Electronic Supplementary Material (ESI) for Journal of Materials Chemistry A

Supporting Information

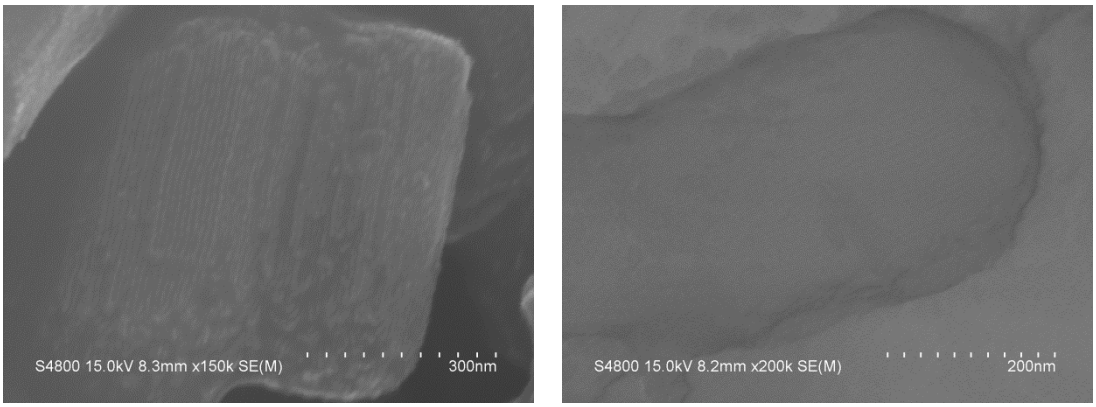

Figure S1 SEM images of SBA-15© (left) and Co_3O_4(66%)@SBA-15© (right) .

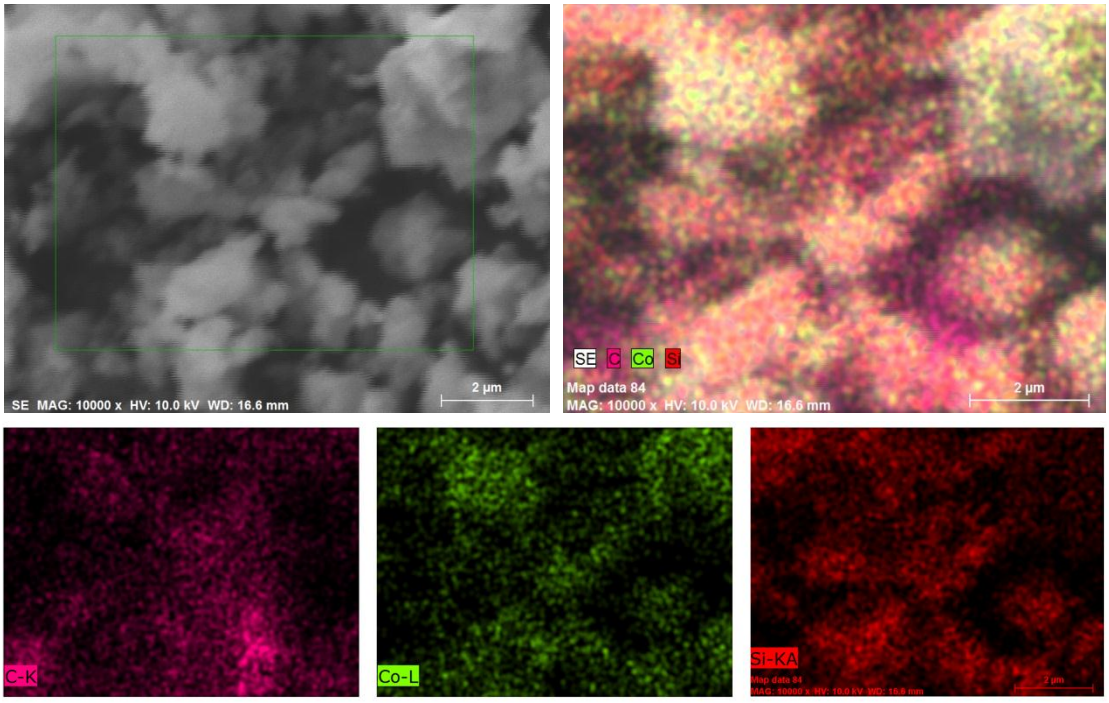

Figure S2 EDX mapping of elements C, Co, Si in Co_3O_4(66%)@SBA-15©.

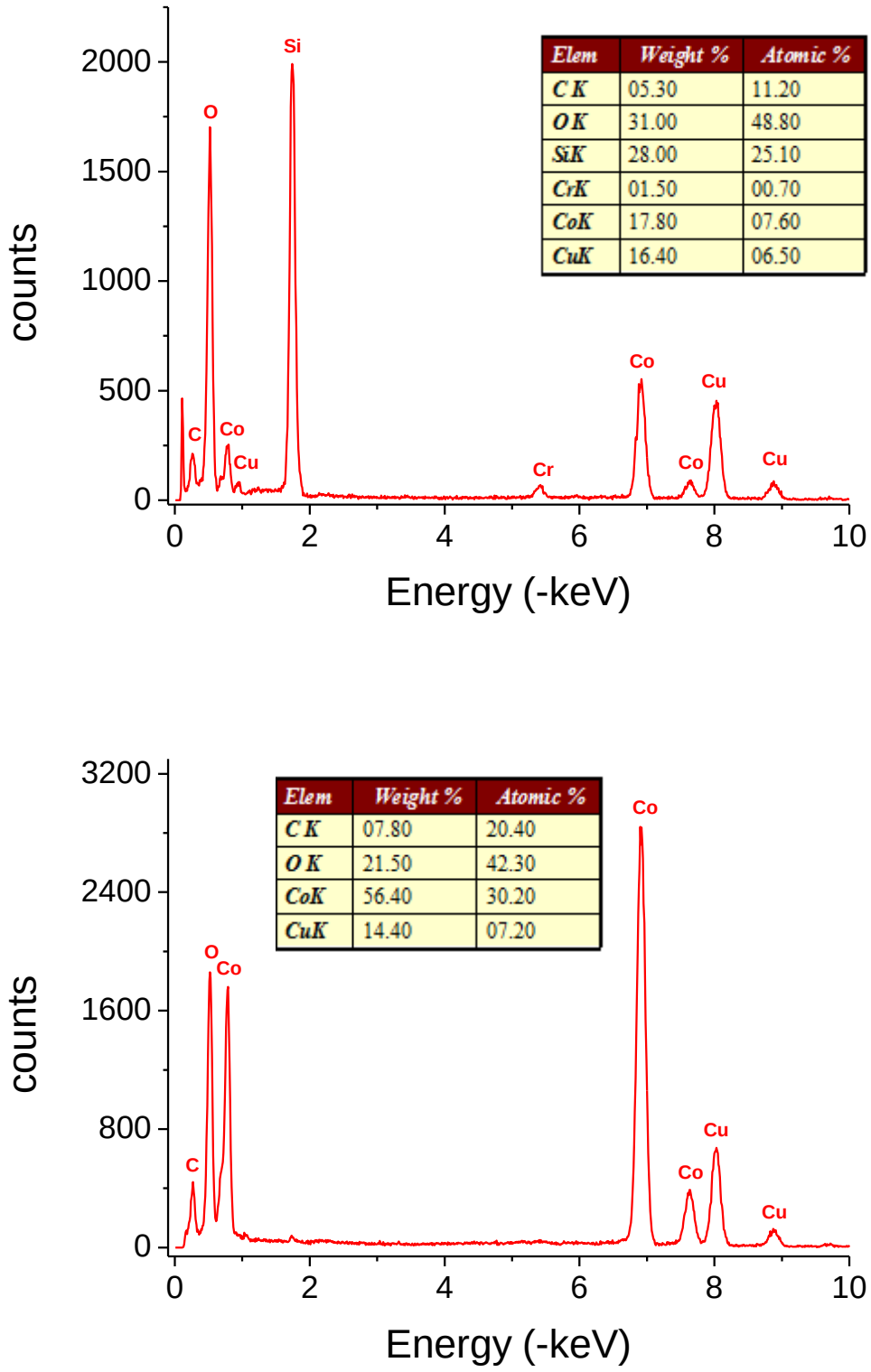

Figure S3 Energy-dispersive X-ray spectra of Co_3O_4(66%)@SBA-15© (top) and the corresponding Co_3O_4 clusters (bottom) after removal of the host.

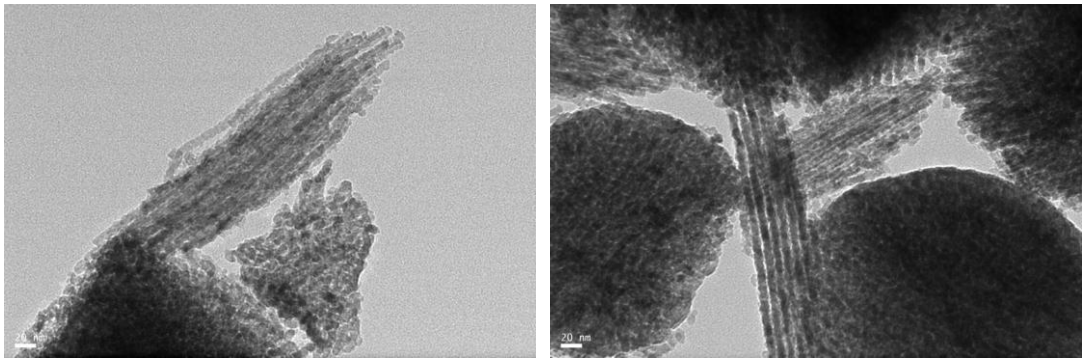

Figure S4. TEM images of the Co_3O_4 clusters after removal of the host

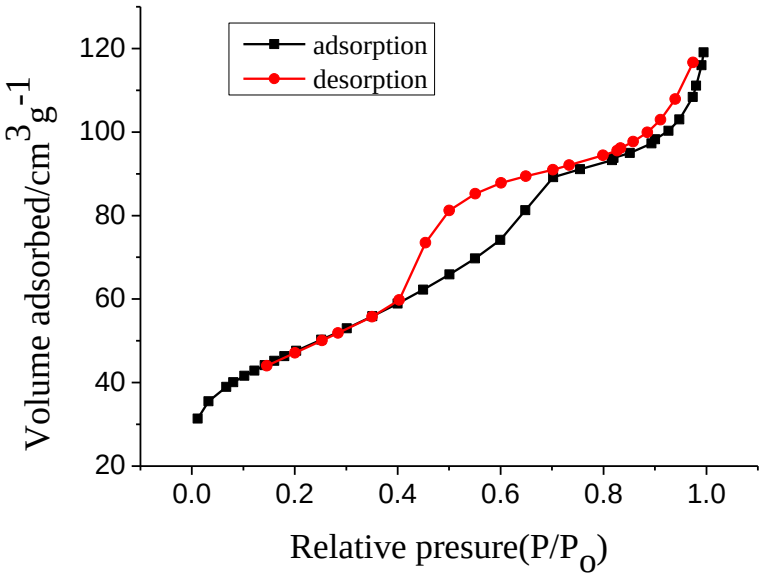

Figure S5. N_2 adsorption/desorption isotherm of Co_3O_4(66%)@SBA-15©

Table S1. Pore characteristics of Co_3O_4(66%)@SBA-15©, SBA-15© and SBA-15

sample	S_{BET} (m^2g^{-1})	V_t (cm^3g^{-1})	pore size (nm)
Co_3O_4(66%)@SBA-15©	168	0.18	4.3
SBA-15©	280	0.37	5.2
SBA-15[1]	850	1.17	8.9

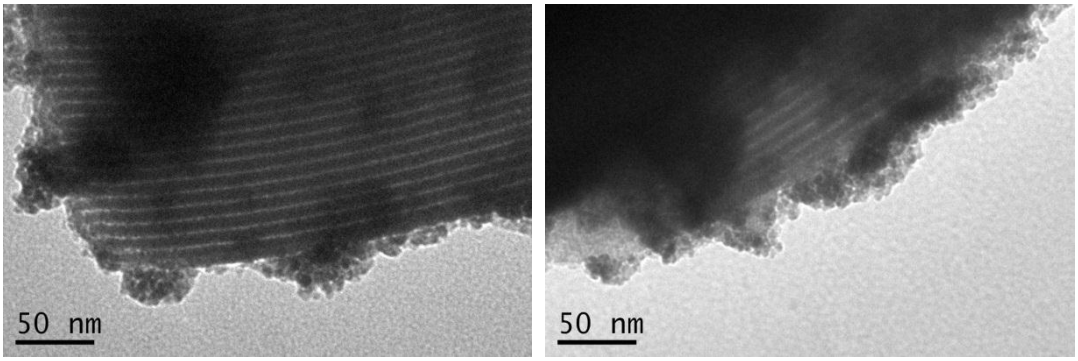

Figure S6. TEM images of Co_3O_4(80%)@SBA-15©

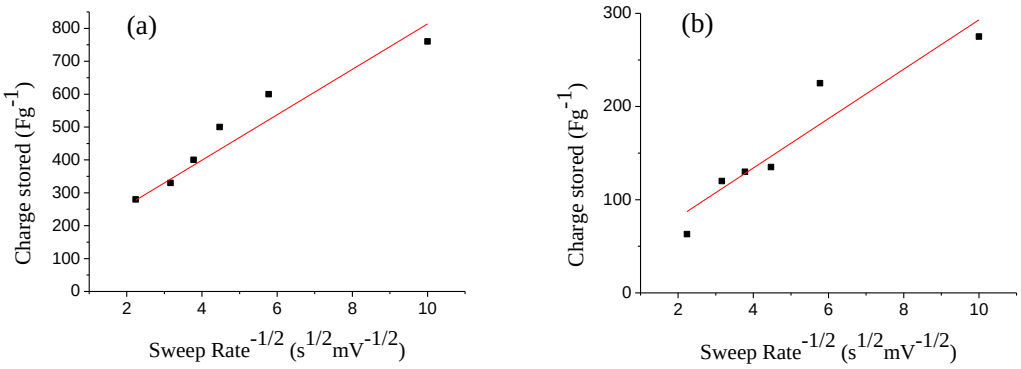

Figure S7. Plotting of the total voltammetric charge (q_T) against the reciprocal of the square root of the potential sweep rate (ν) and extrapolating ν to ∞ (a: Co3O4(66%)@SBA-15© electrode; B: Co_3O_4 nanocrystals electrode).

References:

1. D. Zhao, J. Feng, Q. Huo, N. Melosh, G. H. Fredrickson, B. F. Chmelka and G. D. Stucky, *Science*, 1998, **279**, 548-552.