Supramolecular Porphyrin Polymerization through Charge-Transfer Host-Guest Interaction
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Figure 1. Supramolecular porphyrin polymer formed by charge-transfer host-guest interactions.

We have found that a bisporphyrin form unique CT complex with an electron deficient guest.\(^1\)\(^2\) Heteroditopic bisporphyrin 1 was synthesized.\(^3\) 1 assembled to form the supramolecular polymers in organic solution and in the solid state. Diffusion coefficients of 1 decreased as increasing its concentrations, suggesting that the supramolecular polymers were formed. Viscometry of a solution of 1 confirmed that sizable supramolecular polymeric chains were formed, and were entangled. SEM and AFM measurements of 1 supported that the polymeric chains generated widely spreaded networks that are commonly observed in conventional polymer networks.