Electronic Supplementary Material (ESI) for Journal of Materials Chemistry C

Supporting info

Determination of the yield of transfer.

The transfer yield of ZnO Nps in the aqueous phase was determined from absorbance measurements at 350 nm, using $Y=Abs_{water}/Abs_{dich}$ where Y is the transfer yield and Abs_{water} and Abs_{dich} are the absorbance of ZnO solutions before transfer (in dichloromethane) and after transfer (in water), at the same dilution. It was verified that the extinction coefficient of ZnO Ncs has the same value for in water and in dichloromethane. To this purpose, the absorbance spectrum of ZnO NPs in water was measured using a sample transferred to water. Then, water was removed by freeze drying and the ZnO powder was dissolved in the same volume of dichloromethane. Comparison of the two absorbance spectra (Figure S1) demonstrated that the extinction coefficients are identical within the experimental error.

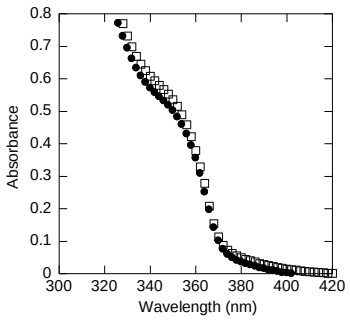

Figure S 1 : absorbance spectra of the ZnO Nps in water (●) and after dispersion in dichloromethane (□).

Stability after transfer

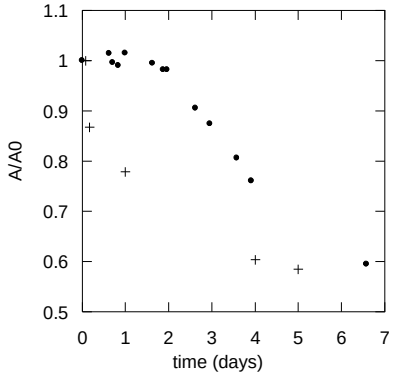

Figure S 2: Normalized absorbance at 365nm of aqueous solution of ZnO Ncs after transfer with the trimer (•) and the polymer (+).

NMR

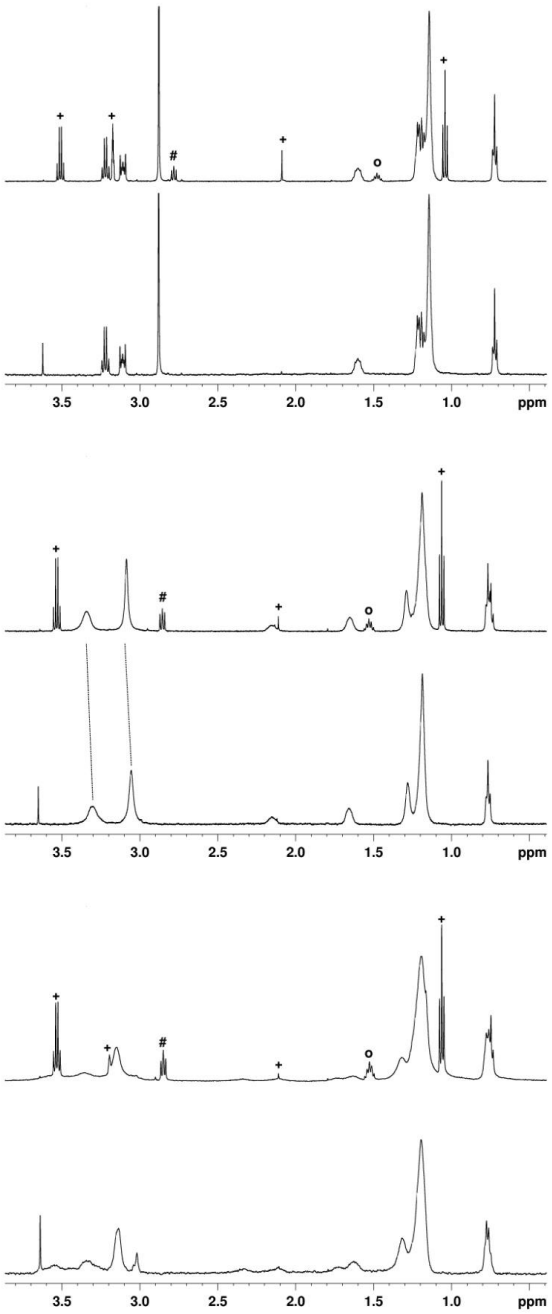

Figure S 3. Top: ^{1}H NMR spectra of D_2O solutions after the transfer procedure using DDAB (1); the dimer (2) and the trimer (3).C_{AB}= 2 mM. Bottom: ^{1}H NMR spectra of the corresponding surfactant in D_2O solutions. (# and o: α and β-CH_2 of octylamine, +: solvent residues)