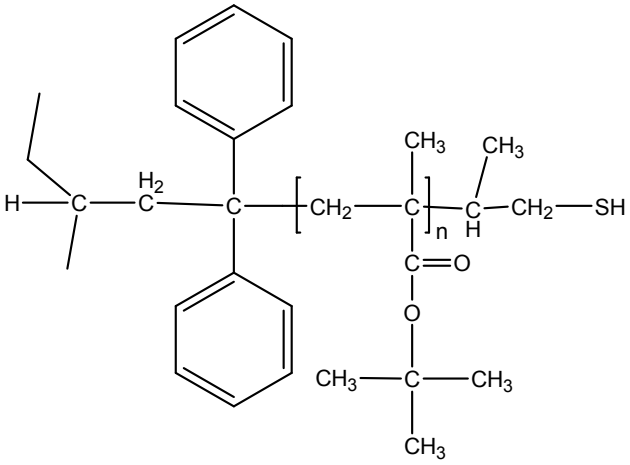
Sample Name:
Thiol Terminated Poly(t-butyl methacrylate)

Sample #: **P7595-tBuMASH**

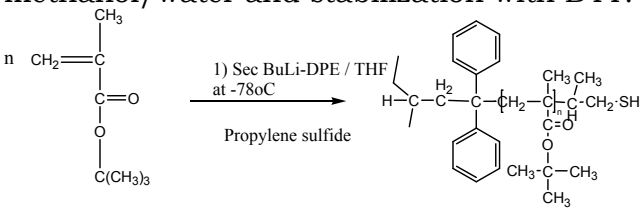
Structure:



Composition:

Mn x 10^3	PDI
5.0	1.2
C:H:O:S 69.12:9.82:18.33:0.15	SH functionality (22%) From HNMR: 30%

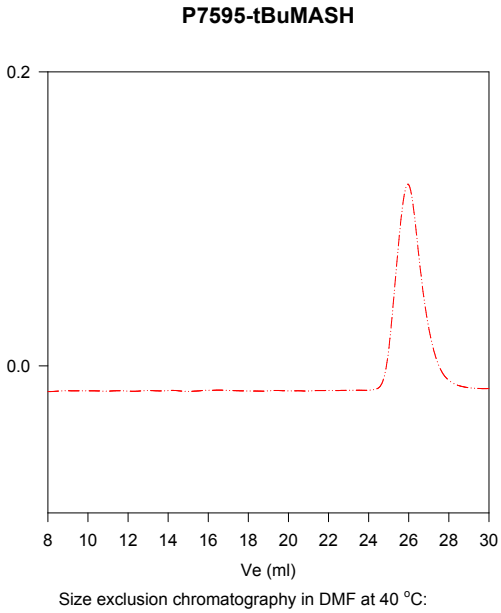
Synthesis Procedure:
Thiol Terminated Poly(t-butyl methacrylate) is synthesized by living anionic polymerization of tert.butyl methacrylate followed by termination with dry propylene sulfides followed by quenching in acidic methanol/water and stabilization with DTT.



Characterization:
The molecular weight and polydispersity index of this polymer were determined by size exclusion chromatography (SEC) before inclusion of the CO_2H 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, CHCl3, Toluene, dioxin and precipitated out from methanol/water or in cold hexane.

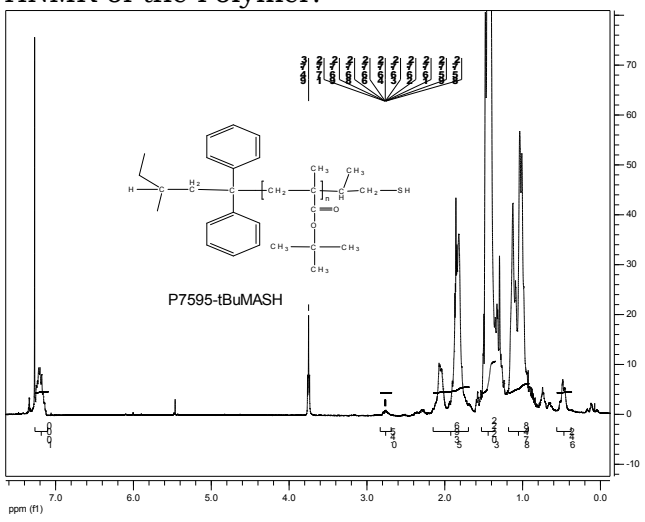
SEC of Sample:



Size exclusion chromatography in DMF at 40 °C:

M_n=5000, M_w=6000 PI=1.2 From HNMR: SH Functionality about 50%
From elemental analysis:

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.