Análisis de sensibilidad de las constantes cinéticas como herramienta para la elucidación del mecanismo de polimerización de compuestos acrilfuránicos [

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text (article)

Analítica

By means of the sensitivity analysis of kinetics constants in a proposed mechanism for radical polymerization of acrylfuranic compounds [Furfuryl Acrylate (FA) and Methacrylate (FM)],it is elucidated which elementary steps are relevant in the phenomenology. In this analysis, the application of Come's methodology allows to classify the elementary steps of a mechanism in three categories: Non-sensible, Non-determinant, Sensible. The results obtained with this tool in modeling of experimental data in free radical polymerization of FA and FM suggest that kinetic mechanism consists mainly on five elementary steps: 1) Primary initiation, 2) propagation, 3) degradative transfers (which include intermolecular and primary), 4) re-initiation and 5) cross-termination. Thus, taking into account these elementary steps in mathematical modeling, the polymerization of FA and FM in different experimental conditions was successfully simulated
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