
Electronic Supporting Information

for the manuscript

Microparticles of phosphonate-functionalized copolymers and their composites with CdTe nanocrystals prepared by sonication-precipitation

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Stability trials

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Dispersions of the polymers **3,4b** in combination to red-emitting CdTe nanocrystals were prepared according to the precipitation-sonication procedure. Polymers of 10^{-4} mol/L concentration were used, while the CdTe concentration was varied from 1×10^{-5} to 6×10^{-5} mol/L. Each time 1 mL of the dispersions was subjected to centrifugation applying different time intervals and centrifugation velocities. Subsequently, the optical characterization of the supernate and the precipitate were investigated by means of fluorescence
35 spectrophotometry. Table S1 shows the experimental parameters applied during centrifugations when the 6×10^{-5} mol/L CdTe concentration was utilized while a single experiment was performed for the 10^{-5} mol/L nanocrystal concentration (3 min, 14500 rpm). Figures S1 and S2 illustrate the emission of the supernates and precipitates of composites **3b**+CdTe and **4b**+CdTe respectively for the highest nanocrystal concentration (6×10^{-5} mol/L). The experiment with the lower nanocrystal concentration is exemplarily shown in figure S3 for the composite with polymer **3b**.

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Table S1. Experimental parameters of the centrifugation trials.

3b+CdTe		4b+CdTe	
Time (min)	Velocity (rpm)	Time (min)	Velocity (rpm)
1	1600	1	1600
1	3000	1	3000
1	6000	1	6000
1	10000	1	10000
1	13000	1	13000
3	13000	3	13000

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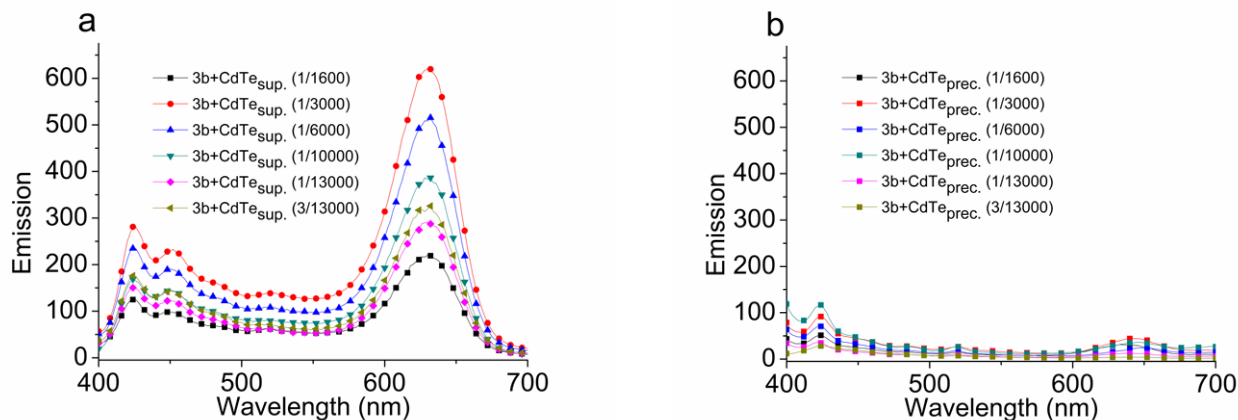


Figure S1. Fluorescence spectra of the supernate (a) and the precipitate (b) of the **3b**+CdTe systems (C_{3b} : 10^{-4} mol/L and C_{CdTe} : 6×10^{-5} mol/L, λ_{exc} : 380 nm) which were prepared by the precipitation-sonication procedure, followed by centrifugation at different time intervals and velocities (see Table S1).

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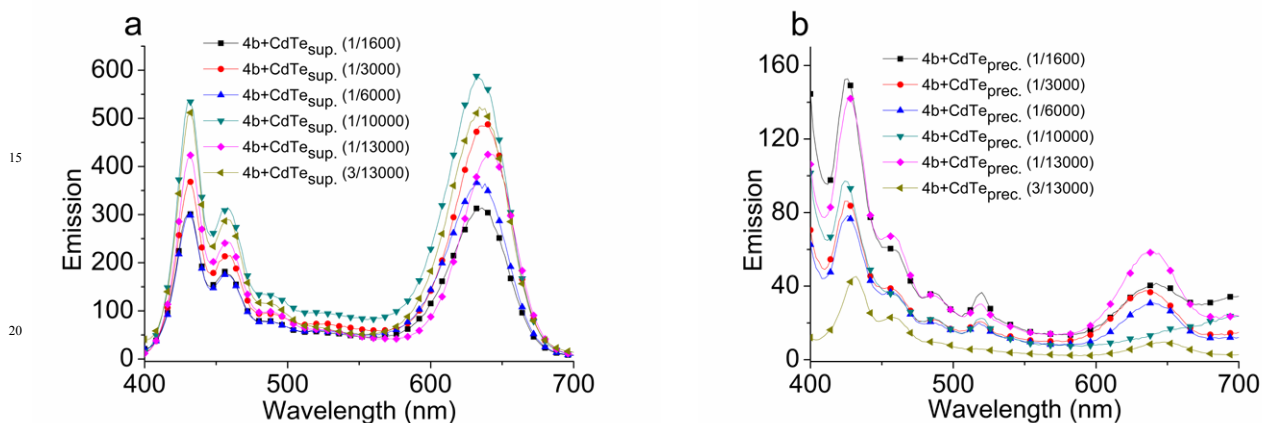


Figure S2. Fluorescence spectra of the supernate (a) and the precipitate (b) of the **4b**+CdTe systems (C_{4b} : 10^{-4} mol/L and C_{CdTe} : 6×10^{-5} mol/L, λ_{exc} : 380 nm) which were prepared by the precipitation-sonication procedure, followed by centrifugation at different time intervals and velocities (see Table S1).

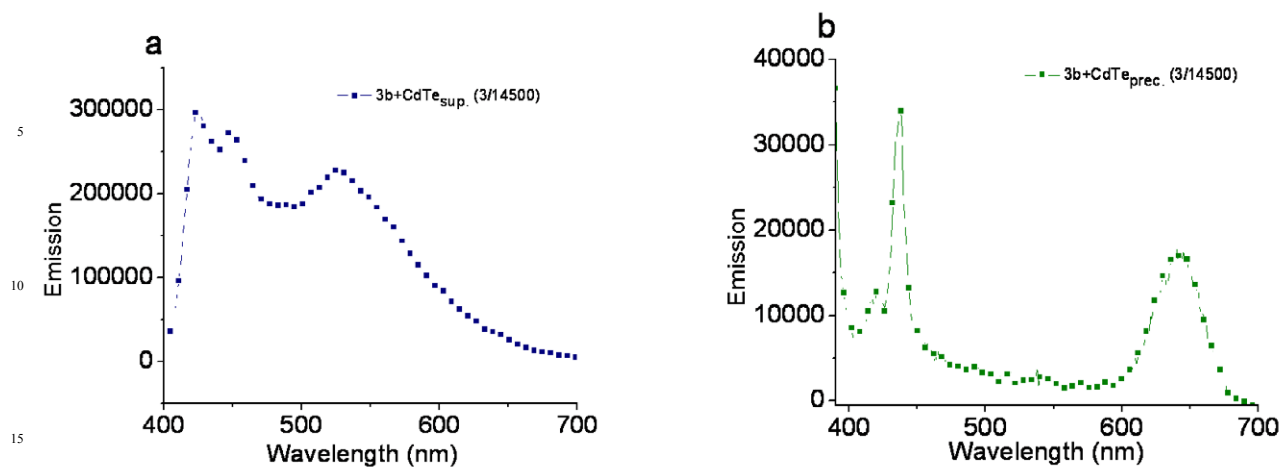
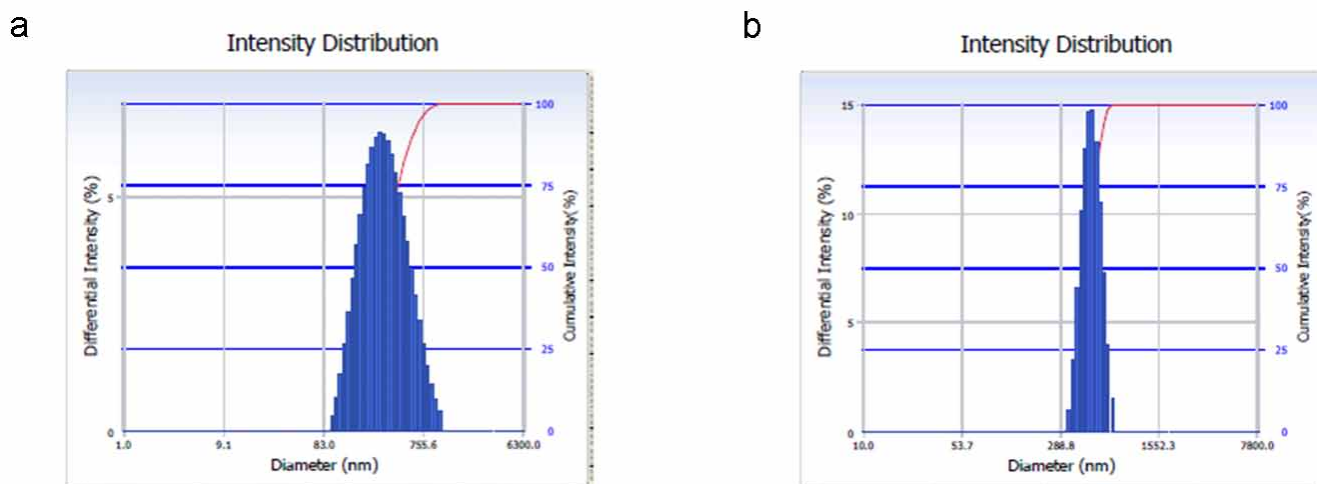


Figure S3. Fluorescence spectra of the supernate (a) and the precipitate (b) of the **3b**+CdTe system (C_{3b} : 10^{-4} mol/L and C_{CdTe} : 1×10^{-5} mol/L, λ_{exc} : 380 nm) which were prepared by the precipitation-sonication procedure, followed by centrifugation for 3 minutes at a velocity of 14500 revolutions per minute.

20 Dynamic light scattering measurements



Distribution Results (Contin)

Peak	Diameter (nm)	Std. Dev.
1	353.9	186.9
2	0.0	0.0
3	0.0	0.0
4	0.0	0.0
5	0.0	0.0
Average	353.9	186.9

Residual : 8.186e-003 (O.K)

Distribution Results (Contin)

Peak	Diameter (nm)	Std. Dev.
1	488.2	79.9
2	0.0	0.0
3	0.0	0.0
4	0.0	0.0
5	0.0	0.0
Average	488.2	79.9

Residual : 1.227e-002 (O.K)

Figure S4. Dynamic light scattering measurements of the **3b**+CdTe_{red} (a) and **4b**+CdTe_{red} (b) composite systems illustrated as intensity distribution plots. The dispersions of the composites were prepared in water using 10^{-3} mol/L polymer concentration and 1×10^{-4} mol/L CdTe concentration.