

Supporting information

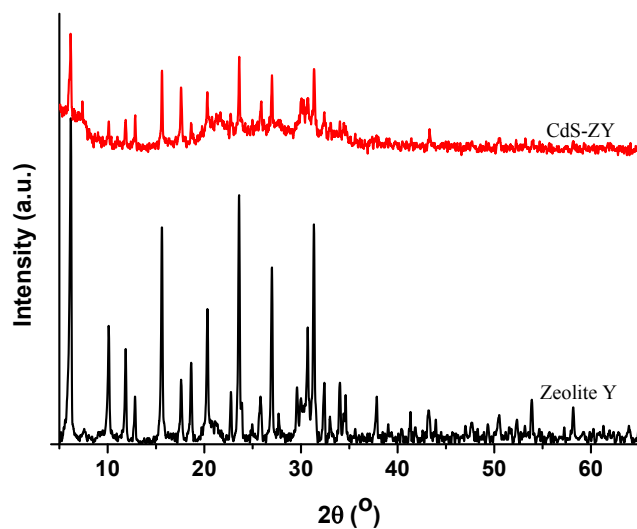


Figure S1 XRD patterns of zeolite Y and CdS-ZY.

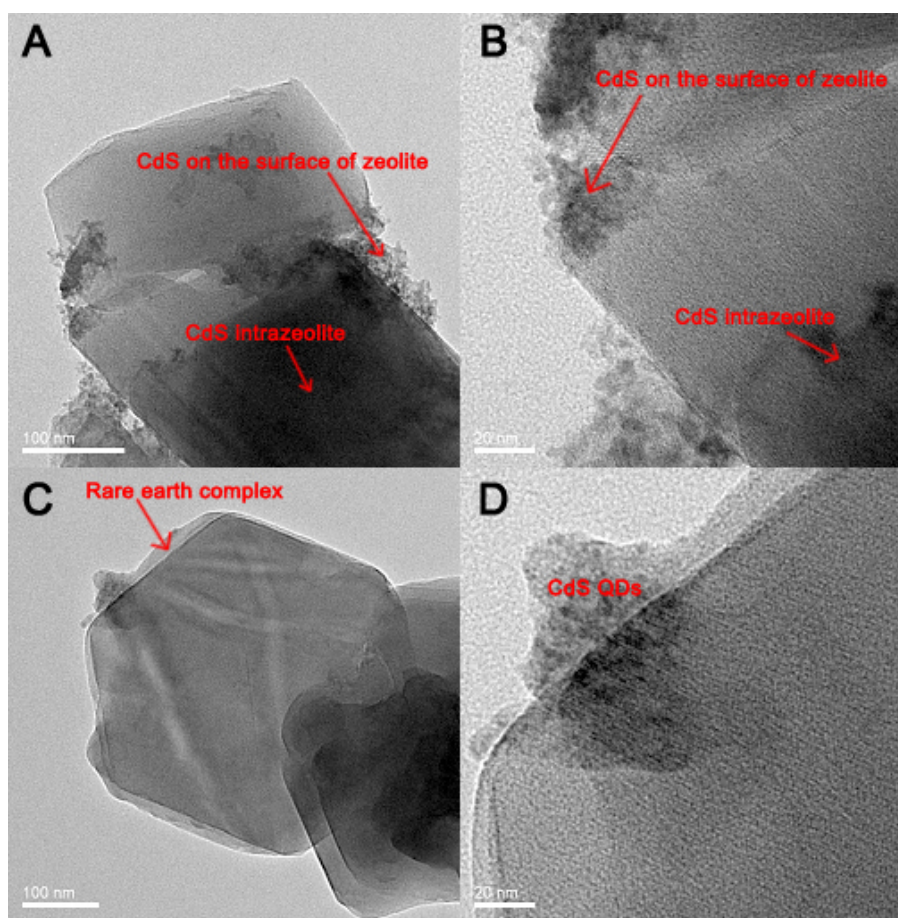


Figure S2 TEM images of CdS-ZY (A, B) and Eu(phen)(*o*-MBA)₃-CdS-ZY (C, D).

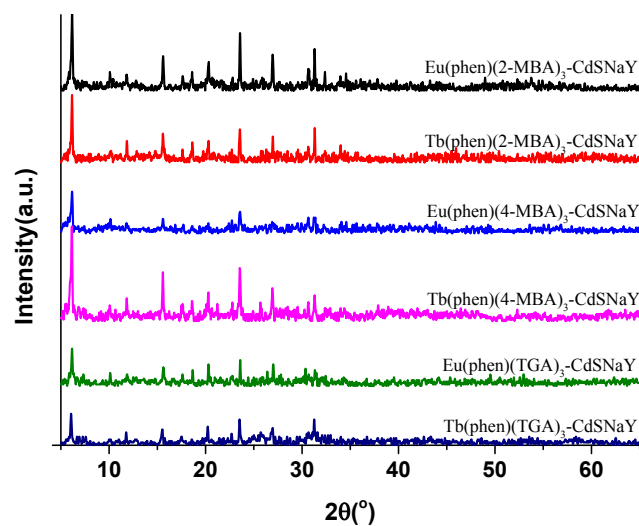


Figure S3 XRD patterns of europium or terbium complexes functionalized CdS-ZY.

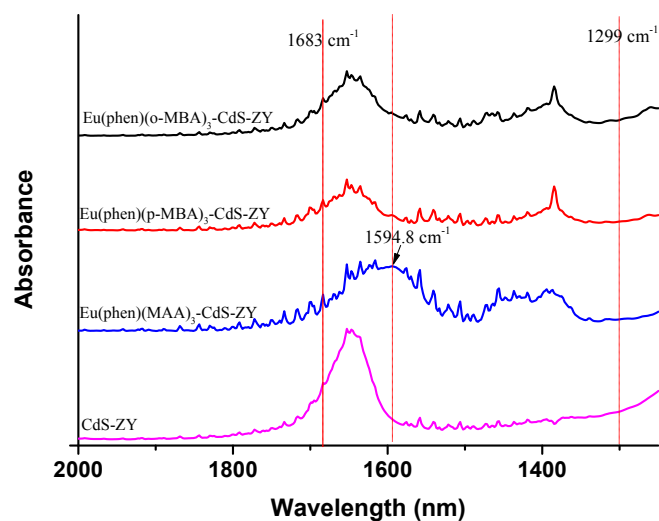


Figure S4 FTIR spectra of europium complexes functionalized CdS-ZY with three different mercaptan ranged from 1250~2000 cm^{-1} .

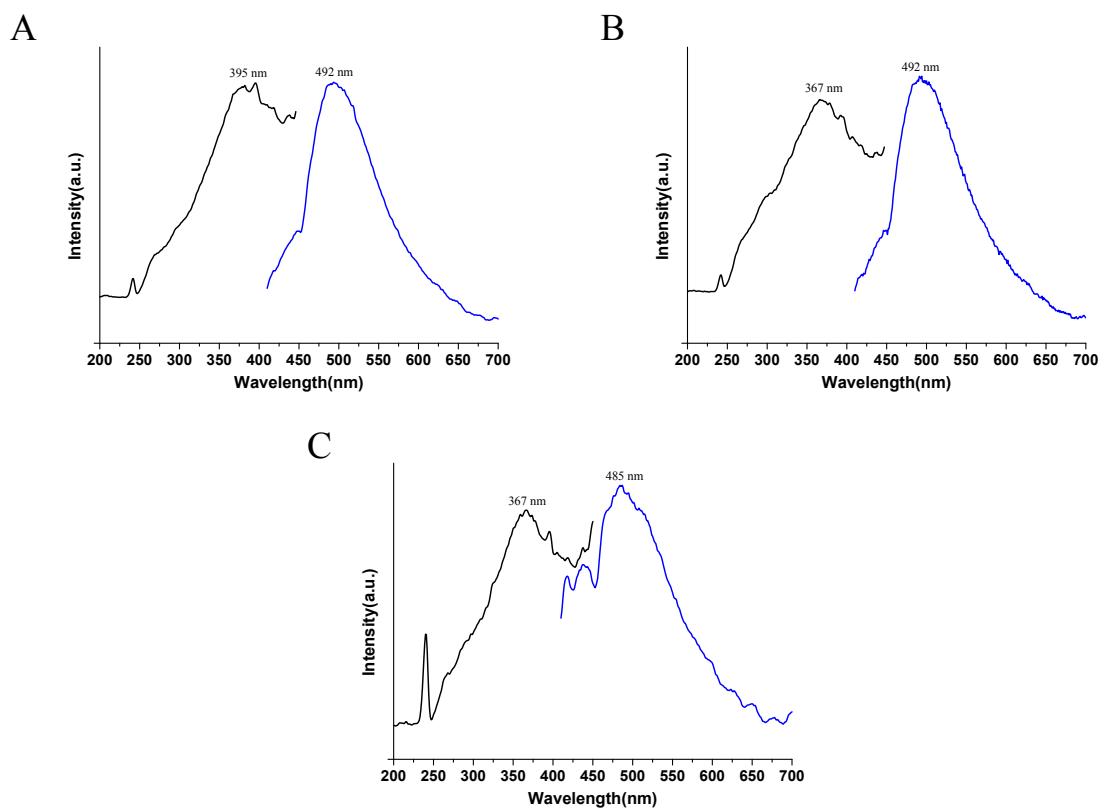


Figure S5 Excitation and emission spectrum of (*o*-MBA)-CdS-ZY, (*p*-MBA)-CdS-ZY (MAA)-CdS-ZY. (A) (*o*-MBA)-CdS-ZY excitation spectrum is obtained by monitoring the emission at 492 nm, and the excitation wavelength for the emission spectrum is 395 nm. (B) (*p*-MBA)-CdS-ZY excitation spectrum is obtained by monitoring the emission at 492 nm, and the excitation wavelength for the emission spectrum is 367 nm. (C) (MAA)-CdS-ZY excitation spectrum is obtained by monitoring the emission of at 485 nm, and the excitation wavelength for the emission spectrum is 367 nm.