

Supporting information

Figure S1 (a) Relationship between the transient voltage changes (E) and t of a single titration. (b) Relationship between the transient voltage changes (E) and ($\tau^{1/2}$) during the titration process.

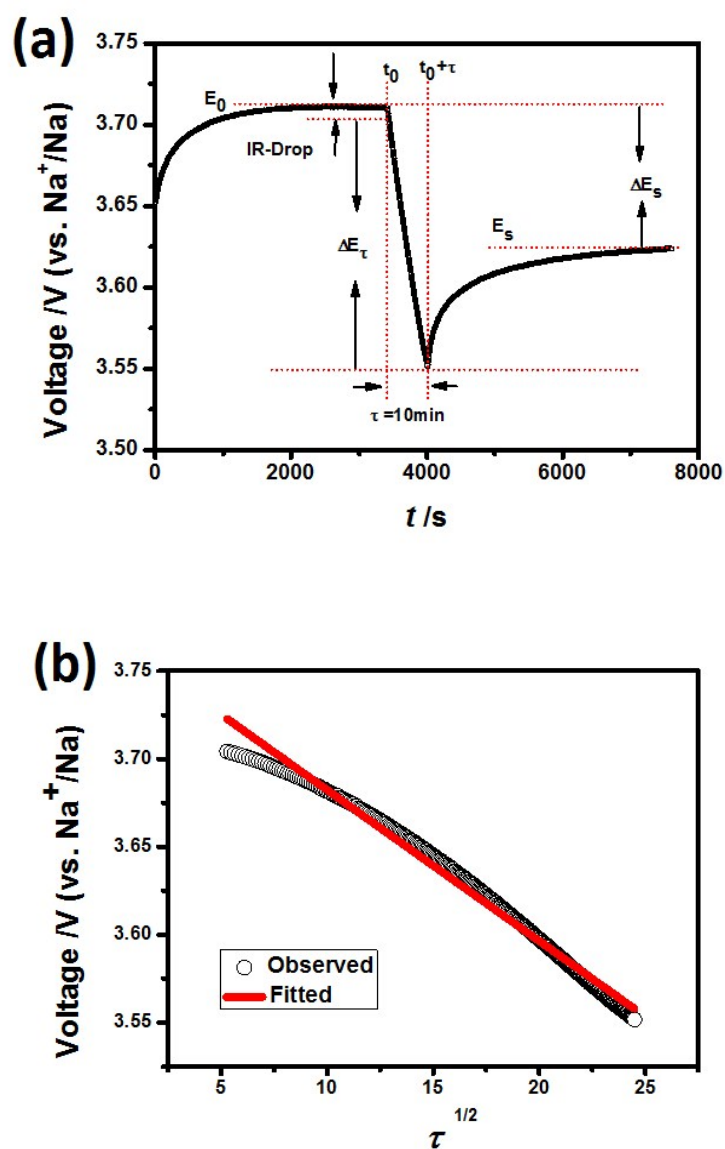


Figure S2 An example of GITT and QOCP curves (b) and calculated D_{Na} values (c) for the AC-based (5 wt.%) composite.

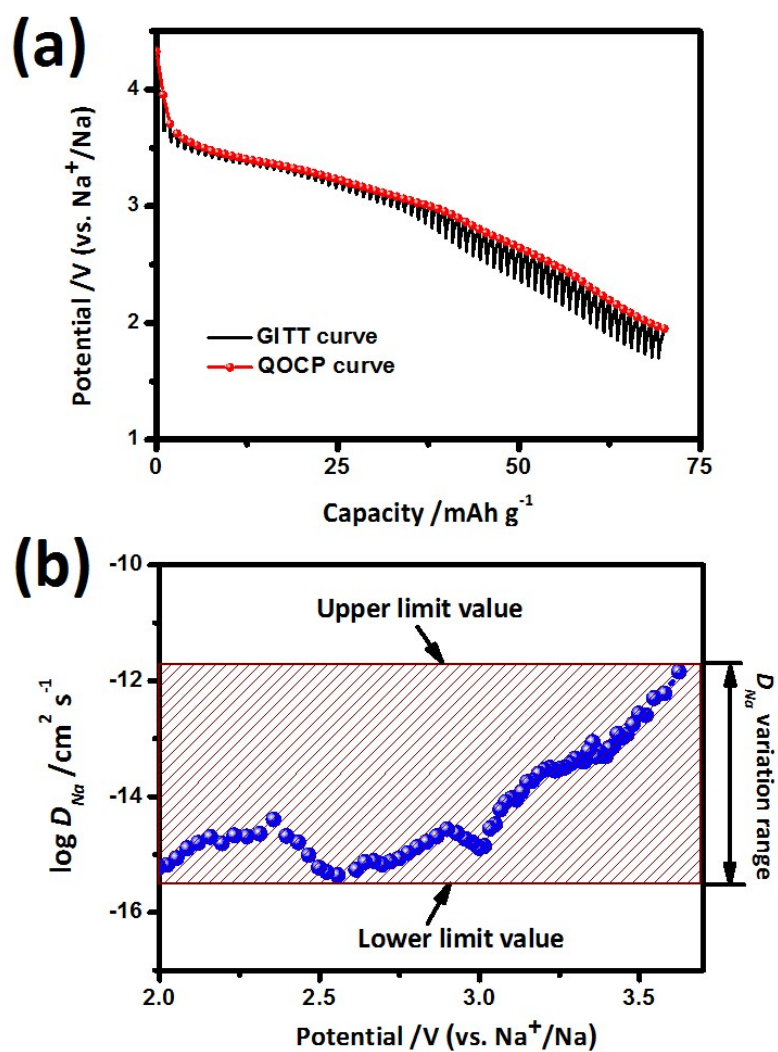


Table s1 Actual composition of $\text{Na}_2\text{Fe}(\text{SO}_4)_2 \cdot 2\text{H}_2\text{O}/\text{C}$ composites prepared in present study. Weight of Sulfate in the composite is fixed to 2.0000 g

Composite	Weight of carbon/g								
	0.1 wt. %	0.3 wt. %	0.5 wt. %	1 wt. %	3 wt. %	5 wt. %	10 wt. %	20 wt. %	30 wt. %
Sulfate/AC	0.002	0.006	0.01	0.02	0.06	0.1	0.2	0.4	0.6
Sulfate/CNT	0.002	0.006	0.01	0.02	0.06	0.1	0.2	0.4	0.6
Sulfate/GA	0.002	0.006	0.01	0.02	0.06	0.1	0.2	0.4	0.6

Table s2 BET surface areas and pore volume of AC-, CNT- and GA-based $\text{Na}_2\text{Fe}(\text{SO}_4)_2 \cdot 2\text{H}_2\text{O}/\text{C}$ (Carbon content: 5 wt.%).

Materials	BET area / m^2g^{-1}	Pore volume/ m^3g^{-1}
AC-based	43.5282	0.378
CNT-based	28.3738	0.198
GA-based	19.5671	0.127
Pristine	3.8231	0.015