Supplementary information

Figure S1. Electrochemical performance of AC in half-cell configuration (Li/AC): (a) typical charge-discharge curves recorded between 3-4.6 V vs. Li at a current density of 100 mA g\(^{-1}\), and (b) cycling profiles.
Figure S2. Rate capability studies of CVT grown TiS$_2$ in half-cell assembly at different current densities. Active materials loading 10 mg.
**Figure S3.** Typical charge-discharge curves of AC/TiS$_2$ based LIC recorded at current density of 100 mA g$^{-1}$
Figure S4. (a) Typical charge-discharge curves of the symmetric supercapacitor fabricated with commercial activated carbon (AC/AC, surface area: 2100 m$^2$ g$^{-1}$ with pore volume of 0.94 mg$^{-1}$, Active material loading: 10 mg in each electrode), and (b) Ragone plot of symmetric (AC/AC) and various asymmetric configurations including AC/TiS$_2$. 