

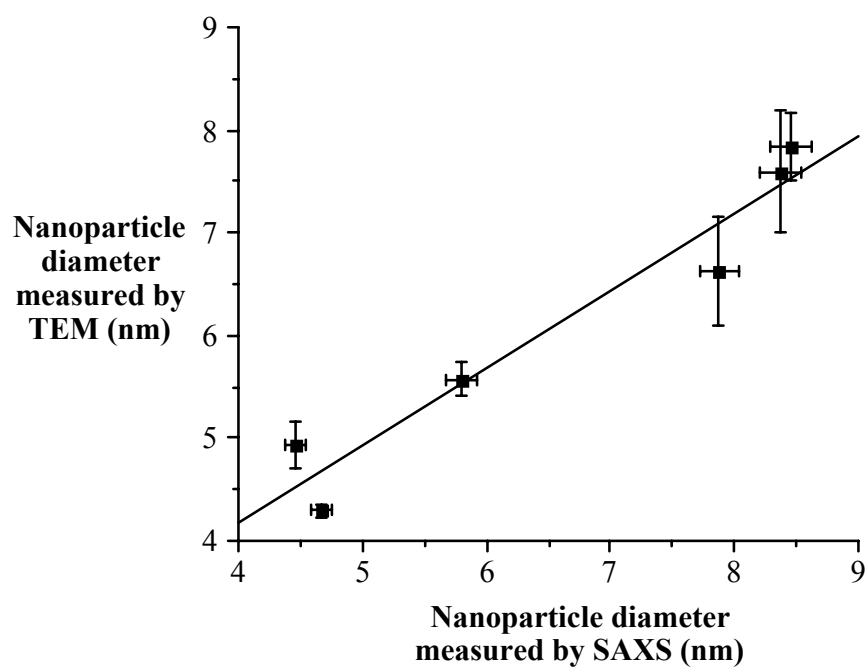
## **Reagent Control over the Size, Uniformity, and Composition of Co-Fe-O Nanoparticles**

Christopher A. Crouse and Andrew R. Barron\*

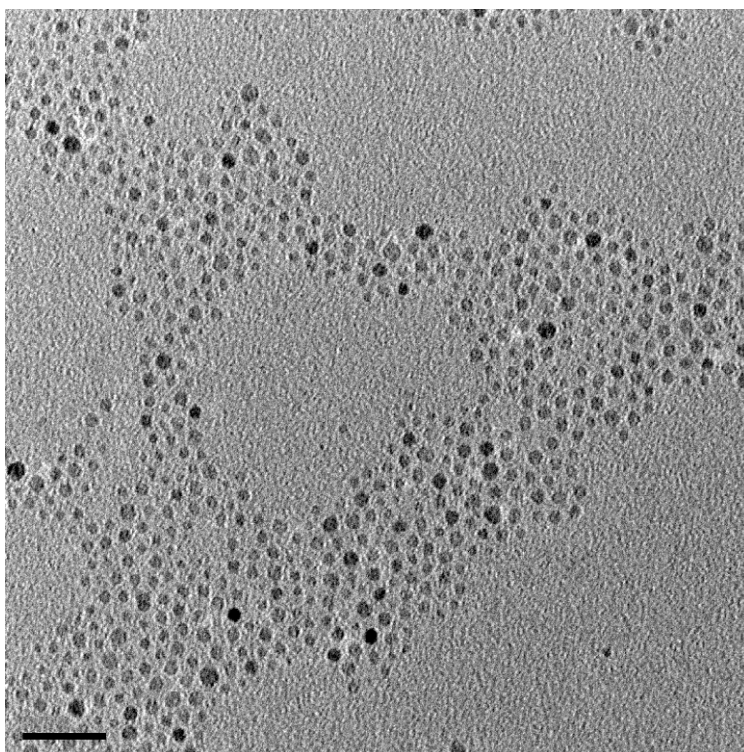
*Richard E. Smalley Institute for Nanoscale Science and Technology, nano Carbon Center (nC<sup>2</sup>),  
Department of Chemistry, and Department of Mechanical Engineering and Materials Science,  
Rice University, Houston, Texas 77005, USA*

*E-mail: [arb@rice.edu](mailto:arb@rice.edu)*

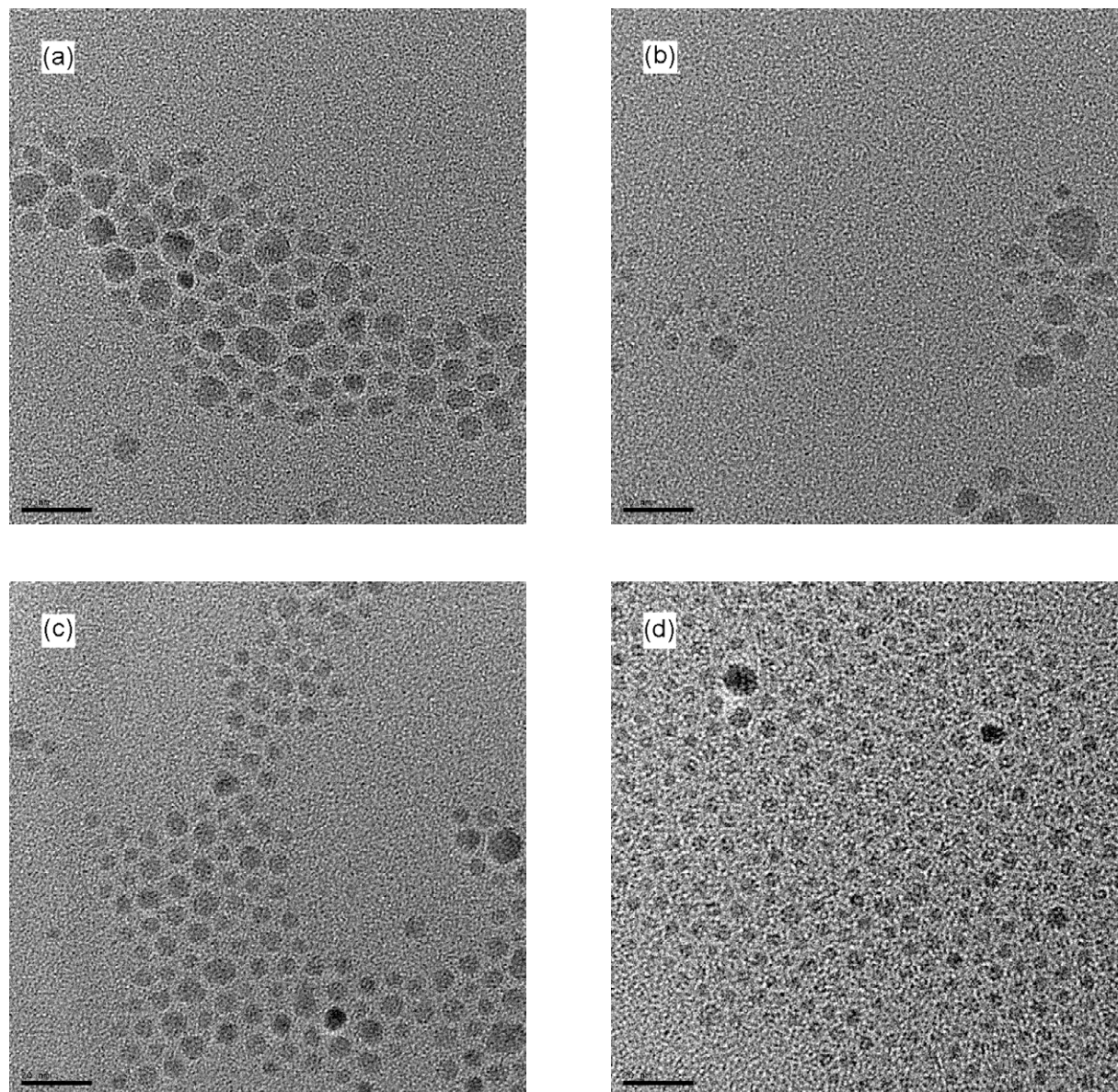
Supplementary Material



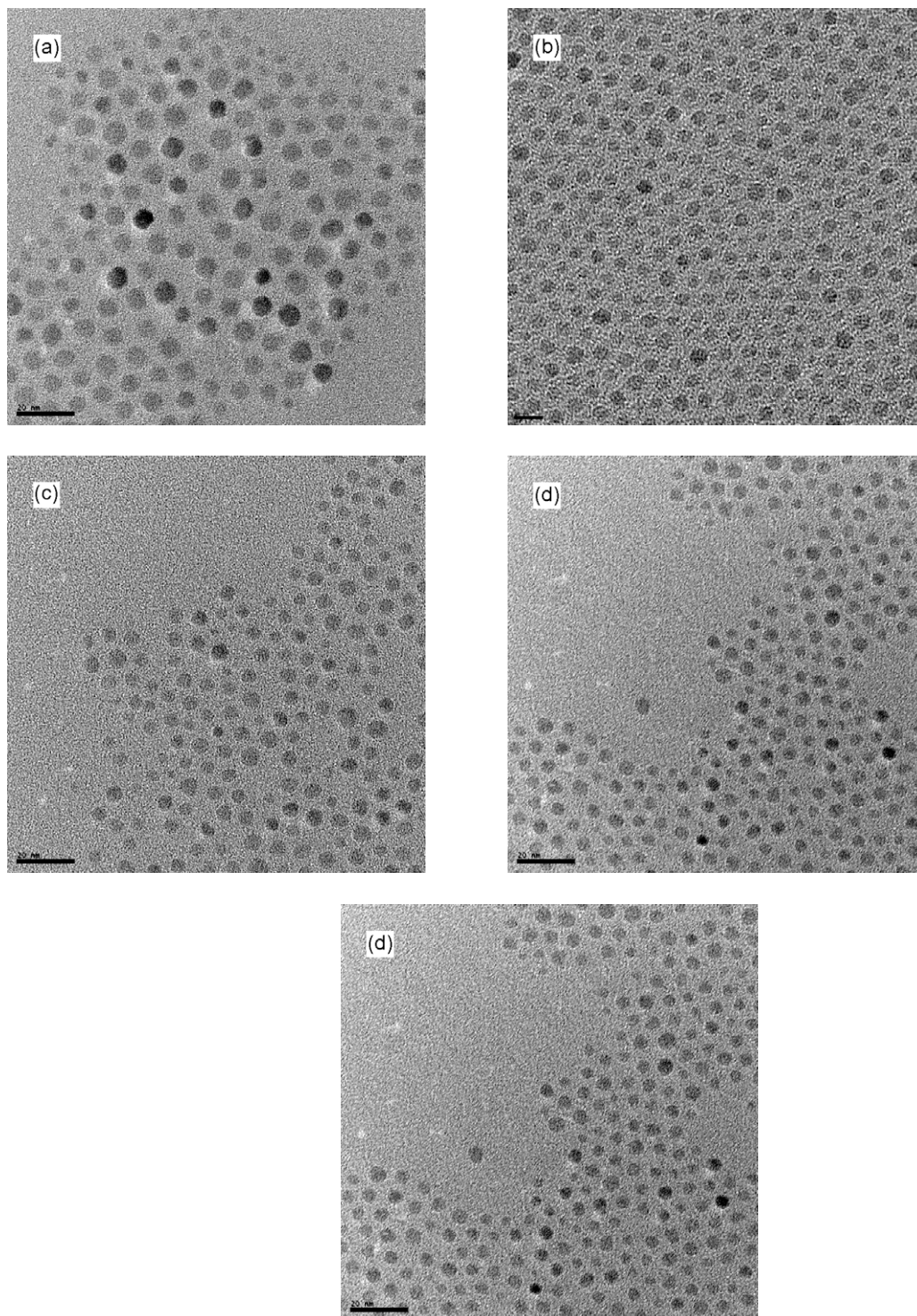
**Figure S1.** Comparison of nanoparticle diameter measured by TEM and SAXS ( $R^2 = 0.937$ ).



**Figure S2.** TEM image of Co-Fe-O nanoparticles formed in the presence of 3.0 mmol (sample **3**), of 1,2-hexadecanediol (HDD). Scale bars are 30 nm.



**Figure S3.** TEM images of Co-Fe-O nanoparticles formed in the presence of (a) 1.0 mmol (sample **7**), (b) 2.0 mmol (sample **8**), (c) 4.0 mmol (sample **9**), and (d) 6.0 mmol (sample **10**) of ligand (oleic acid + oleylamine). [oleic acid] = [oleylamine]. Scale bars are all 20 nm.



**Figure S4.** TEM images for Co-Fe-O nanoparticles produced using (a) 7.5 mM (**18**), (b) 10.0 mM (**19**), (c) 12.5 mM (**20**), (d) 15.0 mM (**21**), and (e) 20.0 mM (**22**), total metal precursor concentrations. Scale bars are all 20 nm.