

Supporting Information for

Polymerization of 1-Chloro-2-benzaldehyde-acetylene Using NHC-Pd/AgOTf Catalyst and the Post-Polymerization Modification

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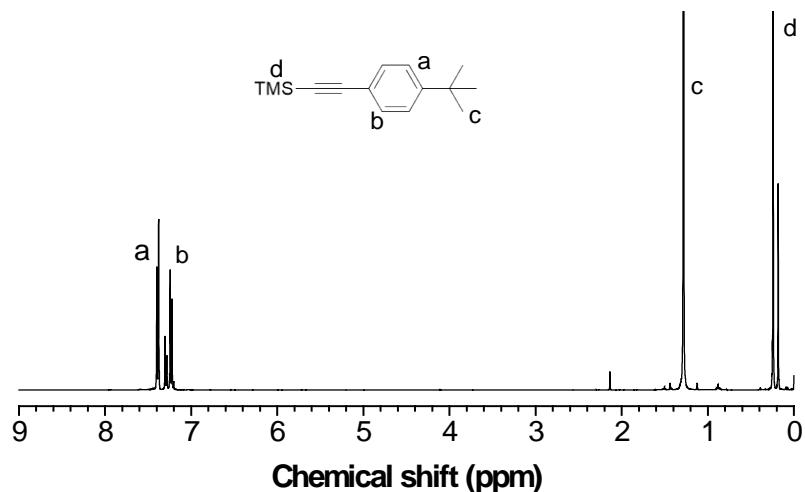


Figure S1. ^1H NMR spectrum of 1-trimethylsilanyl-2-(4-tert-butyl)-phenylacetylene in CDCl_3 .

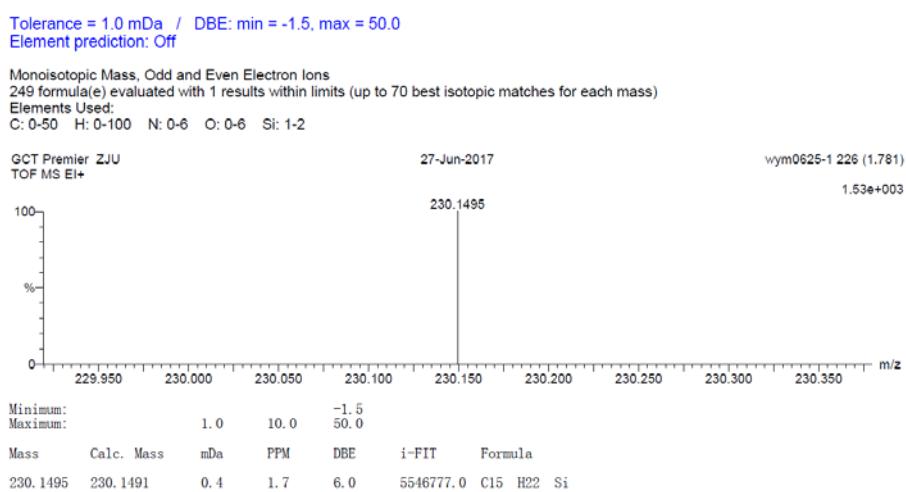


Figure S2. High resolution mass spectrum of 1-trimethylsilanyl-2-(4-tert-butyl)-phenylacetylene.

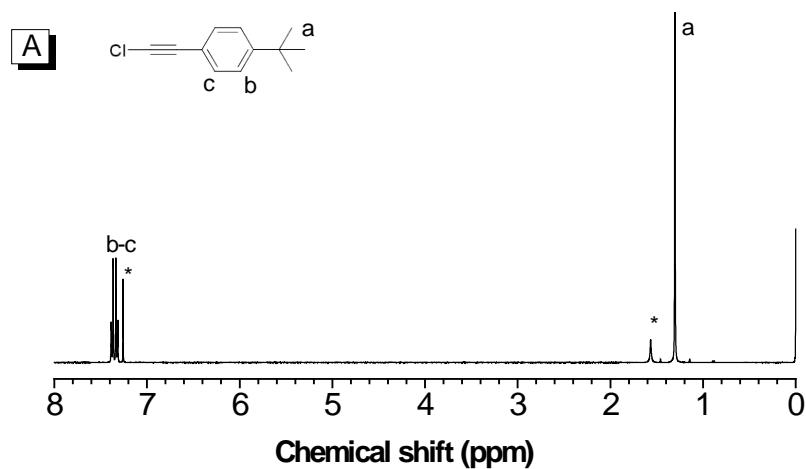


Figure S3. ^1H NMR spectrum of **M1** in CDCl_3 .

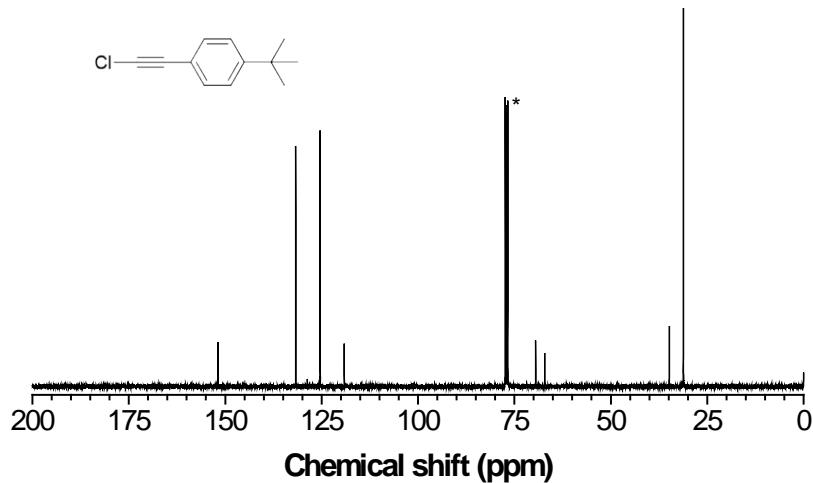


Figure S4. ^{13}C NMR spectrum of **M1** in CDCl_3 .

Tolerance = 1.0 mDa / DBE: min = -1.5, max = 50.0
Element prediction: Off

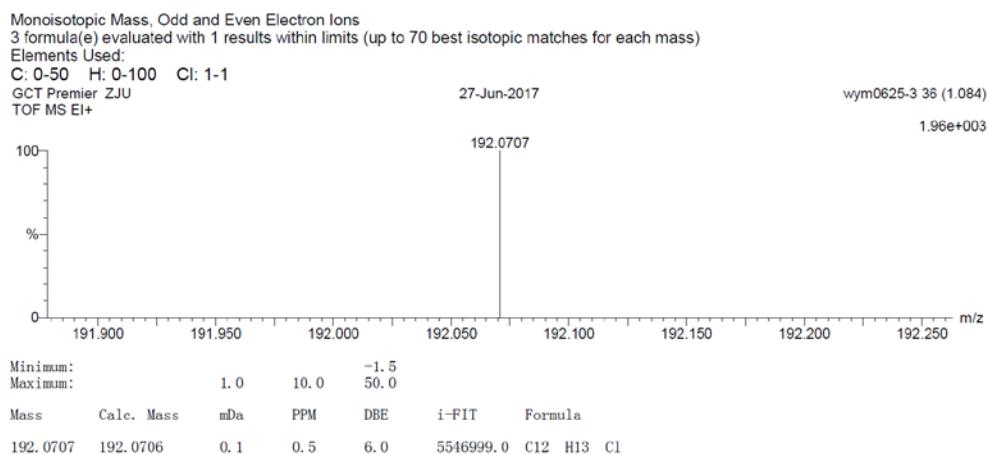


Figure S5. High resolution mass spectrum of **M1**.

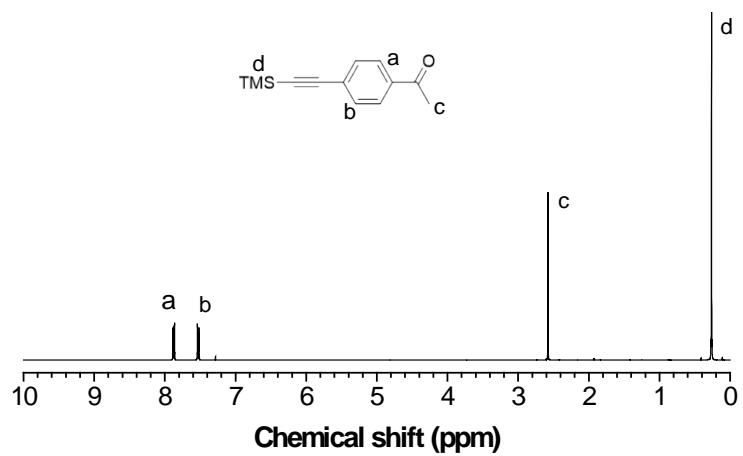


Figure S6. ^1H NMR spectrum of 1-trimethylsilanyl-2-(4-ethylone)-phenylacetylene in CDCl_3 .

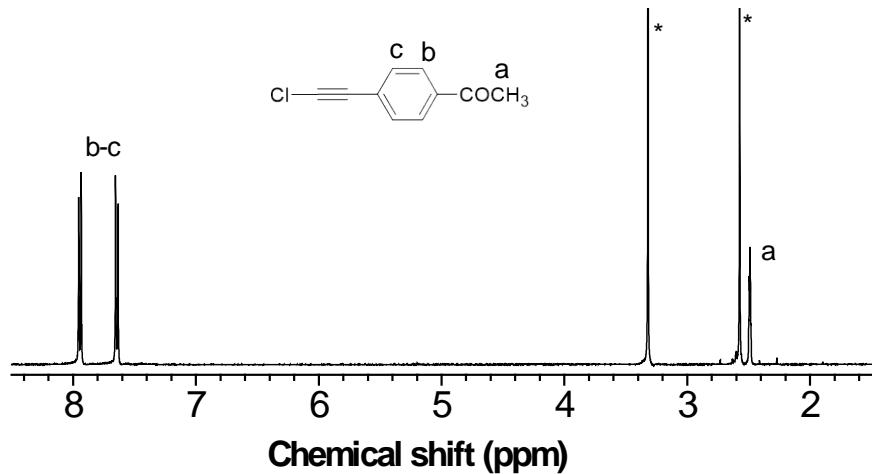


Figure S7. ^1H NMR spectrum of M2 in $\text{DMSO}-d_6$.

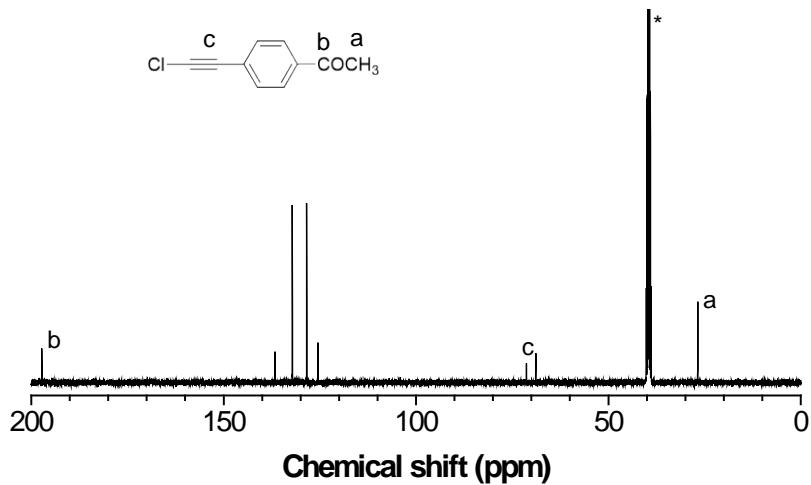


Figure S8. ^{13}C NMR spectrum of M2 in CDCl_3 .

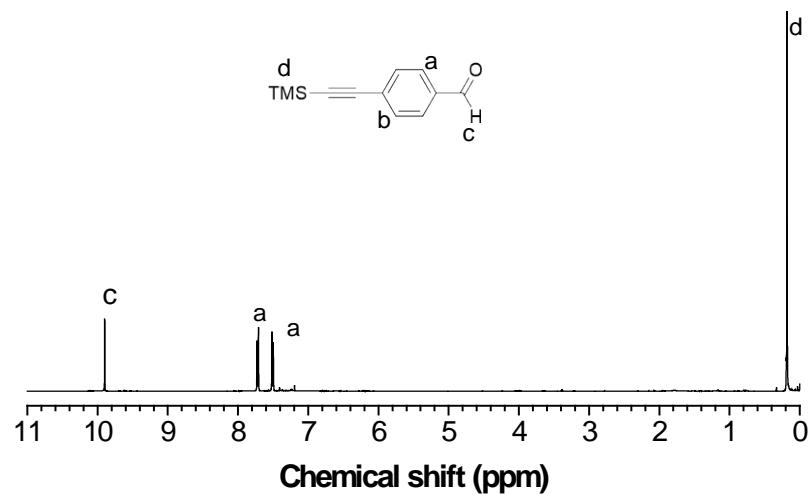


Figure S9. ^1H NMR spectrum of 1-trimethylsilyanyl-2-(4-formyl)-phenylacetylene in CDCl_3 .

Tolerance = 1.0 mDa / DBE: min = -1.5, max = 50.0
Element prediction: Off

Monoisotopic Mass, Odd and Even Electron Ions
35 formula(e) evaluated with 1 results within limits (up to 70 best isotopic matches for each mass)
Elements Used:
C: 0-50 H: 0-100 O: 0-6 Si: 1-2

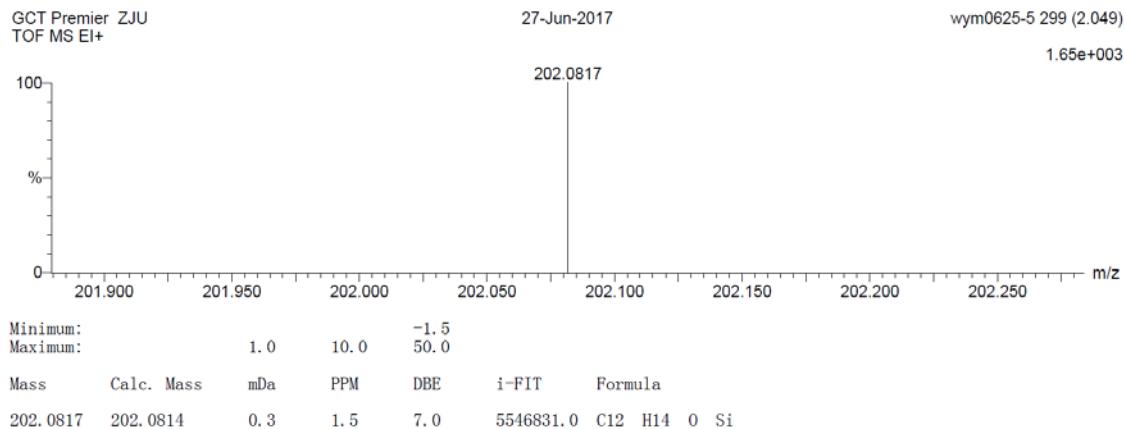


Figure S10. High resolution mass spectrum of 1-trimethylsilylanyl-2-(4-formyl)-phenylacetylene.

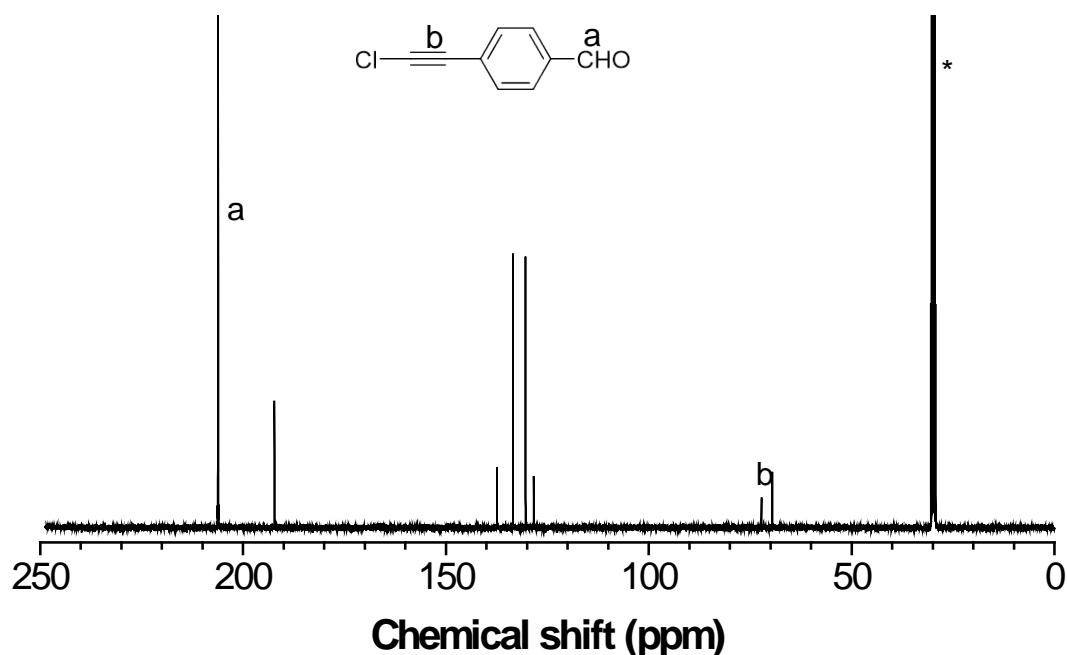


Figure S11. ^{13}C NMR spectrum of M3 in CDCl_3 .

Tolerance = 1.0 mDa / DBE: min = -1.5, max = 50.0
Element prediction: Off

Monoisotopic Mass, Odd and Even Electron Ions
 13 formula(e) evaluated with 1 results within limits (up to 70 best isotopic matches for each mass)
 Elements Used:
 C: 0-50 H: 0-100 O: 0-6 Cl: 1-1
 GCT Premier ZJU 27-Jun-2017 wym0625-4 240 (1.832)
 TOF MS EI+ 2.17e+003

Mass Spectrum Data:

m/z	Relative Abundance (%)
163.850	0
163.900	0
163.950	0
164.000	100
164.050	0
164.100	0
164.150	0

Minimum: 1.0 Maximum: 50.0

Mass Calc. Mass mDa PPM DBE i-FIT Formula

Mass	Calc. Mass	mDa	PPM	DBE	i-FIT	Formula
164.0030	164.0029	0.1	0.6	7.0	5547100.0	C9 H5 O Cl

Figure S12. High resolution mass spectrum of M3.

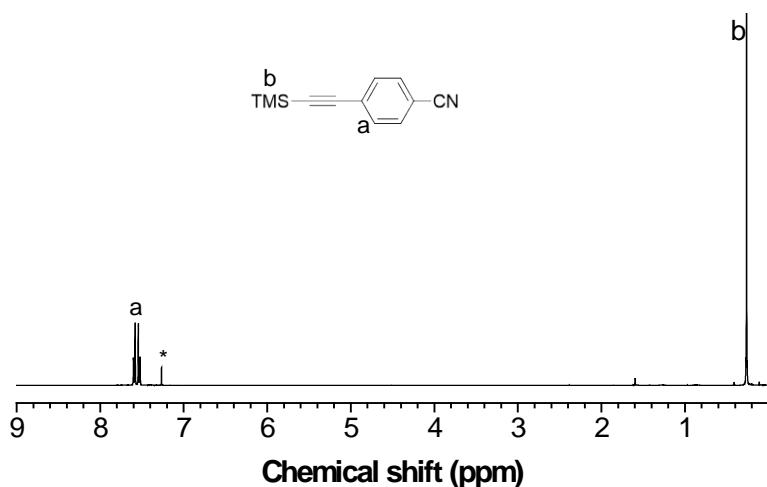


Figure S13. ^1H NMR spectrum of 1-trimethylsilanyl-2-(4-cyano)-phenylacetylene in CDCl_3 .

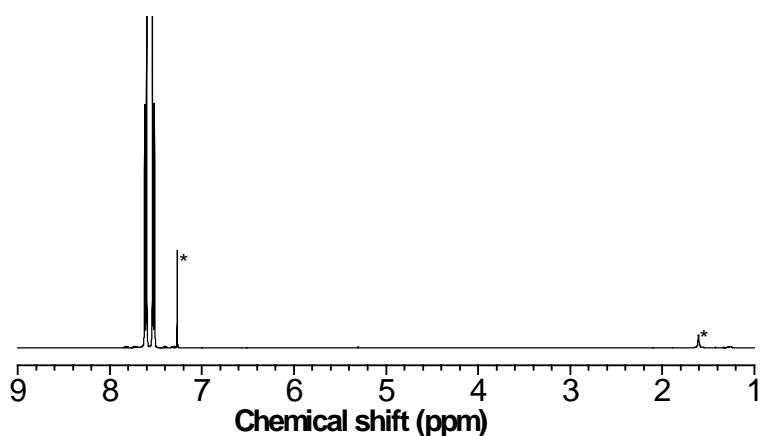


Figure S14. ^1H NMR spectrum of M4 in CDCl_3 .

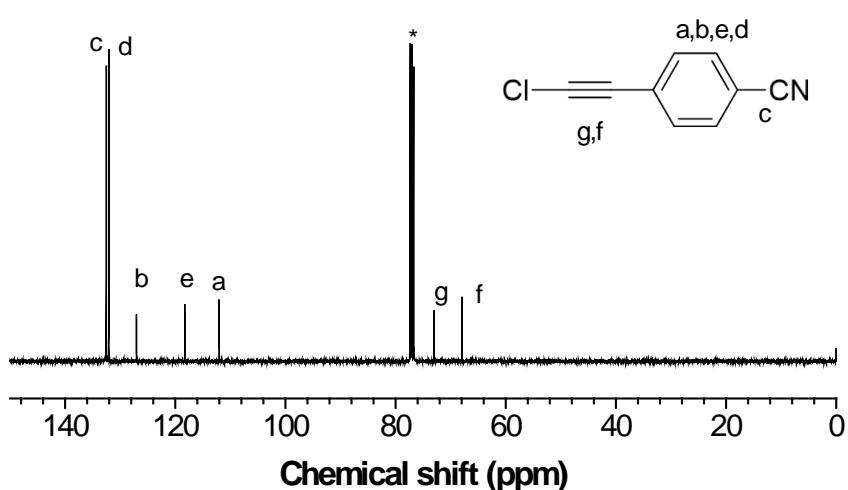


Figure S15. ^{13}C NMR spectrum of M4 in CDCl_3 .

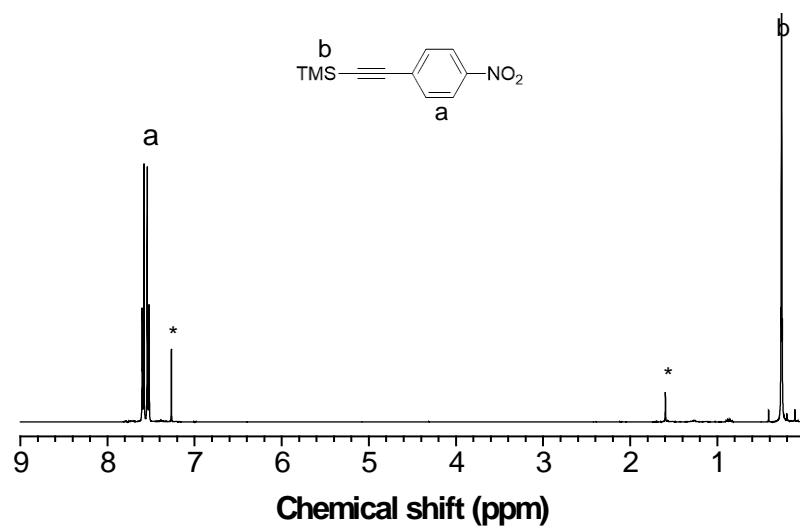


Figure S16. ^1H NMR spectrum of 1-trimethylsilanyl-2-(4-nitro)-phenylacetylene in CDCl_3 .

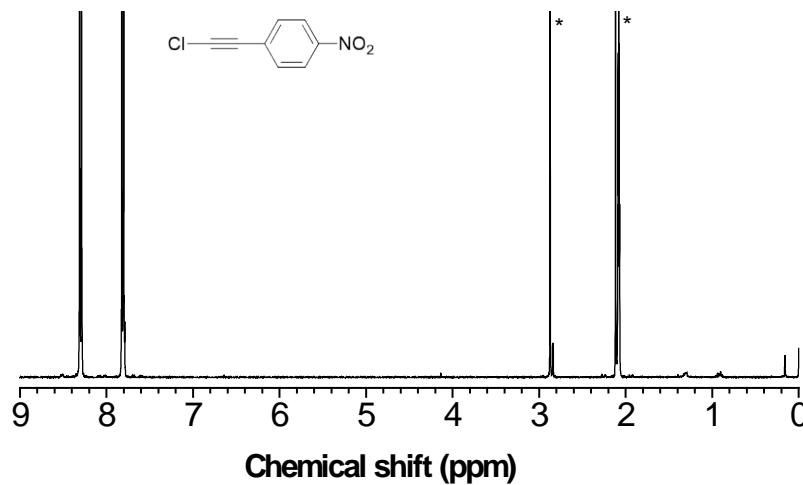


Figure S17. ^1H NMR spectrum of M5 in acetone- d_6 .

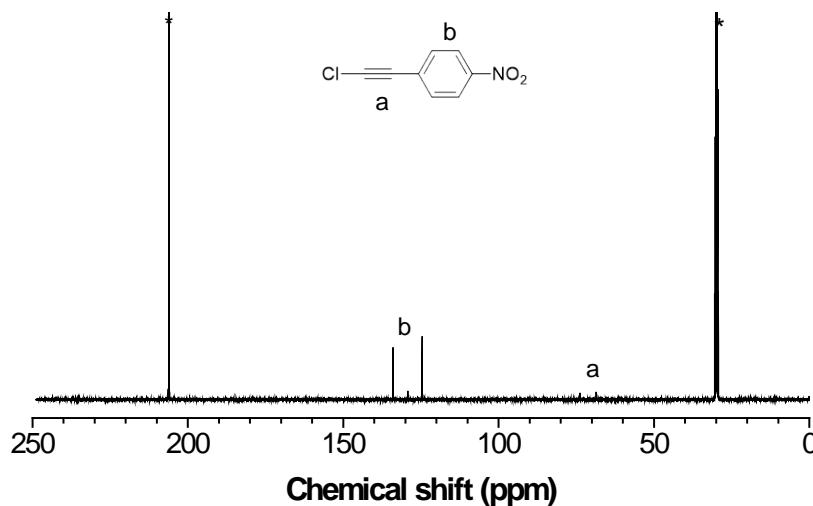


Figure S18. ^{13}C NMR spectrum of M5 in acetone- d_6 .

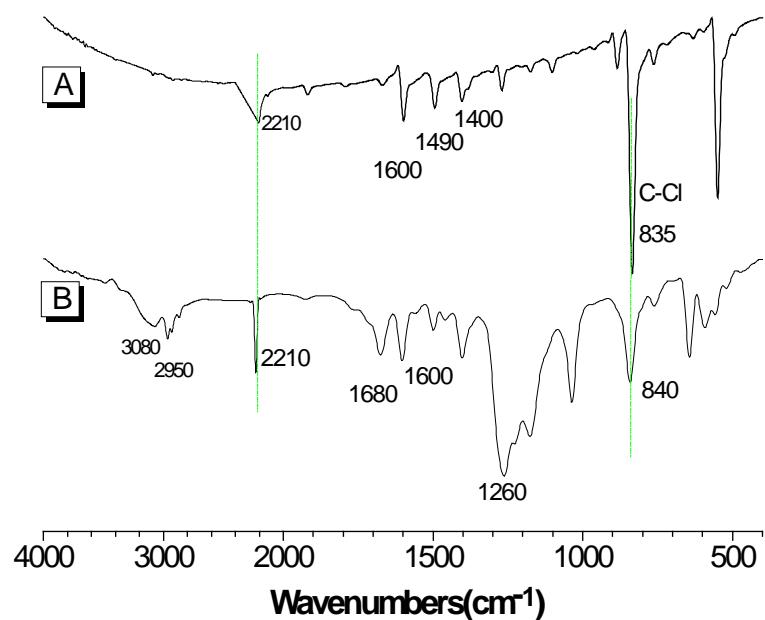


Figure S19. FTIR spectra of M4 and the possible product of the polymerization of M4.

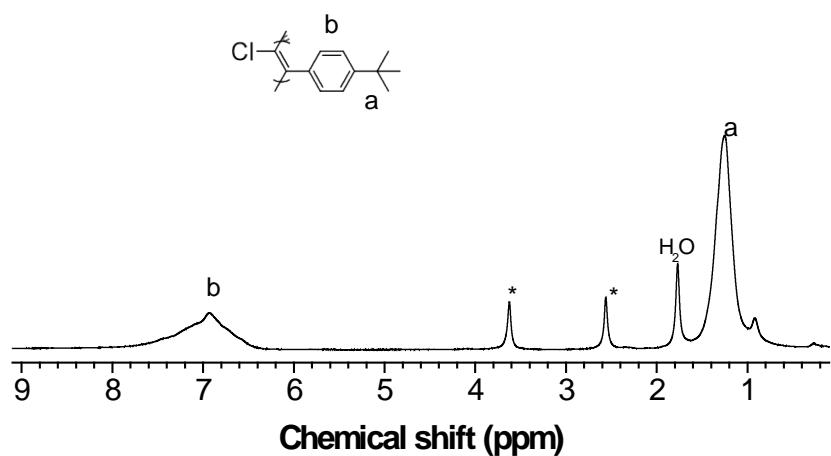


Figure S20. ¹H NMR spectrum of P1 in THF-d8.

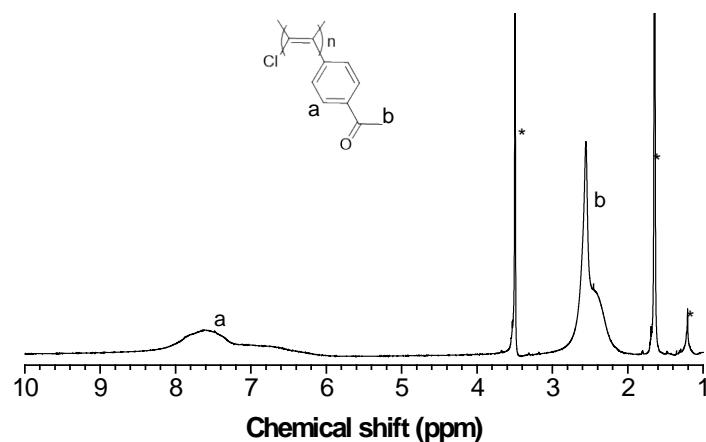


Figure S21. ^1H NMR spectrum of P2 in THF-d8.

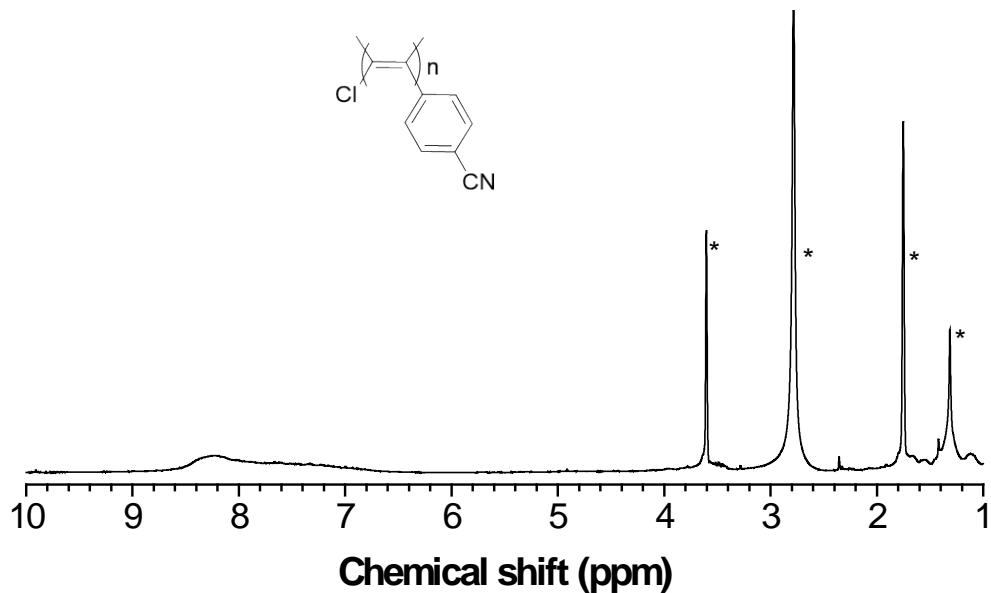


Figure S22. ^1H NMR spectrum of the possible product of the polymerization of M4 in THF-d8.

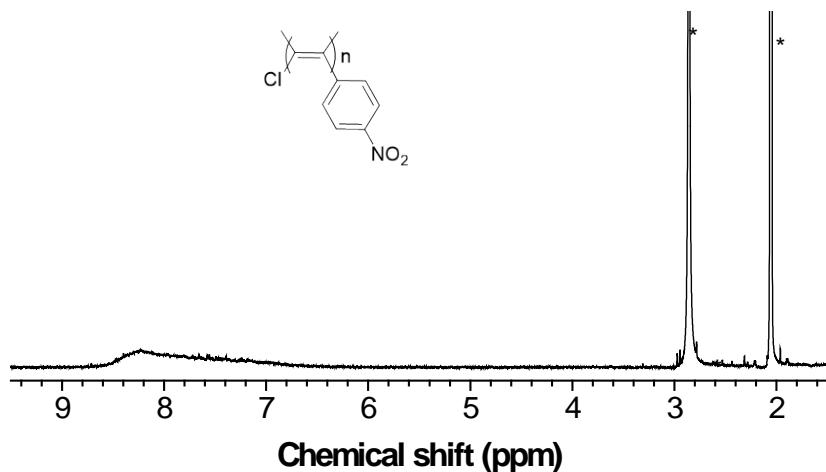


Figure S23. ^1H NMR spectrum of P5 in acetone-d6.