Kinetic Modeling and Algorithm of Three-Component Reaction Network

Yanping Zhang[1], Li Xing[1], Huan Liu[1], Pingping Huang[1], Chunjin Wei[2], Weiping Fang[1], Weikun Lai[1], and Xiaodong Yi[1]

[1]Xiamen University
[2]Jimei University

September 25, 2021

Abstract

The definite solutions of the differential equations from a three-component triangle reaction network have been obtained by utilizing the concept of virtual component concentration and some mathematical techniques. The kinetic model forming from the above definite solutions reveals that the overall reaction rate will be affected by the distribution entropy of the rate coefficients. The improved eigenvector method including a basic equation, algorithm, and criterion has been proposed for calculating the rate coefficients from experimental concentration curves.

Hosted file

`10-Article-ZYP.docx` available at https://authorea.com/users/436210/articles/538703-kinetic-modeling-and-algorithm-of-three-component-reaction-network