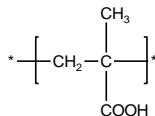


Sample Name:

Poly(methacrylic acid)

Sample #: P4665-MAA

From hydrolysis of Poly tBuMA polymer

Structure:**Composition:**

Mn x 10 ³	PDI
1,283.00	1.28
T _g (°C)	165
Microstructure Syndio:Hetero:iso contents	40:49:11

Synthesis Procedure:

Poly(methacrylic acid) is synthesized from Poly tBuMA polymer after hydrolysis of ester moieties.

Characterization:

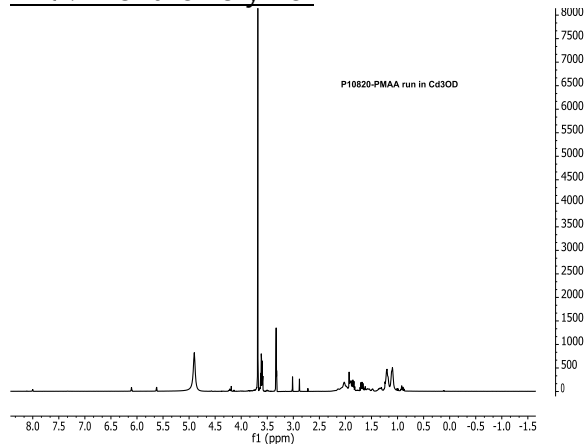
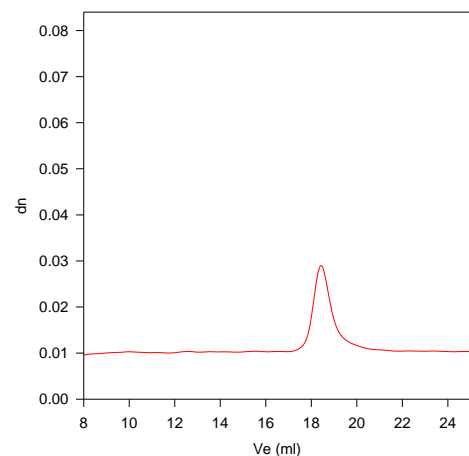
The molecular weight and polydispersity index (PDI) of Poly(methacrylic acid) are obtained by size exclusion chromatography in DMF at 45 °C.

Thermal analysis:

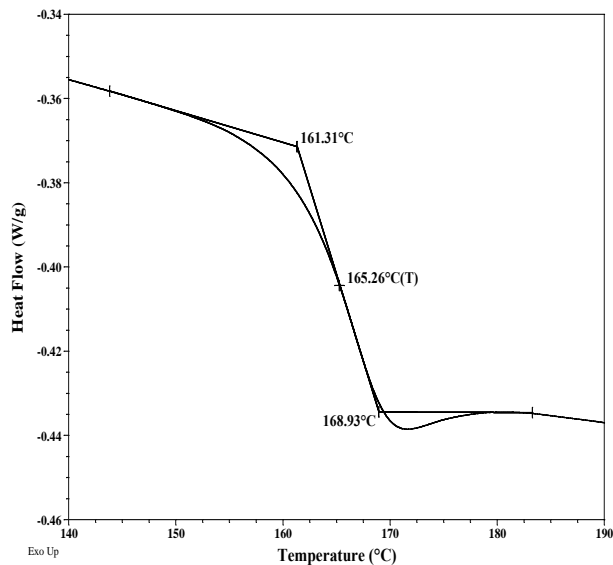
Thermal analysis of the samples was carried out on a TA Q100 differential scanning calorimeter at a heating rate of 10 °C/min. The midpoint of the slope change of the heat flow plot of the second heating scan was considered as the glass transition temperature (T_g).

Solubility:

Polymer is soluble in methanol and ethanol.

HNMR of the Polymer**SEC of the homopolymer:****P4665-tBuMA**M_n=2120,000, M_w=2130000, PI=1.28

Solution Viscosity in THF at 35 °C: 5.305dl/g Radius of Gyration: 69.57 nm
dn/dc in THF at 30 °C: 0.085ml/g Data from Triple detectors from Viscotek Co.
After Hydrolysis of ter-butylester: PMAA: Mn : 1283,000 Mw/Mn 1,28

Thermogram for the polymer:**References:**

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.