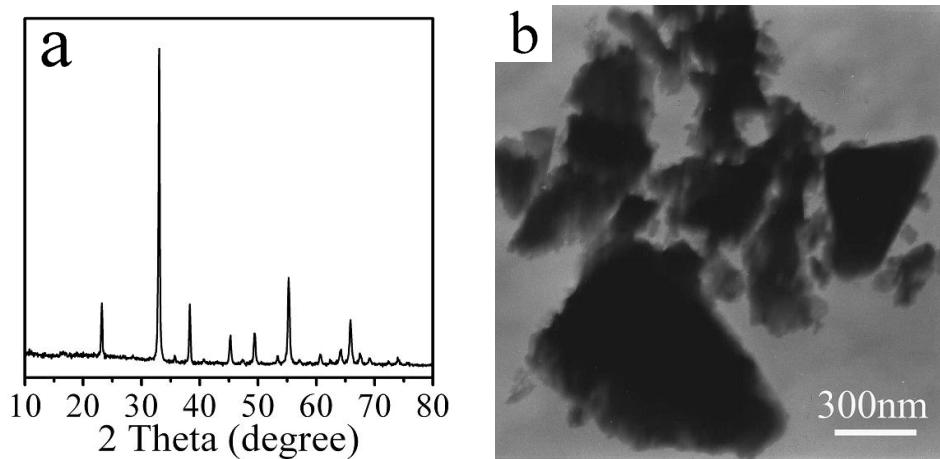
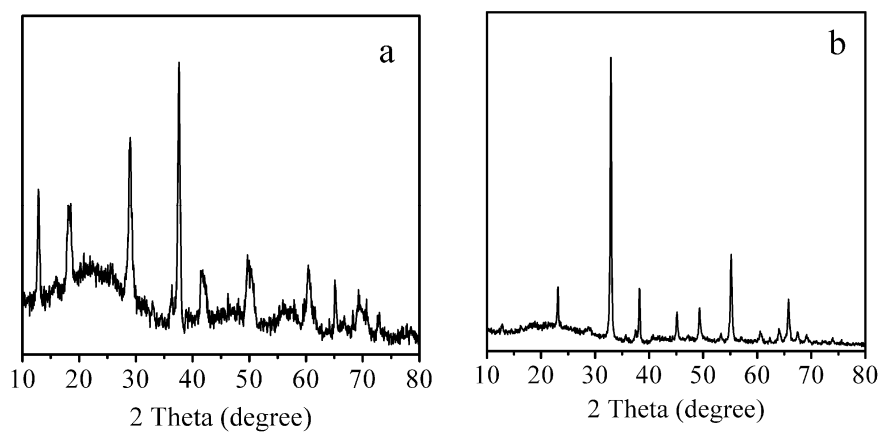


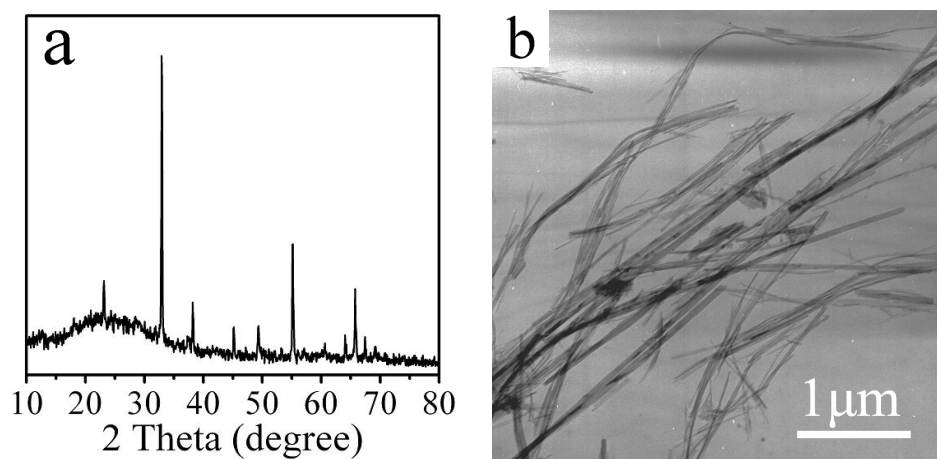
## Electronic Supplementary Information (ESI)



**Figure S1.** XRD pattern (a) and TEM image (b) of the  $\text{Mn}_2\text{O}_3$  obtained by heating  $\text{MnO}_2$  in air atmosphere at  $650^\circ\text{C}$  for 20 h..



**Figure S2.** XRD patterns of the prepared  $\text{Na}_2\text{Mn}_8\text{O}_{16}$  (a) and the mixture of  $\text{Mn}_2\text{O}_3$  and  $\text{Na}_2\text{Mn}_8\text{O}_{16}$  with the weight ratio of  $w_{\text{Mn}_2\text{O}_3} / w_{\text{Na}_2\text{Mn}_8\text{O}_{16}} = 9:1$  (b).



**Figure S3.** XRD pattern (a) and TEM image (b) of the  $\text{Mn}_2\text{O}_3$  nanowires after the catalysis evaluation.