

SUPPORTING INFORMATION FOR

THIN FIBERS BASED SEPARATORS FOR HIGH RATE SODIUM ION BATTERIES

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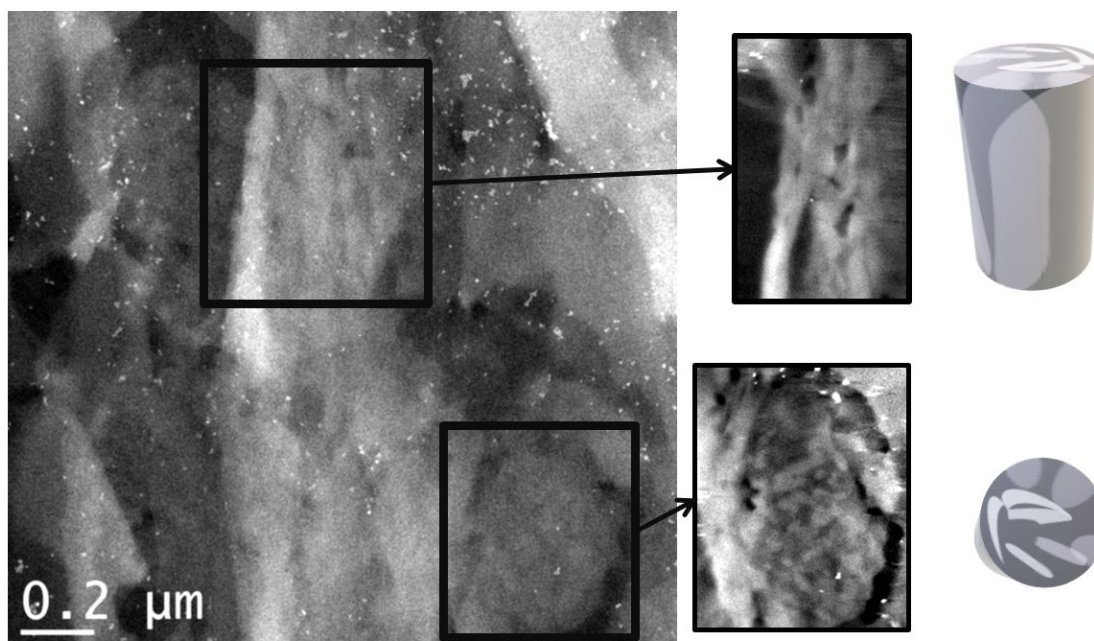
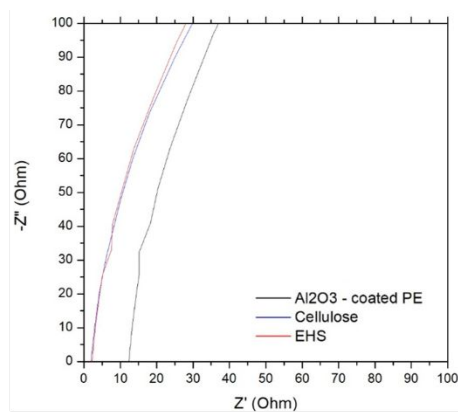


Figure S-1. Scanning transmission electron microscopy (high angle annular dark field (STEM-HAADF) image from sections by ultramicrotomy (inorganic, SiO₂: white parts and organic,

PVDF-HFP: dark parts).



Separator	R_m (Ohm)	σ_m (mS.cm ⁻¹)
Al ₂ O ₃ coated PE	11.9 ± 0.06	0.57 ± 0.15
Cellulose	1.99 ± 0.13	2.51 ± 0.16
EHS	1.64 ± 0.23	2.78 ± 0.16

Figure S-2: Electrochemical impedance spectra for the three separator registered between two aluminum blocking electrodes and NaPF₆ (Stella, Japan) 1 molar in EC/PC with 1/1 ratio as liquid electrolyte at room temperature.

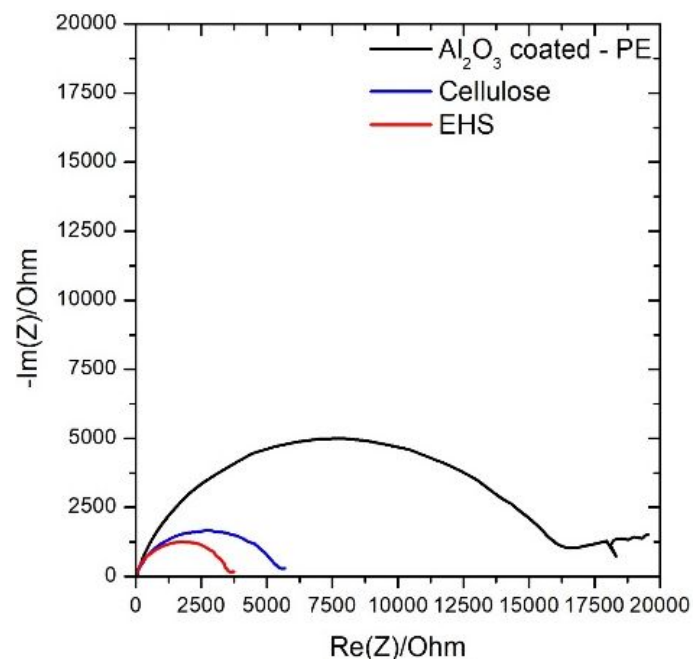


Figure S-3: Electrochemical impedance spectra for the three separator registered between two sodium electrodes and NaPF_6 (Stella, Japan) 1 molar in EC/PC with 1/1 ratio as liquid electrolyte at room temperature.

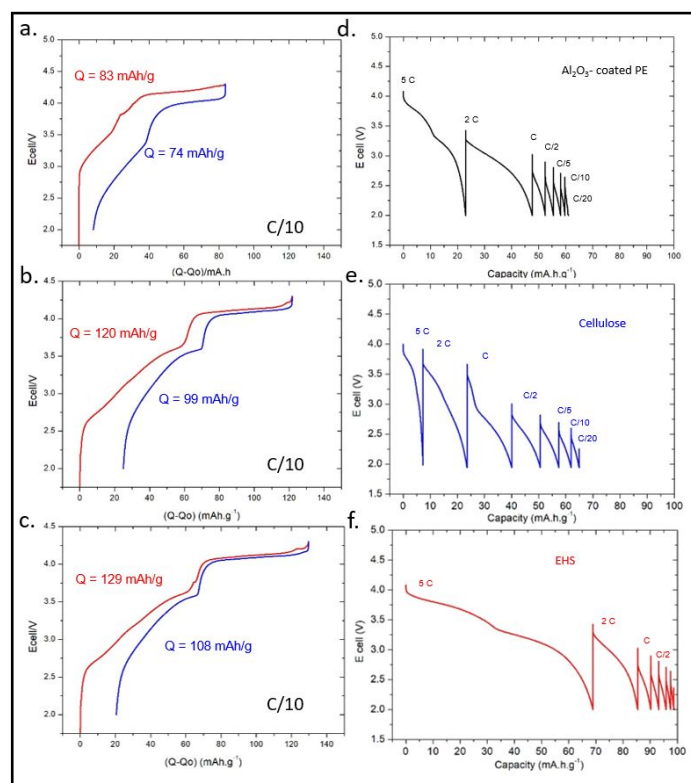


Figure S-4: Electrochemical performance of NVPF/HC full cell obtained with various separator impregnated with 150 μL of 1 M NaPF₆ in EC/PC a-c first charge discharge curves between 2 V and 4.3 V at C/10 for NVPF/HC full cell prepared with Al₂O₃ coated PE, cellulose and EHS separators respectively, d-f their capacity rate discharge retention from 4 V to 2 V, with discharge rate from 5C to C/20. All the electrochemical were performed at room temperature.

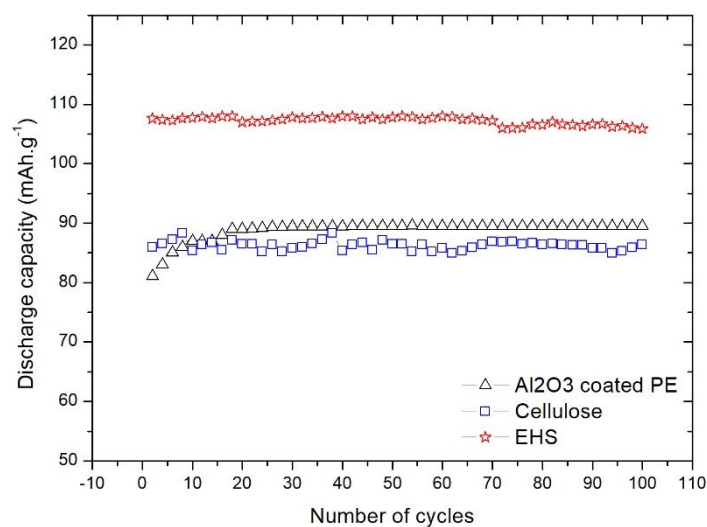


Figure S-5: Cycling performance of the NVPF/HC coin cells at C/10 using the 1 M NaPF₆ in EC/PC with 1/1 ratio at room temperature for the studied separators.

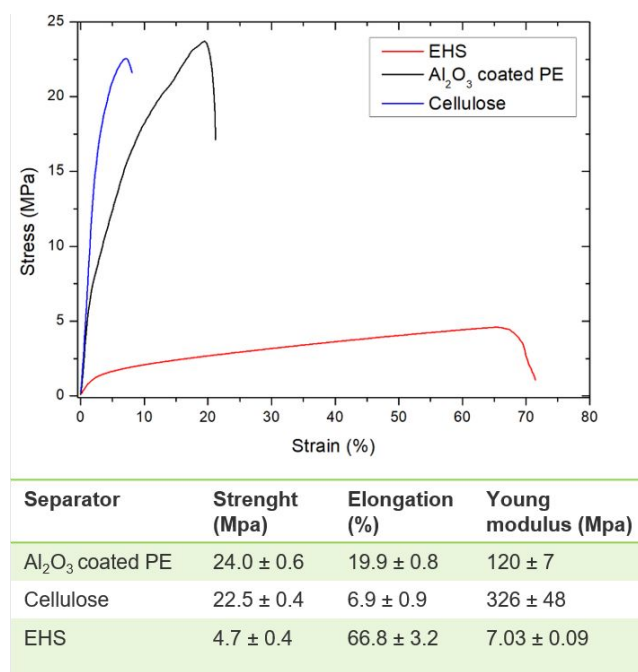


Figure S-6: The stress–strain curves for the three separators at room temperature and the corresponding mechanical properties in the table