Summary of integrative structure determination of Molten Globule Ensemble from Helicobacter pylori Flavodoxin (PDB ID: 9A1S, PDB-Dev ID: PDBDEV_00000112)

1. Model Composition	
Entry composition	MOLTEN GLOBULE OF APOFLAVODOXIN FROM HELICOBACTER PYLORI, ELECTRON TRANSPORT: Chain A (163 residues)
Datasets used for modeling	- Experimental model, PDB ID: 2BMV - Mutagenesis data, Not available - Other, Not available - Other, Not available
2. Representation	
Resolution	Atomic
Number of rigid bodies, flexible units	0, 1
Flexible units	A: 1-163
Structural coverage (rigid bodies)	100%
3. Restraints	
Physical principles	Information about physical principles was not provided
Experimental data	
4. Validation	
Number of ensembles	1
Number of models in ensembles	10
Number of deposited models	10
Model precision (uncertainty of models)	7.04, Å
Data quality	Data quality has not been assessed

Model quality: assessment of atomic segments	- Model-1: Clashscore = 4.15, Number of Ramachandran outliers = 12, Number of sidechain outliers = 9 - Model-2: Clashscore = 5.4, Number of Ramachandran outliers = 11, Number of sidechain outliers = 5 - Model-3: Clashscore = 3.32, Number of Ramachandran outliers = 6, Number of sidechain outliers = 8 - Model-4: Clashscore = 5.82, Number of Ramachandran outliers = 12, Number of sidechain outliers = 6 - Model-5: Clashscore = 1.66, Number of Ramachandran outliers = 7, Number of sidechain outliers = 8 - Model-6: Clashscore = 7.06, Number of Ramachandran outliers = 14, Number of sidechain outliers = 10 - Model-7: Clashscore = 3.32, Number of Ramachandran outliers = 8, Number of sidechain outliers = 8 - Model-8: Clashscore = 2.91, Number of Ramachandran outliers = 9, Number of sidechain outliers = 8 - Model-9: Clashscore = 6.23, Number of Ramachandran outliers = 6, Number of sidechain outliers = 7 - Model-10: Clashscore = 6.23, Number of Ramachandran outliers = 11, Number of sidechain outliers = 3
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	Generation of the initial ensemble
Name	Biased (experimental phi-values) molecular dynamics simulations
Description	Experimental phi-values from mutagenesis experiments are used as a reaction coordinate to bias a starting model using molecular dynamics simulations (HQBM module from Charmm program)
Number of computed models	21
2. Method	Ensemble refinement
Name	Ensemble refinement based on experimental spectroscopic data

Description	A variety of spectroscopic data (fluorescence, far- and near-UV, and NMR) used for refining the initial biased MD ensemble
Number of computed models	10
Software	CHARMM (version v.44b2)