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Facilitated transport of valine through bulk liquid membranes containing Aliquat 336: A kinetic study

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ABSTRACT

This paper describes a kinetic study, in optimal conditions, of the facilitated counter-transport of valine through bulk liquid membranes using tricapryl methyl ammonium chloride (Aliquat 336) as carrier and chloride as counter-ion. Recovery close to 80% has been obtained after 24 h. The transport kinetic was analysed by means of a model involving two consecutive irreversible first order reactions. The rate constants of the extraction and stripping reactions were determined by numerical analysis. Good agreement between the model and experimental data was observed. A maximum flux of valine transport through the bulk liquid membrane of 0.052/h was obtained.

Keywords: Valine; Facilitated transport; Bulk liquid membranes; Aliquat 336; Kinetics

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