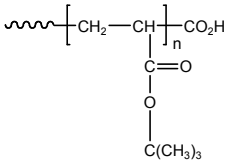
Sample Name:
Carboxy Terminated Poly(t-butyl acrylate)

Sample #: P1940-tBuACOOH

Structure:

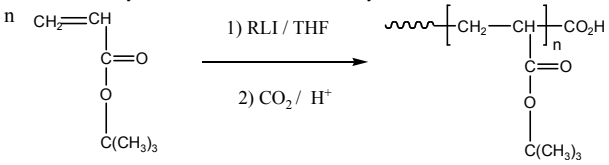


Composition:

M_n x 10^3	PDI
6.5	1.06
Functionality	>95%
T_g for the polymer	33°C

Synthesis Procedure:

Carboxy terminated poly(t-butyl acrylate) is synthesized by living anionic polymerization of methyl methacrylate followed by termination with dry ice.



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.

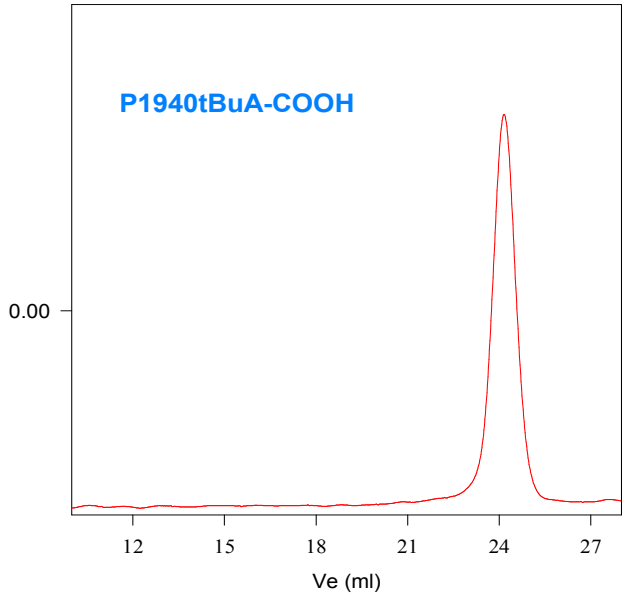
Thermal analysis:

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_g) has been considered.

Solubility:

The functionalized polymer is soluble in THF, toluene and chloroform. It precipitates into Methanol/water mixture.

SEC of Sample:



Size exclusion chromatography of poly(tert.butylacrylate) (before terminating reaction with CO_2).

M_n=6500, M_w=7000 PI=1.08, functionality=0.98

DSC thermogram for the sample: