Abstract

The compound 2,5-di(ethoxycarbonyl)-3,4-di(2-fluorophenyl)cyclopentadienone was successfully synthesized and led to the synthesis of terephthalates, di(hydroxymethyl)s, di(chloromethyl)s, diacids, diacid chlorides and indenofluorene-diones having the pendent groups null, hexyl and 2-(4-benzothiazolyl)phenyl. All new compounds were characterized by melting point, IR, 1H NMR, 13C NMR, 19F NMR, GC/MS and combustion analysis. Most of the forementioned compounds showed an indication of restricted rotation with the appearance of trans and cis diastereomers. The asymmetric compounds showed the occurrence of four isomers. In some spectra, signals corresponding to all four isomers were visible. Through-space 1H-19F, 13C-19F and 19F-19F coupling was observed for most compounds in 1H NMR, 13C NMR and 19F NMR spectra. Polymerization of poly(2,3-bis(2-fluorophenyl)-5-hexyl-p-phenylene vinylene (BFP6-PPV) and poly(2,3-bis(2-fluorophenyl)-p-phenylene vinylene (BFP-PPV) were successful and the polymers were characterized by TGA, DSC and GPC. From GPC data, the addition of 4-tert-butylbenzyl chloride in the polymerization of BFP6-PPV appears to be ineffective in varying the molecular weights.