

Supplementary File

An electrochemical immunosensor based on Nano-ceria integrated microfluidic chip for Interleukin-8 biomarker detection

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Figures:

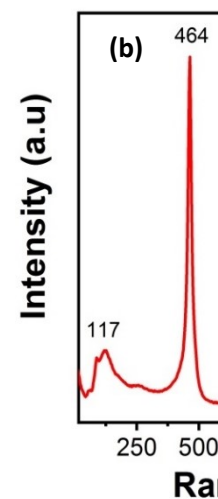
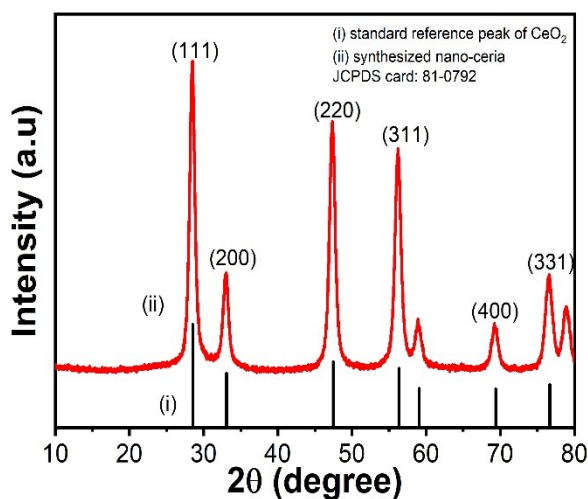


Figure S1: (a) XRD pattern of (i) standard reference peak plot of CeO_2 , (ii) synthesized nano-ceria, (b) Raman spectrum of nano-ceria

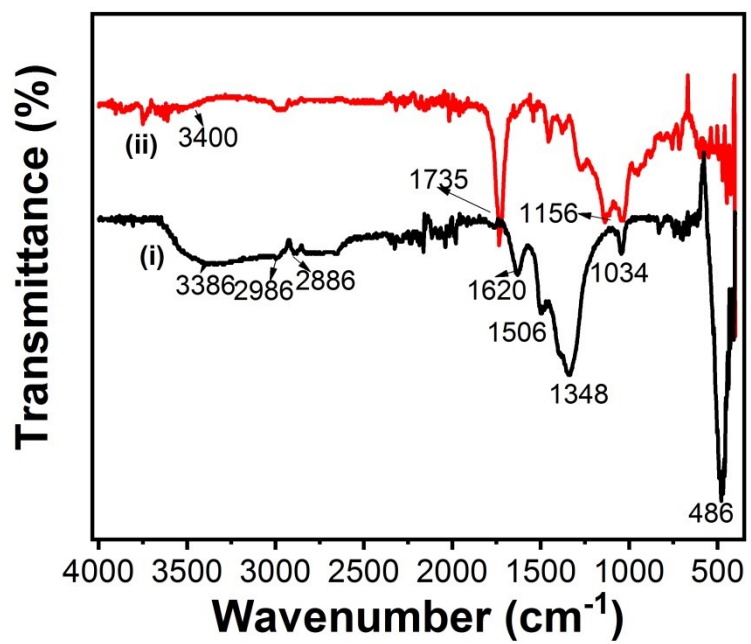


Figure S2: FT-IR spectrum of (i) nano-ceria, and (ii) anti-IL8/nano-ceria

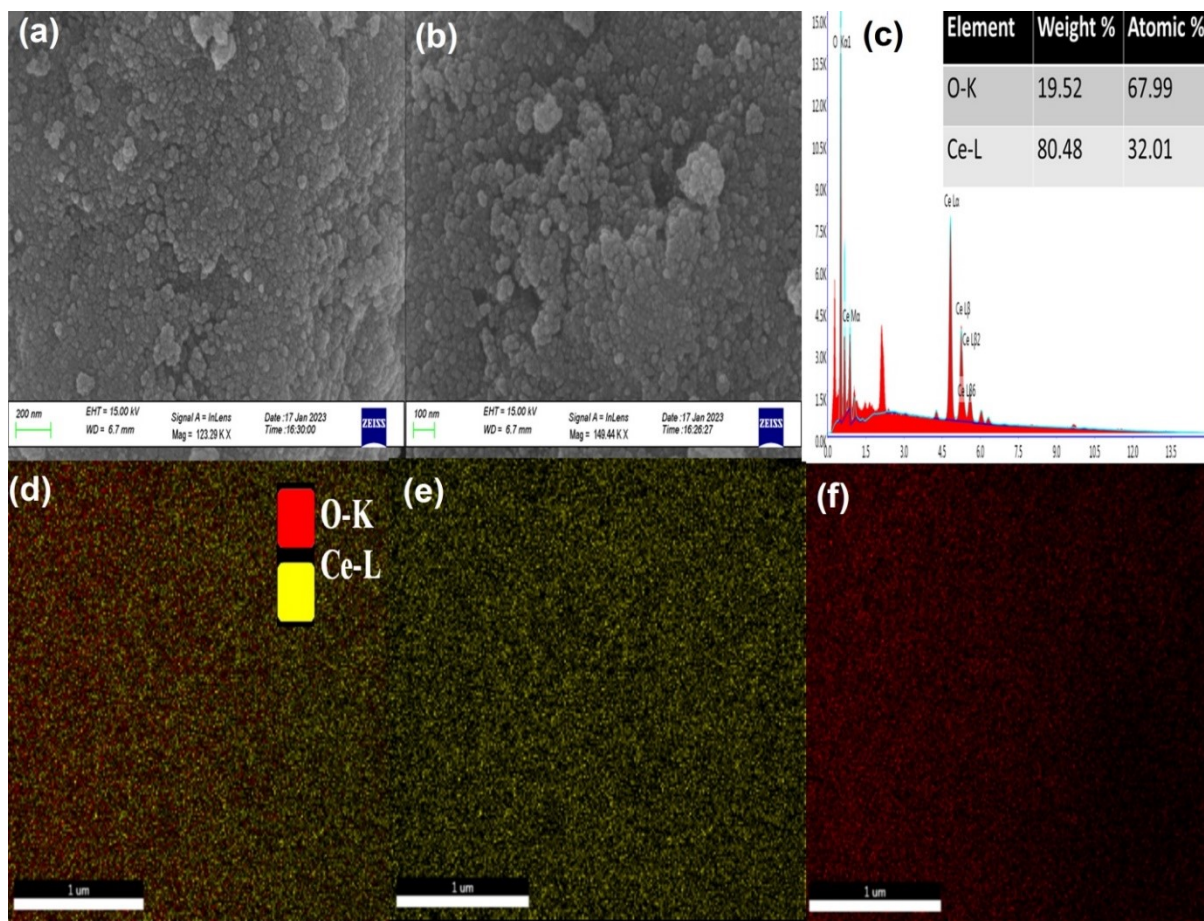


Figure S3: (a,b) Field Emission Scanning Electron Microscope (FESEM) images of synthesized nano-ceria at high and low magnification, (c) shows Energy Dispersive X-ray Spectroscopy (EDX) image representing the presence of elemental composition in nano-ceria, (d) elemental mapping of nano-ceria shows the presence of oxygen and cerium element, (e,f) elemental mapping of individual element cerium (e) and oxygen (f) element

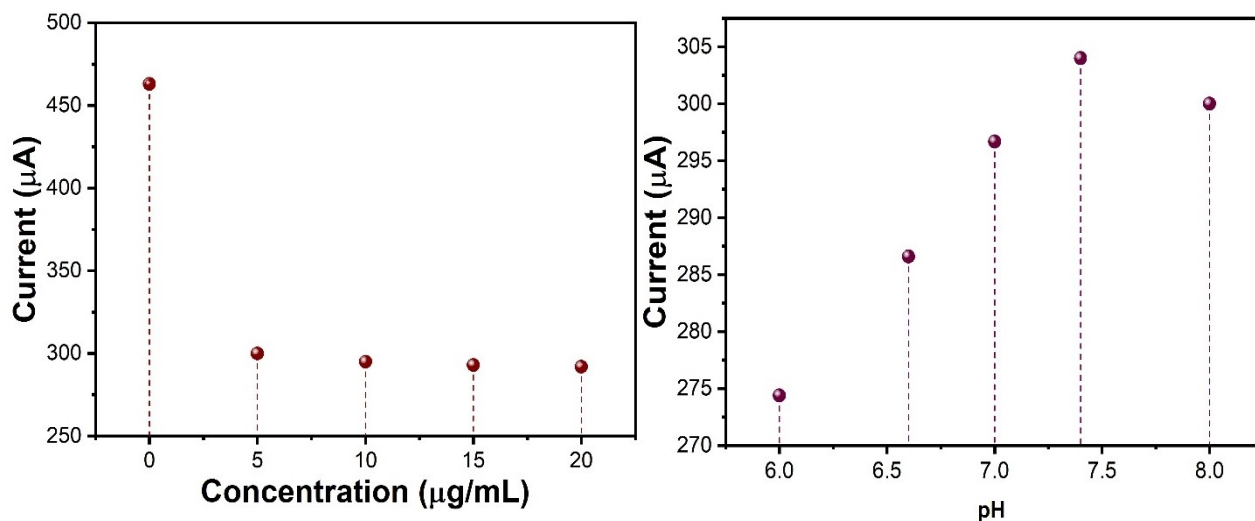


Figure S4: CV response of anti-IL8/nano-ceria/ITO immunoelectrode with various concentration antibodies of IL8 from 0 to 20 $\mu\text{g/mL}$, (b) CV response of BSA/anti-IL8/nano-ceria/ITO immunoelectrode with various pH (6.0 to 8.0) of 0.2M PBS containing redox couple $[\text{Fe}(\text{CN})_6]^{3-/4-}$

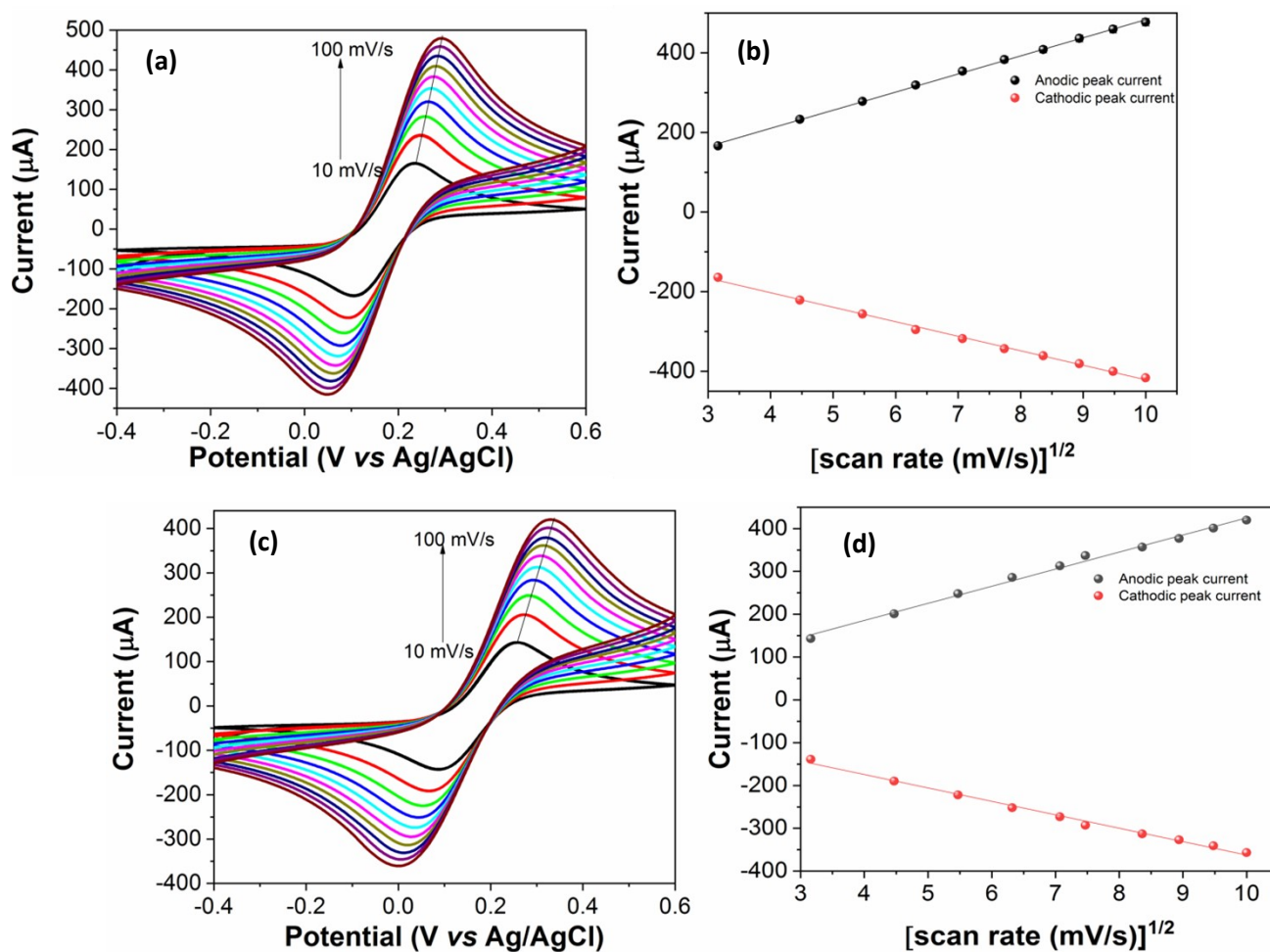


Figure S5: (a) CV studies of nano-ceria/ITO electrode as a function of scan rate range from 10-100 mV s^{-1} (b) represents the linear calibration curve of anodic and cathodic current vs. square root of the scan rate of nano-ceria/ITO electrode, (c) illustrates CV studies of BSA/anti-IL8/nano-ceria/ITO electrodes as a function of scan rate from 10-100 mV s^{-1} , (d) represents linear calibration curve of current vs. square root of the scan rate of BSA/anti-IL8/nano-ceria/ITO electrodes.