



Supporting Information

for

Ceria/polymer nanocontainers for high-performance encapsulation of fluorophores

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Chemical structure of TDI, absorption and emission spectra of TDI, EDX spectra, TGA, and additional photoluminescence emission spectra of samples

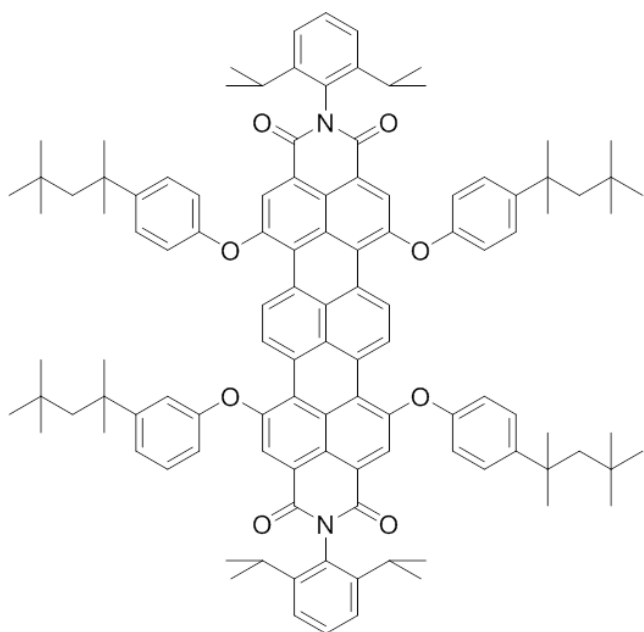


Figure S1: Chemical structure of *N,N'*-(2,6-diisopropylphenyl)-1,6,9,13-tetrakis[4-(1,1,3,3-tetramethylbutyl)phenoxy]terrylene-3,4,11,12-bis(dicarboximide) (TDI)

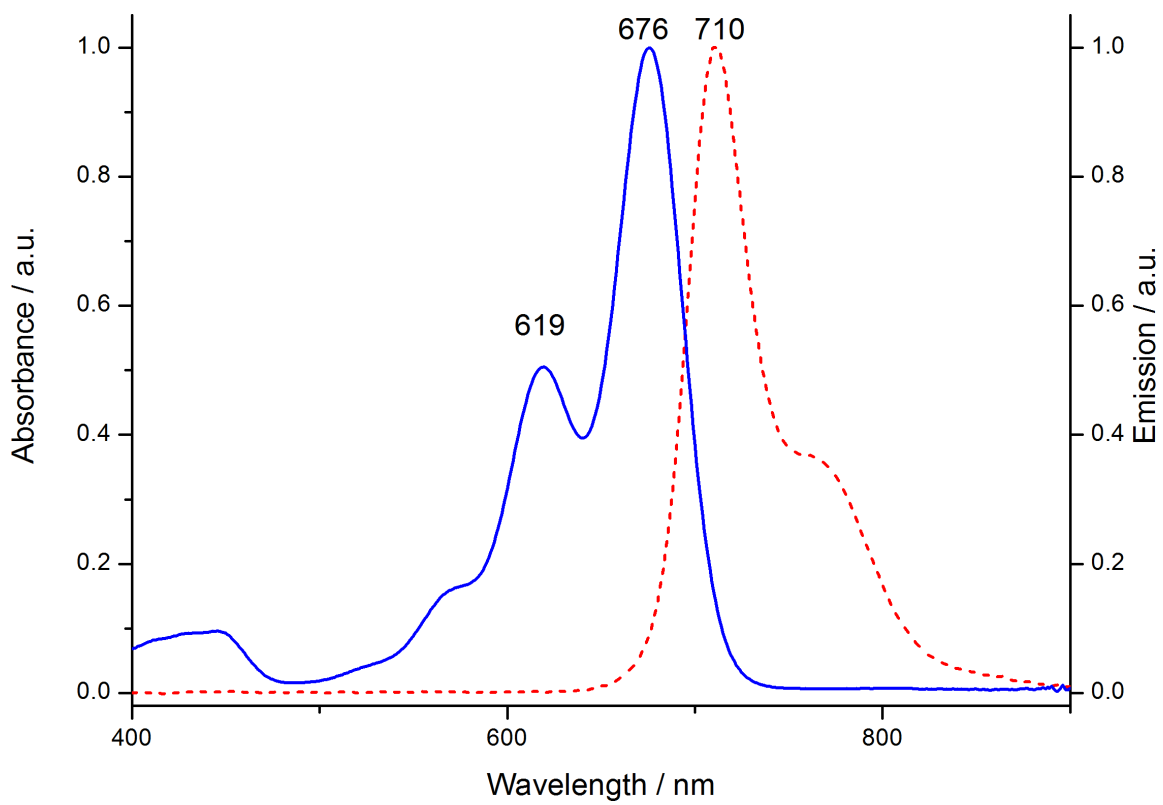


Figure S2: Absorption (blue curve) and fluorescence emission (red curve) spectra for TDI.

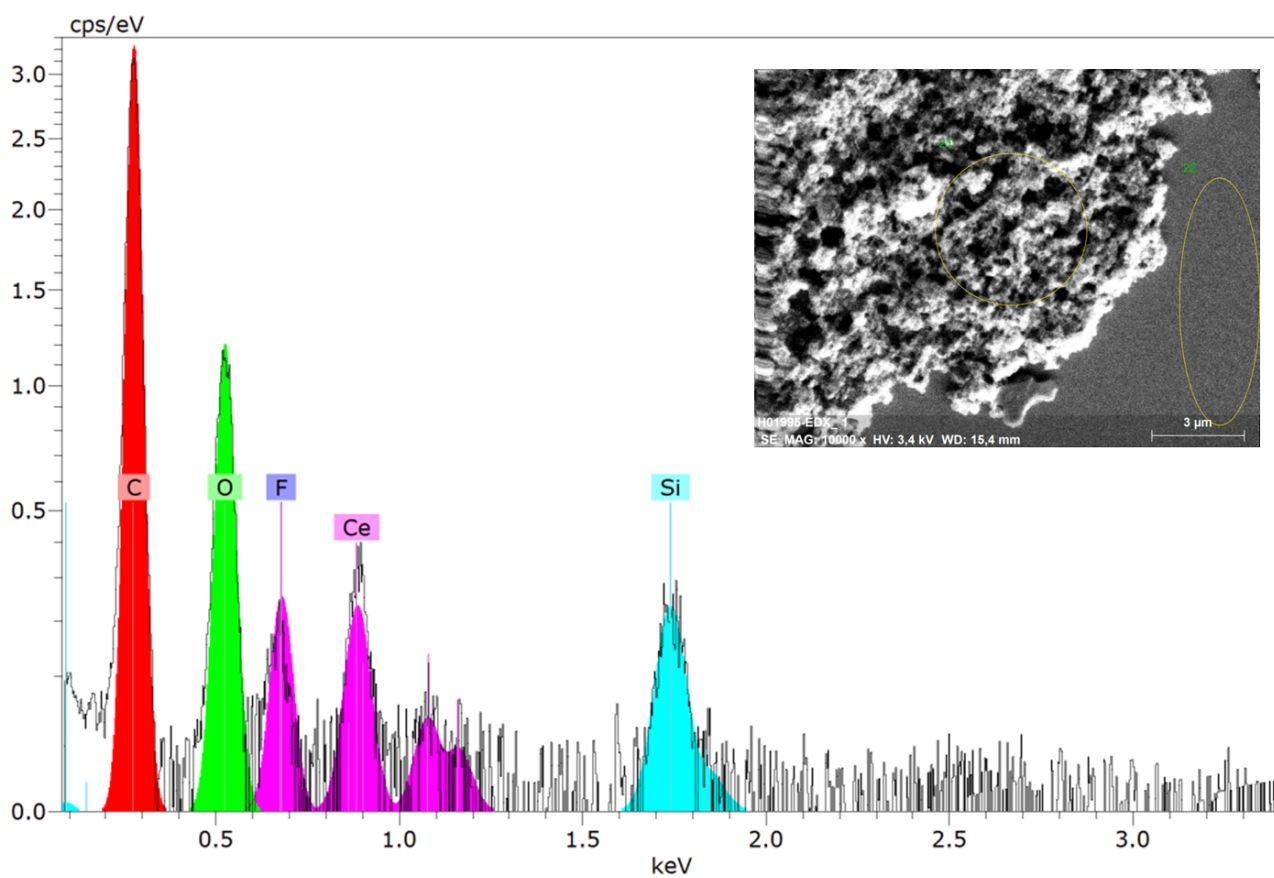


Figure S3: EDX spectrum and corresponding SEM image of hybrid polystyrene nanocapsules with CeO_2 on the surface (sample NC- CeO_2).

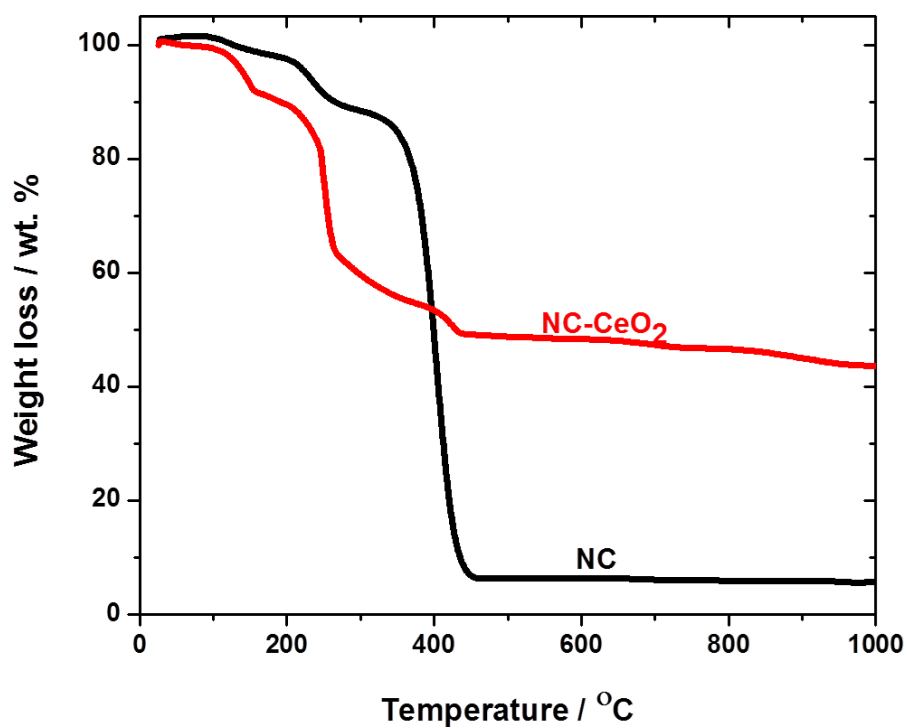


Figure S4: Thermogravimetric analysis curves of NC (black line, ambient conditions without cerium oxide) and NC-CeO₂ (red line, ambient conditions with cerium oxide).

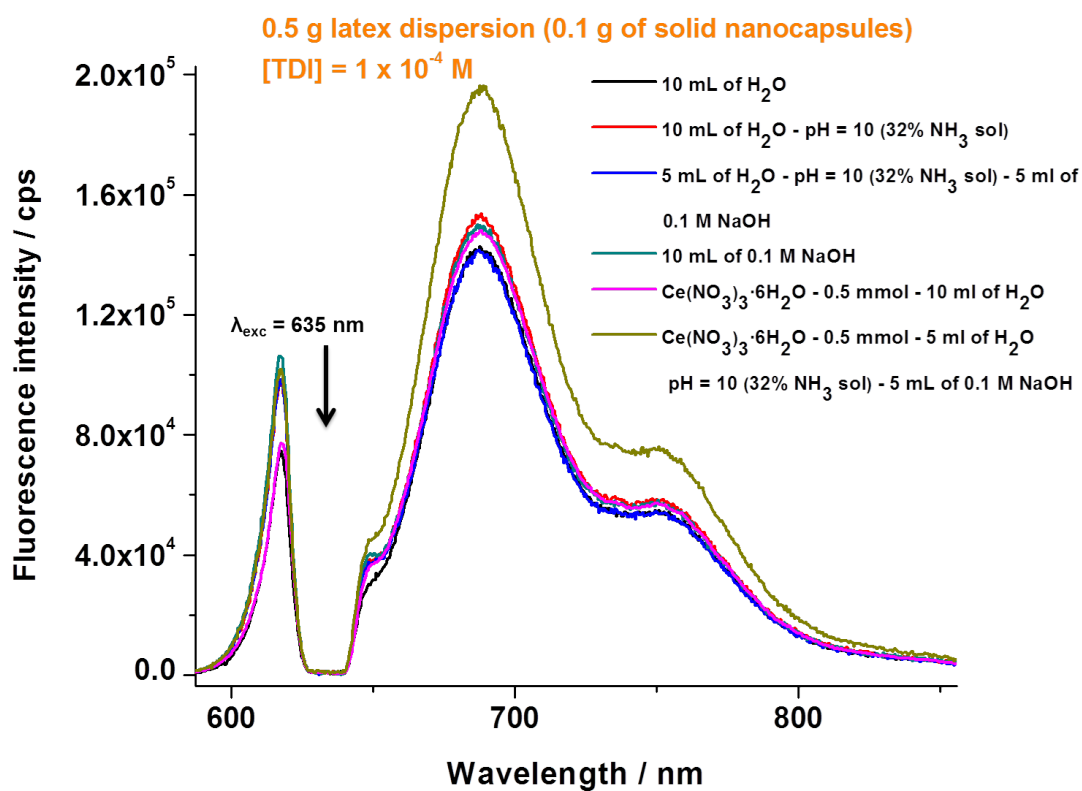


Figure S5: Luminescence spectra of terylene diimide encapsulated nanocapsules under various conditions. The excitation intensity of the laser (635 nm) was 0.2 W cm^{-2} .

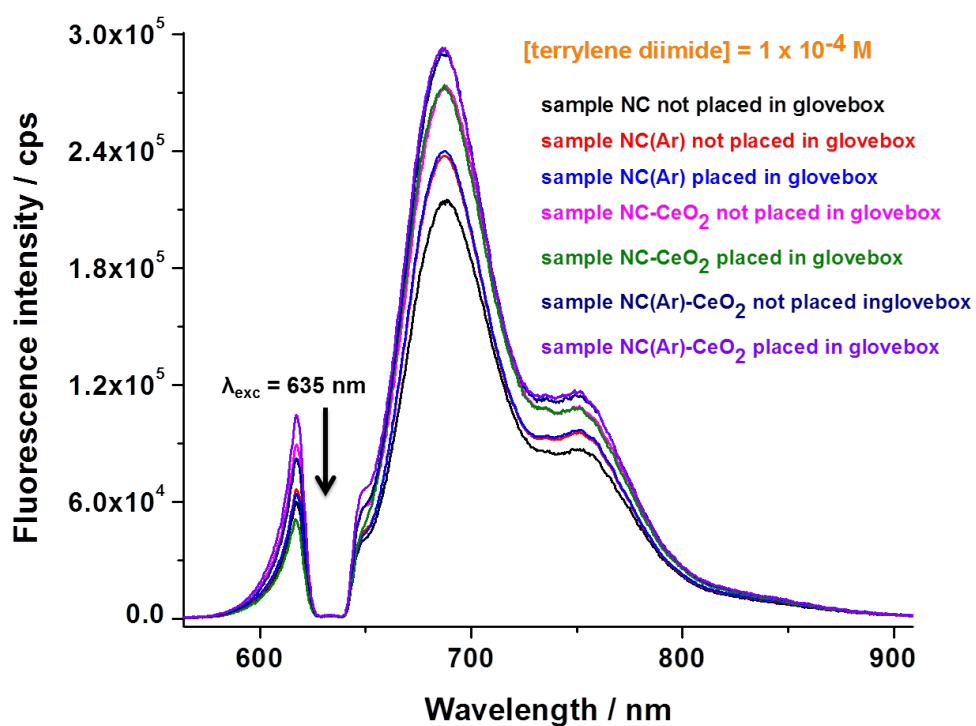


Figure S6: Luminescence emission spectra of samples encapsulating later terrylene diimide, placed and not placed in glovebox: **NC** (ambient conditions without CeO₂), **NC(Ar)** (argon conditions without CeO₂), **NC-CeO₂** (ambient conditions with CeO₂), and **NC(Ar)-CeO₂** (argon conditions with CeO₂). The excitation intensity of the laser (635 nm) was 0.2 W cm^{-2} .