Thermogravimetric analysis of polycarbonates and polythiocarbonates with chlorinated aromatic side-rings

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Abstract

The thermal stability and kinetics parameters of polycarbonates and polythiocarbonates derived from diphenols with chlorinated aromatic side-rings were studied. The polycarbonates exhibited a higher thermal stability than the polythiocarbonates, except for polythiocarbonate Ib, which displayed similar behaviour to that of the analogous polycarbonate. The kinetic parameters of the thermal decomposition were determined by using the Arrhenius relationship and a computer program. In the considered temperature range, all the polymers degraded in a single stage with first-order kinetics.

Keywords Polymer, Physical Chemistry, Inorganic Chemistry, Thermal Stability, Chlorinate