## **Supporting Information**



Figure S1. SEM image of a P(VDF-TrFE) composite film at a magnification of 5000x.



**Figure S2.** TGA curves measured at 10 °C.min<sup>-1</sup> for the neat P(VDF-TrFE) films and P(VDF-TrFE)/[C<sub>4</sub>mim][FeCl<sub>4</sub>] nanocomposites with different contents of [C<sub>4</sub>mim][FeCl<sub>4</sub>].