

Supplementary



## Rational Design of Porous Covalent Triazine-Based Framework Composites as Advanced Organic Lithium-Ion Battery Cathodes

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Figure S1. A schematic showing the structure and formation process of CTF-1.



Figure S2. XRD patterns of CTF composites with different carbon materials. a) CTF-CS, b) CTF- CNT and c) CTF-GA.



Figure S3. Pore size distribution of CTF and different CTF composites calculated from QSDFT.



Figure S4. An SEM image of GA showing the macroporous nature.



**Figure S5.** The FT-IR spectra and XRD pattern of CTF-rGO-400-600 proving the formation of the polymeric framework.



**Figure S6.** Nyquist plots derived from AC impedance measurement of CTF, CTF-rGO-400 and CTF-rGO-400-600 before cycling.