Electronic Supplementary Material (ESI) for Polymer Chemistry.

Sequence controlled ethylene/styrene copolymerization catalyzed by scandium complexes

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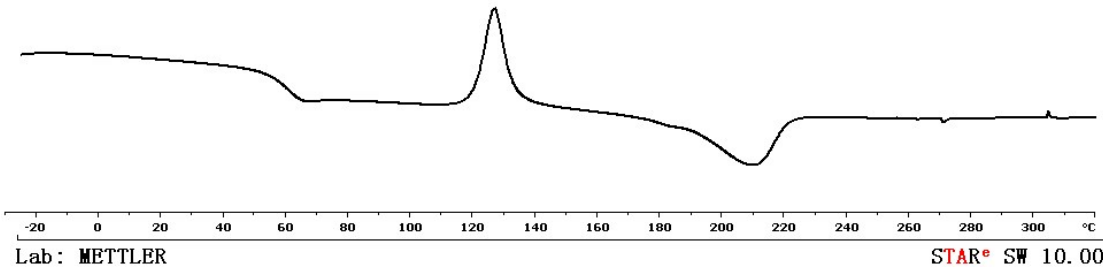

Figure S1. DSC curve of copolymer **A** afforded by using complex **1** as catalyst.

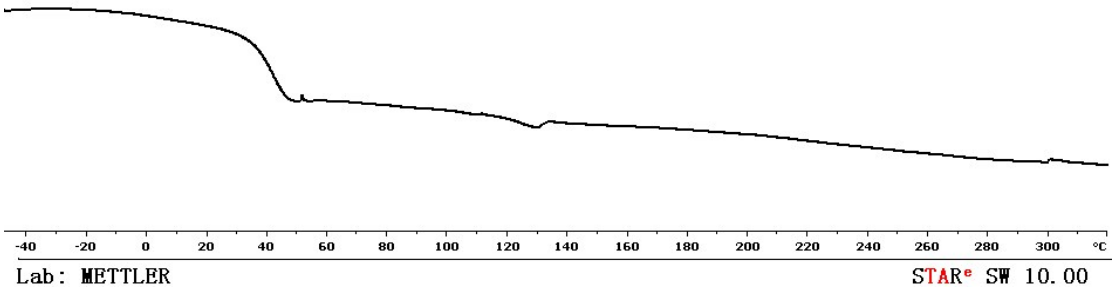

Figure S2. DSC curve of copolymer **B** afforded by using complex **1·THF** as catalyst.

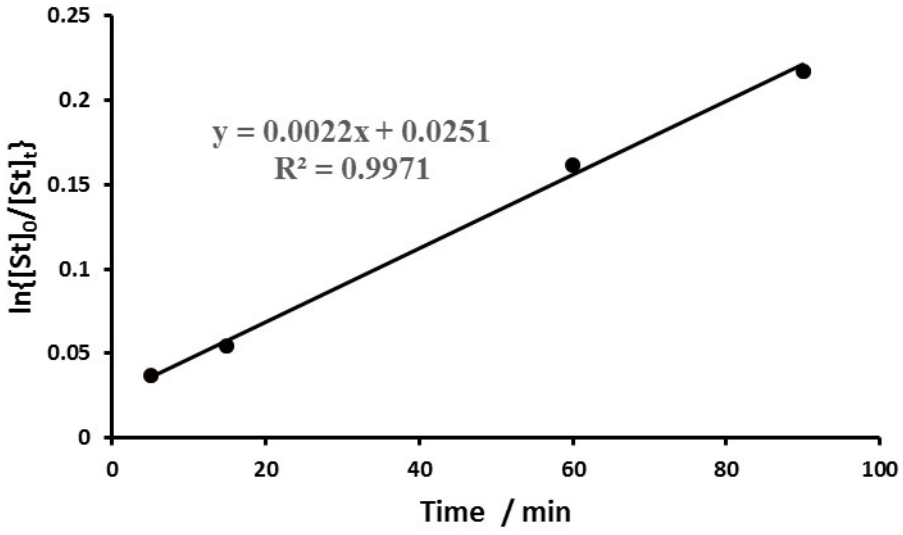

Figure S3. Plots of $\ln\{[St]_0/[St]_t\}$ vs. time for copolymerization of E and St catalyzed by complex **2**.

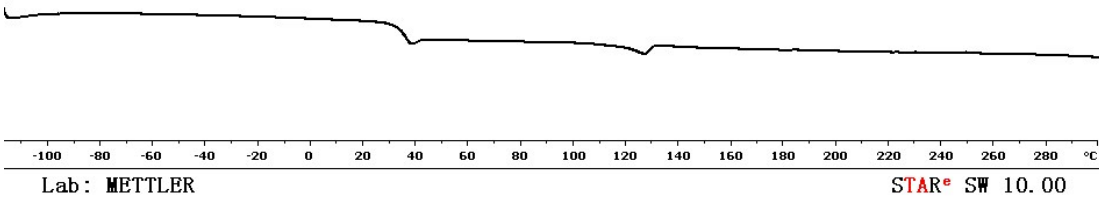

Figure S4. DSC curve of copolymer **D** afforded by using complex **3** as catalyst.

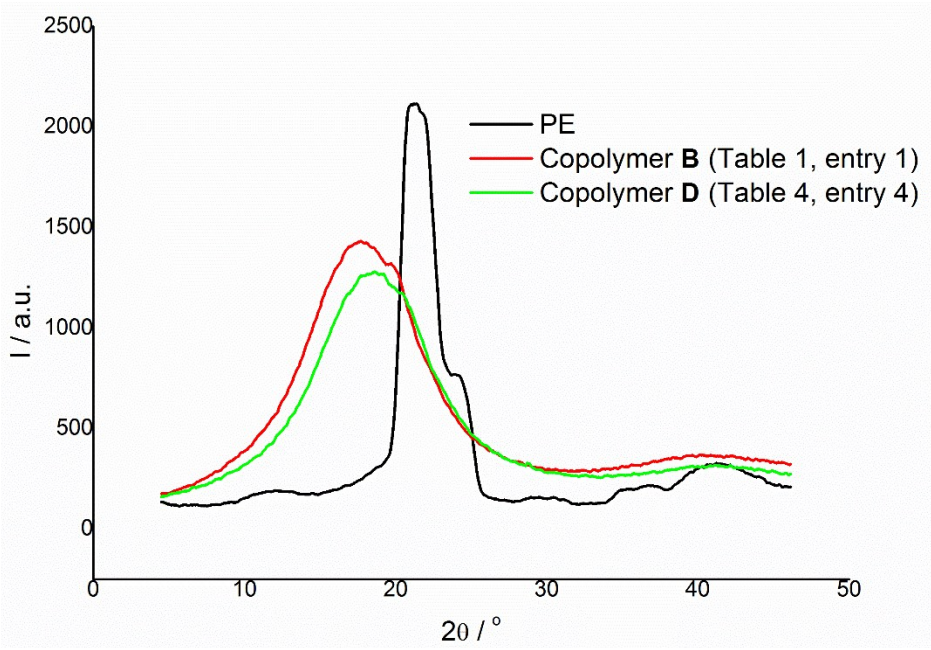

Figure S5. XRD spectra of PE (black), copolymer **B** (red) and copolymer **D** (green).

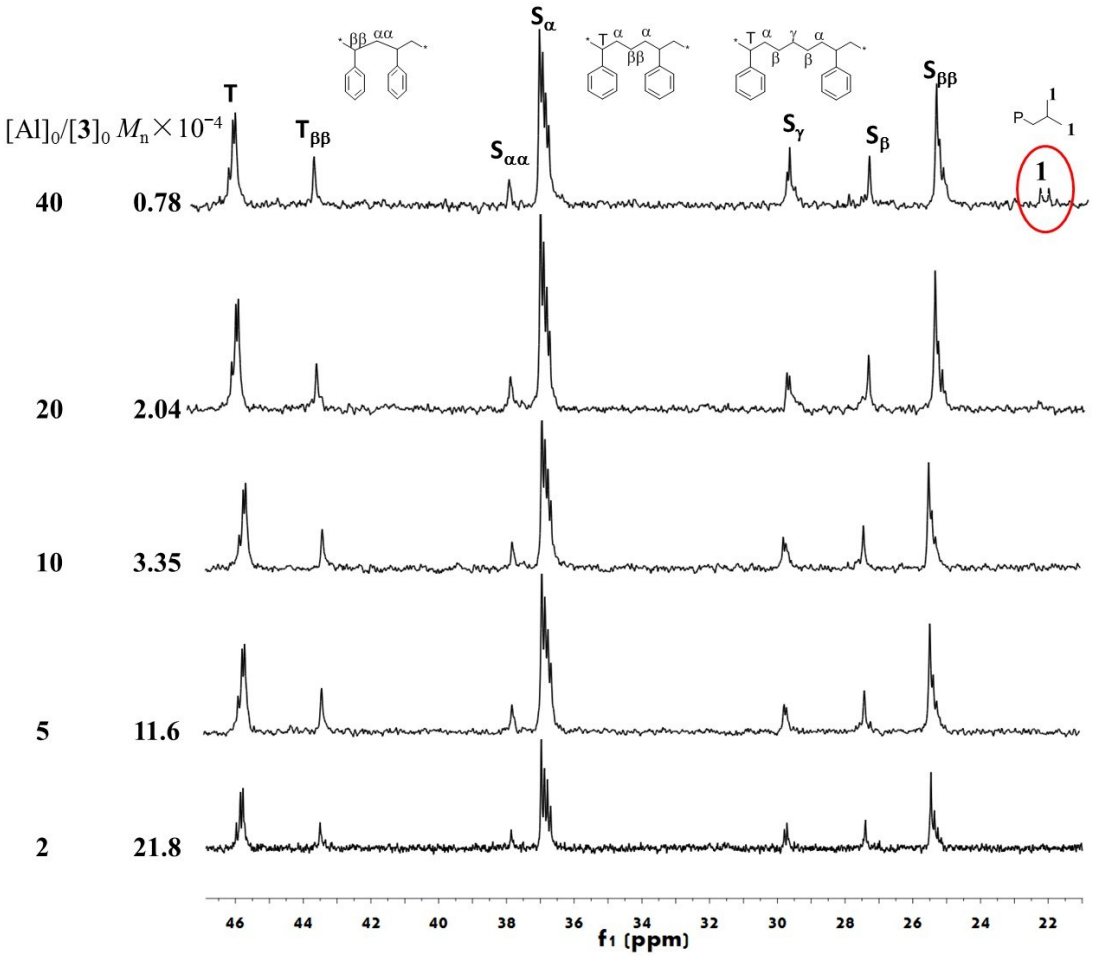

Figure S6. Aliphatic region of ^{13}C NMR spectra of E/St copolymers afforded by using complex **4** under various ratio of $[Al]_0/[\mathbf{4}]_0$. .

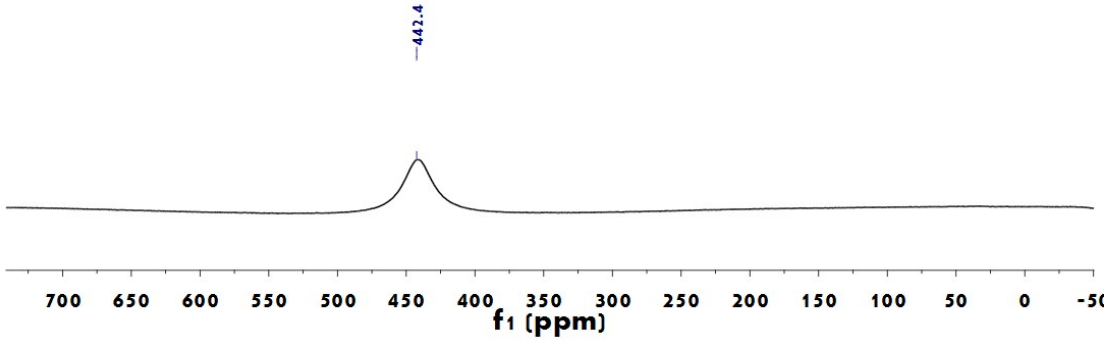

Figure S7 ^{45}Sc NMR spectrum of complex **1**.

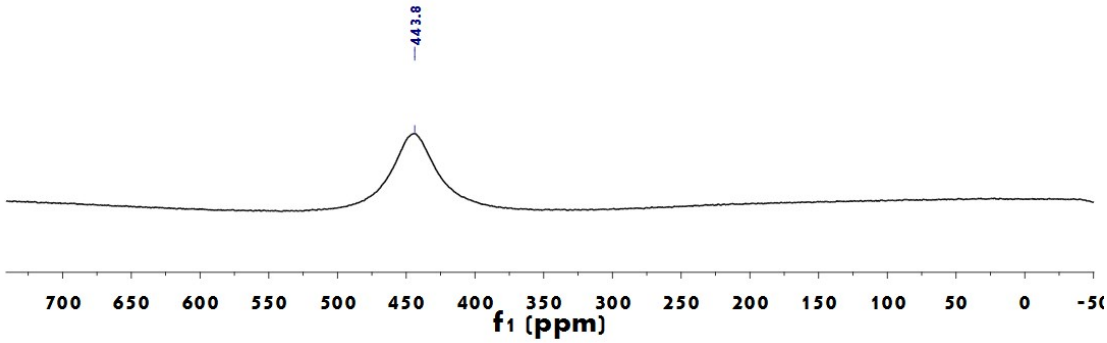

Figure S8 ^{45}Sc NMR spectrum of complex **2**.

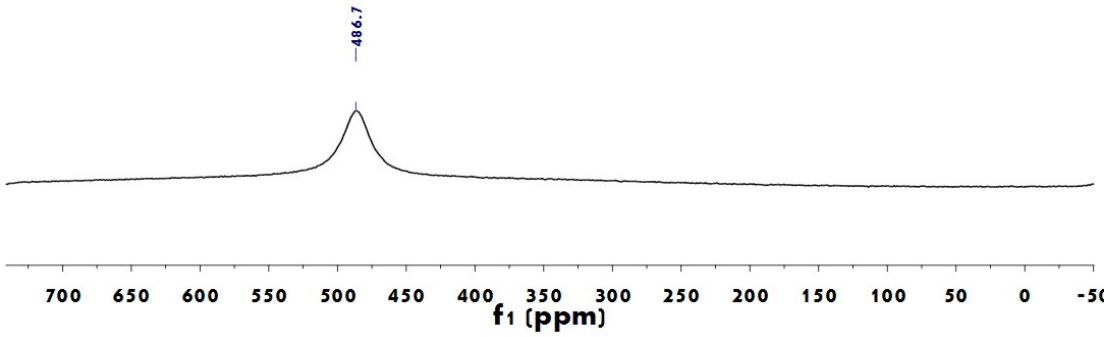

Figure S9 ^{45}Sc NMR spectrum of $FluSc(CH_2SiMe_3)_2$.

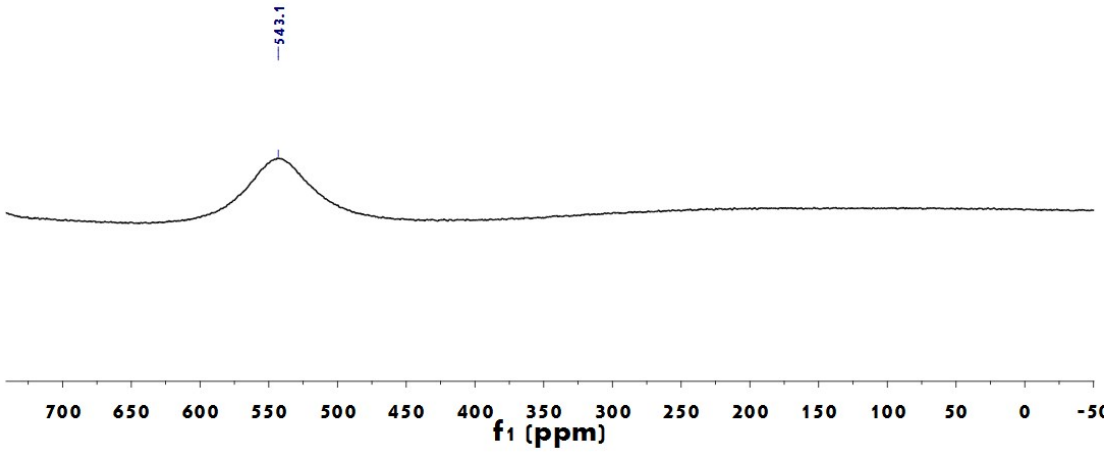

Figure S10 ^{45}Sc NMR spectrum of **3**.

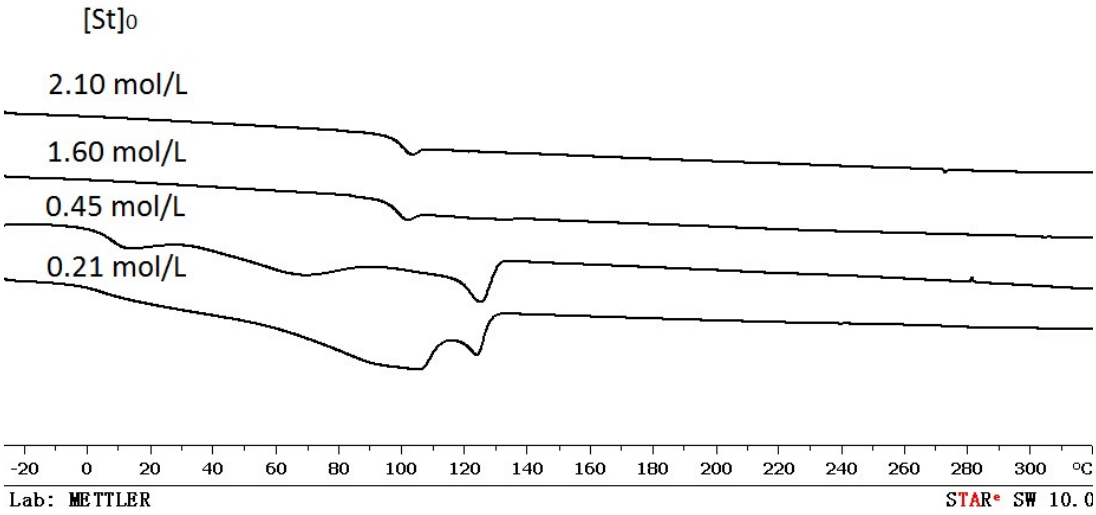

Figure S11. DSC curve of copolymer **C** afforded by using complex **2** as catalyst under various initial styrene concentration.

FluSc(CH2SiMe3)2

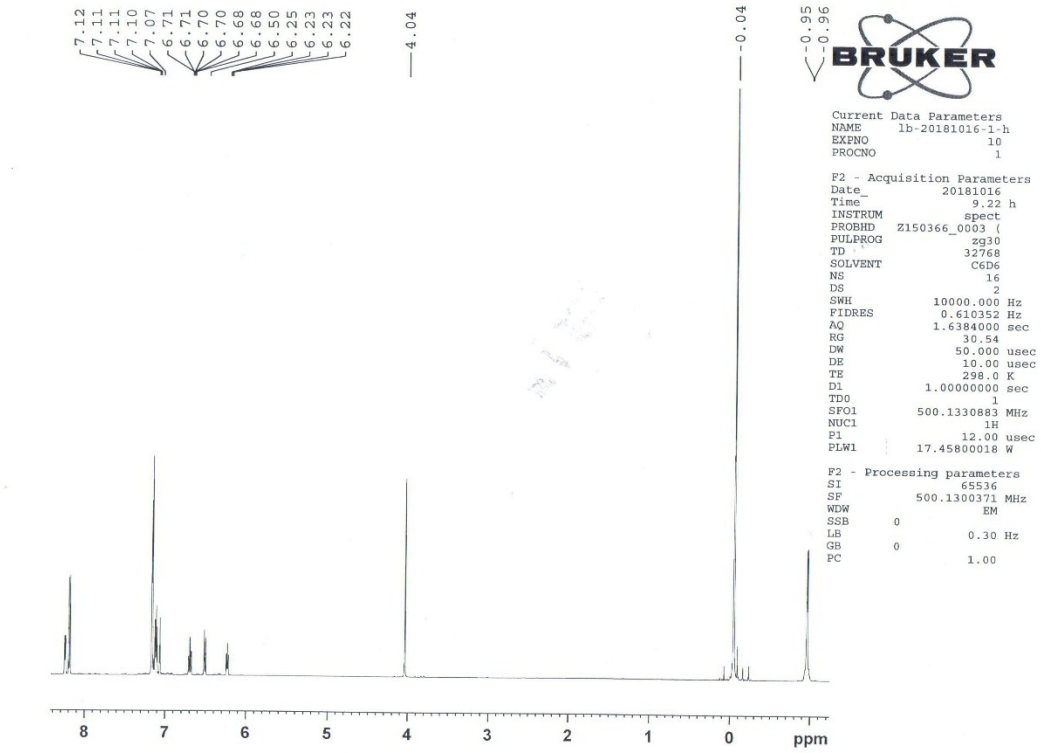

Figure S12 ^{1}H NMR spectrum of complex **3**.

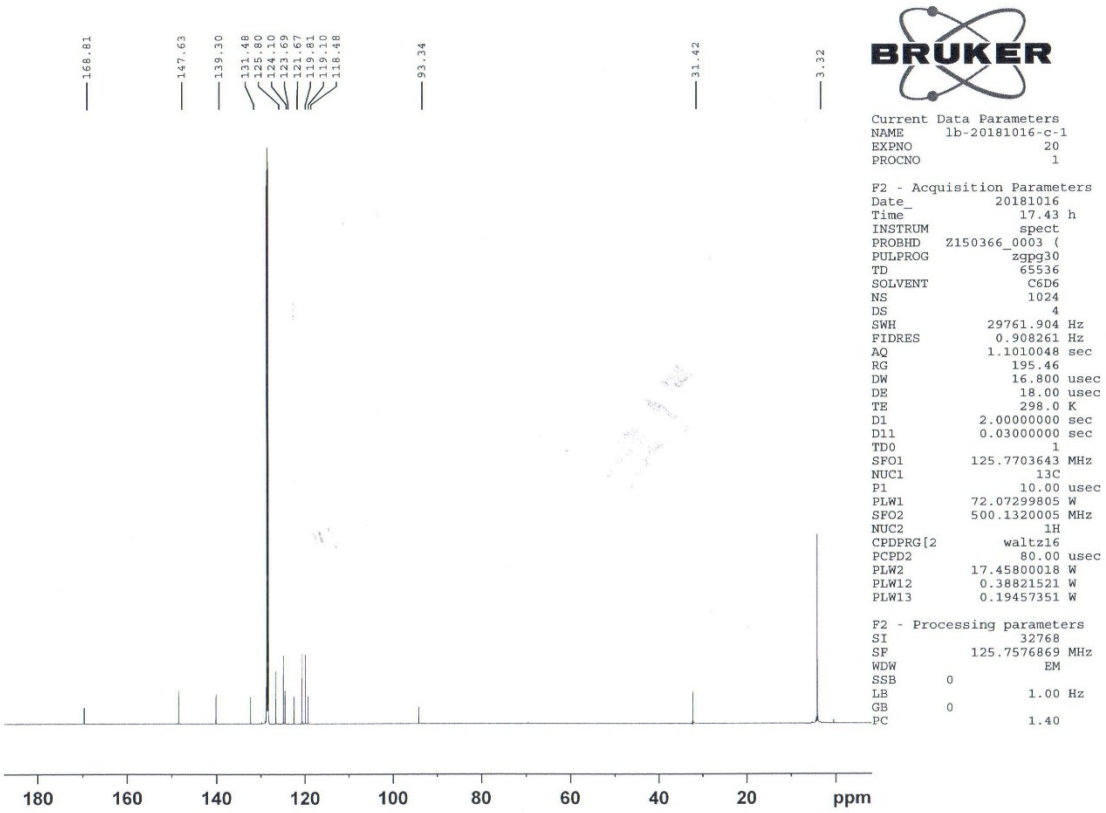

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Figure S13 ^{13}C NMR spectrum of complex **3**.

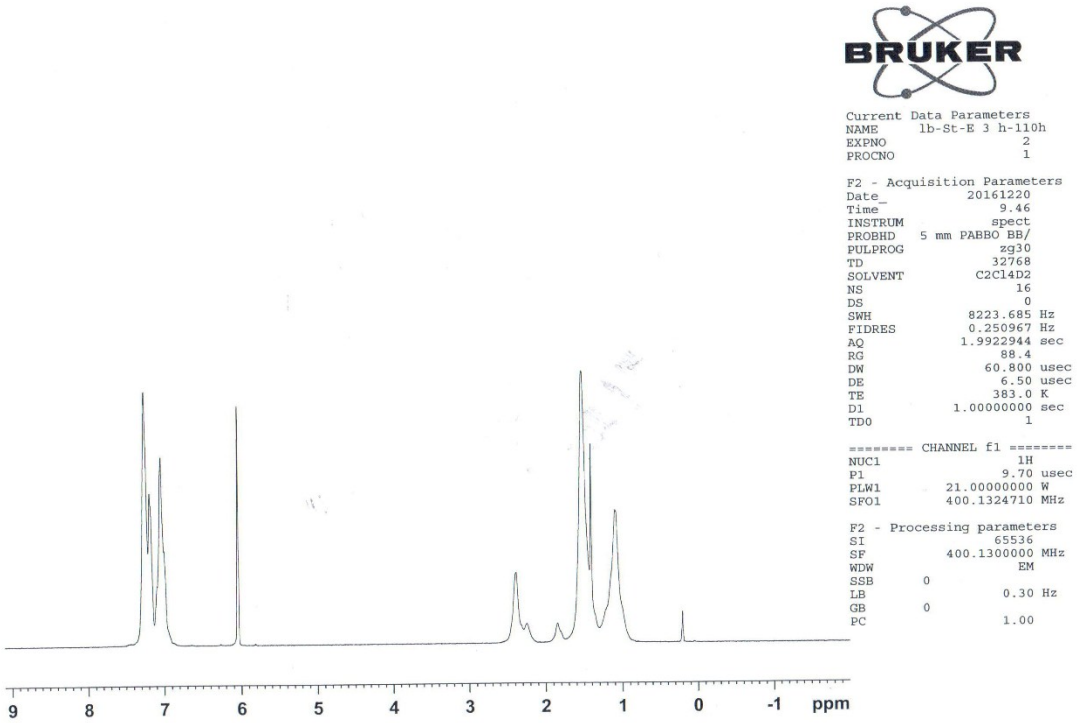


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Figure S14. ^{1}H NMR spectrum of polymer **D**.

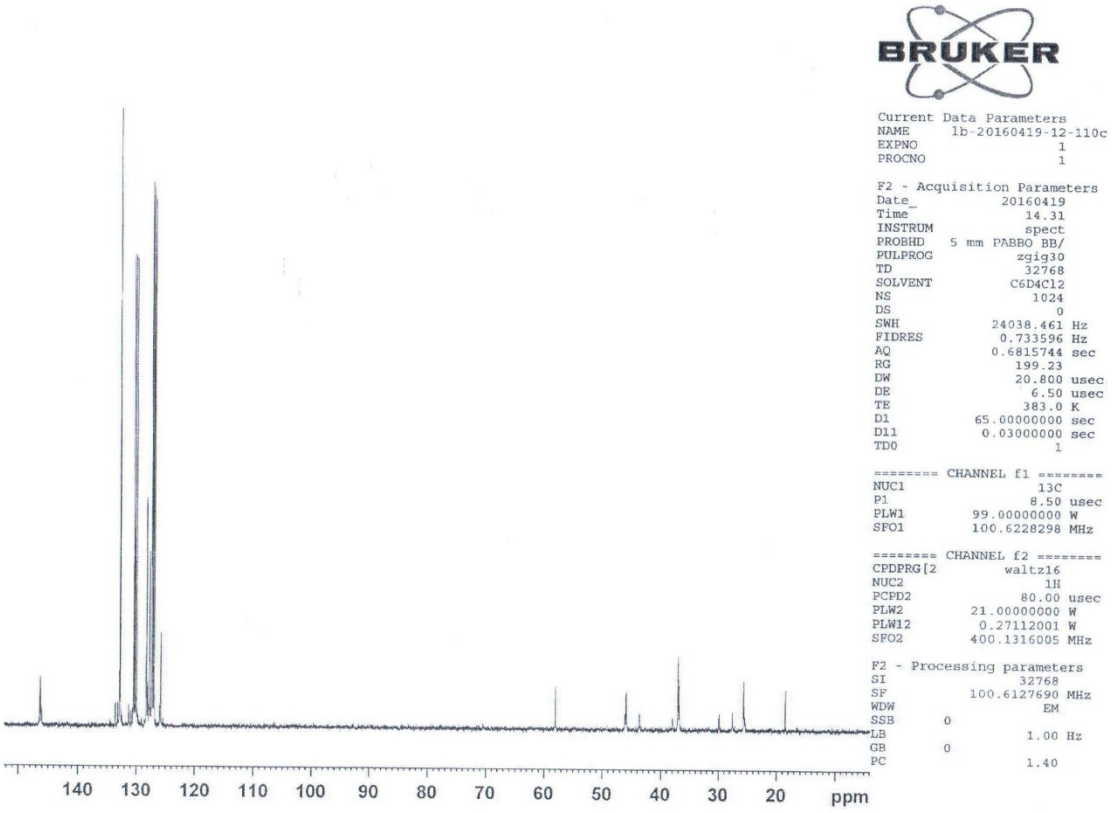

Figure S15. ^{13}C NMR spectrum of polymer **D**.