

# Tailoring Cu nanoparticles catalyst for methanol synthesis using the spinning disk reactor

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Supplementary data

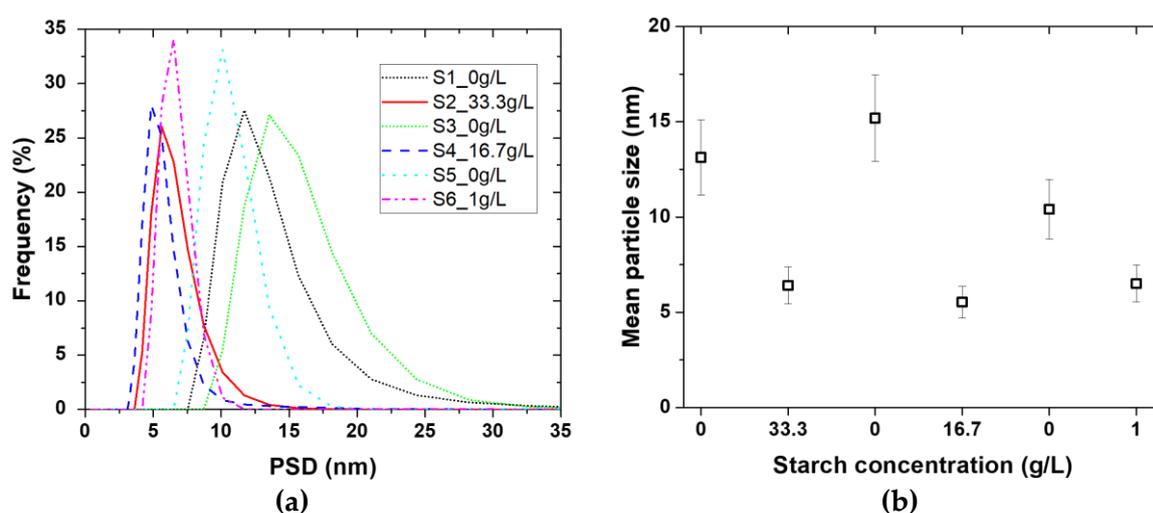


Figure S1. Effect of starch concentration on PSD (a) and mean particles size (b), 0.01 M  $\text{Cu}(\text{NO}_3)_2/0.02$  M  $\text{NaBH}_4$ , flow ratio=2, flow rate=5.5 ml/s disk speed= 2400 rpm

In order to keep the Cu nanoparticles from agglomerating, corn-starch was dissolved in 90 °C hot water to form starch gelatine. Fig S1 shows the effect of varying starch concentration on the particles size after 1 day. When no starch was added, wider particles size distribution (PSD) was observed, with varying mean particles sizes, ranging from 10 to 15 nm. However when the particles were collected in starch gelatine, narrow PSD was observed and the mean particles size was about  $6 \pm 1$  nm. Moreover, no significant difference in both the PSD and the mean particle sizes were observed from the 1 to 33.3 g/L starch. As a result, the Cu nanoparticles made with the SDR were collected directly into 10 ml of 1 wt % (10g/L) starch gelatine.