

## Ultra-fine Platinum Species Supported on Niobium Pentoxide for CO oxidation

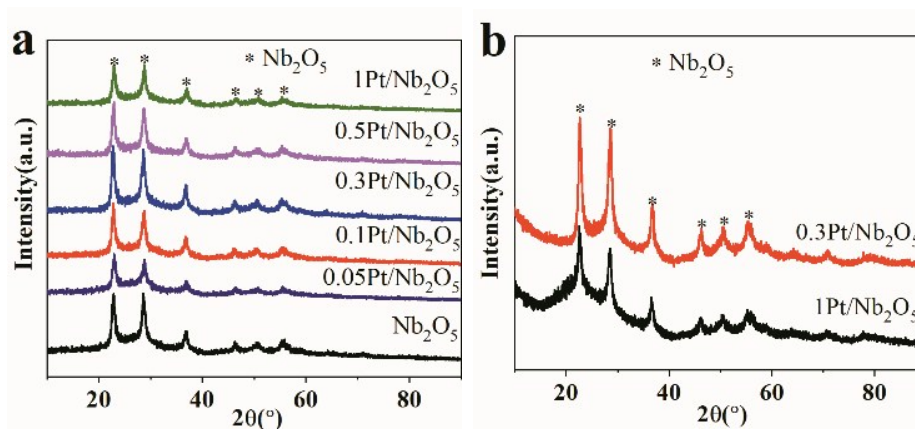


Figure S1 XRD patterns of Pt-Nb<sub>2</sub>O<sub>5</sub>: (a) fresh catalysts; (b) after H<sub>2</sub>-pretreatment.

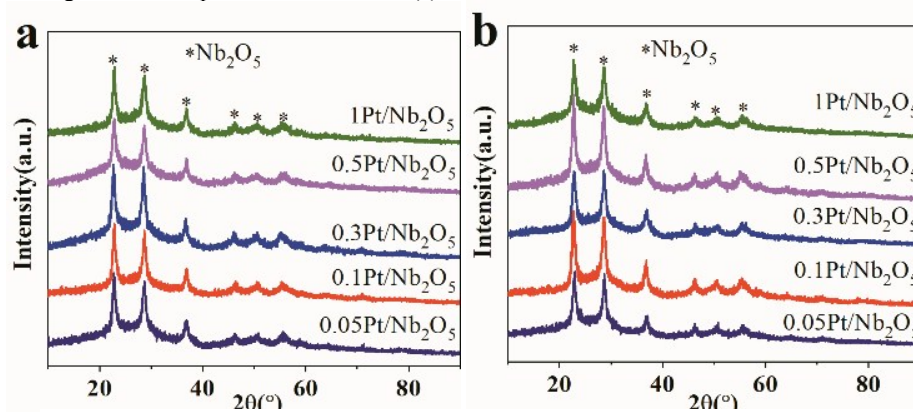


Figure S2 XRD patterns of Pt-Nb<sub>2</sub>O<sub>5</sub> for (a) used samples with H<sub>2</sub>-pretreatment; (b) used samples with O<sub>2</sub>-pretreatment

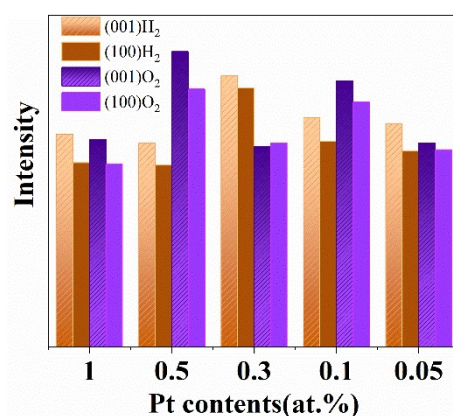


Figure S3. Intensity of (001) and (100) crystal planes of Nb<sub>2</sub>O<sub>5</sub> obtained from XRD patterns of used samples.

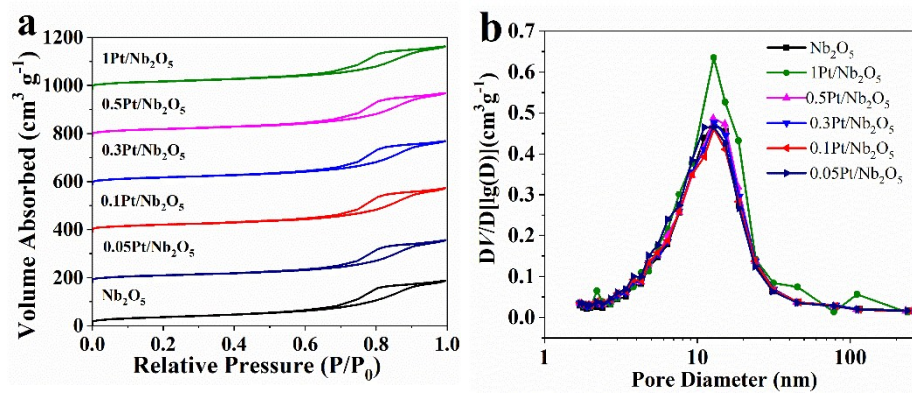


Figure S4 (a) N<sub>2</sub> adsorption-desorption isotherm and (b) BJH pore size distribution plots of Nb<sub>2</sub>O<sub>5</sub> and Pt/Nb<sub>2</sub>O<sub>5</sub>.

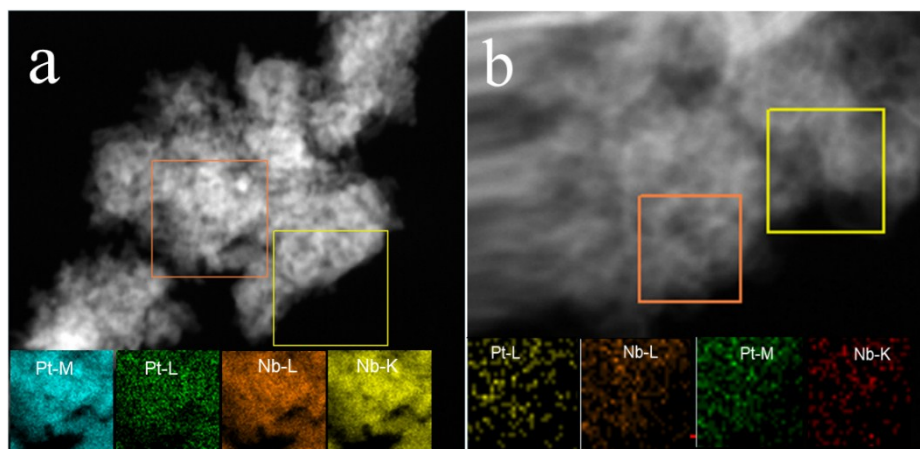


Figure S5 STEM-EDS mapping results of (a) 1Pt-Nb<sub>2</sub>O<sub>5</sub> fresh and (b) used 0.3 Pt-Nb<sub>2</sub>O<sub>5</sub> with H<sub>2</sub>-pretreatment. Inserts show the corresponding STEM-EDS elemental mapping images, and the red boxes in the STEM images indicate the data collection areas.