

Supporting information

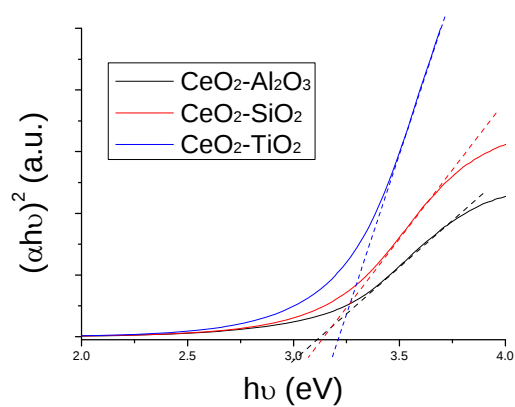


Figure S1. the $(\alpha h\nu)^2$ versus $h\nu$ plots for as prepared $\text{CeO}_2\text{-Al}_2\text{O}_3$, $\text{CeO}_2\text{-SiO}_2$, and $\text{CeO}_2\text{-TiO}_2$ mixed oxides

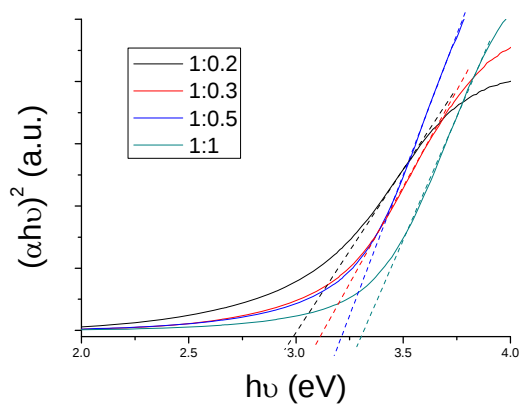


Figure S2. the $(\alpha h\nu)^2$ versus $h\nu$ plots for as prepared $\text{CeO}_2\text{-Al}_2\text{O}_3$ products with different Ce/Al molar ratios

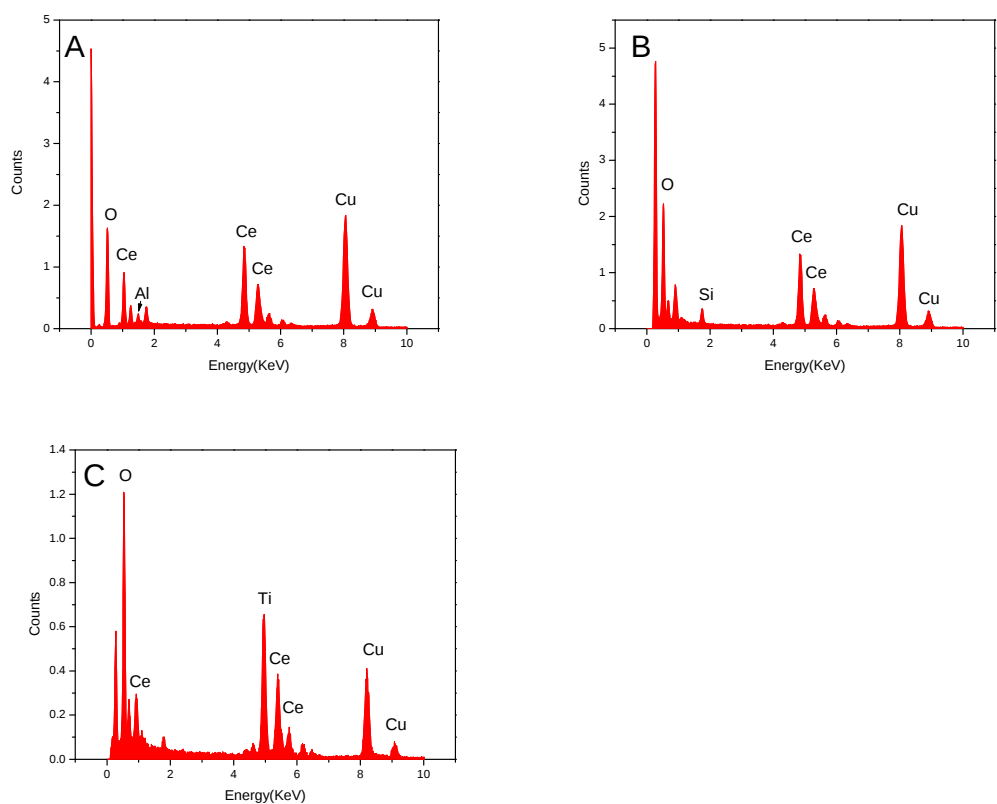


Figure S3. Energy spectrum analysis of CeO₂-Al₂O₃, CeO₂-SiO₂ and CeO₂-TiO₂ products from TEM images