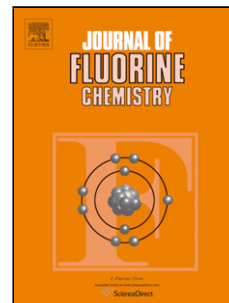


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Preparation and Characterization of Fluorinated Acrylic Pressure Sensitive Adhesives for Low Surface Energy Substrates

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Graphical Abstract

In the paper, we synthesized fluoride PSAs which have ideal adhesiveness to low surface energy substrates. It was evidenced that the adhesive property, heat resistance and surface property of the novel fluoride PSAs all improved a lot.

Highlight

- >Synthesis of fluorinated copolymers containing two glass transition temperatures.
- >Fluorinated monomer promoted adhesion of PSAs on low surface energy substrates.
- >Thermal stability enhancement of PSAs modified by hexafluorobutyl acrylate.
- >Wettability improvement of PSAs modified by hexafluorobutyl acrylate.

Abstract

In this work, a series of PSAs with various fluorinated groups were synthesized using 2,2,3,4,4,4-hexafluorobutyl acrylate (F6BA) via solution polymerization. Compared to existing PSAs, fluorinated acrylic PSAs exhibited excellent performance in terms of the adhesiveness to the low surface energy materials. F6BA played a positive role in heat resistance of PSAs, resulting from the improvement of decomposition temperatures of

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