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Molecular adsorbates on HOPG: Toward modulation of graphene density of states[1] MICHELLE GROCE, THEODORE EINSTEIN, WILLIAM CULLEN, U. of Maryland — Ordered molecular superlattices, particularly those made of planar aromatics with their attendant pi orbitals, have the potential to break the graphene sublattice degeneracy and create a band gap. Trimesic acid (TMA) is a promising candidate due to its self-assembly into symmetry-breaking superlattices nearly commensurate with that of graphene. We have used the graphite (0001) surface as a model system to explore the impact of TMA thin films on band structure. By examining correlations between STM topography and STS maps of corresponding regions, we are able to investigate the effects of TMA on the local density of states.

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