

ABSTRACT

Since 1940 Phenoxy alkanolic acids like Phenoxy acetic acid and derivatives such as 4-Isopropyl phenoxyacetic acid, 3-isopropyl phenoxy acetic acid, 3,4-dialkyl phenoxy acetic acids and their bromo derivatives 2,4 D etc are good herbicides. [(3-pentadecyl aryl)oxy) acetic acids, their hydrazides, cyclic derivatives-oxadiazoles etc show biological activity viz anti-inflammatory action, plant growth regulation etc. Taking into account the above facts 3-pentadecyl phenol from CNSL was prepared which was later on successfully used to synthesize (3-pentadecyl) phenoxy acetic acid (1) (Scheme 1).

After characterisation of acid a series of esters (2a) to (2e) of (1) acid by condensing (1) with different alcohols using conc. sulphuric acid catalyst, (Scheme 2) ^{was synthesised.} Esters of the (3-pentadecyl) phenoxy acetic acid viz (3-pentadecyl)-phenoxy methyl, ethyl, isopropyl, butyl and isoamyl acetates are synthesised in good yields. Characterisation of all these esters was performed by spectroscopic techniques viz IR, H-1NMR, C-13 NMR, (H-1 decoupled and DEPT-) and Mass spectra. All the results are in good agreement with the expected structures of the compounds, (2a to 2e).

In another series amides of (3-pentadecyl)Phenoxy acetic acid were prepared by direct amidation reaction with different aromatic amines, (Scheme 3). Reaction was successfully carried out in the presence of N-methyl pyrrolidone and pyridine as solvent and triphenyl phosphite, ϕ LiCl as catalyst. Various substituted

acetamides such as (3-pentadecyl)Phenoxy -N-Phenyl/ N-(m&p-nitro-phenyl)/ N-(p-bromophenyl)/ N-(α -Naphthyl)/ N-(m-methylphenyl)/ and N-(P-methoxy Phenyl) acetamides, were synthesised in good yields. After purifications of these products their characterisation was carried by IR, H-1NMR, C-13NMR, (H-1 decoupled, and -DEPT-) and U.V. spectroscopy. All the results are as per the expected structures of the newly formed products.

These esters and amides are expected to have Herbicidal and biological activity and therefore may find wide applicablity.