

Extraction of Strontium Ions through Ligand Assisted Ionic Liquids

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Abstract : Extraction of Strontium by crown ether (DCH18C6) has been investigated in [BMIM][TF2N] Ionic Liquid (IL) giving higher extraction ~98% and distribution ratio as compared to other organic solvents (Dodecane, Hexane, & Isodecyl alcohol + Dodecane). Distribution ratio of Sr in IL at 0.15M DCH18C6 indicates an enhancement of 20000, 2000, 500 times over Dodecane, Hexane and 5% Isodecyl Alcohol + 95 % Dodecane at 0.01M aqueous acidity respectively. In presence of IL, Sr extraction decreases with increase in HNO₃ concentration in aqueous phase whereas opposite trend was observed with organic solvents. Extraction of Sr initially increases with increase in DCH18C6 concentration in IL, finally reaching an asymptotic constant.

Keywords : distribution ratio, ionic liquid, ligand, organic solvent, stripping

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