Supplementary Material (ESI) for Journal of Materials Chemistry

Supplementary Information

Incorporating of anionic dyes into silica nanoparticles by using cationic polyelectrolyte as bridge

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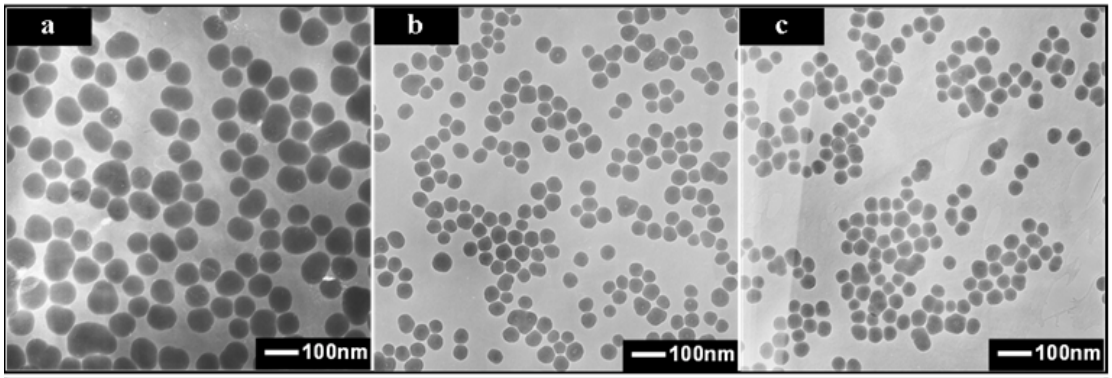

	a	b	c
n_n/n_p -HPTS	0.062	0.500	0.062
n_n/n_p -HPTS+EDTA	-	-	0.500
Zeta-potential	19.9 mv	2.8 mv	2.9 mv
Diameter (TEM)	73.8 nm	42.3 nm	45.2 nm

Figure S1. TEM images of the resultant particles prepared from the complexes with different n_n/n_p ratios. In (c), negatively charged EDTA was added to increase the n_n/n_p ratio from 0.062 to 0.500. As a result, both the zeta-potential of the complex and the diameter of the resultant particles were comparable with those of the complexes with original n_n/n_p ratio of 0.500.

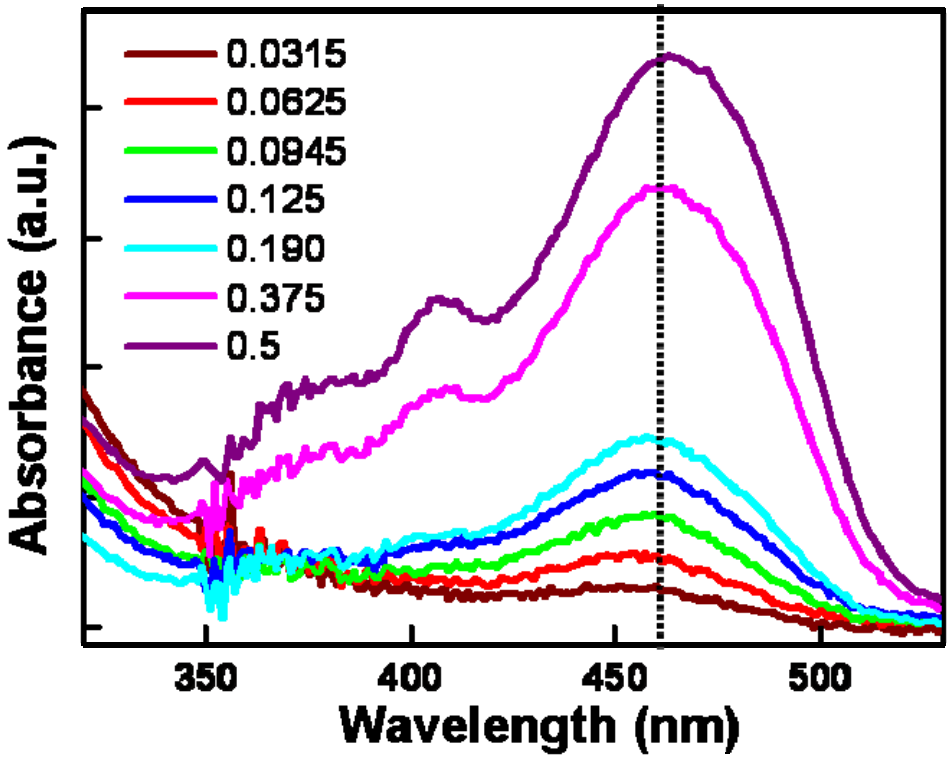

Figure S2. Absorption spectra of the HPTS-doped silica particles with different n_n/n_p ratios.

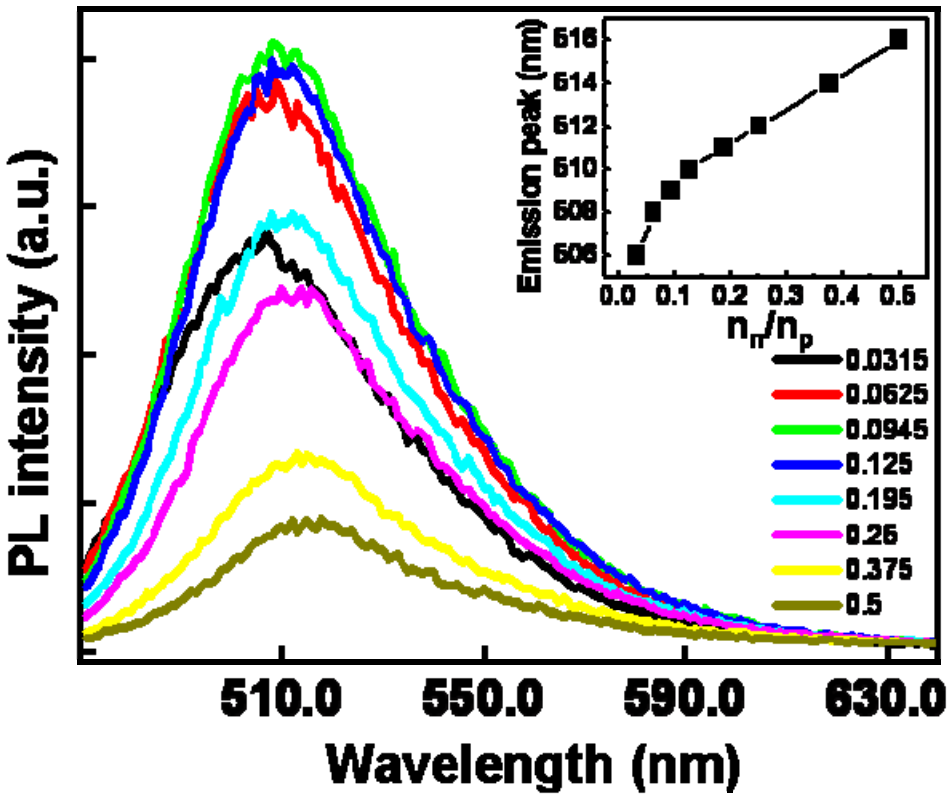

Figure S3. Fluorescence spectra of the HPTS-doped silica particles with different n_n/n_p ratios. Insert: variation of the emission maxima of the particles with n_n/n_p ratios.

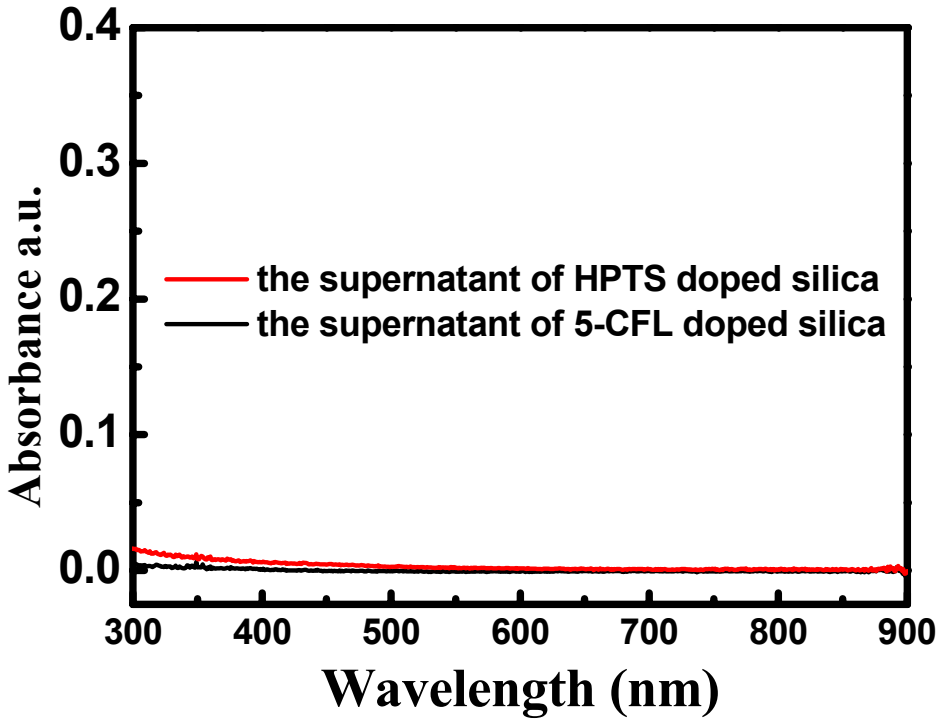

Figure S4. Absorption spectra of the supernatants of HPTS and 5-CFL doped silica particle dispersions after 2 month standing at room temperature. The silica particles were dispersed in 0.1 M PBS buffer solution (pH=7.4). No absorbance of the dyes was detectable in the supernatants, indicating there was almost no leakage of the dyes from the particles even after the 2 month standing.