

Electronic Supplementary Information (ESI) for Catalysis Science & Technology.  
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## **Selective hydrogenation of cinnamaldehyde on nickel nano particles supported on titania- Role of catalyst preparation methods**

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### **ESI-1 Hydrogenation of cinnamaldehyde- Details**

#### **Reaction protocol**

A typical experimental procedure is described below

The hydrogenation reaction was conducted at 120°C, with 12.732 g of methanol (16 ml), 1.233 g of cinnamaldehyde and 0.152 g of catalyst. Total weight of the reactants- 14.117 g (Total weight including that of catalyst was considered since some methanol could be lost during filtration to remove the catalyst)

Reactor (100 ml capacity Parr reactor) was pressurized with hydrogen to 20 Kg/cm<sup>2</sup> at ambient temperature. Temperature was then increased to 120 °C. Reactor pressure increased to 23 Kg/cm<sup>2</sup> at 120°C and remained unchanged during the reaction period of 1 hr. When cooled to ambient temperature, the pressure decreased to 19 Kg/cm<sup>2</sup>. After releasing the pressure the total weight of the products was found to be 13.326 g. The loss of liquid (methanol) was 0.791g. This loss could be due to carry over of methanol vapors by hydrogen during the release of pressure.

#### **Leak test**

100 ml capacity Parr reactor was pressurized with nitrogen to 20 Kg/cm<sup>2</sup> at ambient temperature. When the reactor temperature was increased to 120 °C, pressure increased to 22 Kg/cm<sup>2</sup>. After cooling the reactor to ambient temperature, the pressure was 20 Kg/cm<sup>2</sup>. For more than 12 hrs the reactor pressure was monitored and was found to remain at 20 Kg/cm<sup>2</sup> indicating no possibility of leakage.