

Abstract Submitted  
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**Luminescence from single colloidal nanocrystals embedded in organic light emitting devices.** AUGUST DORN, HAO HUANG, Department of Chemistry, Massachusetts Institute of Technology, VLADIMIR BULOVIĆ, Laboratory of Organic Optics and Electronics, Massachusetts Institute of Technology, MOUNGI BAWENDI, Department of Chemistry, Massachusetts Institute of Technology — The photophysical properties of individual CdSe/ZnS (core/shell) nanocrystals embedded in the active layers of electrically driven organic light emitting devices (OLEDs) were investigated at room temperature. Emission from the same nanocrystals was recorded under laser illumination and when the OLED was driven electrically. For both types of excitation we observed blinking and spectral diffusion, key signatures of single quantum dot fluorescence. Enhanced electroluminescence from the organics at the sites of nanocrystals suggests the formation of current channels through the quantum dots. This hypothesis is supported by atomic force microscopy studies of the organic layers.

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