

# Gravity driven ultrafast removal of organic contaminants across catalytic superwetting membrane

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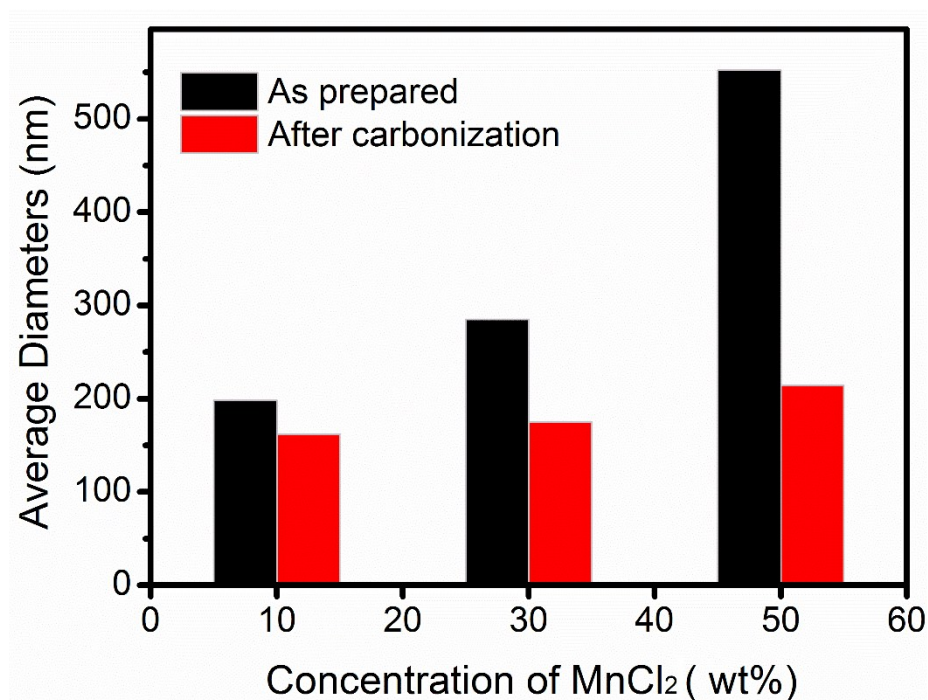


Fig. S1 Average diameters of the as-prepared MnCl<sub>2</sub>/PAN and relevant carbonized nanofibrous membranes with various contents of MnCl<sub>2</sub> to PAN: (a) 10, (b) 30 and (c) 50 wt%.

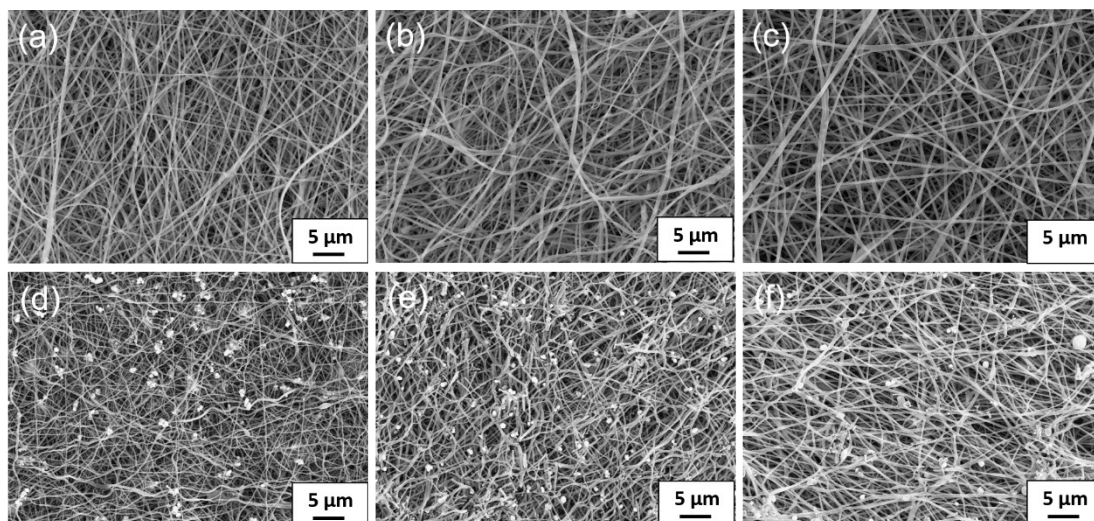


Fig. S2 FE-SEM images of the as-prepared and carbonized nanofibrous membranes fabricated from various atom ratios of Mn and Co. (a, d) 1/1, (b, e) 1/2 and (c, f) 0/1.

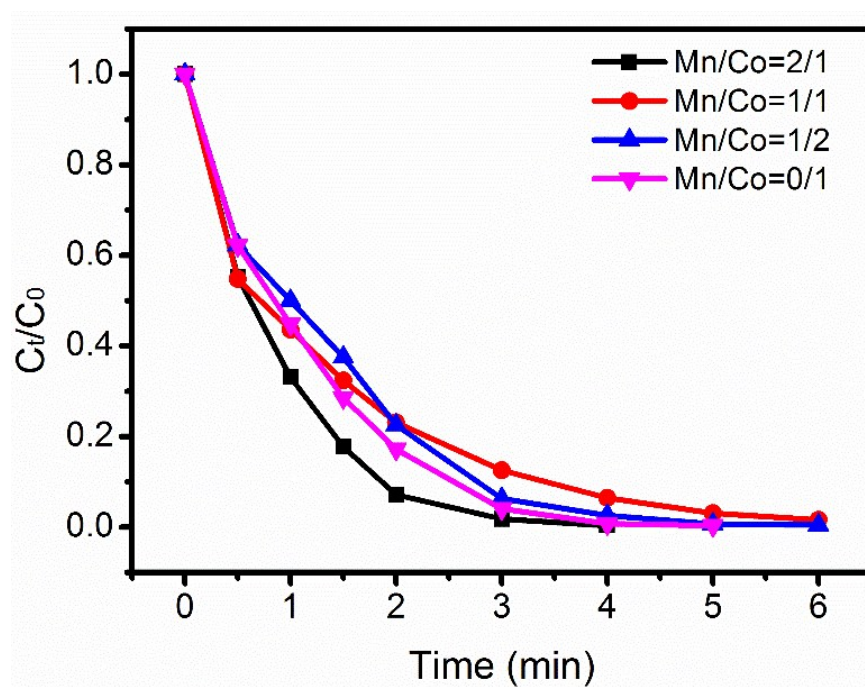


Fig. S3 Time dependence for MeB degradation using  $Mn_xCo_y@CNFs$  fabricated from various atom ratios of Mn and Co.

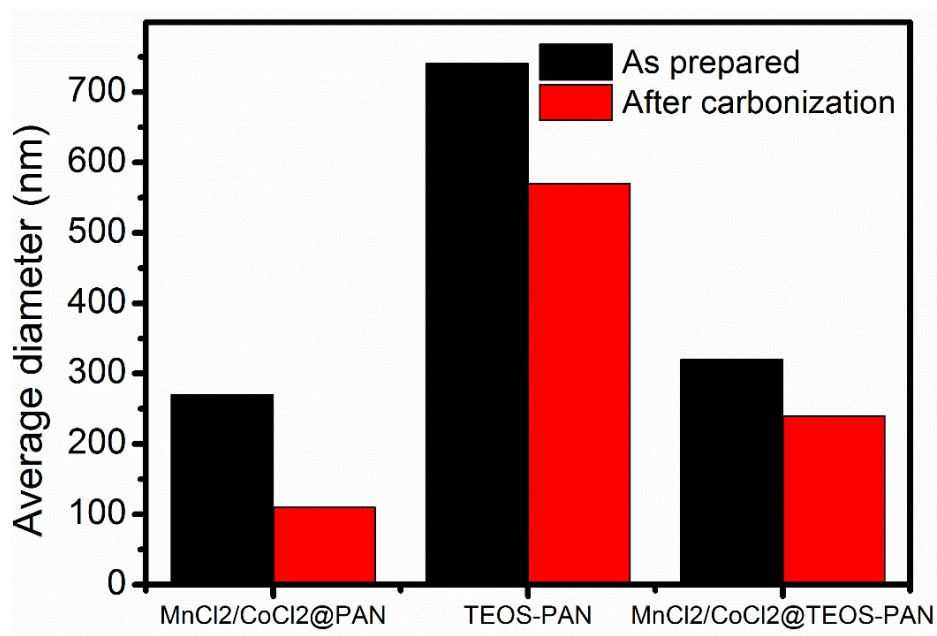


Fig. S4 Average diameters of relevant as-prepared and carbonized nanofibers.

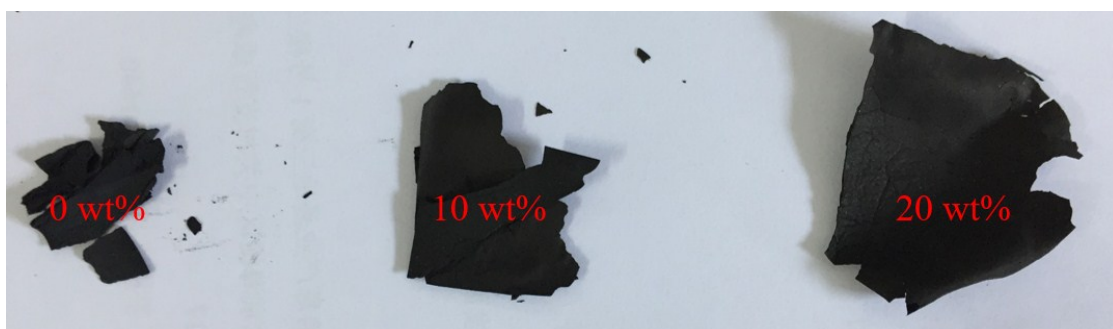


Fig. S5. Photographs showing the MnO/Co@SiO<sub>2</sub>-CNFMs containing various SiO<sub>2</sub> NPs.

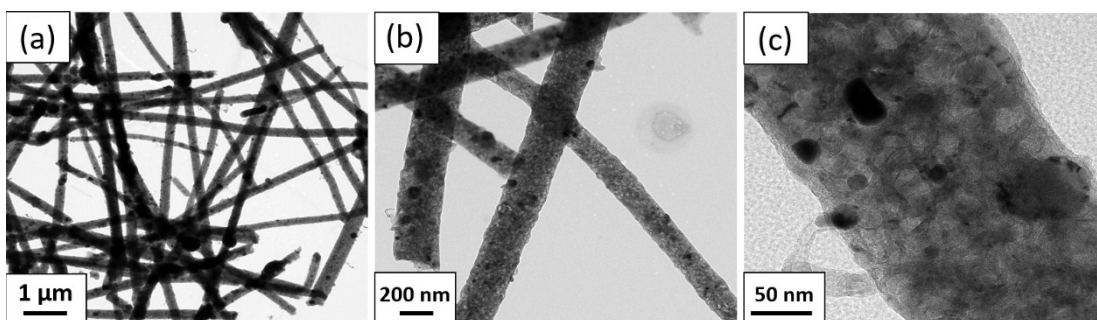


Fig. S6 Different magnification TEM images of MnO/Co@SiO<sub>2</sub>-CNFMs after 5 cycles filtration degradation.



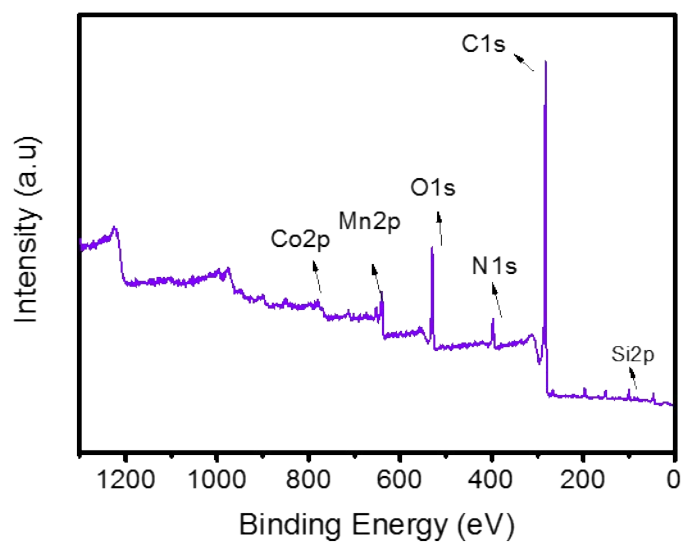


Fig. S7 XPS spectrum of MnO/Co@SiO<sub>2</sub>-CNFMs.

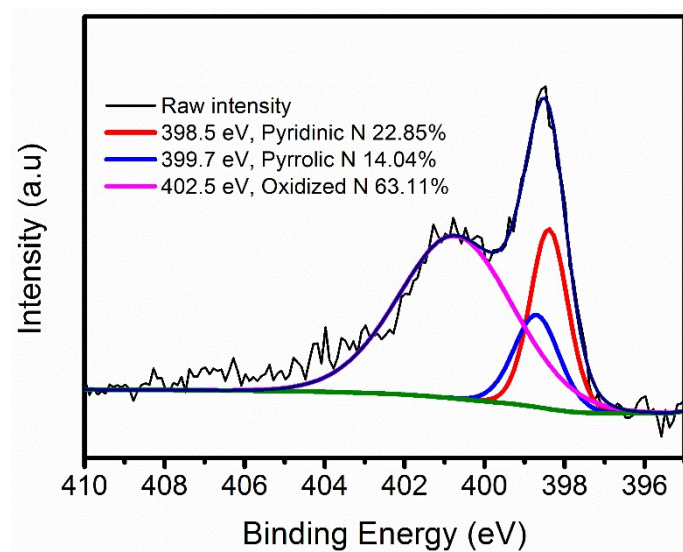


Fig. S8 High resolution N1s of MnO/Co@SiO<sub>2</sub>-CNFMs.