



Comparative Study of Solvent Effect by TOPSIS Method in the Oxidation of Acetaldehyde

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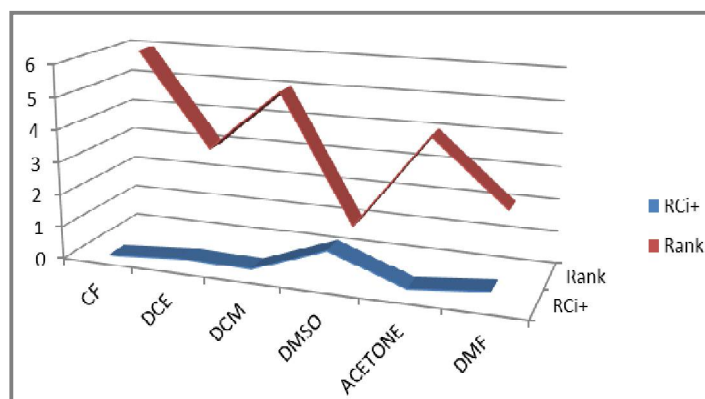
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ABSTRACT

The oxidation of acetaldehyde with benzimidazolium fluorochromate, 2,2'-bipyridinium chlorochromate, pyridinium chlorochromate, morpholinium chlorochromate and quinolinium fluorochromate carried out in different solvents like chloroform(CF), 1,2-dichloroethane(DCE), dichloromethane (DCM), dimethyl sulfoxide (DMSO), acetone, dimethyl formamide (DMF) at temperature 298 K. By using the technique for order of preferences by similarity to ideal solution (TOPSIS), solvent effect is analyzed and we found descending order of solvents for fast reaction as DMSO > DMF > DCE > ACETONE > DCM > CF.

Graphical Abstract



Rank of preference order of solvents.

Keywords: Oxidation, acetaldehyde, TOPSIS, solvent effect.