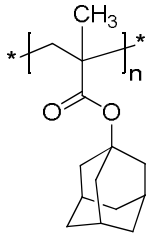
Sample Name: **Poly(1-adamantyl methacrylate)**

Sample # **P10228-ADMMA**

Structure:



Composition:

M_n x 10^3 (g/mol)	3.0
M_w/M_n	1.25

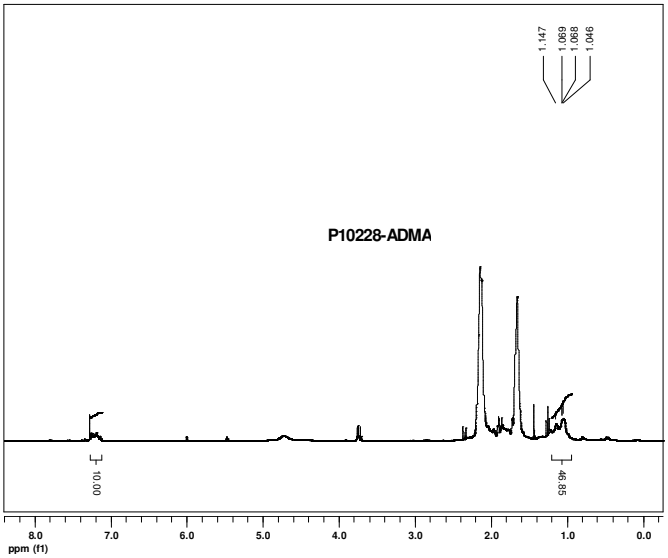
Microstructure tacticity:	Heterotactic > 85%
Glass transition temperature, T_g	195 °C

Synthesis:
Poly(1-adamantyl methacrylate) is obtained by living anionic, free radical, or by group transfer (GTP) polymerization methods.

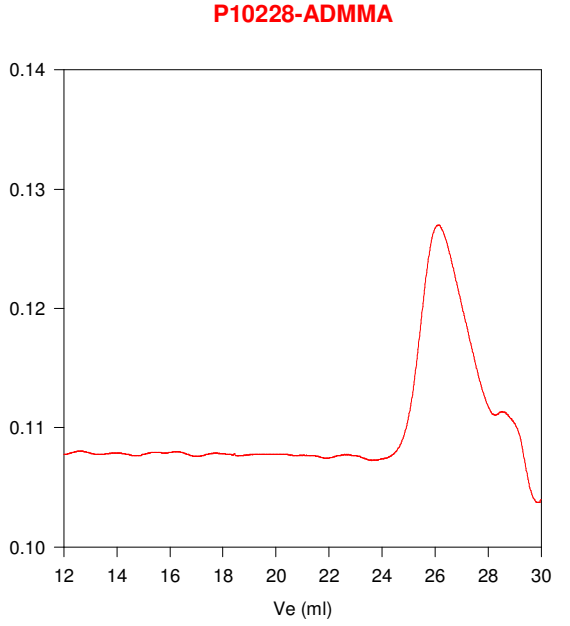
Characterization:
The molecular structure and purity of the polymer were confirmed by proton NMR spectroscopy.
The molecular weight and polydispersity index (M_w/M_n) of the polymer were obtained by size exclusion chromatography (SEC) using THF as an eluent.
Thermal analysis was performed on TA Instruments 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=3,000, M_w=3,700, PI=1.25