Supplementary Information

Anion-Dependent Electrochemical Capacitive Behavior of Biomass-Derived Activated Carbon in Imidazolium Ionic Liquid Electrolytes

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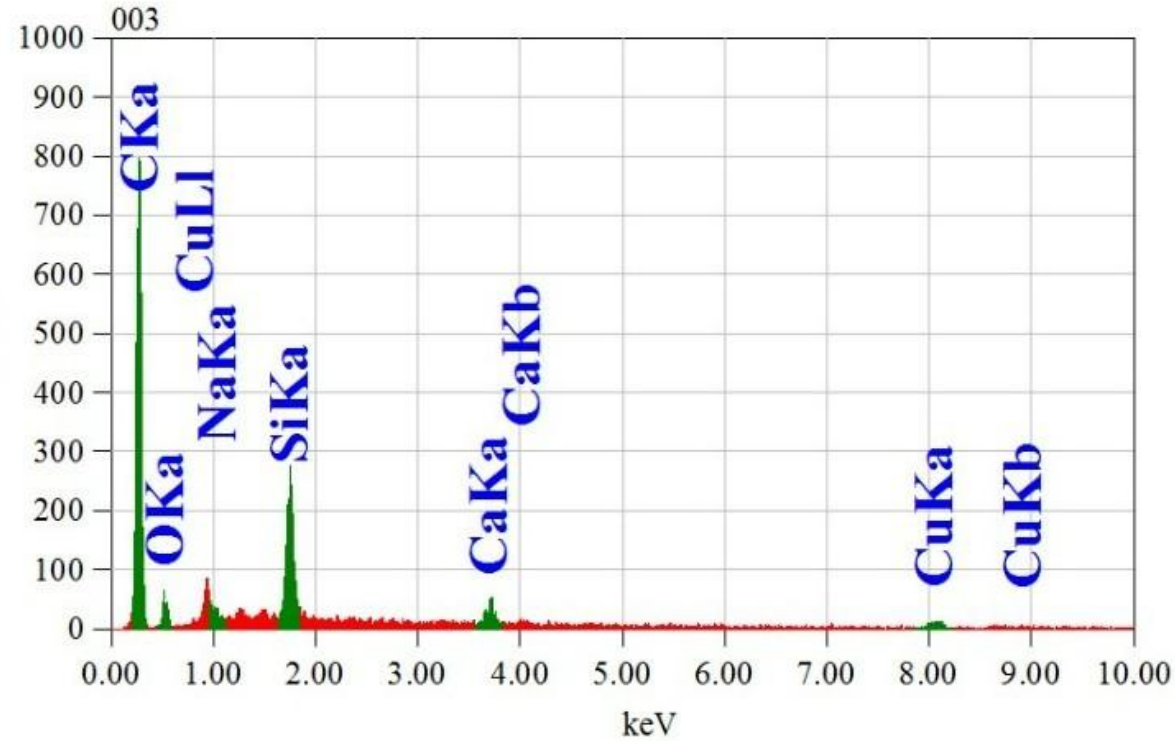

Figure S1. EDS spectrum of banana leaf-derived AC.

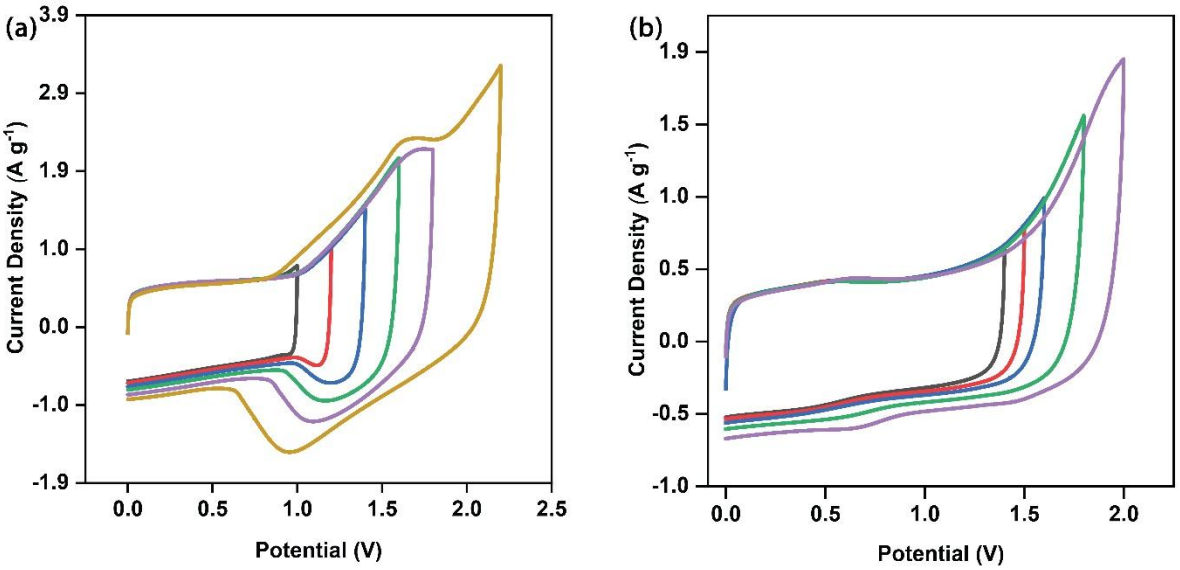

Figure S2. CV curves of AC at different potential windows in (a) bmim[Br] and (b) bmim[Cl] electrolytes at 20 mV s^{-1}

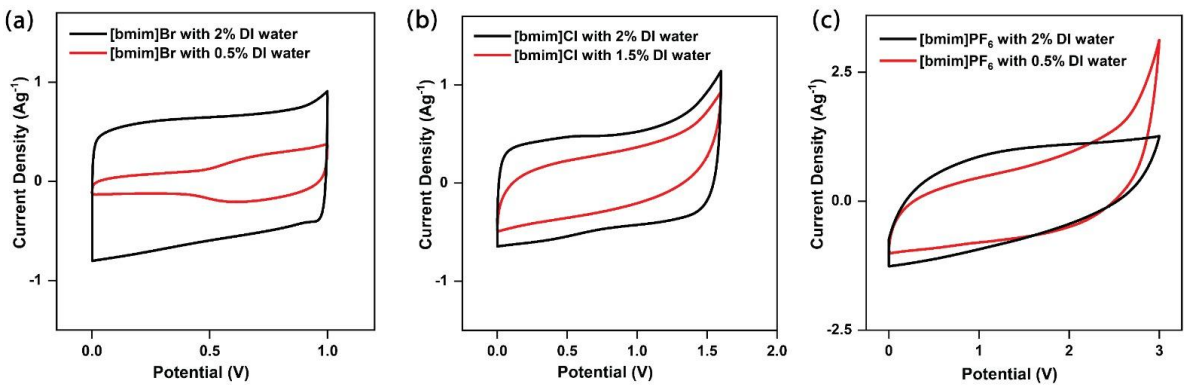

Figure S3: Comparison of CVs of (a) [bmim]Br, (b) [bmim]Cl, and (c) [bmim]PF_6 electrolytes at the scan rate of 20 mVs^{-1} under ambient moisture condition and after the addition of 2 wt% water in a symmetric two-electrode configuration.

Table S1. Electrochemical impedance parameters obtained from equivalent circuit fitting of Nyquist plots for banana-leaf-derived AC in different IL electrolytes.

Electrolyte (ILs)	R_s **(Ω)**	R_{ct} **(Ω)**
[bmim]Br	9.01	1.68
[bmim]Cl	16.22	1.73
[bmim]PF_6	98.56	57.84