Electronic Supplementary Material (ESI) for RSC Advances.

Supporting Information

Fabrication of N-doped and shape-controlled porous monolithic carbons from polyacrylonitrile for supercapacitors

Yu Shu,[a] Jun Maruyama,[b] Satoshi Iwasaki,[b] Shohei Maruyama,[b] Yehua Shen[c] and Hiroshi Uyama*[ac]

[a] *Department of Applied Chemistry, Graduate School of Engineering, Osaka University, Suita, Osaka 565-0871, Japan*

[b] *Research Division of Environmental Technology, Osaka Research Institute of Industrial Science and Technology, 1-6-50 Morinomiya, Joto-ku, Osaka 536-8553, Japan*

[c] *Key Laboratory of Synthetic and Natural Functional Molecule Chemistry of Ministry of Education, College of Chemistry and Materials Science, Northwest University, Xi'an, Shaanxi Province, 710127, PR China*

Email: uyama@chem.eng.osaka-u.ac.jp

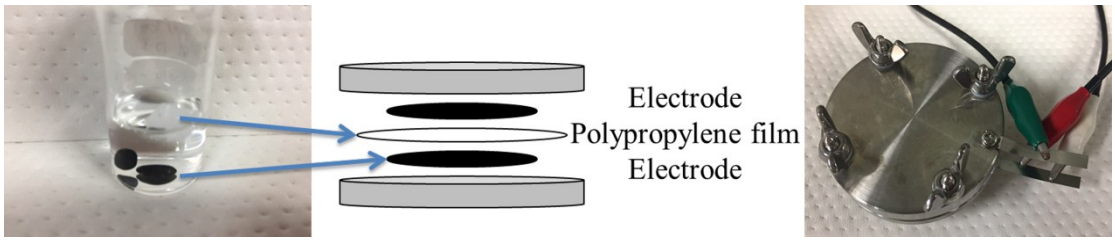

Figure S1 Scheme illustration of the as-assembled two-electrode symmetric supercapacitor by a 2E-CELL-SUS cell.

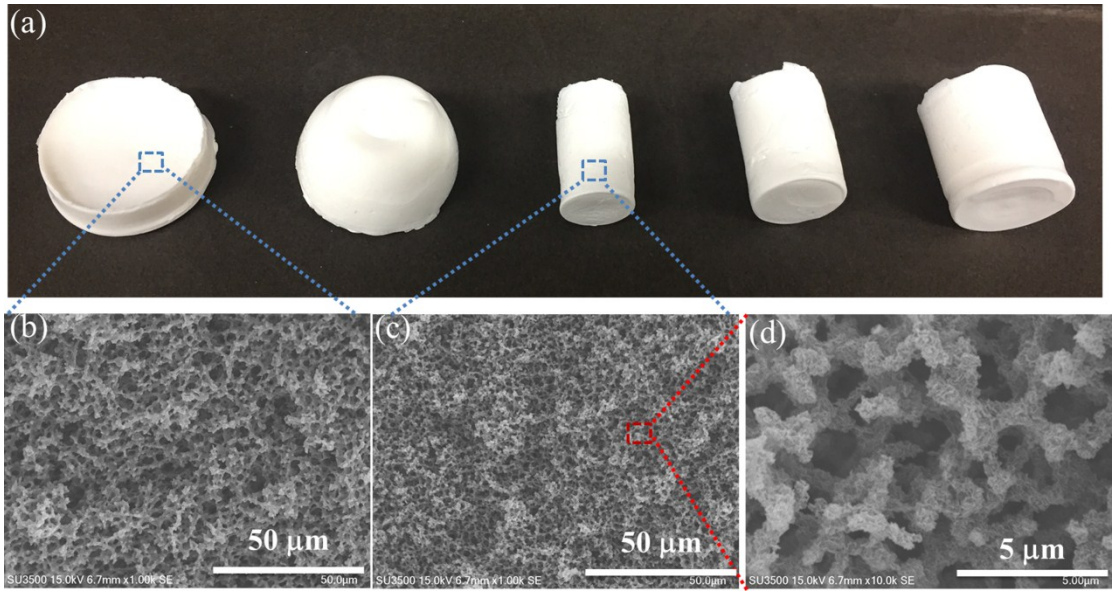

Figure S2 PM fabricated by the TIPS approach with various shapes (a), SEM images of the obtained PM (b-d).

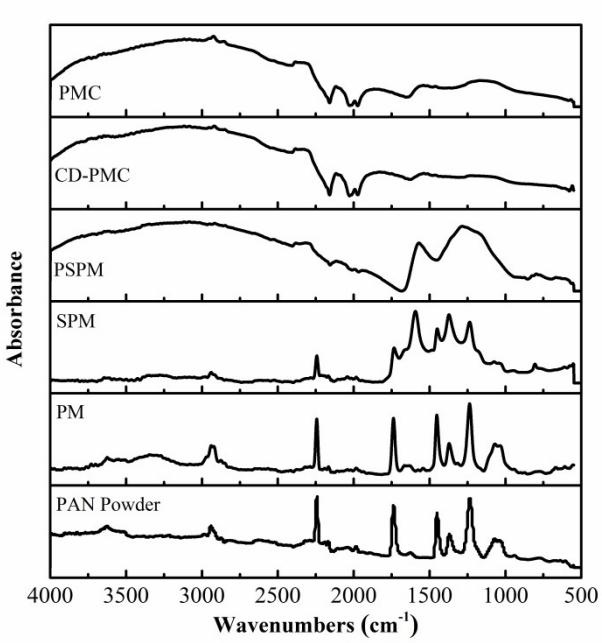

Figure S3 FTIR spectrum of all related products from the raw PAN powder to PMC.

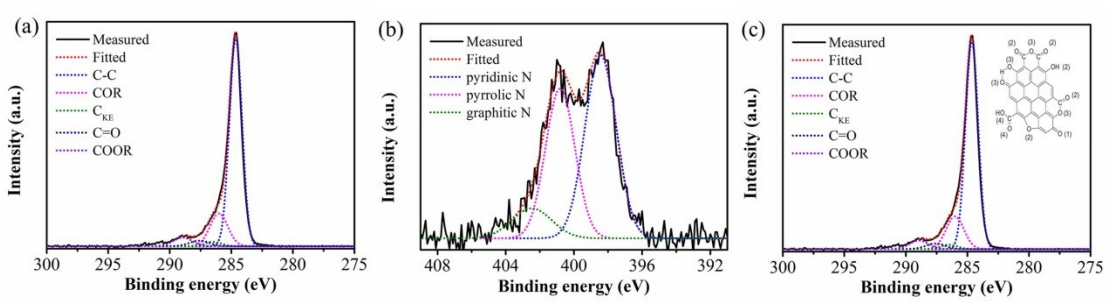

Figure S4 High-resolution XPS spectra and fitted data of C 1s peak (d), N 1s peak (e), and O 1s peak (f) for CD-PMC.

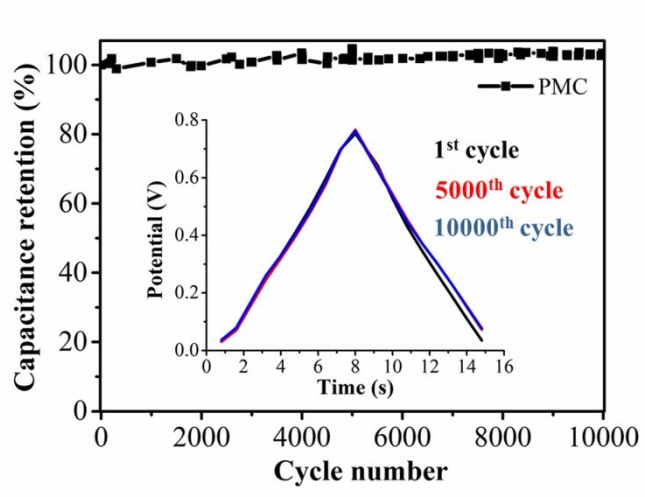

Figure S5 Capacitance retention of PMC from GCD curves at a constant current density of 20 A g^{-1} for 10000 cycles with the 1st, 5000th, and 10000th cycles inset.

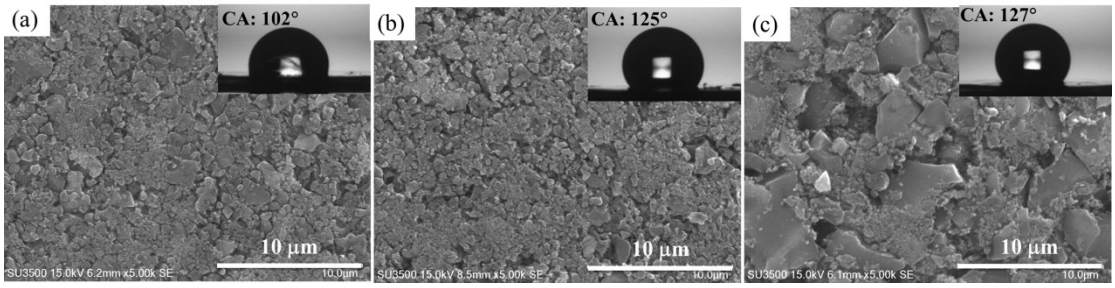

Figure S6 SEM images of electrode films synthesized by PMC (a), CD-PMC (b), and YP-50F (c) with the inset of contact angle results for 1 M H_2SO_4 aqueous electrolyte.