Supporting information for

Reductive-heat-treated platinum tungsten oxide catalyst with improved CO oxidation activity and its CO gas sensing property

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The structure of the sensor is shown in Fig. S1, which adopts a three-electrode electrolytic cell type. Taking Pt-WO_2/C as an example, Pt-WO_2/C catalyst, Pt/C and Pt/C are used as working electrodes, counter and reference electrodes respectively. The working electrode is formed by loading a catalyst on a porous gas permeable membrane, named GDE. While counter and reference electrodes could be used as GDE type or on other stable substrates. The electrolyte is prepared by immersing sulfuric acid (30 %w/w) into a liquid-absorbing support material.

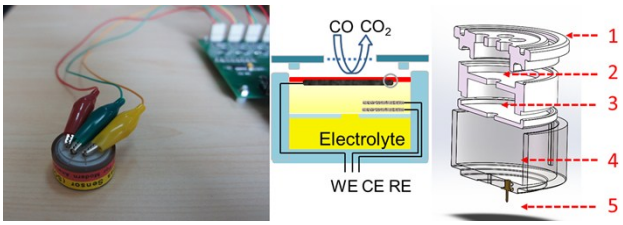

Figure S1. Photograph and assembly drawing of electrochemical CO gas sensor. In the right graph: 1. perforated lid, 2 three-electrodes chamber, 3 electrolyte reservoir, 4 sensor shell, 5 electrode pins.

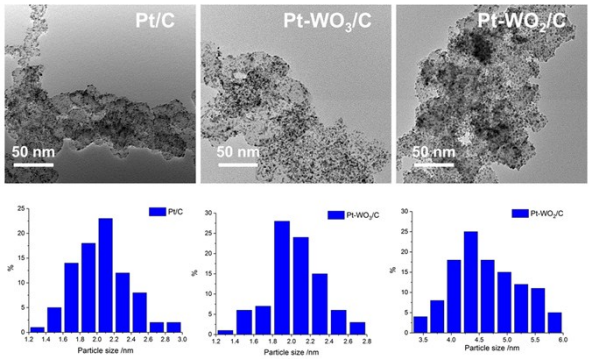

Figure S2. Pt particle size distribution of prepared catalysts.

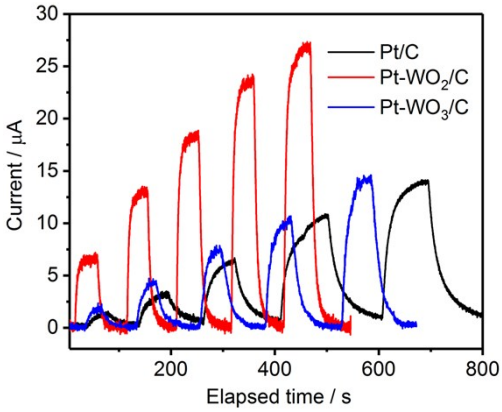

Figure S3. The sensing signals of Pt-WO_2/C, Pt-WO_3/C and Pt/C.