Abstract

A mathematical model of the transport material through a membrane of finite thickness via the process of diffusion has been developed. We may consider a membrane in between a donor and a receptor compartment, the cause of an externally applied electric field and concurrent first-order chemical reaction of the diffusion species with sites in the membrane on the diffusion
state is examined via the formulation of a time dependant differential equation and its subse-
quent solution by variational iteration method (VIM). A simple closed form of analytical ex-
pression for the concentration profile is derived and compared with the previous results and
found to be in good agreement.

Reference

- Fakhari, A., Domairry, G.,Ebrahimpour: Approximate explicit solutions of nonlinear BBMB
equations by Homotopy analysis Method and and comparison with exact solutions. Phys.Lett.A
368, 64-68(2007)

Index Terms

Computer Science              Applied Mathematics

Key words

Diffusion          membranes          Diffusion équations
                        Active diffusion

Iontophoresis