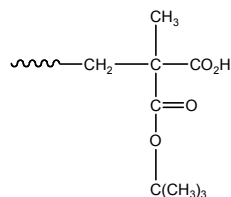


**Sample Name:****Carboxy Terminated Poly(t-butyl methacrylate)****Rich in isotactic microstructure****Sample #: P8889A-tBuMACOOH****Structure:****Composition:**

Mn x 10 <sup>3</sup>	PDI
15.0	1.40
Functionality	85%
T <sub>g</sub> for the functional polymer	50°C

**Synthesis Procedure:**

Carboxy Terminated Poly(t-butyl methacrylate) is synthesized by living anionic polymerization (in the presence of an additive) of tert.butyl methacrylate followed by termination with dry CO<sub>2</sub> followed by quenching in acidic methanol/water.

**Characterization:**

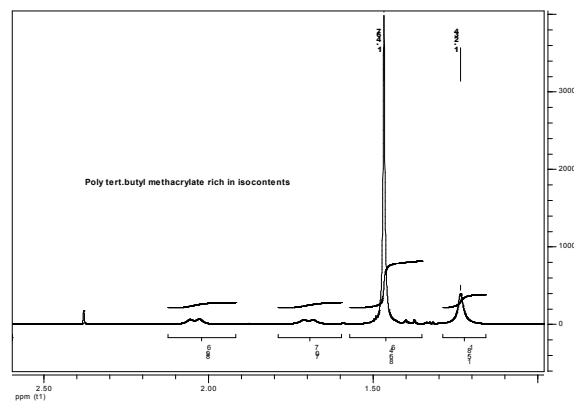
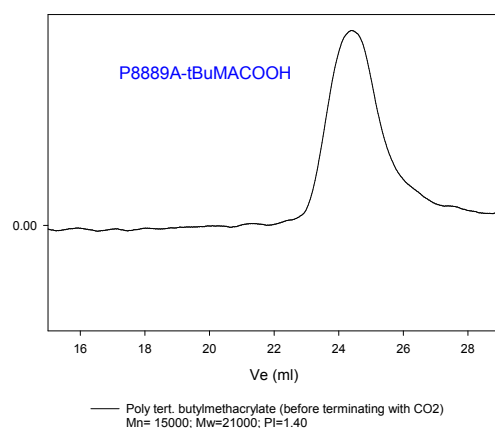
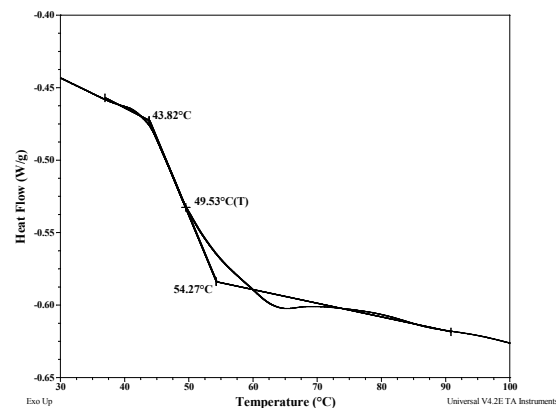
The molecular weight and polydispersity index of this polymer were determined by size exclusion chromatography (SEC) before inclusion of the CO<sub>2</sub>H function using a Varian liquid chromatograph equipped with a UV and refractive index detector. The functionality of polymer was determined by the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

**Thermal analysis:**

Thermal analysis of the samples was carried out using a differential scanning calorimeter (TA Q100) at a heating rate of 10°C/min. The inflection glass transition temperature (T<sub>g</sub>) has been considered.

**Solubility:**

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

**HNMR of the polymer:****SEC of Sample:****DSC thermogram for the sample:****References :**

1. P. Rempp, Y. Gnanou, R. Fayt, C. Jacobs, Ph. Teyssie and S. K. Varshney. Eur. Pat. Appl. Mar. 27, 1991. *Eur. Pat. 419314 Patent assignees- Atochem S.A. France. CA Vol. 115, 06, 050585.* "Process for Preparing Functionalised (Meth)acrylic.Macromonomers and Macromonomers so Prepared".
2. S. K. Varshney, Z. Gao, Xing Fu Zhong, A. Eisenberg. "Effect of Lithium Chloride on the "Living" Polymerization of tert-Butylmethacrylate and Polymer Microstructure Using Monofunctional Initiators" *Macromolecules*, 1994, 27, 1076.