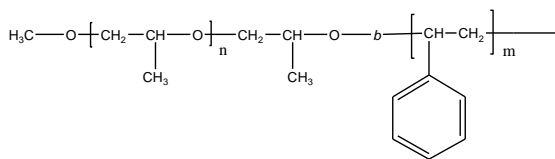


Sample Name: Poly (propylene glycol -b- styrene)

Sample #: P14267-POS

Structure:

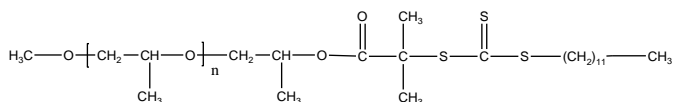


Composition:

| $M_n \times 10^3$ | PDI |
|----------------------|------|
| 5.0(PPO)-b-24.5 (PS) | 1.42 |

Synthesis:

The block copolymer was prepared by RAFT polymerization with styrene starting from a PPO-CTA macroinitiator. The structure of PPO-CTA macroinitiator is shown as follows:



Characterization:

Polymer analyzed by size exclusion chromatography (SEC) to obtain the molecular weight and polydispersity index (PDI). The final block copolymer composition was calculated from $^1\text{H-NMR}$ spectroscopy.

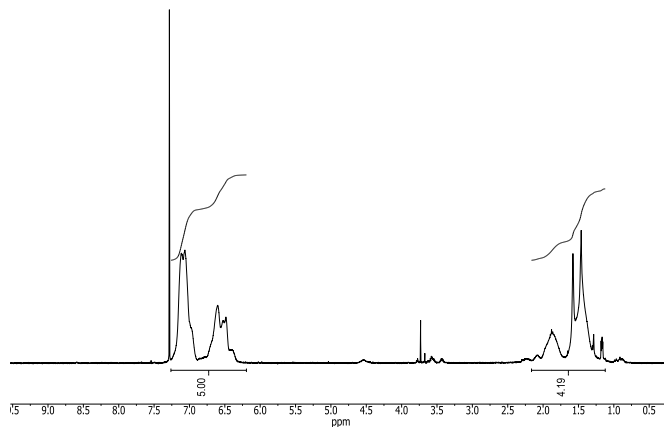
Solubility:

The polymer is soluble in chloroform, DMF, methanol and precipitates from, ether and hexane.

Thermal analysis

Thermal analysis of the samples was carried out on a TA Q100 differential scanning calorimeter at a heating rate of $20^\circ\text{C}/\text{min}$. The midpoint of the slope change of the heat flow plot of the second heating scan was considered as the glass transition temperature (T_g).

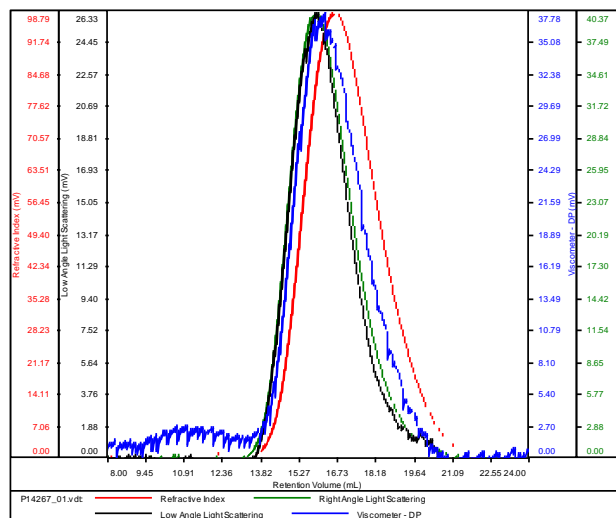
$^1\text{H NMR}$ spectrum of the polymer:



SEC elugram of the copolymer:

P14267

| | |
|-----------|---------------------------|
| Conc | 8.4210 |
| dn/dc | 0.1650 |
| Solvent | DMF w 0.023M LiBr |
| Flow Rate | 0.7000 |
| Method | PS80k_2018-01-24-0000.vcm |



| Sample | Mn | Mw | Mp | Mw/Mn | IV |
|---------------|--------|--------|--------|-------|--------|
| P14267_01.vdt | 29,724 | 42,203 | 40,621 | 1.420 | 0.1571 |