

Abstract Submitted
for the FWS15 Meeting of
The American Physical Society

Self-assembled nano-particle micro-shells template by liquid crystal (LC) and ligand sorting TAYEBEH RIAHINASAB, University of California, Merced — The assembly of different nano-particle types into 3D organized structures is one of the most important subjects in the nanotechnology field. In this regard, we utilize a liquid crystal host phase in a new process for the generation on micron-scale vesicle like nano-particle shells stabilized by ligand-ligand interactions. The constructs formed consist of a mechanically robust, thin spherical layer, composed of closely packed quantum dots (QDs) and stabilized by local crystallization of the mesogenic ligands. Mesogenic ligands have the potential to provide control over the dispersion and stabilization of nano-particles in liquid crystal (LC) phases. We apply polarized optical microscopy and small angle x-ray scattering (SAXS) to characterize quantum dots dispersion on different length scales.

Tayebah Riahinasab
University of California, Merced

Date submitted: 07 Oct 2015

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