

Electronic Supplementary Information

Water/*n*-heptane interface as a viable platform for self-assembly of ZnO nanospheres to nanorods

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ESI 1. Emission spectra of the finally formed ZnO nanostructures at the aqueous/organic liquid pairs

The formation of the nanorods was tried at in the presence of six water-immiscible solvents *viz.*, cyclohexane, *n*-heptane, benzene, toluene, *o*-xylene and dichloromethane and the fluorescence spectra ($\lambda_{\text{ex}} \sim 302\text{nm}$) of the finally formed particles were measured as shown in Fig. SI 1. It is seen that a new band at 503 nm appears only in the presence of *n*-heptane indicating the selectivity of water/*n*-heptane interface for the transformation of nanospheres to nanorods with respect to the other water immiscible solvents.

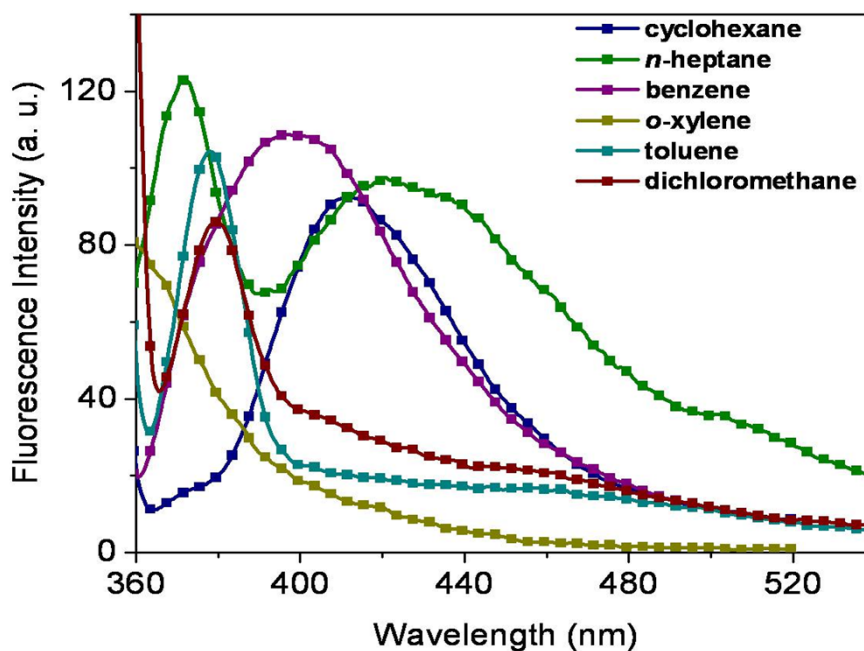


Fig. SI 1. Emission spectra of the finally formed ZnO nanostructures at the aqueous/organic liquid pairs

ESI 2. TEM images of the finally formed ZnO nanostructures in the presence of other water immiscible solvents

TEM images with increasing magnification of the finally formed ZnO nanostructures were seen in the presence of other water-immiscible solvents. The formation of the nanorods was observed only in the presence of *n*-heptane. The TEM images of the particles formed in the presence of two other representative solvents *viz.*, dichloromethane and cyclohexane are shown in Fig. SI 2.

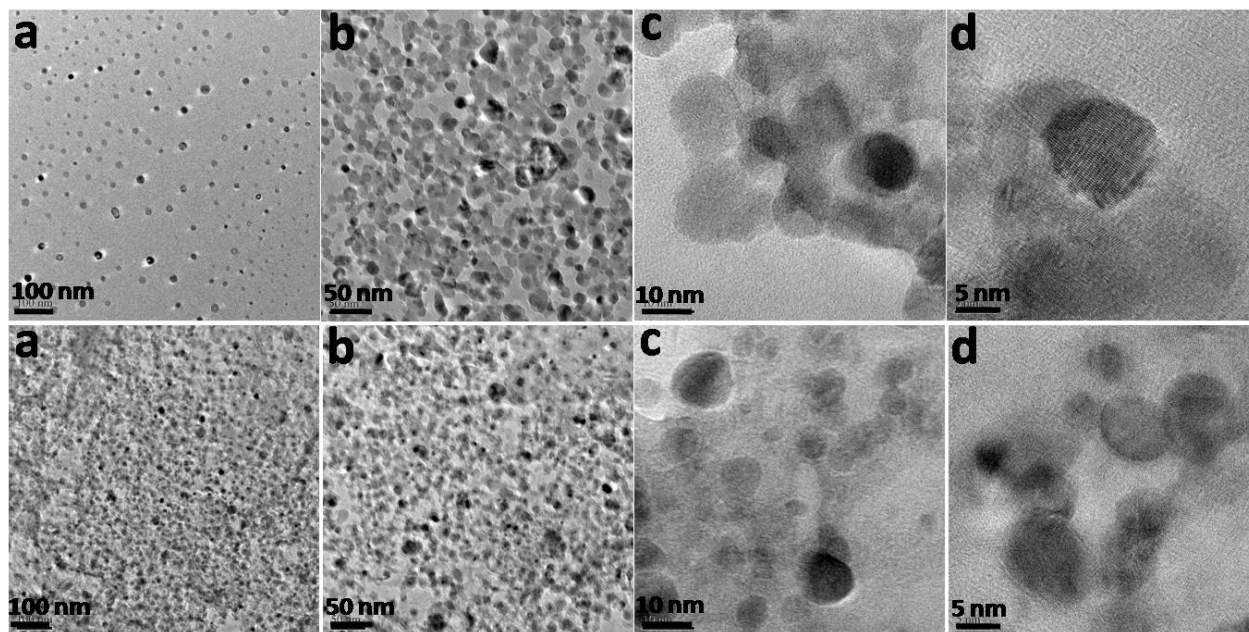


Fig. SI 2. TEM images with increasing magnification of the finally formed ZnO nanostructures at (top) water/dichloromethane and (bottom) water/cyclohexane interface

ESI 3. Fluorescence spectra of the evolution of ZnO nanorods at different water/*n*-heptane composition

The fluorescence spectra obtained by varying water/*n*-heptane composition is shown in Fig. SI 3. It is seen that a new peak at 503 nm is developed at water : *n*-heptane = 9 : 1 (v/v); at a volume ratio above or below, the appearance of no such band is observed. Therefore, it could be concluded that the composition of the solvent also plays a role for the transformation of nanospheres to nanorods.

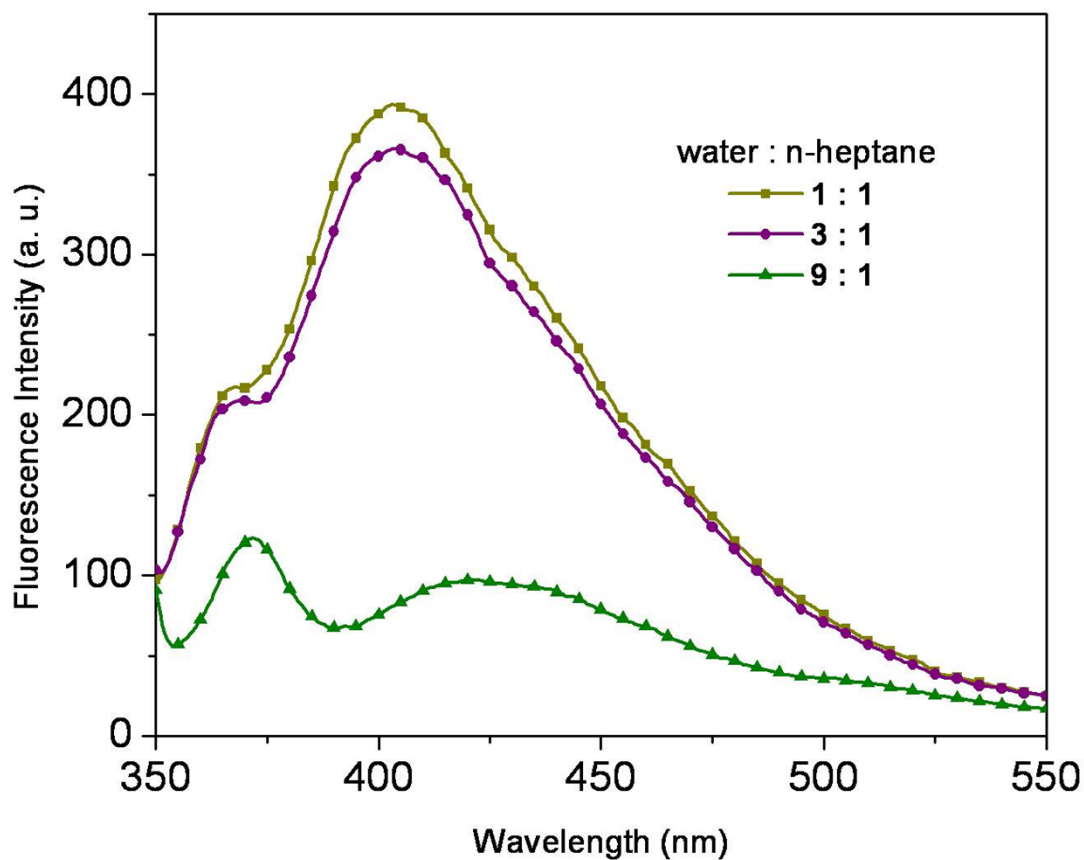


Fig. SI 3. Fluorescence spectra of the finally formed ZnO nanostructures at different water/*n*-heptane volume ratio