

**Purification of chemical feedstocks by the removal of aerial
carbonyl sulfide by hydrolysis using rare earth promoted
alumina catalysts**

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Supplementary data

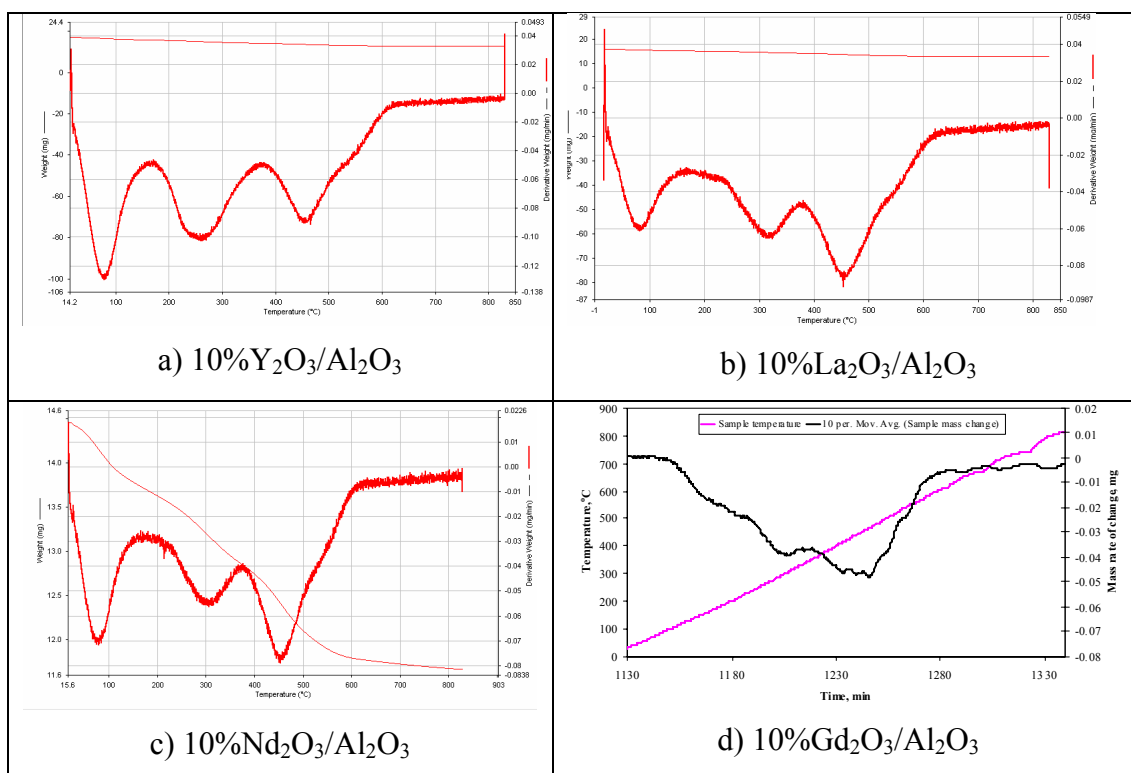


Fig. S1 TGA profiles for catalyst precursors. Conditions (a-c): N₂: 20 ml min⁻¹; 30 °C for 1 min, 10 °C min⁻¹, 800 °C. (d): He: 300 ml min⁻¹, 4 °C min⁻¹, 30 to 900 °C.

The TGA profiles of 10%Y₂O₃/Al₂O₃, 10%La₂O₃/Al₂O₃, 10%Nd₂O₃/Al₂O₃ and 10%Gd₂O₃/Al₂O₃ catalyst precursors, i.e. prior to calcination, are presented in Fig. S1. In this figure, profiles *a-c* were obtained using Perkin Elmer TGA 7 Thermogravimetric Analyzer as described in the experimental section. Profile *d* was obtained using an IGA-003 microbalance (Hiden Analytical) and the experimental procedure is described as follows. The sample (about 70 mg) was charged into the Pyrex basket (with 50 mg glass wool as support) and degassed under high vacuum for about 19 h to remove physisorbed species. The system pressure was then set to 1015 mbar until the system was stable. The experiment was carried out from 30 to 900 °C at a ramp rate of 4 °C min⁻¹, under a helium flow of 300 ml min⁻¹ (80% of helium from the bottom and 20% from the top of the basket).

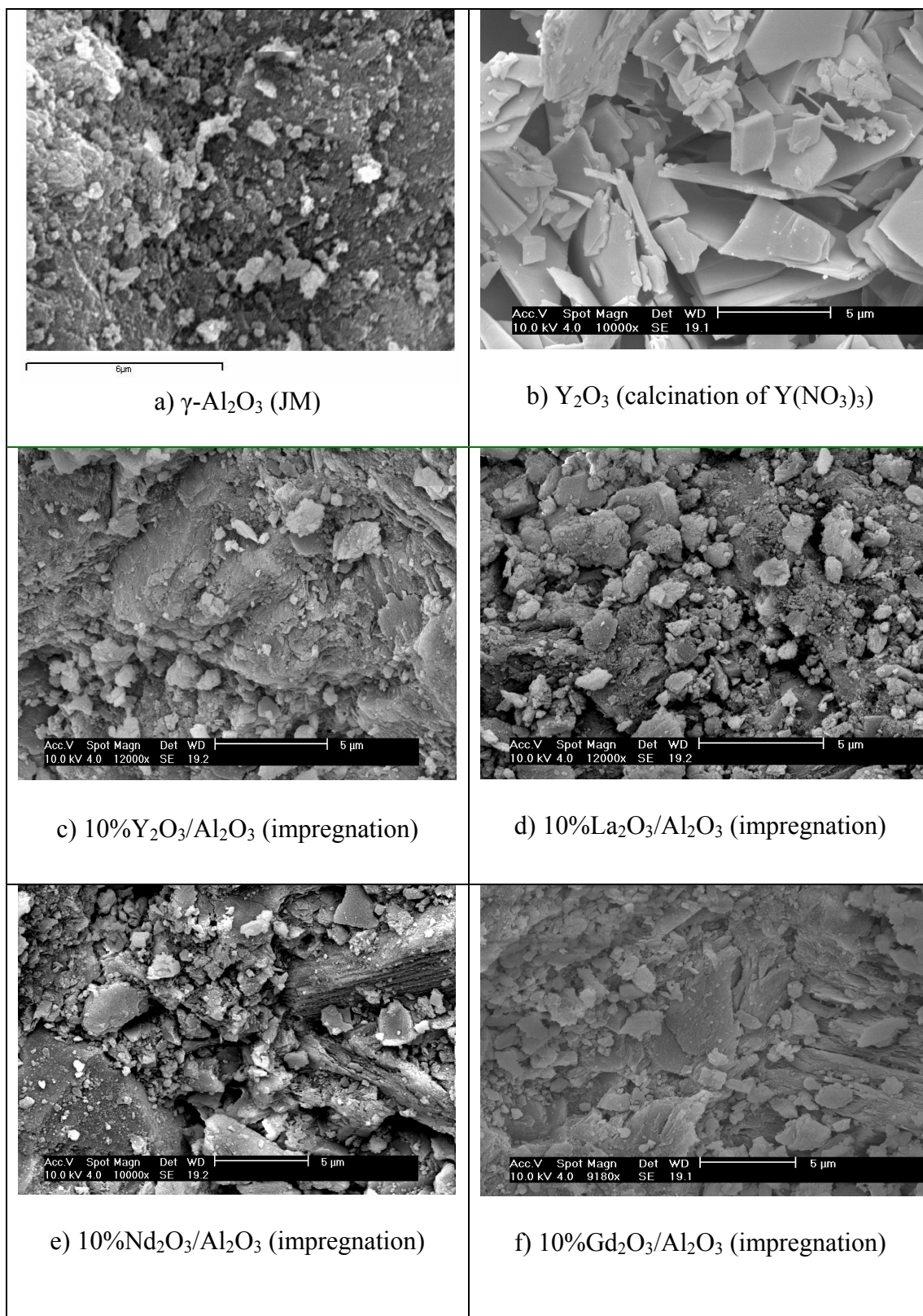


Fig. S2 SEM analysis of catalysts prepared by the incipient wetness method.