Sequence Regulation in Living Anionic Terpolymerization of Styrene and Two Categories of 1,1-Diphenylethylene (DPE) Derivatives

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Table S1 Results of the block terpolymers of DPE-yne/DPE-ene/St with two-step feeding

Entry [a]	$[D_{yne}]_0$/ [b] $[D_{ene}]_0/[St]_0$	*Mn*/ [c] *kg mol*$^{-1}$	*PDI* [c]	$N_{D\text{-}yne}$/ [d] $N_{D\text{-}ene}/N_{St}$	$N_{D\text{-}yne}$ [e]	$N_{D\text{-}ene}$ [e]	N_{St} [e]
P(D_{yne}/St)	1/0/1	3.3	1.20	1.0/-/1.07	8.5	-	9.1
P(D_{yne}/St-*b*-D_{ene}/St)	1/1/2.5	7.4	1.61	1.23/1.0/3.12	10.0	8.1	25.3

a) Terpolymerizations of DPE-yne/DPE-ene/St *via* a strategy that first DPE-yne was fed and followed DPE-ene was fed. b) Monomer feed ratio. c) Determined by SEC. d) Average numbers ratio of each monomer in chain, calculated from the ^{1}H NMR spectra of the corresponding polymer. e) Average numbers of each monomer units in the final polymer chain (eqn S1-3).

Eqn S1-3 are used for the calculation of average numbers of each monomer units in the DPE-yne/DPE-ene/St terpolymers.

$$\frac{2N_{Dene}}{9N_{Dyne}+9N_{Dene}+5N_{St}}=\frac{Area(b)}{Area(a)-\frac{1}{2}Area(b)} \quad (1)$$

$$\frac{9N_{DYne}}{2N_{Dene}}=\frac{Area(d)}{Area(b)} \quad (2)$$

$$MW_{St}\times N_{St}+MW_{Dyne}\times N_{Dyne}+MW_{Dene}\times N_{Dene}=\bar{M}_n \quad (3)$$

Eqn S4-6 are used for the calculation of average numbers of each monomer units in the DPE-(SiH/OMe)/DPE-NSi_2/St terpolymers.

$$\frac{3N_{DSiH/OMe}}{8N_{DSiH/OMe}+9N_{DNSi2}+5N_{St}}=\frac{Area(c)}{Area(a)} \quad (4)$$

$$\frac{3N_{DSiH/OMe}}{18N_{DNSi2}} = \frac{Area(c)}{Area(e)} \quad (5)$$

$$MW_{St} \times N_{St} + MW_{DSiH/OMe} \times N_{DSiH/OMe} + MW_{DNSi2} \times N_{DNSi2} = \bar{M}_n \quad (6)$$

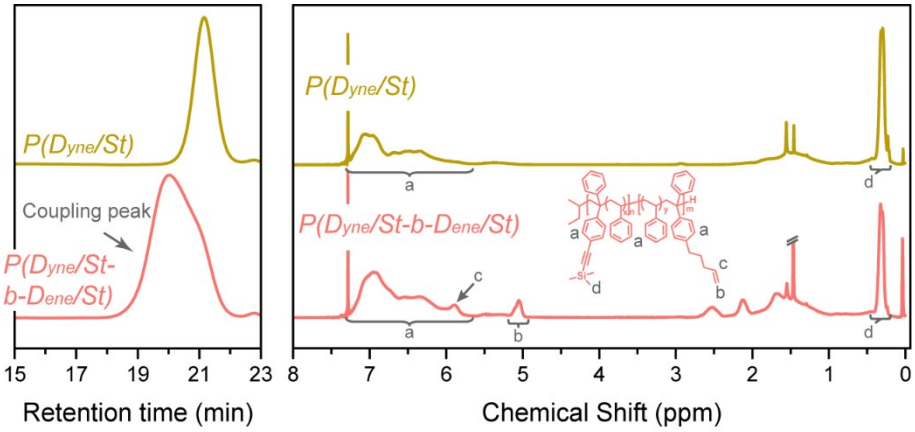

Figure S1 SEC curves and ^{1}H NMR spectra (in $CDCl_3$) of DPE-yne/DPE-ene/St block terpolymers that were synthesized based on a strategy that first DPE-yne was fed and followed DPE-ene was fed.

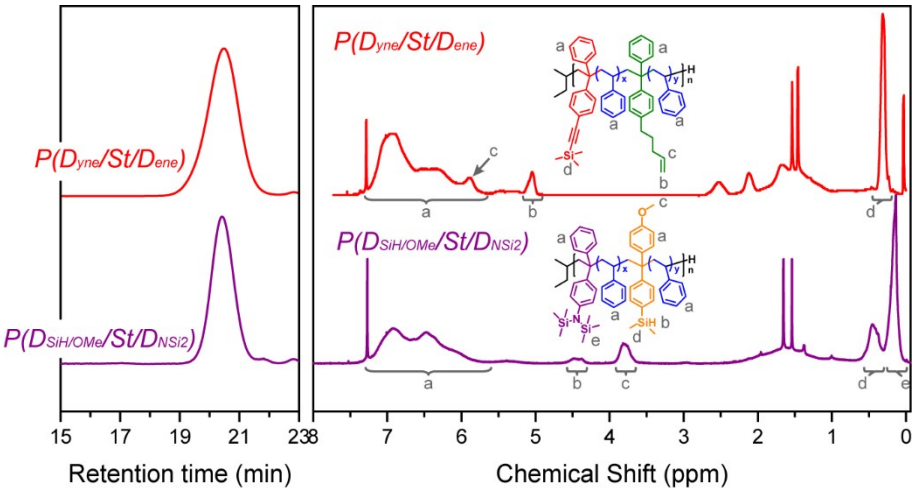

Figure S2 SEC curves and ^{1}H NMR spectra (in $CDCl_3$) of *in situ* ^{1}H NMR monitoring of DPE-yne/DPE-ene/St and DPE-(SiH/OMe)/DPE-NSi_2/St terpolymerizations *via* one-pot feeding method.

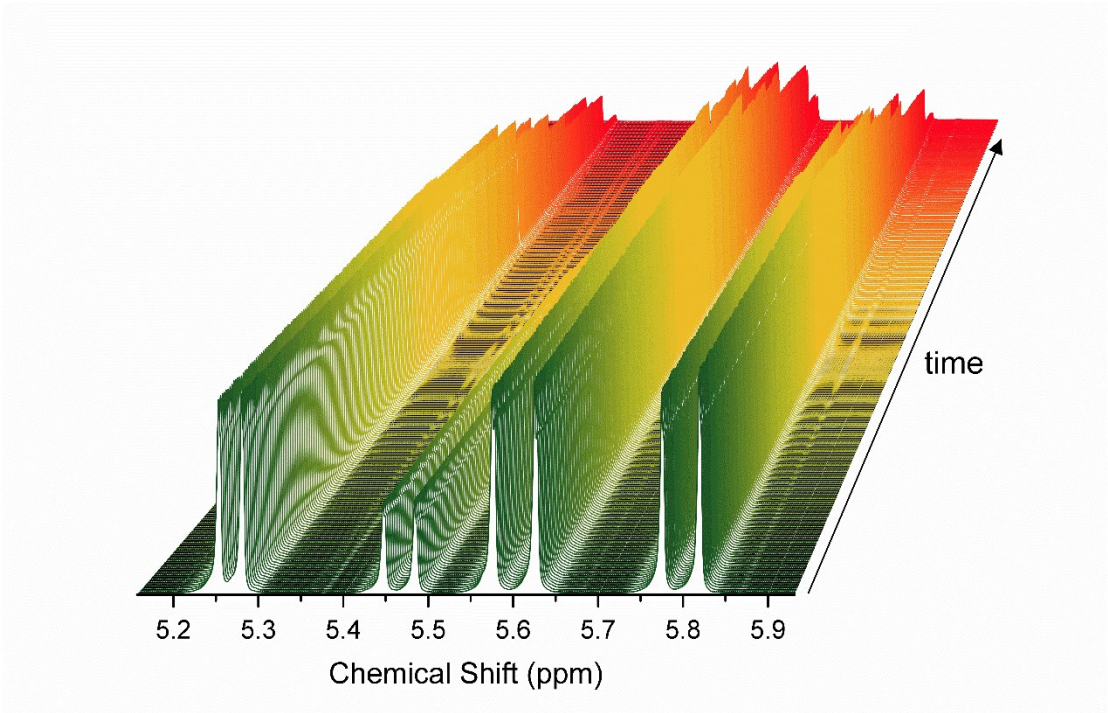

Figure S3 Stacked overlay of all the *in situ* ^{1}H NMR spectra of DPE-yne/DPE-ene/St terpolymerization *via* one-pot feeding method.

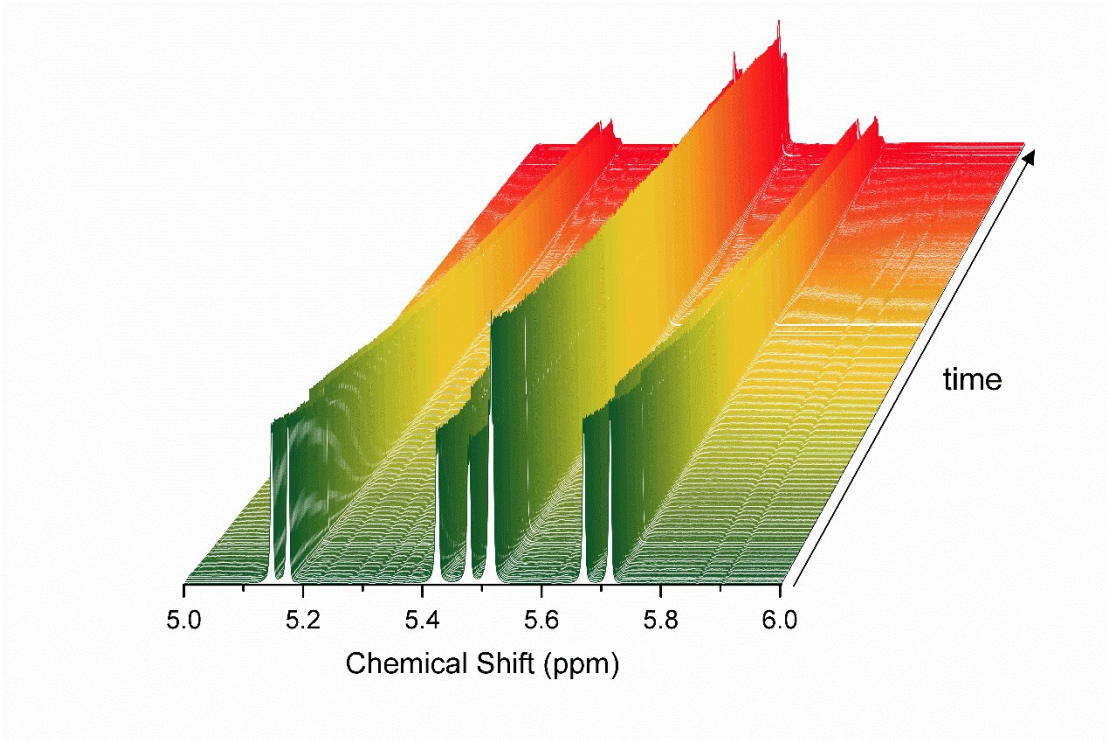

Figure S4 Stacked overlay of all the *in situ* ^{1}H NMR spectra of DPE-(SiH/OMe)/DPE-NSi_2/St terpolymerization *via* one-pot feeding method.