

**Supporting Information**

**For**

**Synthesis and Characterization of TiO<sub>2</sub> Nanotubes Supported Rh-nanoparticle**

**Catalysts for Regioselective Hydroformylation of Vinyl Acetate**

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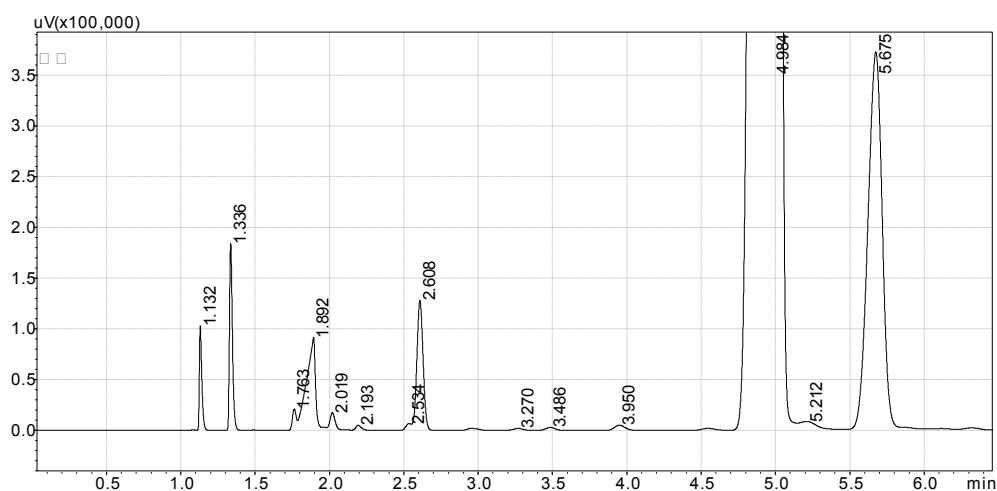
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## S1. GC temperature-programmed

The analysis of the reaction products was performed by gas chromatography using a Shimadzu GC-2014 gas chromatograph equipped with a 30 m×0.53 mm SE-30 capillary column and a FID detector. Temperature program: 45 °C, hold for 3 mins; ramp 1, 2 °C/min to 60 °C, hold for 0 mins; ramp 2, 25 °C/min to 250 °C, hold for 5 min; injection temperature, 255 °C; detector temperature, 260 °C.

## S.2 GC profiles of samples come from the Hydroformylation of Vinyl Acetate



Substrate: vinyl acetate, retention time (RT): 1.763 min;

Solvent: toluene, RT: 4.984 min;

Product: 3-acetoxy propanal, RT: 5.212 min; 2-acetoxy propanal, RT: 5.675 min.

By-product: ethylene, RT: 1.132 min; propanal, RT: 1.336 min; acetic acid, RT: 1.892 min; acetic ether, RT: 2.608.

Reaction conditions: vinyl acetate = 5 mL, sub/Rh=8000, Rh/TNTs-C = 0.40 g ( $7.0 \times 10^{-3}$  mmol rhodium), temp. = 100 °C, syngas pressure (CO/H<sub>2</sub> = 1) = 6.0 MPa, toluene = 65 mL, and reaction time = 2 h.