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## **Supplementary Material**

## Analysis of Nanoconfined Protein Dielectric Signals Using Charged Amino Acid Network Models

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**Figure S1.** Network construction schematics. The amino acid network (AAN) of the whole toxin pentamer is built from the toxin X-ray structure (PDB 1EEI). The intermolecular amino acid network (4D-network), the intermolecular charged amino acid network (4D-charged network) and the intermolecular induced charged amino acid network (4D-induced charged network) are all built from the AAN selecting different nodes and links (Methods).