Electronic supplementary information for

Enhanced Ion Transport in Densified CNT Arrays

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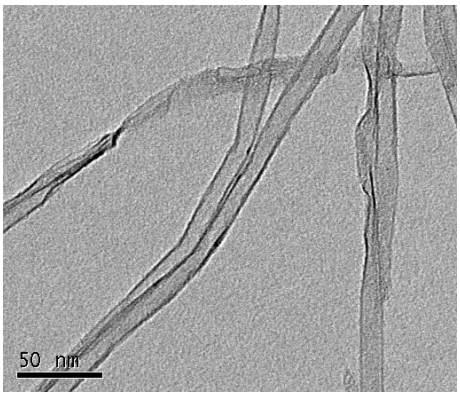


Figure S1. TEM image of DCNTA.

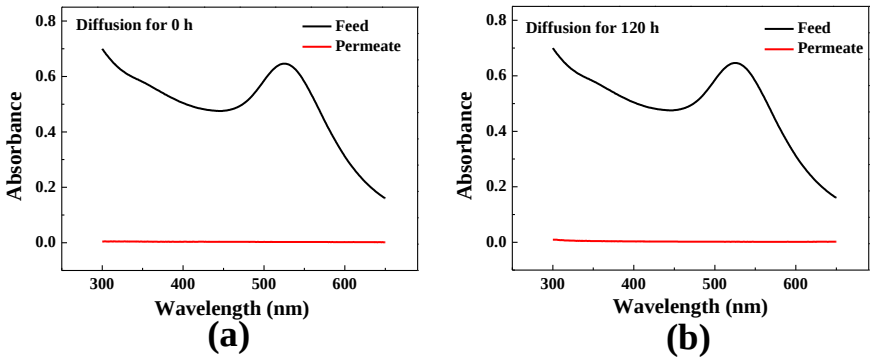


Figure S2. UV spectra before (a) and after (b) 120 h diffusion of 20 nm Au nanoparticle colloid in densified CNT array.

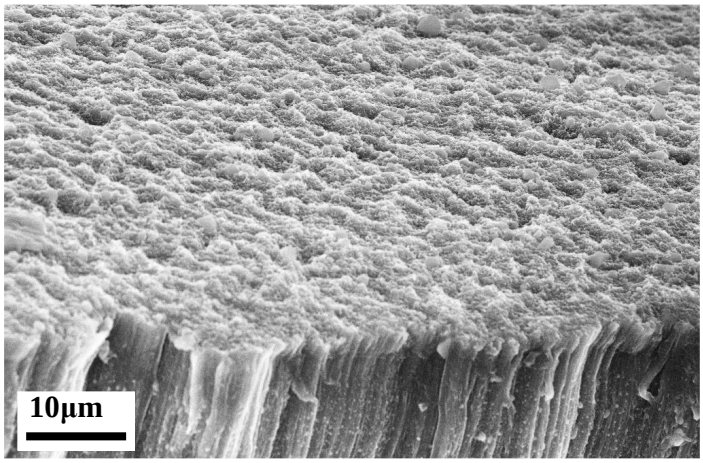


Figure S3. The low-magnification SEM image of CNT membrane.

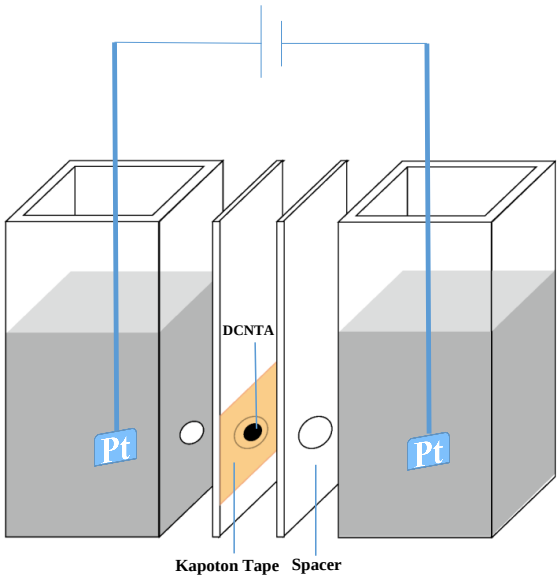


Figure S4. Schematic of experimental setup of an electric activation treatment.

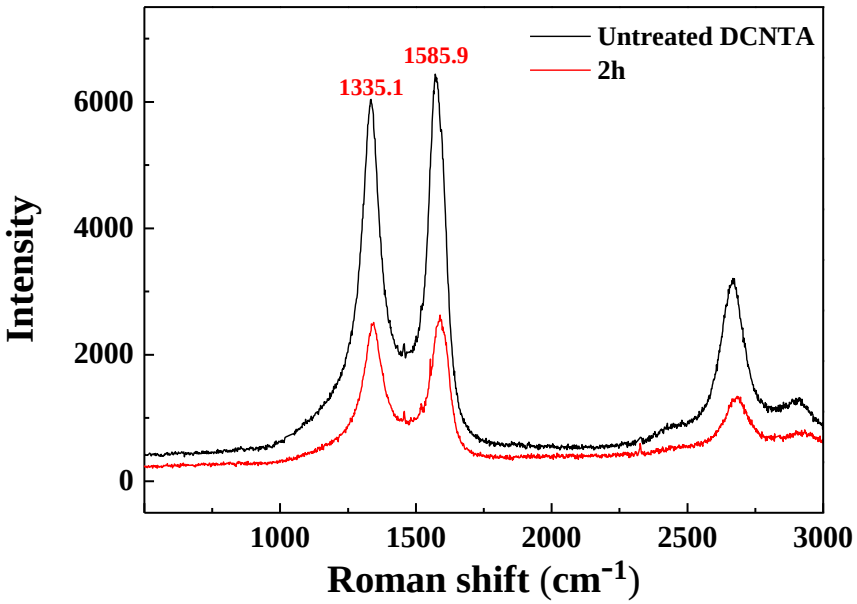


Figure S5. Raman spectra of untreated DCNTA and electrically activated DCNTA at 7 V for 2 h.

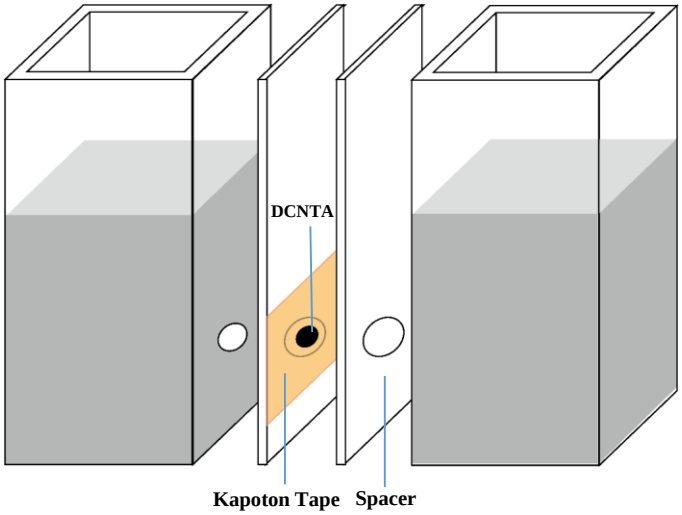


Figure S6. The schematic of ion or Au nanoparticle colloid diffusion measurement setup.

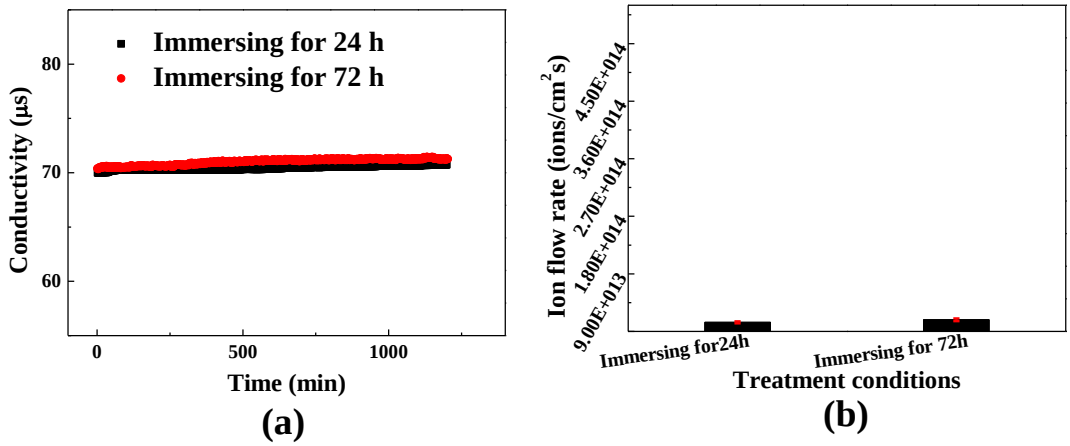


Figure S7. Conductivities of the permeate solution and ion flow rates for untreated DCNTAs after these untreated DCNTAs were immersed in KCl solution for 24 h and 72 h.

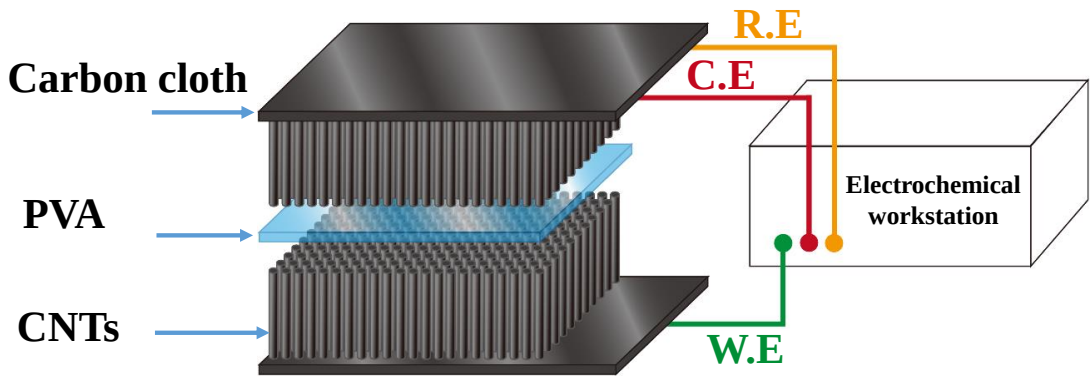


Figure S8. Schematic of electrochemical measurement setup.

13.7°

Figure S9. Contact angle image of DCNTA after a 40 min plasma treatment.

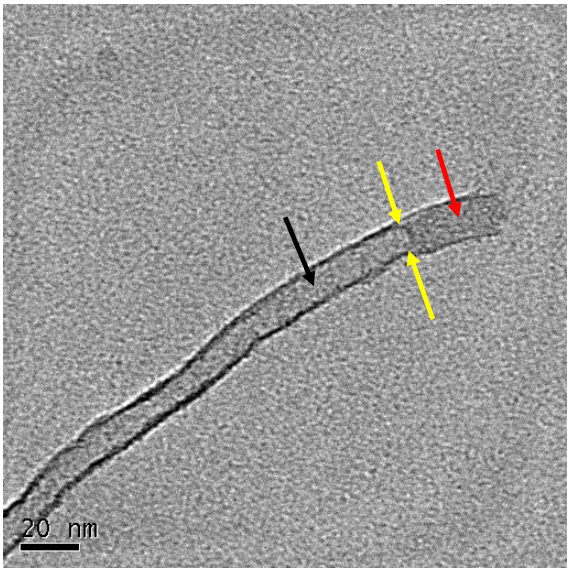
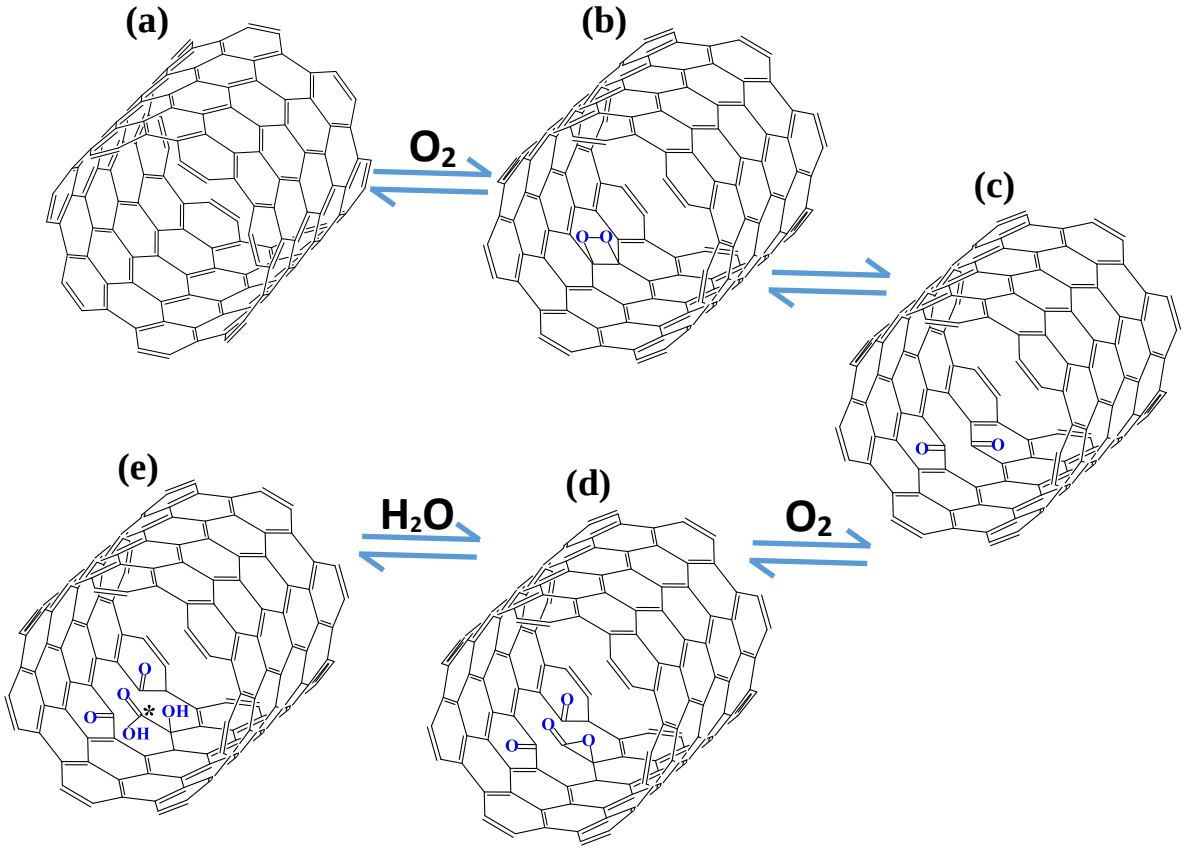
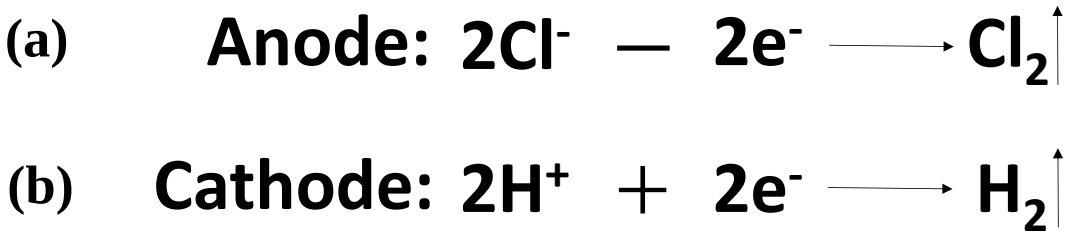


Figure S10. TEM image of plasma-treated DCNTA after a 4 h electric activation treatment at 7 V.



Scheme S1. Schematics of the oxidation of carbon nanotubes during a voltage application.



Scheme S2. Schematics of electrochemical reactions on the surface of anode and cathode in KCl solution.