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Electrostatically induced reconstruction of 3D nitrogen-doped $Ti_3C_2T_x$ electrode and its excellent desalination performance for hybrid capacitive deionization

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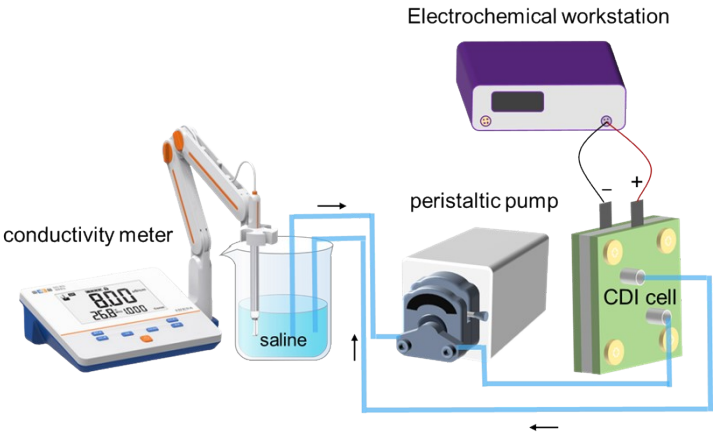

Fig. S1 The schematic diagram of the CDI setup.

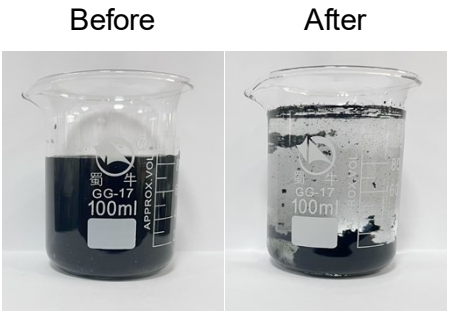

Fig. S2 d-$Ti_3C_2T_x$ solution (a) before and (b) after adding electropositive melamine solution.

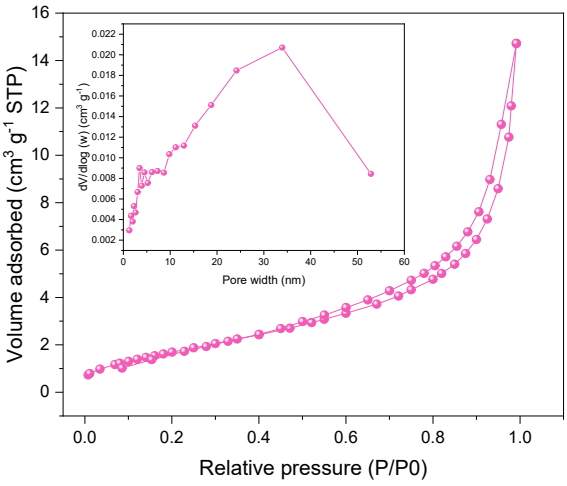

Fig. S3 N_2 adsorption and desorption isotherms along with pore size distribution of

m-$Ti_3C_2T_x$.

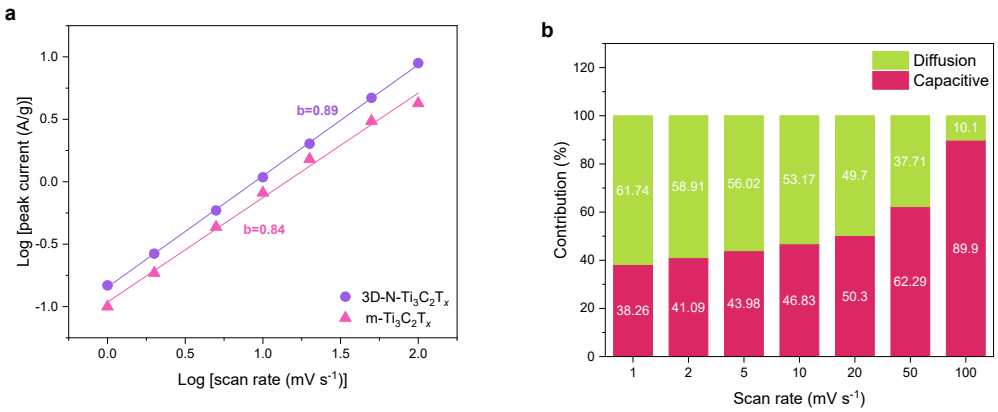

Fig. S4 (a) The plot of Log (scan rate) against Log (peak current) of m-$Ti_3C_2T_x$ and 3D-N-$Ti_3C_2T_x$, and (b) diffusion- and capacitive- contribution of m-$Ti_3C_2T_x$.

Table S1 The chemical composition of samples evaluated by XPS quantitative analysis.

Atom (%)	Ti	C	O	F	N
m-$Ti_3C_2T_x$	28.77	29.75	24.05	17.42	0
3D-N-$Ti_3C_2T_x$	31.58	31.32	22.66	10.64	3.79