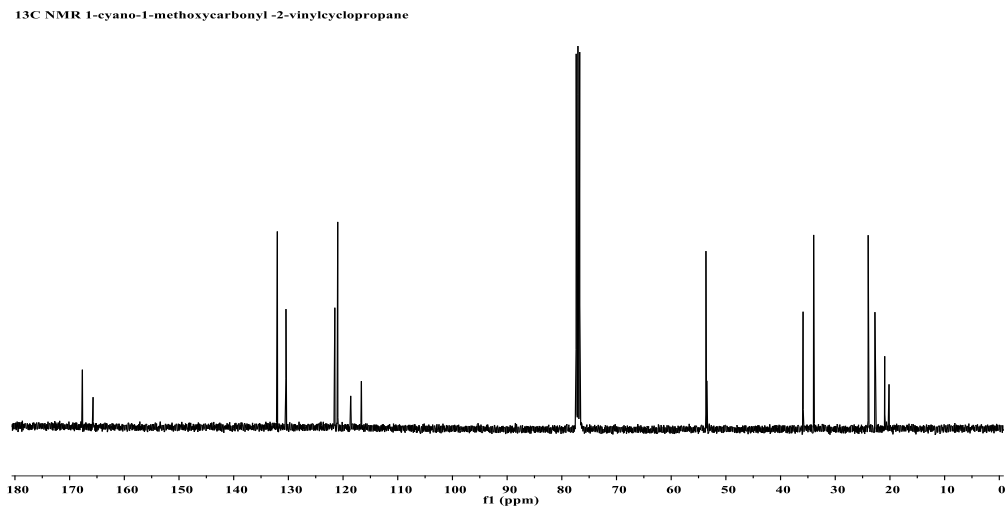
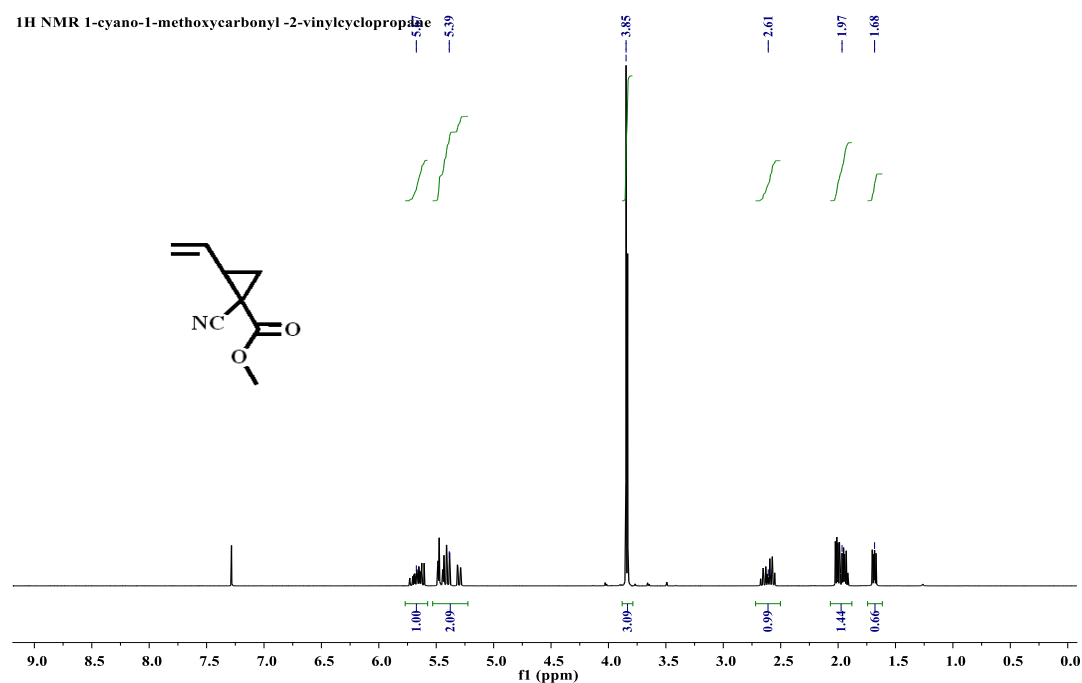


Supporting Information

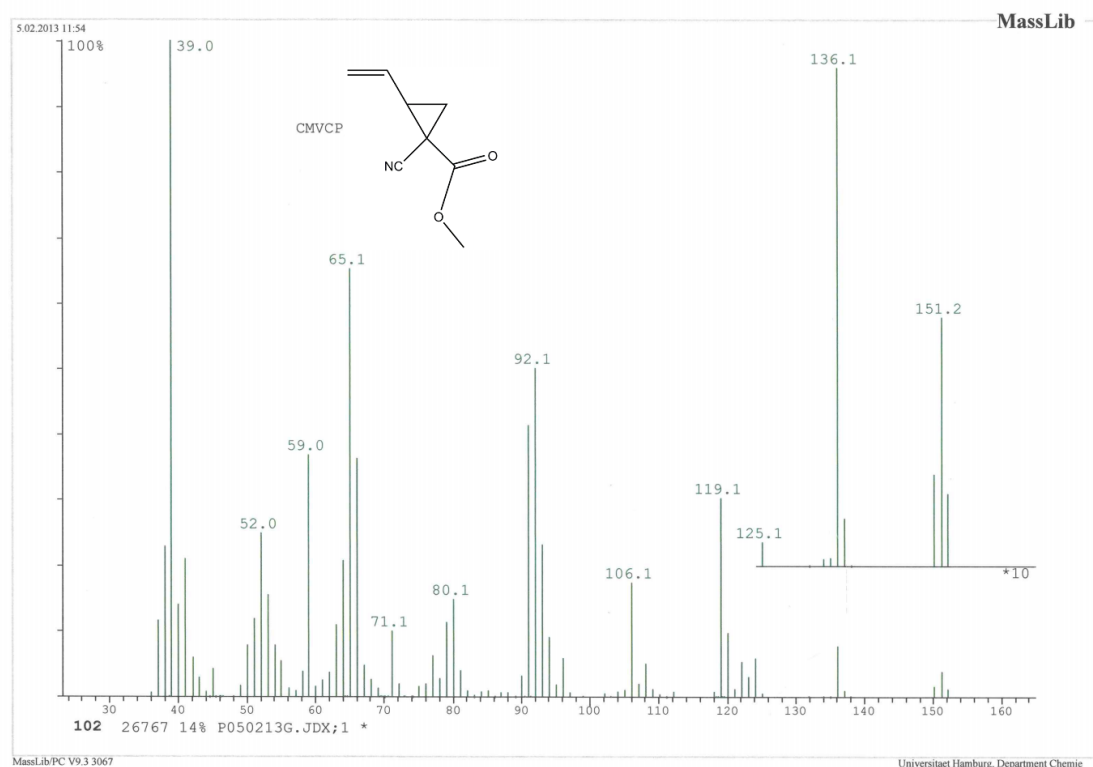
Post-Polymerization Modification of Reactive Polymers derived from Vinylcyclopropane: 1. Synthesis and Thermo-Responsive Behaviour

Denis Seuyep, Gerrit A. Luinstra, Patrick Theato*

Synthesis of 1-cyano-1-methoxycarbonyl -2-vinylcyclopropane (CMVCP).

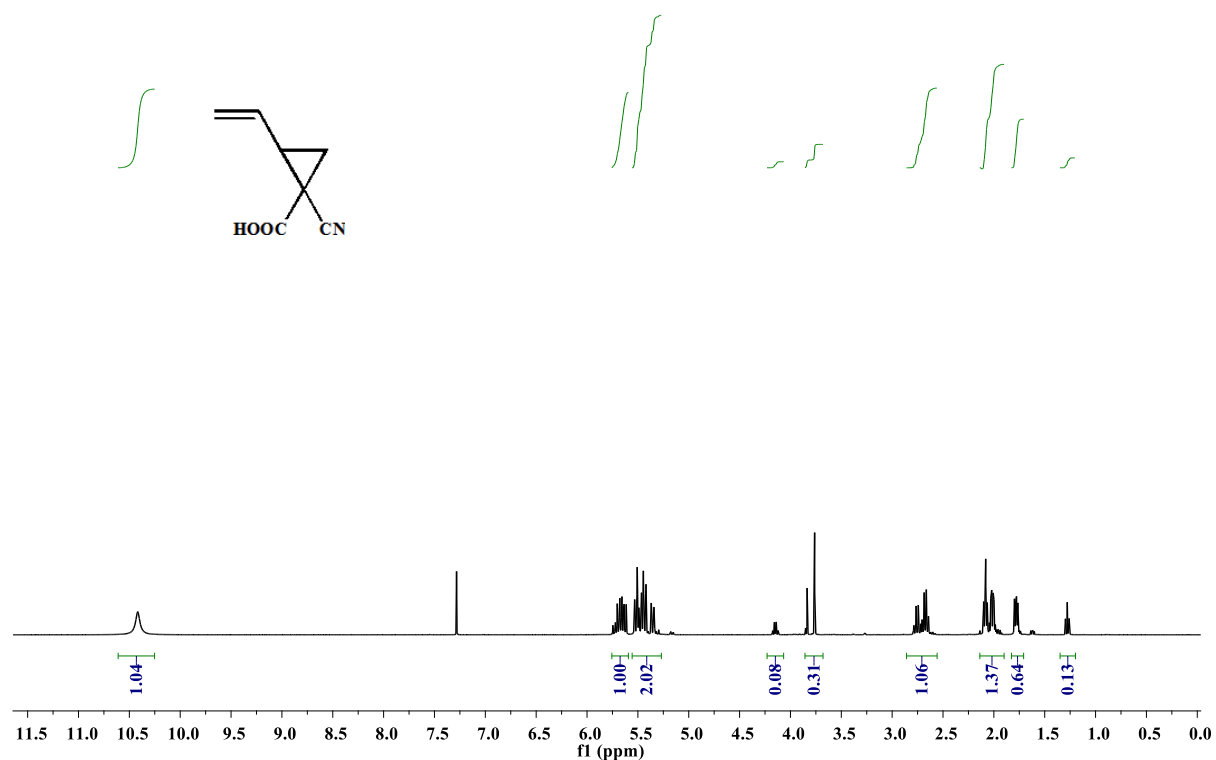


EI-MS of 1-cyano-1-methoxycarbonyl-2-vinylcyclopropane (CMVCP)

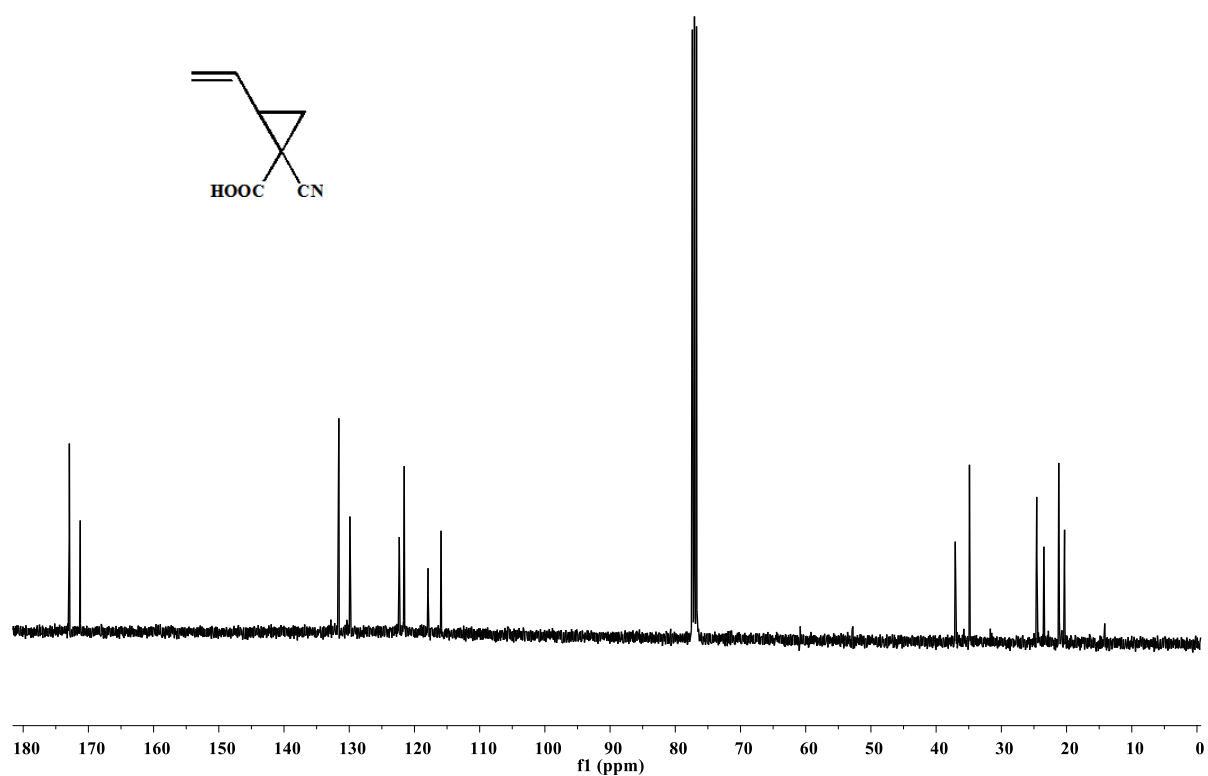


Hydrolysis of 1-cyano-1-methoxycarbonyl-2-vinylcyclopropane (2).

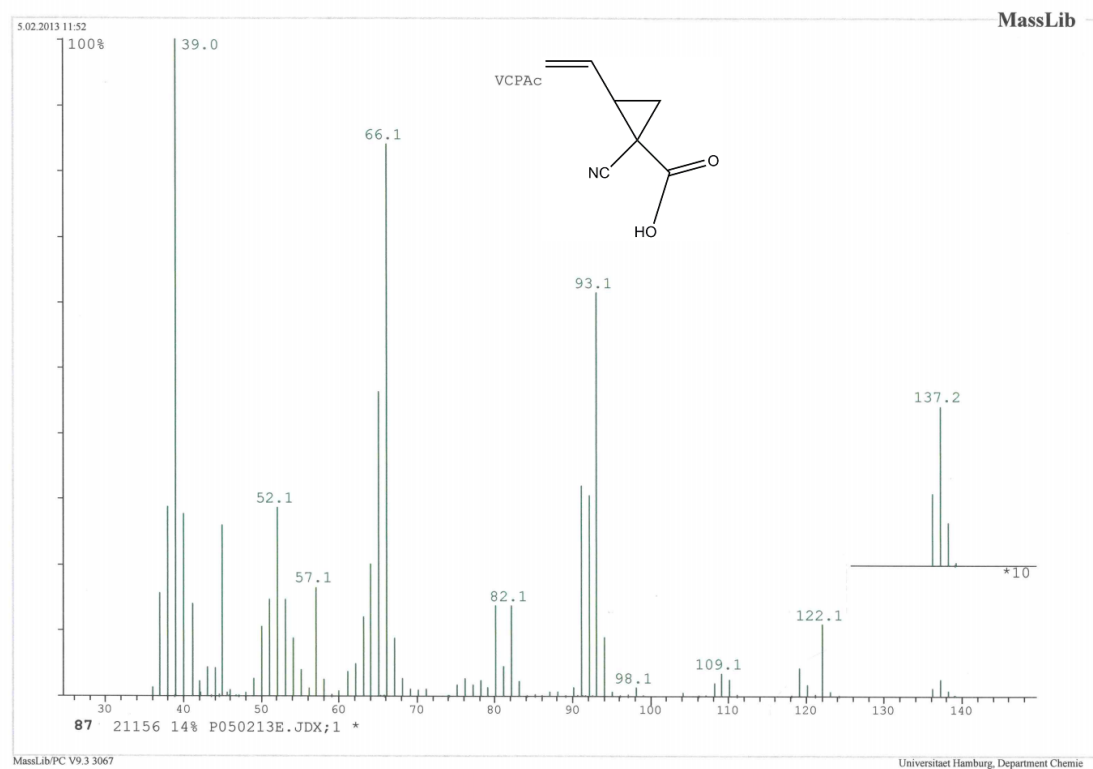
¹H NMR of 1-cyano-2-vinylcyclopropanecarboxylic acid



¹³C NMR of 1-cyano-2-vinylcyclopropanecarboxylic acid

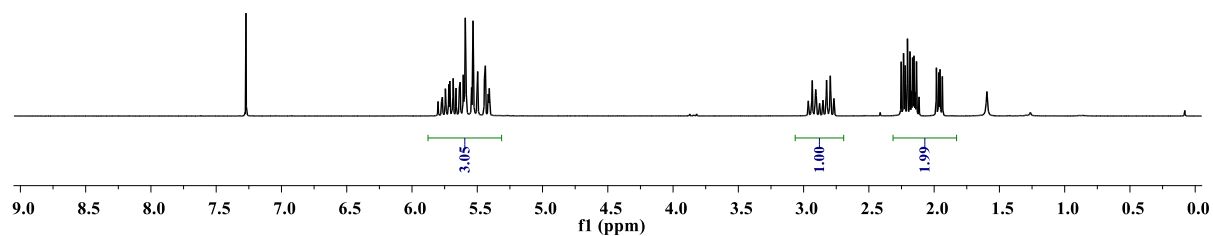
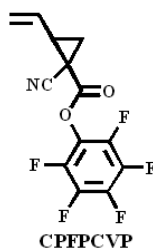


EL-MS of 1-cyano-2-vinylcyclopropanecarboxylic acid (2)

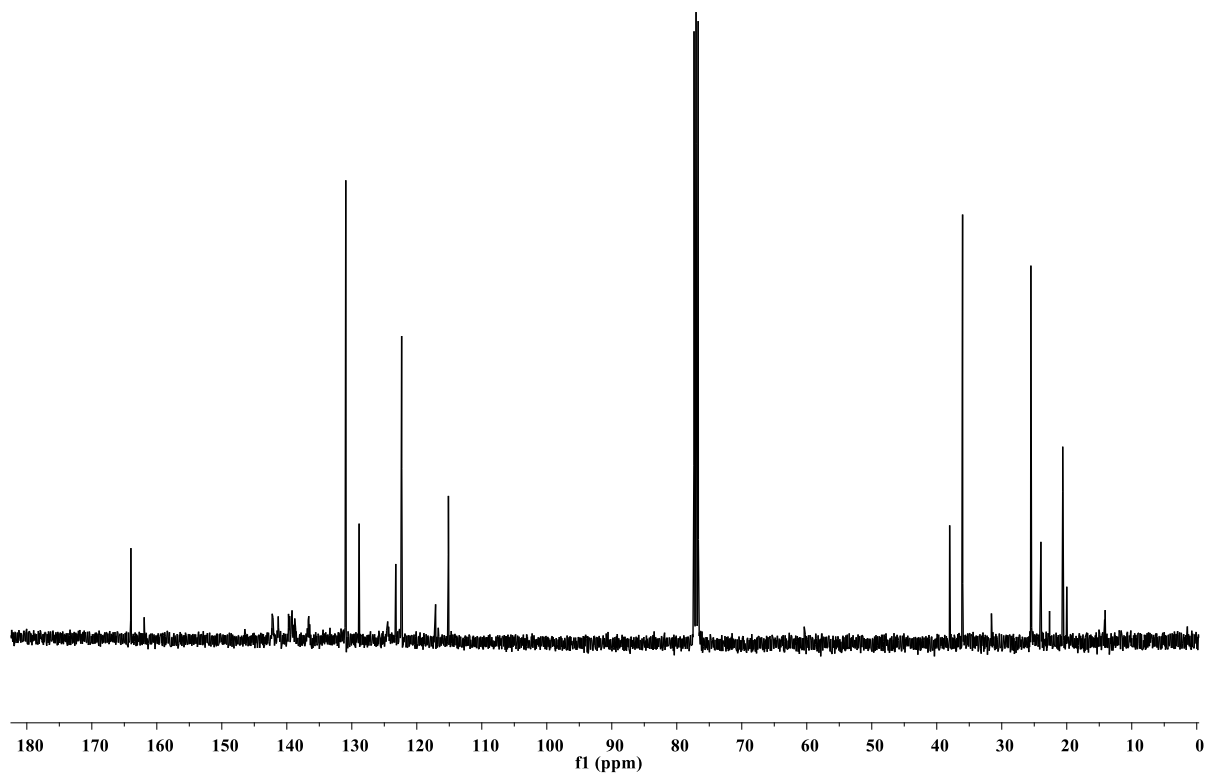


Synthesis of 1-cyano-1-pentafluorophenoxyacetyl-2-vinylcyclopropane (CPFPVCP).

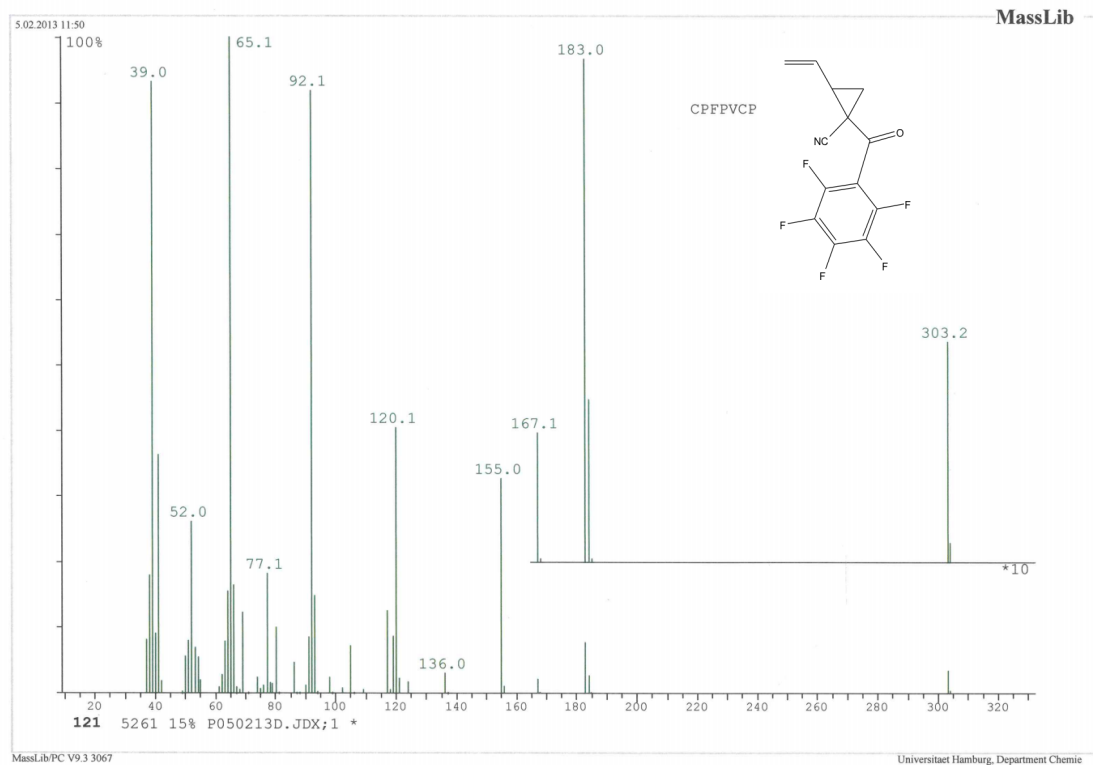
¹H NMR 1-cyano-1-pentafluorophenoxyacetyl-2-vinylcyclopropane



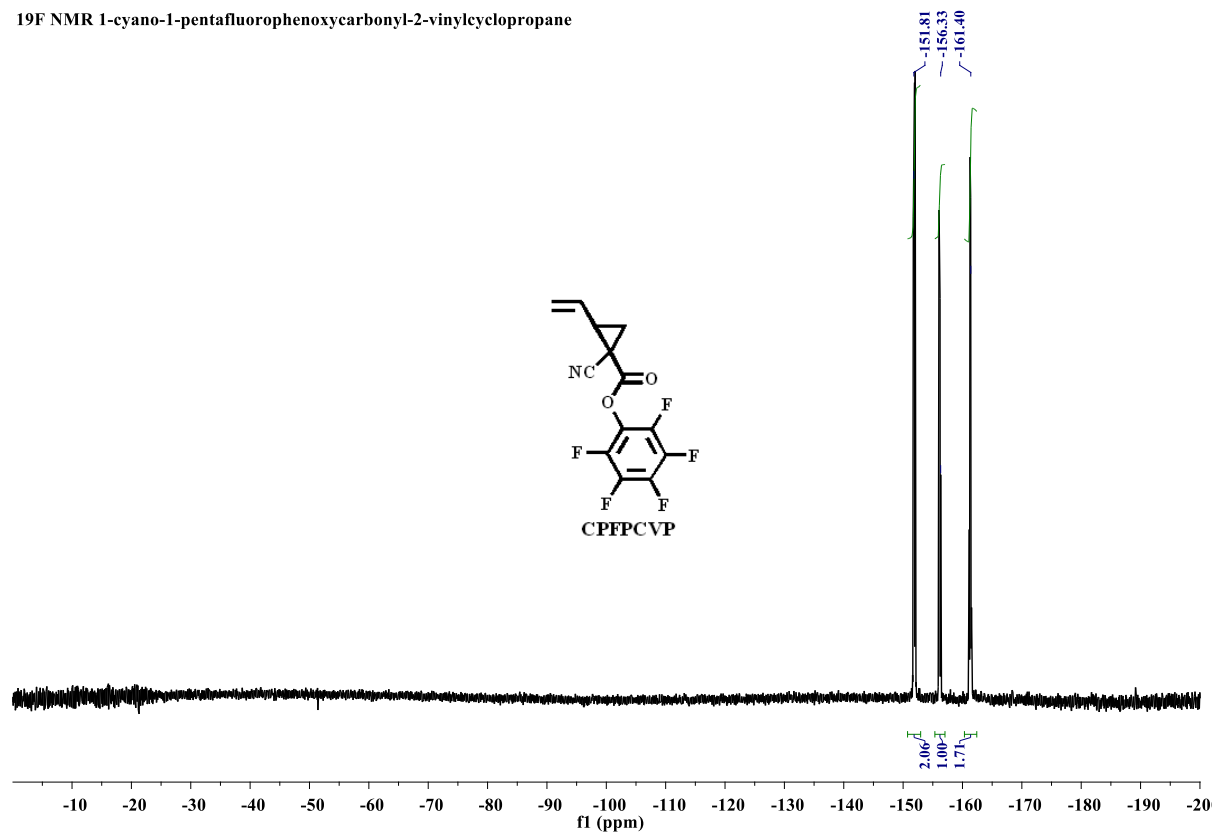
¹³C NMR 1-cyano-1-pentafluorophenoxyacetyl-2-vinylcyclopropane

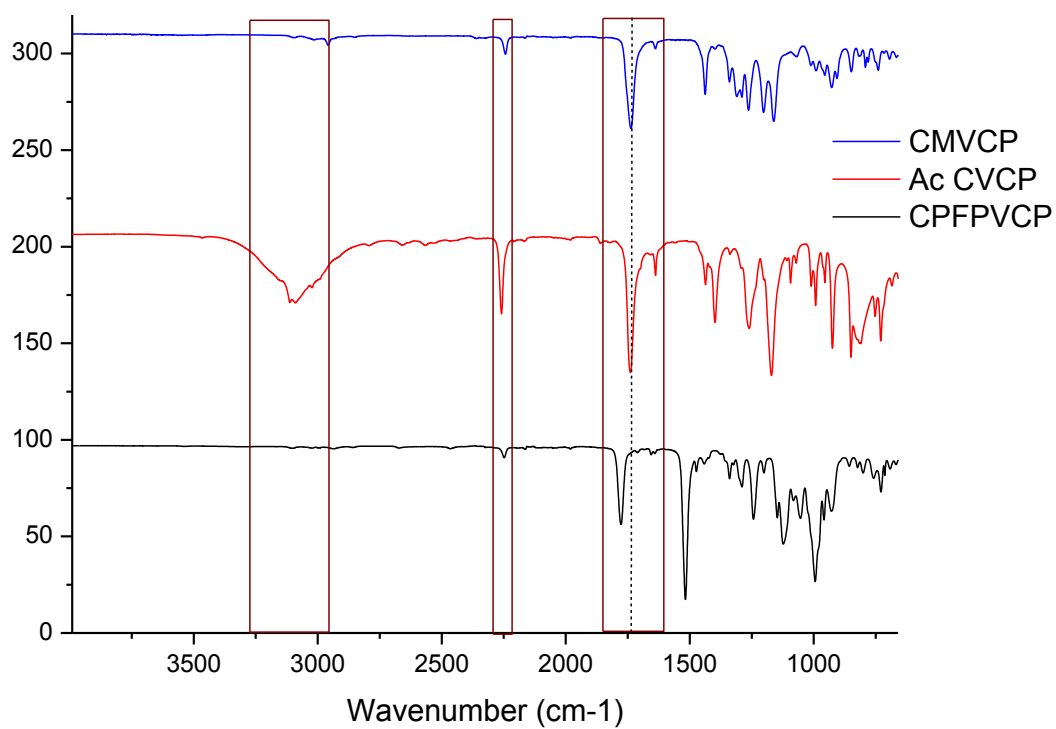


EI-MS of 1-cyano-1-pentafluorophenoxyacetyl-2-vinylcyclopropane (CPFPVCP)



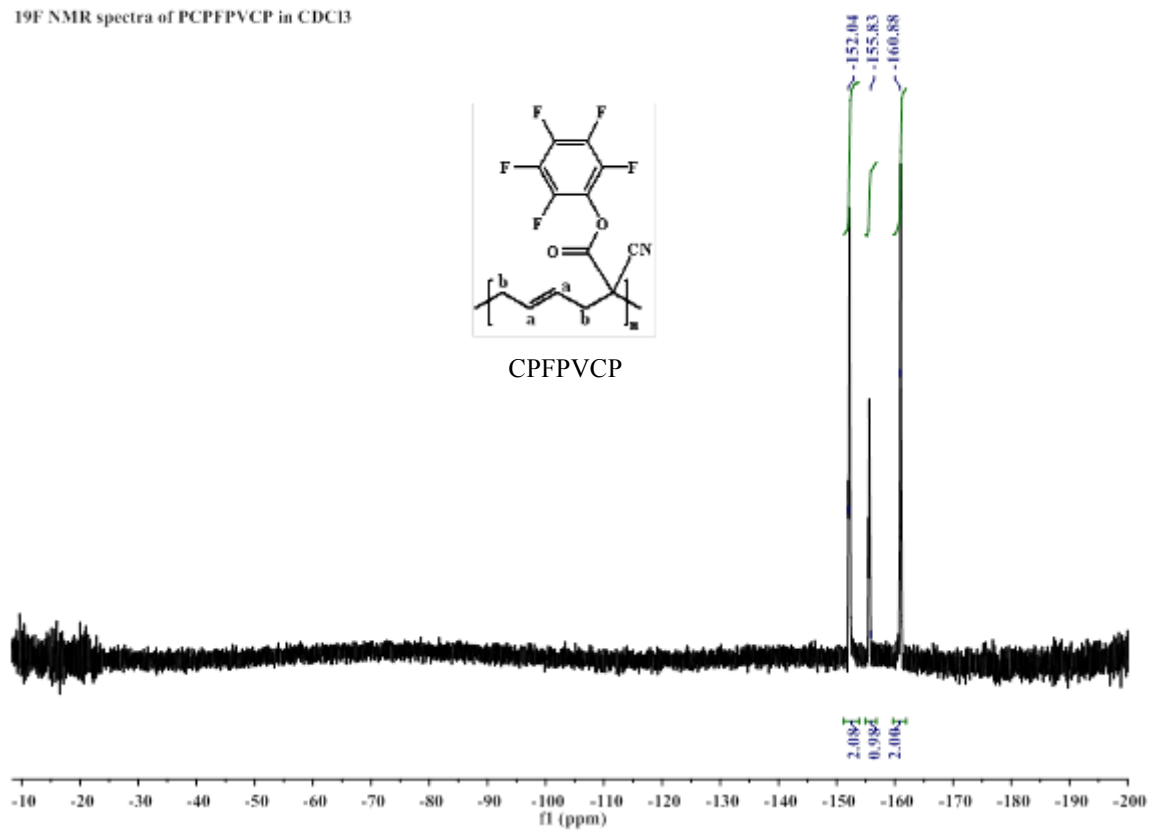
¹⁹F NMR 1-cyano-1-pentafluorophenoxyacetyl-2-vinylcyclopropane



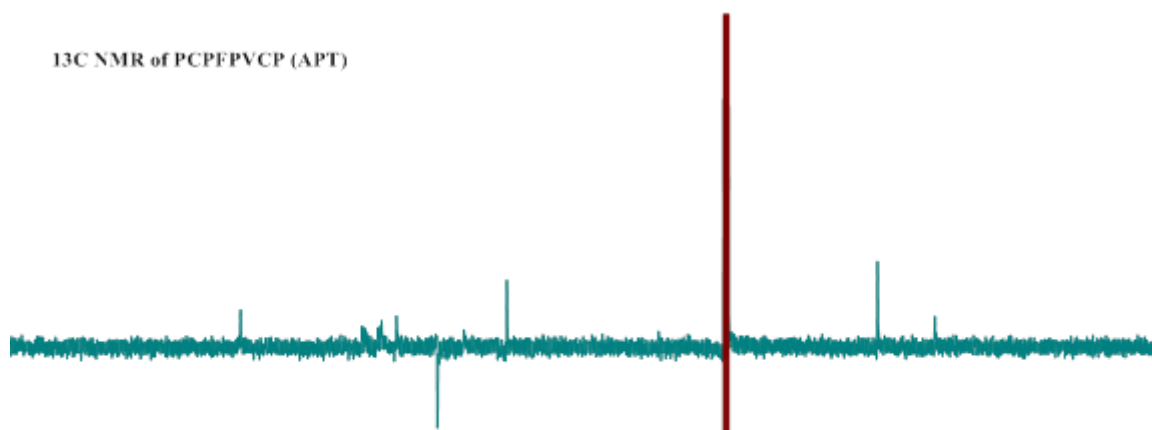


Polymerization of 1-cyano-1-pentafluorophenoxy carbonyl-2-vinylcyclopropane

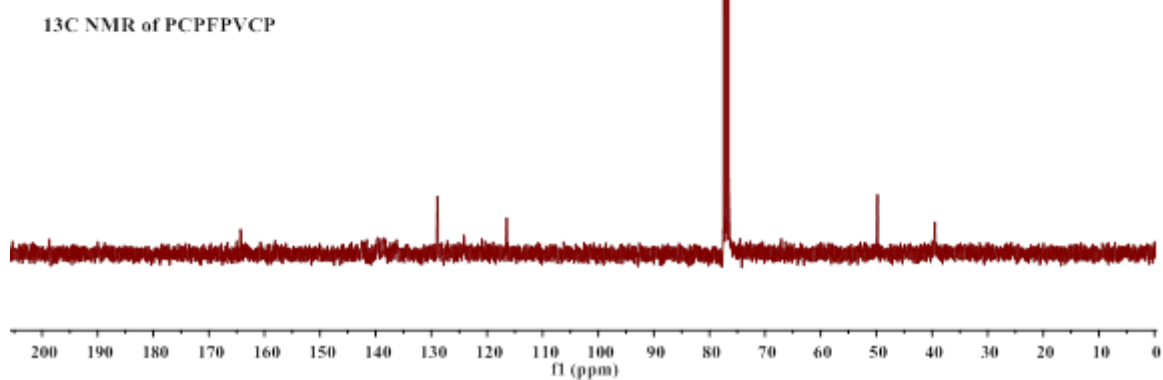
¹⁹F NMR spectra of PCFPVCP in CDCl₃

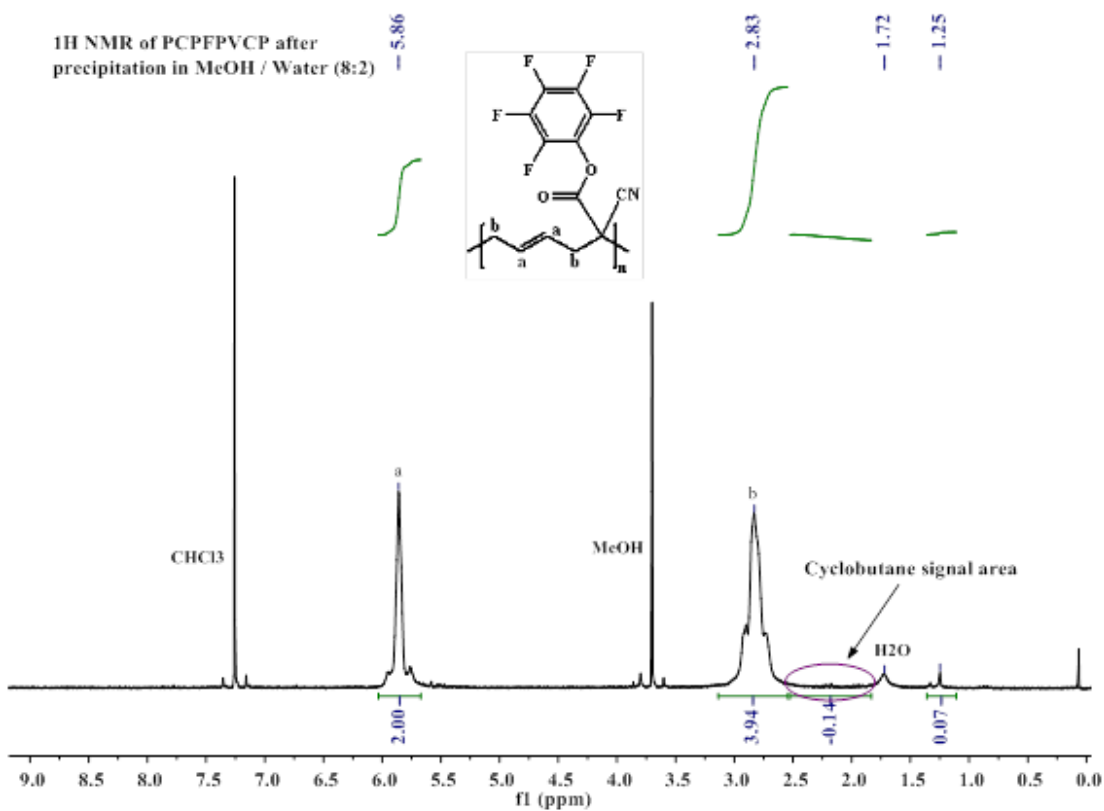
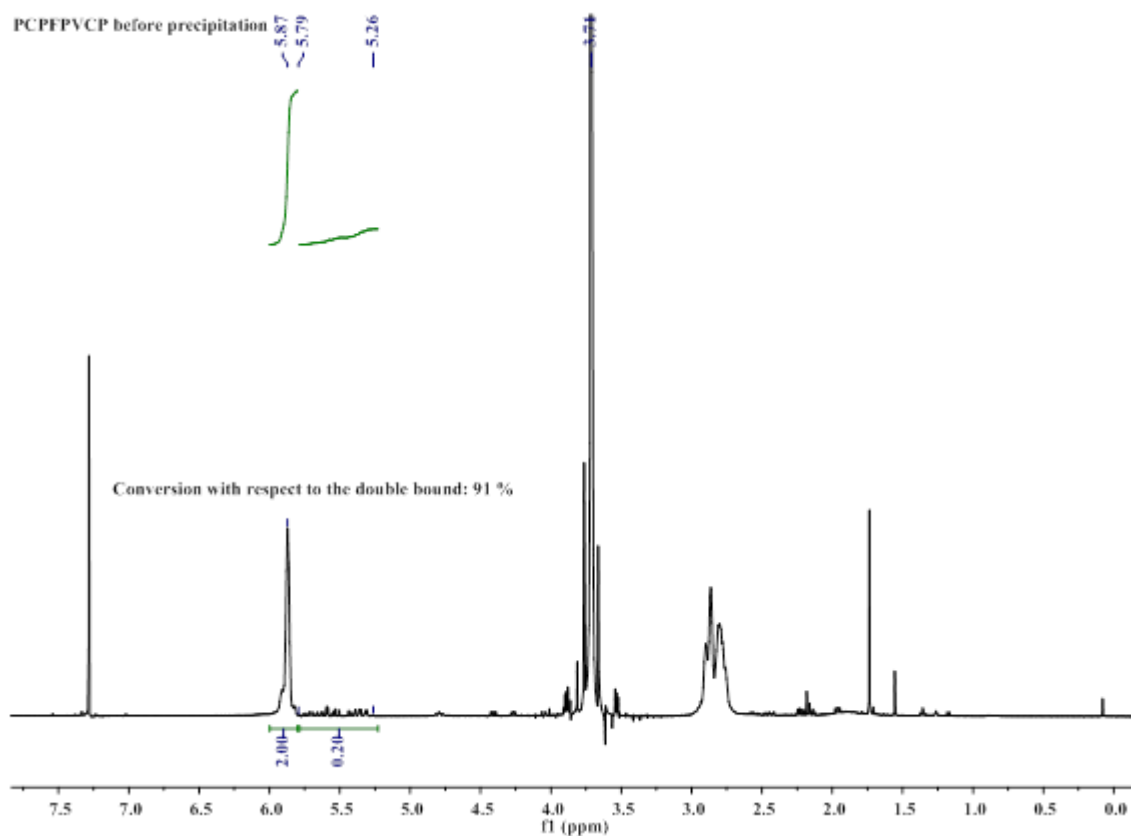


¹³C NMR of PCFPVCP (APT)

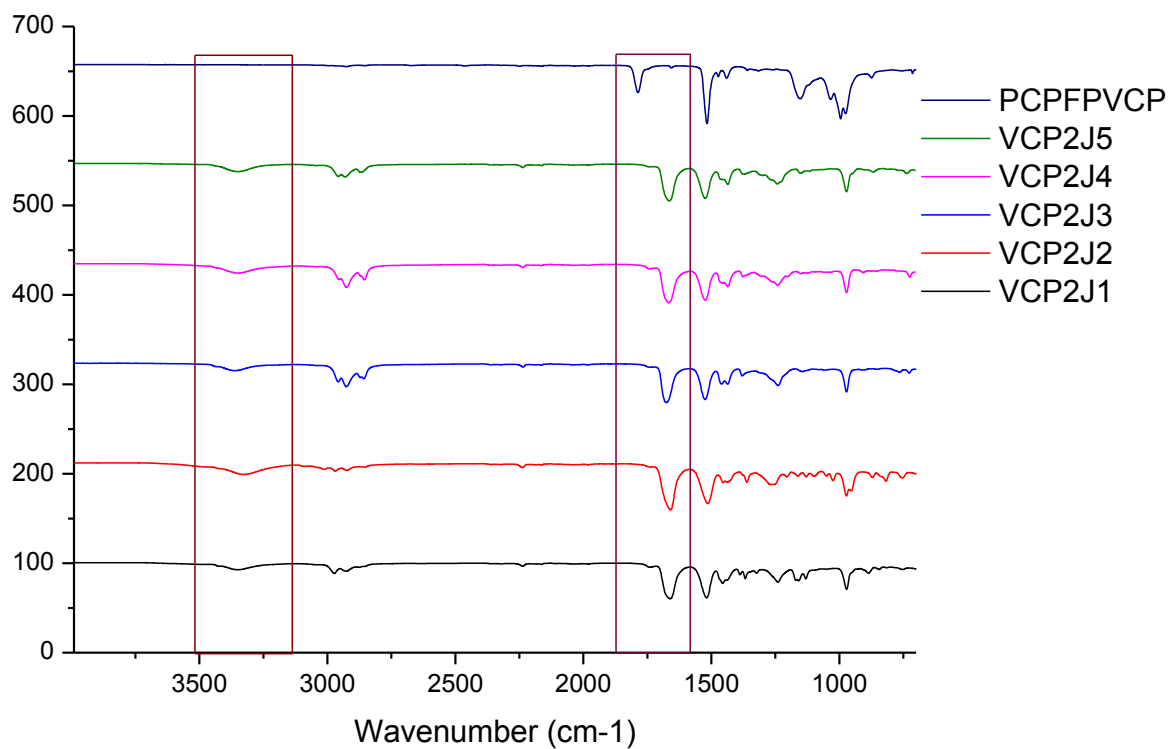


¹³C NMR of PCFPVCP





Reaction of poly(1-cyano-1-pentafluoro-phenoxy-carbonyl-2-vinylcyclopropane) (PCPFPVCP) with different primary amines.



¹⁹F NMR VCP2J5 in CDCl₃



¹⁹F NMR VCP2J4 in CDCl₃



¹⁹F NMR VCP2J3 in CDCl₃



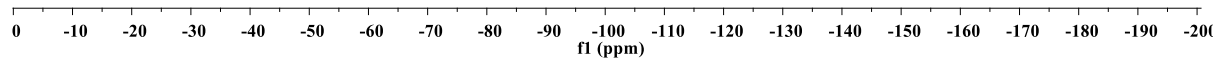
¹⁹F NMR VCP2J2 in CDCl₃



¹⁹F NMR VCP2J1 in CDCl₃

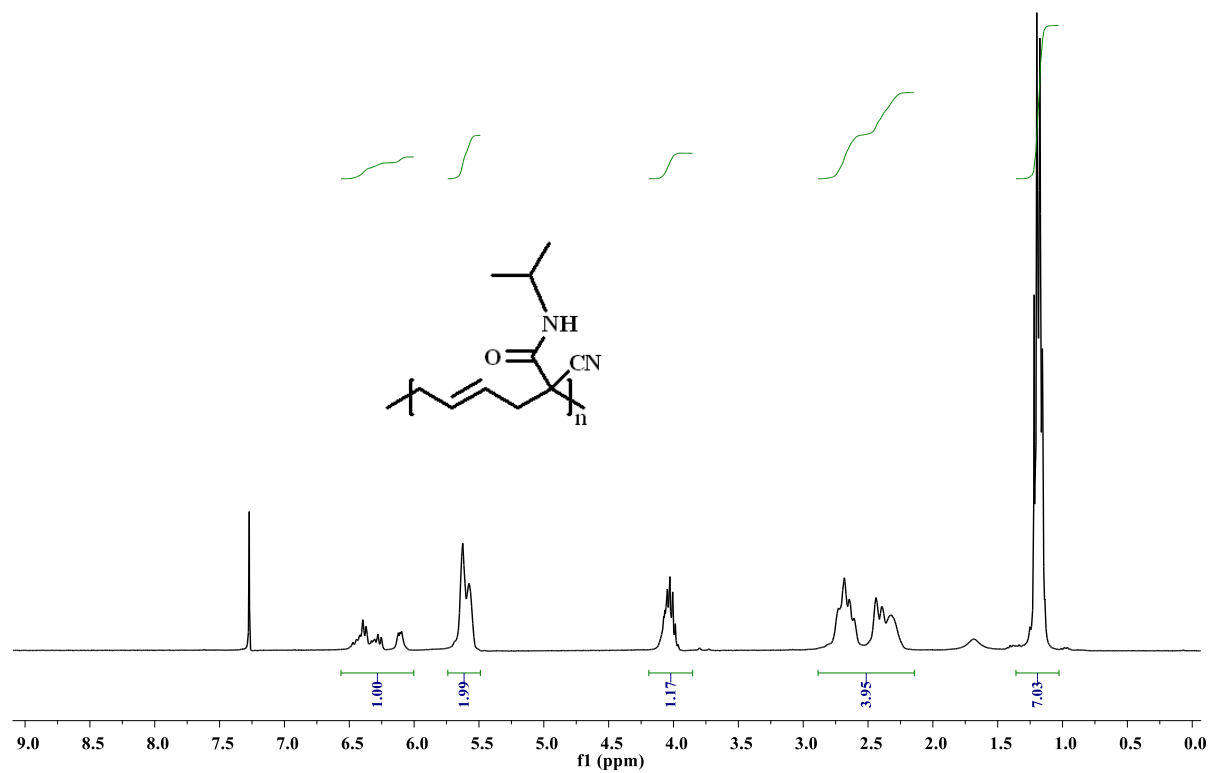


¹⁹F NMR PCPFPVCP in CDCl₃

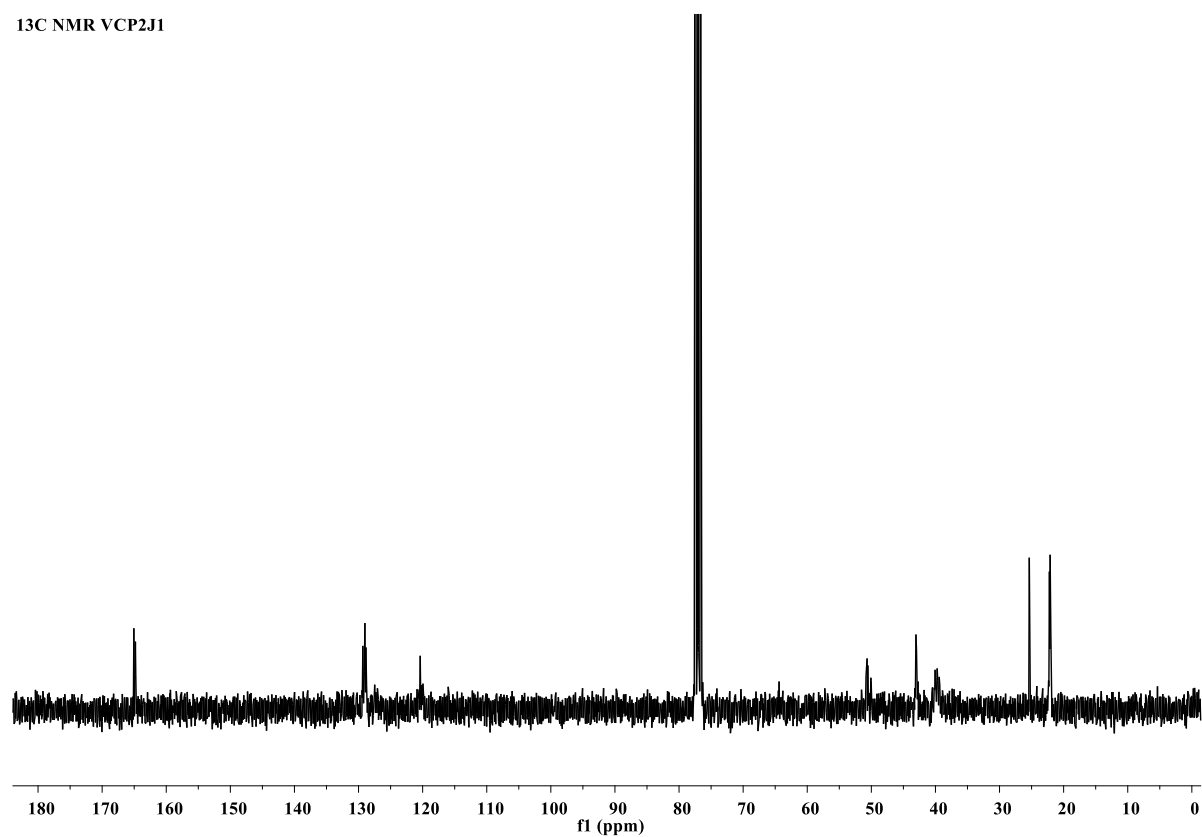


Poly(N-Isopropyl-2-cyano-4-enamide) VCP2J1

¹H NMR VCP2J1

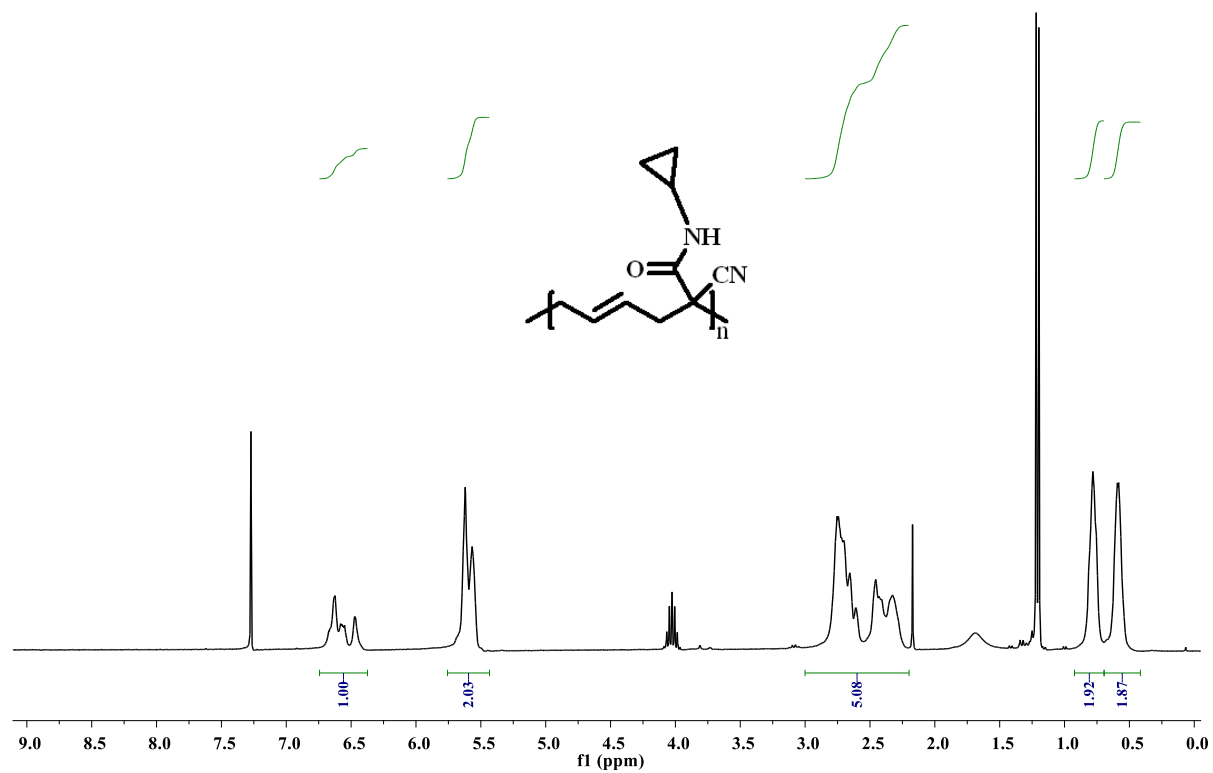


¹³C NMR VCP2J1

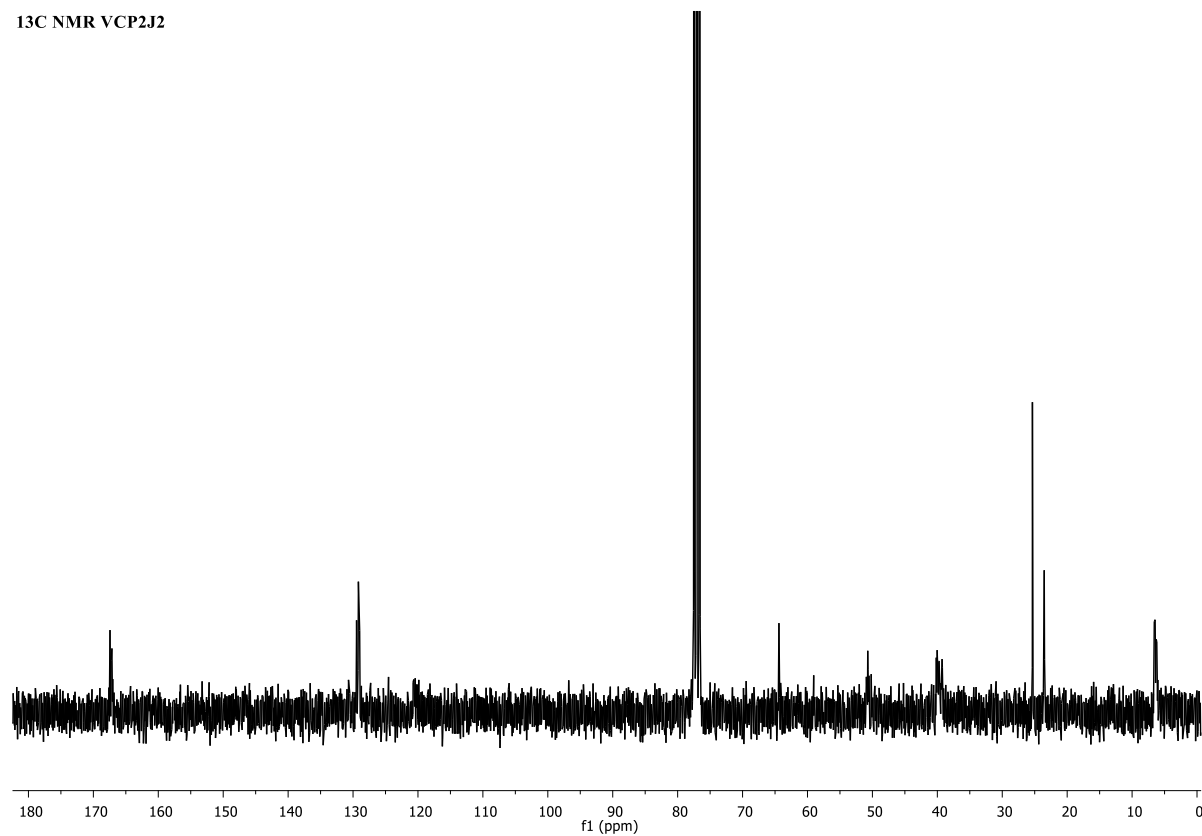


Poly(N-Cyclopropyl-2-cyano-hex-4-enamide) VCP2J2

¹H NMR VCP2J2

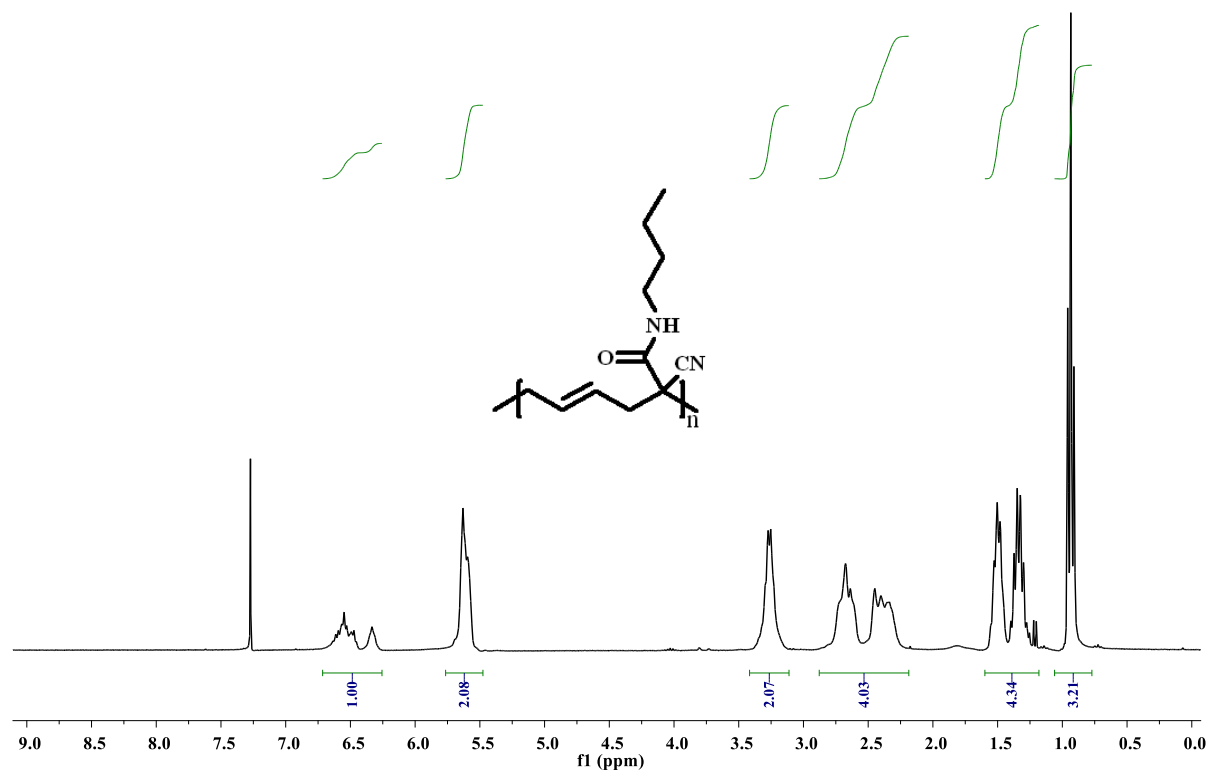


¹³C NMR VCP2J2

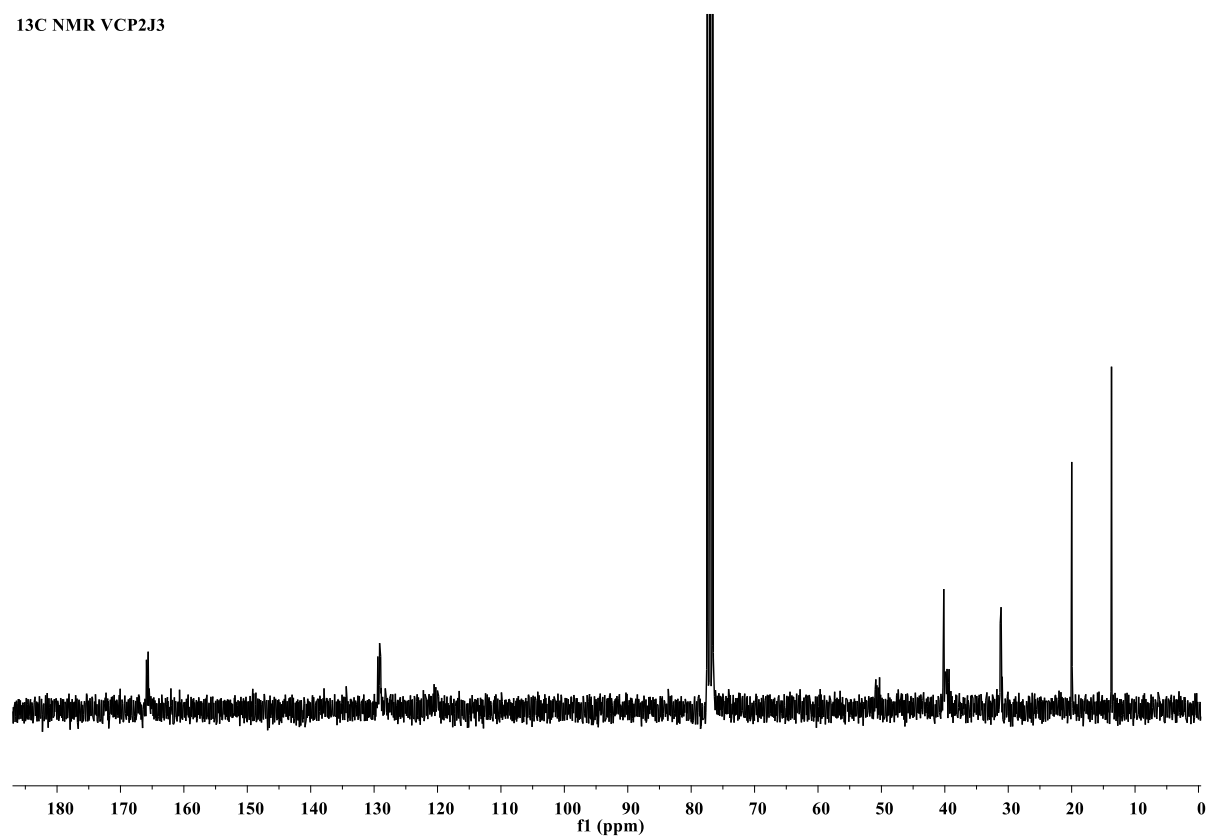


Poly(N-Butyl-2-cyano-4-enamide) VCP2J3

¹H NMR VCP2J3

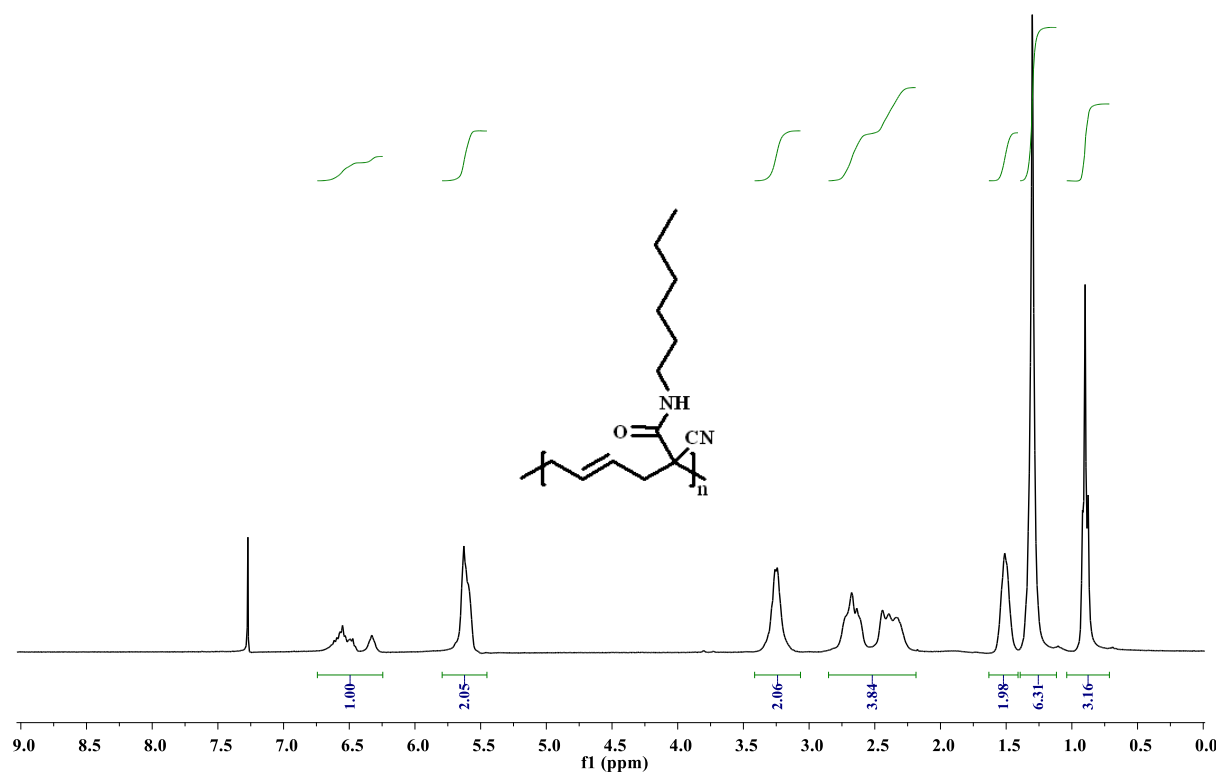


¹³C NMR VCP2J3

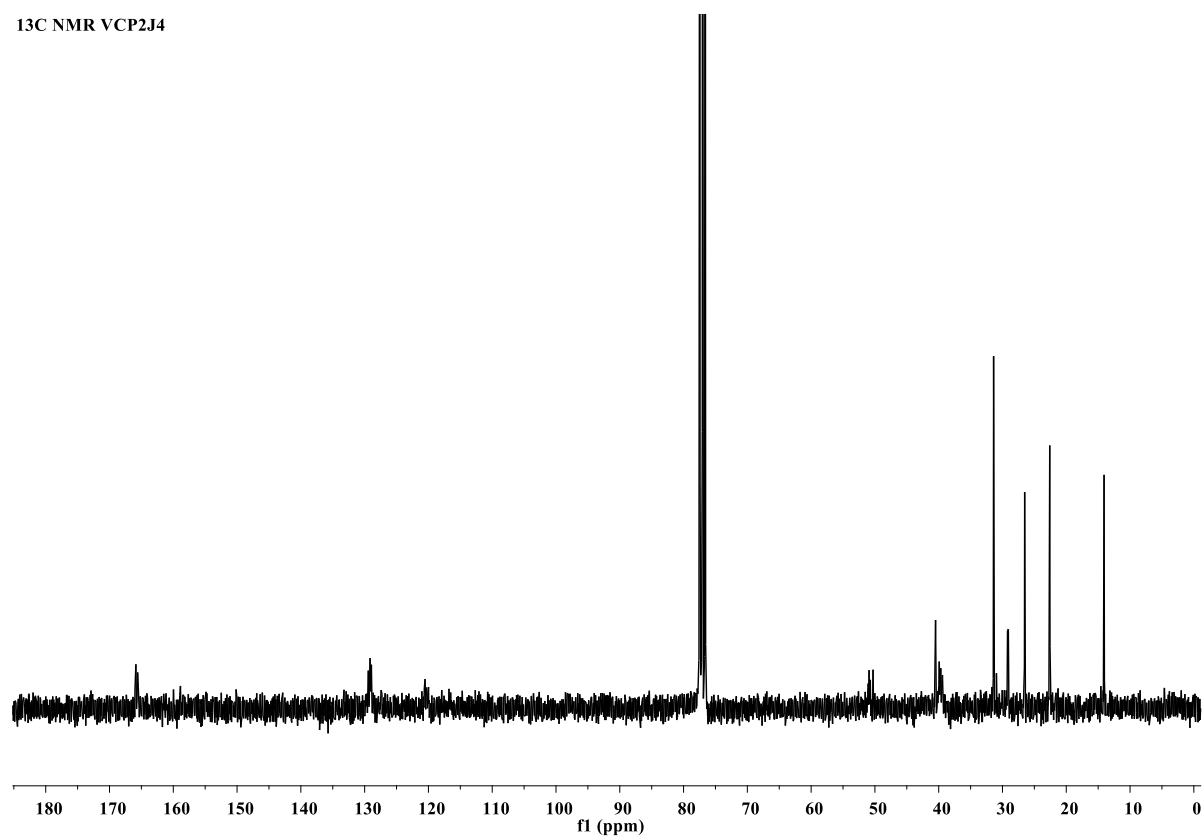


Poly(N-Hexyl-2-cyanohex-4-enamide) VCP2J4

¹H NMR VCP2J4

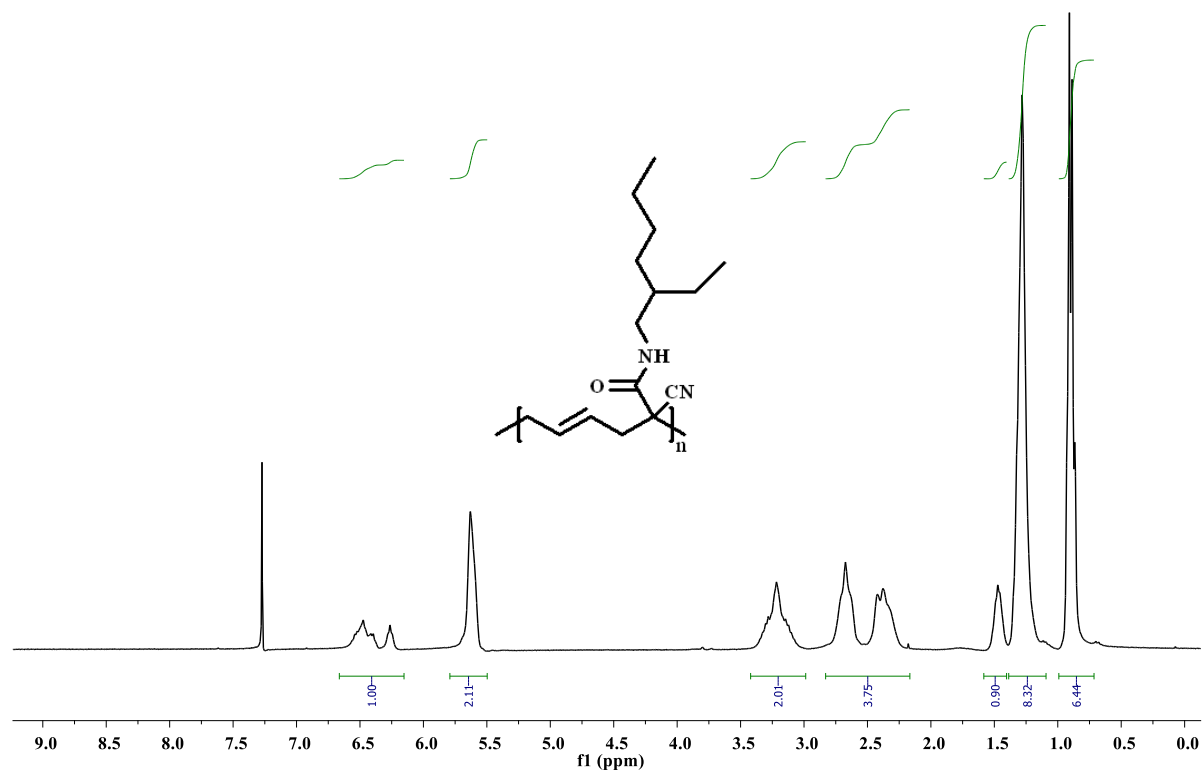


¹³C NMR VCP2J4

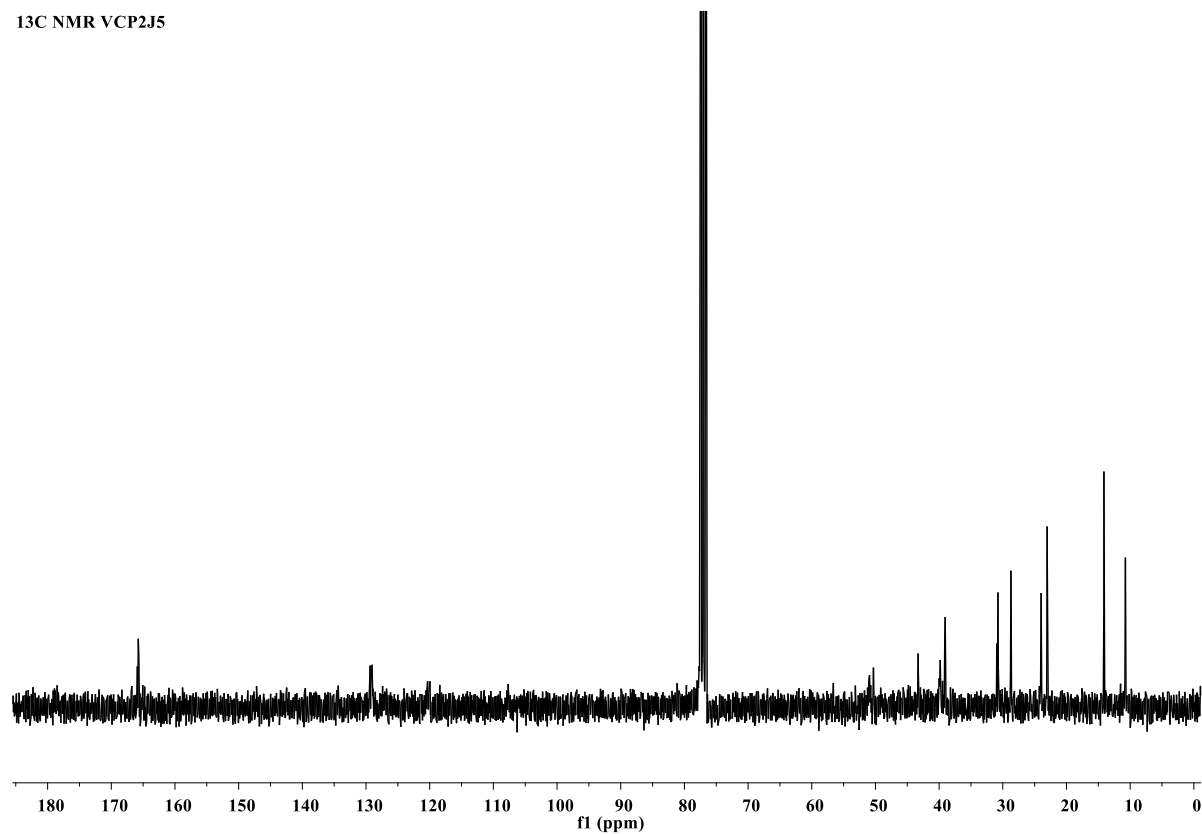


Poly(N-(2-ethyl)Hexyl-2-cyano-hex-4-enamide) VCP2J5

¹H NMR VCP2J5

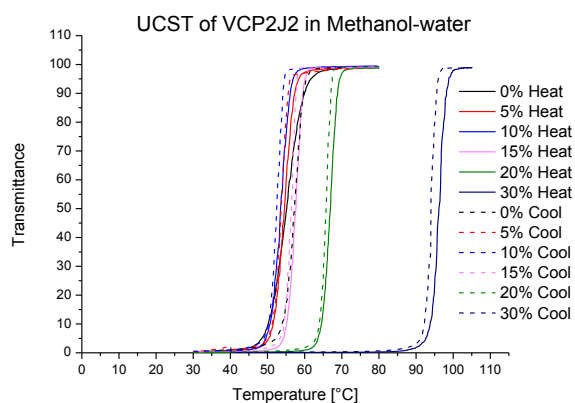
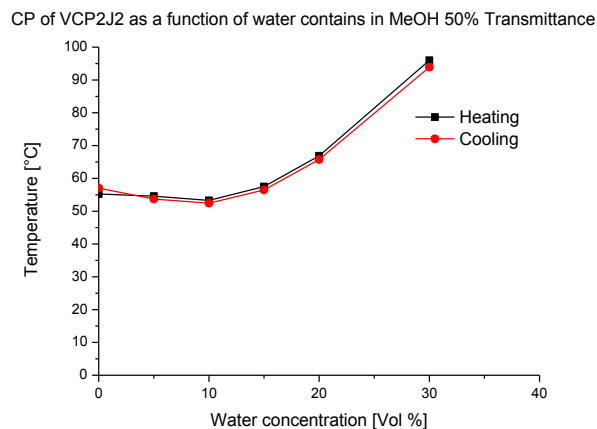
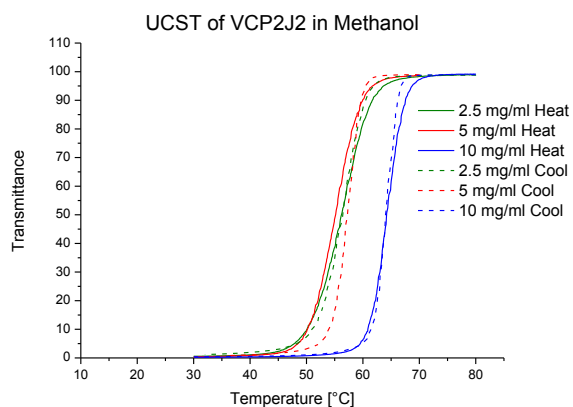


¹³C NMR VCP2J5

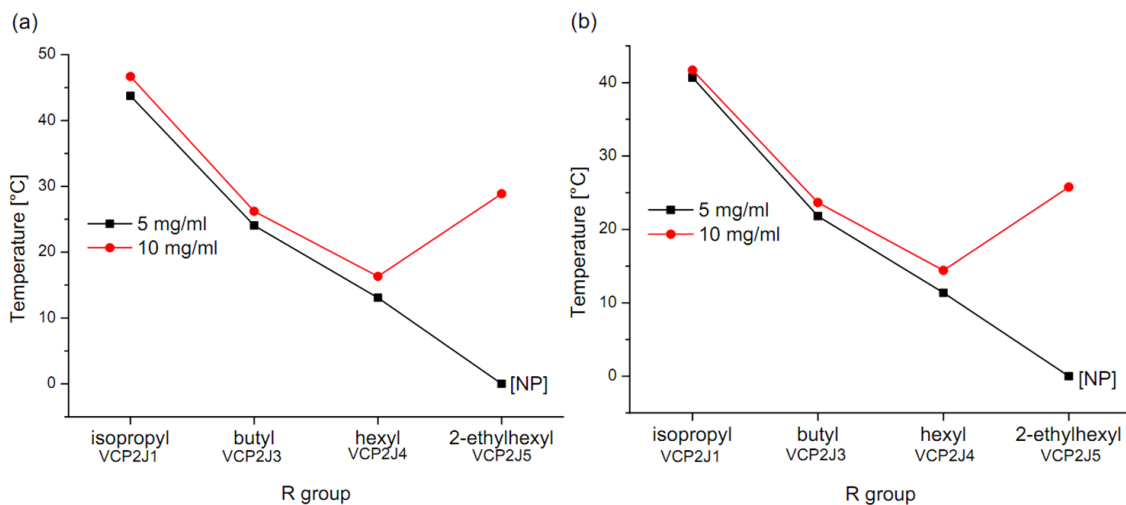


Cloud point measurements

1) Cloud point of Poly(N-Cyclopropyl-2-cyano-hex-4-enamide) VCP2J2 in methanol and methanol-water mixture.



2) Cloud point in ethanol as a function of amide moiety.



Cloud point (CP) in ethanol as a function amide moiety at 50% transmittance. (a) Cloud point upon heating and (b) Cloud point upon cooling. NP (No precipitation)

Gel permeation Chromatography

