

Supporting information:

Support Shape Effect in Metal Oxide Catalysis: Ceria Nanoshapes Supported Vanadia Catalysts for Oxidative Dehydrogenation of Isobutane

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Figure S1. Room temperature visible ($\lambda = 632.8\text{nm}$) Raman spectra of 2V/r-CeO₂ (red spectra) and 2V/o-CeO₂ (black spectra) before (solid line) and after (dash line) isobutane ODH at 673 K. The weak bands at 995 and 975 cm⁻¹ for 2V/r-CeO₂ are due to slightly hydrated VO_x species, see ref ¹ for more information. Peaks marked with “*” denote plasma line from the laser and peaks with “+” represent trace phosphate species on o-CeO₂.

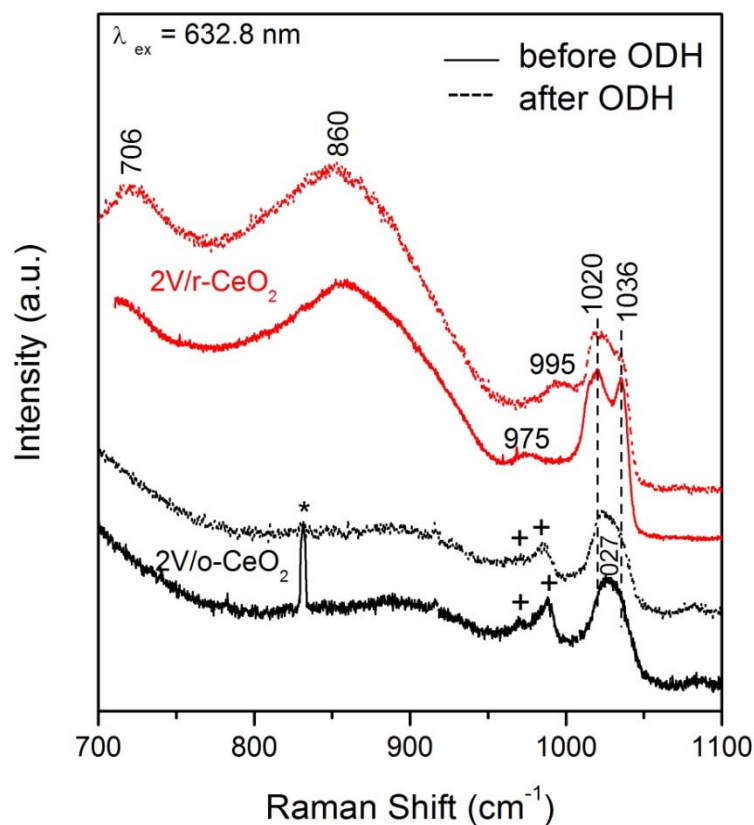
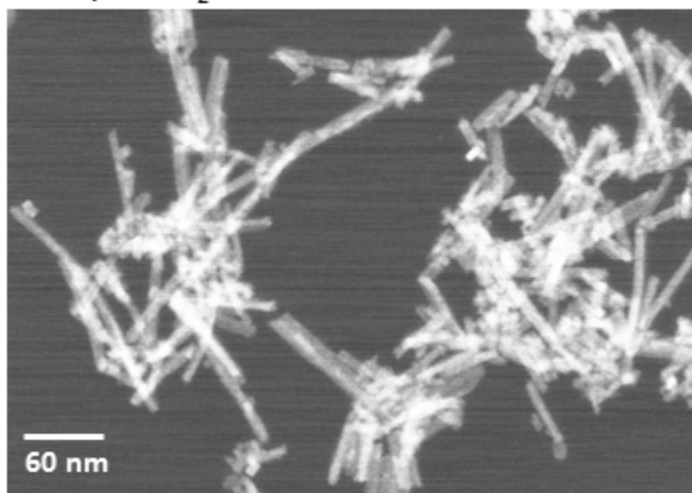


Figure S2. TEM image of 2V/r-CeO₂ and SEM image of 2V/o-CeO₂. Both samples are post 673 K isobutane ODH.

2V/r-CeO₂ after 673 K iso-butane ODH



2V/o-CeO₂ after 673 K iso-butane ODH

