Supporting information for

Supported Cobalt Oxide Nanocrystals: Morphology Control and Catalytic Performance For Styrene Oxidation

Zhen Wang, [‡a] Xianliang Hou, [‡a] Jingmei Shen[b] and Tiehu Li[*a]

Contents

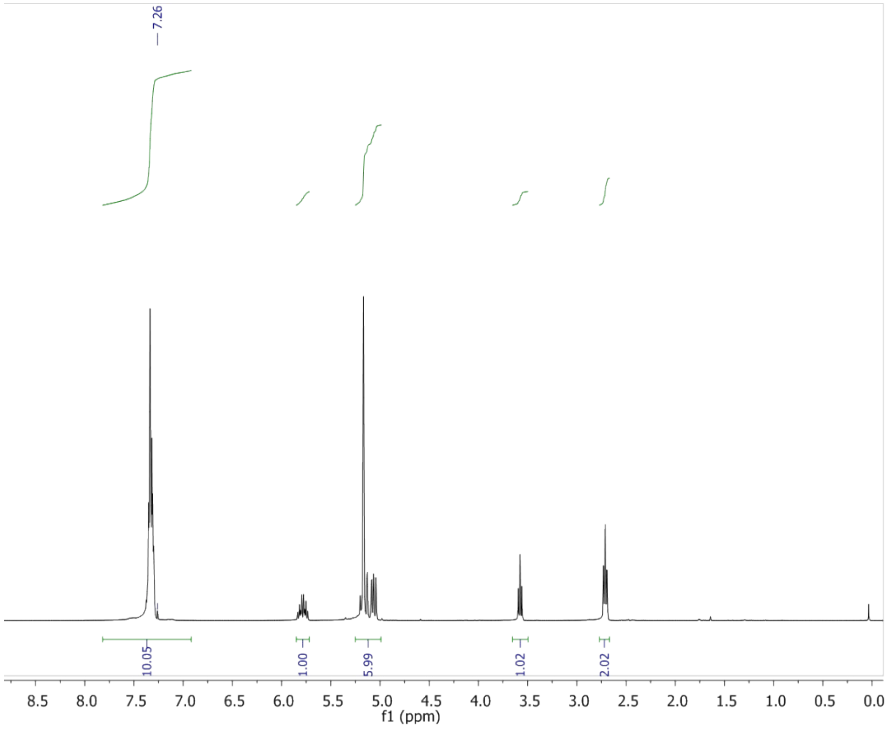

Fig. S-1 ^{1}H NMR spectrum of compound I.

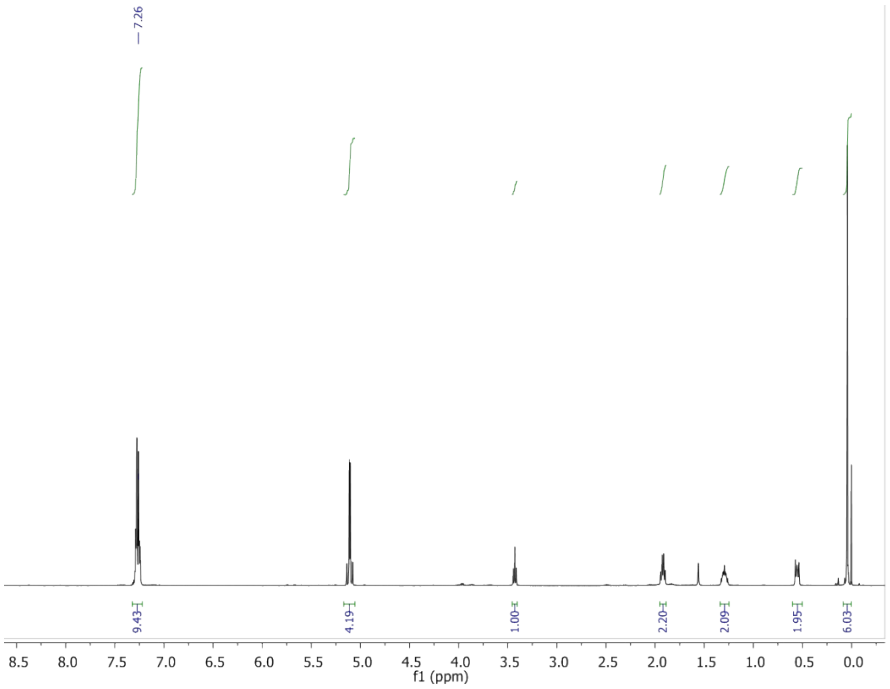

Fig. S-2a ^{1}H NMR spectrum of compound III.

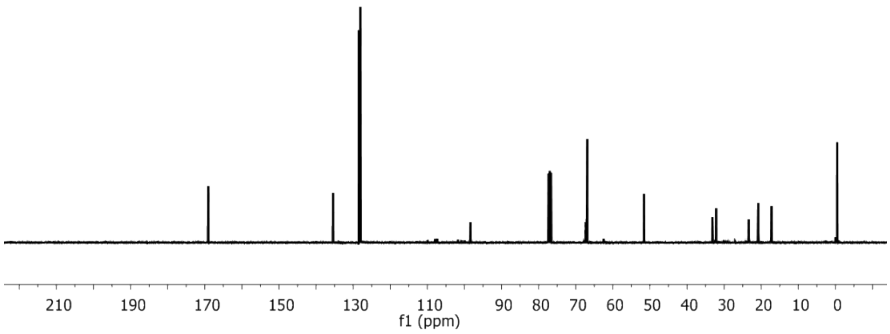

Fig. S-2b ^{13}C NMR spectrum of compound III.

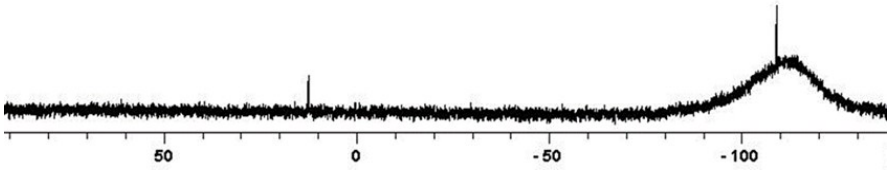

Fig. S-2c ^{29}Si NMR spectrum of compound III.

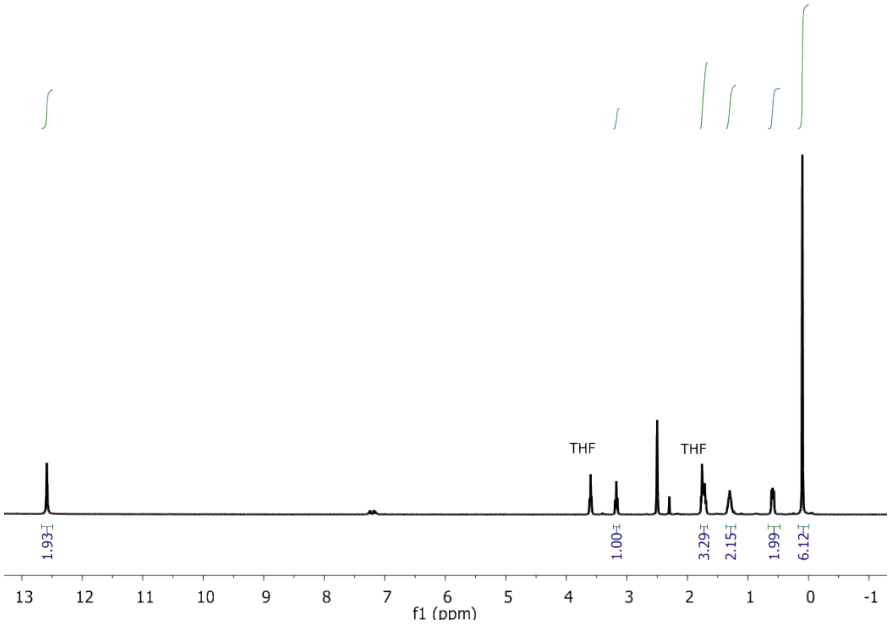

Fig. S-3a ^{1}H NMR spectrum of compound IV.

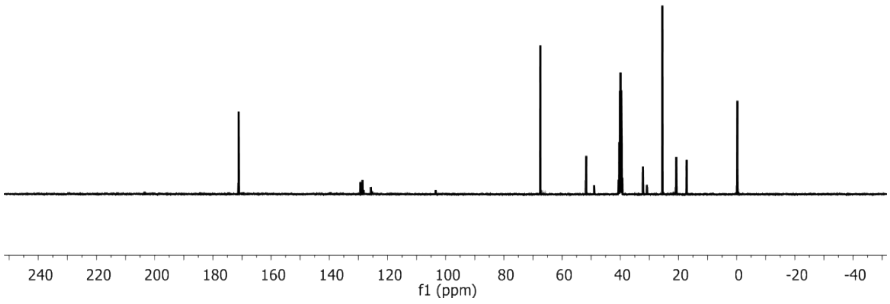

Fig. S-3b ^{13}C NMR spectrum of compound IV.

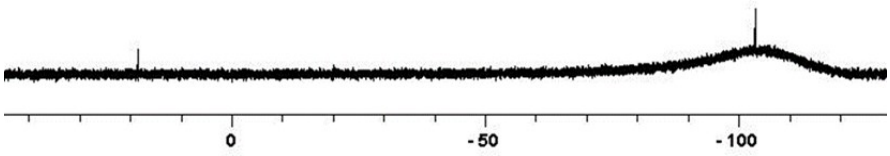

Fig. S-3c ^{29}Si NMR spectrum of compound IV

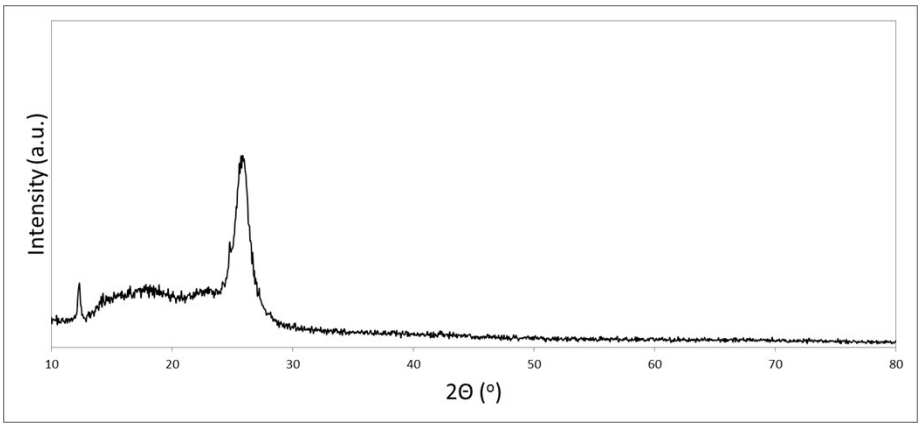

Fig. S-4. XRD spectrum of pink cobalt nanospheres before calcination.

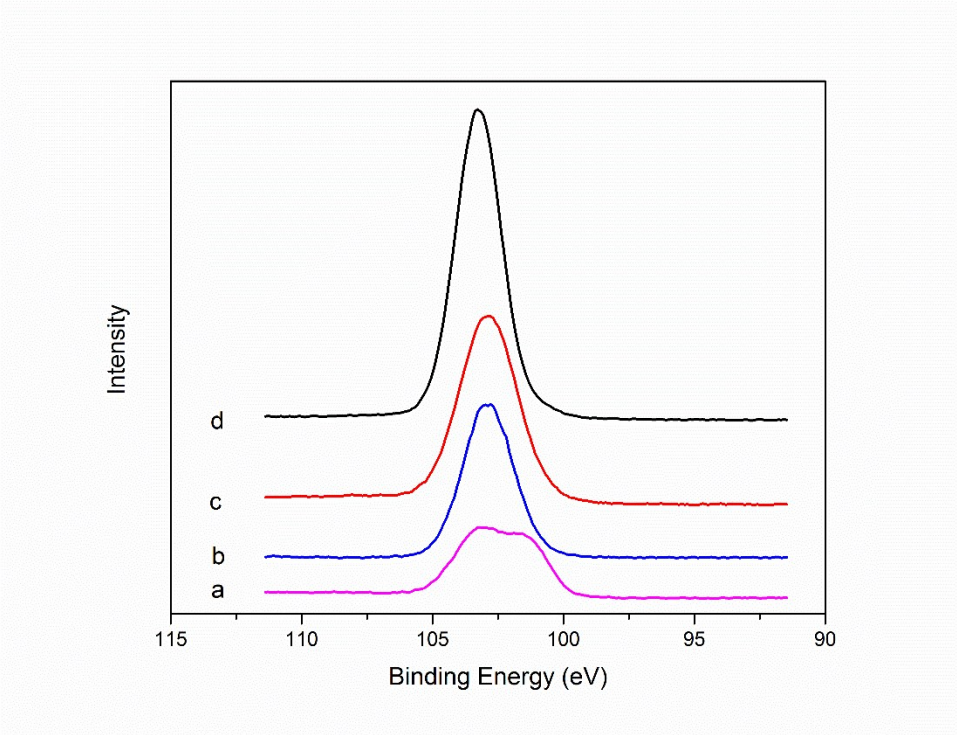

Fig. S-5 Si 2p XPS spectra of (a) cobalt nanospheres before calcination, (b) Co_3O_4-150, (c) Co_3O_4-550 and (d) Co_3O_4-650

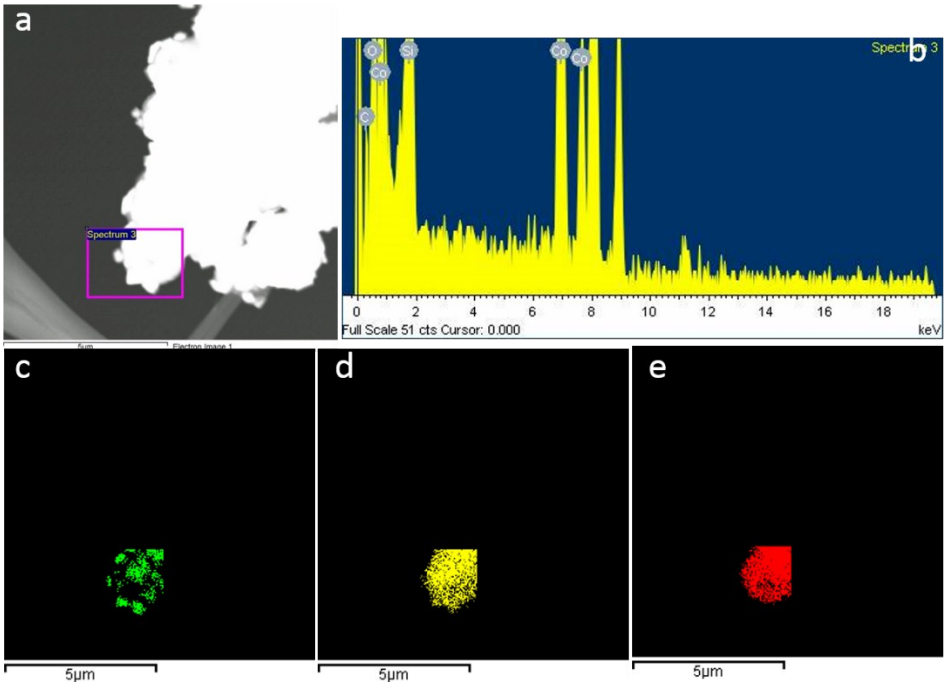

Fig. S-6a. EDS spectra and Element mapping of Co_3O_4-550. (a) SEM photo (b) EDS spectra (c) Green: Cobalt (d) Yellow: Oxygen (e) Red: Silicon

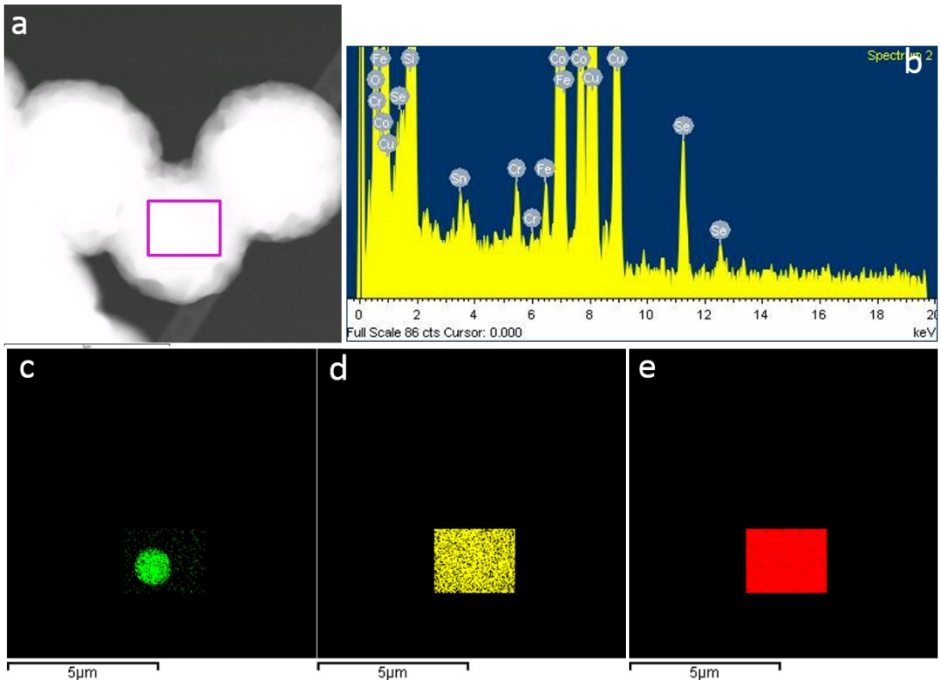

Fig. S-6b. Element mapping and EDS spectra of Co_3O_4-650. (a) SEM photo (b) EDS spectra (c) Green: Cobalt (d) Yellow: Oxygen (e) Red: Silicon

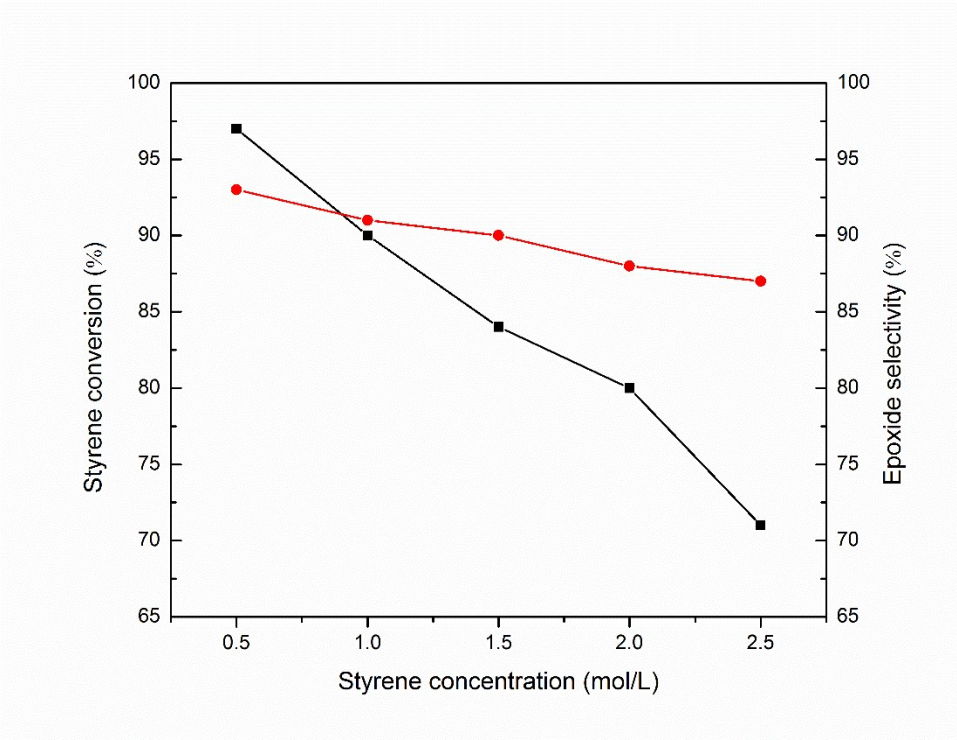

Fig. S-7 Effect of styrene concentration on the epoxidation of styrene with H_2O_2 over Co_3O_4-550: red circle: epoxide selectivity, black square: styrene conversion. Reaction conditions: catalyst, 30 mg; CH_3CN, 20 mL; H_2O_2, 30 mmol; temperature, 333 K, reaction time, 8 h.