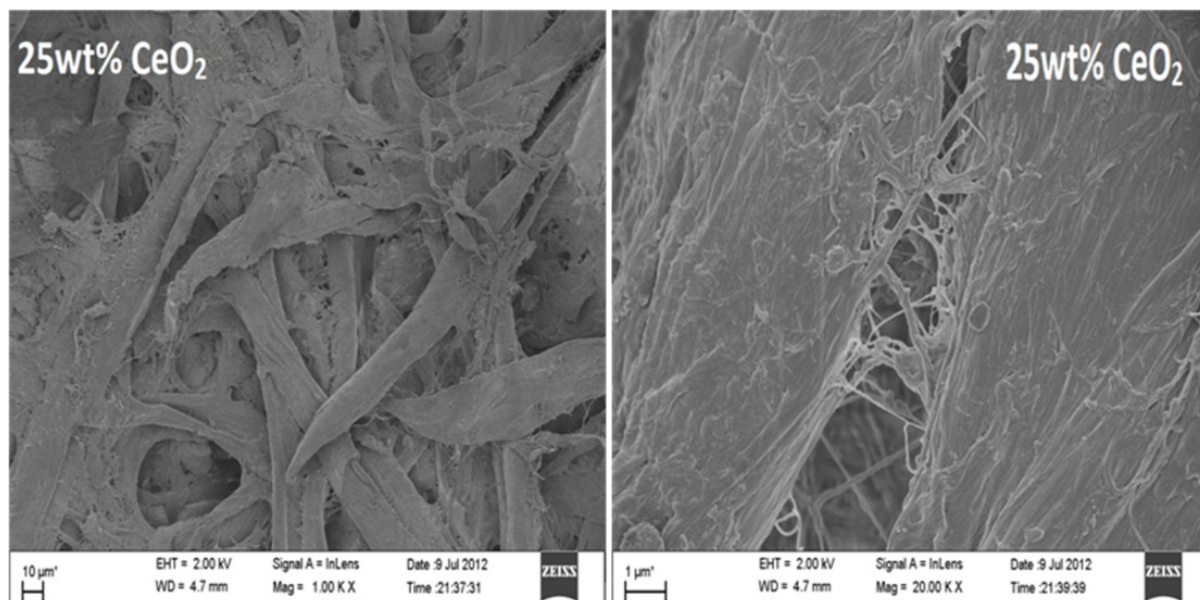
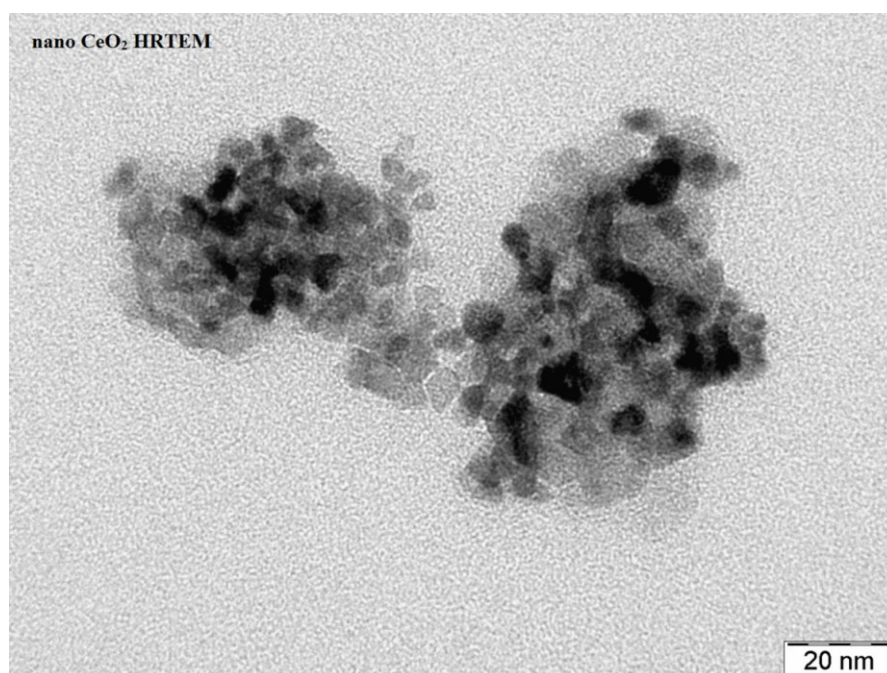


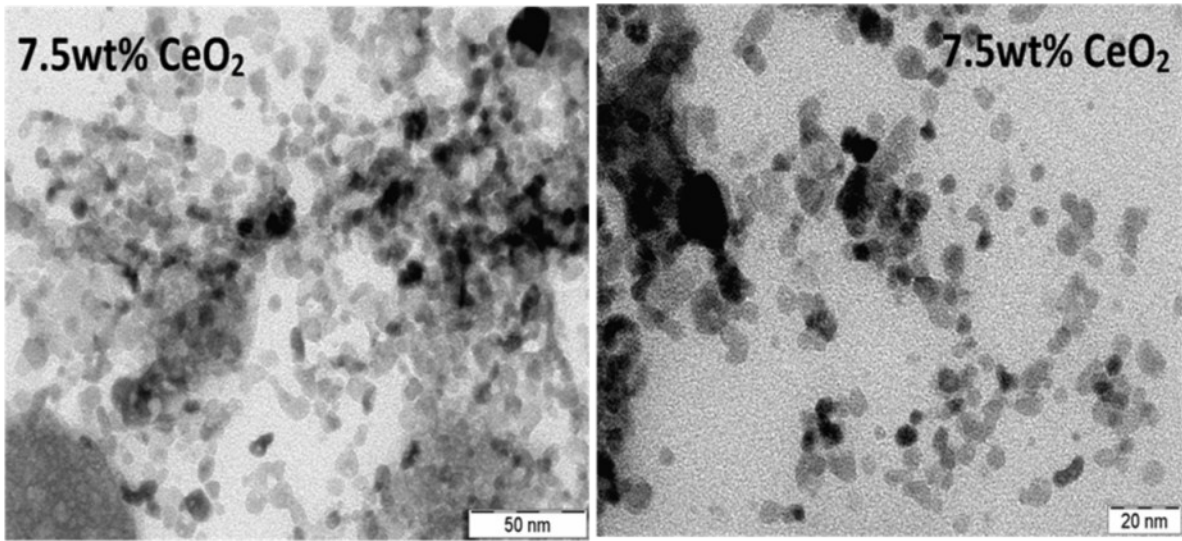
Supplementary Figures



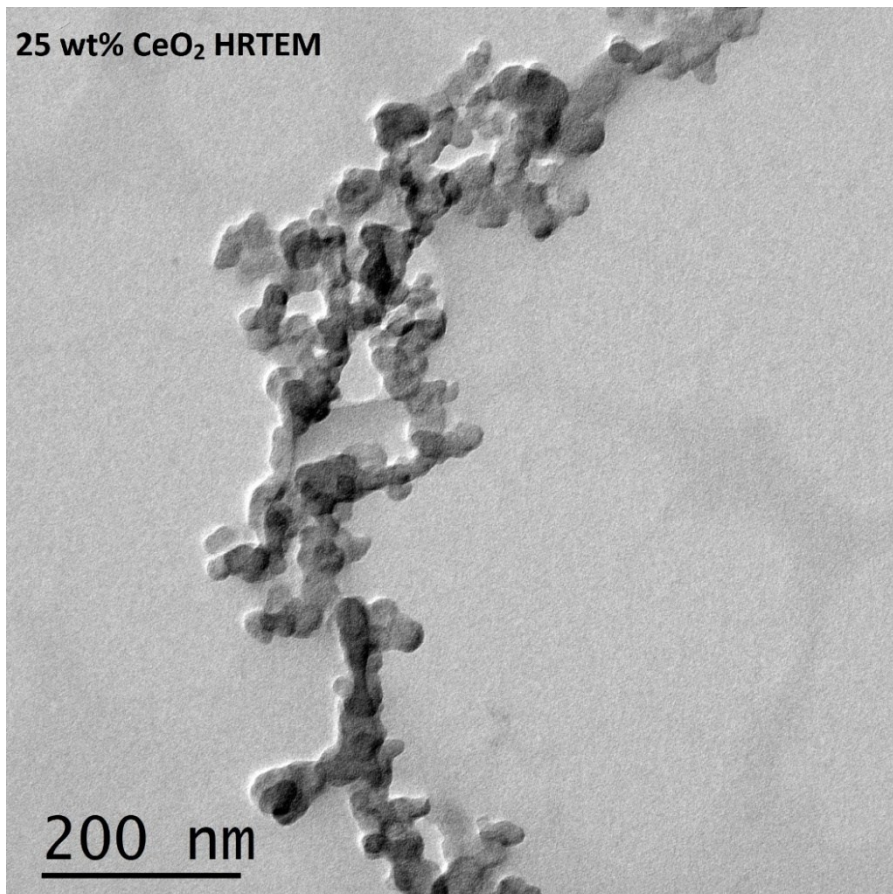
S1[†]: HRTEM images of PVA-25wt% CeO₂ nanocomposite film



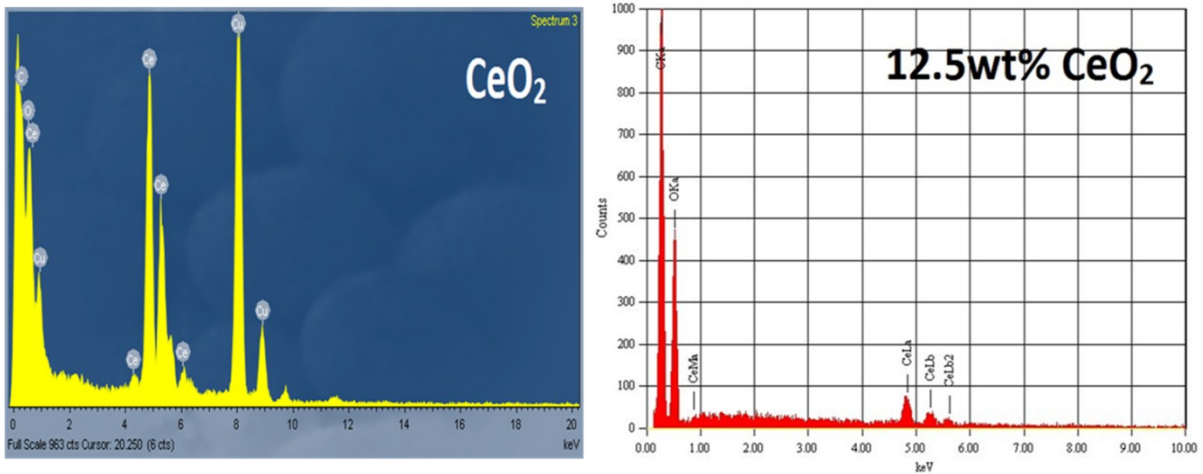
S2[†]: Cubic fluorite structure of nano CeO₂ from HRTEM



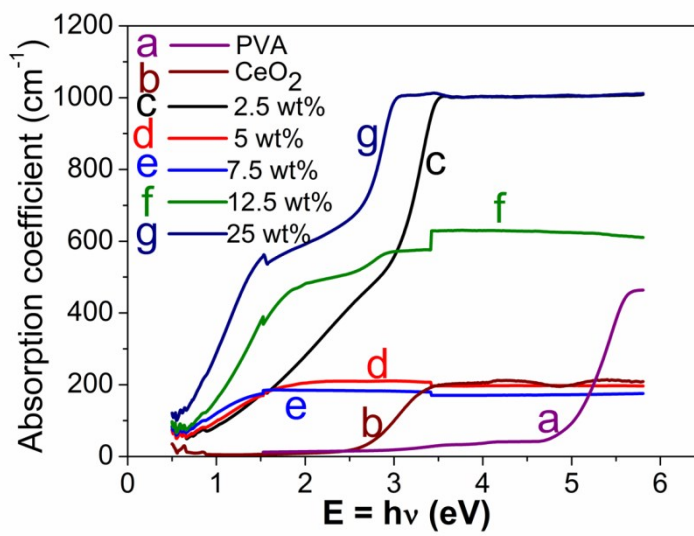
S3†: HRTEM images of PVA-7.5wt% CeO₂ nanocomposite film



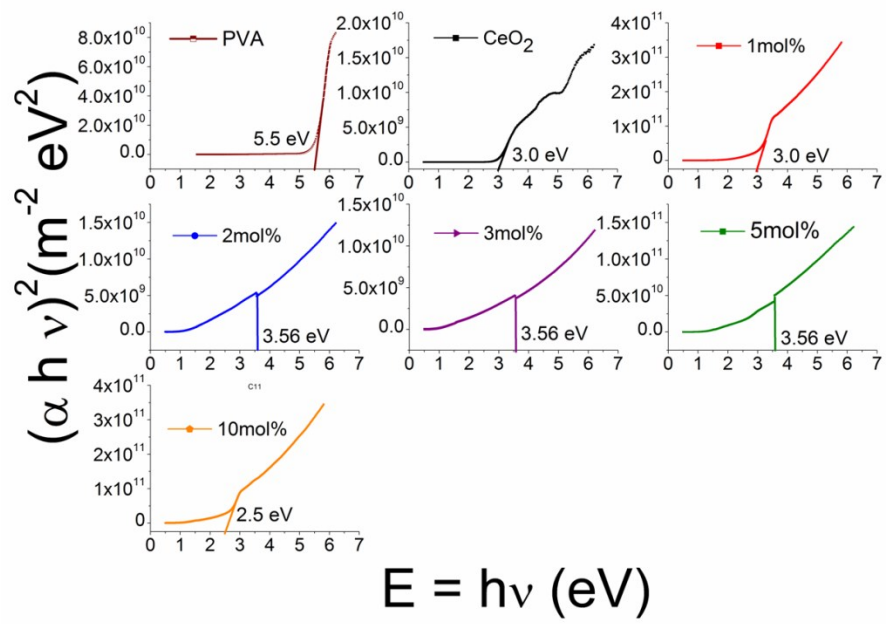
S4†: HRTEM image of PVA-25wt% CeO₂ nanocomposite film



S5†: EDX spectra of (a) nano CeO₂ and (b) PVA-12.5wt% CeO₂ nanocomposite film



S6†: Absorption coefficient versus Energy graph of all the samples



S7†: Direct band gap of pure PVA, nano CeO₂ and composite films