Cerium Oxide Encapsulation by Emulsion Polymerization Using Hydrophilic MacroRAFT Agents

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**Figure S1:** Evolution of a) monomer conversion versus time and b) number-average molar mass $M_n$ (full symbols) and $D = M_w/M_n$ (open symbols) versus conversion (straight lines are the theoretical evolution of molar masses with conversion) for RAFT polymerizations of AA and AA/BA (50/50 mol/mol) carried out with CTPPA as control agent. See the Experimental Section for detailed conditions.
Figure S2: Size exclusion chromatograms from chain extensions experiments. a) Polymerization of AA from PAA$_{38}$-CTPPA macroRAFT agent. b) Polymerization of BA from P(AA$_{11}$-co-BA$_{11}$)-CTPPA. Both polymerizations were performed at 70°C in 1,4-dioxane using ACPA as initiator.

Figure S3: Small-angle X-ray scattering intensity profiles of CeO$_2$ nanoclusters (black circles), CeO$_2$/PAA$_{38}$-CTPPA (gray circles) and CeO$_2$/P(AA$_{11}$-co-BA$_{11}$)-CTPPA (open circles). For clarity, intensity values obtained for CeO$_2$ clusters and CeO$_2$/PAA$_{38}$-CTPPA have been multiplied by 10.
Figure S4: TEM image of the latex prepared from PAA$_{38}$-CTPPA-coated CeO$_2$ nanoclusters (Latex 1). The suspension was deposited on a carbon/formvar-coated copper grid and allowed to evaporate.