Polymer Chemistry

ARTICLE

Supporting information

Vinyl Monomers bearing Sulfonyl(trifluoromethane sulfonyl) imide group: Synthesis and polymerization using Nitroxide-Mediated Polymerization

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Figure S1. ^{1}H NMR spectrum in DMSO-d_6 of lithium styrene-STFSI.

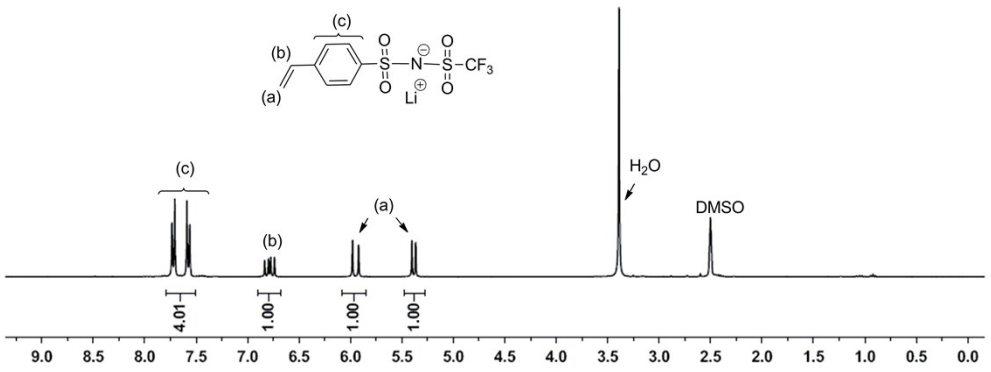

Figure S2. ^{7}Li NMR spectrum in DMSO-d_6 of lithium styrene-STFSI.

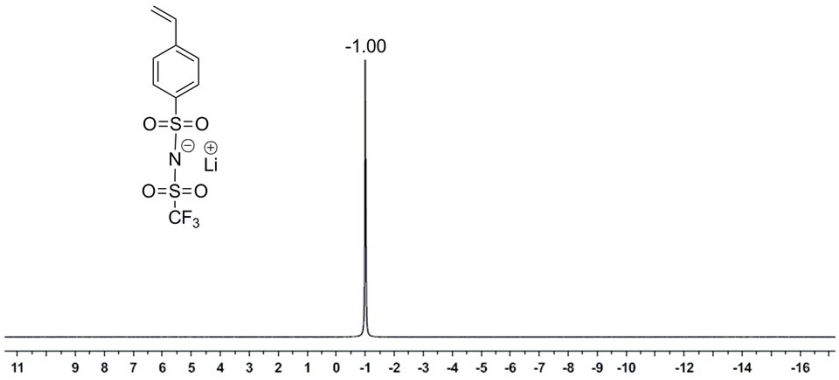

Figure S3. ^{13}C NMR spectrum in DMSO-d_6 of lithium styrene-STFSI

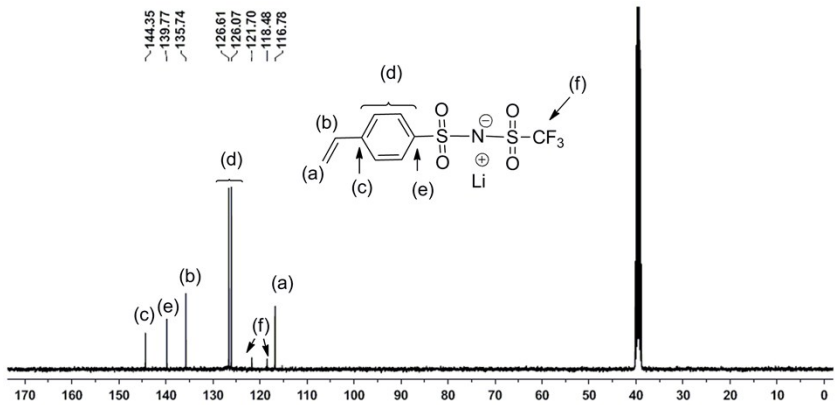

Figure S4. ^{19}F NMR spectra in DMSO-d_6 for trifluoromethylsulfonamide (top), potassium 3-sulfonyl (trifluoromethylsulfonyl)imide propyl acrylate (middle) and potassium 3-sulfonyl (trifluoromethylsulfonyl)imide propyl methacrylate (bottom).

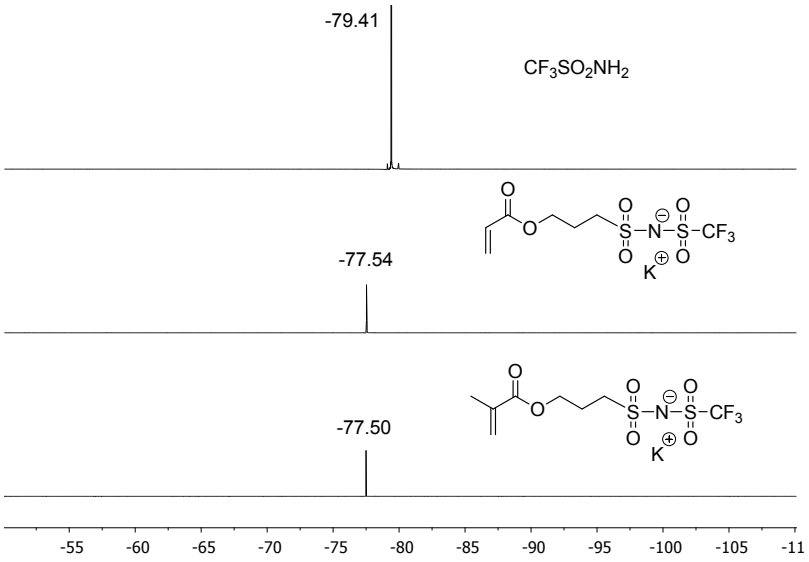

Figure S5. ^{1}H NMR spectrum in DMSO-d_6 of MASTFSIK monomer.

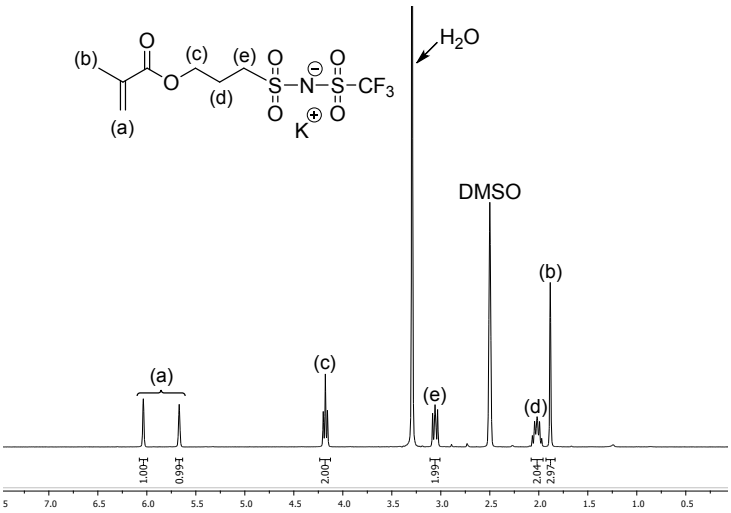

Figure S6. ^{13}C NMR spectrum in DMSO-d_6 of MASTFSIK monomer.

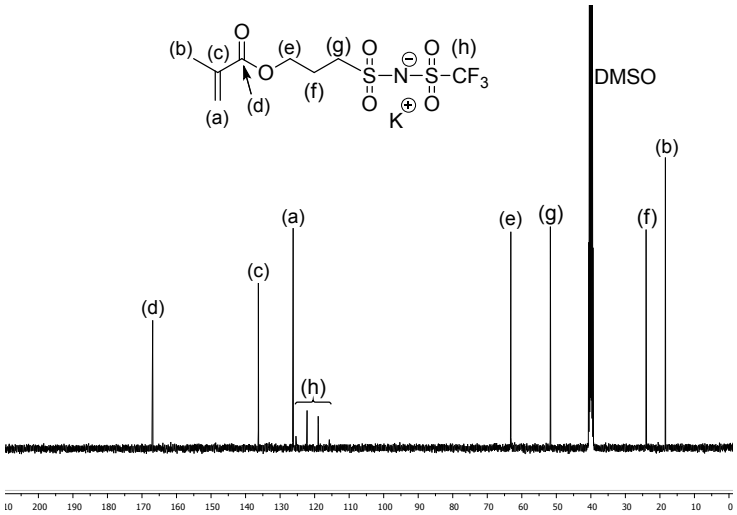

Figure S7. ^{1}H NMR spectrum in DMSO-d_6 of ASTFSIK monomer.

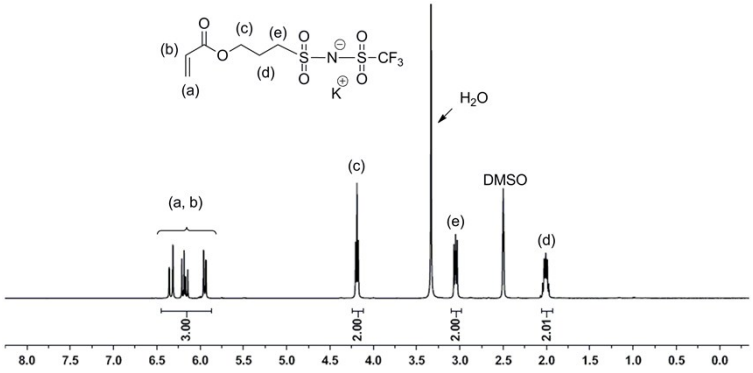

Figure S8. ^{13}C NMR spectrum in DMSO-d_6 of ASTFSIK monomer

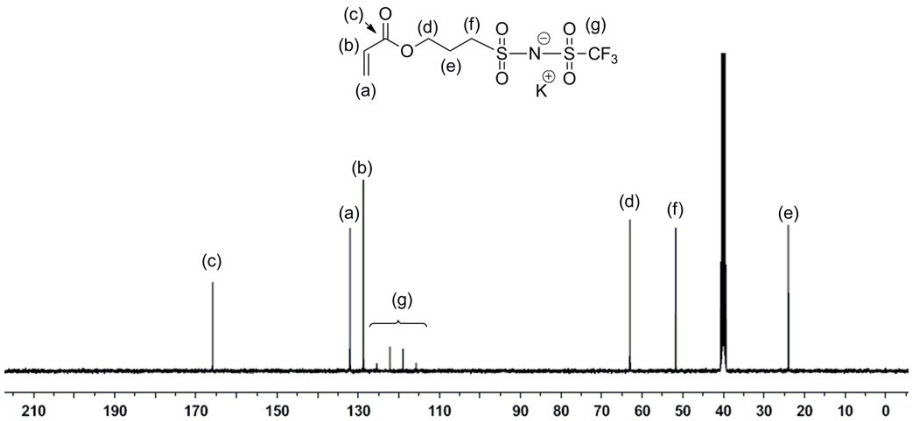

Figure S9. Nitroxide-mediated copolymerization of potassium methacrylate-STFSI and potassium styrene-STFSI in water solution at 65°C using sodium MAMA-SG1 as initiator, in the presence of 10 mol% of free SG1. Experimental conditions: monomers content of 20 wt% in water, target M_n of 30 000 g mol^{-1} and initial molar fraction of potassium styrene-STFSI was 0.2

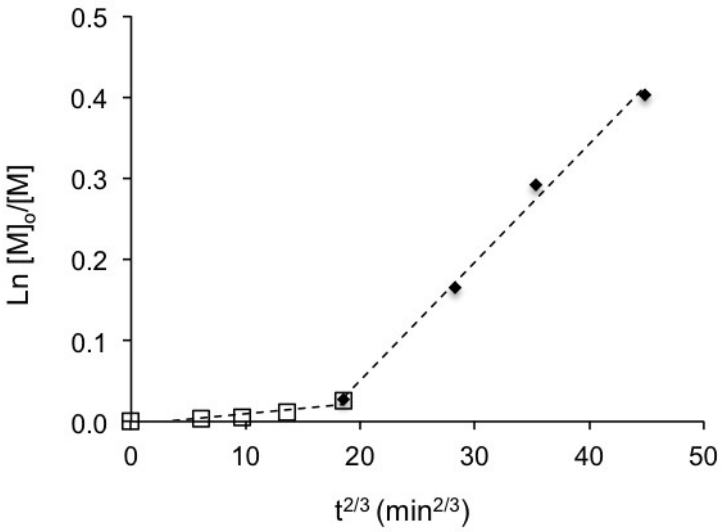

Figure S10. DSC traces for PSSTFSILi and P(SSTFSIK-*co*-MASTFSIK) samples at heating rate of 10°C/min under nitrogen atmosphere.

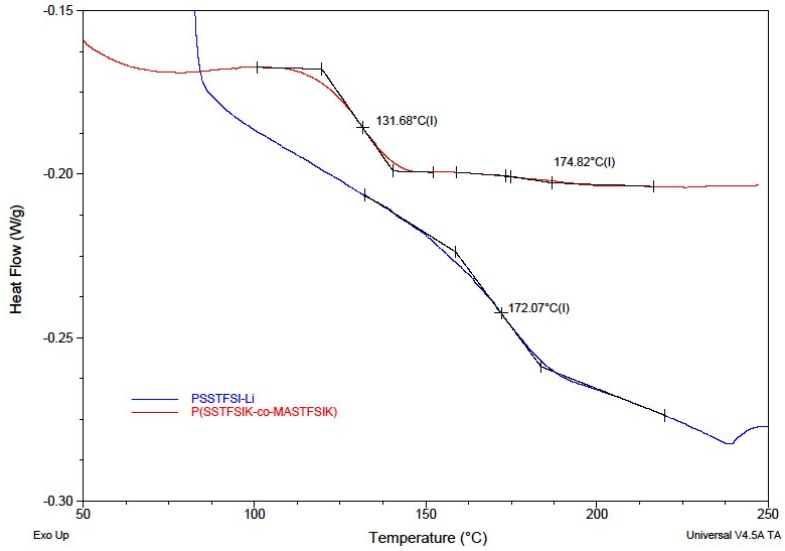

Figure S11. DSC trace for PASTFSIK sample at heating rate of 10°C/min under nitrogen atmosphere.