Synthesis and Characterization of Polyimide having thermal curable moieties

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Flexible organic electronic devices such as flexible solar cells liquid crystal display (LCD), and organic light emitting diode(OLED) fabricated on polymer substrates are the next generation of electronic devices manufacture would combine the gas barrier, thermal and chemical properties of glass with the flexibility, toughness and processability. However many technical problems have to be resolved such as those related to thermal and mechanical properties. Polyimides have been used in the electronic device industry because of their high glass transition temperatures, dimensional stabilities, optical transparencies and heat resistances as well as excellent mechanical, dielectric properties. In this study, polyimides containing p-phenylenediacryloyl moieties combined with dianhydride were synthesized by two-step method polymerization. The optical, physical and thermal properties of the free standing films formed from newly synthesized polyimides were investigated by various techniques.