

Electronic supplementary information

**Asymmetric supercapacitors with excellent rate performance by  
integrating Co(OH)F nanorods and layered  $Ti_3C_2T_x$  paper**

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### **Preparation of the layered $Ti_3C_2T_x$ -paper**

The layered  $Ti_3C_2T_x$  -paper was prepared by the etching and filtrate method. Firstly,  $Ti_3C_2T_x$  suspension was synthesized follow the next steps. 1.56 g of LiF was added to 20 mL of 12 M HCl solution and stirred. Subsequently, 1g  $Ti_3AlC_2$  was slowly added in the solution. And the solution retained at 35 °C for 48 h. The obtained deposit was clear with HCl solution, LiCl solution and deionized water, respectively. The  $Ti_3C_2T_x$  suspension would obtain by centrifuged at 5000 rpm. Secondly, The  $Ti_3C_2T_x$  -paper was got by a filtrate process that the  $Ti_3C_2T_x$  suspension was filtrated on a polypropylene separator. Finally, the  $Ti_3C_2T_x@NF$  was prepared by a physical press using two-piece Ni Foam (1\*1.5 cm).

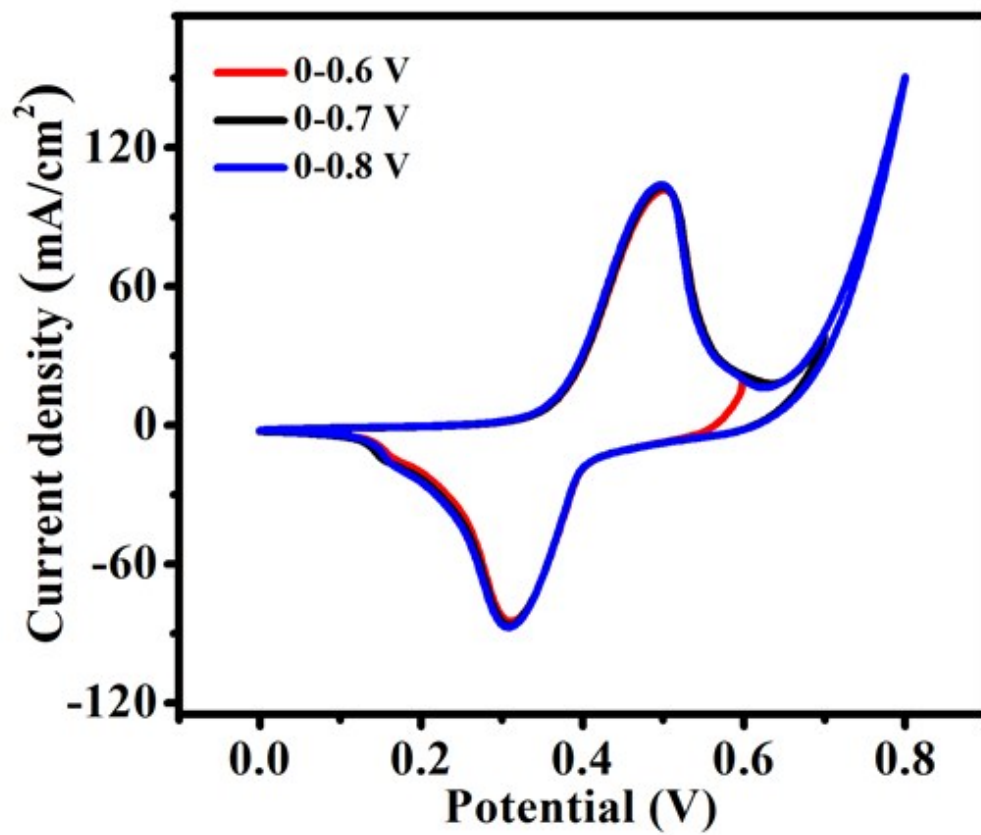
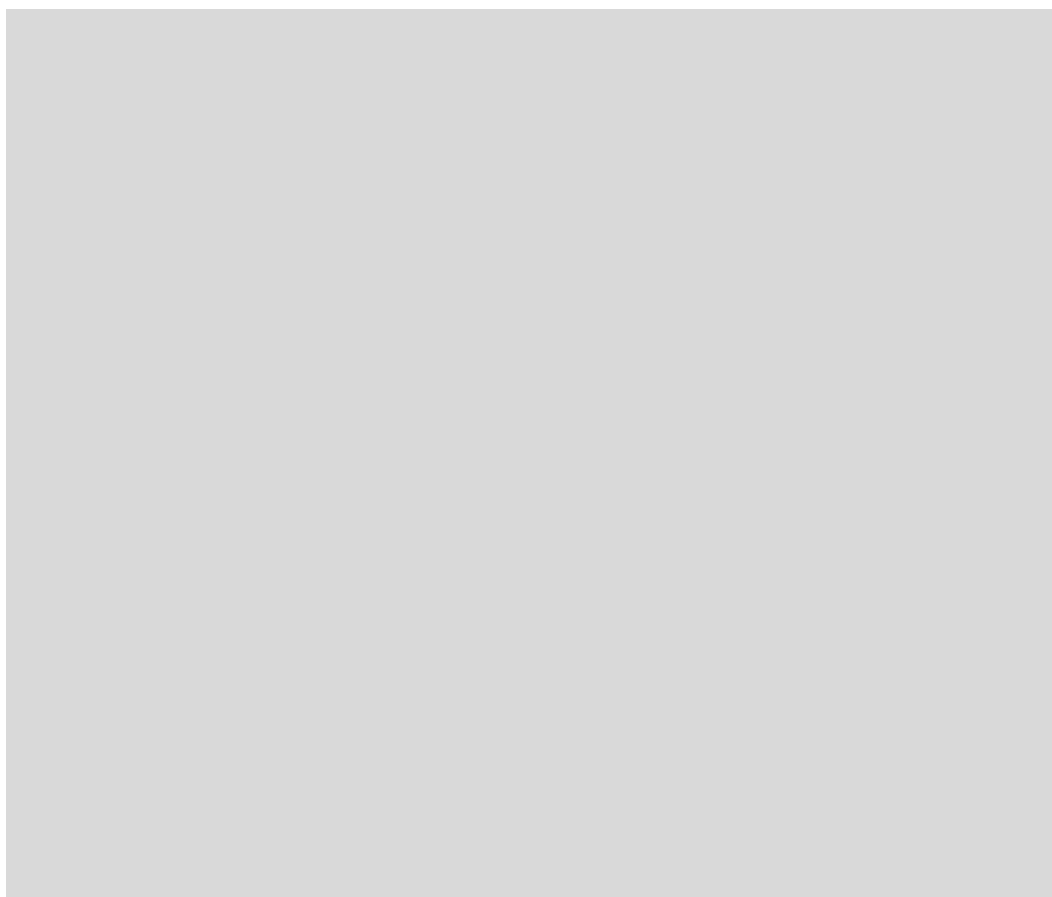
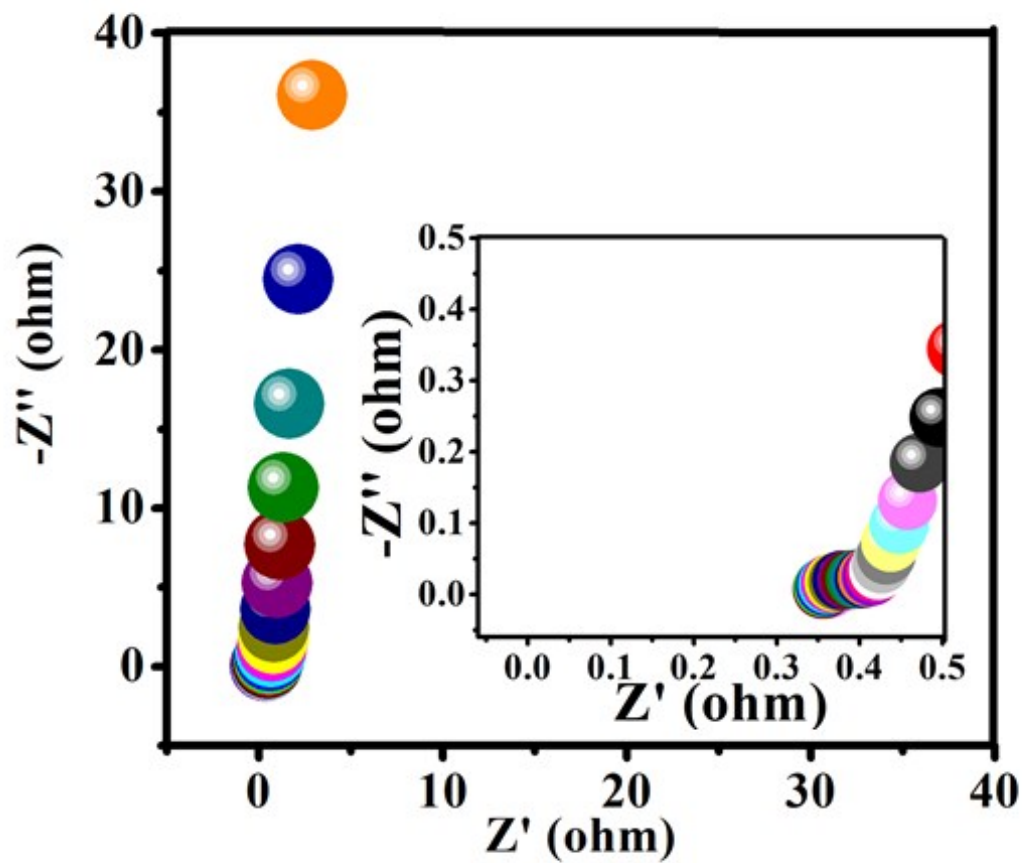


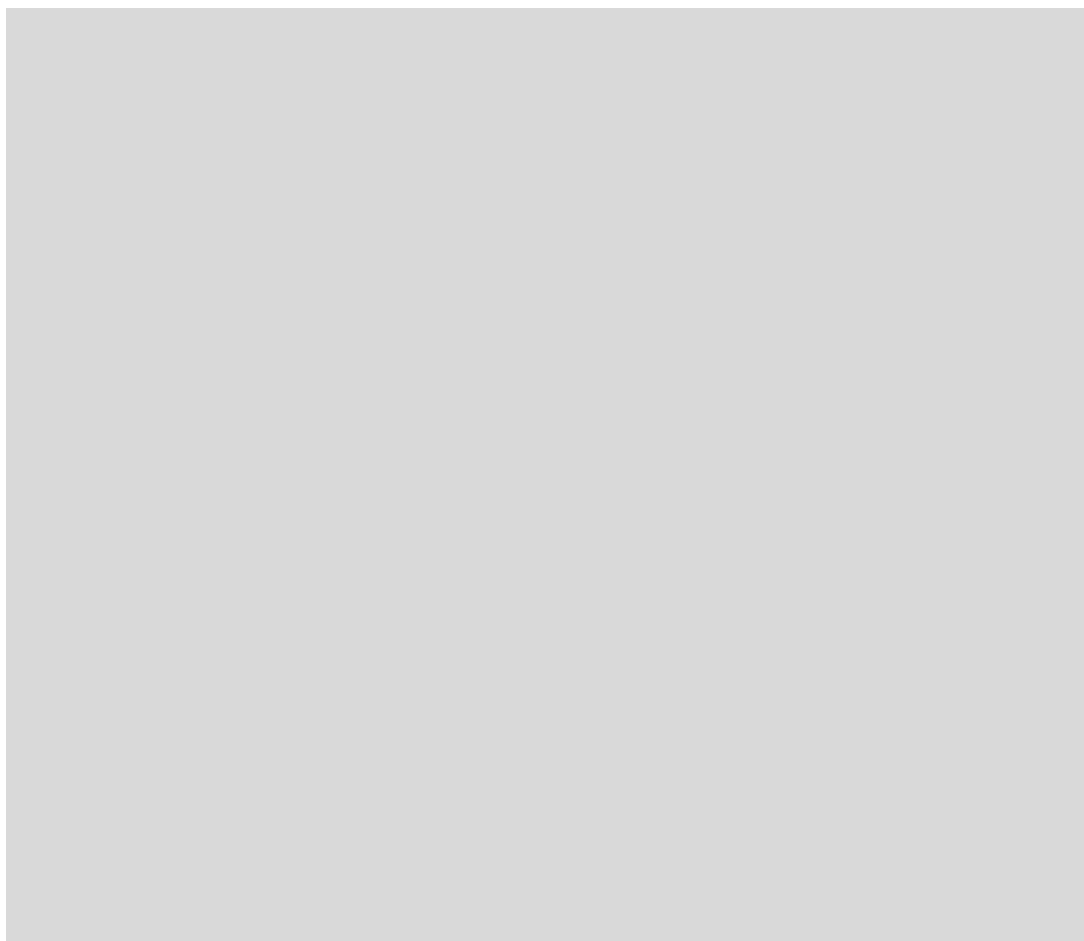
Figure S1 CV curves of the Co(OH)F@NF at different voltages



**Figure S2** CVs of Ni Foam (NF) and Co(OH)F@NF at 100 mV/s.



**Figure S3** EIS spectra of the Co(OH)F@NF (inset is the enlarged view of the high frequency region).



**Figure S4** CVs of Ni Foam (NF) and Ti<sub>3</sub>C<sub>2</sub>T<sub>x</sub>@NF at 100 mV/s.