

Ionic Liquid Effects on Metal Ion-Based Extractions of Olefin/Paraffin Hydrocarbon

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Abstract : In coordination and support of the Center for Innovative and Strategic Transformation of Alkane Resources (CISTAR) Research Experience for Teachers (RET) at the University of Texas at Austin and under the guidance and direction of Professor Joan Brennecke, this study examined the addition of silver in an ionic liquid used to separate cyclohexane from cyclohexene. We recreated the liquid-liquid separation experimental results from the literature on cyclohexene, cyclohexane, and [allylmim][Tf2N] to verify our method, then evaluated the separation performance of silver - ionic liquid (IL) mixtures by various characterization techniques. To introduce the concepts of this research in high school education, a lesson plan was developed to instruct students on the principles of liquid-liquid separation.

Keywords : ionic liquids, liquid-liquid separation, hydrocarbon, research experience for teachers

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