O59

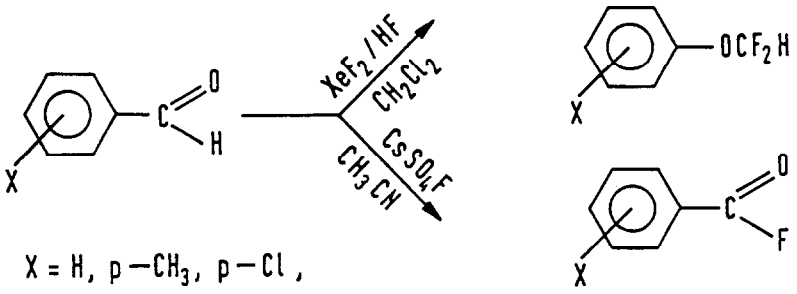
COMPARATIVE BEHAVIOUR OF XeF_2 AND $CsSO_4F$ IN THE REACTIONS WITH ALDEHYDES

Zdenka Planinšek, Stojan Stavber and Marko Zupan

Laboratory of Organic and Bioorganic Chemistry, 'Jožef Stefan' Institute and Department of Chemistry, University of Ljubljana, 61000 Ljubljana (Yugoslavia)

Room temperature introduction of fluorine atom into organic molecules has received great attention in the last twenty years. Xenon difluoride and caesium fluoroxysulphate are the two most easily handled reagents known up to now for mild introduction of fluorine. Both reagents differ in reactivity, while their behaviour strongly depends on the structure of the organic molecule, catalyst used, solvent and temperature.

We report our results on room-temperature reactions of XeF_2 in CH_2Cl_2 in the presence of HF and $CsSO_4F$ in CH_3CN with various aromatic and aliphatic aldehydes. The courses of the reactions differ markedly, while XeF_2 reactions resulted in rearranged ethers, $CsSO_4F$ transformed aldehydes to acid fluorides.



X = H, p−CH_3, p−Cl,
p−OCH_3, p−OC_5H_{11}, p−COOH,
p−$COOCH_3$, o−NO_2, m−NO_2, p−NO_2, F_5