Upper
Bound Distance: 0.0-23.5
- 1 unique DerivedDistanceRestraint: Lower Upper
Bound Distance: 0.0-21.7
- 1 unique DerivedDistanceRestraint: Lower Upper
Bound Distance: 0.0-22.1
- 1 unique DerivedDistanceRestraint: Lower Upper
Bound Distance: 0.0-22.8
- 1 unique DerivedDistanceRestraint: Lower Upper
Bound Distance: 0.0-21.8
- 4 unique DerivedDistanceRestraint: Lower Upper
Bound Distance: 0.0-23.4
- 2 unique DerivedDistanceRestraint: Lower Upper
Bound Distance: 0.0-23.8
- 1 unique DerivedDistanceRestraint: Lower Upper
Bound Distance: 0.0-23.0
- 2 unique DerivedDistanceRestraint: Lower Upper
Bound Distance: 0.0-23.9
- 2 unique DerivedDistanceRestraint: Lower Upper
Bound Distance: 0.0-24.2
- 4 unique DerivedDistanceRestraint: Lower Upper
Bound Distance: 0.0-24.7
- 2 unique DerivedDistanceRestraint: Lower Upper
Bound Distance: 0.0-24.9
- 2 unique DerivedDistanceRestraint: Lower Upper
Bound Distance: 0.0-24.1
- 1 unique DerivedDistanceRestraint: Lower Upper
Bound Distance: 0.0-24.8
- 2 unique DerivedDistanceRestraint: Lower Upper
Bound Distance: 0.0-23.7
- 1 unique DerivedDistanceRestraint: Lower Upper
Bound Distance: 0.0-20.9
- 1 unique DerivedDistanceRestraint: Lower Upper
Bound Distance: 0.0-22.7
- 1 unique DerivedDistanceRestraint: Lower Upper
Bound Distance: 0.0-25.8
- 1 unique DerivedDistanceRestraint: Lower Upper
Bound Distance: 0.0-27.0
- 1 unique DerivedDistanceRestraint: Lower Upper
Bound Distance: 0.0-29.2
- 1 unique DerivedDistanceRestraint: Lower Upper
Bound Distance: 0.0-26.6
- 1 unique DerivedDistanceRestraint: Lower Upper
Bound Distance: 14.0-16.5
- 1 unique DerivedDistanceRestraint: Lower Upper
Bound Distance: 0.0-8.0
- 1 unique DerivedDistanceRestraint: Lower Upper
Bound Distance: 0.0-22.3
- 1 unique DerivedDistanceRestraint: Lower Upper
Bound Distance: 0.0-26.0
- 1 unique DerivedDistanceRestraint: Lower Upper
Bound Distance: 0.0-27.6
- 1 unique DerivedDistanceRestraint: Lower Upper
Bound Distance: 0.0-22.0
- 1 unique DerivedDistanceRestraint: Lower Upper
Bound Distance: 0.0-26.5
- 2 unique DerivedDistanceRestraint: Lower Upper
Bound Distance: 0.0-21.6
- 1 unique DerivedDistanceRestraint: Lower Upper

	Bound Distance: 0.0-59.5
4. Validation	
Number of ensembles	1
Number of models in ensembles	4
Number of deposited models	4
Model precision (uncertainty of models)	None, Å
Data quality	Data quality has not been assessed
Model quality: assessment of atomic segments	<ul style="list-style-type: none"> - Model-1: Clashscore = 12.63, Number of Ramachandran outliers = 3, Number of sidechain outliers = 49 - Model-2: Clashscore = 11.63, Number of Ramachandran outliers = 2, Number of sidechain outliers = 44 - Model-3: Clashscore = 11.19, Number of Ramachandran outliers = 4, Number of sidechain outliers = 55 - Model-4: Clashscore = 10.52, Number of Ramachandran outliers = 5, Number of sidechain outliers = 53
Model quality: assessment of excluded volume	Not applicable
Fit to data used for modeling	Fit of model to information used to compute it has not been determined
Fit to data used for validation	Fit of model to information not used to compute it has not been determined
5. Methodology and Software	
1. Method	None
Name	Data-driven docking using PRE-derived distance restraints within HADDOCK.
Description	Step 1: docking of BC domain and APCP to form a binary BC-APCP complex (representing the starting models for step 2).
2. Method	None
Name	Data-driven docking using PRE-derived distance restraints within HADDOCK.
Description	Step 2: docking of BN91 domain to binary BC-APCP complex generated in step 1.
Software	HADDOCK (version 2.4)