

Supporting Information

Scheme 1. Synthesis of 4-styrene sulfonyl chloride

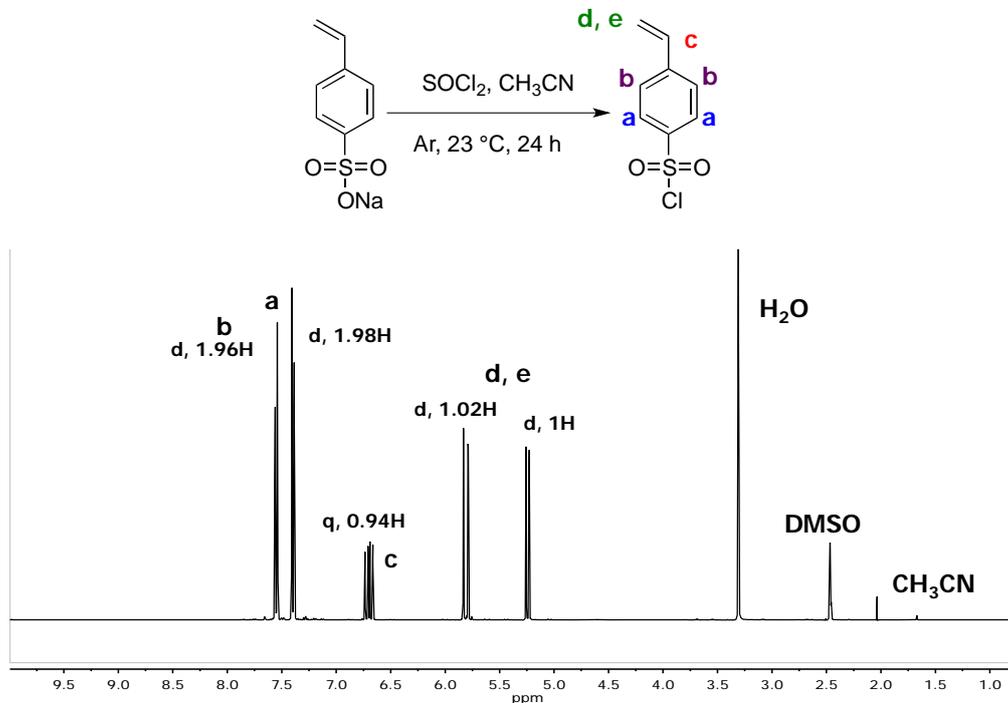


Figure 1. ^1H NMR spectroscopy of 4-styrene sulfonyl chloride

Scheme 2. Synthesis of 4-styrenesulfonyl(trifluoromethylsulfonyl)imide

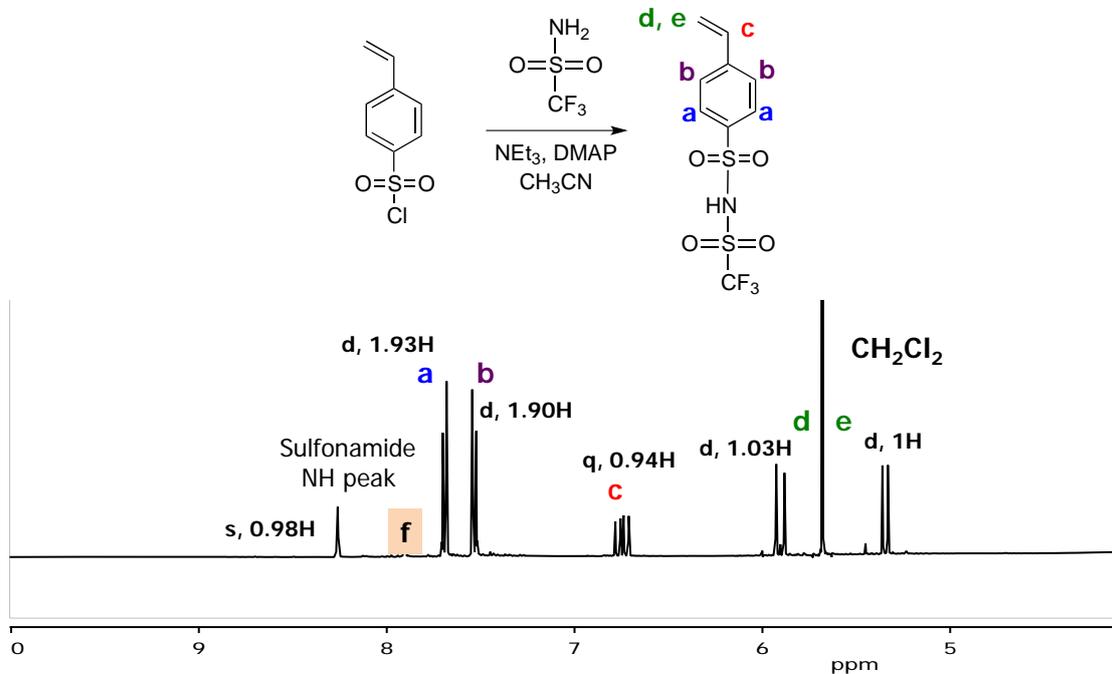


Figure 2. ^1H NMR spectroscopy of 4-styrenesulfonyl(trifluoromethylsulfonyl)imide

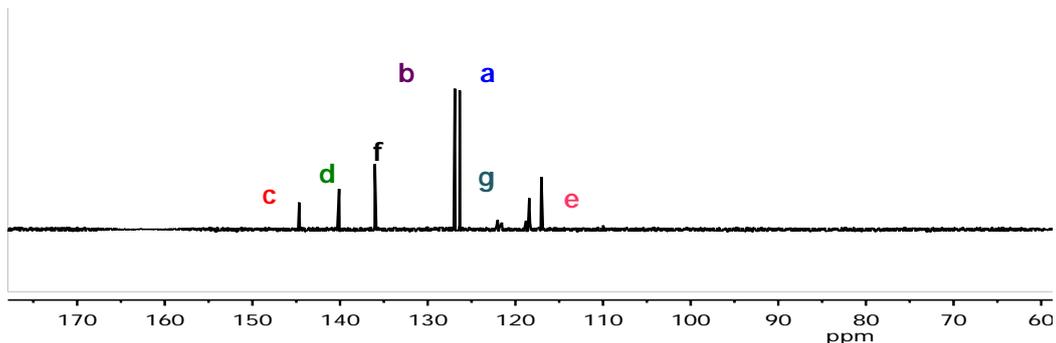


Figure 3. ^{13}C NMR spectroscopy of 4-styrenesulfonyl(trifluoromethylsulfonyl)imide

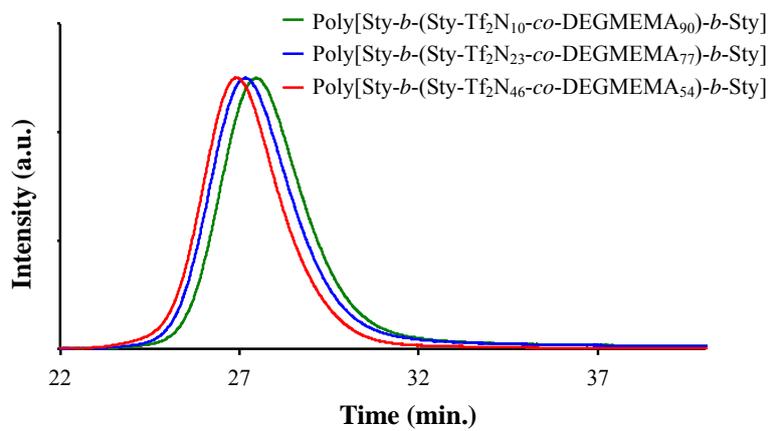


Figure 4. SEC of triblock copolymers, poly[Sty-*b*-(Sty-Tf₂N-*co*-DEGMEMA)-*b*-Sty] showing monomodal chromatograms.

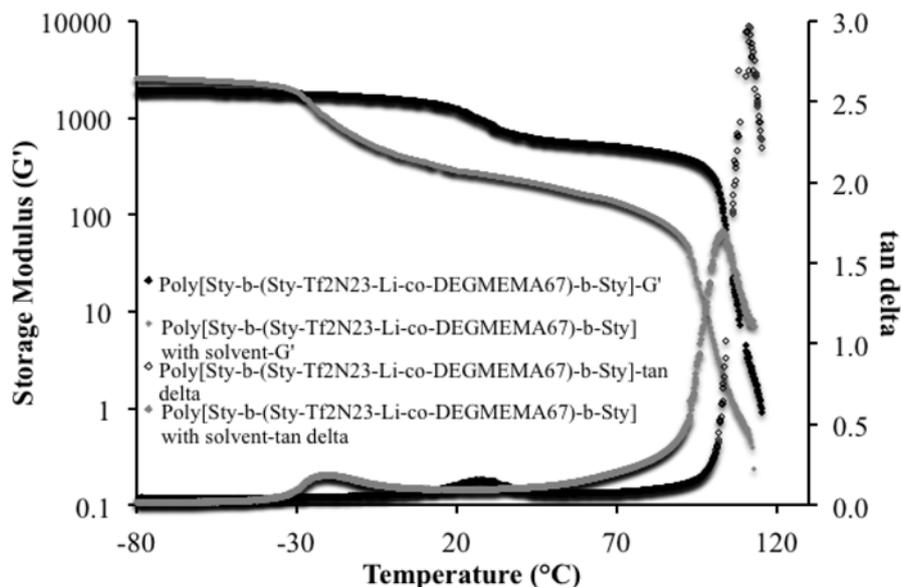
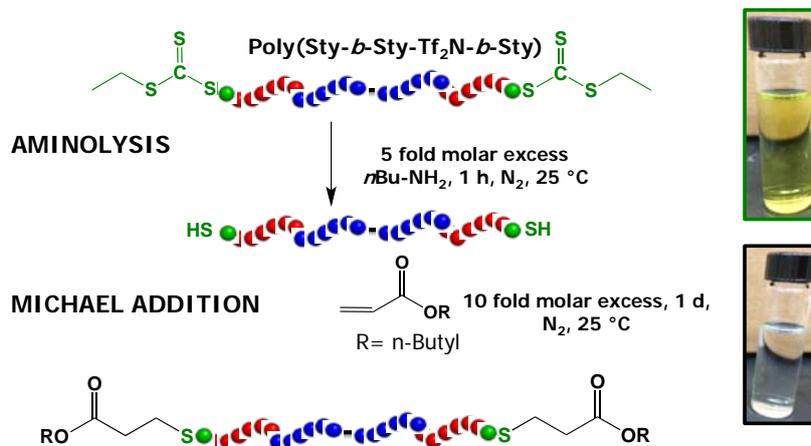
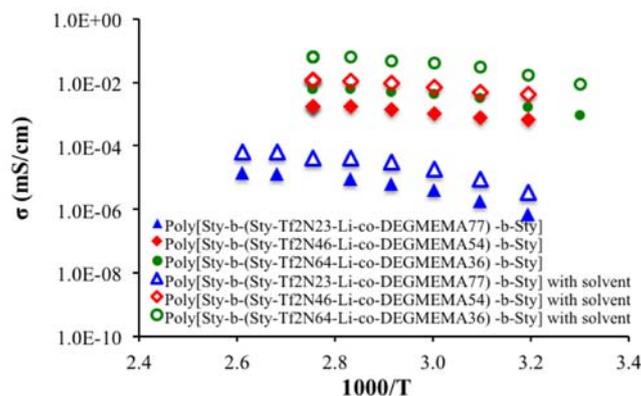


Figure 5. Dynamic mechanical analysis (DMA) of A-BC-A triblock copolymers poly[Sty-*b*-(Sty-Tf₂N₂₃-Li-*co*-DEGMEMA₆₇)-*b*-Sty] with and without dimethyl carbonate/ethylene carbonate (50/50 v/v) solvent mixture



Scheme 3. One-pot transformation of RAFT end groups using aminolysis and Michael addition sequence

(A)



(B)

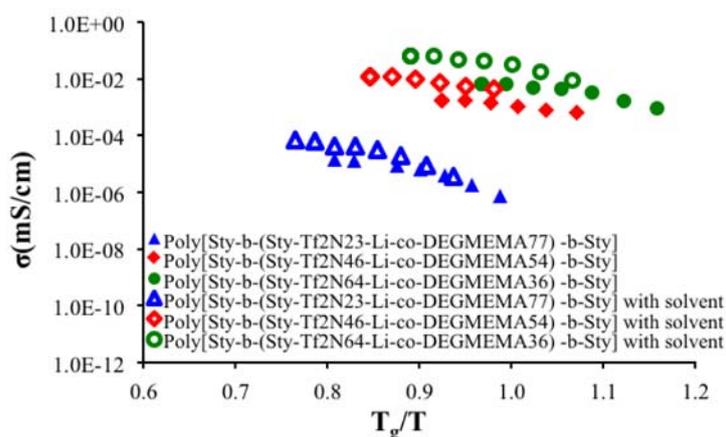


Figure 6. Temperature-dependent ionic conductivity (σ) of triblock copolymers obtained using EIS for varying compositions with (open symbols) and without solvent (closed symbols). The solvent used was a 50:50 v:v ethylene carbonate/dimethyl carbonate mixture.