

Investigation of the role of fluoride in hydroalkoxylation of HFP and alcohol

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The interaction of alkali fluorides with 2,2,2-trifluoroethanol (TFE) in hydrofluoroalkoxylation reaction of hexafluoropropene (HFP) with TFE have been investigated by means of FT-IR and ¹H-NMR. It has been found that CsF forms stronger hydrogen bonding with TFE than KF does. This goes along with the fact that KF gave the highest yield and selectivity while CsF gave large amount of olefinic and high molecular weight side products. It is suggested that size of alkali metal cation and the degree of M-F dissociation should be in the medium range for the selective production of CF₃CHF₂CF₂OCH₂CF₃ in high yield and selectivity.