

EXPERIMENTALGeneral

Benzene (BDH), Methanol (BDH), 1,2-Dimethoxyethane(SISCO), Methyl iodide (SRL), Ethyl iodide (Reidel), n-Butyl bromide(SISCO) and Allyl bromide (BDH) were commercially available and distilled before use. Amberlite IRA-400 (Rohm & Haas) was regenerated before use. Phenoxyacetic acid ( $C_6H_5OCH_2COOH$ ), o-Methyl phenoxyacetic acid ( $o-CH_3-C_6H_4-OCH_2COOH$ ), m-Methyl phenoxyacetic acid ( $m-CH_3-C_6H_4-OCH_2COOH$ ), p-Methyl phenoxyacetic acid ( $p-CH_3-C_6H_4-OCH_2COOH$ ), and  $\beta$ -Naphthoxyacetic acid were prepared according to the procedure given in the 'Text Book of Organic Chemistry' by A.I.Vogel. PMR spectra were recorded on 60 MHz spectrometer.

A General Procedure for the Preparation of Polymer-Supported Aryloxyacetic Acid Anion (9.12)

Amberlite IRA-400, a macrareticular anion-exchange resin containing quaternary ammonium groups in chloride form packed in a column is eluted with 0.25 N aqueous sodium salt of aryloxyacetic acid (prepared by dissolving 25 m moles of aryloxyacetic acid in 100 ml 0.25 N NaOH) until complete removal of chloride ion. The resin is then successively washed with water and acetone. The resin is finally dried in vacuo at  $50^\circ$  over  $P_2O_5$  for 5 hrs. The exchange capacity is determined by passing aqueous 1 M sodium chloride solution (100 ml) through the resin (0.3 g) in a column. The amount of aryloxyacetic acid anion in the eluent is titrated with 0.01 N hydrochloric acid using methyl orange as an indicator.

A General Procedure for o-Alkylation of Aryloxyacetic Acids

Amberlite IRA-400 aryloxyacetic acid anion form (5 g, 1 m mole aryloxyacetic acid anion/g of dry resin) is placed in a flask, a solution of alkylating agent (20 m moles) in the same solvent is added, and the mixture is then stirred under the conditions given in the Table 1. The resin is then filtered off and the filtrate slowly distilled under reduced pressure to remove the solvent and excess of alkylating agent. The products were in essentially pure form with high yields. The products were characterised by PMR, IR and comparison with authentic samples. Some illustrative NMR spectra of esterification are given just after experimental part.

Fig 1 NMR of  $C_6H_5OCH_2COOCH_3$

Fig 2 NMR of  $C_6H_5OCH_2COOCH_2CH_3$

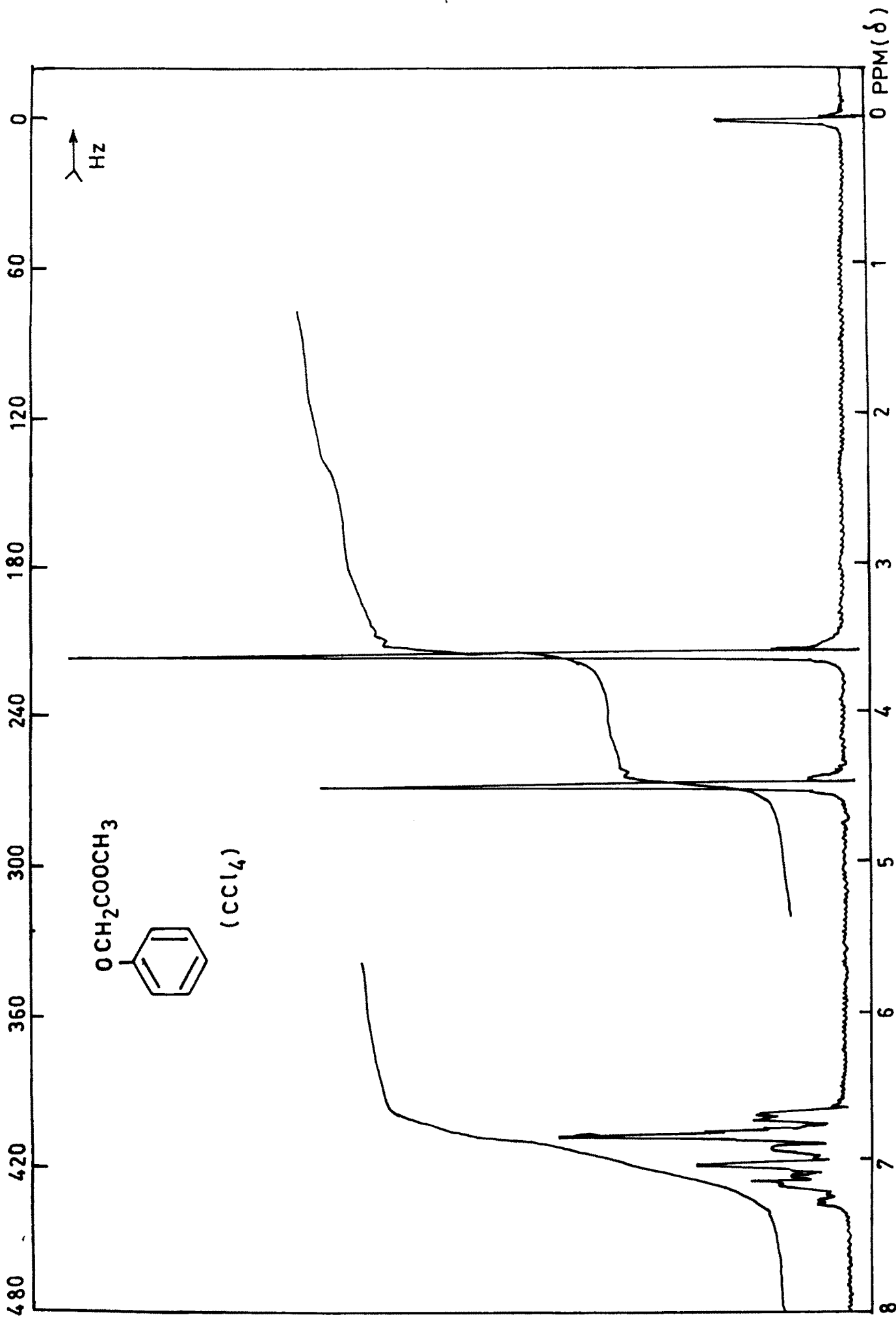


Fig. 1

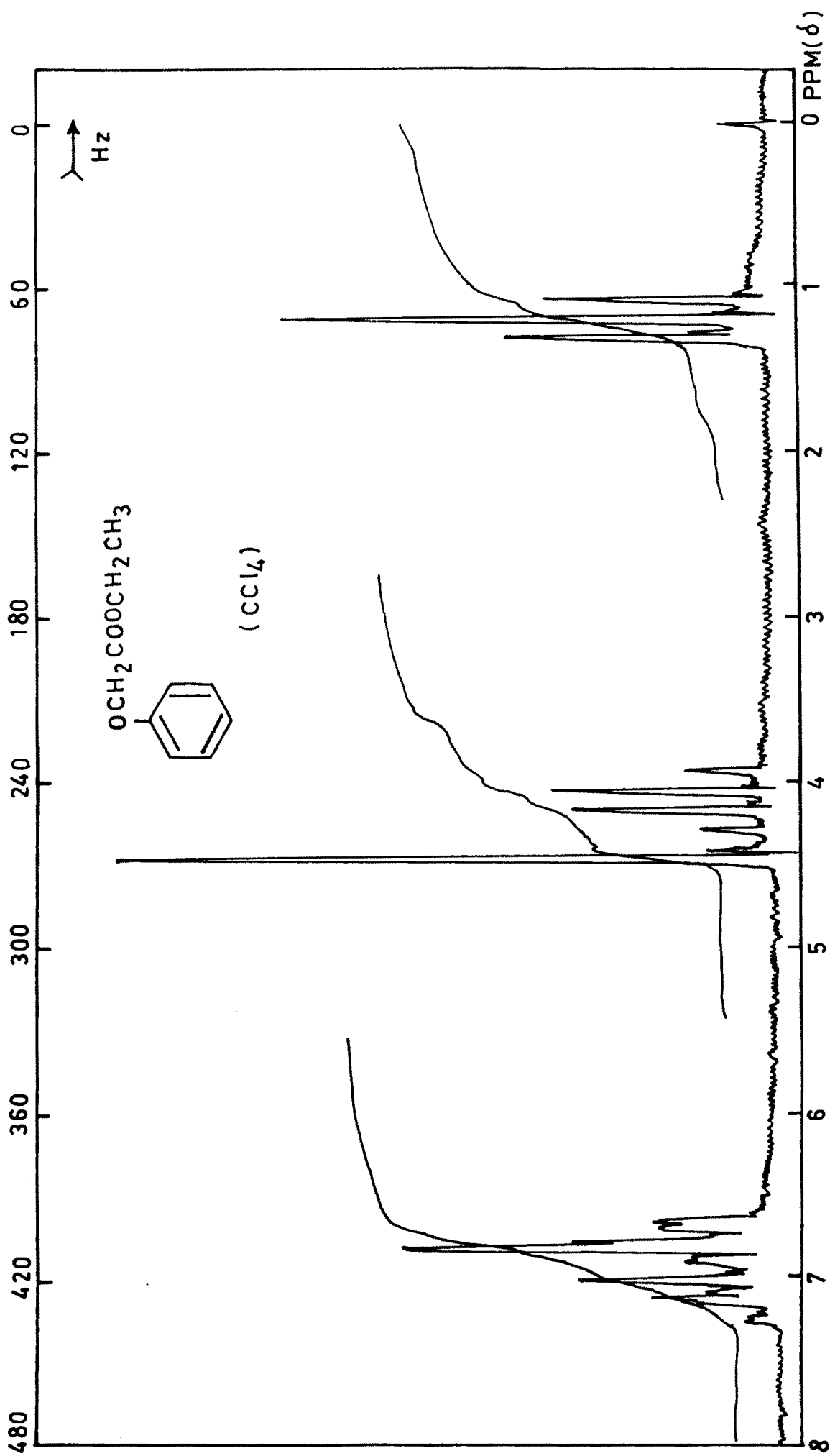


Fig. 2