

The promoting influence of the nickel species in the controllable synthesis and catalytic property of the nickel-ceria catalysts

Wei Liu,^a Wenzhi Wang,^b Ke Tang,^a Jinxin Guo,^a Yuqing Ren,^a Shuping Wang,^a Lijun Feng,^a and Yanzhao Yang,^{a*}

^a Key Laboratory for Special Functional Aggregate Materials of Education Ministry, School of Chemistry and Chemical Engineering, Shandong University, Jinan 250100, PR China. E-mail: yzhyang@sdu.edu.cn; Fax: +86 531 88564464; Tel: +86 531 88362988.

^b Shandong Experimental High School, Jinan, 250001, PR China

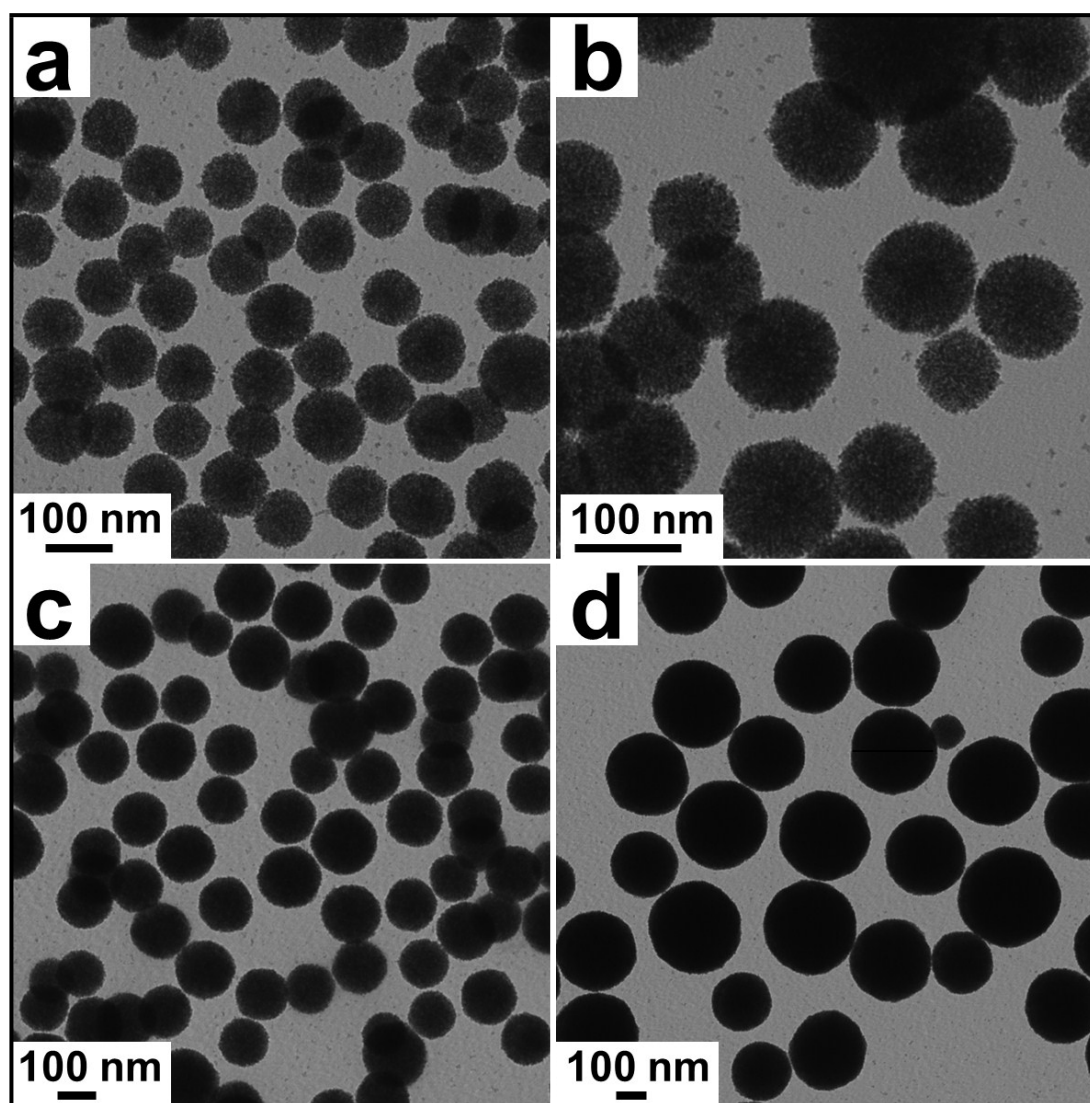


Fig. S1 The TEM images of the as-prepared cobalt-ceria samples when different volume of the 0.5M $\text{Co}(\text{NO}_3)_2$ solution is added: (a) 115 μL , (b) 230 μL , (c) 460 μL , (d) 575 μL .

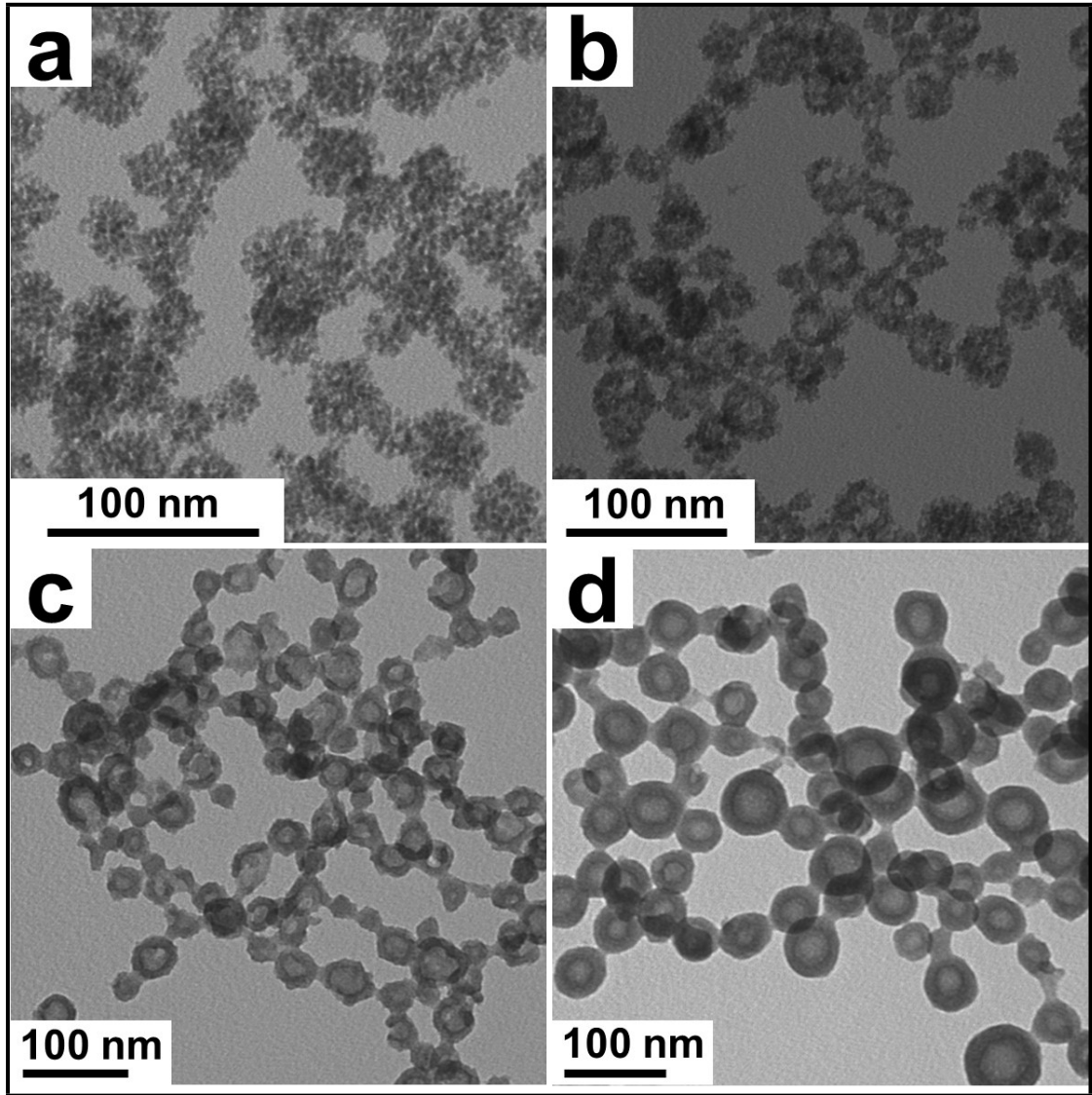


Fig. S2 The TEM images of the as-prepared copper-ceria samples when different volume of the 0.5M $\text{Cu}(\text{NO}_3)_2$ solution is added: (a) 115 μL , (b) 230 μL , (c) 460 μL , (d) 575 μL .

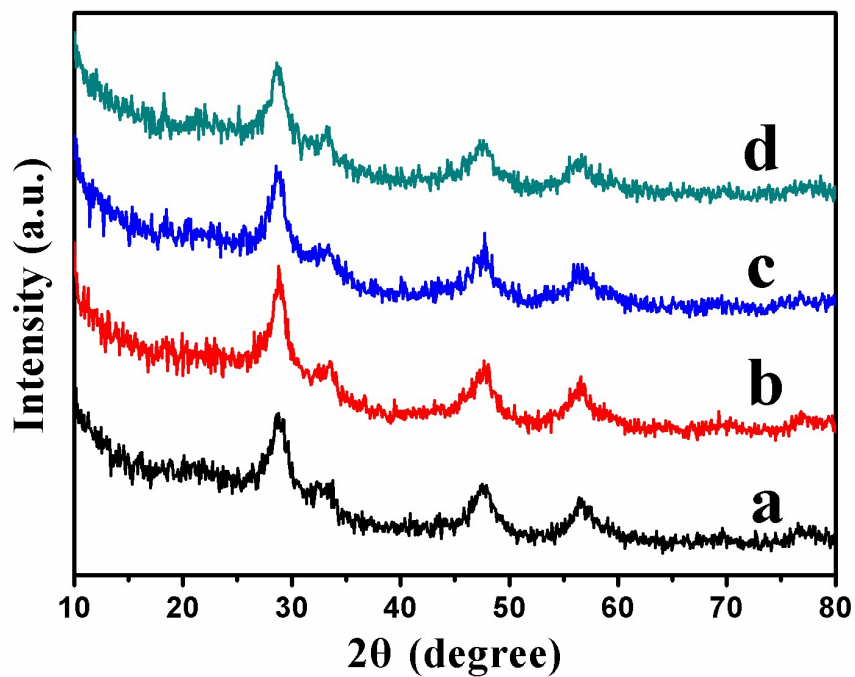


Fig.S3 The XRD patterns of the cobalt-ceria products when the volume of the added 0.5M Co(NO₃)₂ solution is as follows: (a) 115 μL, (b) 230 μL, (c) 460 μL, (d) 575 μL.

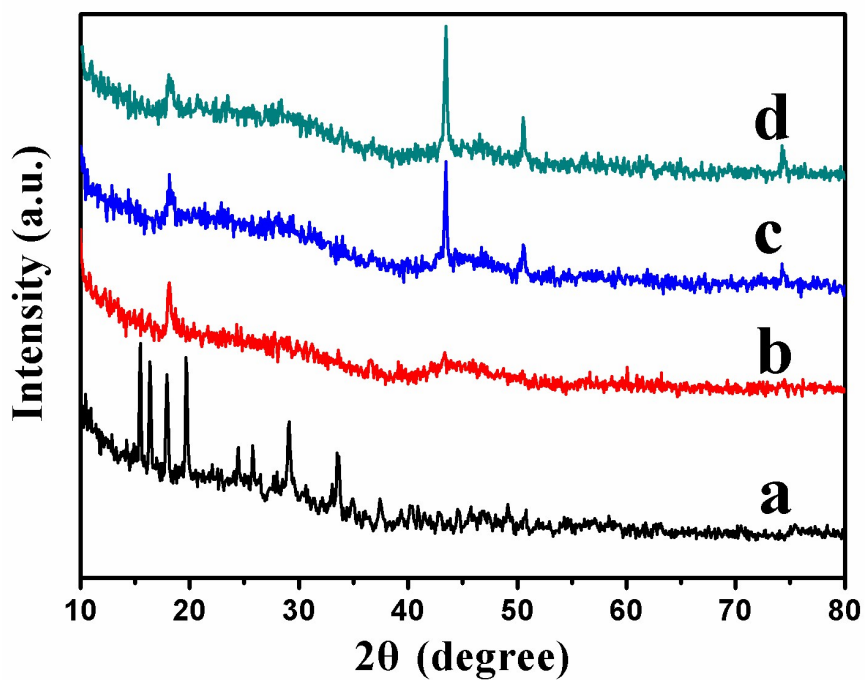


Fig.S4 The XRD patterns of the cobalt-ceria products when the volume of the added 0.5M Cu(NO₃)₂ solution is as follows: (a) 115 μL, (b) 230 μL, (c) 460 μL, (d) 575 μL.