

Supporting Information

Sodium storage in fluorine-rich mesoporous carbon fabricated by low-temperature carbonization of polyvinylidene fluoride with silica template

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Table S1. The F contents of PVDF derived mesoporous carbons carbonized at 500, 600 and 700 °C measured by XPS and XRF.

Carbonization temperature / °C	F contents	
	XPS (at. %)	XRF (wt%)
500	8.35	9.26
600	2.17	3.02
700	0.48	0.57

Table S2 Peak assignment of C 1s for re-FMC

Peak	Binding energy (eV)	Assignment	Fraction of species (%)
C1s	284.8	C1: sp ² C-C	81.8
	285.7	C2: C-O-C/C-OH	6.9
	287.1	C3: C=O	6.0
	288.2	C4: Semi-ionic C-F	3.1
	290.7	C5: Covalent C-F	2.2

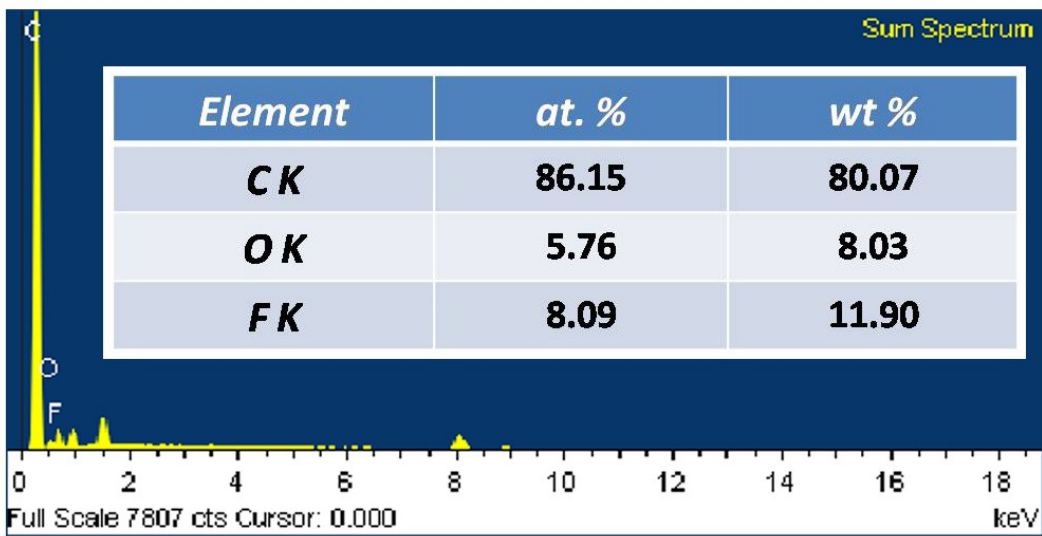


Fig. S1 EDS of FMC, the table (inset) displays the relative content of carbon, oxygen and fluorine.

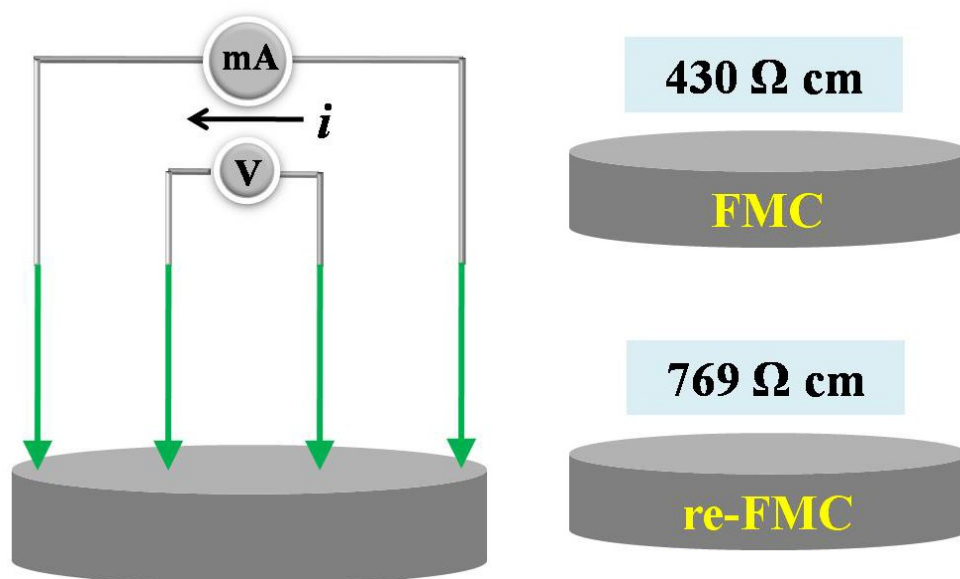


Fig. S2 Schematic diagram of bulk conductivity of FMC and re-FMC measured by four point probe

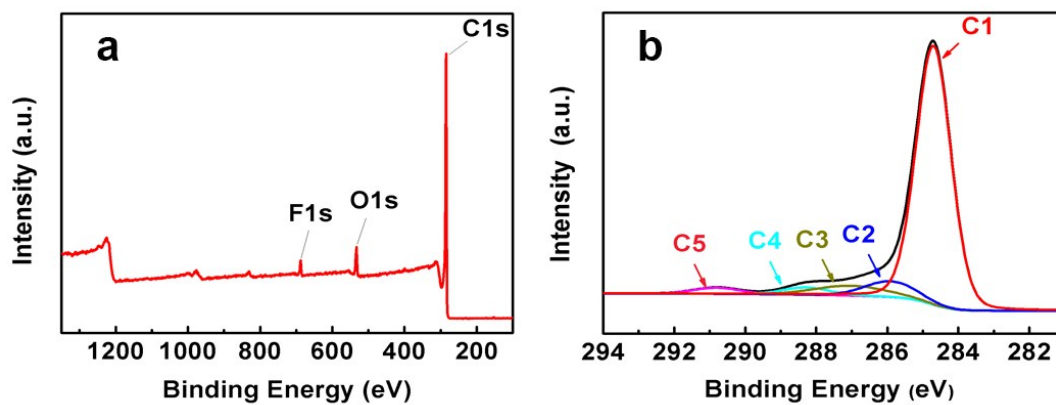


Fig. S3 The total XPS spectrum (a) and the C 1s (b) of re-FMC.

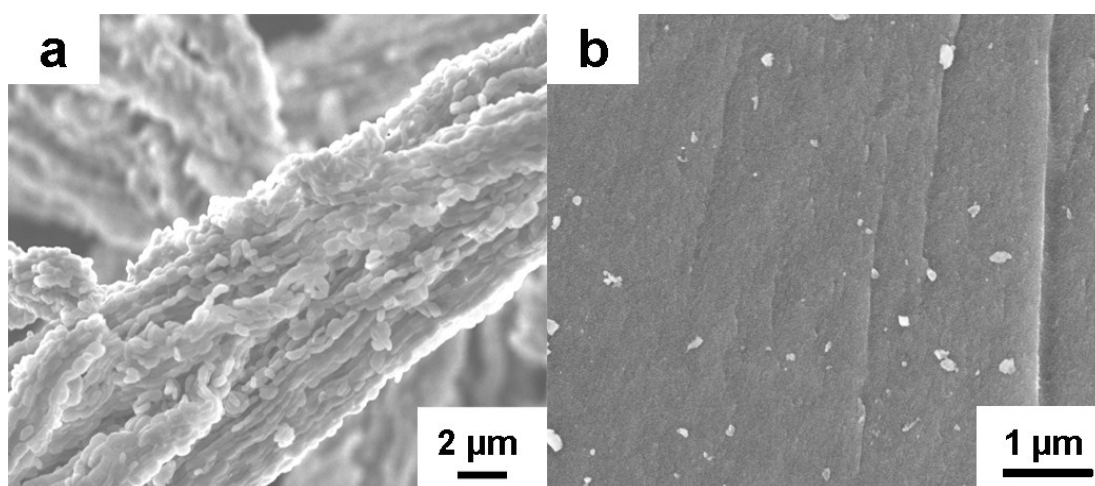


Fig. S4 SEM images of SBA-15 template (a) and PVDF derived carbon carbonized without template at 500 °C (b).

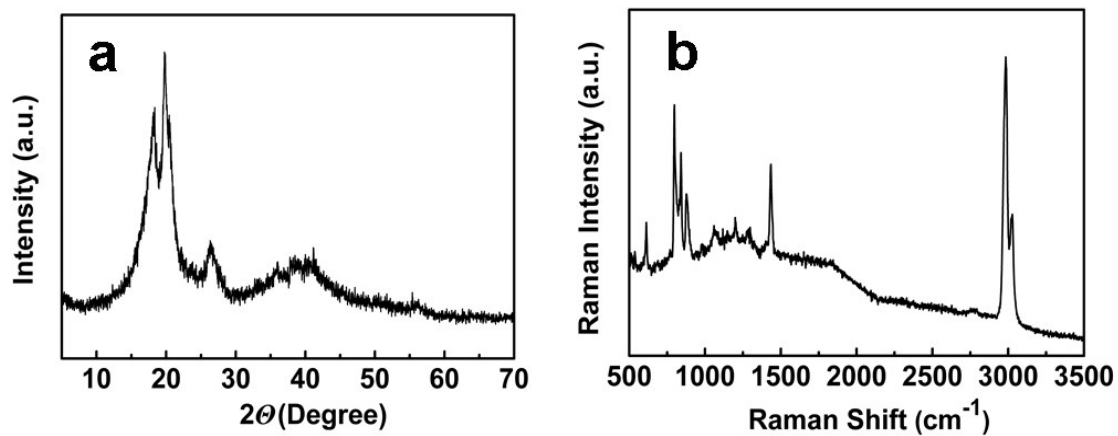


Fig. S5 XRD spectrum (a) and Raman spectrum (b) of PVDF.