

Supporting Information

Precise preparation of highly monodisperse $\text{ZrO}_2@\text{SiO}_2$ core-shell nanoparticles with adjustable refractive index

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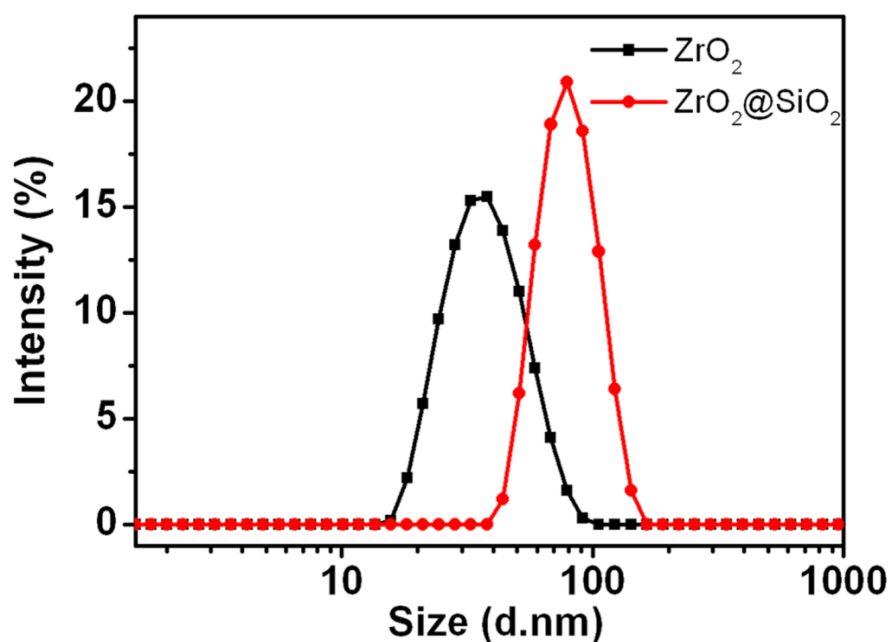


Fig.S1 Size distribution of ZrO_2 nanoparticles and resulted $\text{ZrO}_2@\text{SiO}_2$ CSNs.

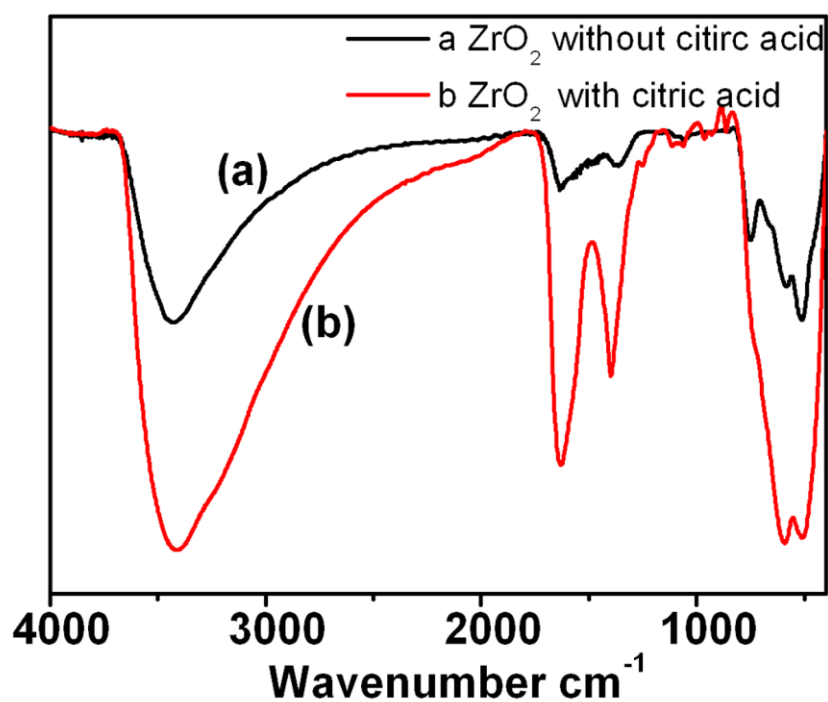


Fig.S2 FT-IR spectra of ZrO_2 prepared without (a) and with (b) citric acid.

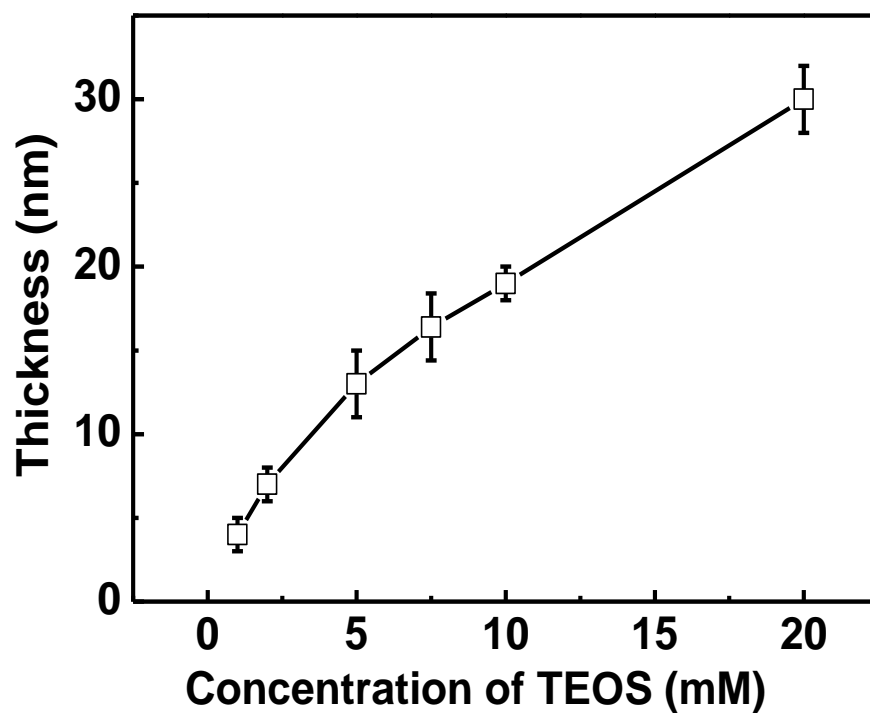


Fig. S3 The change of silica shell thickness prepared by different concentrations of TEOS.

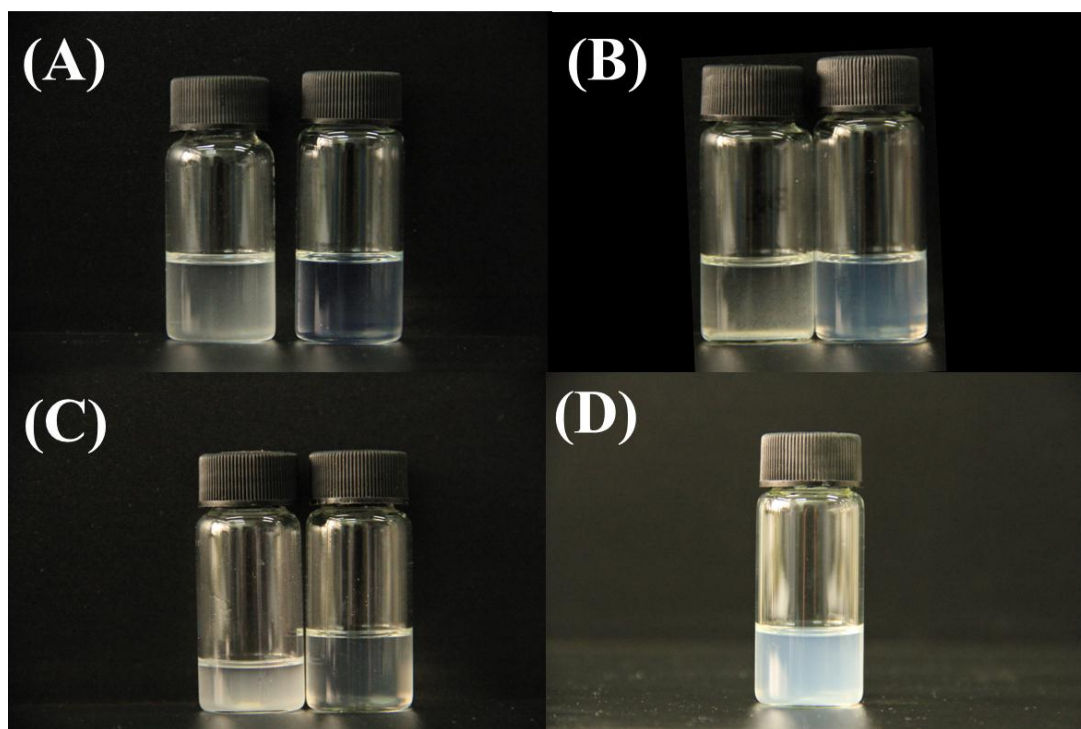


Fig.S4 Comparison photos of ZrO_2 nanoparticles (left) and methyl modified $\text{ZrO}_2@\text{SiO}_2$ nanoparticles (right) dispersed in (A) dimethyl benzene, (B) isoamyl alcohol and (C) chloroform. (D) is the dispersion of modified $\text{ZrO}_2@\text{SiO}_2$ in ethanol.

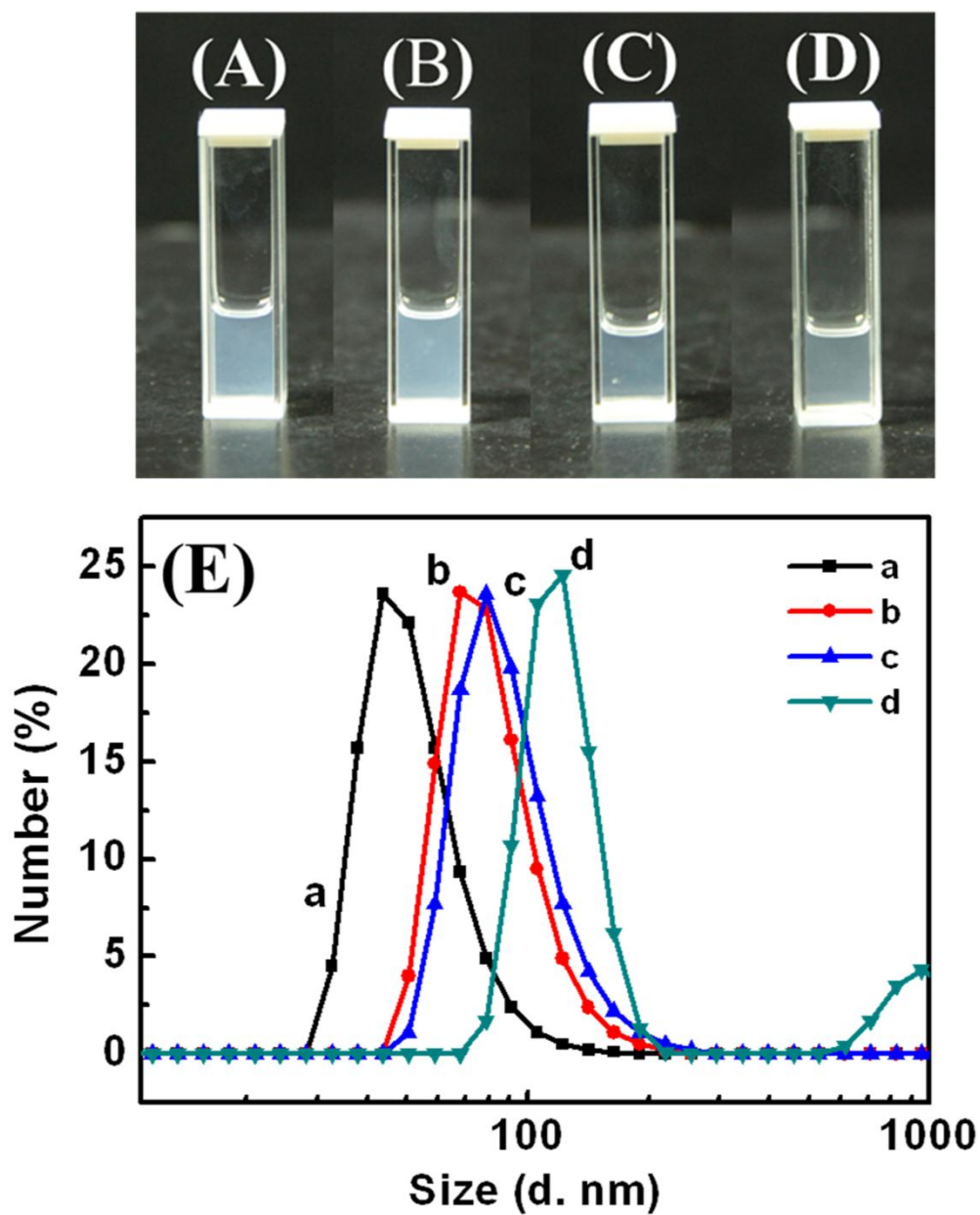


Fig.S5 Photographs of CSNs dispersed in different conditions after storage for more than 2 months: (A) $\text{ZrO}_2@\text{SiO}_2$ CSNs in ethanol; (B) to (D) are the photos of MTES modified $\text{ZrO}_2@\text{SiO}_2$ CSNs dispersed in ethanol, isoamyl alcohol and chloroform, respectively. (E) is the corresponding DLS curves of (A) to (D).