

Summary

It was reported that the cationic and nonionic surfactants have various important characters like biological and pharmacological action using carbon C₈-C₁₈

Part I

Cationic surfactants were prepared by the reaction of fatty alcohol C₈ – C₁₈ with chloroacetyl chloride in dry dichloromethane to give alkyl halides of C₈ to C₁₈ and quaternization with tertiary amines and pyridine in dry acetone at 50 C^o to give cationic surfactant (II –VII)_{a-d} most of the products are good biodegradable surfactant , the prepared cationic surfactants showed good surface and biological activities that manifested the importance in the different industrial fields .

Part II

Nonionic surfactants were prepared by the reaction of fatty alcohols with ethylene oxide (n = 3.5 and 7) the ethoxylated fatty alcohol were reacted with chloro acetyl chloride in Dry dichloromethane to give ethoxylated alkyl halides and quaternization with tertiary amines and pyridine in dry acetone at 50 c^o to give nonionic surfactant (II – VII) a-d (i – iii) . the structures were elucidated by different spectroscopic tools . The surface active properties of the prepared products (II – VII)_{a-d} - (i-iii) were evaluated . and studied including surface and interfacial tension , cloud point , foaming , wetting , emulsification , also biodegradability properties , biodegradable surfactants , the prepared compounds show good surface and biological activities which manifested the importance in different industrial fields .

