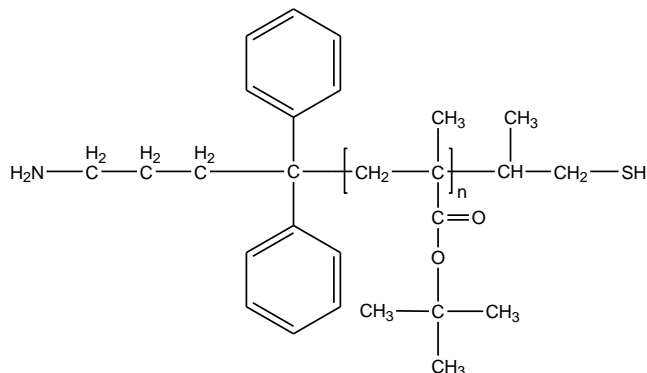


Sample Name:

**$\alpha$ -Amino  $\omega$ -Thiol Terminated Poly(t-butyl methacrylate)**

Sample #: **P9838A-tBuMANH2SH**

**Structure:**

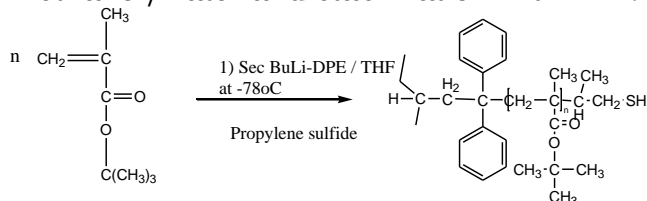


**Composition:**

Mn x 10 <sup>3</sup>	PDI
11.5	1.3
SH and NH <sub>2</sub>	From HNMR: >95%

**Synthesis Procedure:**

Thiol terminated Poly(t-butyl methacrylate) is synthesized by living anionic polymerization of tert.butyl methacrylate followed by termination with dry propylene sulfides followed by quenching in acidic methanol/water and stabilization with DTT.



**Characterization:**

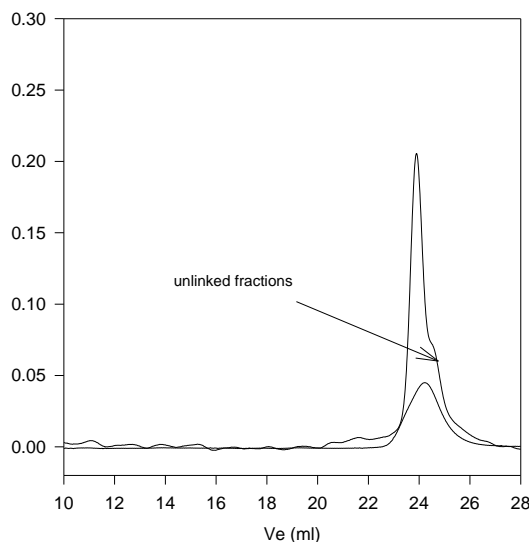
The molecular weight and polydispersity index of this polymer were determined by size exclusion chromatography (SEC) before inclusion of the CO<sub>2</sub>H function using a Varian liquid chromatograph equipped with a UV and refractive index detector. The functionality of polymer was determined by the titration with NaOH, using phenolphthalein as the indicator.

**Solubility:**

Polymer is soluble in THF, CHCl<sub>3</sub>, Toluene, dioxin and precipitated out from methanol/water or in cold hexane.

**SEC of Sample:**

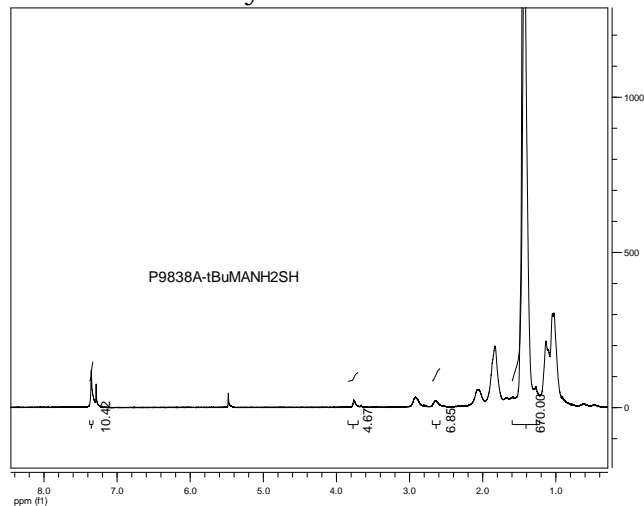
**P9838A-tBuMANH2SH**



Size exclusion chromatograph of  $\alpha$ -amino  $\omega$ -thiol terminated poly tert.BuMA:

—  $M_n=11,500$   $M_w=15,000$   $PI=1.3$  (after termination with propylene sulfide)  
— after oxidation with iodine  
 $M_n=19000$   $M_w=26,600$   $PI=1.2$  indicating the formation of

**HNMR of the Polymer:**



**References for further information:**

1. Varshney, S. K.; Song, Z.; Zhang, Jian-Xin.; Jerome, Robert. Rapid Communication; J. Polym. Sci. Part A, 2006, 44, 3400.
2. S. K. Varshney, Ph. Bayard, C. Jacobs, R. Jerome, R. Fayt and Ph. Teyssie "Anionic Polymerization of Meth(acrylic) Monomers-8; Synthesis and Characterization of (Meth)acrylic end-functionalized Polymers: Macromonomers and Telechelics" CA 117, 18, 172243. Macromolecules, 1992, 25, 5578-5584.