

## Supporting Information

### **Enhanced lithium storage capacity of Co<sub>3</sub>O<sub>4</sub> hexagonal nanorings derived from Co-based metal organic frameworks**

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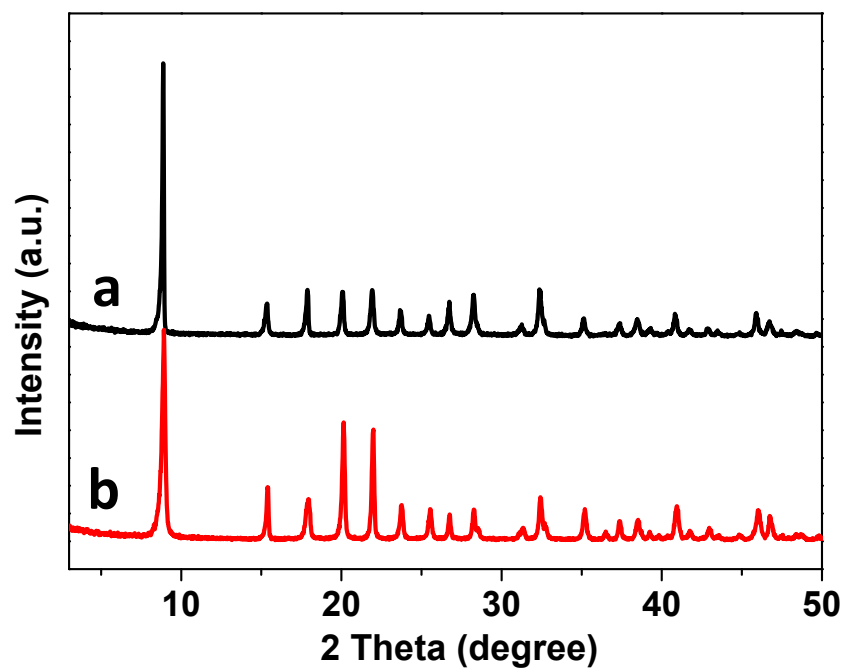


Fig. S1 XRD patterns of (a) Co-NTCDA microspindles and (b) Co-NTCDA microflowers.

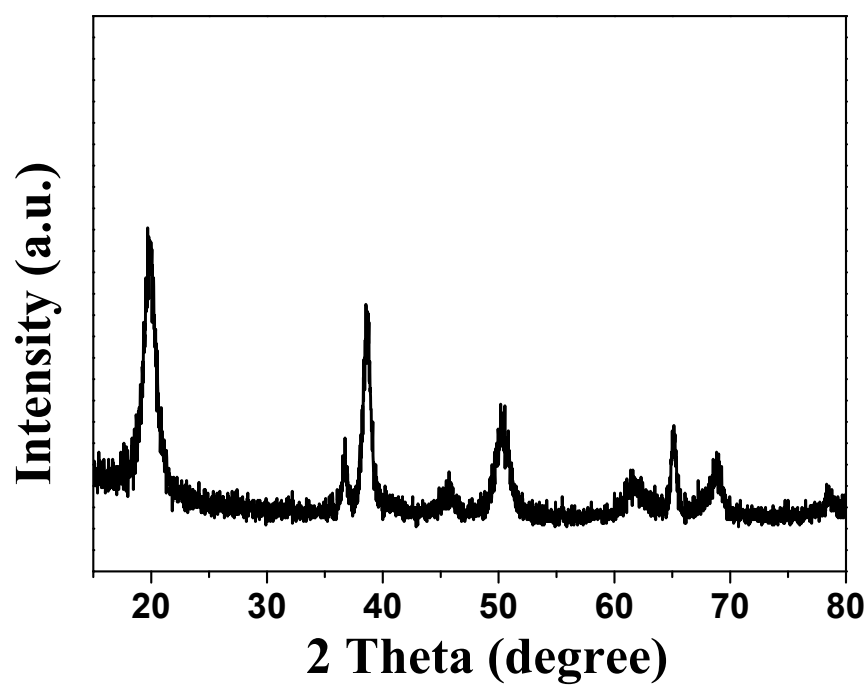


Fig. S2 XRD pattern of hydrolyzed products using Co-NTCDA microflowers in TMAOH system.

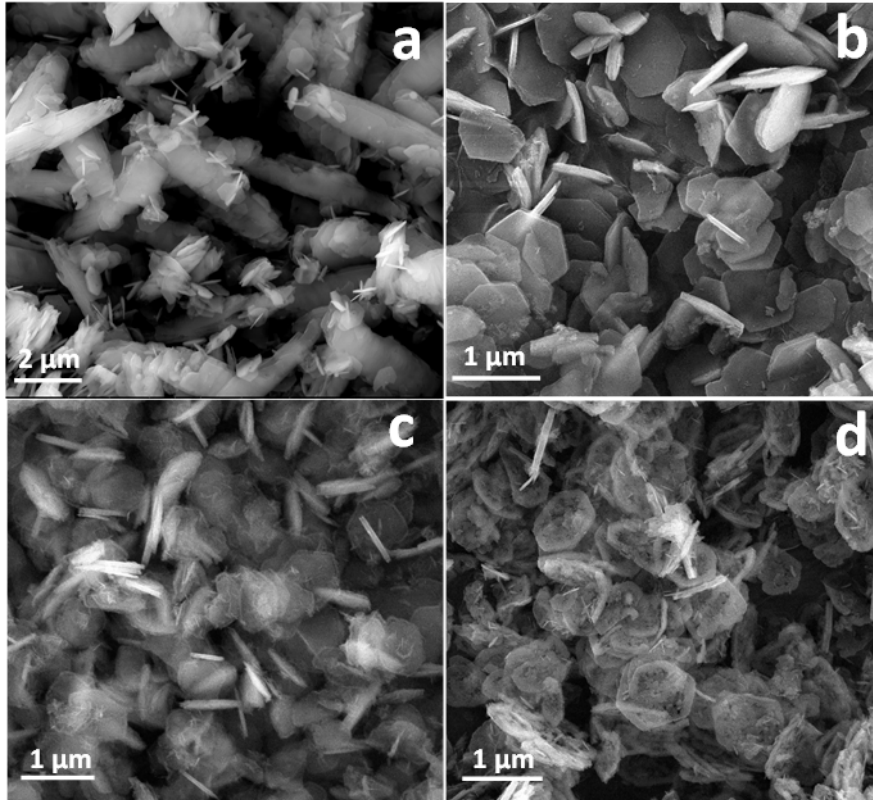


Fig. S3 SEM images of hydrolysis products of Co-NTCDA microspindles under TMAOH system at different hydrolysis intervals (a) 1h, (b) 2h, (c) 8h and (d) 56h.

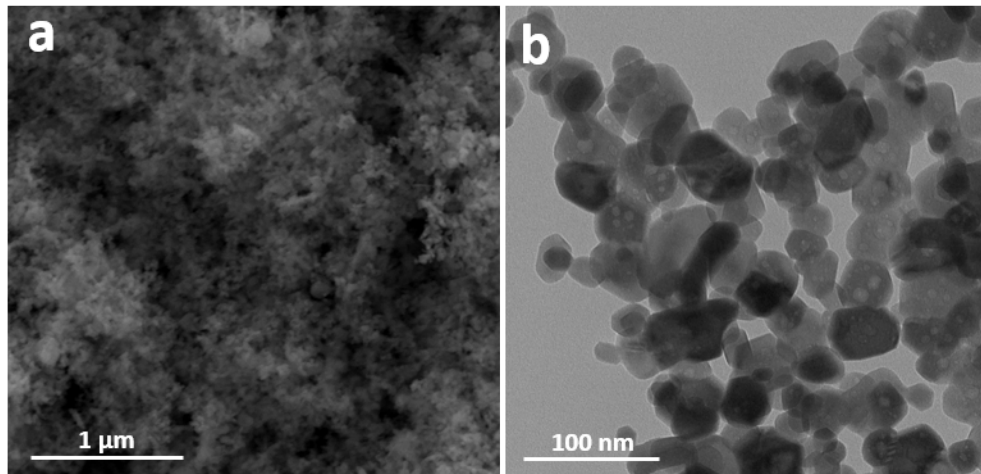


Fig. S4 (a) SEM and (b) TEM images of  $\text{Co}_3\text{O}_4$  prepared via calcination of hydrolyzed product using Co-NTCDA microspindles as precursor in TPAOH system at 500 °C.

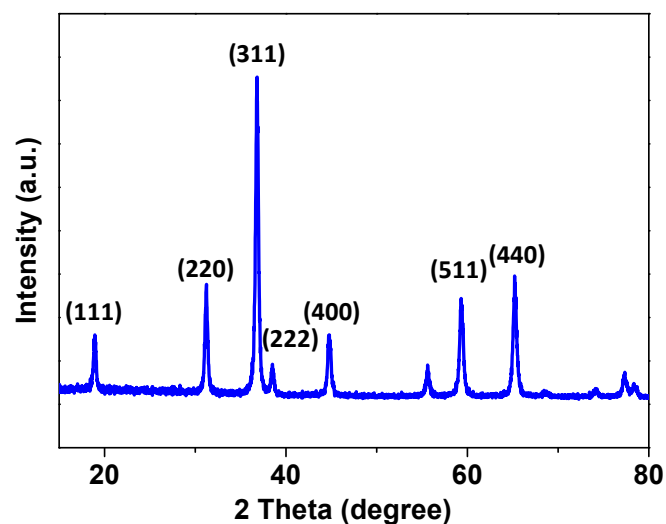


Fig. S5 XRD patterns of  $\text{Co}_3\text{O}_4$  prepared via calcination of hydrolyzed product using Co-NTCDA microspindles as precursor in TPAOH system at 500 °C.

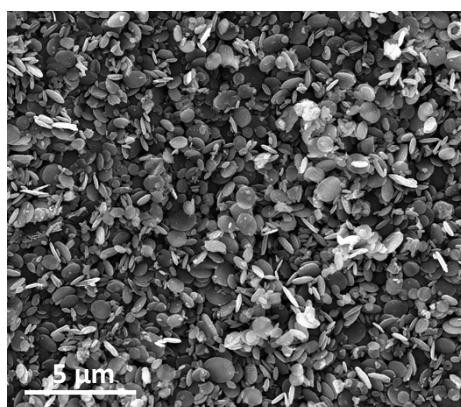


Fig. S6 SEM images of Co-PTCDA microellipsoids.

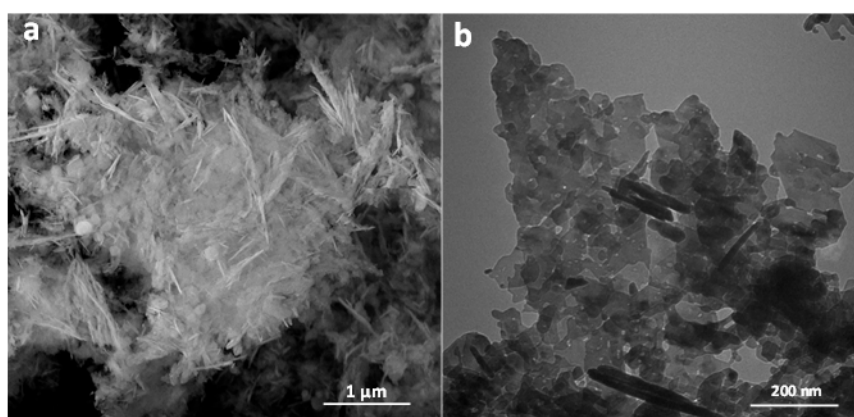


Fig. S7 (a) SEM and (b) TEM images of  $\text{Co}_3\text{O}_4$  prepared via calcination of hydrolyzed product using Co-PTCDA microellipsoids as precursor in TMAOH system at 500 °C.

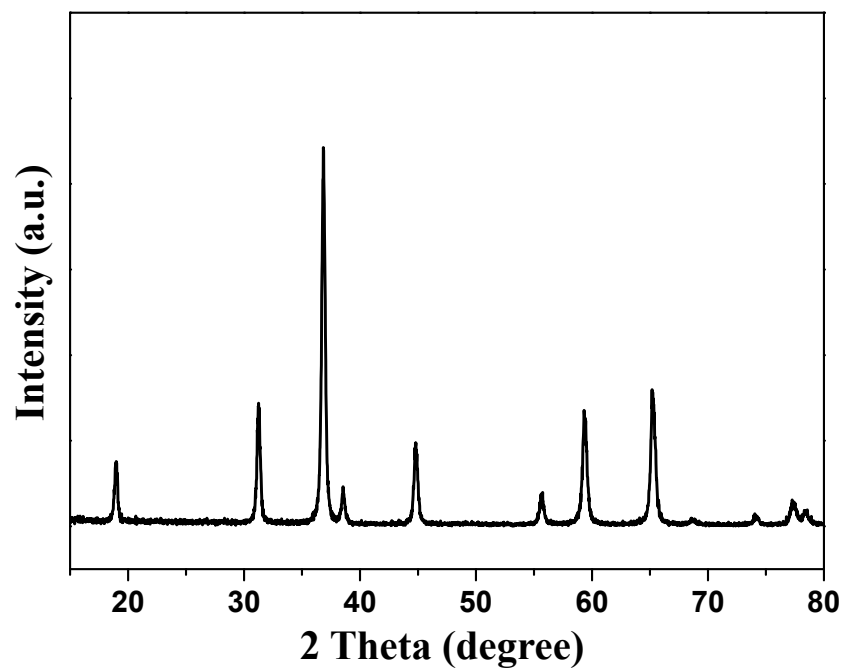


Fig. S8 XRD pattern of  $\text{Co}_3\text{O}_4$  prepared via calcination of hydrolyzed product using Co-PTCDA microellipsoids as precursor in TMAOH system at 500 °C.

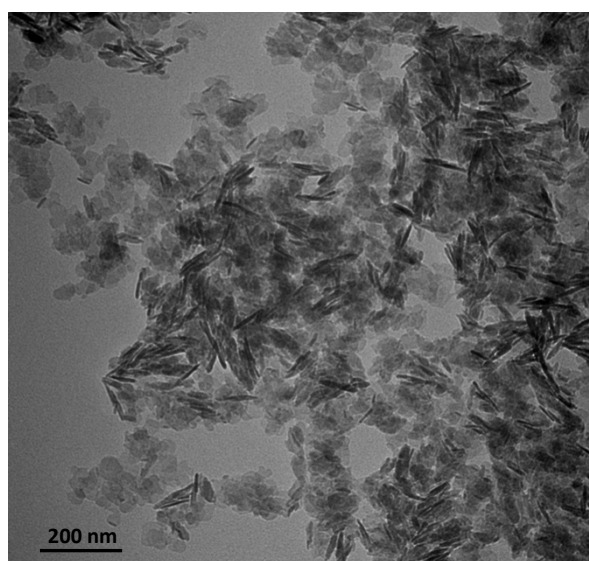


Fig. S9 TEM image of hydrolysis product obtained by mixing  $\text{Co}(\text{OAc})_2$ , NTCDA, TMAOH in water.