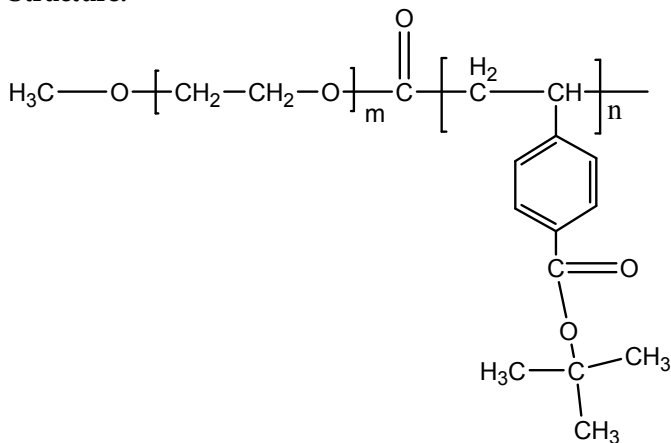


Sample Name: Poly(ethylene oxide -b- 4-tert.butyl-vinyl benzoate)

Sample #: P10146-EOtBuVBZA

Structure:



Composition:

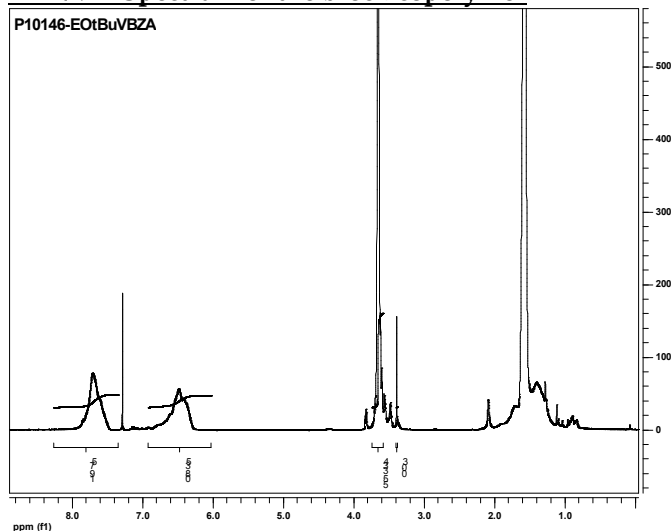
Mn × 10 ³ PEO-b-PtBuVBZA	PDI
5.0-b-6.0	1.25

Synthesis Procedure: combination of anionic and controlled radical process.

Characterization:

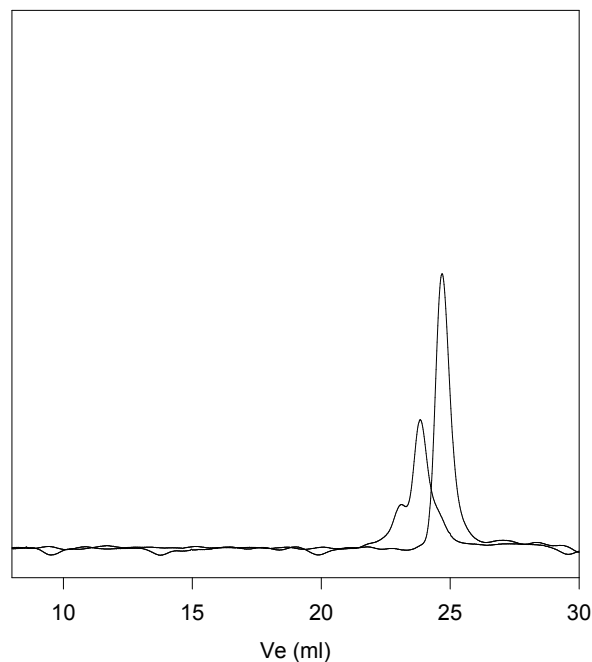
An aliquot of the first anionic block was terminated before addition of the second block and analyzed by size exclusion chromatography (SEC) to obtain the molecular weight and polydispersity index (PDI). The final block copolymer composition was calculated from ¹H-NMR spectroscopy by comparing the peak area of the ethylene oxide protons at about 3.6 ppm with the tert.butyl protons at about 1.4 ppm.

¹H-NMR Spectrum of the block copolymer



SEC of the block copolymer:

P10146-EO4tBuVBZA



Size exclusion chromatography of the product:

— Poly(ethylene oxide), M_n=5000, PI=1.05

— Block Copolymer PEO(5000)-b-4-tBuVBZA (6000), PI=1.25

References:

J. Wang, **S. K. Varshney**, J. Jerome and Ph. Teyssie
"Synthesis of AB (BA) ABA and BAB Block copolymers
of tert-butylmethacrylate (A) and ethylene oxide
(B) " *CA Vol 117, 16, 151478, J. Polym. Sci., Part-A: Polym.
Chem. Ed., 1992, 30, 2251-2261.*