Supporting Information:

Electric field induced switching of the fluorescence of single semiconductor quantum rods

Eli Rothenberg, Miri Kazes, Ehud Shaviv and Uri Banin

Institute of Chemistry, the Farkas Center for Light Induced Processes, and the Center for Nanoscience and Nanotechnology

The Hebrew University of Jerusalem, Jerusalem 91904, ISRAEL

Supporting Methods

Sample preparation: Single crystal Quartz, 2mm thick substrates were used, providing good thermal conduction. Substrates were sonicated for 30 min in soap and distilled water solution, thereafter oven baked at T=500°C for 6 hours, ensuring the removal of possible emitting residual organics. Immediately after baking, a dilute solution of QRs in toluene was spin-cast on the substrate and mounted in the cryostat.

Similar procedure was carried out with the electrode/substrate, but prior to spin casting, the electrode/substrate was sylanized in 2% aminosylane in ethanol to create a hydrophobic surface, increasing the effectiveness of the QRs adsorption.
Supporting figure 1 legend: Optical switching and relative orientation: Analysis of QRs orientation relative to the applied field showing the fraction of rods exhibiting switching phenomena. More than 30% of the QRs having a strong emission component parallel to applied field showed switching behavior, where a little more than 10% of the QRs having a strong emission component normal to the applied field showed switching behavior.