Abstract Submitted
for the MAR13 Meeting of
The American Physical Society

Strictly Polyhedral Colloids Challenged by Electric Field NOBUHIRO YANAI, MELINDA SINDORO, JING YAN, STEVE GRANICK, University of Illinois, Urbana-Champaign — We have succeeded in fabricating monodisperse polyhedral metal-organic framework (MOF) crystals. Here, the micron-sized rhombic dodecahedra are suspended in liquid as candidates for directed self-assembly. The application of AC electric field is found to produce assembly at various facets truncations, probably owing to induced dipole attraction, with linear chaining that we observe and analyze based on direct in-situ imaging. The facet-to-facet preference during assembly produces striking selectivity for these1D chains.

Melinda Sindoro
University of Illinois, Urbana-Champaign

Date submitted: 24 Oct 2012 Electronic form version 1.4