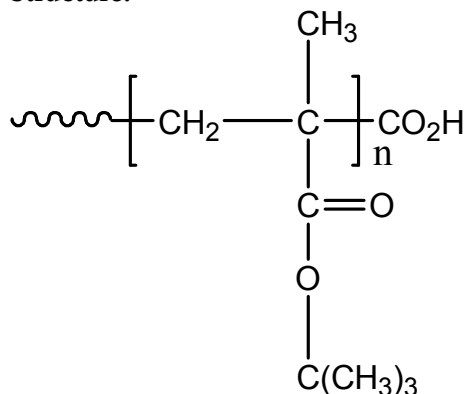


Sample Name:

Carboxy Terminated Poly(t-butyl methacrylate)

Rich in isotactic microstructure

Sample #: P8891A-tBuMACOOH

Structure:**Composition:**

Mn x 10 ³	PDI	COOH end group functionality	T _g (°C)
23.0	1.4	>90 %	49

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 CO₂ followed by quenching in acidic methanol/water.

Characterization:

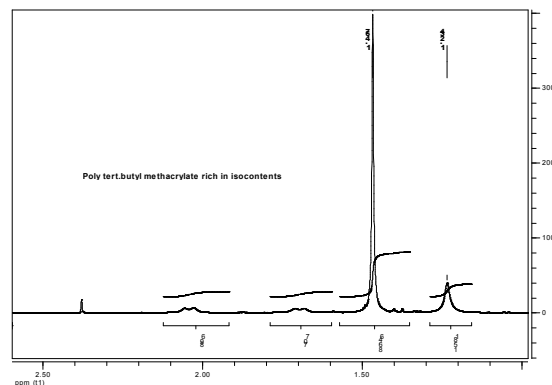
The molecular weight and polydispersity index of this polymer were determined by size exclusion chromatography (SEC) before inclusion of the CO₂H function using a Varian liquid chromatograph equipped with a UV and refractive index detector. The functionality of polymer was determined by the titration with NaOH, using phenolphthalein as the indicator.

Thermal analysis:

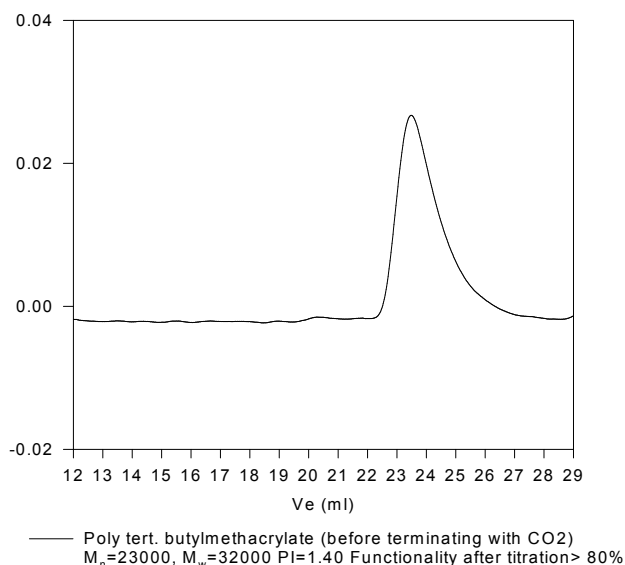
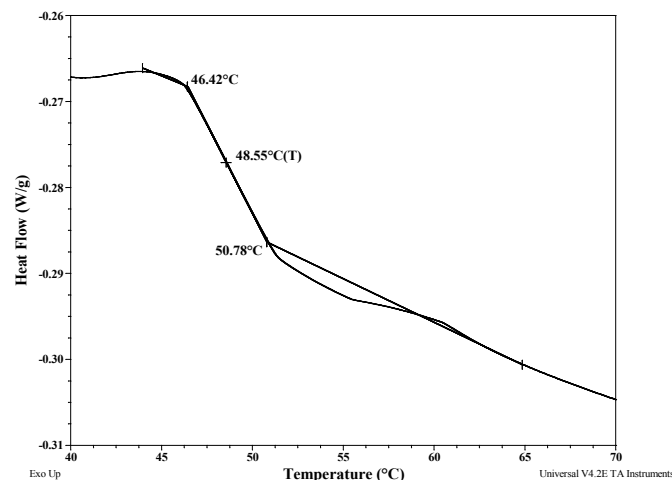
Thermal analysis of the samples was carried out on a TA Q100 differential scanning calorimeter at a heating rate of 10°C/min. The midpoint of the slope change of the heat flow plot of the second heating scan was considered as the glass transition temperature (T_g).

Solubility:

Polymer is soluble in THF, CHCl₃, Toluene, dioxin and precipitated out from methanol/water or in cold hexane.

HNMR of the polymer:**SEC of Sample:**

P8891A-tBuMACOOH

**DSC thermogram for the sample:****References for further information:**

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)acrylic2. Macromonomers and Macromonomers so Prepared".
 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.