

Cs(I) extraction / transport studies using irradiated calix [4]-bis 2,3-naphtho-crown-6

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ABSTRACT

Studies on the effects of irradiation of the Cs-selective extractant calix [4]-bis-2,3-naphtho-crown-6 (CNC) on its extraction as well as transport behaviour towards using acidic feed solutions has been investigated. While the extraction studies were carried out using a previously reported diluent composition of 50% toluene – 50% nitrobenzene, the transport studies were carried out using a diluent mixture of 20% n-dodecane – 80% 2-nitrophenyl octyl ether (NPOE). The transport studies were carried out using both polytetrafluoroethylene (PTFE) as well as polypropylene (PP) membrane filters. While an increase in the distribution ratio values for Cs were observed with the irradiated CNC, the transport studies indicated a decrease in the permeability coefficient values.

Keywords: Cesium; Calix-crown; Liquid membrane; Irradiation; Solvent extraction

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