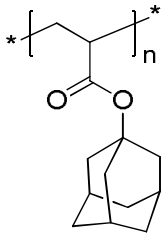
Sample Name: **Poly(1-adamantyl methacrylate)**

Sample # **P9365C-ADMMA**

Structure:



Composition:

M_n x 10^3 (g/mol)	13.0
M_w/M_n	1.15

Microstructure tacticity:	Heterotactic > 85%
Glass transition temperature:	T_g = 203°C

Synthesis:

Poly(1-adamantyl methacrylate) is obtained by anionic polymerization method.

Characterization:

The molecular structure and purity of the polymer were confirmed by proton NMR spectroscopy.

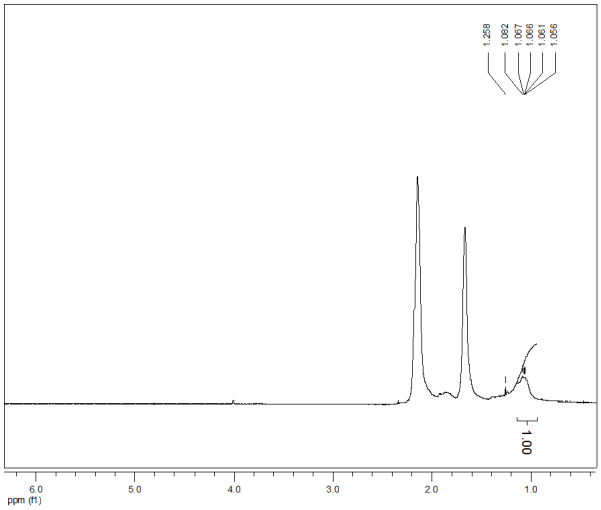
The molecular weight and polydispersity index (M_w/M_n) of the polymer were obtained by size exclusion chromatography (SEC) using THF as an eluent.

Thermal analysis was performed on TA Instruments Q100 differential scanning calorimeter (DSC) under a nitrogen atmosphere. The glass transition temperature (T_g) of the polymer was measured at a scan rate of 10°C/min shortly after creating thermal history of the sample.

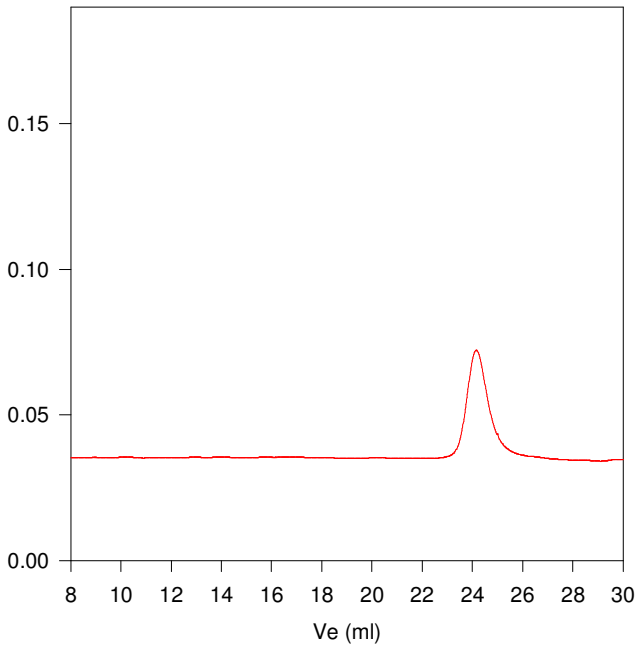
Solubility:

Poly(1-adamantyl methacrylate) is soluble in THF, chloroform, toluene, and 1,4-dioxane. The polymer precipitates from hexanes, methanol, and ethanol.

^{1}H NMR spectrum of the polymer in $CDCl_3$:



SEC elugram of the polymer:



Size exclusion chromatograph of Poly adamentyl methacrylate:

M_n=13,000, M_w=15,000, PI=1.15

DSC thermogram (2nd heating scan, 10°C/min):