

Supplementary information for “Synthesis of monocarboxylic acid-modified CeO₂ nanoparticles using supercritical water”

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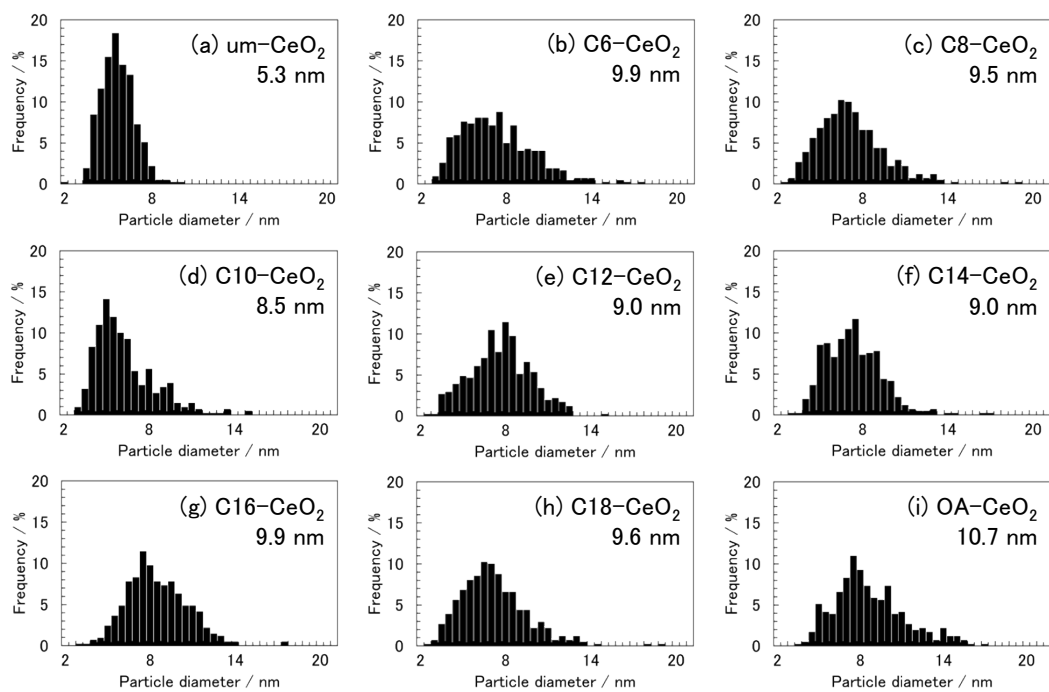


Figure S1. Particle size distributions from the STEM images of the products: (a) **um-**, (b) **C6-**, (c) **C8-**, (d) **C10-**, (e) **C12-**, (f) **C14-**, (g) **C16-**, (h) **C18-**, and (i) **OA-CeO₂**.

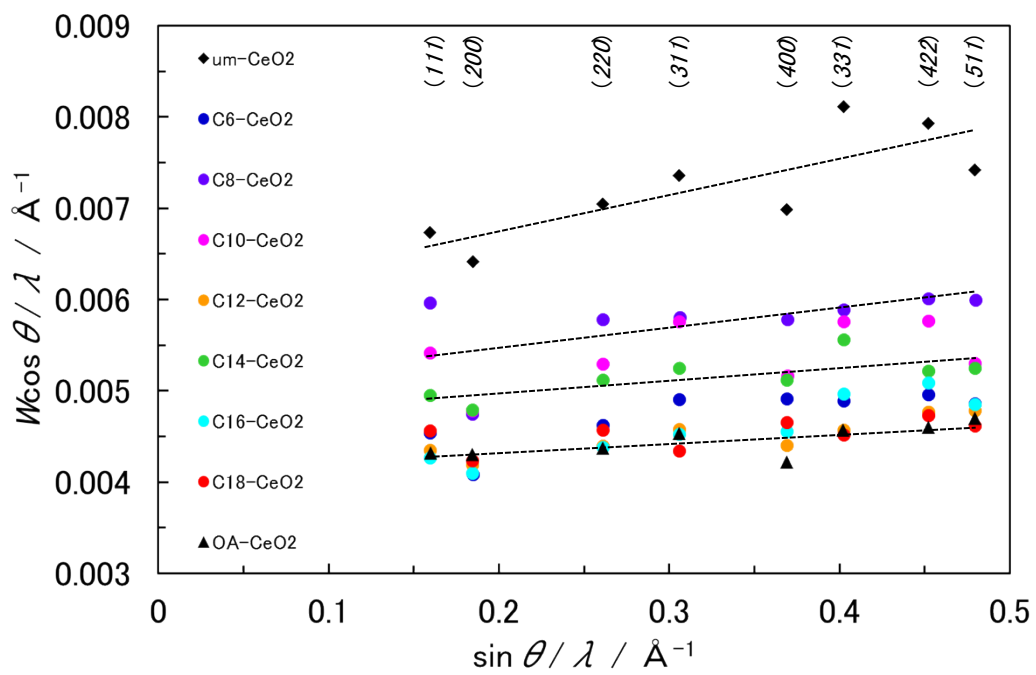


Figure S2. Indexed Williamson–Hall plots of the products.

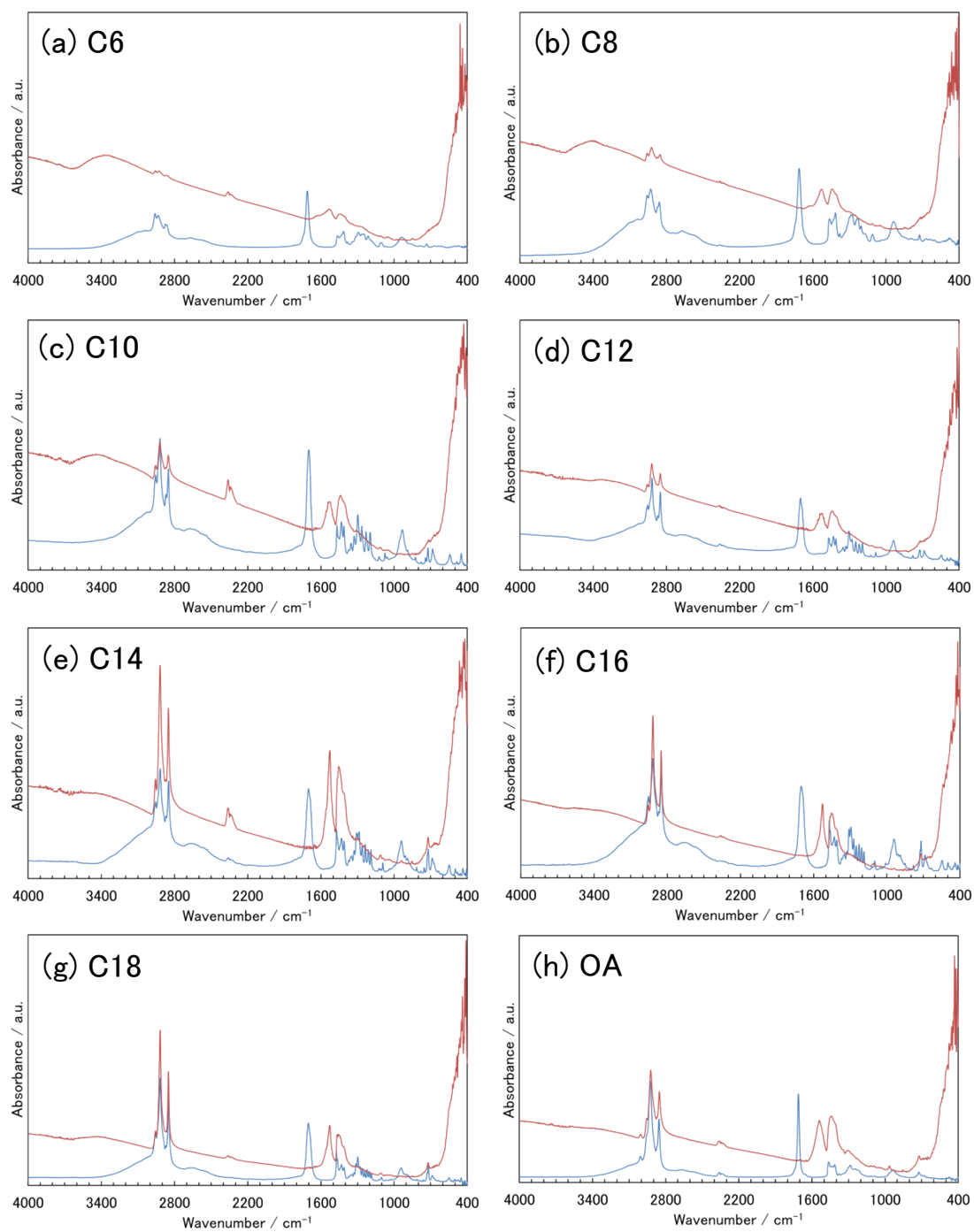


Figure S3. FT-IR spectra of the original surface modifiers (blue line), and its modified CeO_2 products (red line): (a) C6-, (b) C8-, (c) C10-, (d) C12-, (e) C14-, (f) C16-, (g) C18-, and (h) OA- CeO_2 .

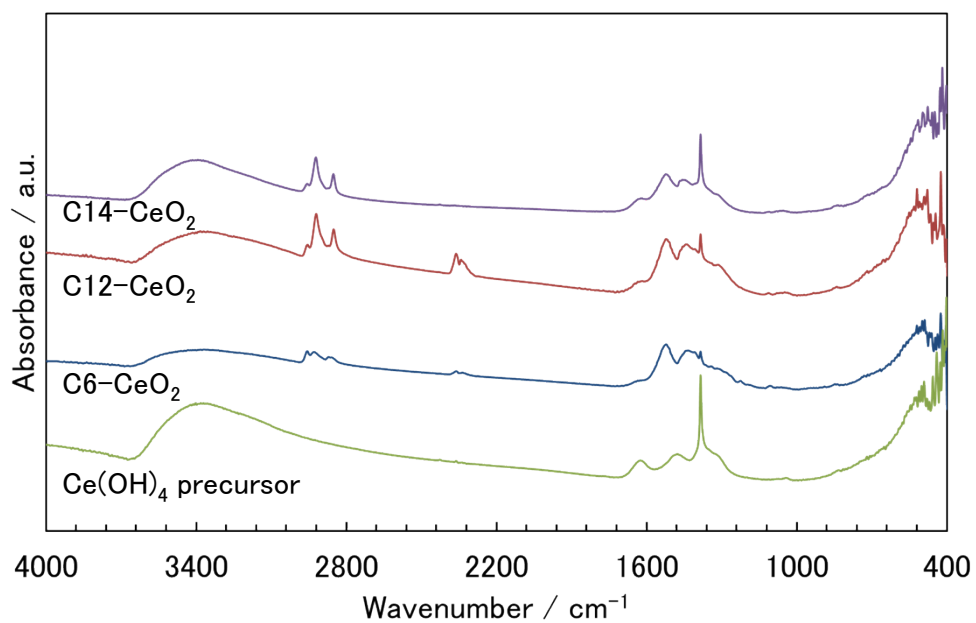


Figure S4. ^aFT-IR spectra of the Ce(OH)₄ precursor and intermediates for the C6-, C12-, C14-CeO₂ at 400 °C for 0 min.

^aThe reaction vessel was heat-treated at temperatures from room temperature to 400 °C i.e., the reaction time means the heat-up time for about 15 min.

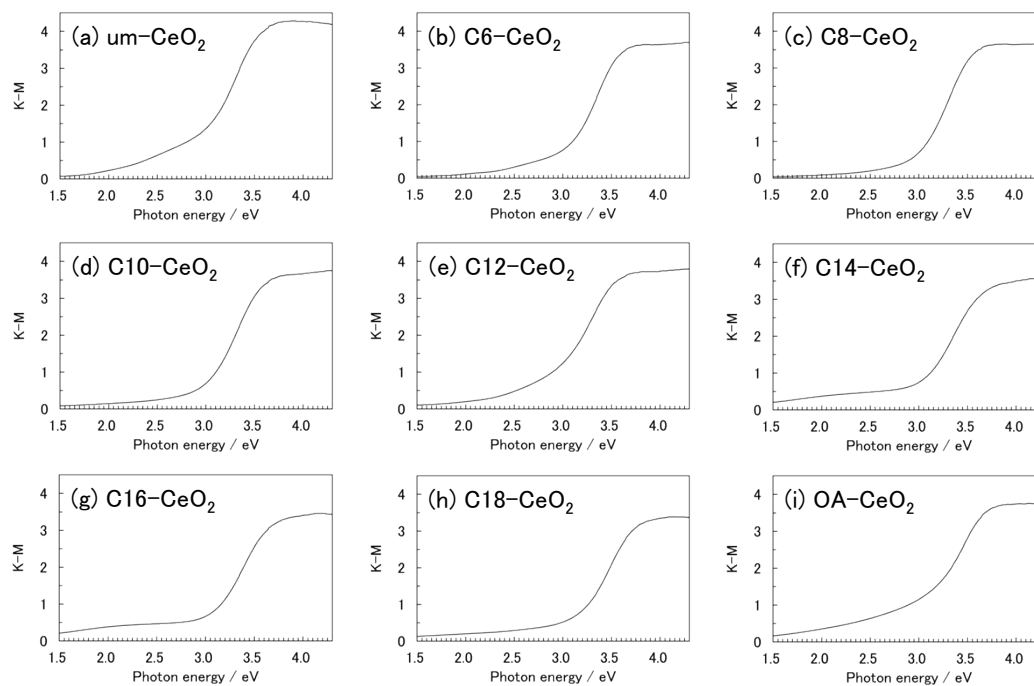


Figure S5. UV-Vis powder diffuse-reflectance spectra of the products: (a) **um-**, (b) **C6-**, (c) **C8-**, (d) **C10-**, (e) **C12-**, (f) **C14-**, (g) **C16-**, (h) **C18-**, and (i) **OA-CeO₂**.