

Supplementary Information

Enhanced LPG sensing-performance at room temperature of poly(o-anisidine)-CeO₂ nanocomposites

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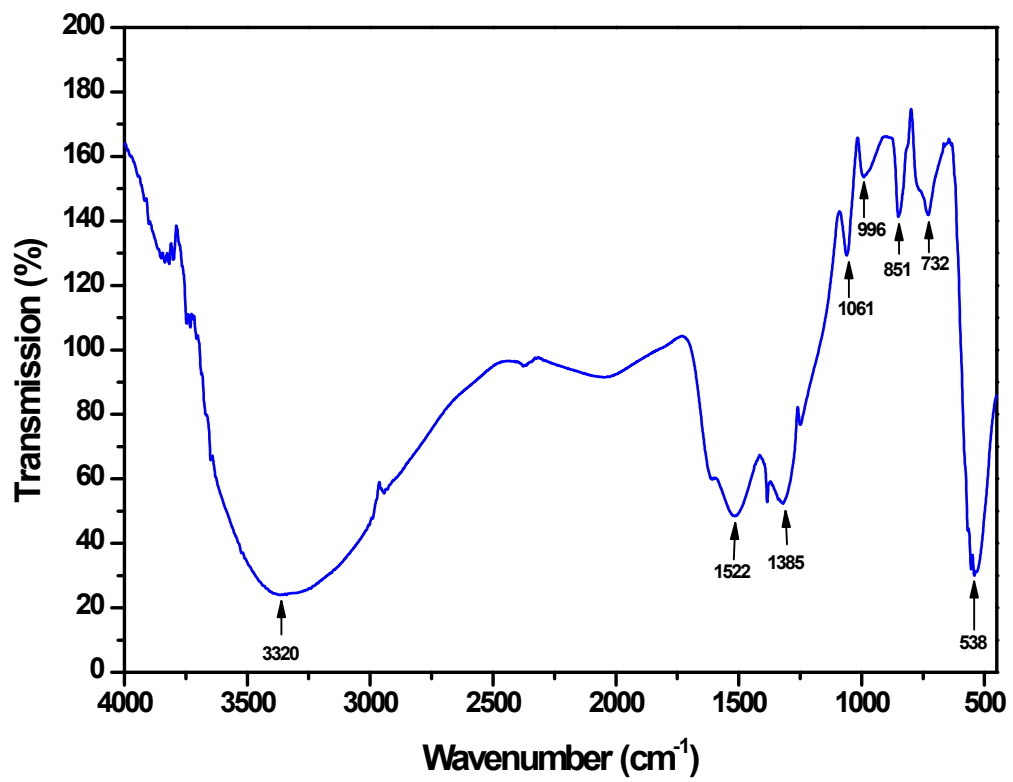


Fig.S1 : FTIR spectrum of CeO₂ nanoparticles

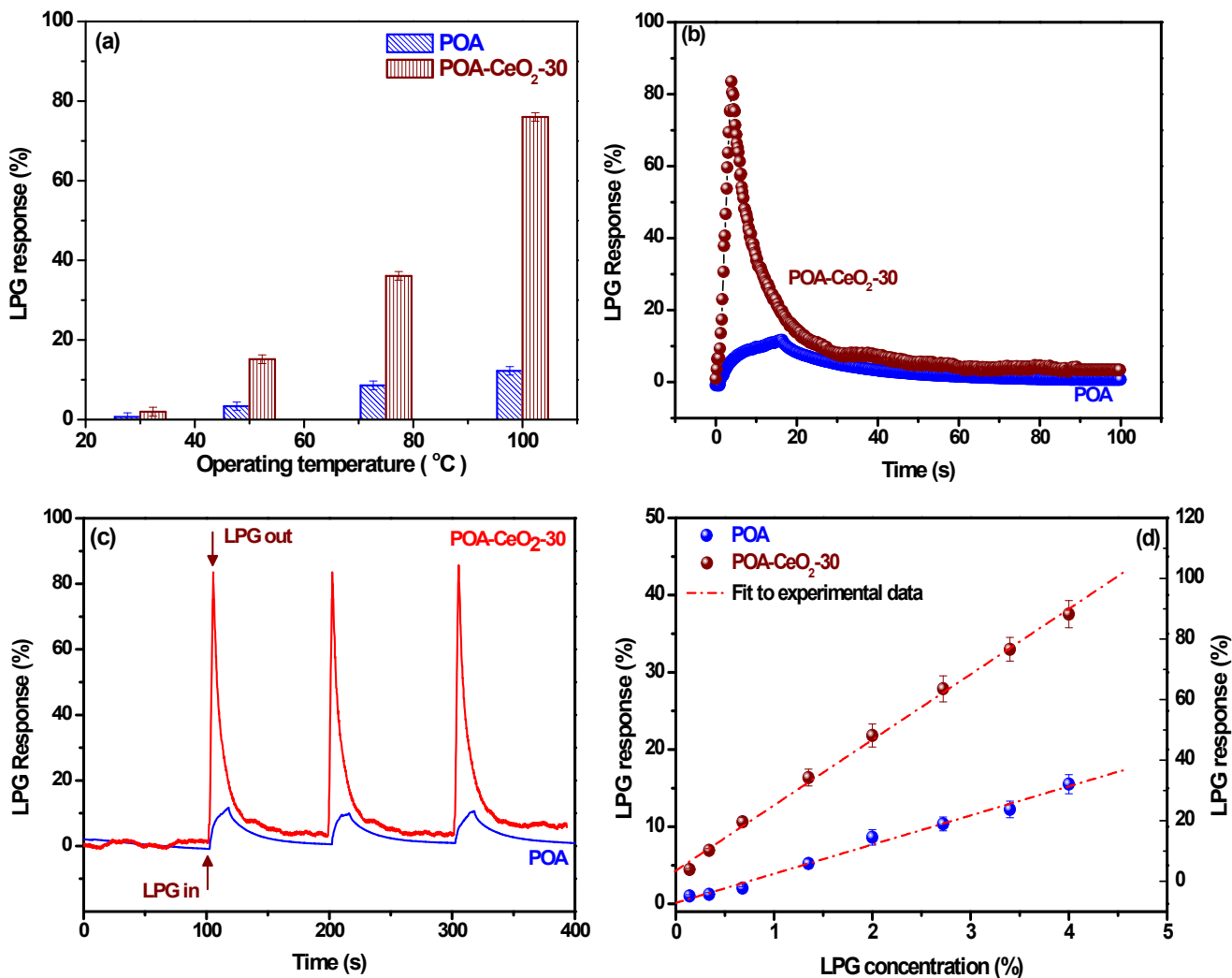


Fig.S2 : (a) Bar chart showing the gas response of the sensors based on pure POA and POA-CeO₂-30 nanocomposite to 3.4% LPG as a function of the operating temperature (The y-error bars represent the standard deviation at a fixed temperature and they are in the range of 1.02-1.08 and 1.09-1.12 for POA and POA-CeO₂-30, respectively), (b) Dynamic response-recovery characteristics of pure POA and POA-CeO₂-30 nanocomposite based sensors upon exposure to 3.4% LPG at 100 °C, (c) Repetitive responses of pure POA and POA-CeO₂-30 nanocomposite to 3.4% LPG at 100 °C and (d) Relationship between response and LPG concentration of pure POA and POA-CeO₂-30 nanocomposite based sensors at 100 °C. Dots represent the experimental data points, and the discontinuous lines represent a linear fit to the experimental data (The y-error bars represent the standard deviation at a fixed concentration and they are in the range of 0.19-1.24 and 0.43-4.48 for POA and POA-CeO₂-30, respectively).

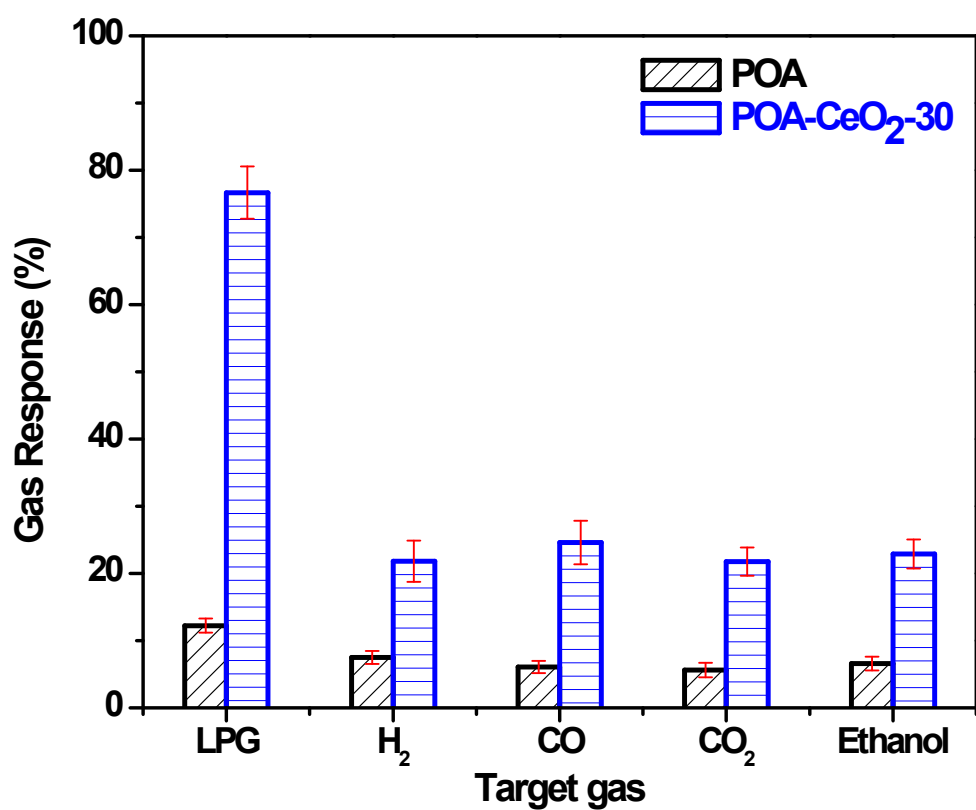


Fig.S3 : Bar chart showing the gas responses of pure POA and POA-CeO₂-30 nanocomposite for different gases at 100 °C. The gas concentration in all cases was 3.4%. (The y-error bars represent the standard deviation at a fixed concentration and they are in the range of 0.91-1.08 and 2.08-3.88 for POA and POA-CeO₂-30, respectively).

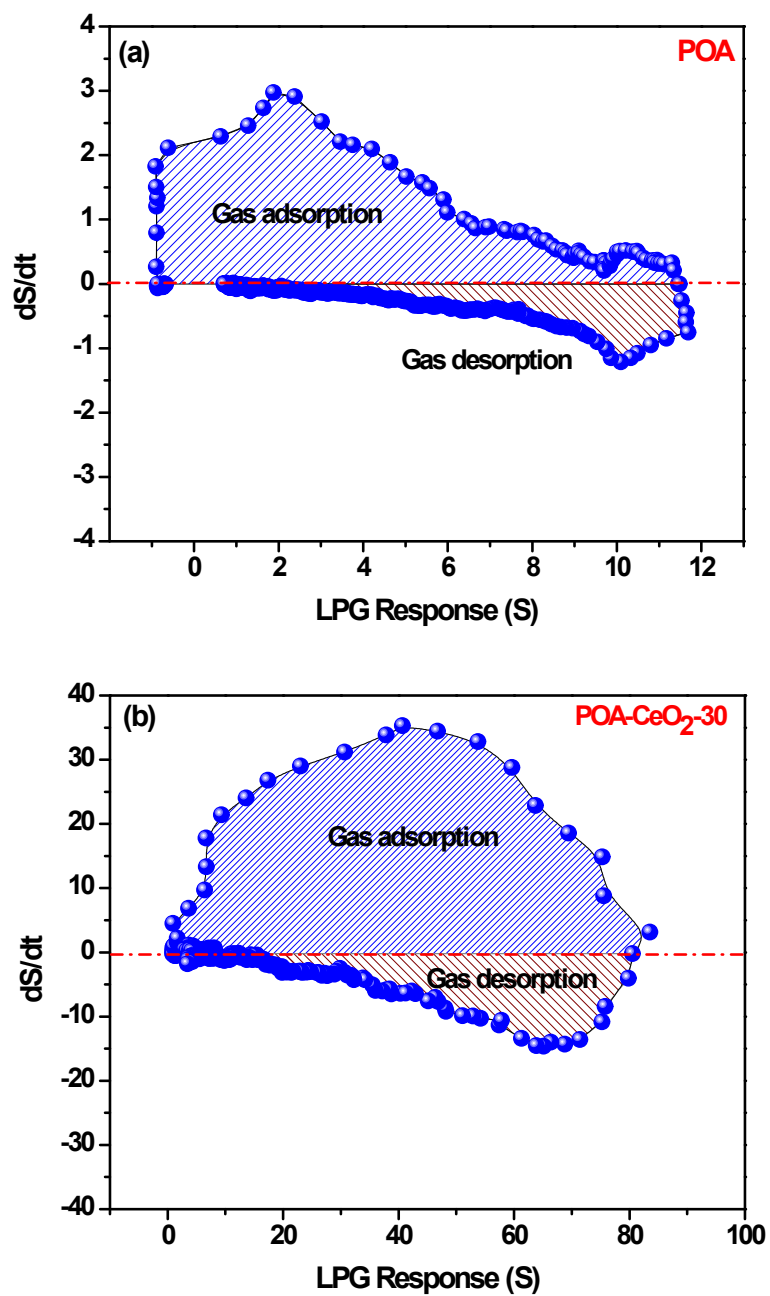


Fig. S4 : Gas adsorption-desorption curves of the sensors based on (a) pure POA and (b) POA-CeO₂-30 nanocomposite toward 3.4% LPG at 100 °C.