

Electrophoretic deposition of CdSe, C₆₀ and CdSe-C₆₀ clusters.

nC₆₀ films on OTE/SnO₂ and OTE/TiO₂ Electrodes.

The procedure adopted was similar to the one adopted earlier for C₆₀ films. A 0.20 mL solution of 0.5 mM C₆₀ in toluene was injected into a vial of acetonitrile (0.80 ml). This cluster solution (0.1 mM) was transferred to a small cell in which two optically transparent electrodes were kept at a distance of 6 mm using Teflon spacer, and a dc voltage (50 V) was applied using a Fluke 415A high-voltage dc power supply. Within 30-60 s the solution turned colorless as all the C₆₀ clusters were deposited as a brown film on the electrode connected to the positive terminal of the source.



nC₆₀ film

CdSe films on OTE/SnO₂ Electrodes.

A similar procedure was followed for plain CdSe, with 0.20 mL of 7.4 μM CdSe in toluene injected into 0.80 mL of acetonitrile and deposited electrophoretically.



CdSe film

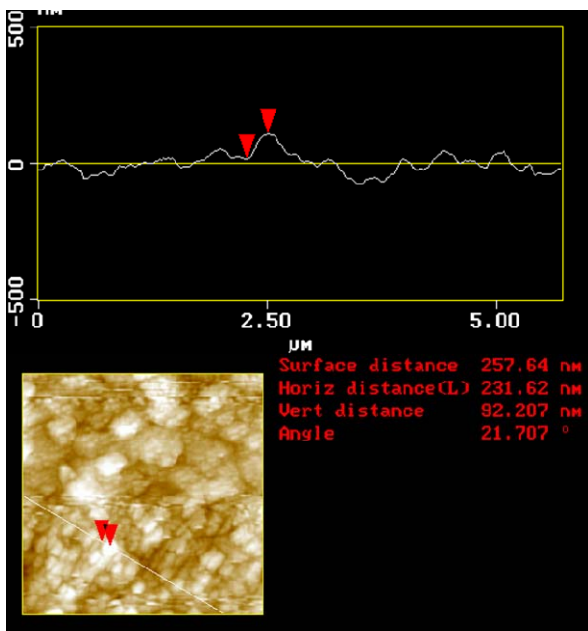
CdSe-nC₆₀ films on OTE/SnO₂

A similar procedure was followed for CdSe/nC₆₀, with a 0.20 mL mixture of 7.4 μM CdSe / 0.5 mM C₆₀ in toluene injected into 0.80 mL of acetonitrile and deposited electrophoretically.



CdSe-nC₆₀ film

nC₆₀ electrode Morphology.



AFM of nC₆₀ clusters deposited on SnO₂/OTE, showing average cluster size of ~90 nm. This cluster size is smaller than the one obtained with CdSe-nC₆₀ mixed clusters.