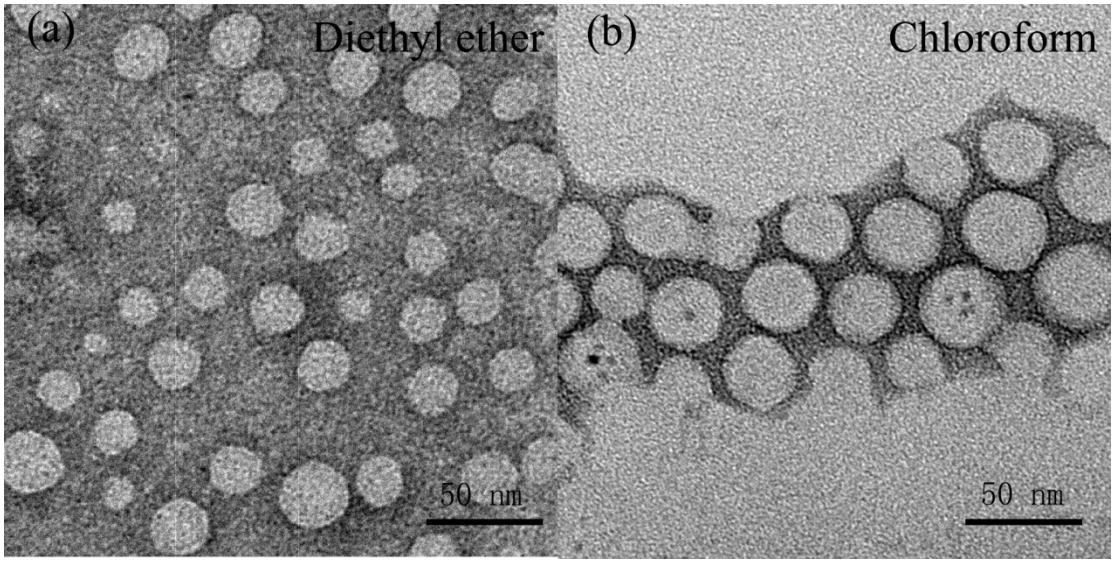
Electronic Supplementary Material (ESI) for RSC Advances.

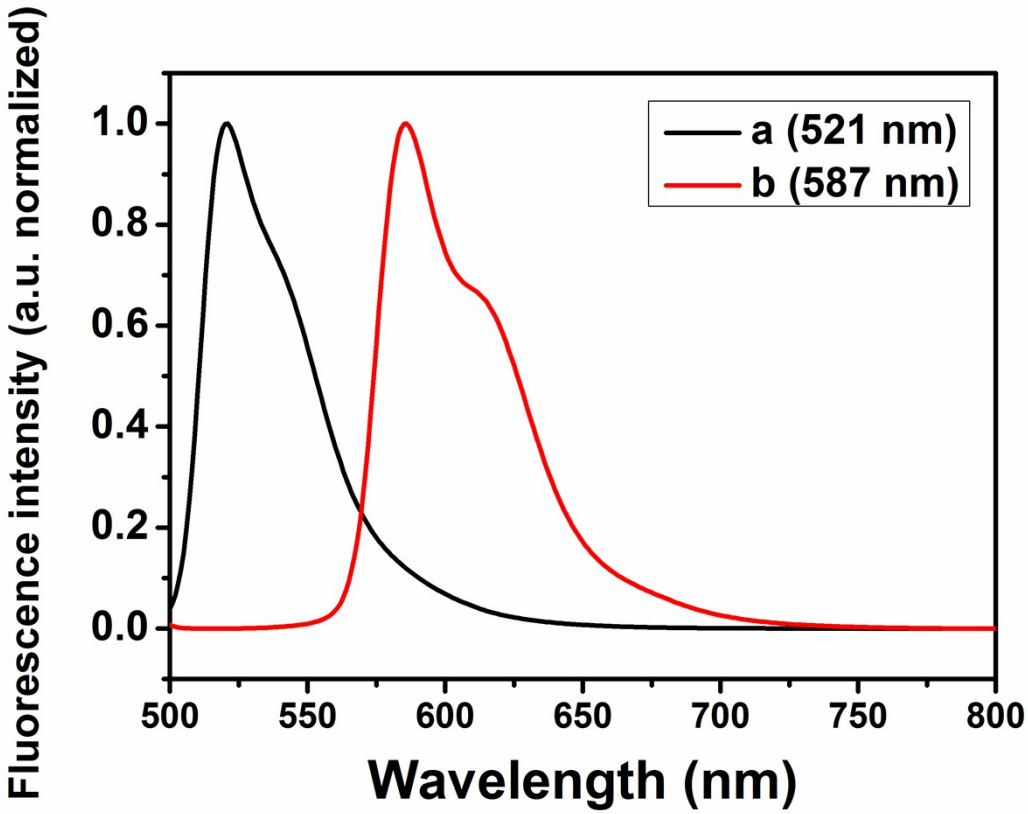
Supplementary data

	Solubility for hydrophobic QDs	Solubility for PS-PEG	Boiling point	Water miscibility
chloroform	Soluble	Soluble	61˚C	No
DCM	Soluble	Soluble	40˚C	No
THF	Soluble	Soluble	66˚C	Yes
Diethyl ether	Soluble	Soluble	35˚C	No
Acetone	Insoluble	Insoluble	56˚C	Yes
Acetonitrile	Insoluble	Insoluble	82˚C	Yes
Hexane	Soluble	Insoluble	69˚C	No
Ethanol	Insoluble	Insoluble	79˚C	Yes
Methanol	Insoluble	Insoluble	65˚C	Yes
Toluene	Soluble	Not tested	111˚C (higher than 100˚C)	No

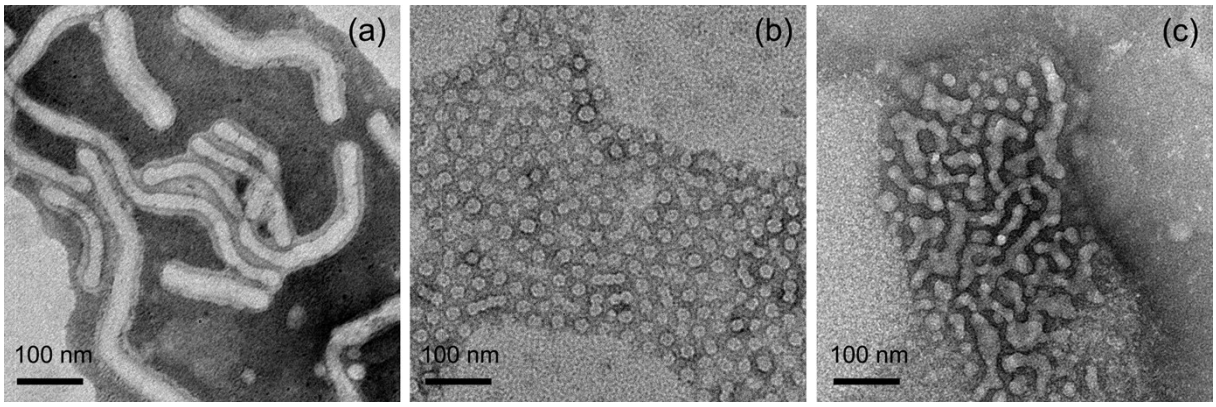
Supplementary Table1. Selected properties of the organic solvents considered for this work.



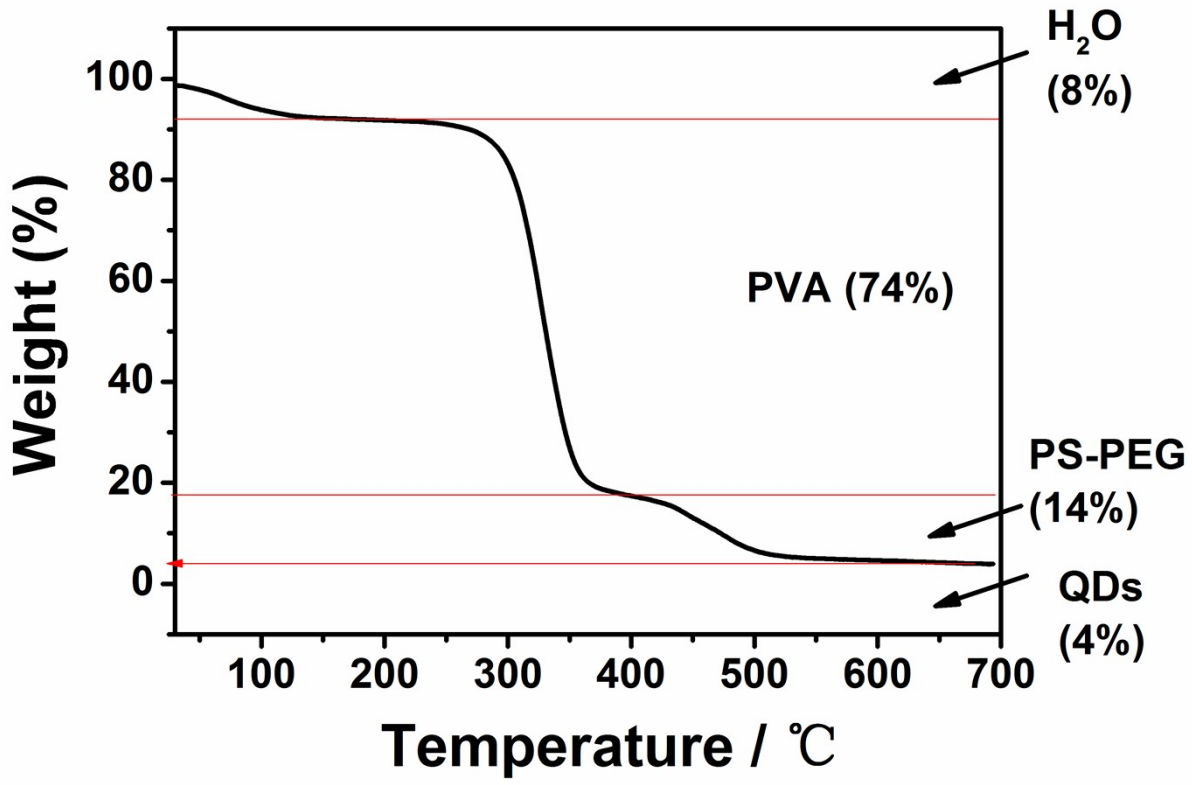
Supplementary Figure 1. (a, b) Representative transmission electron microscopy (TEM) images of micelles via diethyl ether and chloroform, respectively. Each of the dark spherical spots (several nanometers in diameter) in the TEM images corresponds to a quantum dot (QD).



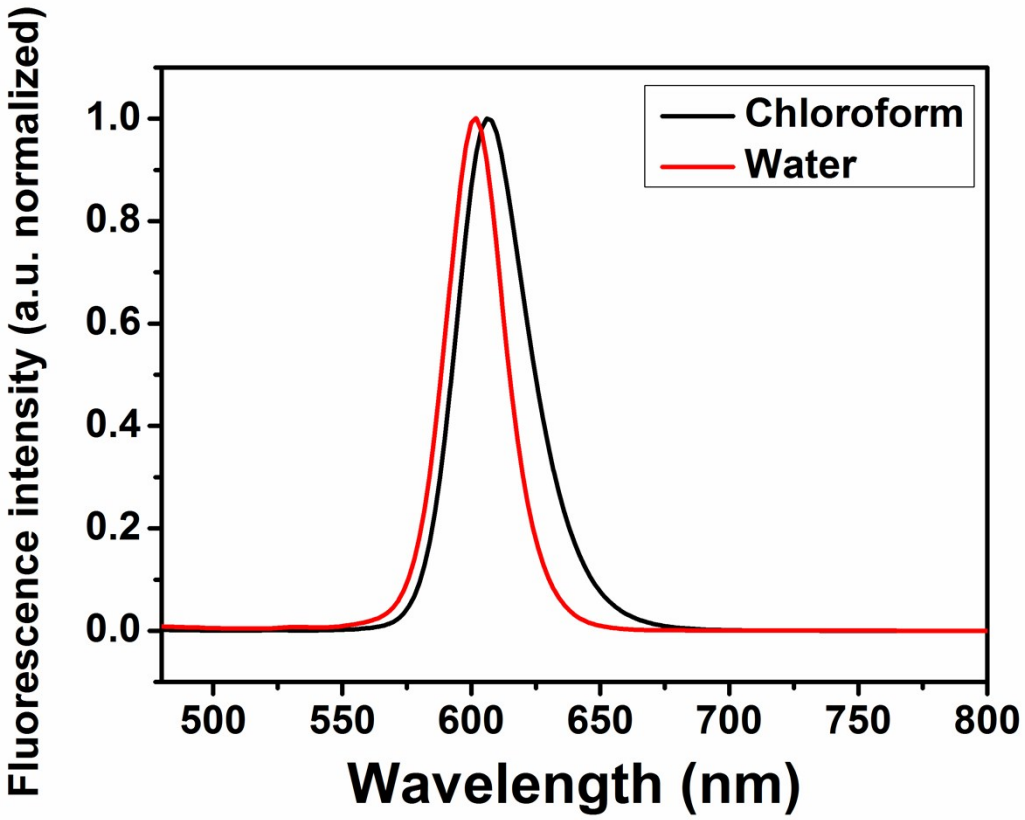
Supplementary Figure 2. Fluorescent spectra of the green hydrophobic fluorescent dye (a, emission peak 521 nm) and the orange hydrophobic fluorescent dye (b, emission peak 587 nm) used in the colocalization study. The excitation wavelength used for the measurements was 488 nm.



Supplementary Figure 3. Empty micelles and dye-encapsulated micelles change shape (from spherical to worm-like shape) over time with THF as the organic solvent. (a) Transmission electron microscopy (TEM) image of empty micelle product with the electrospray time being 60 min. (b) Transmission electron microscopy (TEM) image of the dye-encapsulated micelle product with the electrospray time being 30 min. (c) Transmission electron microscopy (TEM) image of the dye-encapsulated micelle product with the electrospray time being 60 min.



Supplementary Figure 4. Thermogravimetric analysis (TGA) of micellar nanocrystals (representative result).



Supplementary Figure 5. Fluorescent spectra of micellar nanocrystals (in water, red line) and hydrophobic QDs in chloroform (black line). The concentration of micellar nanocrystals (in water) was typically lower than that of hydrophobic QDs in chloroform; here the height of the fluorescent peak of micellar nanocrystals (in water) was normalized to be the same as that of hydrophobic QDs in chloroform.