ID P-03

Removal of Boron using Glucamine Containing Xano anti Micro Fibrous Ion-Exchange Materials

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ABSTRACT - Fibrous lon-exchangers me rather promising with regard to their good sorption capacity mainly because of their large surface area to volume ratio. This study is aimed at establishing a comparison between nano- and micro- fibrous materials for boron removal. The materials chosen for this study were prepared via radiation induced grafting to attach an epoxy containing monomer group and subsequently functionalized with N-methylghicamine. The performances of the nano- and micro-ion-exchangers were compared on a batch basis to determine the boron removal percentage The parameters investigated were adsorbent dosage, time. pH and initial boric acid concentration. Based on the results obtained nano-fibrous ion-exchangers were found to perform better than micro-fibrous 1011-exchangers.

ID P-04

Feasibility study of fractionating fatty acid using dividing watt column (DWC): Modelling Approach

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ABSTRACT - Dividing wall column (DWC) offer big advantages especially for separating multicomponent mixtures with reduced cost and energy consumption. However, not all process are suitable with DWC. In Malaysia, oleochemical fractionation of fatty acid typically imply series of distillation cohunu. hi this paper, we study the feasibility of applying DWC starting from basic equations and expand it to rigorous modelling, hi addition, an economic comparison between typical distillation column configuration and DWC were performed. From the results, it is feasible to apply DWC for fatty acid fractionation with significant reduction in operating cost while maintaining high product purity. We believe such modelling approach is important especially during early design development to comprehend the feasibility of DWC in oleochemical industries winch significantly open the possibility for industrial implementation.

ID P 05

An Investigation on Proton C onductivity of Phosphoric Acid Membranes Obtained from Different Radiation Grafted Copolymers

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ABSTRACT - Proton conductivity measurements play an elucidate role m controlling the power generation efficiency in fuel cell systems. This study was aimed to investigate in detail the factors related to the conductivity of the phosphoric acid membranes obtained from different radiation grafted copolymers. Therefore, composite membranes containing phosphoric acid for possible use in a fuel cell was prepared by radiation induced grafting using nitrogeneous monomer, crosslinker and epoxy containing monomer onto poly(etliylene-alt-tetrafluoroethylene) (ETFE) followed by phosphoric acid doping. The proton conductivity of the membranes was measured in correlation with different types of membranes, under various conditions of relative humidity and temperature using a four-probe