Electronic supplementary information for

Confined synthesis of ultrafine Ru-B amorphous alloy and its catalytic behavior toward selective hydrogenation of benzene

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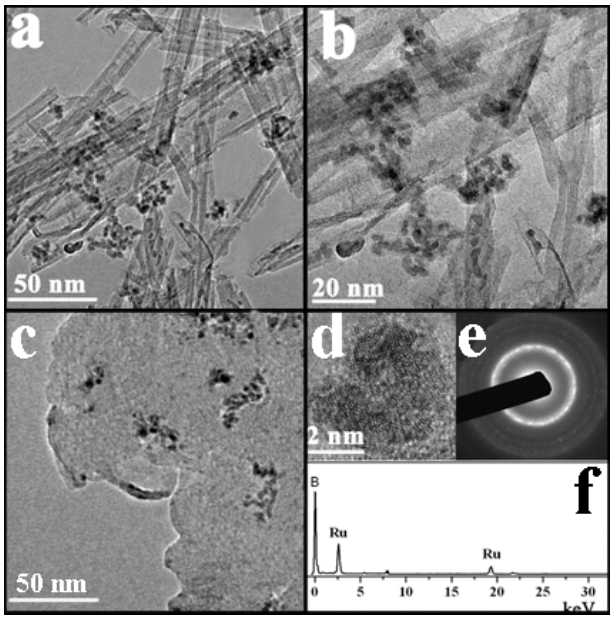

Figure S1. (a, b) TEM images of RuB/TNT-IMP at low and high magnification, (c) TEM image of RuB/TNS-IMP, (d, e) HRTEM and SEAD image for a single Ru-B NP, (f) EDS results of Ru-B particles.

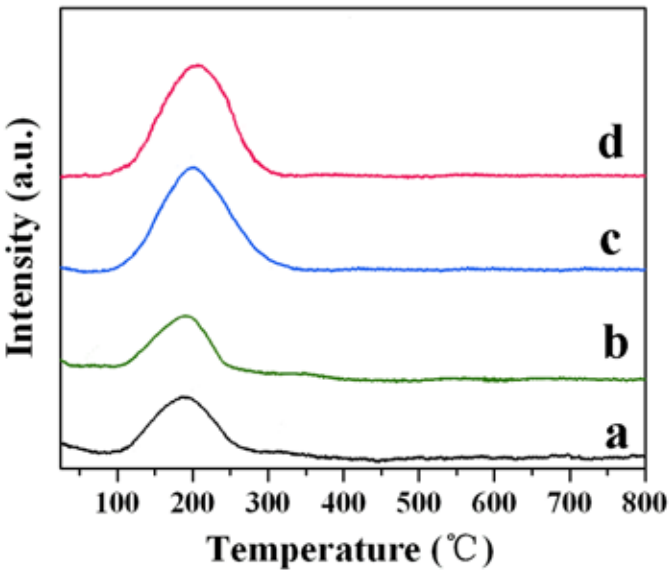

Figure S2. H_2-TPD profiles of (a) Ru-B/TNT-IMP, (b) Ru-B/TNS-IMP, (c) Ru-B/TNT, (d) Ru-B/TNS.

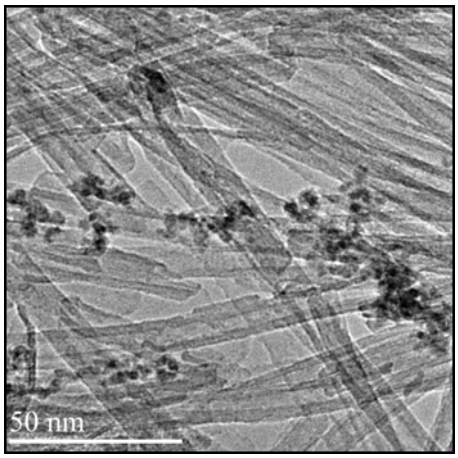

Figure S3. TEM image of Ru-B catalyst prepared by the confined synthesis method in which $RuCl_3 \cdot 3H_2O$ water solution was used.

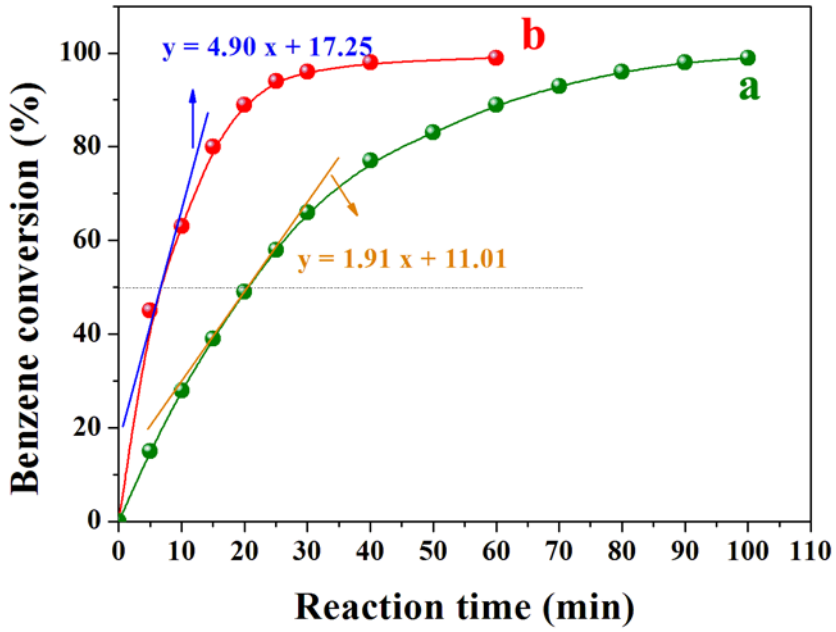

Figure S4. Benzene conversion as a function of reaction time over Ru-B/TNT catalyst (a) and Ru-B/TNS catalyst (b). The slope of the conversion-time plot at the half conversion of benzene was used to indicate the reaction rate over different catalysts.