

## W0169

**Patterned Crystals Via Solvent-Mediated Self-Assembly.** G. Tayhas R. Palmore<sup>1</sup>, Tzy-Jiun Mark Luo<sup>1</sup>, John C. MacDonald<sup>2</sup>, <sup>1</sup>Div. of Engineering, Brown Univ., Providence, RI, USA, <sup>2</sup>Dept. of Chemistry and Biochemistry, Worcester Polytechnic Institute, Worcester, MA, USA.

We have studied the morphology and kinetics of growth for a series of crystals composed of complexes of bis(2-methylimidazolium 2,6-dicarboxypyridine) M (II) where M = Cu (II), Ni (II), Zn (II), Co(II), and Mn\* (I). Based on results from *in situ* AFM studies and x-ray crystallographic data, we used the (100) face of a crystal composed of bis(imidazolium 2,6-dicarboxypyridine) Cu (II) dihydrate as a substrate upon which epitaxial layers of **1** were grown. These epitaxial layers can be patterned via solvent-mediated self-assembly in the presence of stencils or stamps, which results in single crystals with metal (II) ions segmented in different regions of the crystal.