

## **72e Nanometer-Size Honeycomb and Pillars of Electrically Conducting Polymers on Solid Surfaces**

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Nano-patterned structures of electrically conducting polymers have been prepared using adsorbed latex spheres as a mask followed by admicellar polymerization. Admicellar polymerization consists of adsorbing a surfactant to the interstitial sites between the spheres, and then adding a monomer which will be localized by the surfactant at the surface. The structure formed (honeycomb vs. isolated pillars) depends on the size of the spheres used in the masking step. The size of the structures can be varied from honeycombs with wall thickness of approximately 50 nm, to pillars have width and height of only a few nanometers. The structures formed by this method are compared with structures formed via adsorption of an already-formed polymer in the interstitial sites.