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Carbon nanorods derived from natural based nanocrystalline cellulose for highly-efficient capacitive deionization

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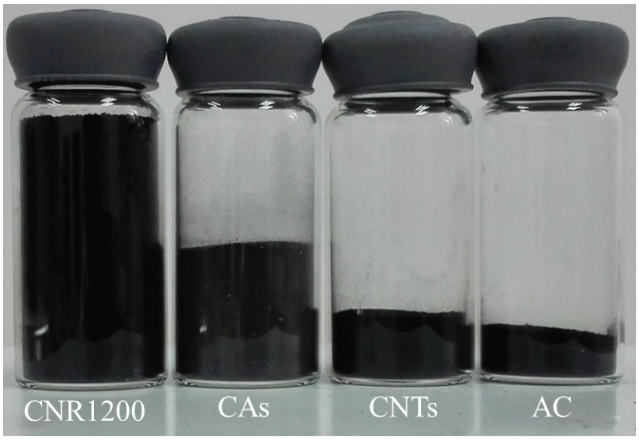

Fig. S1. The comparison of densities between CNR1200, CAs, CNTs and AC powders (1 g power in each vial).

Fig. S1 shows the comparison of densities between CNR1200, CAs, CNTs and AC powders. In each vial, 1 g of CNR1200, CAs, CNTs and AC powders was contained, respectively. Obviously, CNR1200 powder has a very low density, which is even ~1/2 lower than that of CAs, only ~1/5 of CNTs and ~1/6 of AC.

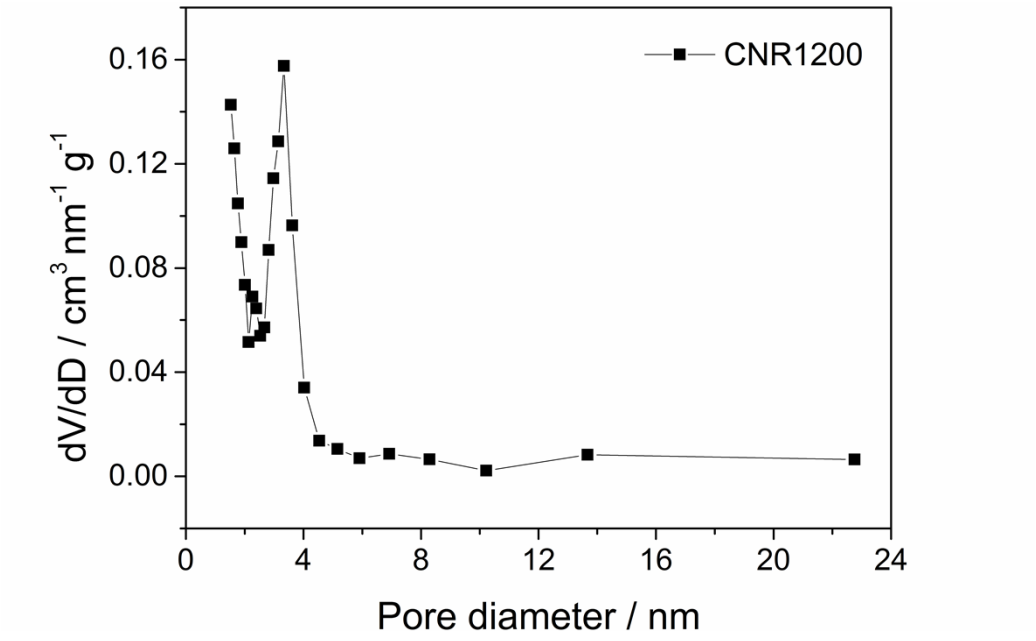

Fig. S2. Pore size distribution of CNR1200.

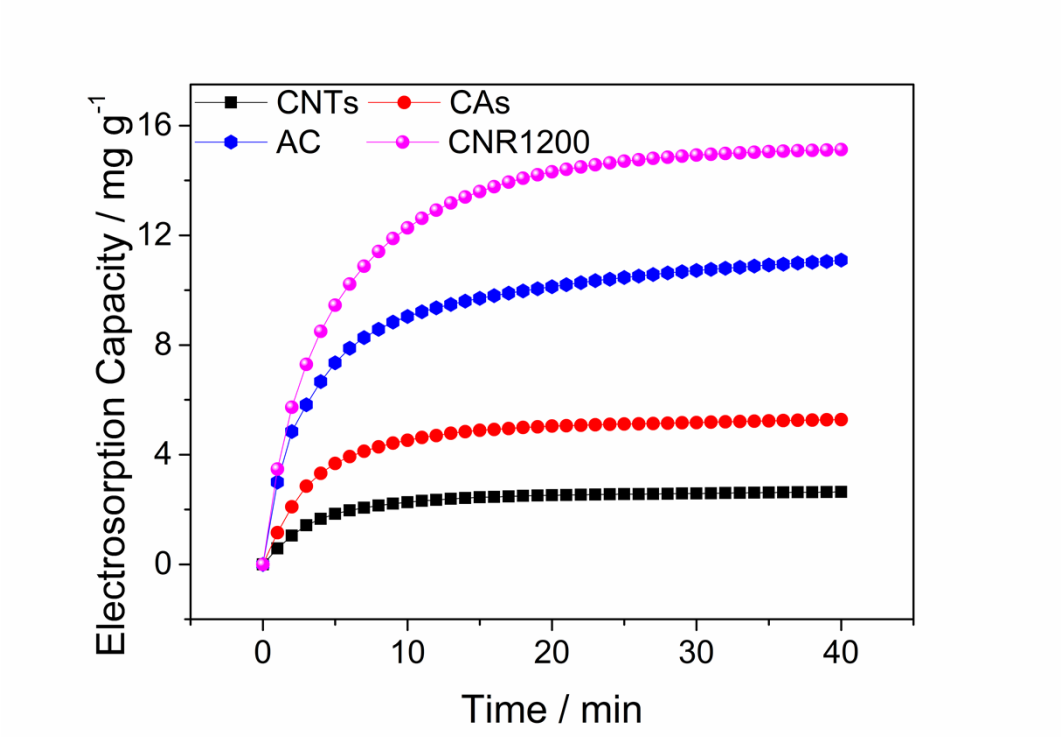

Fig. S3. Electrosorption capacities for AC, CNTs, CAs and CNR1200 electrodes in NaCl solutions with an initial concentration of 500 mg l^{-1}.

Table S1 Specific surface areas, square resistances, electrode thickness and electrosorption capacities of AC, CNTs, CAs and CNR1200.

Samples	CNTs	CAs	AC	CNR1200
Specific surface area (m^2 g^{-1})	400	948.20[1]	1500-1850	864.10
Square resistance (mΩ)	74	104	209	70
Electrodes thickness (μm)	203	199	206	205
Electrosorption capacity (mg g^{-1})	2.64	5.276	11.09	15.12

[a] the specific surface area of CAs is obtained from our previous works.[1]

References:

1. Y. Liu, C. Y. Nie, L. K. Pan, X. T. Xu, Z. Sun and D. H. Chua, *Inorg. Chem. Front.*, 2014, **1**, 249-255.
2. S. Porada, M. Bryjak, A. Van Der Wal and P. M. Biesheuvel, *Electrochim. Acta*, 2012, **75**, 148-156.