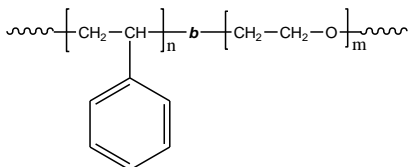


Sample Name: Poly (styrene-b-ethylene oxide)

Sample #: P18867A-SEO

**Structure:**



**Composition:**

|                   |      |
|-------------------|------|
| $M_n \times 10^3$ | PDI  |
| 13.5-b-37.5       | 1.33 |

**Synthesis Procedure:**

Poly(styrene-b-ethylene oxide) diblock copolymer is prepared by living anionic polymerization.

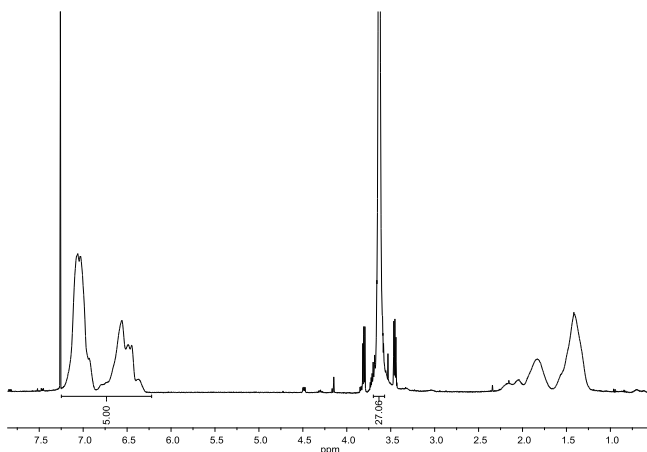
**Characterization:**

The polymer is characterized by size exclusion chromatography (SEC) and  $^1\text{H}$ -NMR.

**Solubility:**

The polymer is soluble in THF,  $\text{CHCl}_3$ , benzene, toluene, dioxane. Low molecular weight SEO with high contents of the polyethylene oxide block can also be solubilized in methanol and water.

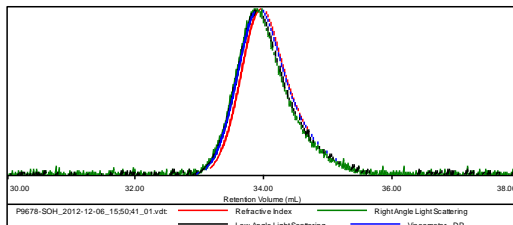
**$^1\text{H}$  NMR spectrum of the sample:**



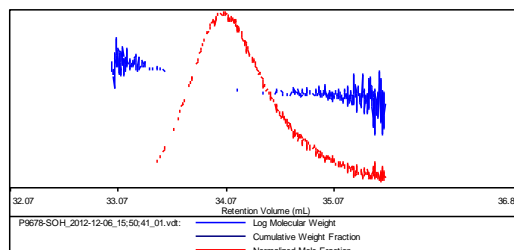
**SEC elugram of the first block PS-OH:**

Sample ID: P9678-SOH

|                       |                         |
|-----------------------|-------------------------|
| Concentration (mg/mL) | 7.2209                  |
| Sample dn/dc (mL/g)   | 0.1850                  |
| Method File           | PS80K-Nov-2012-0001.vcm |
| Column Set            | 3x PL 1113-6300         |
| System                | System 1                |



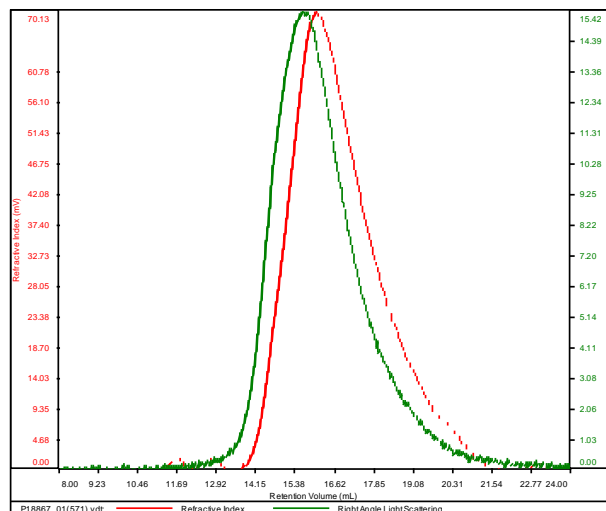
| Sample                             | Mn (Da) | Mw (Da) | Mp (Da) | Mw/Mn | IV (dL/g) |
|------------------------------------|---------|---------|---------|-------|-----------|
| P9678-SOH_2012-12-06_15:50:41_01.v | 13,472  | 14,141  | 14,405  | 1.050 | 0.1668    |



**SEC elugram of the block polymer:**

P18867A

|           |                            |
|-----------|----------------------------|
| Conc      | 11.2123                    |
| dn/dc     | 0.0740                     |
| Solvent   | DMF w 0.023M LiBr          |
| Flow Rate | 0.7000                     |
| Method    | PS-80K_2018-04-02-0000.vcm |



| Sample             | Mn     | Mw     | Mp     | Mw/Mn | IV     |
|--------------------|--------|--------|--------|-------|--------|
| P18867_01(571).vdt | 51,134 | 67,681 | 61,087 | 1.324 | 0.4782 |