Electronic Supplementary Material (ESI) for Dalton Transactions.

Supporting information

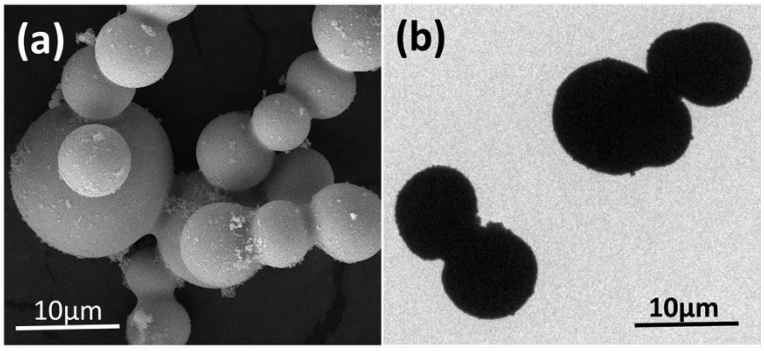

Fig. S1 SEM (b) and (b) TEM images of $ZnCo_2O_4$ precursors.

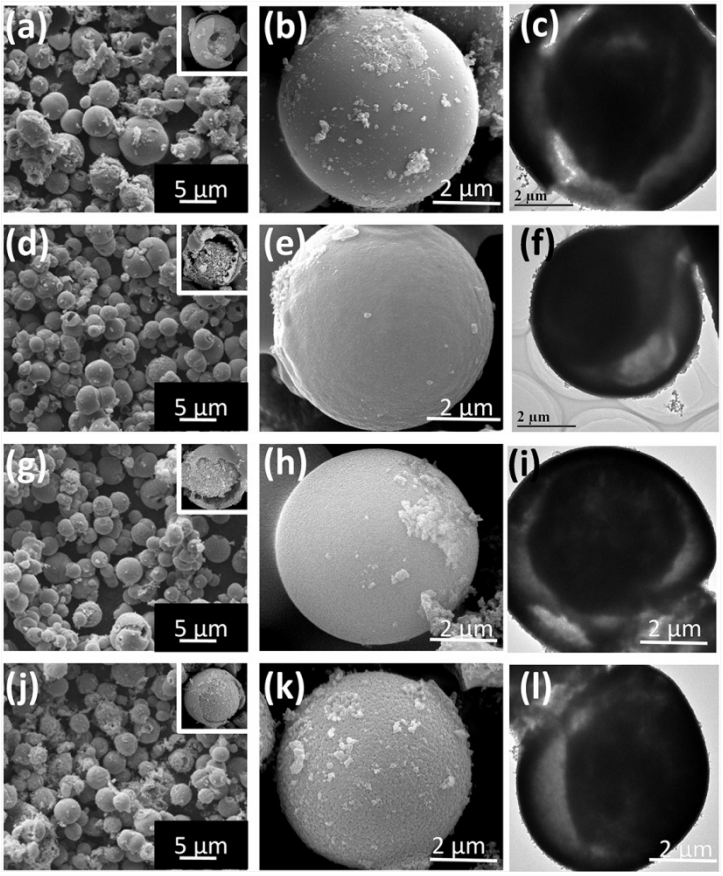

Fig. S2 SEM and TEM images of (a-c) $MnCo_2O_4$; (d-f) $NiCo_2O_4$; (g-i) $CoMn_2O_4$; (j-l) $ZnMn_2O_4$ microspheres with yolk-shell structure, the insets are corresponding high-magnification SEM images.

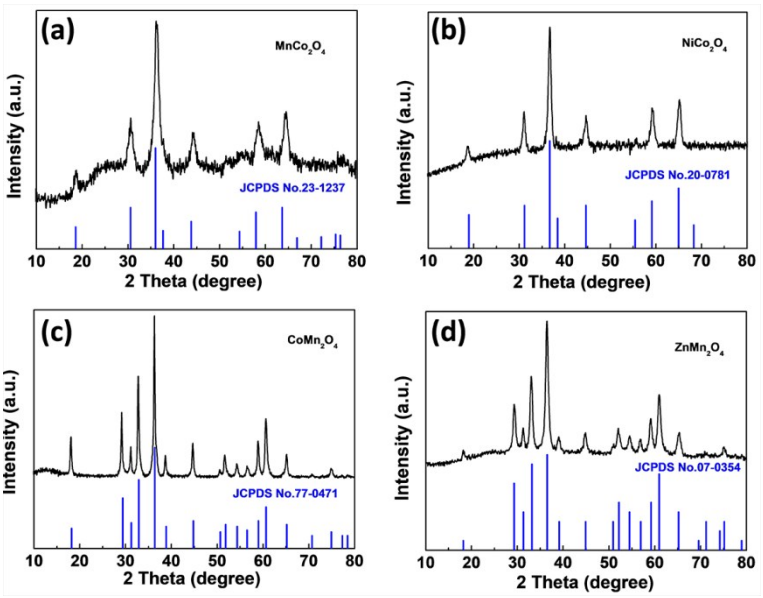

Fig. S3 XRD patterns of (a) $MnCo_2O_4$; (b) $NiCo_2O_4$; (c) $CoMn_2O_4$; (d) $ZnMn_2O_4$

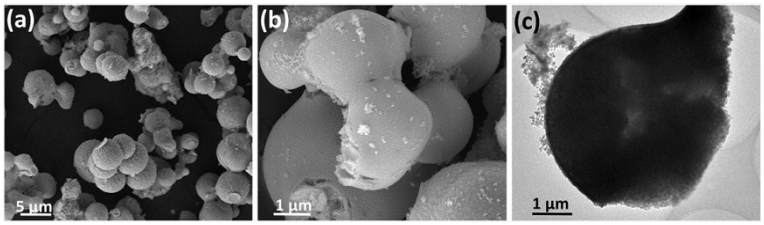

Fig. S4 SEM and TEM images of $ZnCo_2O_4$ solid microspheres without PEG-400.

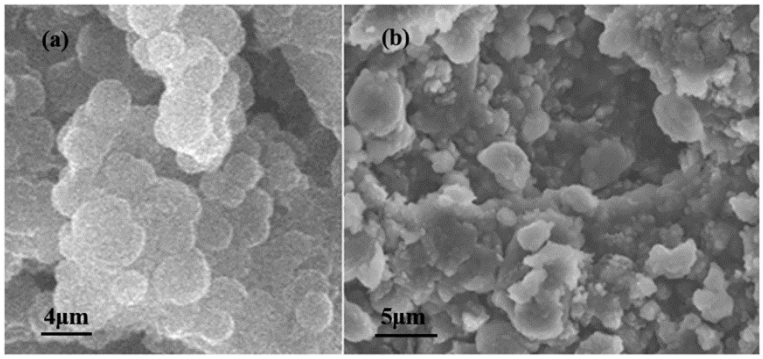

Fig. S5 SEM images of yolk-shell $ZnCo_2O_4$ microspheres (a) and solid $ZnCo_2O_4$ microspheres (b) at the current density of 900 mA g^{-1} for 100 cycles.

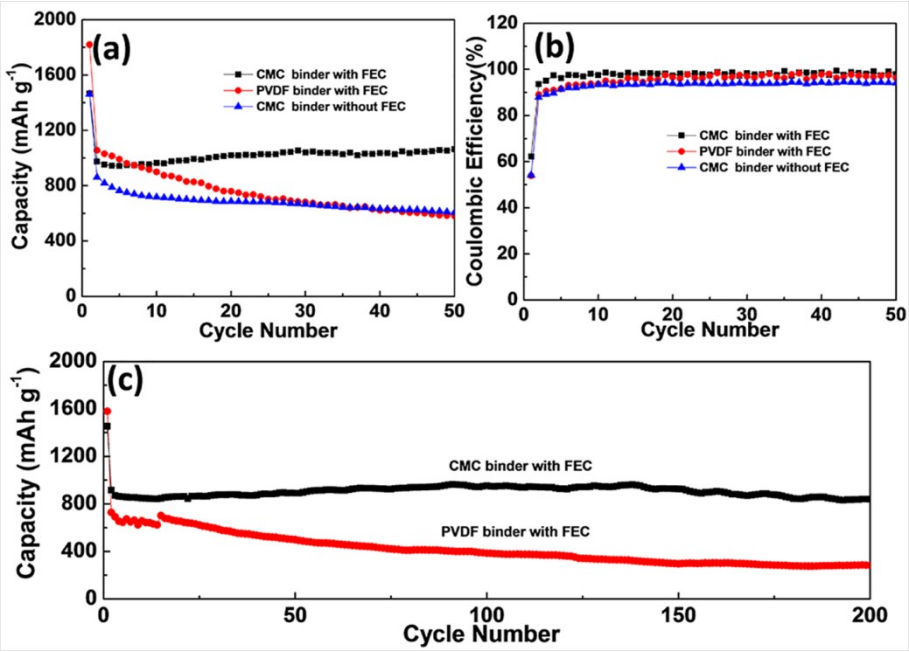

Fig. S6 (a) Cycling performance at the current of 200 mA·g^{-1} and (b) coulombic efficiency, (c) discharge cycling performance of $ZnCo_2O_4$ yolk-shell microspheres at the current density of 900 mA·g^{-1} with different binders with or without FEC.