New Families of Molecules for Self-Assembly

Paul S. Weiss, Center for Nanoscale Science, 325 Davey Laboratory, Pennsylvania State University, University Park, PA 16802; and Viktor Balema, Sigma-Aldrich

Cage molecules offer directional interactions and opportunities to build three-dimensional superstructures. The Penn State Center for Nanoscale Science has developed new families of molecules, using carbon, and carbon/boron cages that offer new possibilities in self-assembly.

This work is being transitioned through collaborations between the Center for Nanoscale Science, Sigma-Aldrich, and the Penn State node of the NSF-funded National Nanotechnology Infrastructure Network.

By choosing the orientation of the molecular dipoles on surface, the stabilities and interaction strengths can be selected.