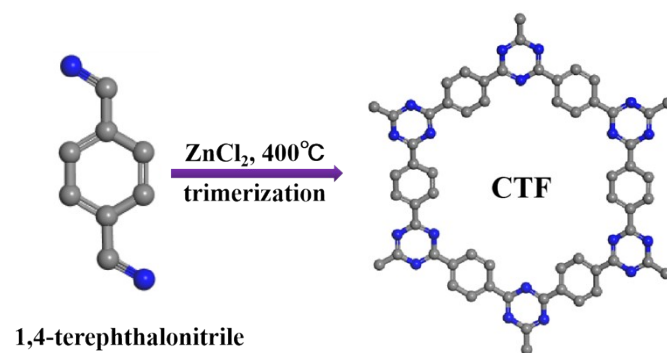


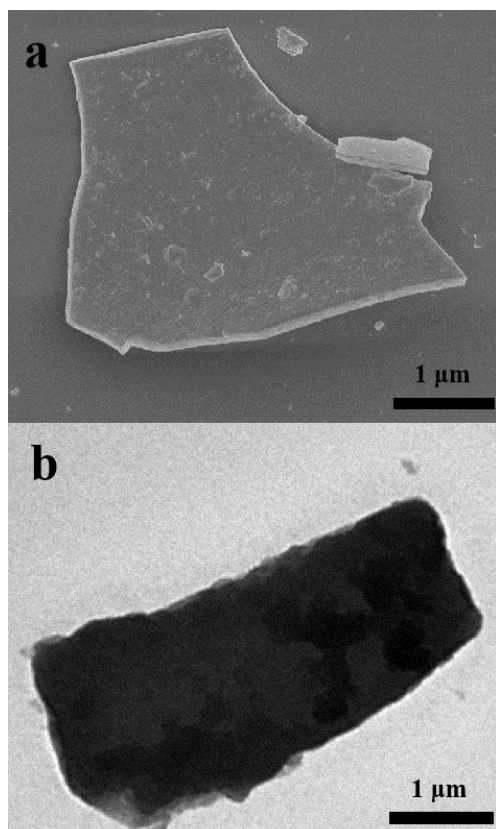
## Supporting Information

### **Bipolar fluorinated covalent triazine frameworks cathode with high lithium storage and long cycling capability**

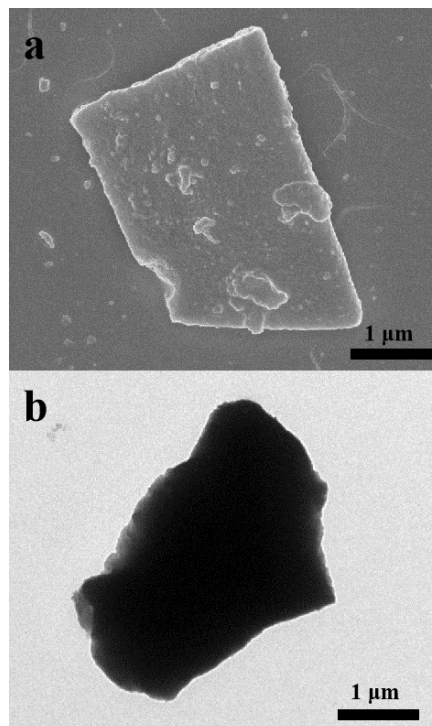
Xiudong Chen\*, Hang Zhang, Ping Yan, Bo Liu\*, Xiaohua Cao, Changchao Zhan, Yawei Wang, and Jin-Hang Liu\*



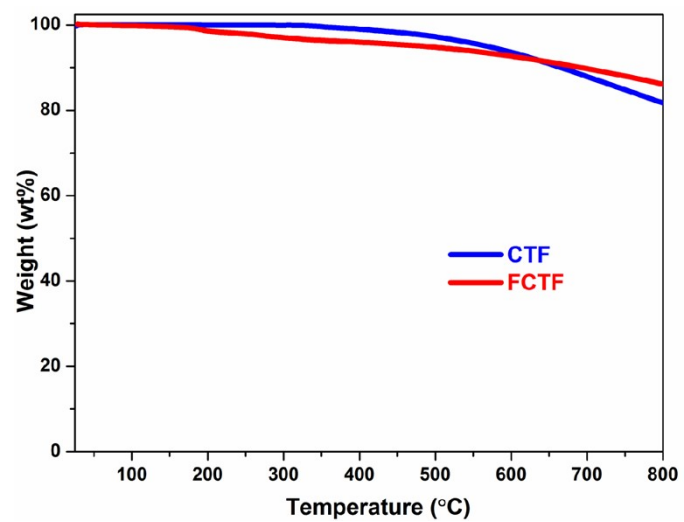
**Fig. S1.** The synthesis of CTF.



**Fig. S2.** (a) SEM image and (b) TEM image of FCTF.



**Fig. S3.** (a) SEM image and (b) TEM image of CTF.



**Fig. S4.** TGA curve of the FCTF and CTF at a heating rate of 8 °C/min under nitrogen atmosphere.

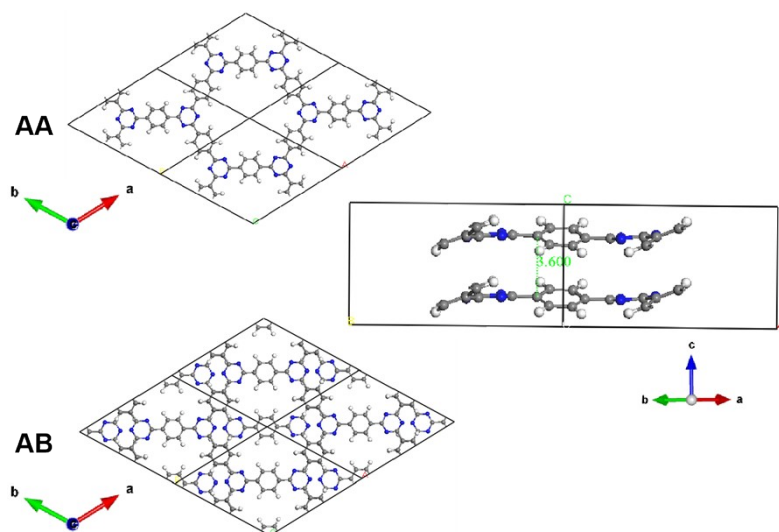
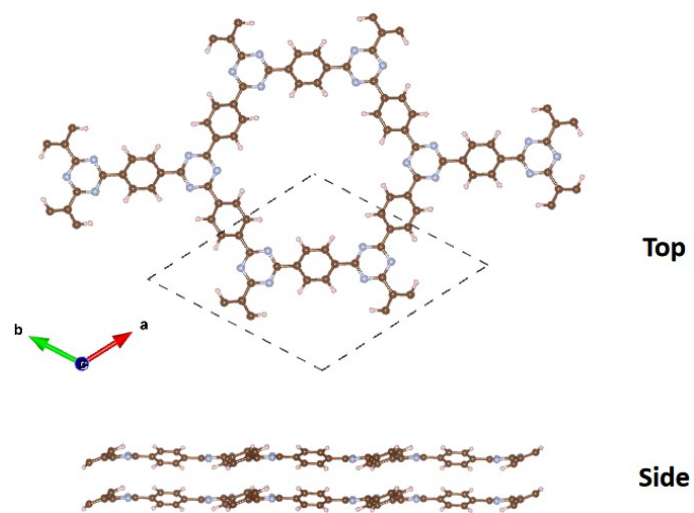


Fig. S5. AA stacking and AB stacking patterns of CTF.



**Fig. S6.** Top and side views of the AA-stacked bilayer CTF.

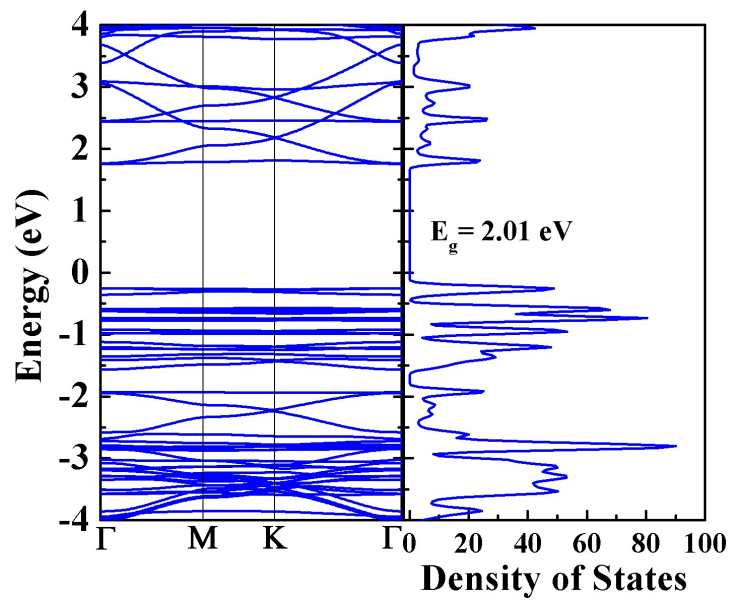
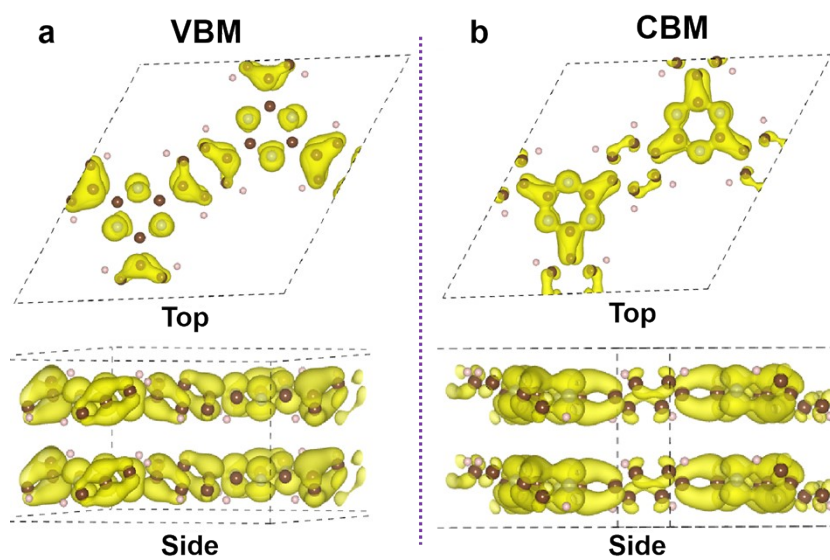


Fig. S7. The band structure and density of states plot of the bilayer CTF.





**Fig. S8.** The top and side views of the charge density plot of the (c) CBM and (d) VBM states of the bilayer CTF.

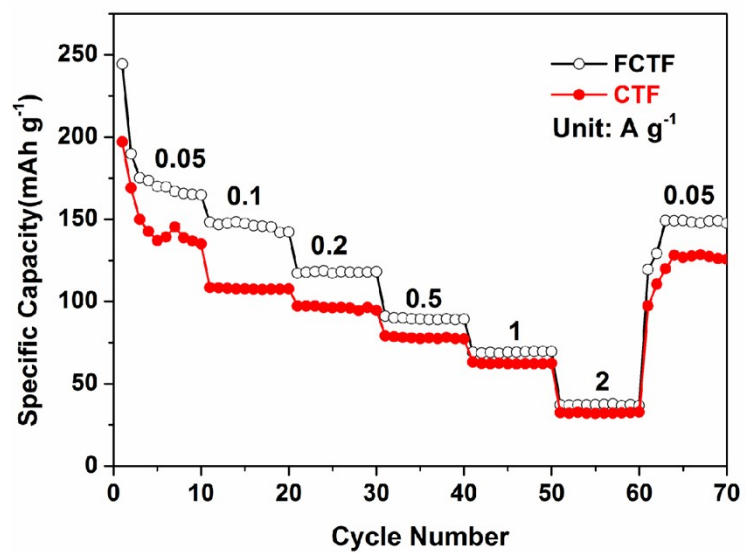


Fig. S9. Rate capability of FCTF and CTF.