

# **Supplementary Material**

## **Mn-doped CeO<sub>2</sub> nanorod supported Au catalysts for dehydrogenation of ethane with CO<sub>2</sub>**

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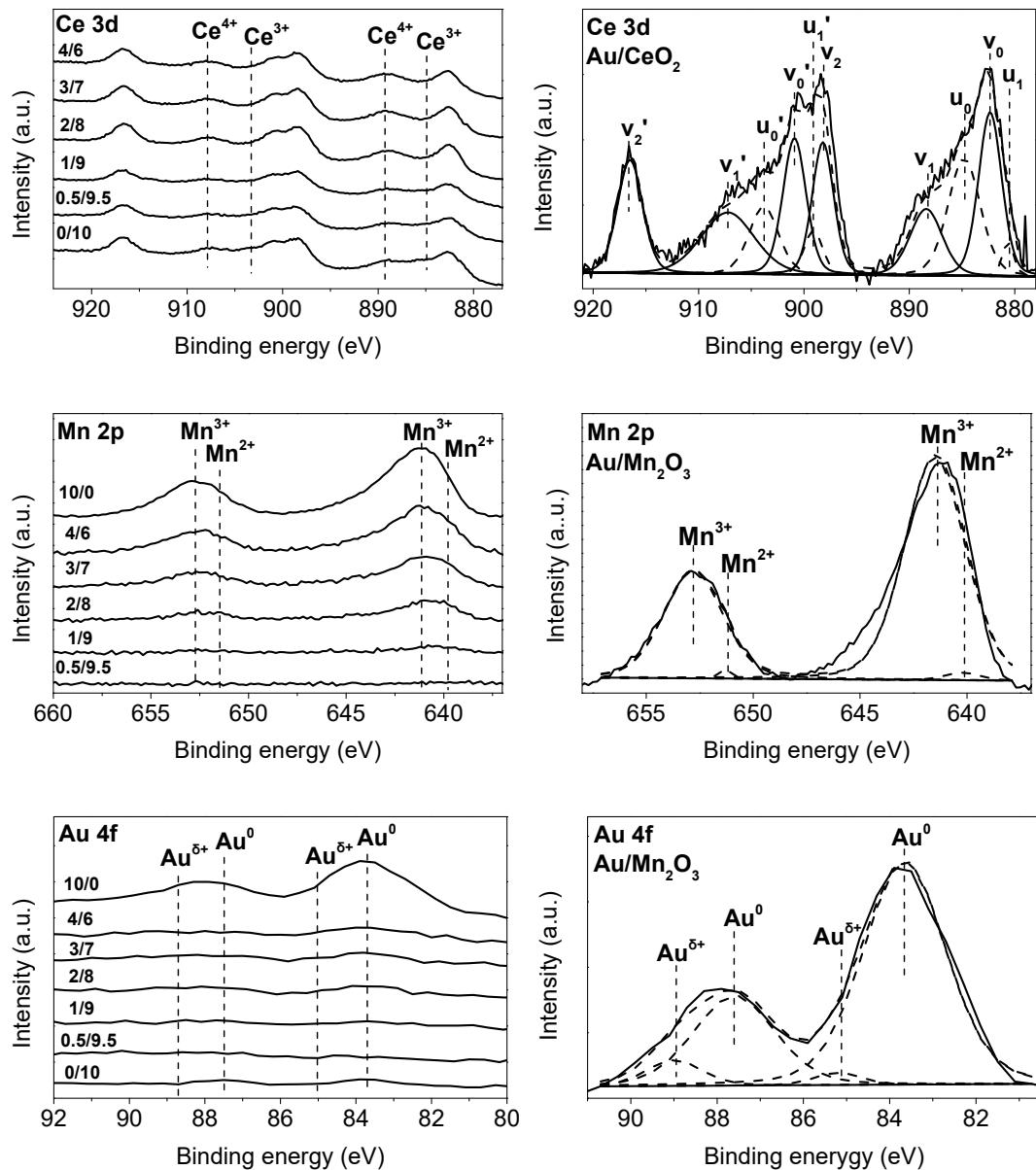
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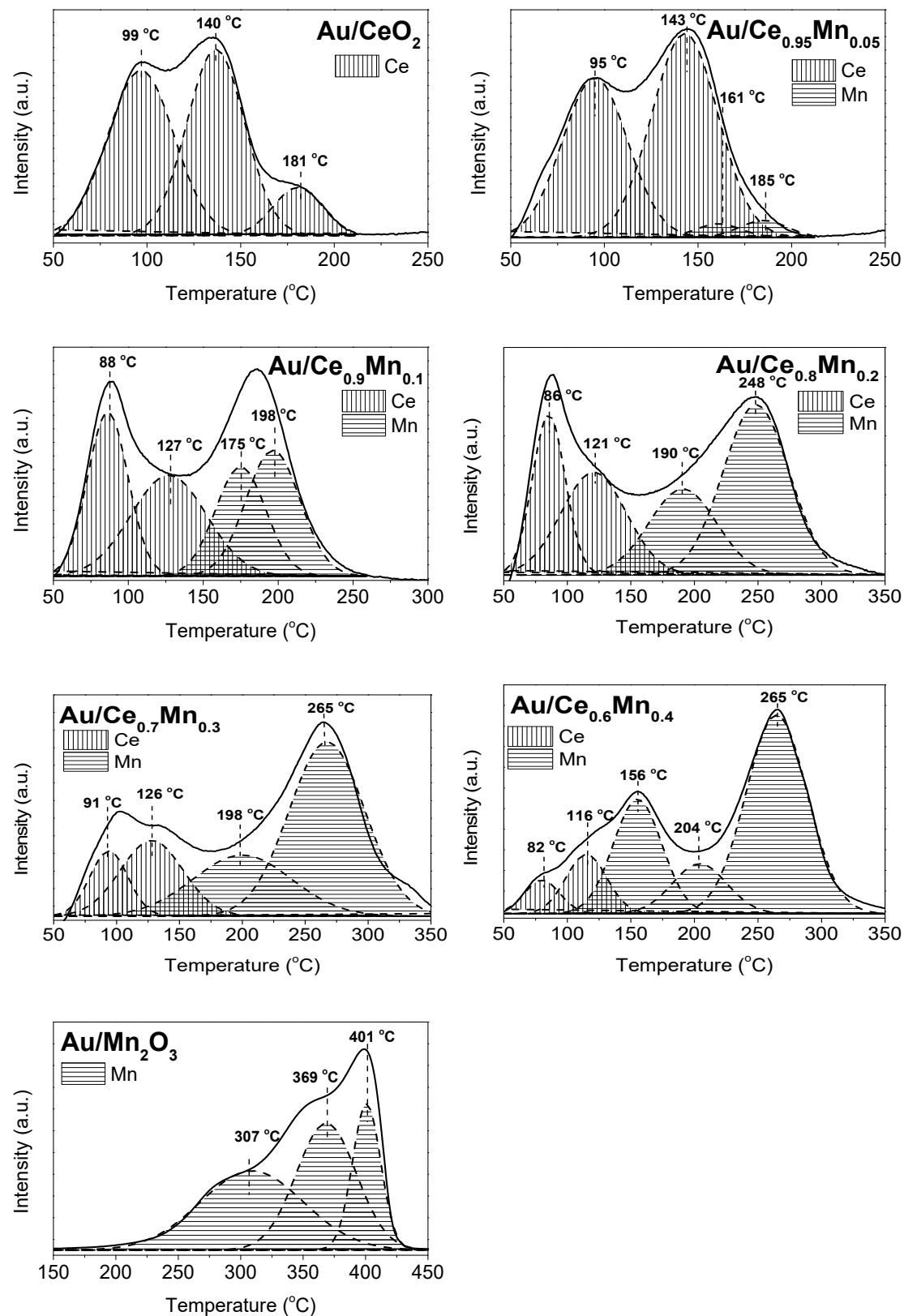
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**Figure S1:** XPS spectra of the Au/Ce<sub>1-x</sub>Mn<sub>x</sub>O<sub>2-δ</sub> catalysts.



**Figure S2:** Deconvolution of the TPR profiles of the  $\text{Au}/\text{Ce}_{1-x}\text{Mn}_x\text{O}_{2-\delta}$  catalysts.



**Figure S3:** Raman profiles of the spent Au/Ce<sub>0.9</sub>Mn<sub>0.1</sub> catalysts.

