

Abstract Submitted
for the MAR09 Meeting of
The American Physical Society

Towards 2-D Conjugated Organic Polymers; Br-TTA molecules on Cu(111) J.A. LIPTON-DUFFIN, INRS-ÉMT, Université du Québec, Varennes, QC, Canada, M.C. GALLAGHER, Department of Physics, Lakehead University, Thunder Bay, ON, Canada, J.L. BRUSSO, Department of Chemistry, McGill University, Montréal, QC, Canada, D.F. PEREPICHKA, Department of Chemistry, McGill University, Montréal, QC, Canada., F. ROSEI, INRS-ÉMT, Université du Québec, Varennes, QC, Canada — We report on recent experiments using an Ullmann surface polymerization approach to synthesize 2-d polymers on flat metal surfaces in UHV. We previously demonstrated the utility of this technique to perform the surface confined synthesis of individual conjugated polyphenylene chains on the Cu(110) surface [1]. In the present work we extend this technique to deposit multidendate Br-TTA monomers onto a Cu(111) surface. The evaporation of BrTTA monomers at room temperature leads to the formation of flat 2-d islands at submonolayer coverage. We use STM and XPS to investigate the structural and chemical characteristics of these structures. Upon annealing (500K) many of the islands restructure to form highly ordered 2-d nanostructures. These structures are quite robust and are stable up to temperatures of 800K at which point the TTA desorbs.
[1] Lipton-Duffin, Ivashenko, Perepichka and Rosei, in preparation.

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Date submitted: 09 Dec 2008

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