



Supplementary Materials

A Flexible and Robust Structural Color Film Obtained by Assembly of Surface-Modified Melanin Particles

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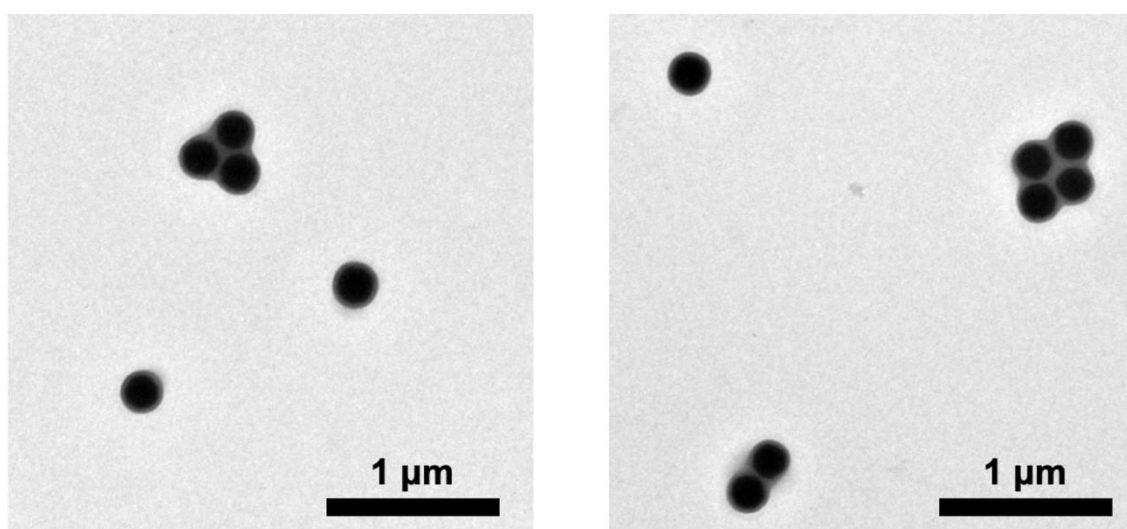


Figure S1. TEM images of $\text{CeO}_2\text{@PDA@PHEA}(24)$ particles measured at low magnification.

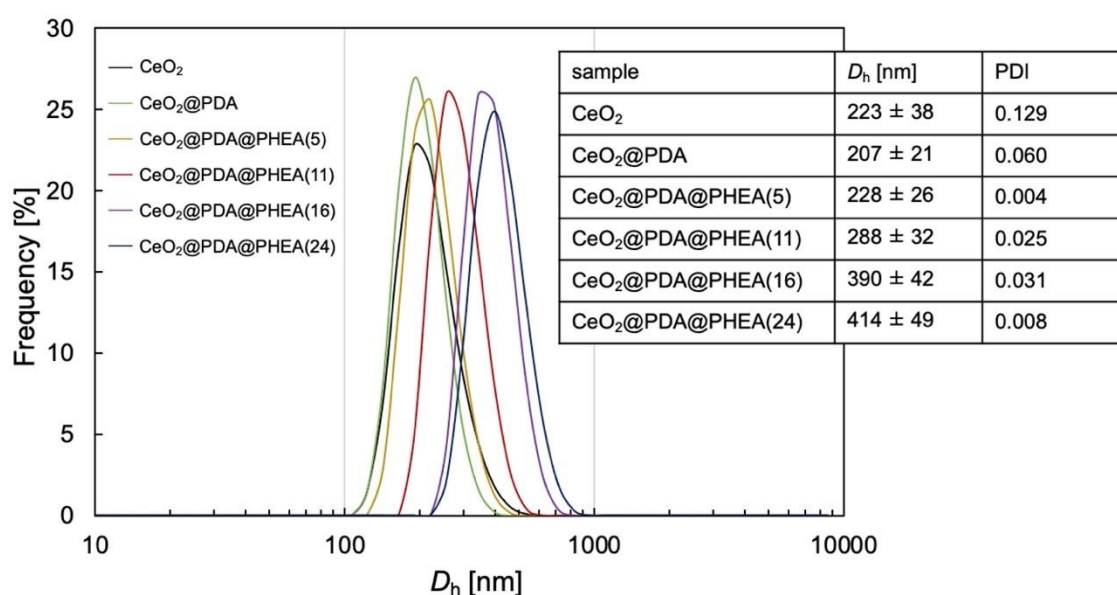


Figure S2. Hydrodynamic diameter (D_h) of $\text{CeO}_2\text{@PDA@PHEA}(X)$ particles dispersed in water as measured by DLS.

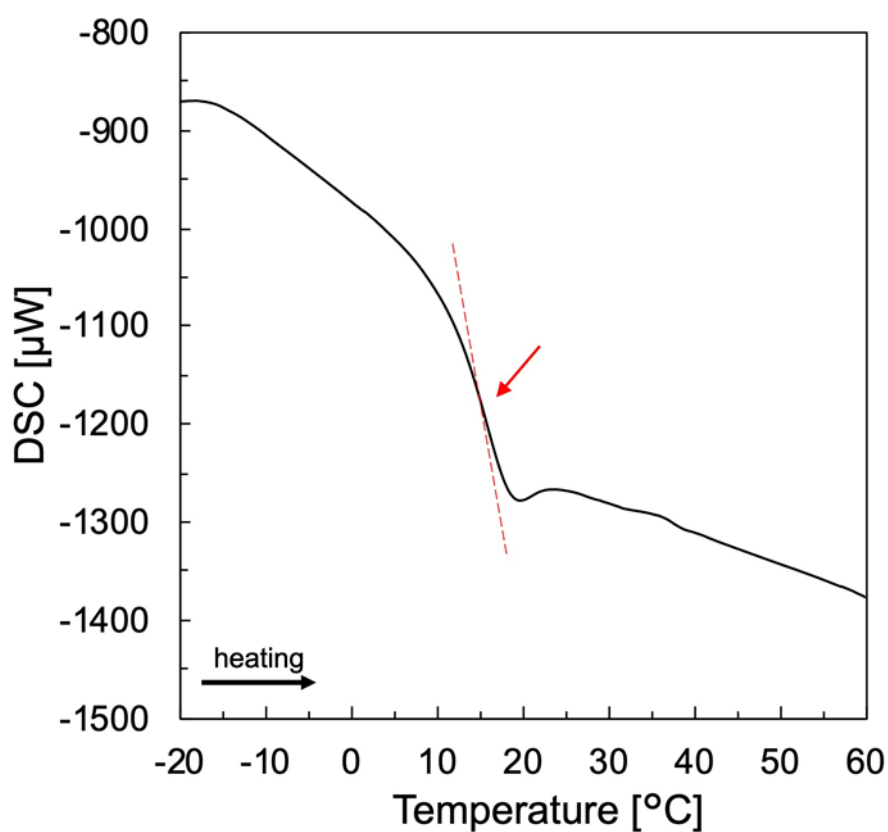


Figure S3. DSC curve of CeO₂@PDA@PHEA(24) particles in N₂ at a 10 °C min⁻¹ heating rate. The red arrow indicates the T_g of the sample.

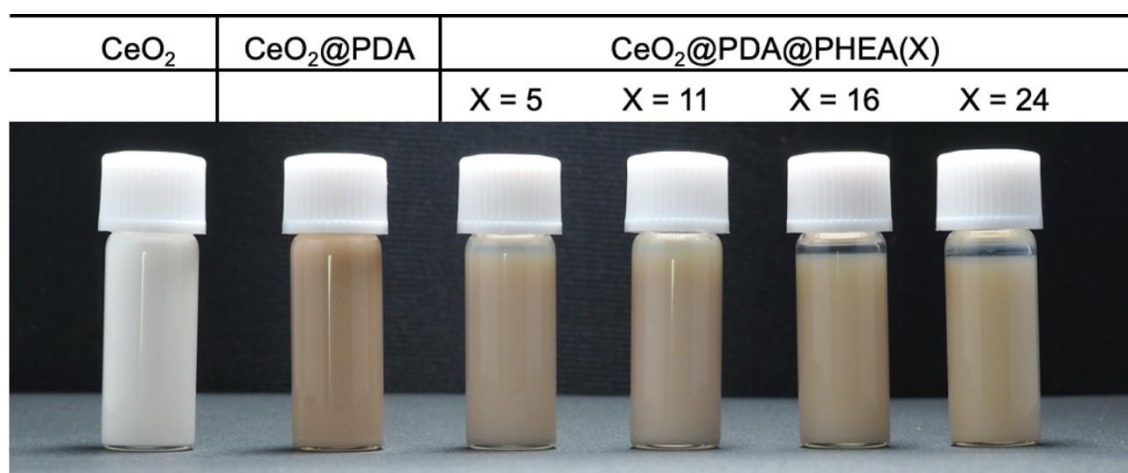


Figure S4. Photographs of aqueous dispersions of CeO₂, CeO₂@PDA, and CeO₂@PHEA(X) particles (particle concentration: 1 wt%).

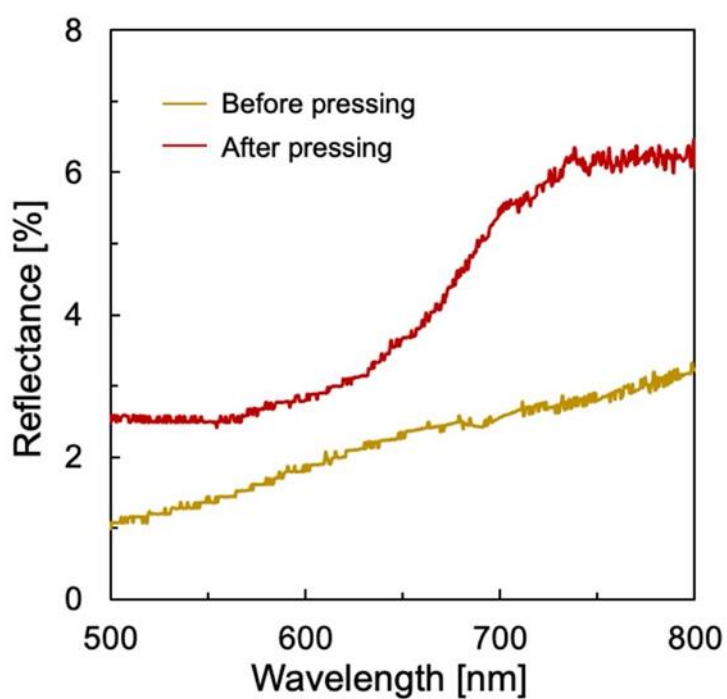


Figure S5. Reflection spectra of CeO₂@PDA@PHEA(16) films before and after hot pressing.

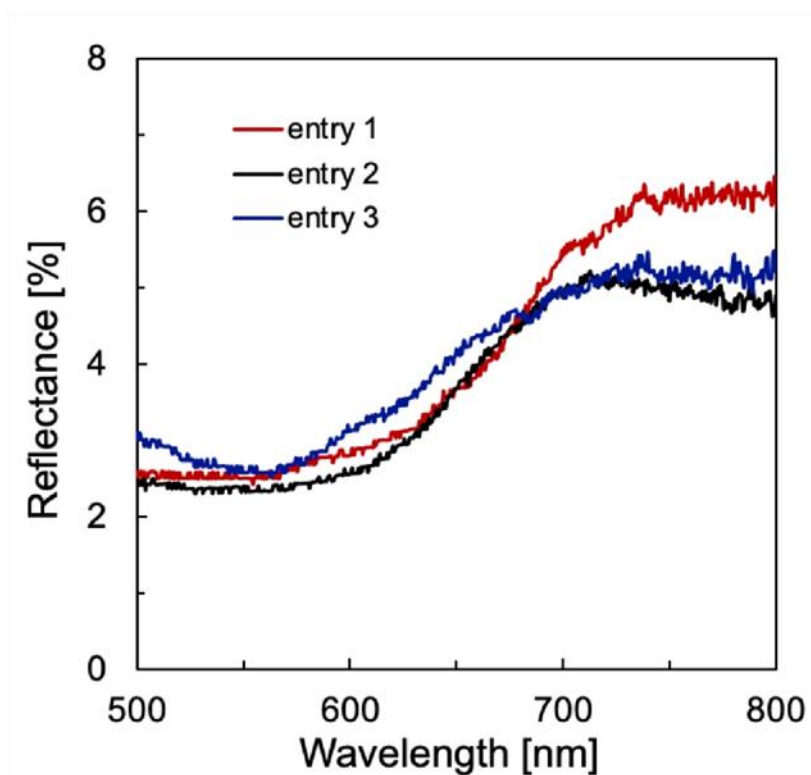


Figure S6. Reflection spectra of three separately prepared CeO₂@PDA@PHEA(16) films.

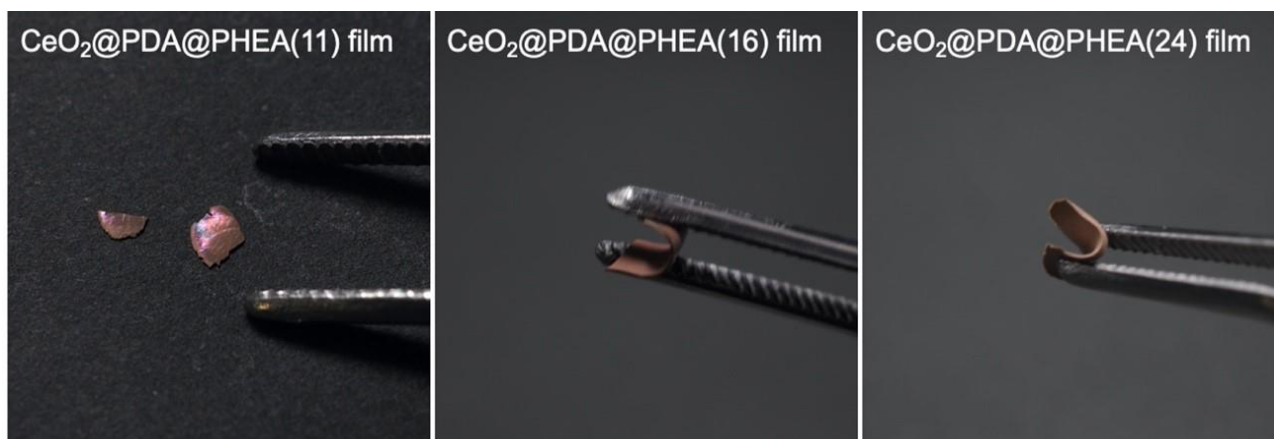


Figure S7. Photographs of $\text{CeO}_2\text{@PDA@PHEA}(X)$ films during the bending.

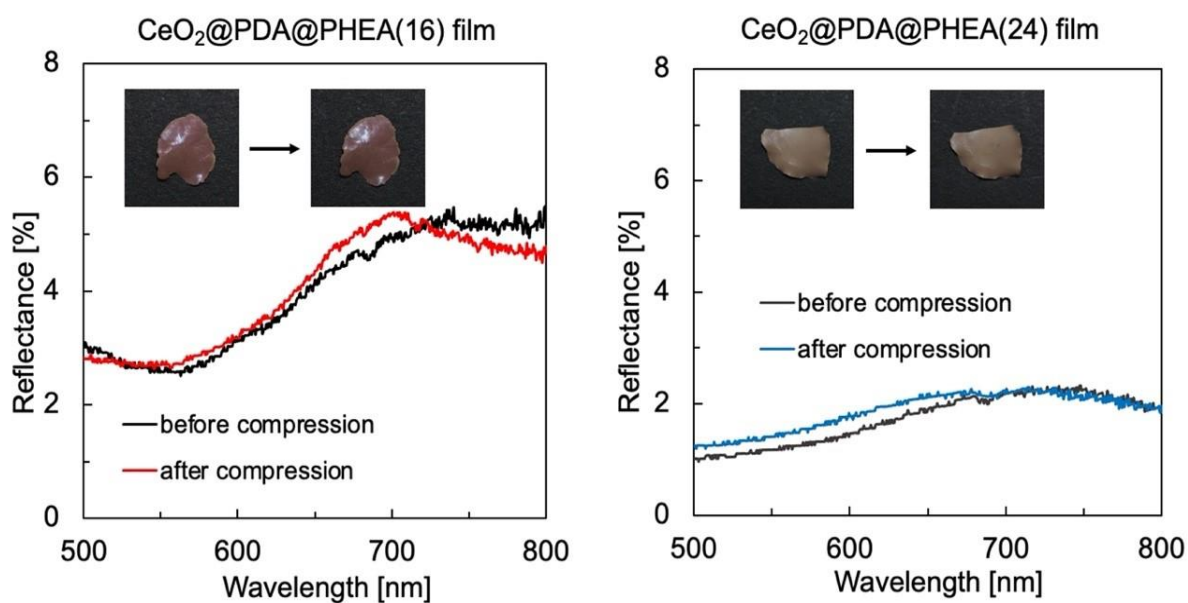


Figure S8. Reflectance spectra of $\text{CeO}_2\text{@PDA@PHEA}(16)$ and $\text{CeO}_2\text{@PDA@PHEA}(24)$ films before and after compression test. The inset shows photographs of the samples before and after the compression test. The center of the films was compressed and the reflectance spectra were measured at the compressed point.