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Extraction of Strontium Ions through Ligand Assisted Ionic Liquids

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Abstract : Extraction of Strontium by crown ether (DCH18C6) hasbeen 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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