Abstract Submitted
for the MAR06 Meeting of
The American Physical Society

White-Light Emission from Magic-Sized Cadmium Selenide Nanocrystals[1] MICHAEL BOWERS , Vanderbilt University, JAMES MCBRIDE, Vanderbilt University, SANDRA ROSENTHAL, Vanderbilt University — Magic-sized cadmium selenide (CdSe) nanocrystals have been pyrolytically synthesized. These ultra-small nanocrystals exhibit broadband emission (420 -710 nm) that covers most of the visible spectrum while not suffering from self absorption. This behavior is a direct result of the extremely narrow size distribution and unusually large Stokes shift (40-50 nm). The intrinsic properties of these ultra-small nanocrystals make them an ideal material for applications in solid state lightingand also the perfect platform to study the molecule-to-nanocrystal transition.

[1]This work was supported by the U.S. Department of Energy and the National Institutes of Health

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Date submitted: 30 Nov 2005 Electronic form version 1.4