# *In situ* Synthesis of CdS Quantum Dot–Partially Sulfonated Polystyrene Composite: Characterization and Optical Properties

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### ASSOCIATED CONTENT

## Supporting Information

1. Sulfonation level is given by f=100 *x*, where *x* is the mole fraction of sulfonated monomers in PSS or the degree of sulfonation. Peak area of different aromatic protons are related as  $I_A=2$ ,  $I_B=3(1-x)$  and  $I_C=2x$ . Mole fraction (*x*) were obtained from  $I_B$  and  $I_C$ , from which sulfonation level (f) was calculated for the synthesized PSS.

- 0.2 PSS3 0.0 PSS2 EPS Heat flow (W/g) Tg = 121 -0.2 -0.4 12 = 102 -0.6 a -0.8 60 160 80 100 120 140 . 180 200 220 40 240 Temperature (<sup>°</sup>C)
- 2. DSC of EPS, PSS2 and PSS3

Figure S1. DSC of EPS, PSS2 and PSS3

3. Diffuse-reflectance absorbance spectra of a) bulk CdS b) PSS2-CdS composite

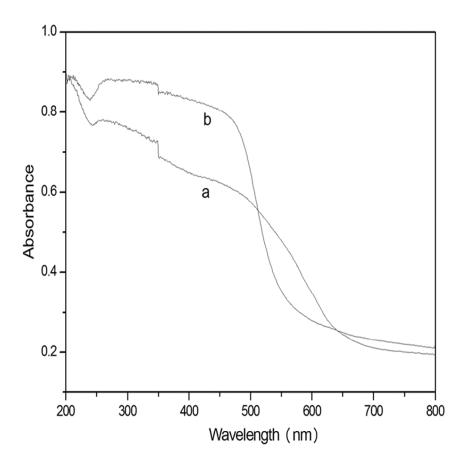


Figure S2. Diffuse-reflectance absorbance spectra of a) bulk CdS b) PSS2-CdS composite