

Supporting Information

Table S1 The fitting results of the EIS tests in carbonate and ether electrolytes (Fig. 2c and 2d)

| Electrolytes | R_s | R_{ct} |
|--------------|-------|----------|
| carbonate | 7.56 | 421.85 |
| ether | 2.583 | 64.11 |

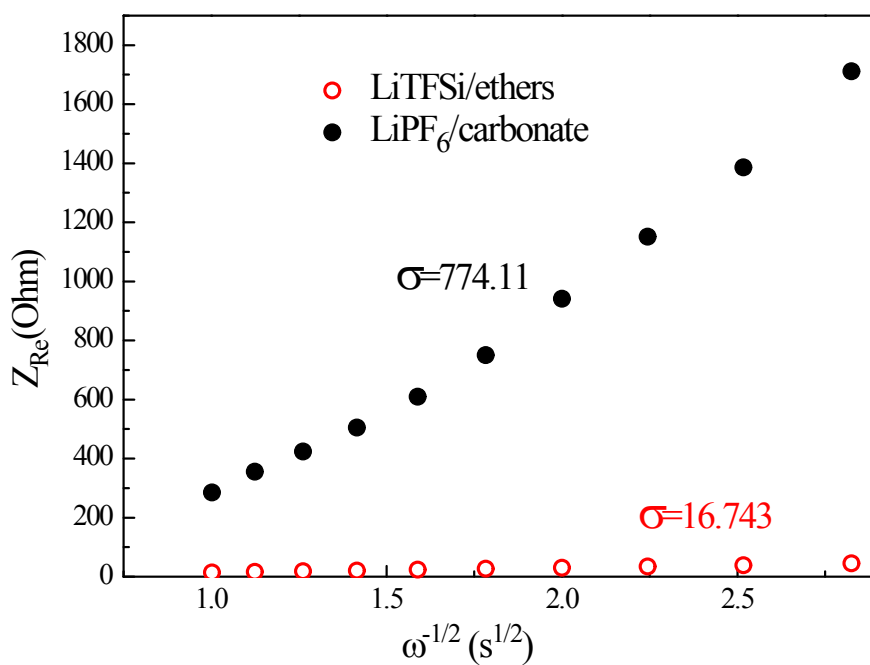


Fig. S1 Z_{Re} vs $\omega^{-1/2}$ plots in the low frequency region obtained from EIS measurements.

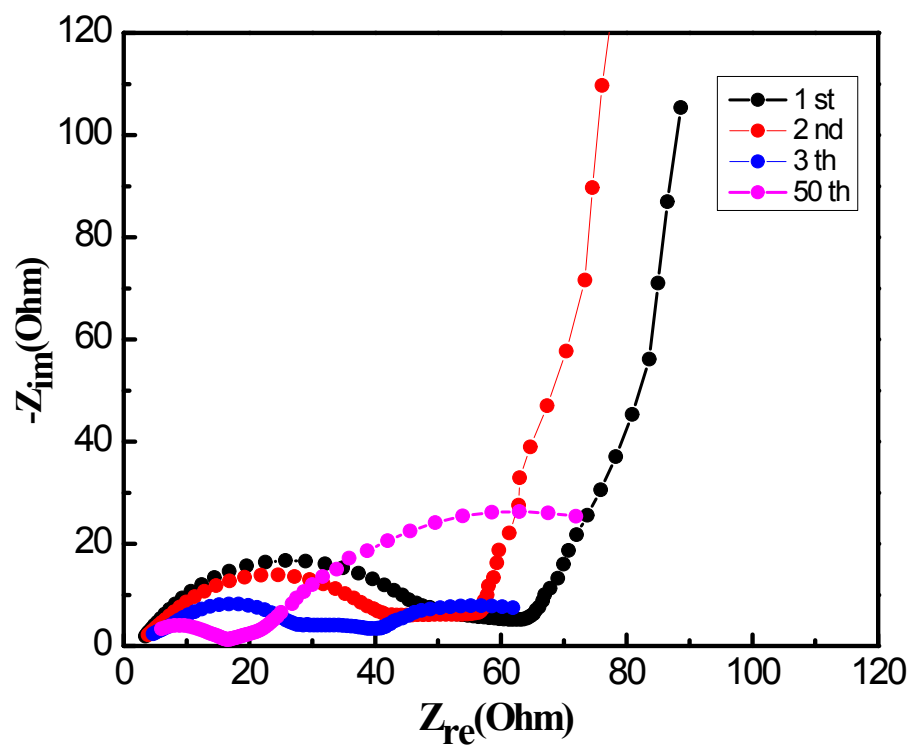


Fig. S2 Nyquist plots of $\text{Li}_4\text{Ti}_5\text{O}_{12}$ anodes in LiTFSi/ethers electrolyte after different cycles at the rate of 2C.