Summary of integrative structure determination of Biologically relevant conformational ensembles of the extracellular region of Streptococcus pneumoniae PsrSp (PDB ID: 9A9G | pdb_00009a9g)

1. Model Composition	
1.1. Entry composition	LCP Protein PsrSp: chain(s) A (308 residues)
1.2. Datasets used for modeling	- De Novo model, Not available - NMR data, BMRB: 52556
2. Representation	
2.1. Number of representations	1
2.2. Scale	Atomic
2.3. Number of rigid and flexible segments	0, 1
3. Restraints	
3.1. Physical principles	Information about physical principles was not provided
3.2. Experimental data	
4. Validation	
4.2. Number of ensembles	1
4.3. Number of models in ensembles	1000
4.4. Number of deposited models	20
4.5. Model precision	Not available
4.6. Data quality	Data quality has not been assessed
4.7. Model quality: assessment of atomic segments	- Clashscore: 0.21-1.67 - Ramachandran outliers: 1-7 - Sidechain outliers: 3-12
4.8. Fit to data used for modeling	Fit of model to information used to compute it has not been determined
4.9. 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. 5.1. Method name	Not available

5.3. Method description	The starting structure was obtained by AlphaFold3. Full-atom molecular dynamics, Charm36 force field with cufix correction were performed. After minimization and NVT, free dynamics in the NPT ensemble was launched for 3 microseconds. Based on the results of the RMS analysis, a stable region at 500 ns was selected for further analysis. Cluster analysis was performed and 20 most representative structures were identified.
2. 5.1. Method name	Not available
5.3. Method description	Relaxation parameters for the MD trajectory are calculated.
3. 5.1. Method name	Not available
5.3. Method description	Relaxation parameters for the MD trajectory are calculated.
4. 5.1. Method name	Not available
5.3. Method description	NMR data processed
5. 5.1. Method name	Not available
5.3. Method description	NMR data analysis
6. 5.1. Method name	Not available
5.3. Method description	NMR data analysis
5.5. Software	- Gromacs (version 2022.4) - wolfram mathematica (version Not available) - Python (version Not available) - TopSpin (version 4.06) - CcpNmr (version 2.4.2.62) - Dynamics Center (version 2.8) - AlphaFold (version 3)