

Abstract Submitted  
for the MAR15 Meeting of  
The American Physical Society

**Pickering emulsion stabilized by highly luminescent carbon nanodots** MINXIANG ZENG, ZHENG DONG CHENG, Texas A&M Univ — Graphene quantum dots as a novel form of nanocarbons have been attracting increasing interest in the past decade owing to their low cytotoxicity, chemical inertness, cost effectiveness, and biocompatibility. However, few work has been done regarding applying carbon-based quantum dots in surfactant synthesis. The diversity and facility of surface chemistry on graphene quantum dots make them strong candidate as novel amphiphilic materials. The tunable assembly of graphene surfactant dots were synthesized and stabilized emulsions of water/oil were investigated. Also, the amphiphilicity of graphene quantum dots is tunable upon various organic functional groups. The ease synthesis of chemically modified graphene quantum dots could enable new opportunities in applying carbon-based materials on solution processing, such as enhanced oil recovery.

Minxiang Zeng  
Texas A&M Univ

Date submitted: 14 Nov 2014

Electronic form version 1.4