

Supporting Information

A Brønsted Acidic, Ionic Liquid Containing, Heteropolyacid Functionalized Polysiloxane Network as a Highly Selective Catalyst for the Esterification of Dicarboxylic Acids

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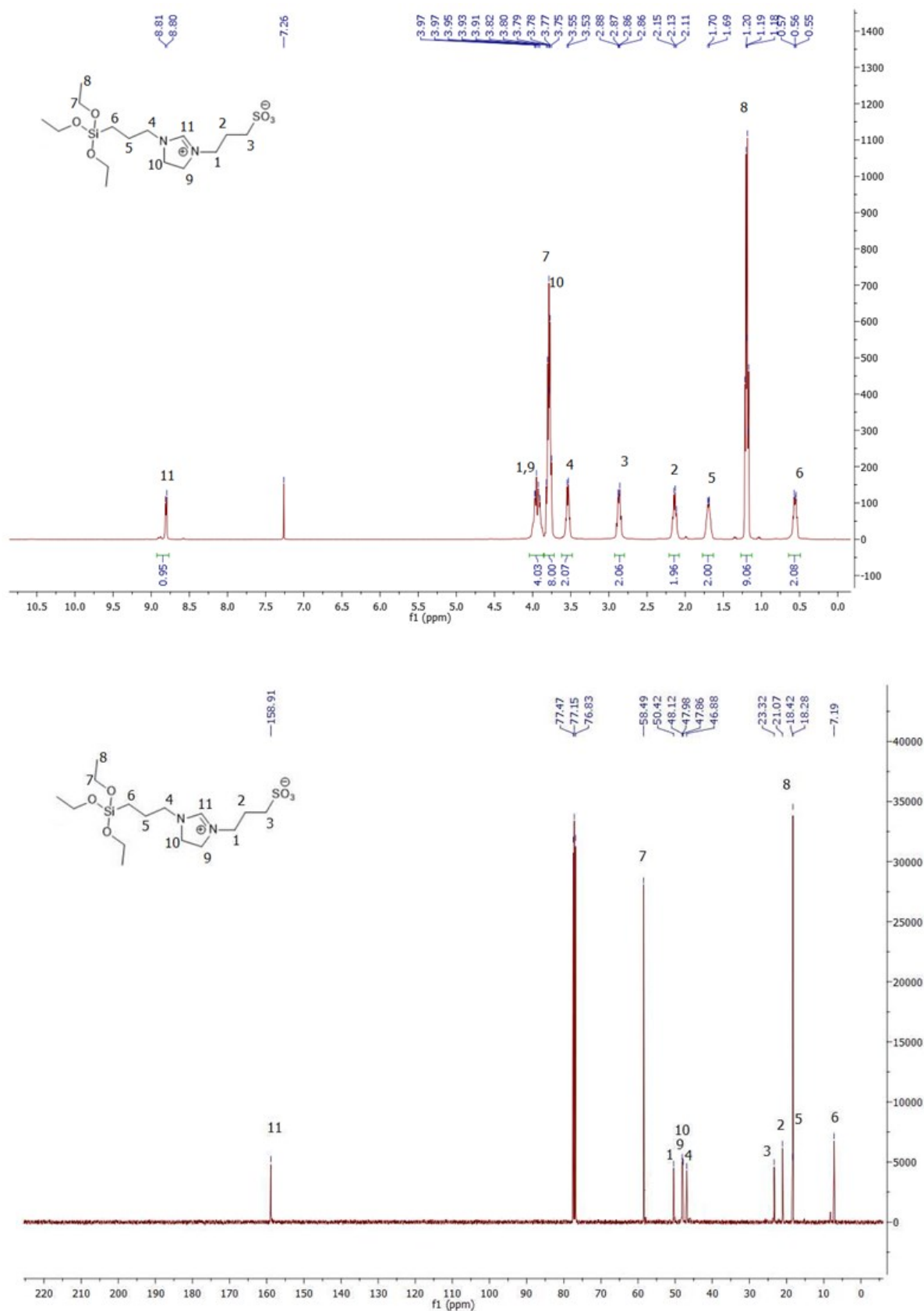


Figure S1: ¹H and ¹³C NMR spectra of 1-(3-triethoxysilylpropyl)-3-(3-sulfopropyl)-4,5-dihydro-imidazole

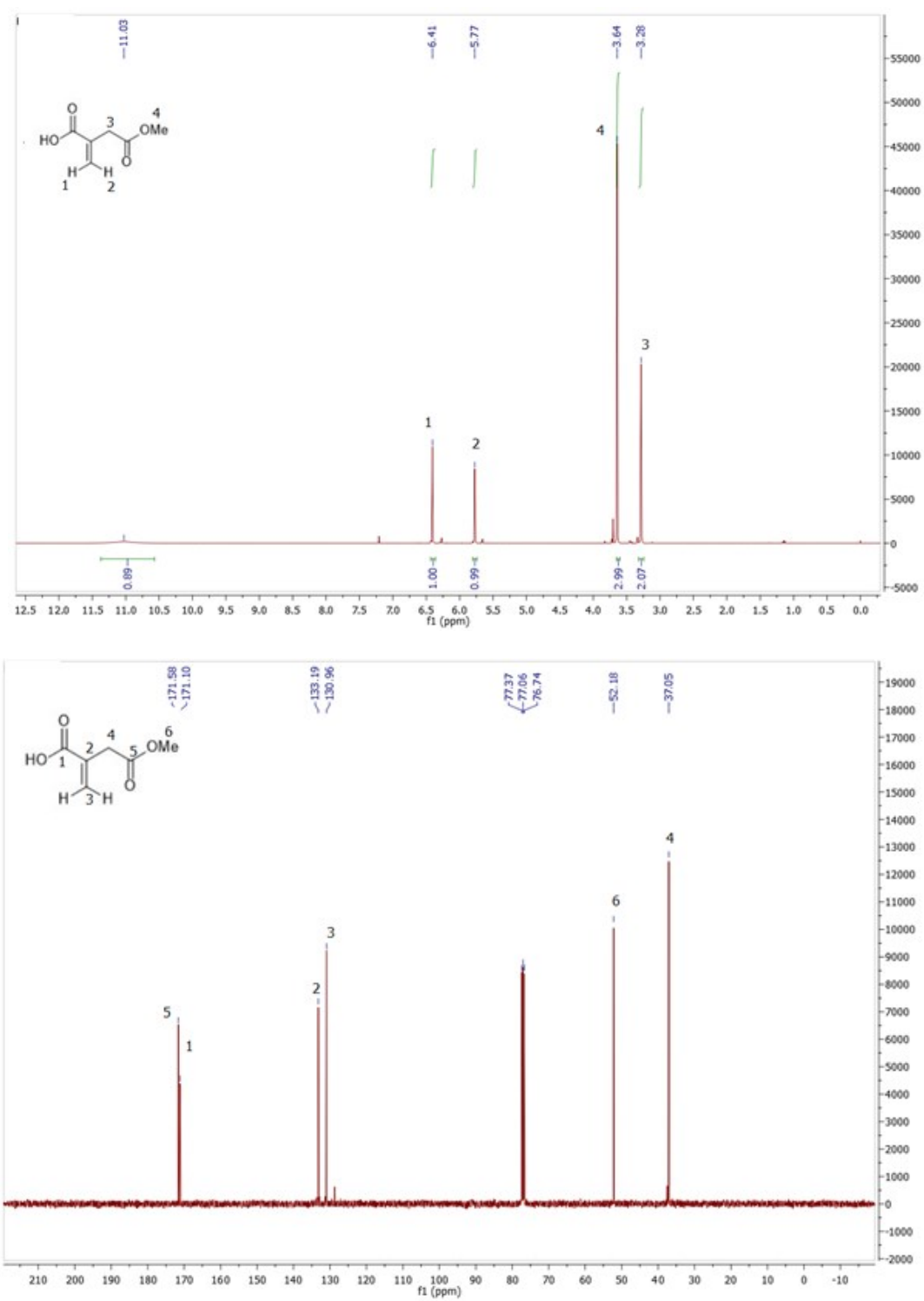


Figure S2: ^1H and ^{13}C NMR spectra of 4-methoxy-2-methylene-4-oxobutanoic acid

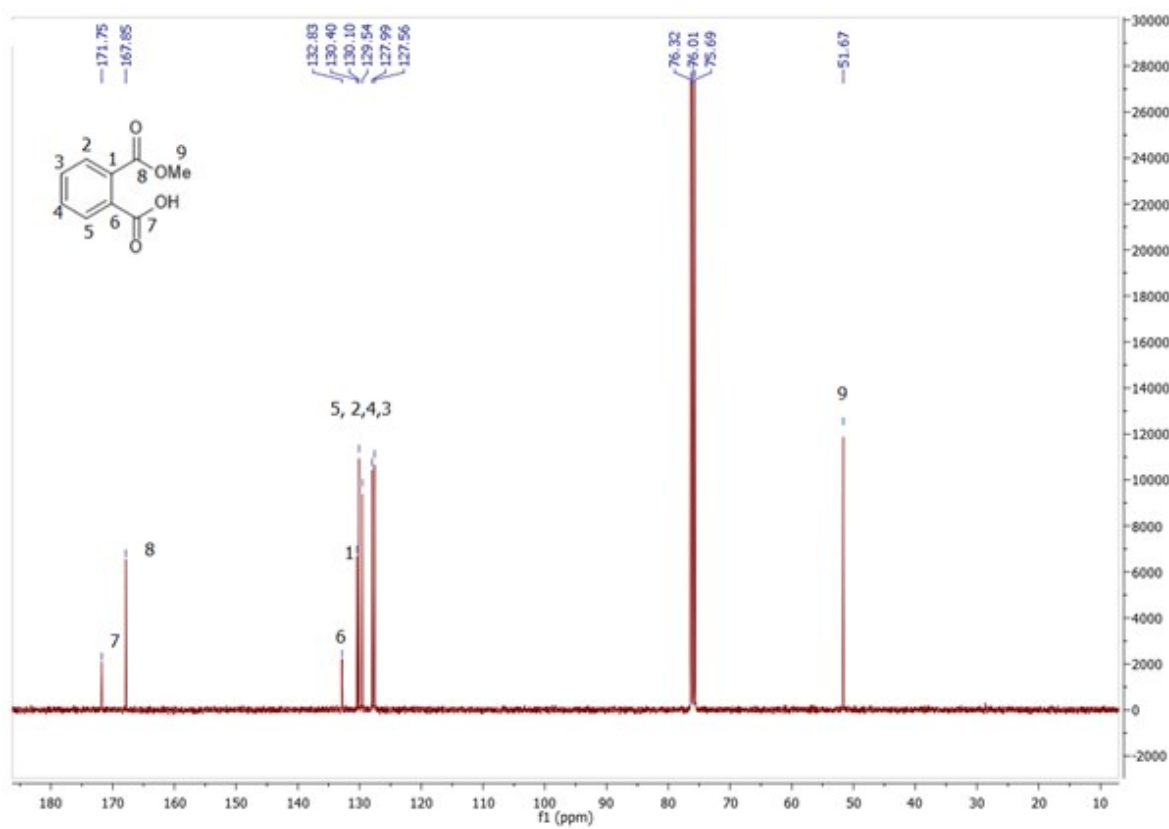
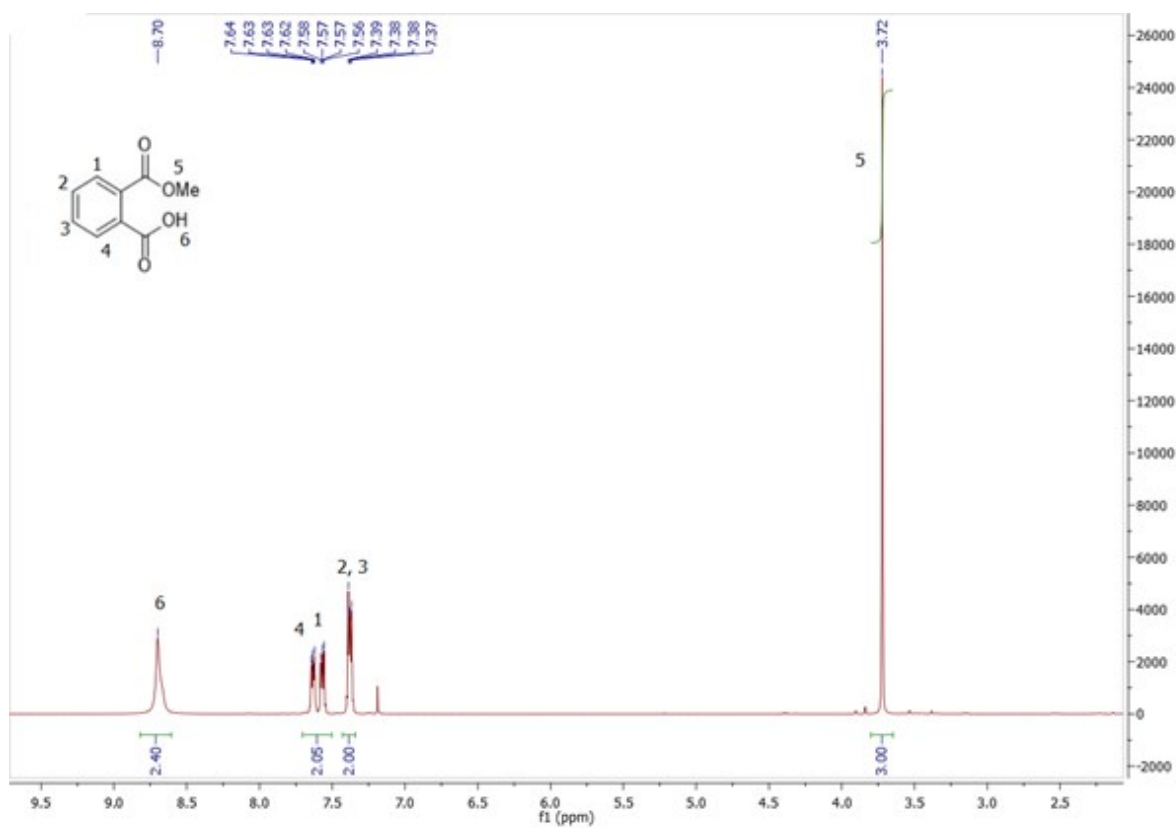


Figure S3: ¹H and ¹³C NMR spectra of monomethyl phthalate

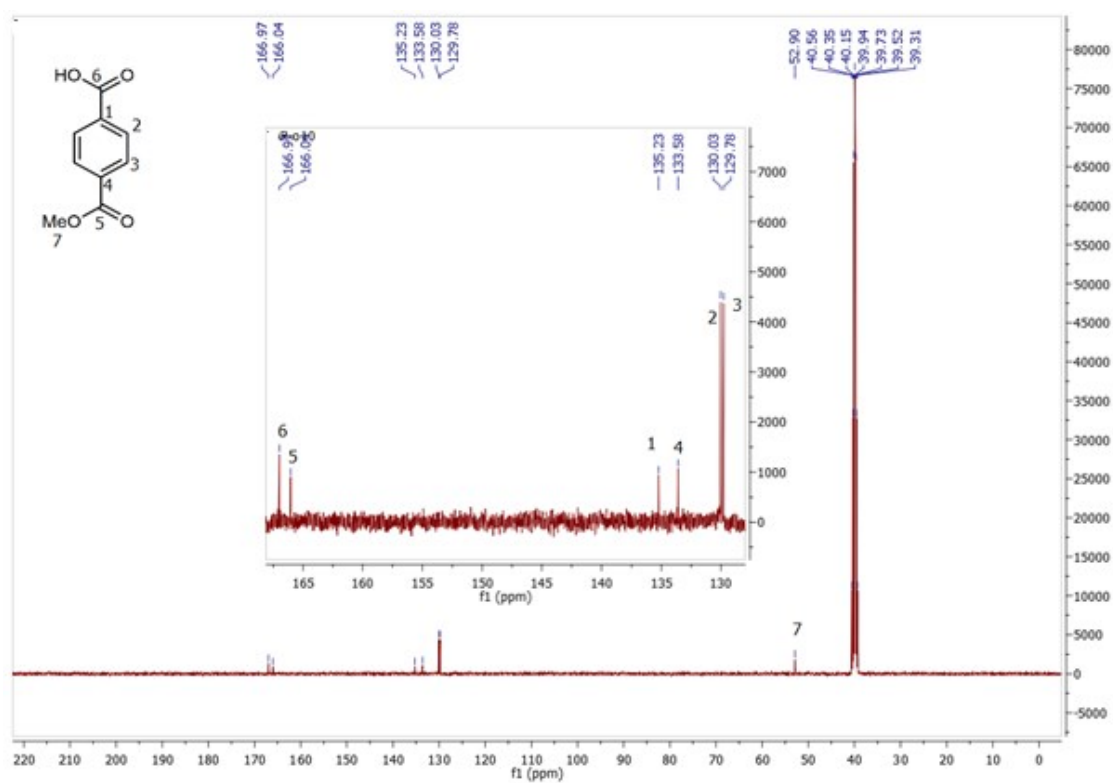
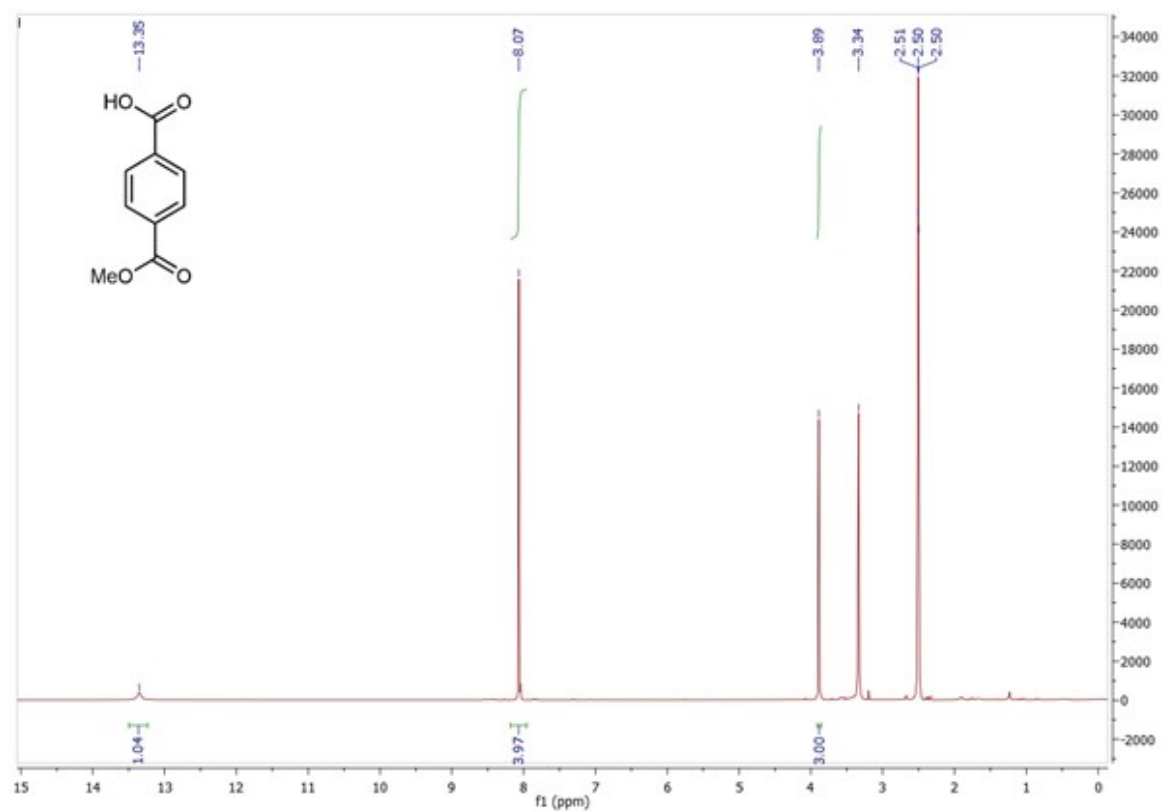


Figure S4: ¹H and ¹³C NMR spectra of monomethyl terephthalate

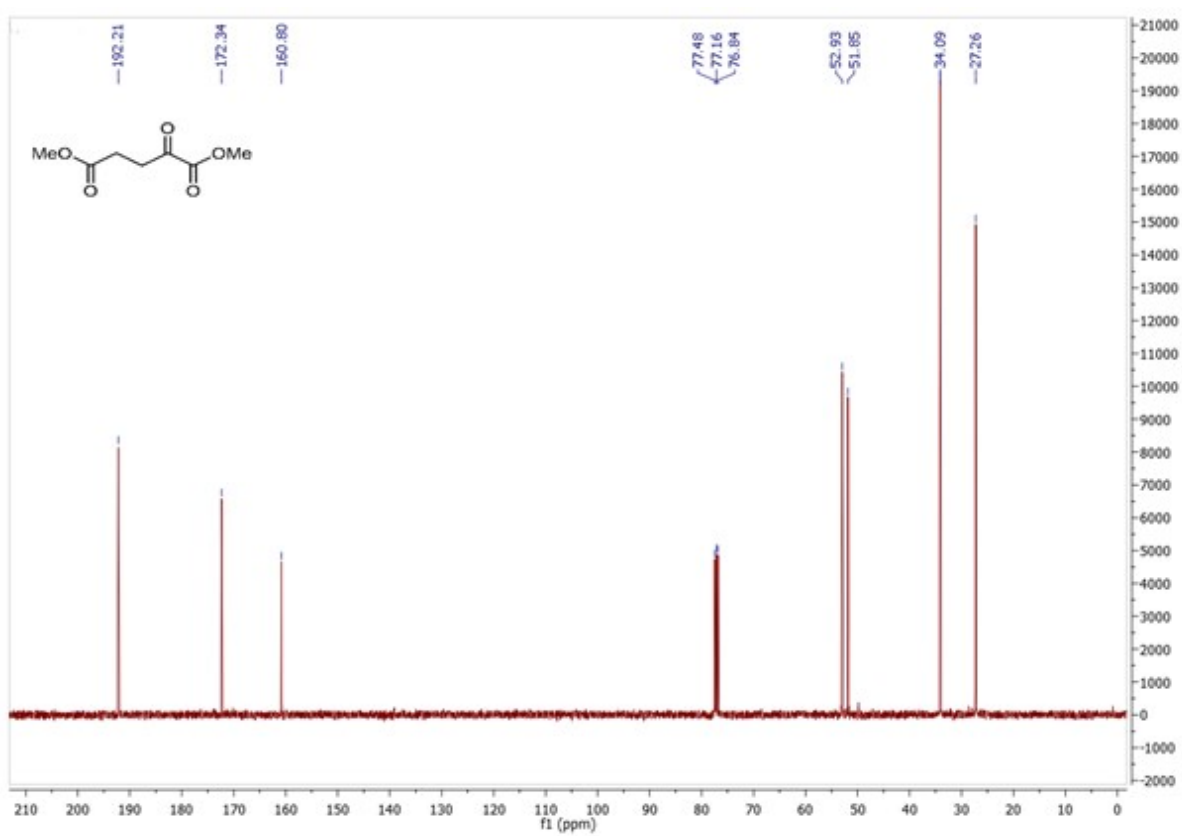
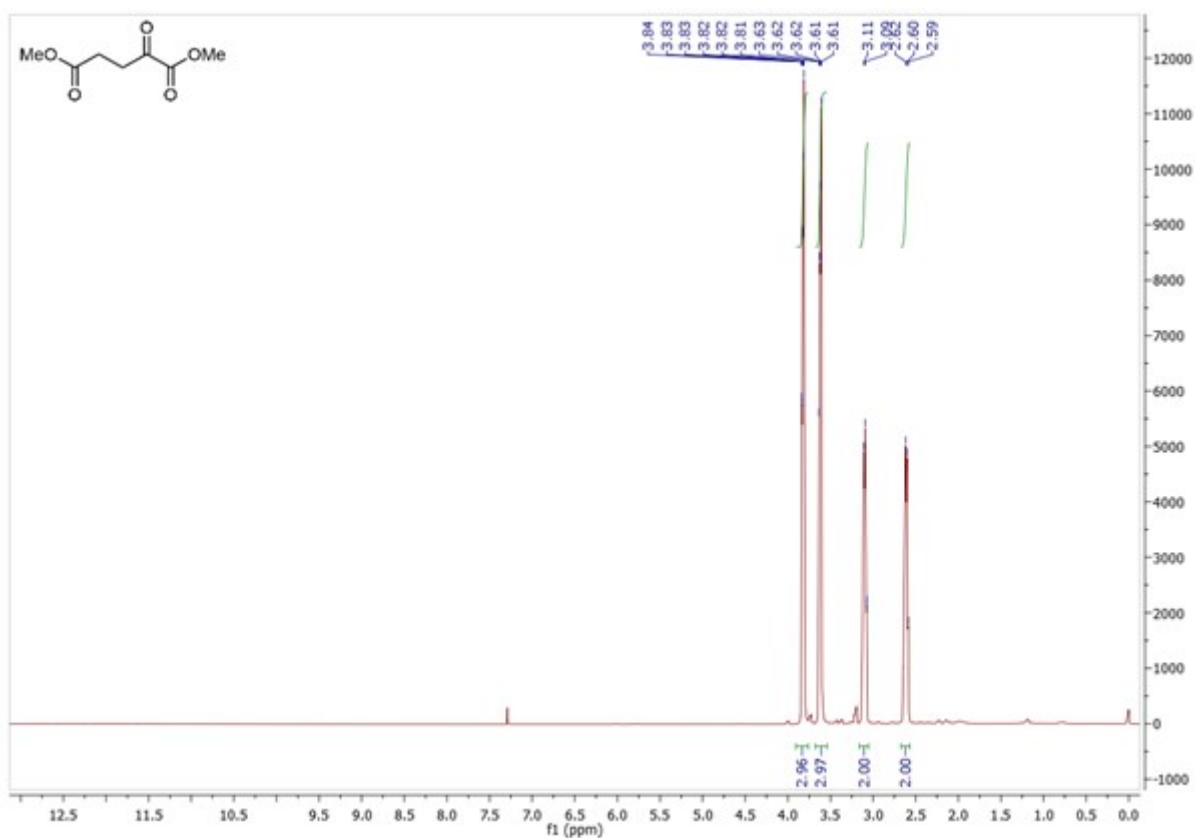


Figure S5: ¹H and ¹³C NMR spectra of dimethyl succinate

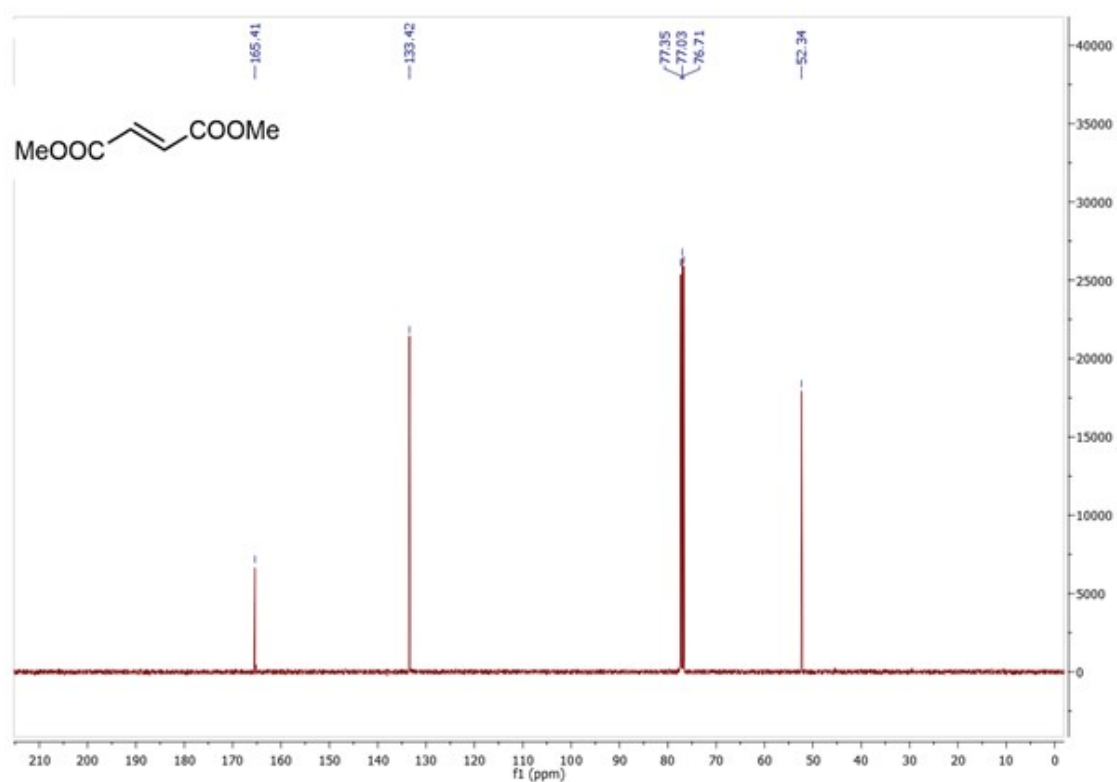
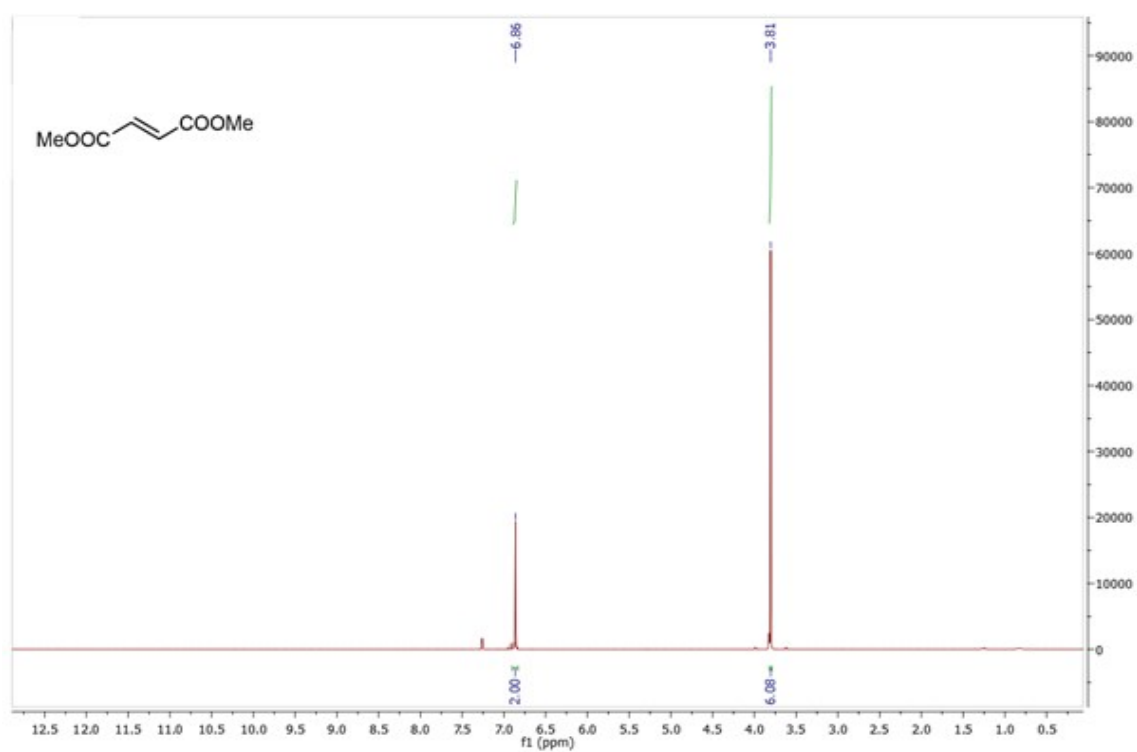


Figure S6: ^1H and ^{13}C NMR spectra of dimethyl fumarate

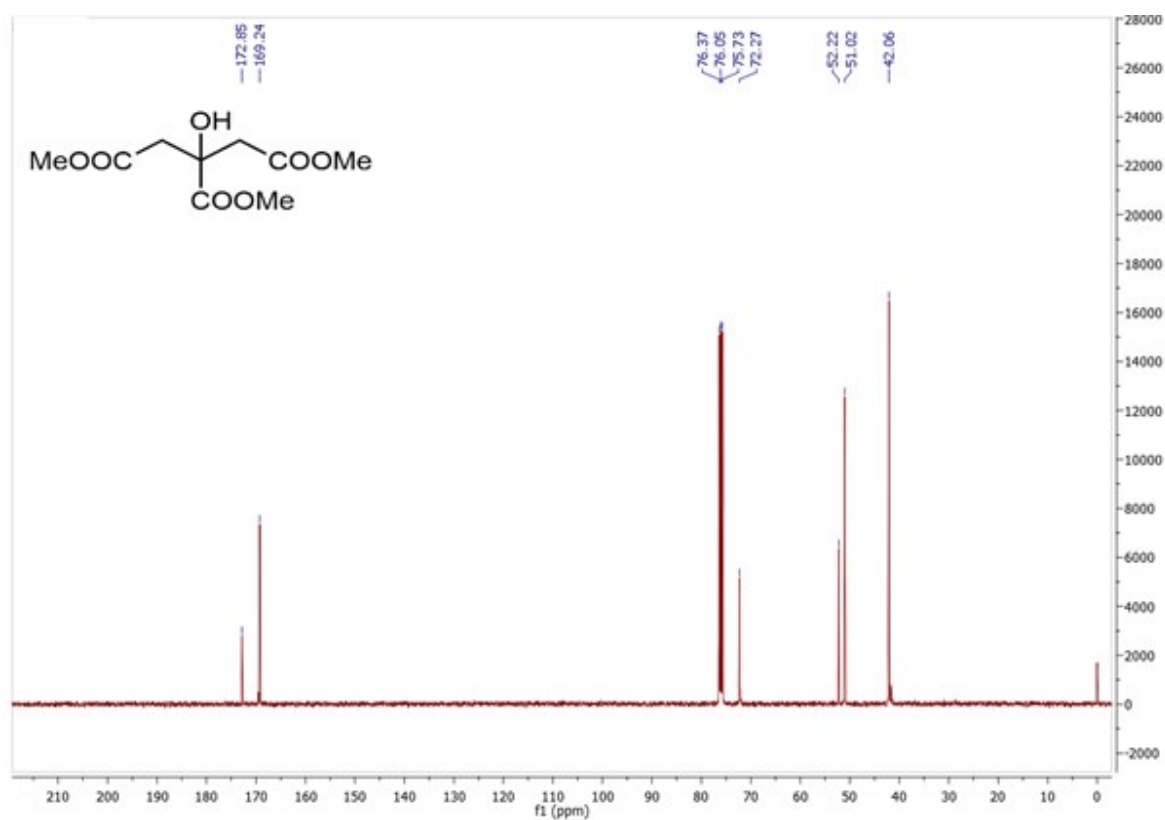
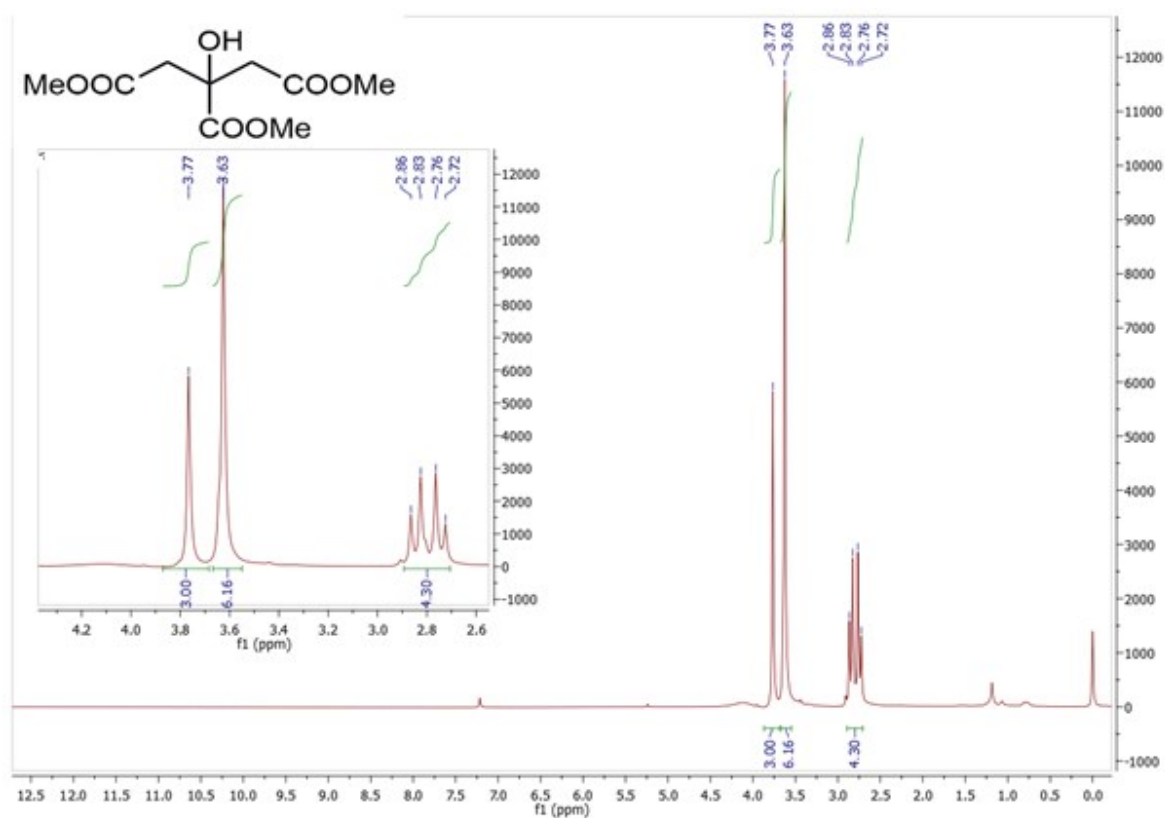


Figure S7: ¹H and ¹³C NMR spectra of trimethyl citrate

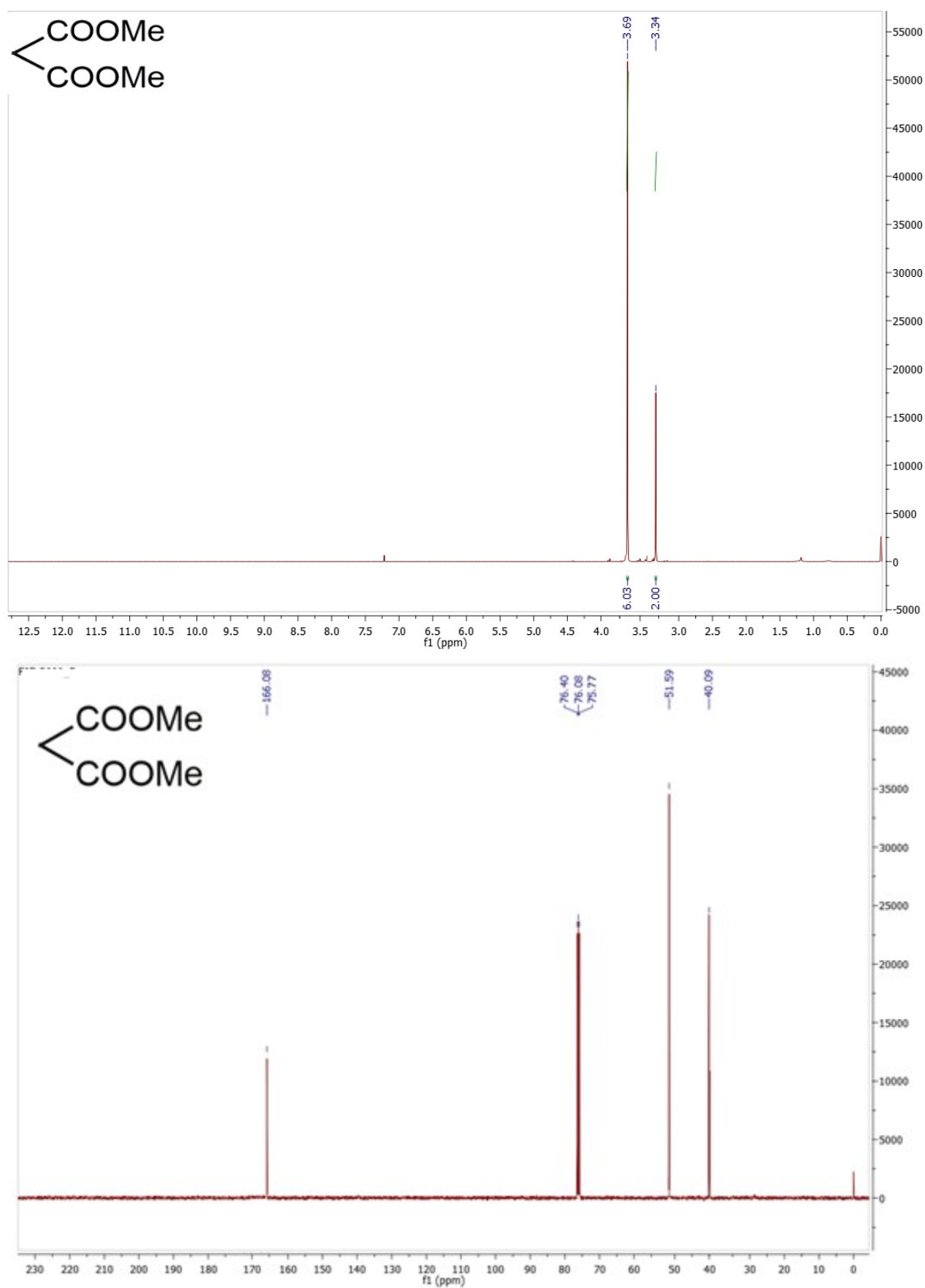


Figure S8: ^1H and ^{13}C NMR spectra of dimethyl malonate

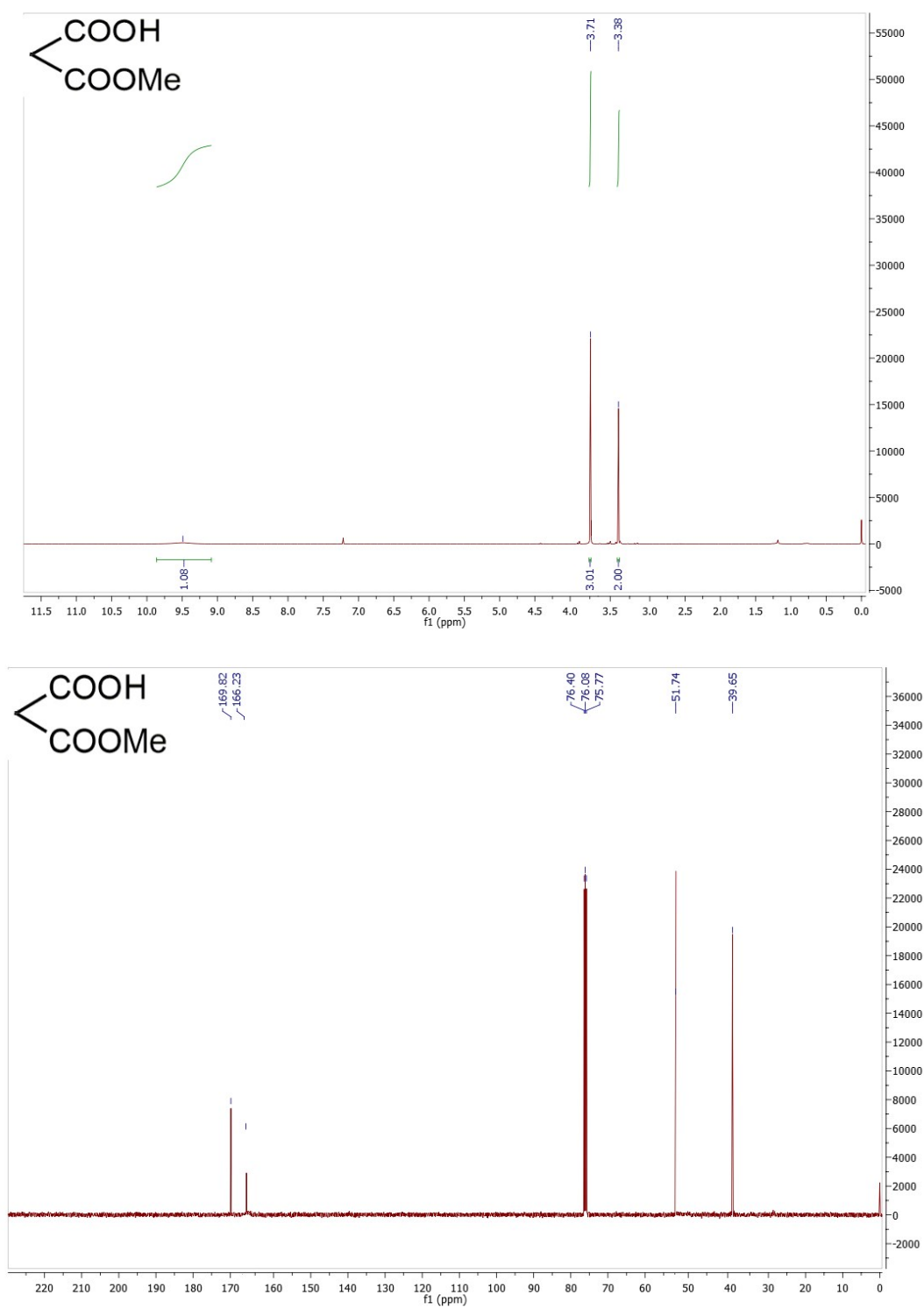


Figure S9: ¹H and ¹³C NMR spectra of monomethyl malonate

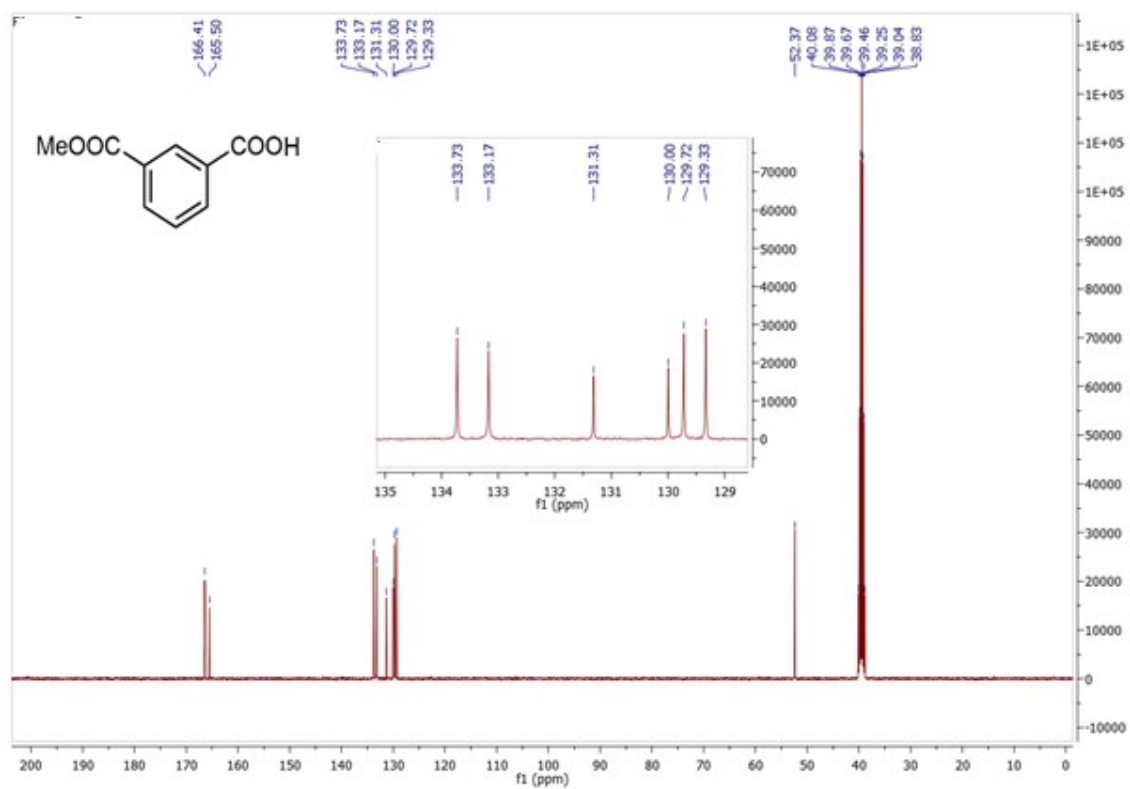
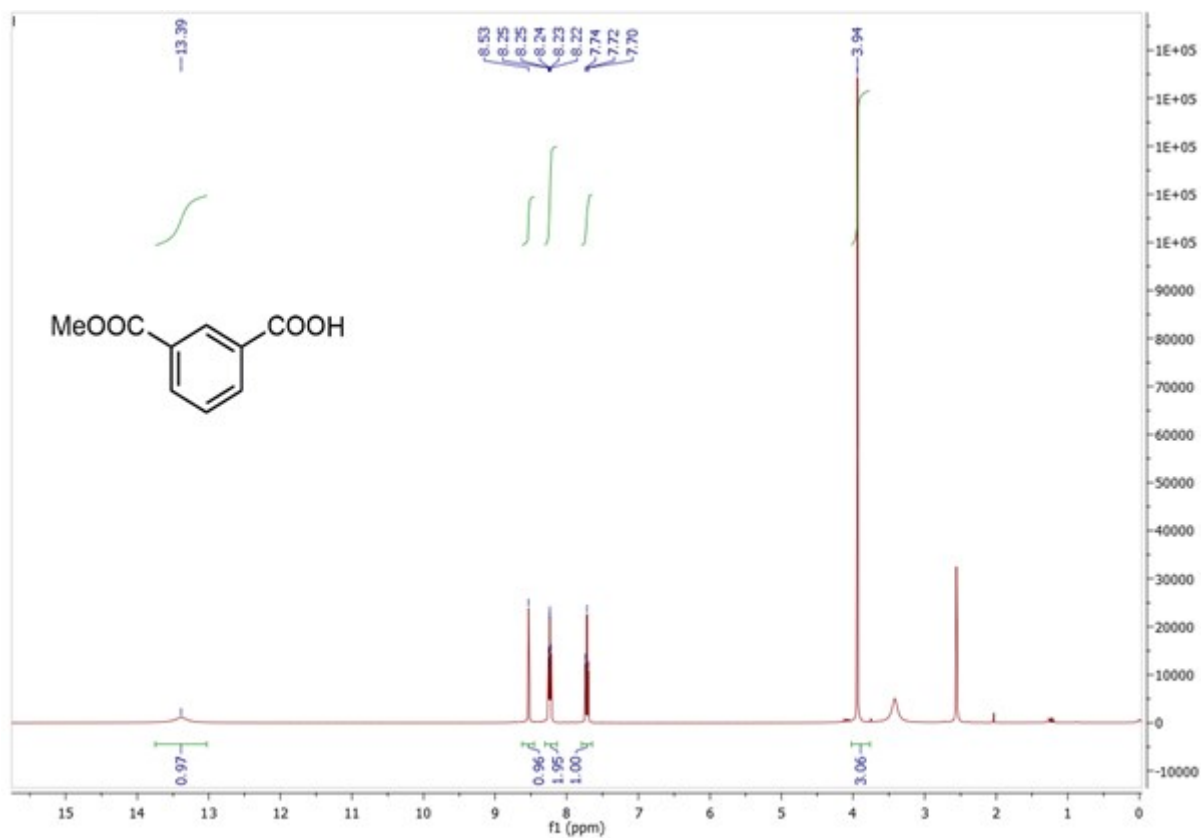


Figure S10: ¹H and ¹³C NMR spectra of monomethyl isophthalate

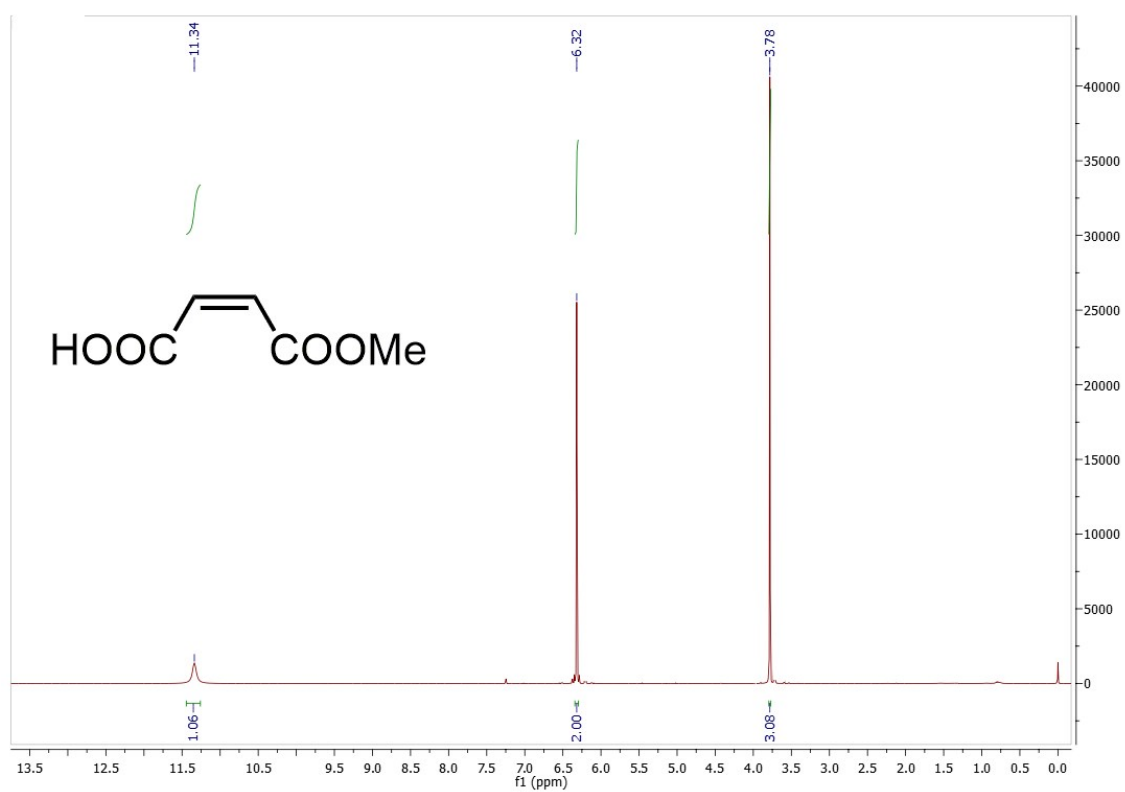


Figure S11: ^1H NMR spectrum of monomethyl maleate

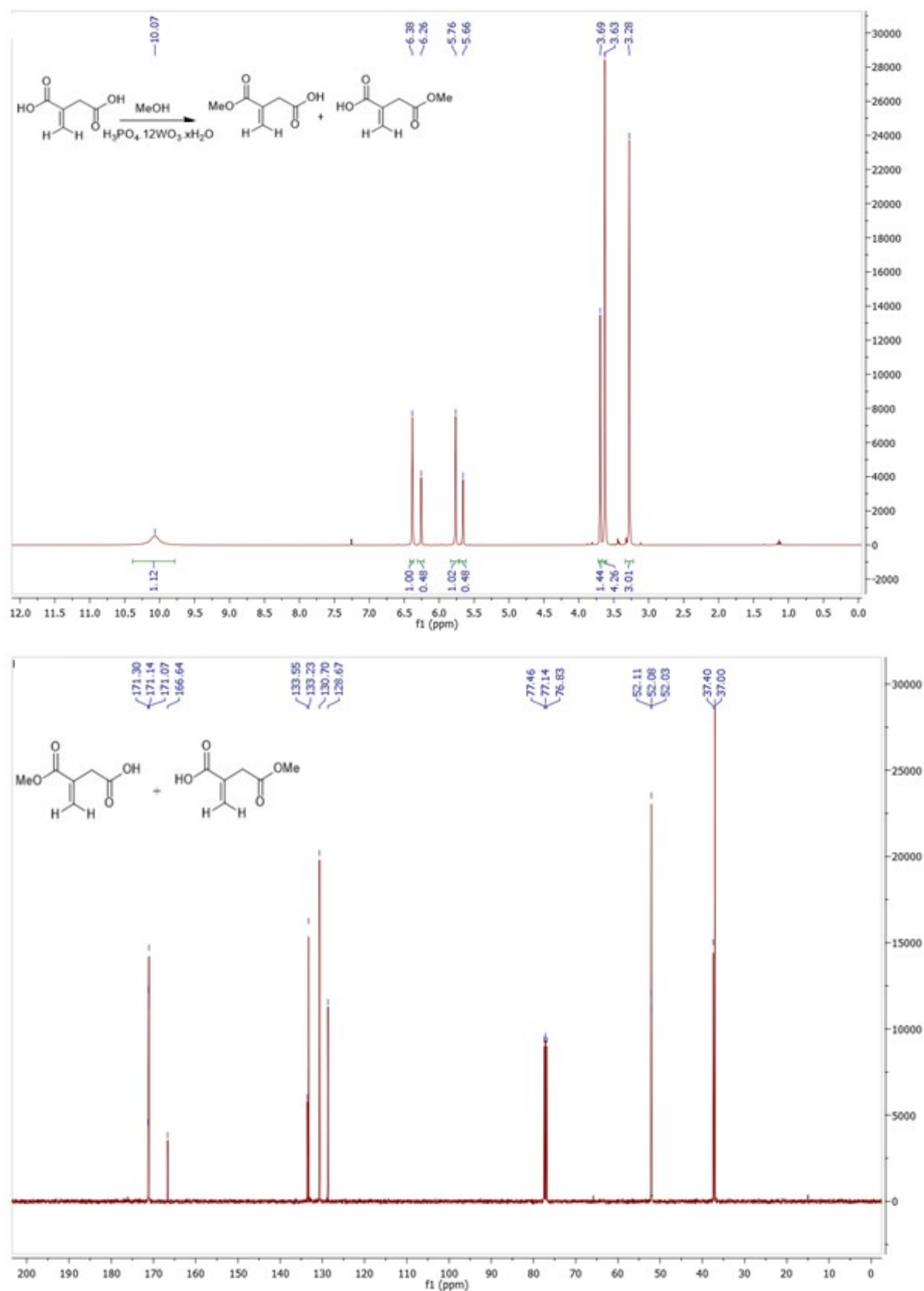


Figure S12: 1H and ^{13}C NMR spectra of mixture of monomethyl itaconate using homogeneous HPA

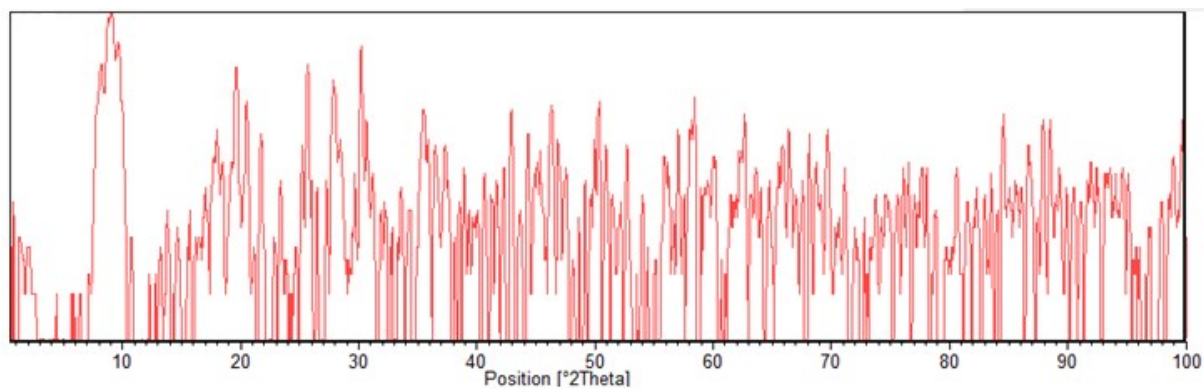


Figure S13. XRD pattern of **POS-HPA-IL**

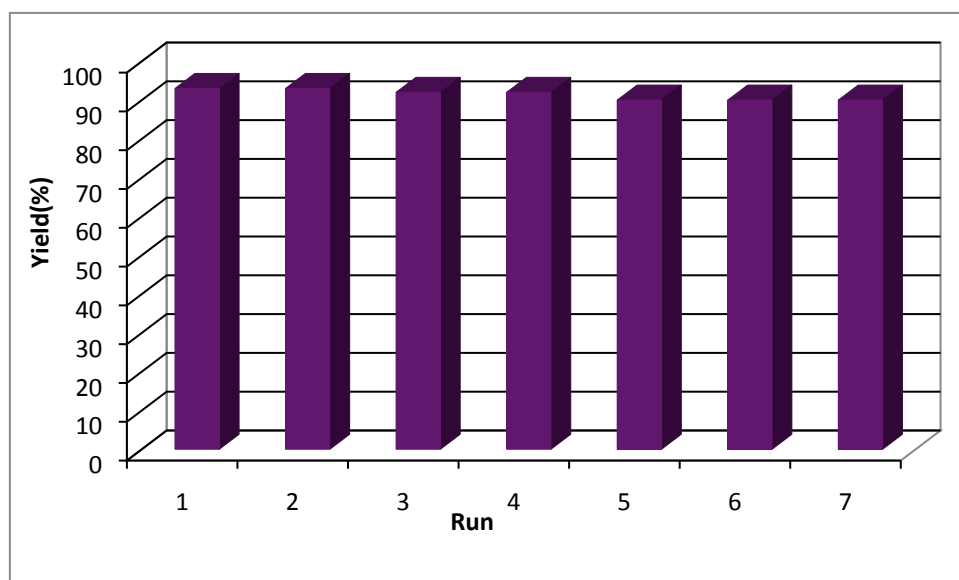


Figure S14. Reusability of **POS-HPA-IL** in the monomethylation of phthalic acid. Reaction conditions: 10 mmol (1.66g) of phthalic acid, 10 mL of methanol, 0.1 g of PMO-HPA-IL (0.1 g), heating to reflux (6h).