

Supporting information
**Highly Syndioselective Coordination (co)Polymerization of
Isopropenylstyrene**

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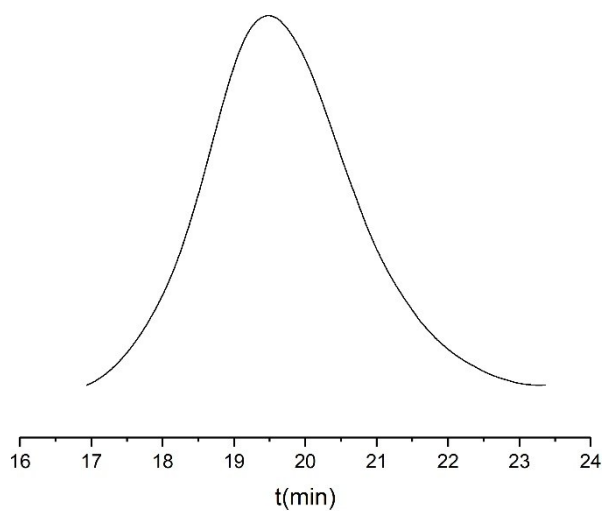


Fig. S1 GPC trace of poly(pIPSt) (Entry 1, Table 2)

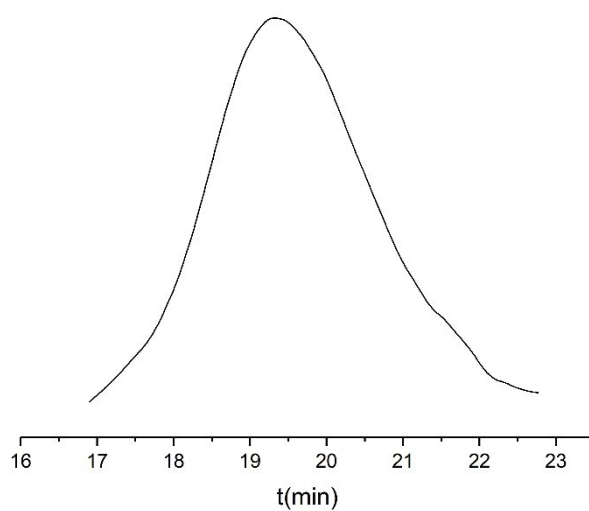


Fig. S2 GPC trace of poly(pIPSt) (Entry 2, Table 2)

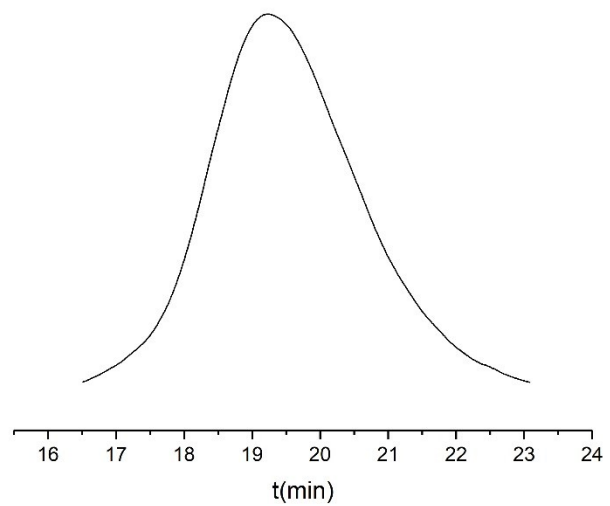


Fig. S3 GPC trace of poly(pIPSt) (Entry 3, Table 2)

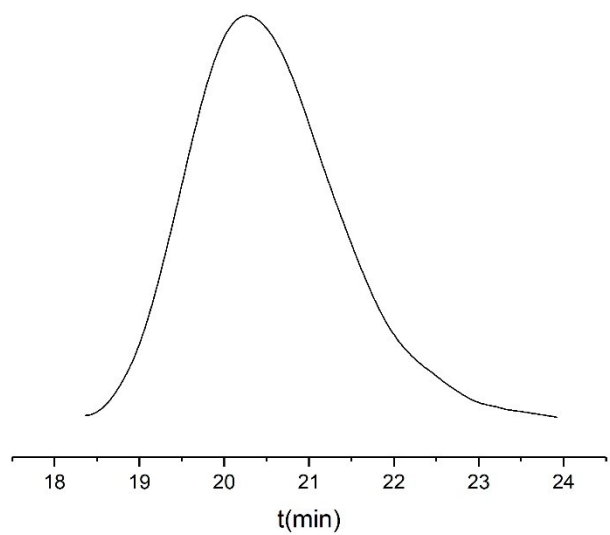


Fig. S4 GPC trace of poly(pIPSt) (Entry 4, Table 2)

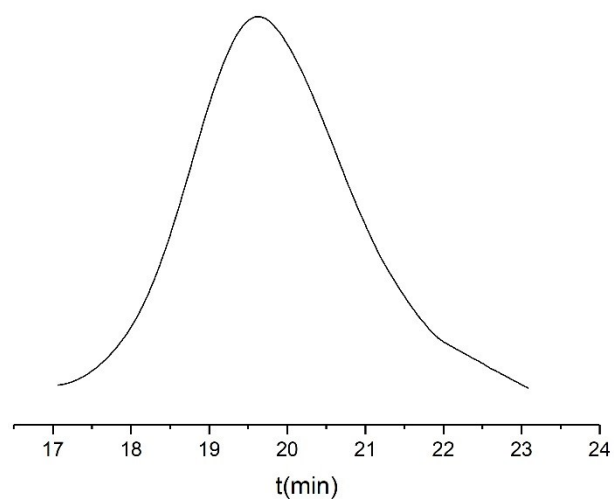


Fig. S5 GPC trace of poly(pIPSt) (Entry 5, Table 2)

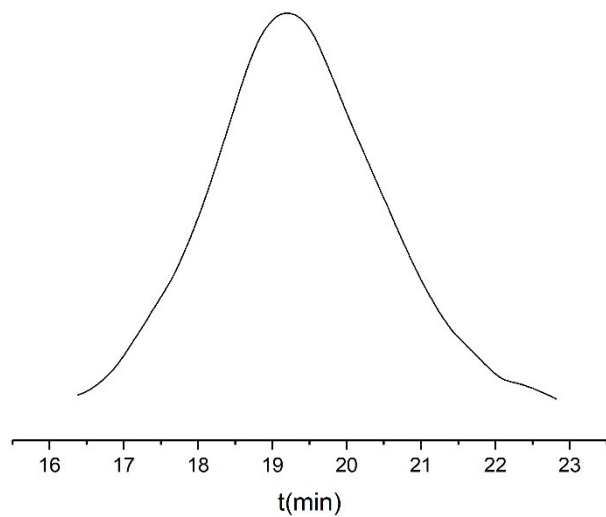


Fig. S6 GPC trace of poly(pIPSt) (Entry 6, Table 2)

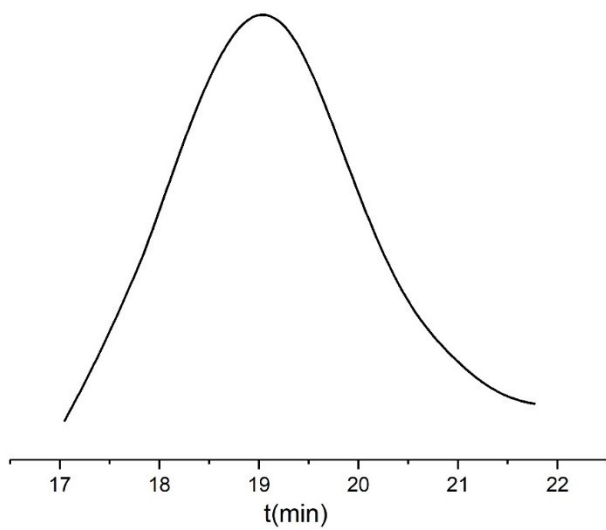


Fig. S7 GPC trace of a pIPSt-St copolymer with 90% pIPSt units (Entry 1, Table 3)

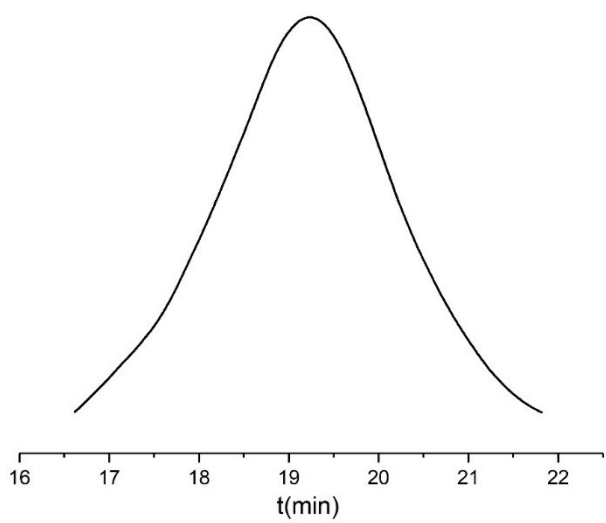


Fig. S8 GPC trace of a pIPSt-St copolymer with 70% pIPSt units (Entry 2, Table 3)

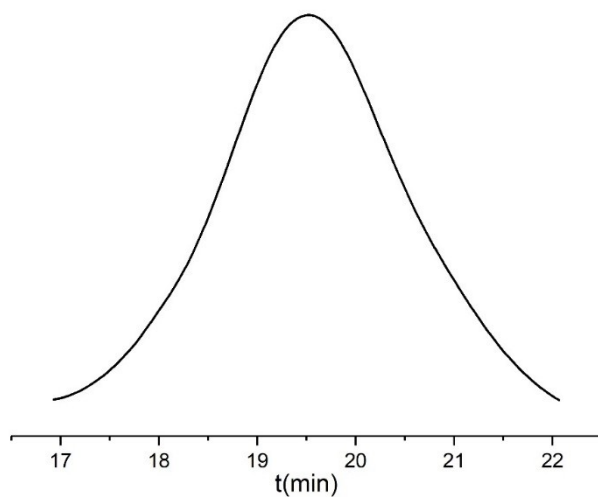


Fig. S9 GPC trace of a pIPSt-St copolymer with 50% pIPSt units (Entry 3, Table 3)

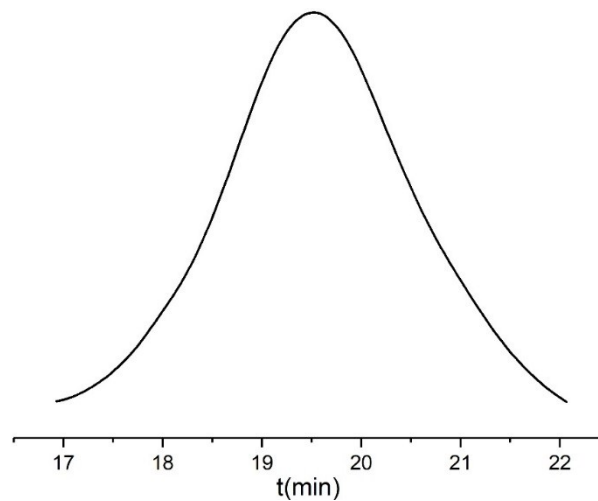


Fig. S10 GPC trace of a pIPSt-St copolymer with 30% pIPSt units (Entry 4, Table 3)

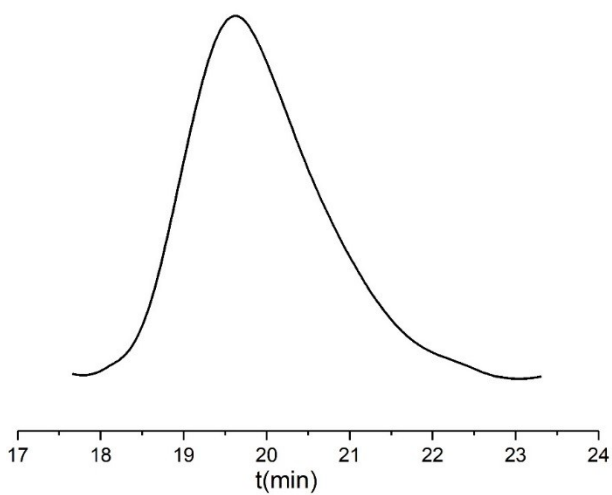


Fig. S11 GPC trace of a pIPSt-St copolymer with 10% pIPSt units (Entry 5, Table 3)

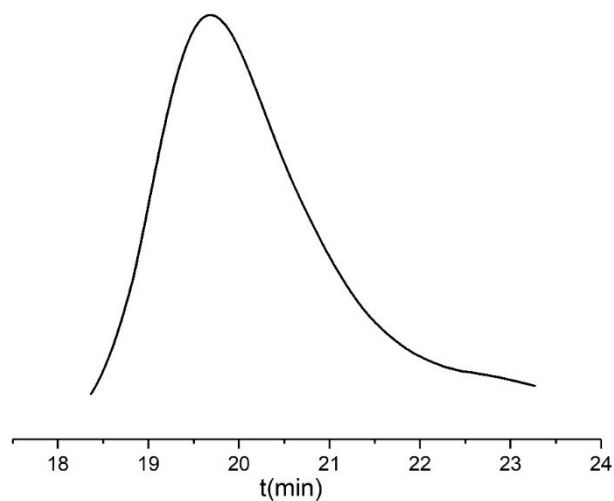


Fig. S12 GPC trace of a pIPSt-St copolymer with 5% pIPSt units (Entry 6, Table 3)

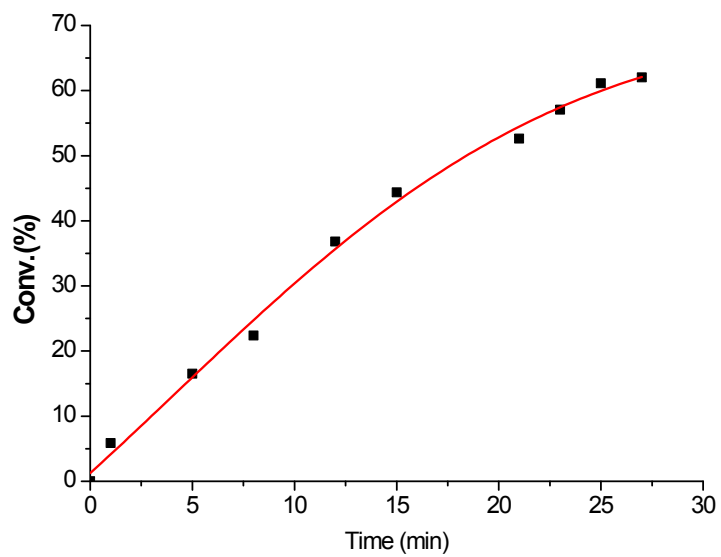


Fig. S13 Kinetic profiles of pIPSt polymerization catalyzed by complex 4 ($[\text{styrene}]_0:[\text{Ln}] = 500$, 0.08mol/L in toluene, 25 °C)

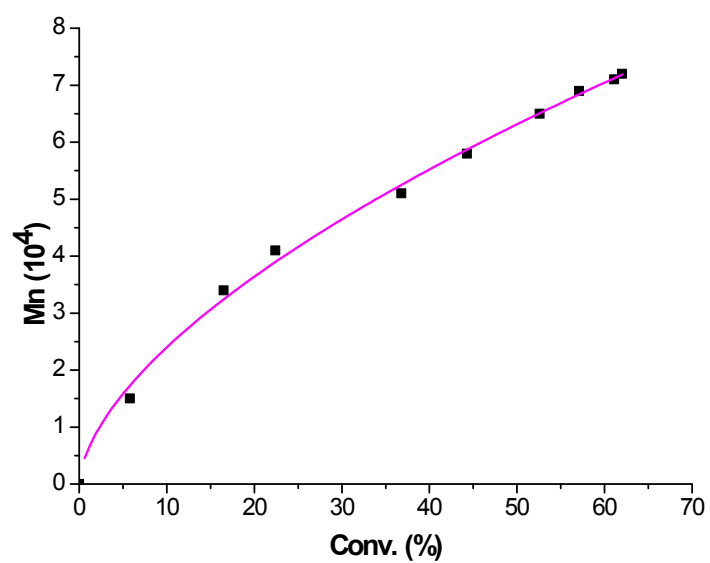


Fig. S14 Dependence of M_n vs. pIPSt conversion for 4 ($[\text{styrene}]_0:[L_n] = 500$, 0.08mol/L in toluene, $25\text{ }^\circ\text{C}$)

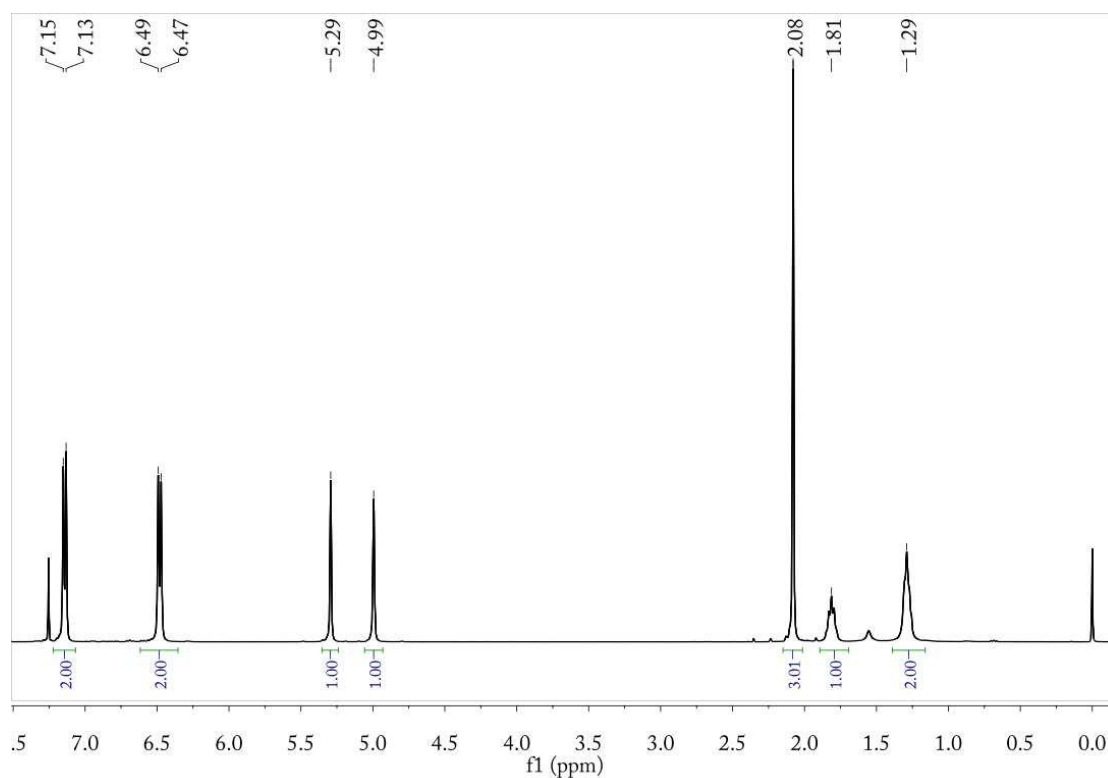


Fig. S15 ^1H NMR spectrum of poly(*p*IPSt) in CDCl_3 at $25\text{ }^\circ\text{C}$ (Table 1, entry 6)

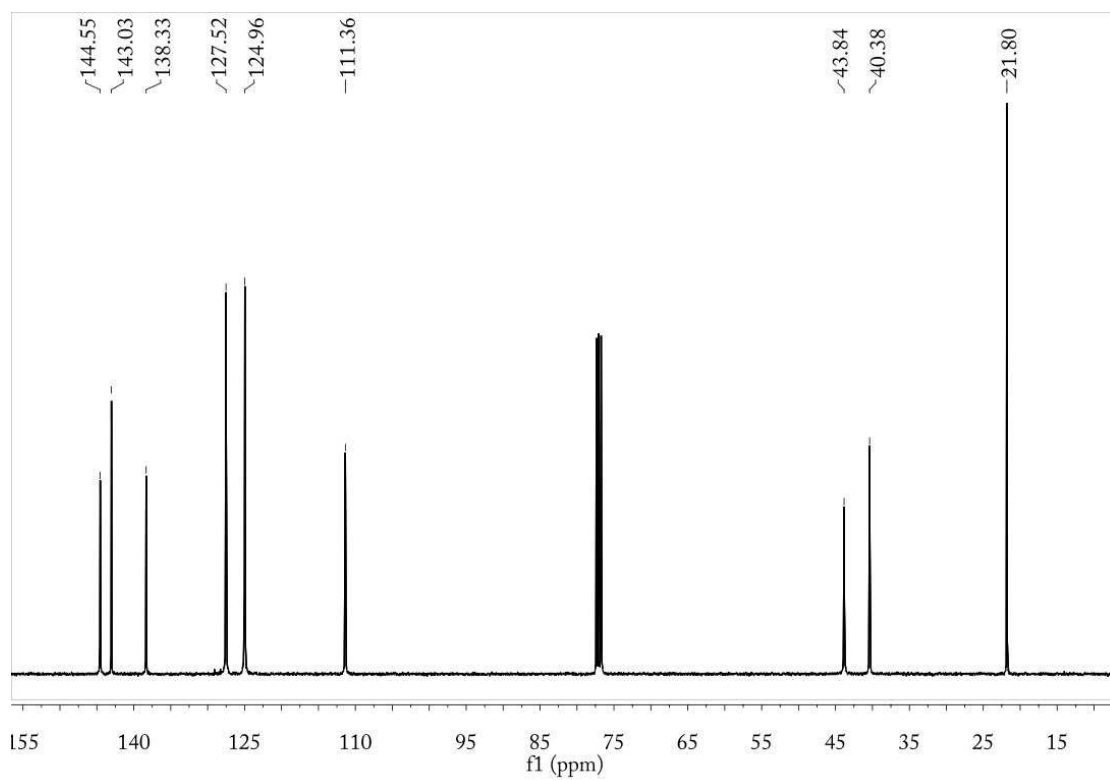


Fig. S16 ^{13}C NMR spectrum of poly(*p*IPSt) in CDCl_3 at 25 °C. (Table 1, entry 6)

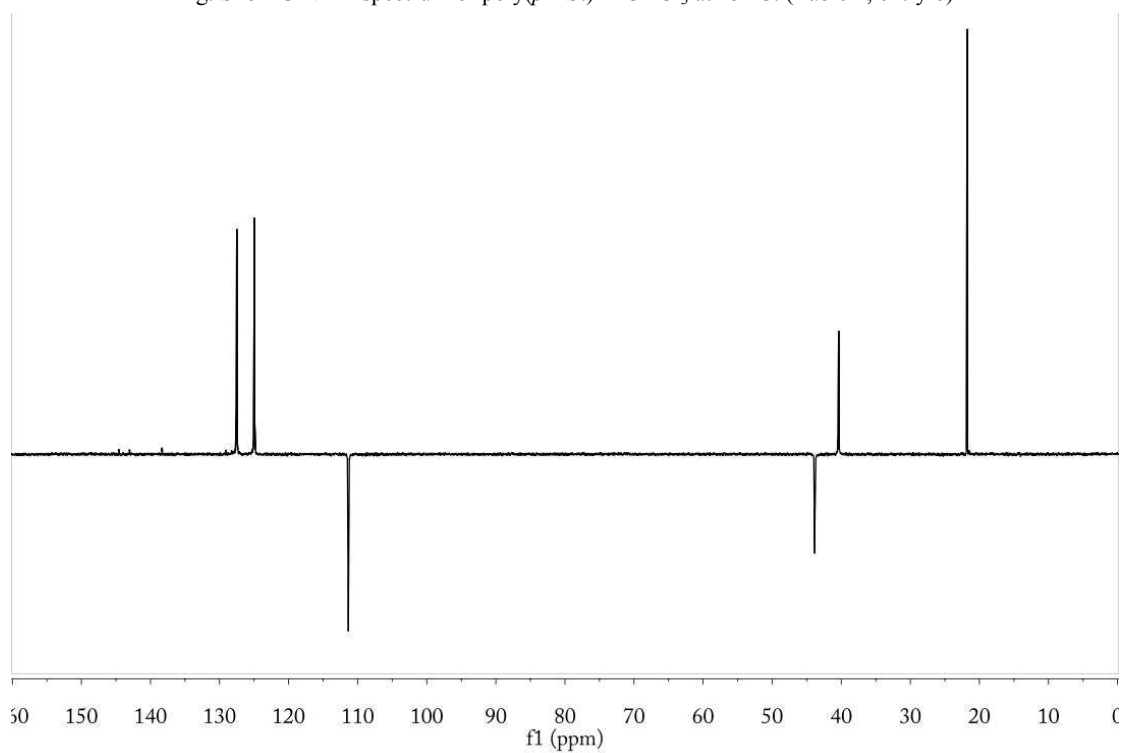


Fig. S17 dept135 NMR spectrum of poly(*p*IPSt) in CDCl_3 at 25 °C. (Table 1, entry 6)

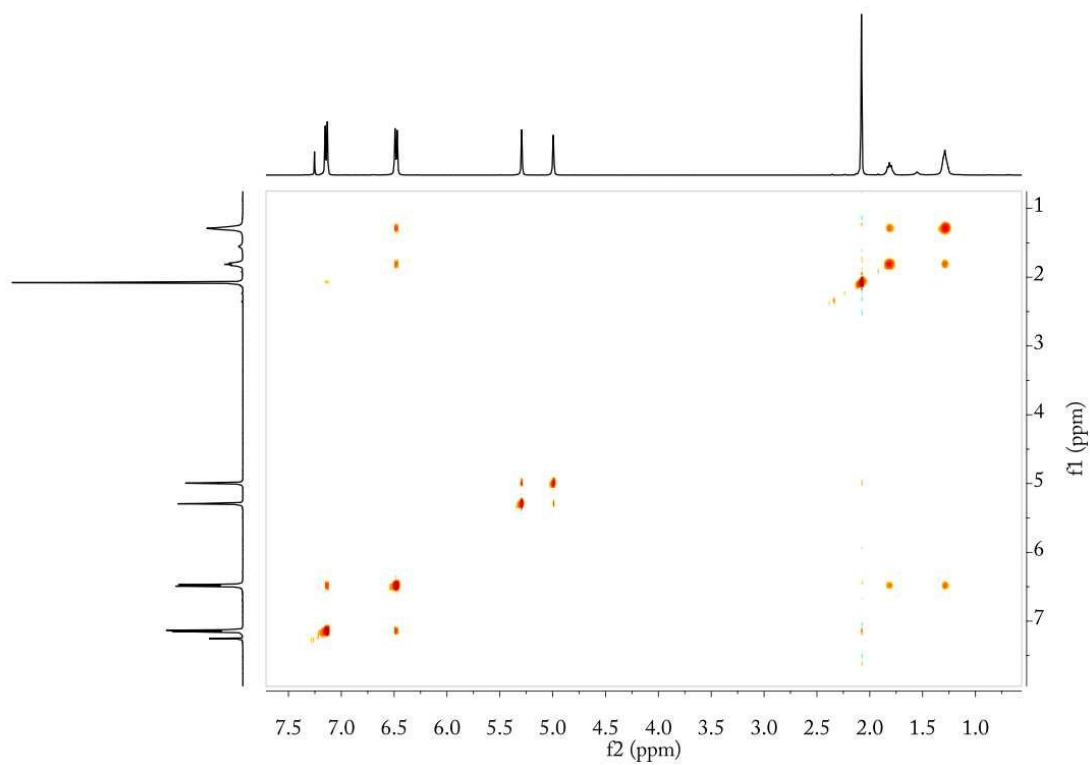
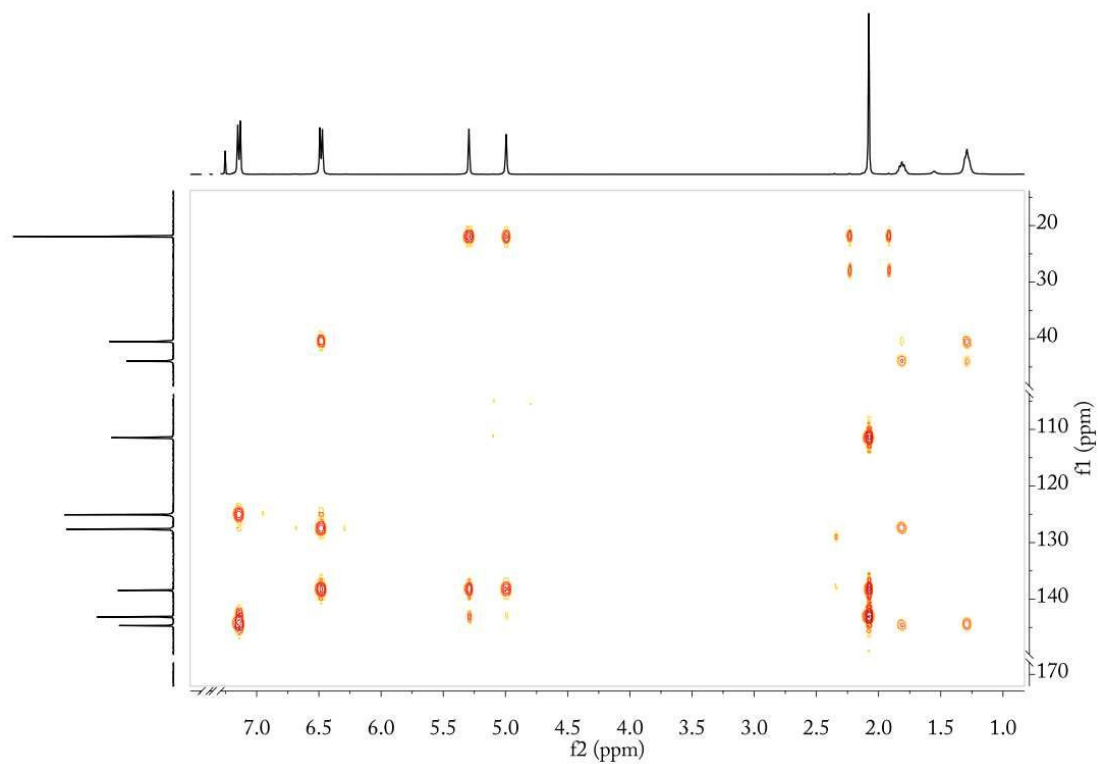


Fig. S18 NOESY spectrum of poly(*p*IPSt) in CDCl₃ at 25 °C. (Table 1, entry 6)



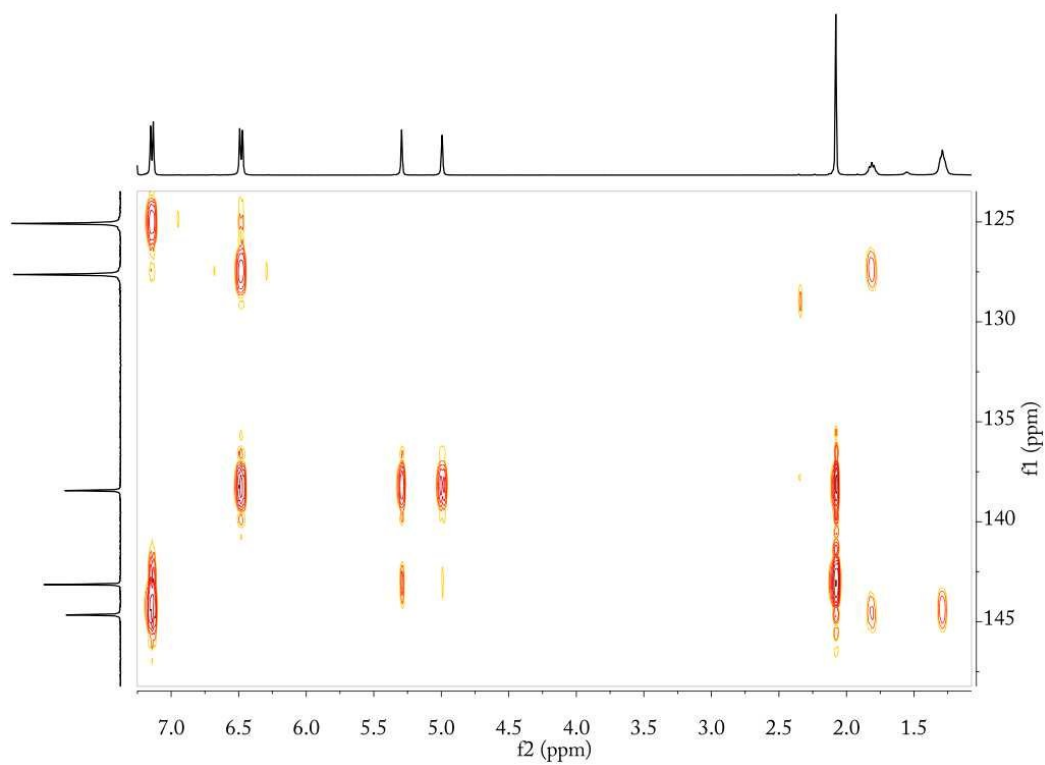


Fig. S19 HMBC spectrum of poly(*p*IPSt) in CDCl₃ at 25 °C. (Table 1, entry 6)

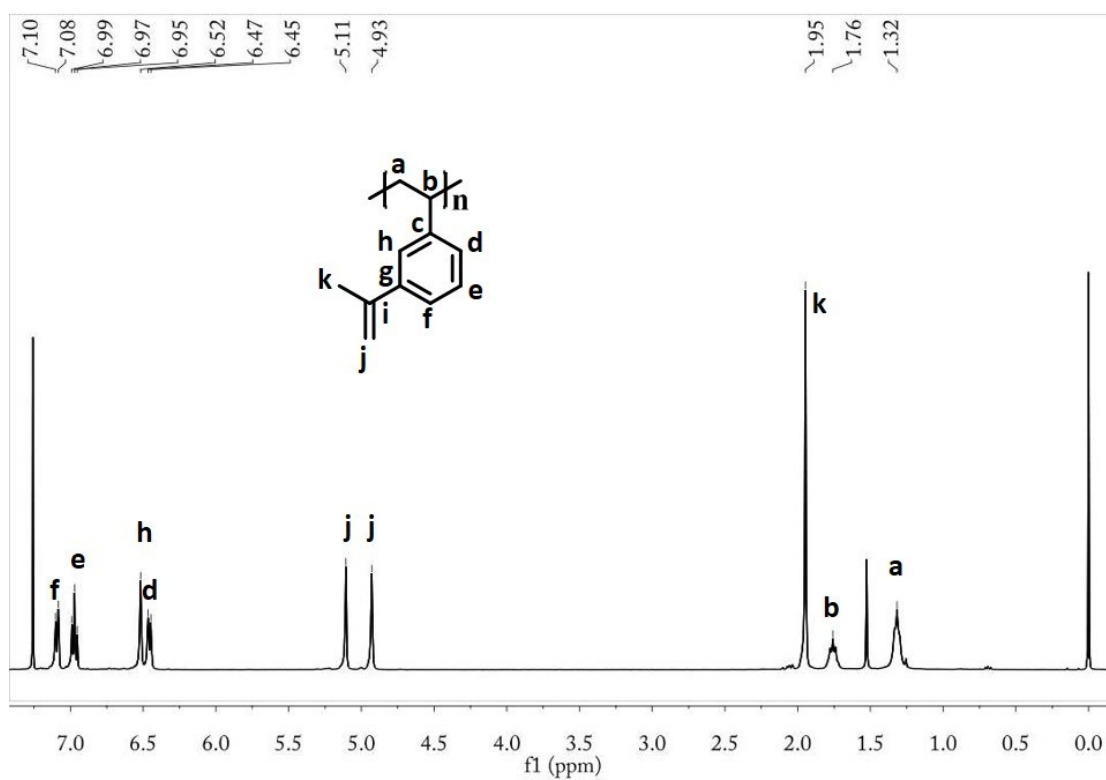


Fig. S20 ¹H NMR spectrum of poly(*m*IPSt) in CDCl₃ at 25 °C (Table 1, entry 8)

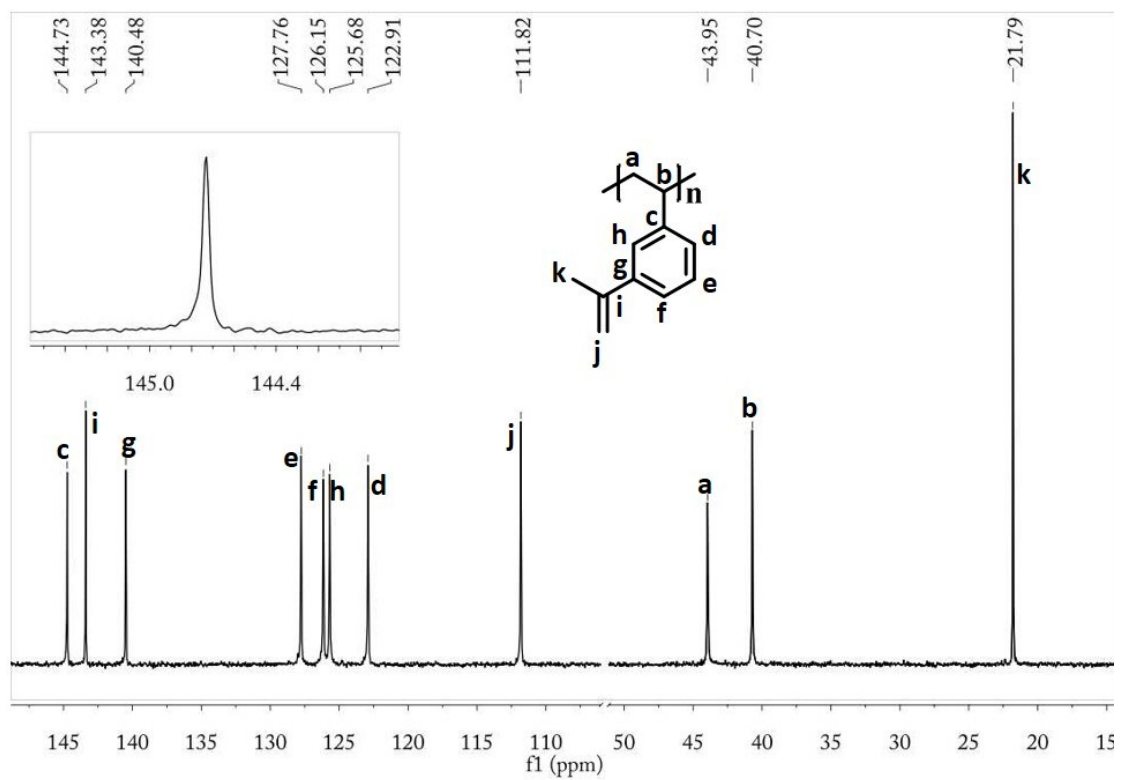


Fig. S21 ^{13}C NMR spectrum of poly(*m*IPSt) in CDCl_3 at 25 °C (Table 1, entry 8)

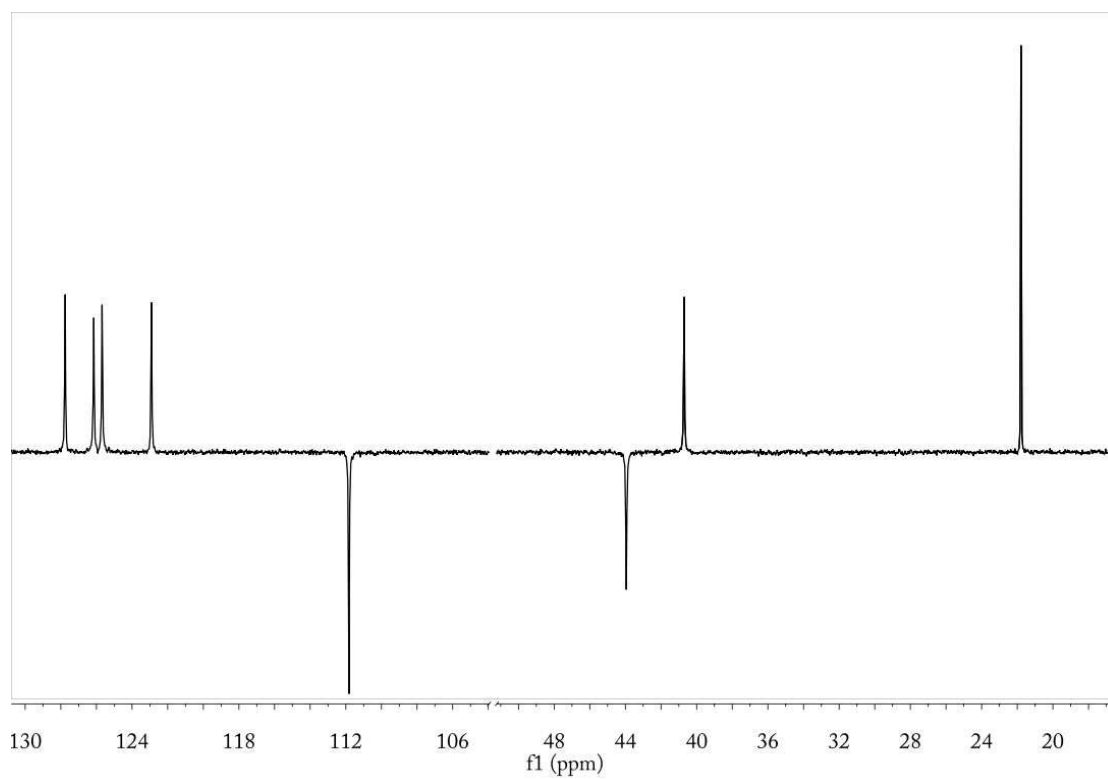


Fig. S22 dept135 NMR spectrum of poly(*m*IPSt) in CDCl_3 at 25 °C (Table 1, entry 8)

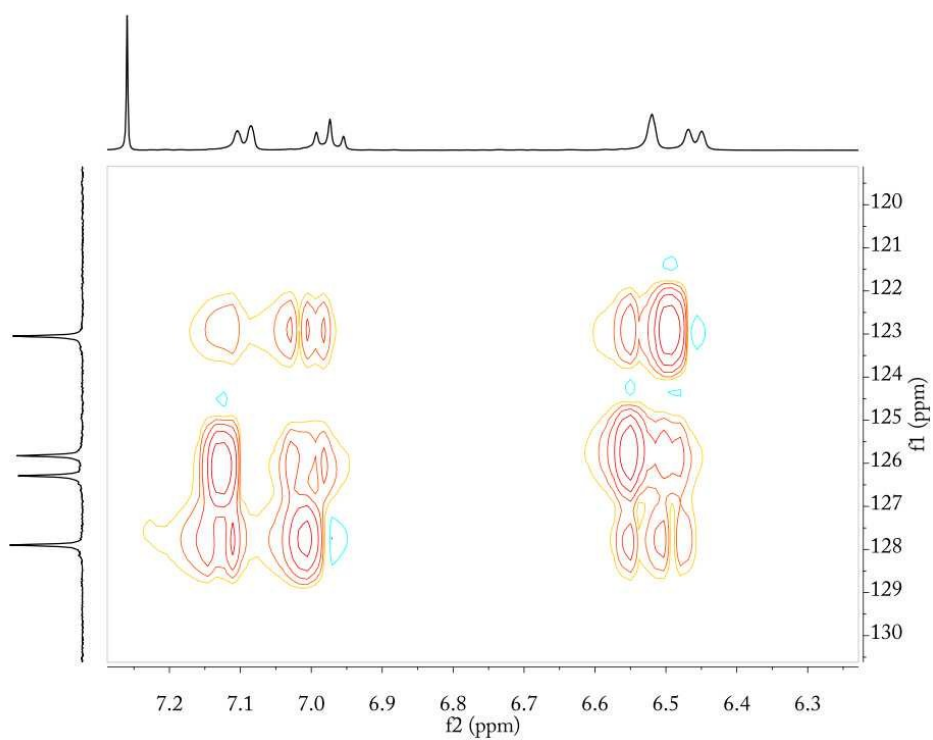
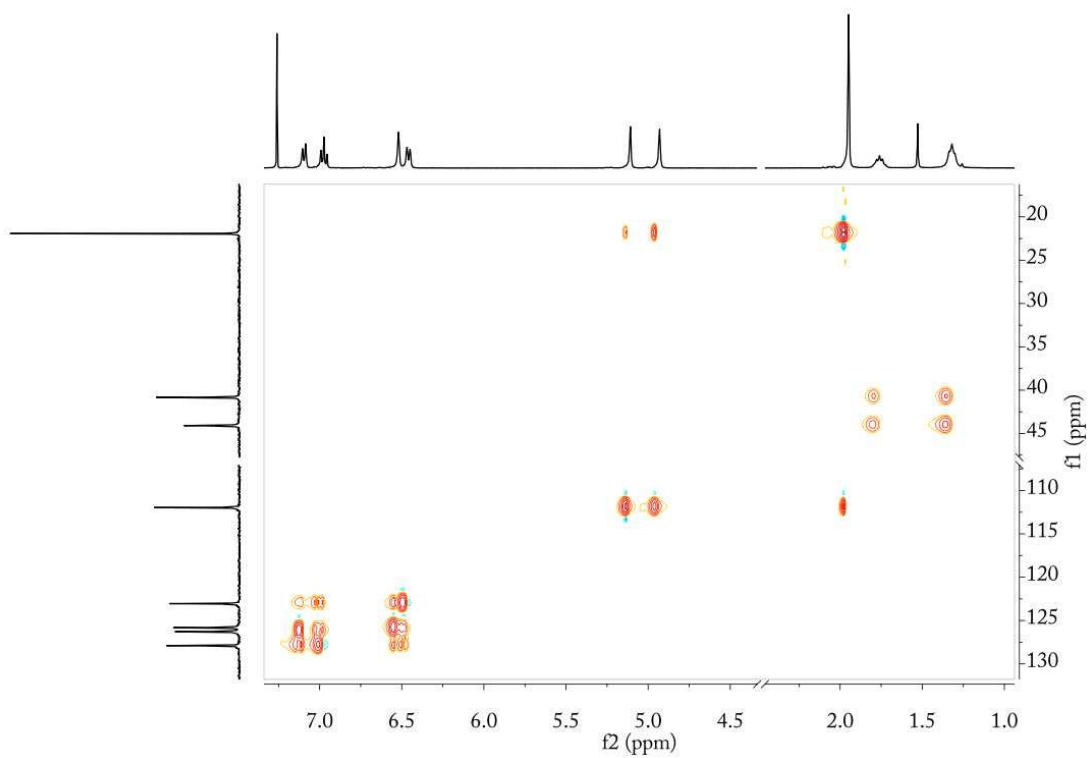


Fig. S23 HMQC spectrum of poly(*m*IPSt) in CDCl₃ at 25 °C (Table 1, entry 8)

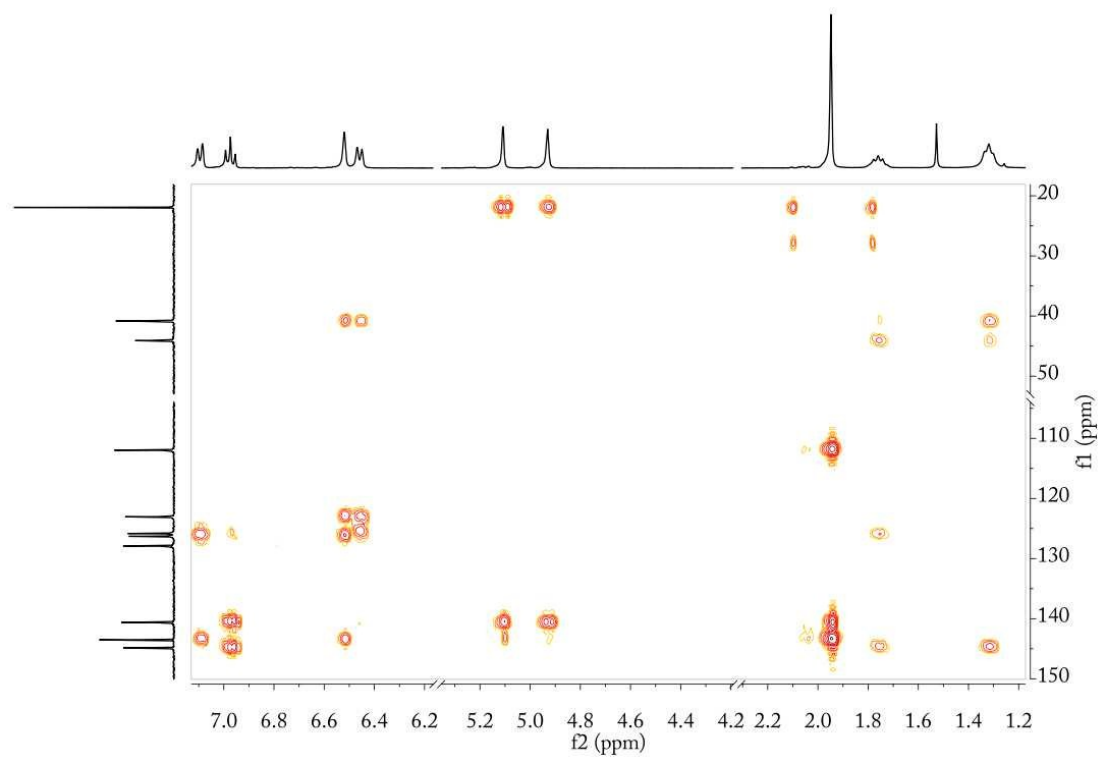


Fig. S24 HMBC NMR spectrum of poly(*m*IPSt) in CDCl₃ at 25 °C (Table 1, entry 8)

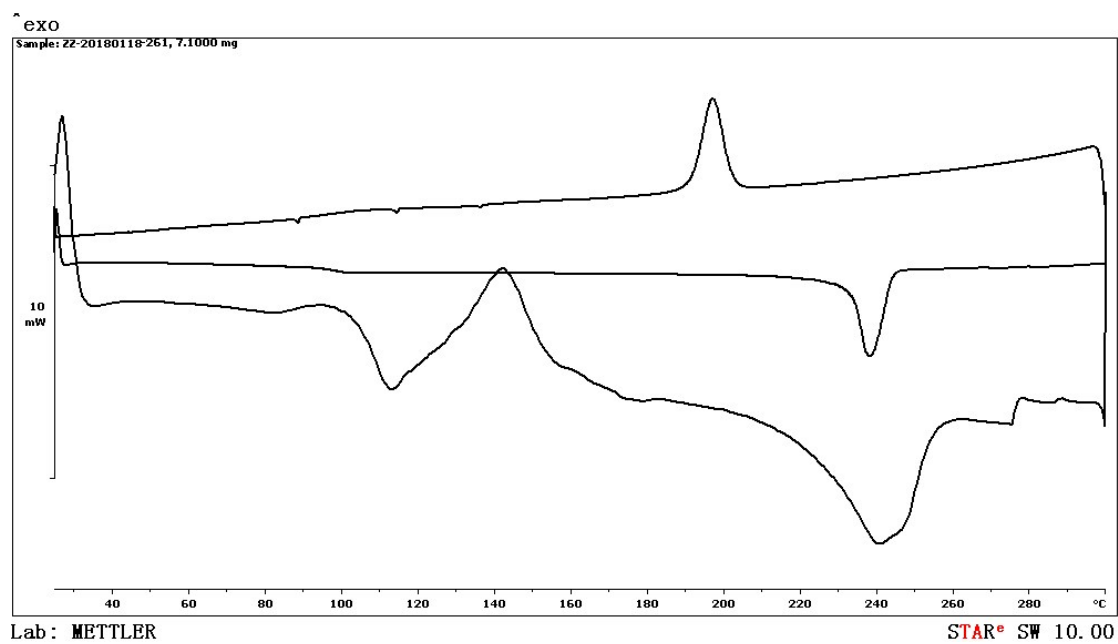


Fig. S25 DSC curve of *p*IPSt-St copolymer containing 5 mol% *p*IPSt units (Table 2, entry 6)

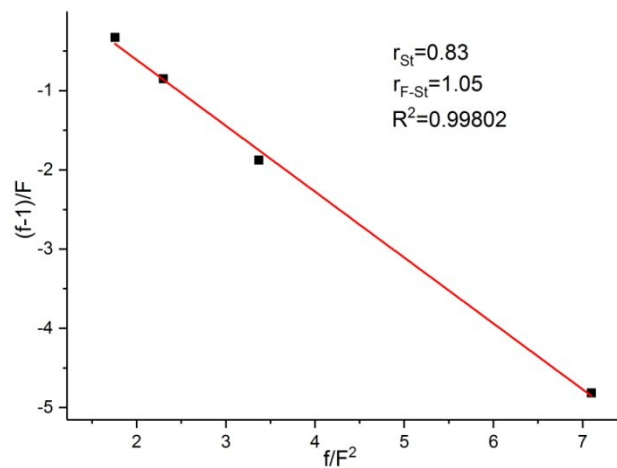


Fig. S26. Fineman and Ross plot for the copolymerization of *p*IPSt and St and least-squares best fit line.

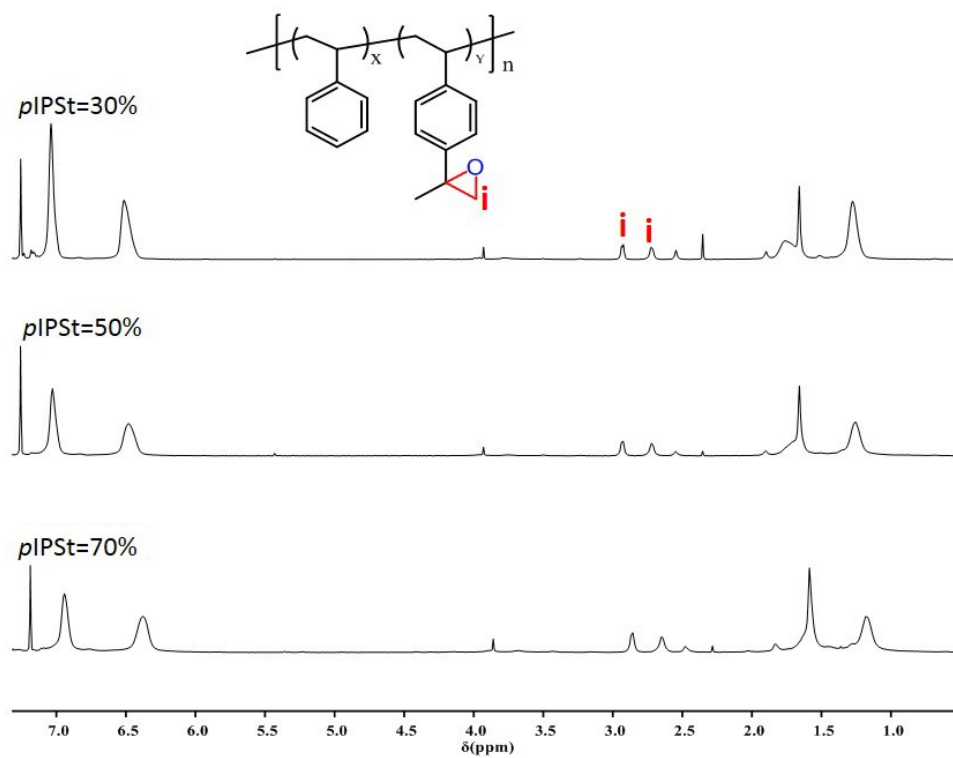


Fig. S27 ^1H NMR spectrum of epoxidized *p*IPSt-St copolymers product in CDCl_3 at 25°C

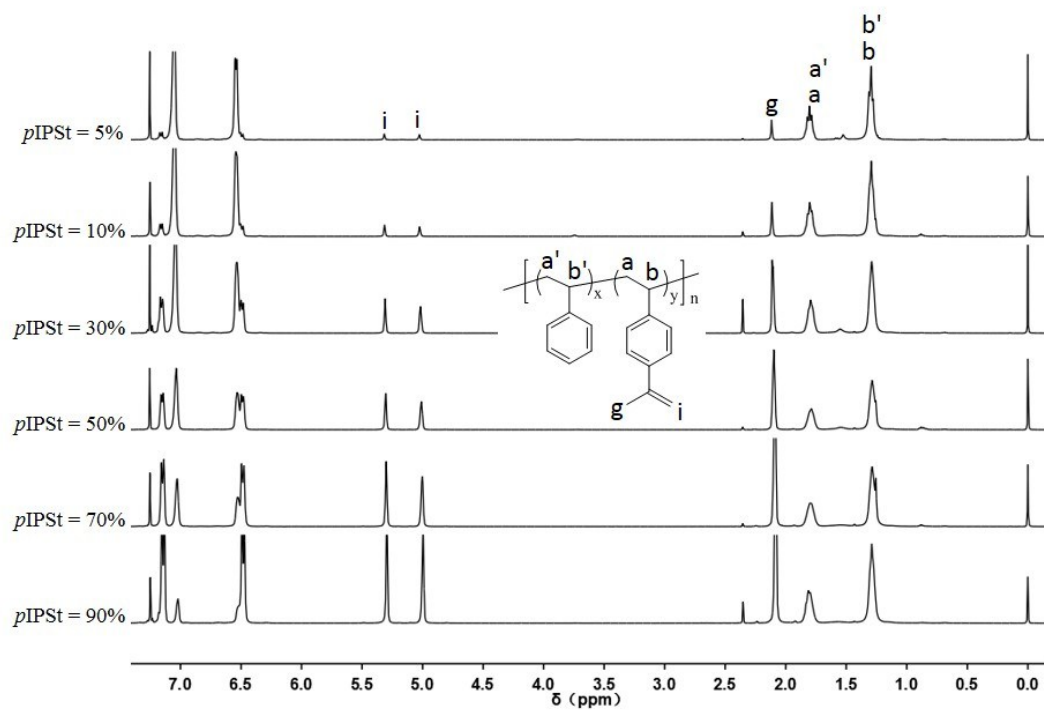


Fig. S28 ^1H NMR spectra of $p\text{IPSt-St}$ copolymers

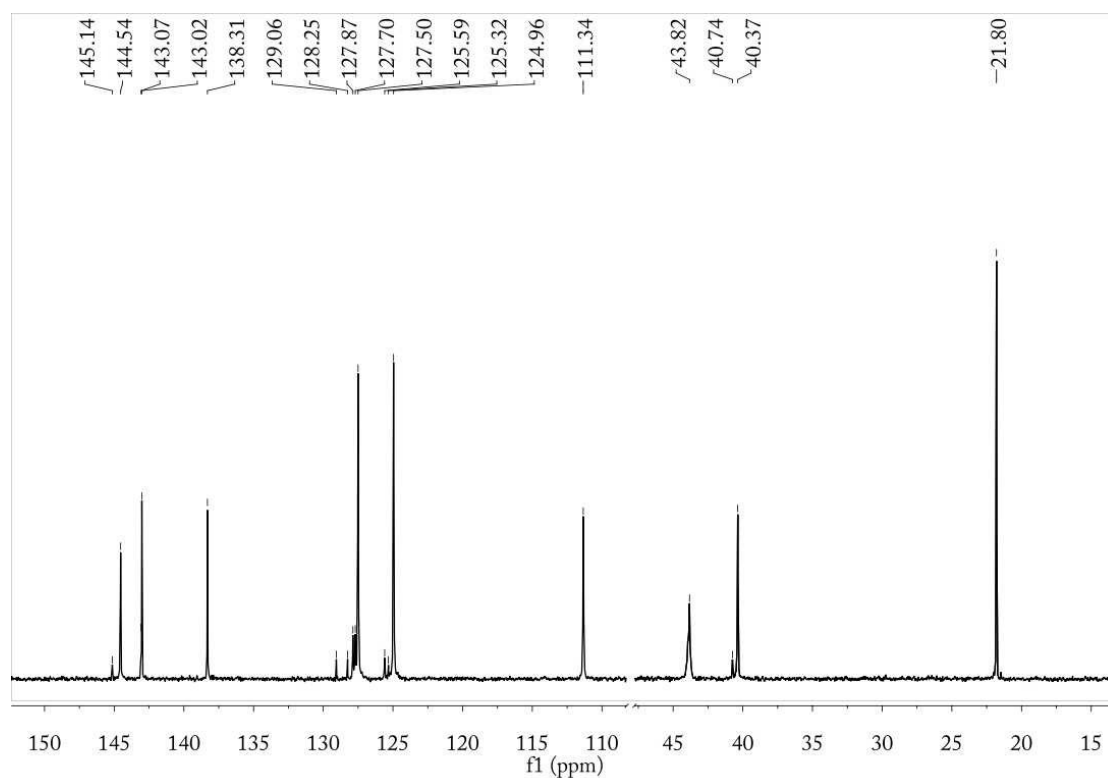


Fig. S29 ^{13}C NMR spectrum of $p\text{IPSt-St}$ copolymer with 90% $p\text{IPSt}$ in CDCl_3 at 25 °C. (Table 3, entry 1)

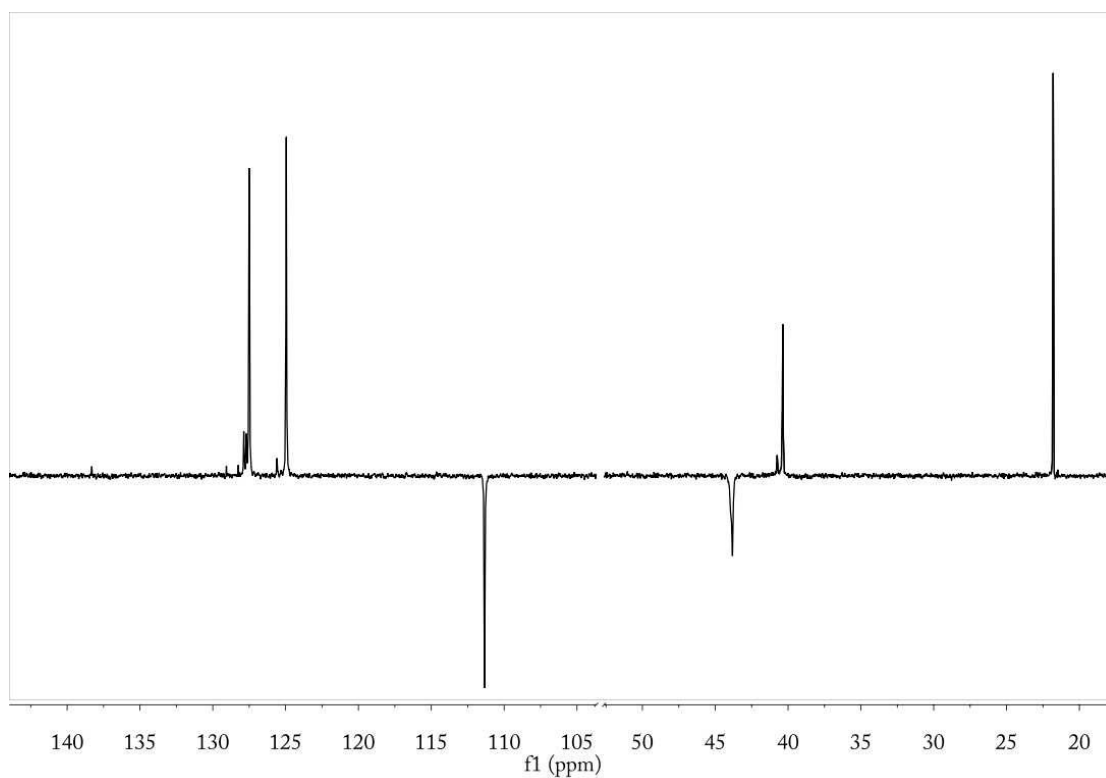


Fig. S30 dept135 NMR spectrum of *p*IPSt-St copolymer with 90% *p*IPSt in CDCl_3 at 25 °C. (Table 3, entry 1)

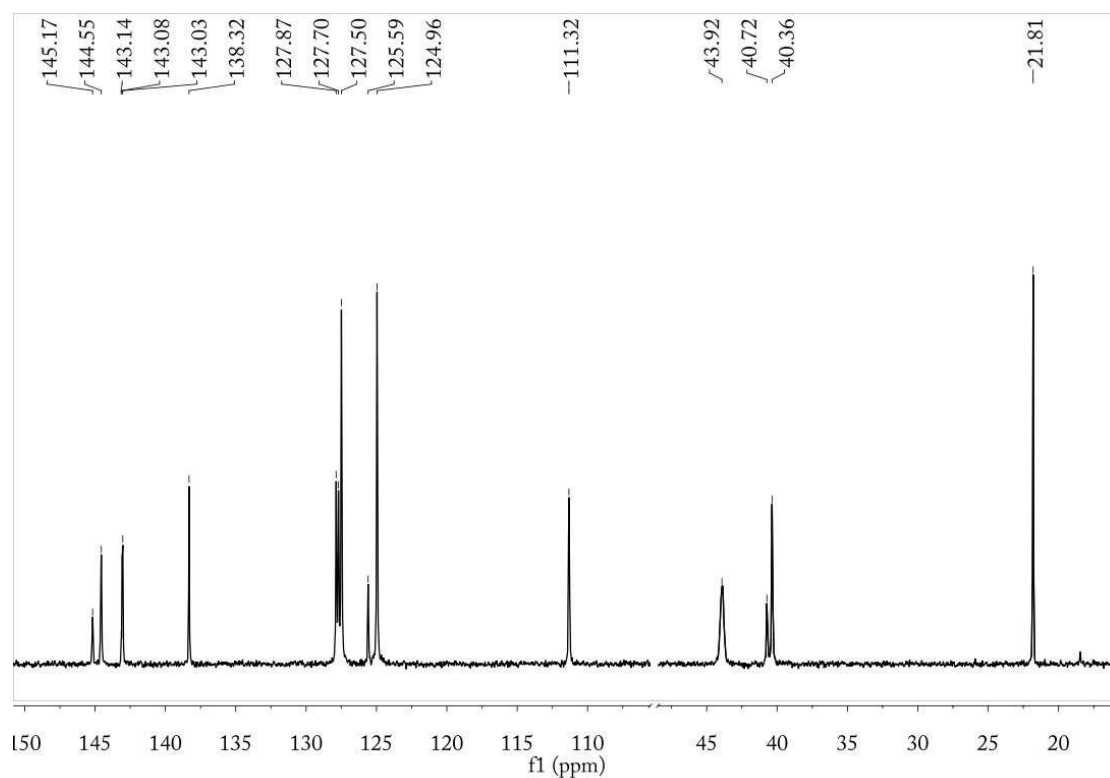


Fig. S31 ^{13}C NMR spectrum of *p*IPSt-St copolymer with 70% *p*IPSt in CDCl_3 at 25 °C. (Table 3, entry 2)

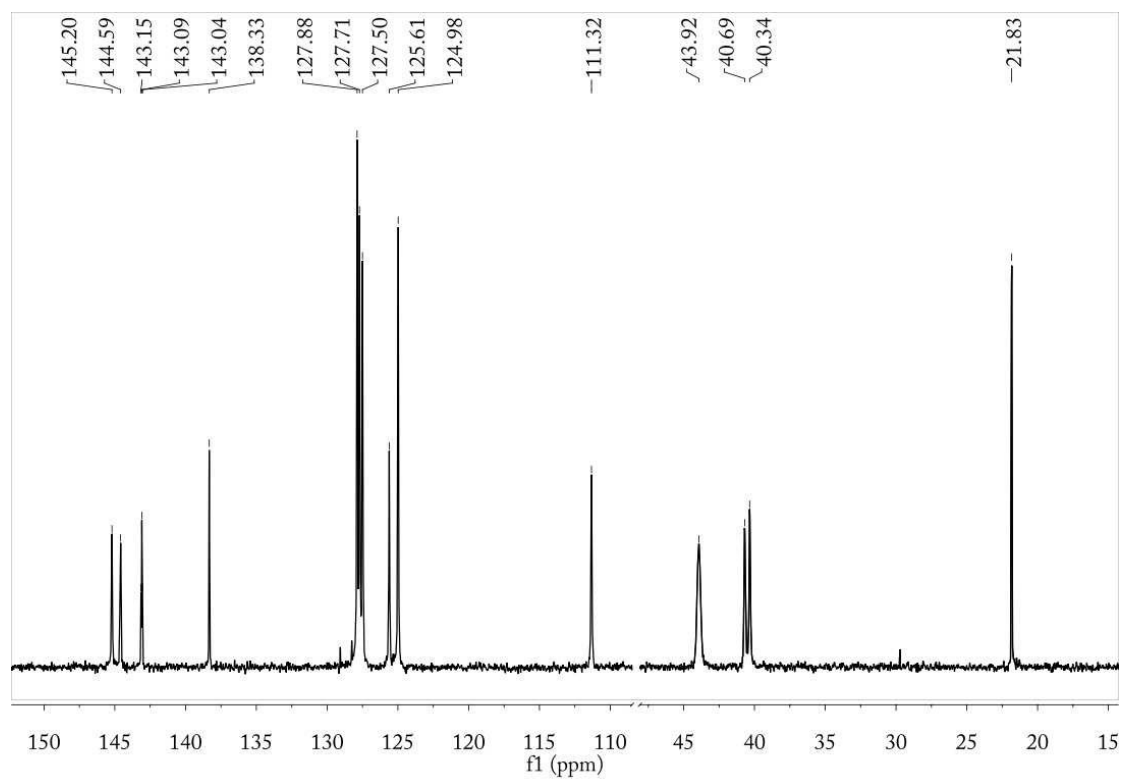


Fig. S32 ^{13}C NMR spectrum of *pIPSt-St* copolymer with 50% *pIPSt* in CDCl_3 at 25 °C. (Table 3, entry 3)

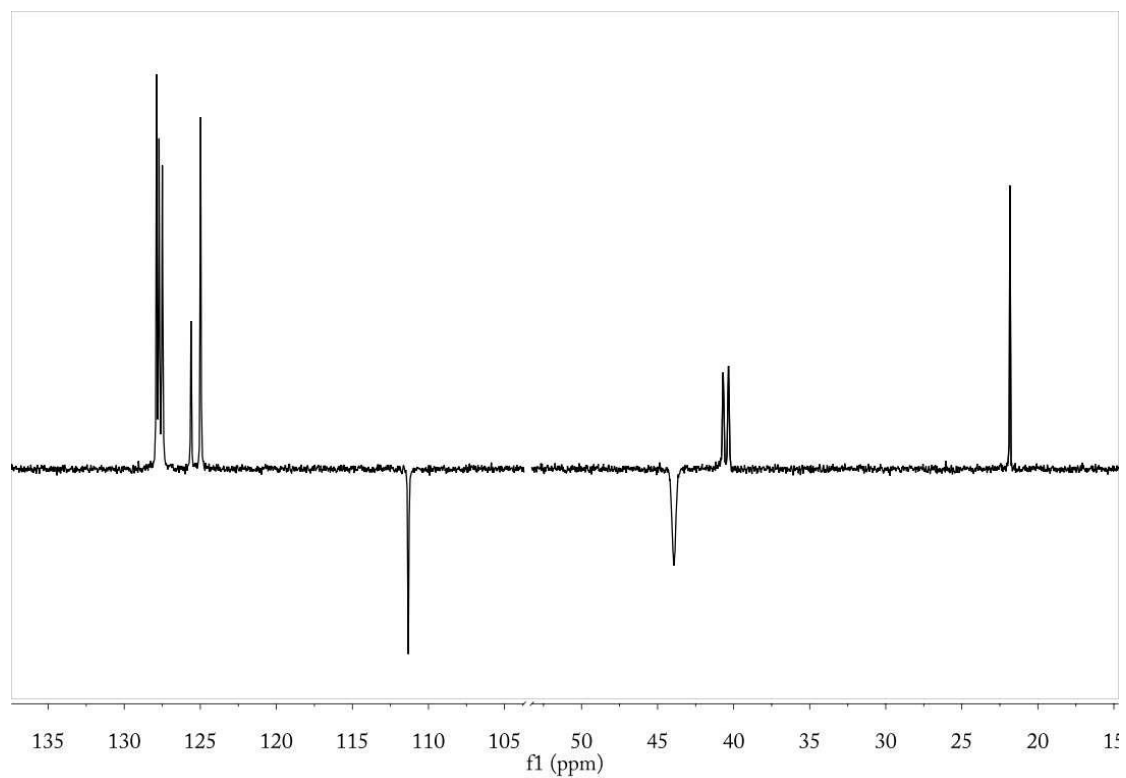


Fig. S33 dept135 NMR spectrum of *pIPSt-St* copolymer with 50% *pIPSt* in CDCl_3 at 25 °C. (Table 3, entry 3)

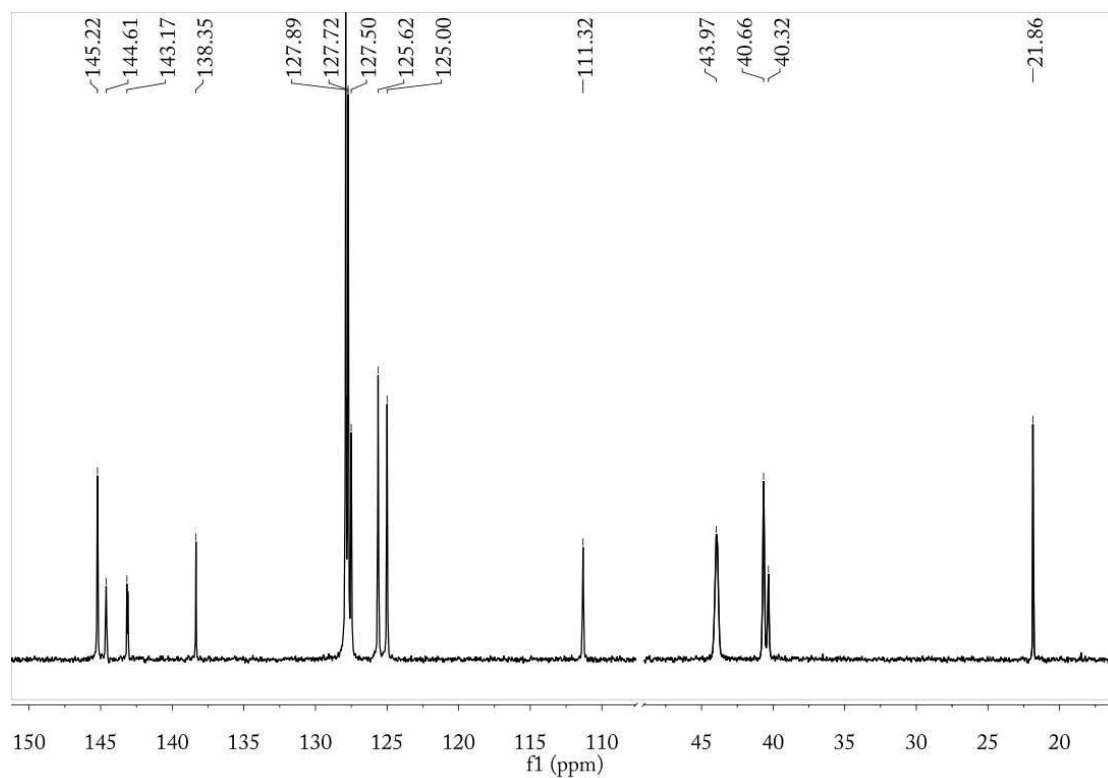


Fig. S34 ^{13}C NMR spectrum of *p*IPSt-St copolymer with 30% *p*IPSt in CDCl_3 at 25 °C. (Table 3, entry 4)

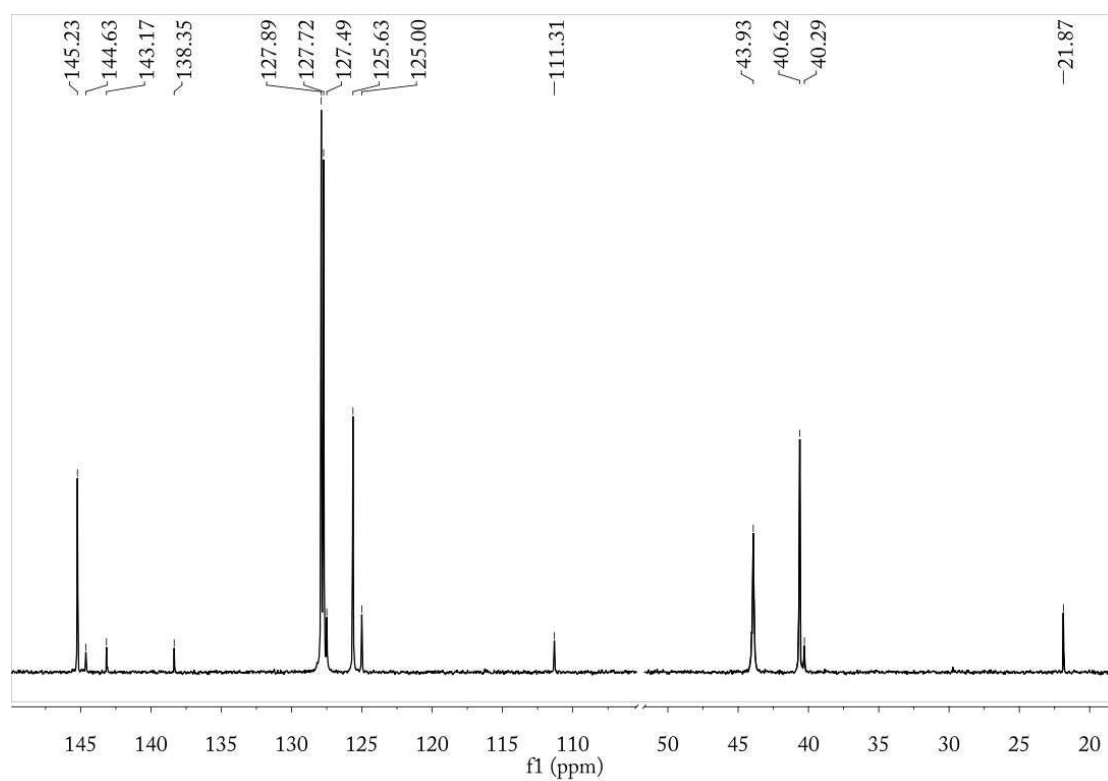


Fig. S35 ^{13}C NMR spectrum of *p*IPSt-St copolymer with 10% *p*IPSt in CDCl_3 at 25 °C. (Table 3, entry 5)

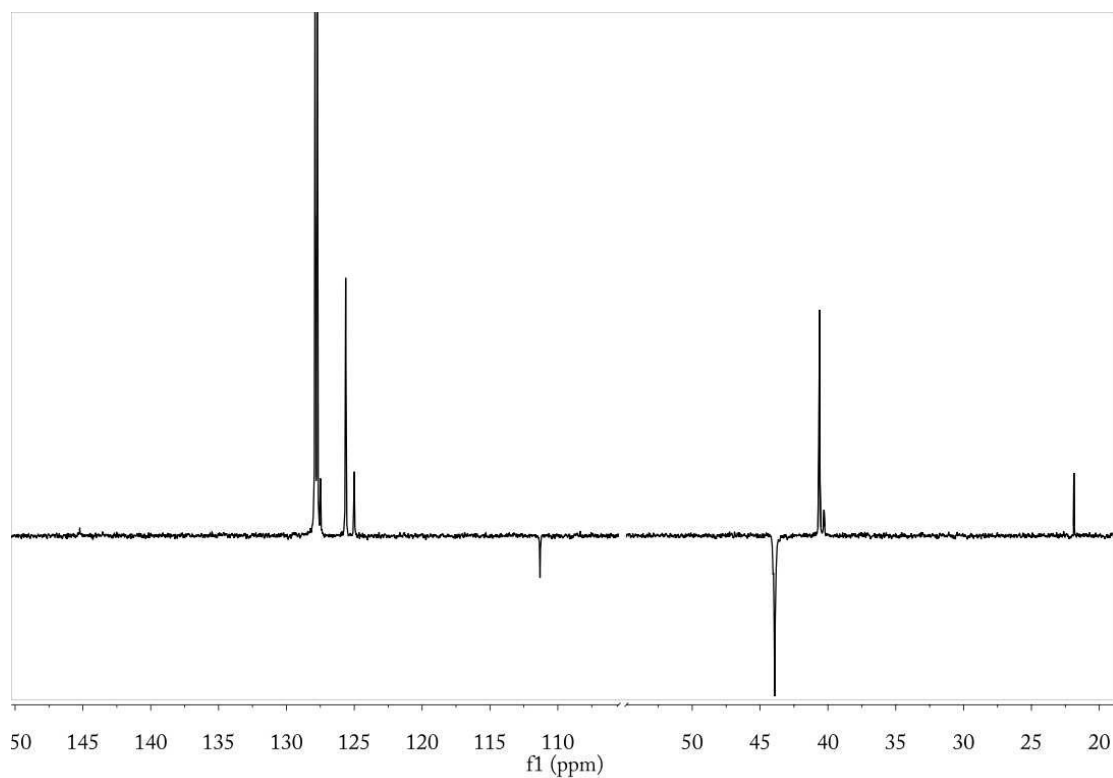


Fig. S36 dept135 NMR spectrum of *pIPSt-St* copolymer with 10% *pIPSt* in CDCl_3 at 25 °C. (Table 3, entry 5)

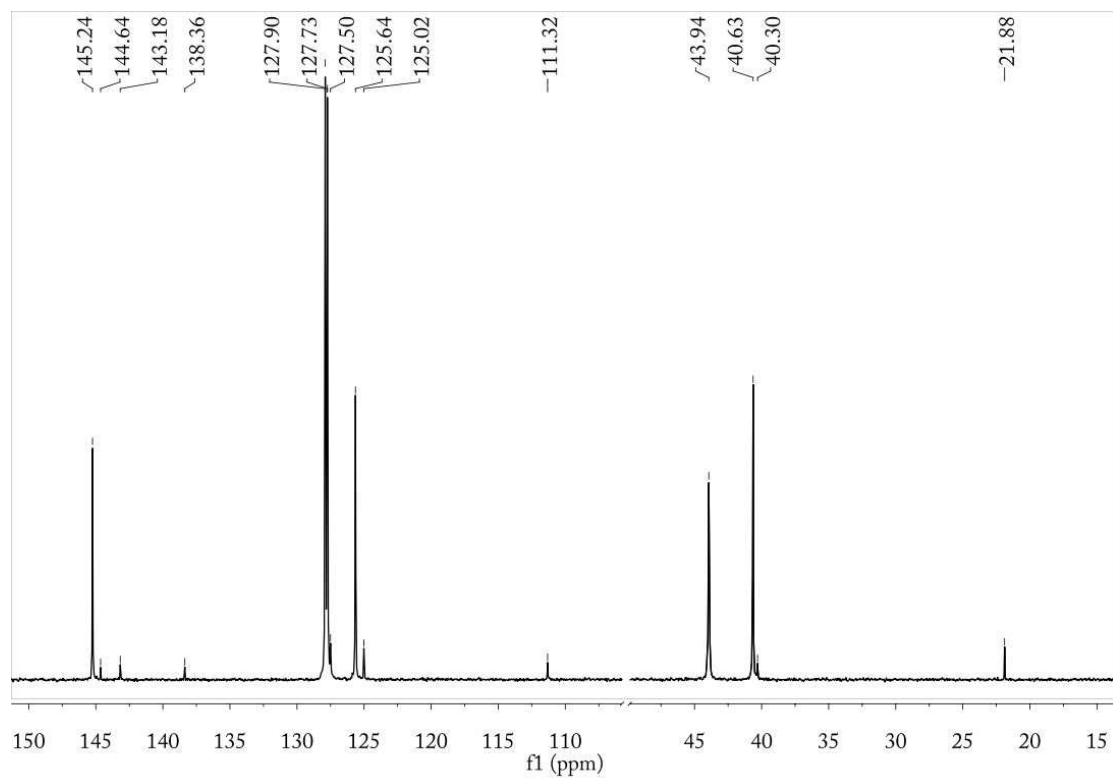


Fig. S37 ^{13}C NMR spectrum of *pIPSt-St* copolymer with 5% *pIPSt* in CDCl_3 at 25 °C. (Table 3, entry 6)