

Functionalized fluorinated polyimide as an electrode binder for LIB

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Polyimides (PI) has been popular as in various field because of its chemical stability and superior mechanical strength by strong chain structure. Especially, PI was reported to be effective in cycle performance of lithium ion batteries (LIBs). Although these advantages, there are several problems such as insoluble, infusible properties and low process ability. In this reason, recently the fluorinated polyimides (FPI) that introducing trifluoromethyl groups ($-CF_3$) into PI received more attention due to its enhanced solubility and thermal stability. Herein, we prepared the FPI and functionalized to more increase its thermal stability and properties. FPI were synthesized from 4,4'- (hexafluoroisopropylidene) diphthalic anhydride (6FDA) containing a CF_3 groups, 4,4'-Oxydianiline (ODA) which has aromatic structure, and analyzed by Fourier-transform infrared spectroscopy (FT-IR), Thermogravimetric analysis (TGA). FPI binder for LIB was also compared with PVdF binder.