Supplementary Information

A chemical method for stabilizing a new series of solid solution in

\[ \text{Pr}_{1-x}\text{Ce}_x\text{ScO}_3 \ (0.0 \leq x \leq 1.0) \] system

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**SI-1:** XRD patterns of PrScO\(_3\) sample synthesized by solid state route after heating at 1400 °C for 12 h
SI-2: XRD patterns of fuel-deficient combustion synthesized PrScO$_3$ (a) as prepared (b) 600 °C heated (c) 1100 °C heated and (d) 1400 °C heated
SI-3: Thermogravimetric curve for Pr$_{0.50}$Ce$_{0.50}$ScO$_3$
SI-4: XRD patterns of stoichiometric combustion synthesized Pr$_{1-x}$Ce$_x$ScO$_3$ (0.0 ≤ x ≤ 1.0) after first reduction (a) PrScO$_3$ (b) Pr$_{0.75}$Ce$_{0.25}$ScO$_3$ (c) Pr$_{0.5}$Ce$_{0.5}$ScO$_3$ (d) Pr$_{0.25}$Ce$_{0.75}$ScO$_3$ and (e) CeScO$_3$
SI-5: XRD patterns of stoichiometric combustion synthesized Pr$_{1-x}$Ce$_x$ScO$_3$ (0.0 ≤ x ≤ 1.0) after second reduction (a) PrScO$_3$ (b) Pr$_{0.75}$Ce$_{0.25}$ScO$_3$ (c) Pr$_{0.5}$Ce$_{0.5}$ScO$_3$ (d) Pr$_{0.25}$Ce$_{0.75}$ScO$_3$ and (e) CeScO$_3$