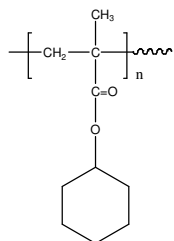


**Sample Name:** Poly(cyclohexyl methacrylate)

**Sample #: P5420-CHMA**

**Structure:**



**Composition:**

$M_n \times 10^3$	PDI
30.0	2.0
$T_g$ (°C)	90
Syndio: hetero	65% : 35 %

**Synthesis Procedure:**

Poly(cyclohexyl methacrylate) is obtained by one of the following technique: by living anionic polymerization or GTP process.

**Characterization:**

The molecular weight and polydispersity index (PDI) are obtained by size exclusion chromatography (SEC) in THF. SEC analysis was performed on a Varian liquid chromatograph equipped with refractive and UV light scattering detectors. Three SEC columns from Supelco (G6000-4000-2000 HXL) were used with triple detectors from Viscotek Co. <sup>1</sup>H NMR analysis was carried out on Varian instrument at 500MHz.

**Thermal analysis:**

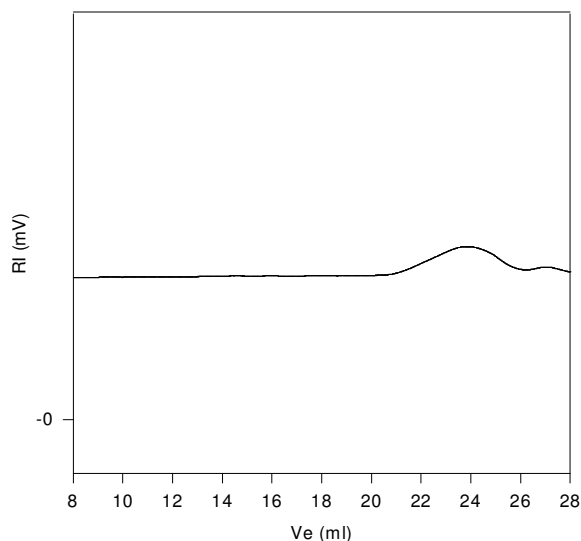
Thermal analysis of the samples was carried out on a TA Q100 differential scanning calorimeter at a heating rate of 10°C/min. The midpoint of the slope change of the heat flow plot of the second heating scan was considered as the glass transition temperature ( $T_g$ ).

**Solubility:**

Poly(cyclohexyl methacrylate) is soluble in THF, CHCl<sub>3</sub>, toluene and dioxane. The polymer precipitates from hexanes, methanol and ethanol.

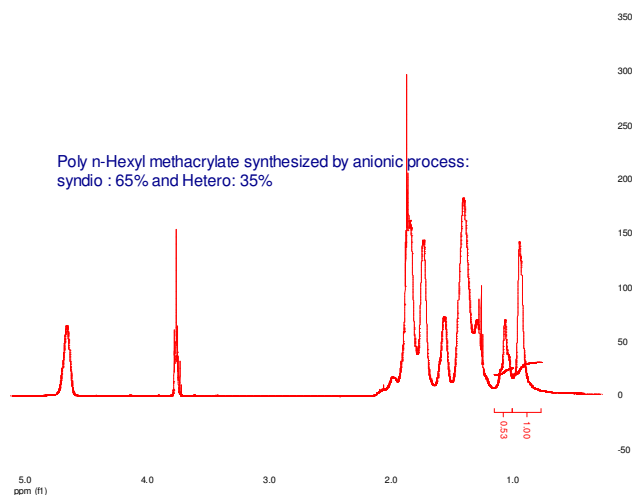
**SEC of Sample:**

**P5420-CHMA**



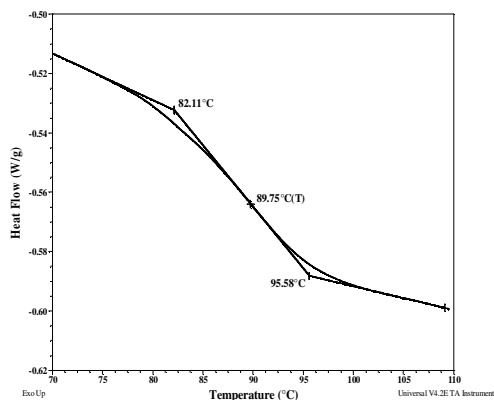
Size Exclusion Chromatography of the Product:

—  $M_n = 30,000$   $M_w = 60,000$ ,  $M_w/M_n = 2.0$



Poly n-Hexyl methacrylate synthesized by anionic process:  
syndio : 65% and Hetero: 35%

**DSC thermogram for the polymer:**



**References for further information:**

- (a) S. K. Varshney, R. Fayt, Ph. Teyssie, US Patent 5,629,393, 1997 (b) Ph. Bayard, R. Fayt, Ph. Teyssie and S. K. Varshney, Vuillemin B, Phillipe, H, US patent 5,677,387, 1997. (c) Ph. Bayard, R. Fayt, Ph. Teyssie and S. K. Varshney, B, Vuillemin, H. Phillipe, US patent 5,687,534, 1997. (d) S. K. Varshney, R. Fayt, Ph. Teyssie, US Patent 5,723,559, 1998. (e) Ph. Teyssie, S. K. Varshney, R. Jerome, R. Fayt US patent, 4,826,941., 1989.
- Ph. Teyssie, Ph. Bayard, R. Jerome, S. K. Varshney, and J. S. Wang, *35th IUPAC International Union of Pure & Applied Chemistry International Symposium on Macromolecules* 1994, 67.