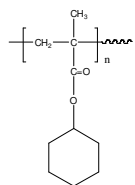


Sample Name: Poly(cyclohexyl methacrylate)

Sample #: P5427-CHMA

Structure:



Composition:

$M_n \times 10^3$	PDI
2900.0	1.65
T_g (°C)	111
Syndio: Hetero	55%: 45%

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. ^1H NMR analysis was carried out on Varian instrument at 500MHz.

Thermal analysis:

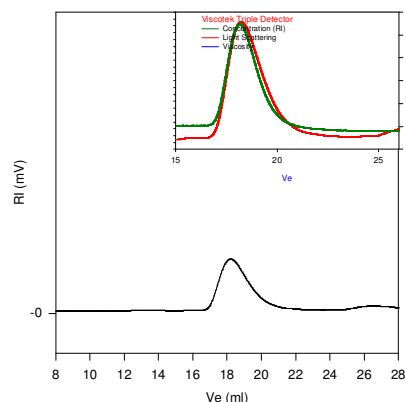
Thermal analysis of the samples was carried out on a TA Q100 differential scanning calorimeter at a heating rate of 10°C/min. The midpoint of the slope change of the heat flow plot of the second heating scan was considered as the glass transition temperature (T_g).

Solubility:

Poly(cyclohexyl methacrylate) is soluble in THF, CHCl_3 , toluene and dioxane. The polymer precipitates from hexanes, methanol and ethanol.

SEC of Sample:

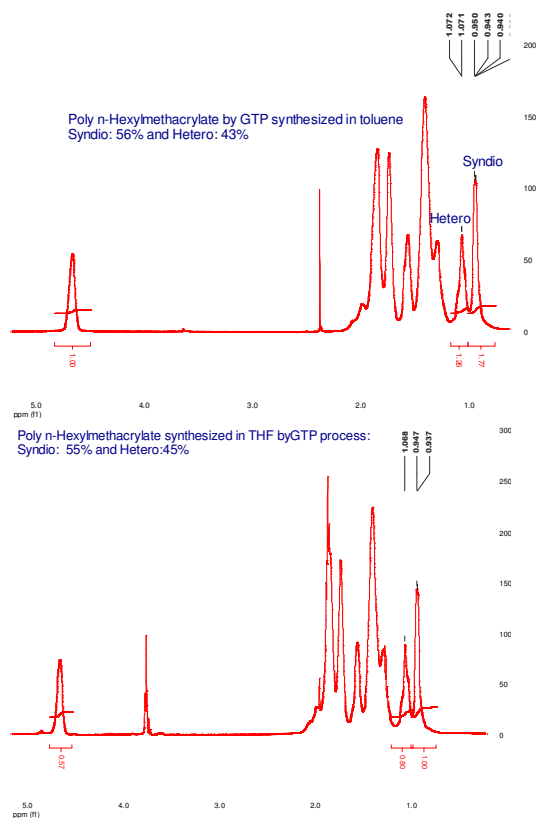
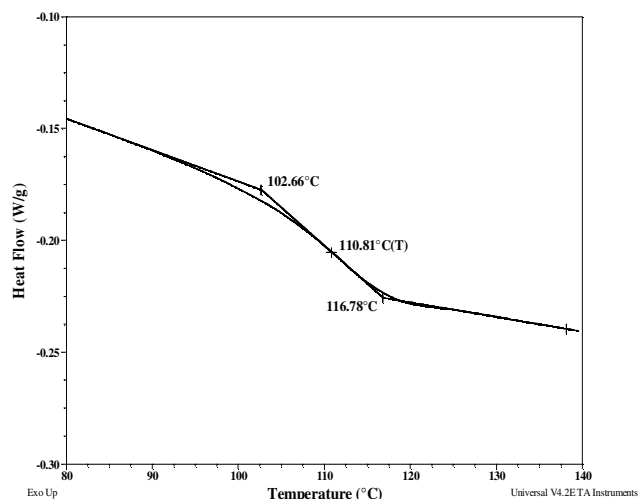
P5427-CHMA



Size Exclusion Chromatography of the Product:

$M_n = 2900,000$, $M_w = 4700,000$, $M_w/M_n = 1.6$
Solution Viscosity in THF at 35 °C: 3.393dl/g
dn/dcn THF at 35 °C: 0.080 ml/g
Rgw: 79.33nm

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.
- Ph. Teyssie, R. Fayt, J. P. Hautekeer, C. Jacobs, R. Jerome, L. Leemans and S. K. Varshney *Makromolekulare Chemie, Macromol. Symp.*, 1990, 32, 61-73.
- S. K. Varshney, J. P. Hautekeer, R. Fayt, R. Jerome, and Ph. Teyssie *Macromolecules*, 1990, 23, 2618-2622.