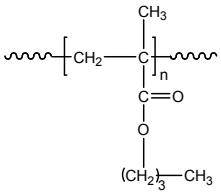
Sample Name: **Poly(n-butyl methacrylate)**

Sample #: **P8420C-nBuMA**

Structure:

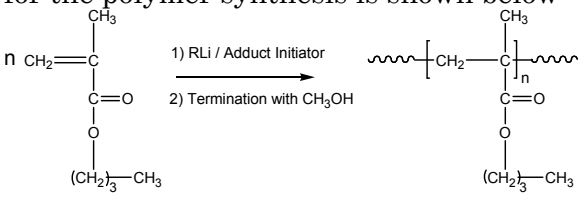


Composition:

Mn × 10^3	PDI
66.0	1.05
T_g (^{o}C)	39

Synthesis Procedure:

Poly(n-butyl methacrylate) is obtained by living anionic polymerization of n-butyl methacrylate. The reaction scheme used for the polymer synthesis is shown below:



Characterization:

The molecular weight and polydispersity index (PDI) of Poly(n-butyl methacrylate) are obtained by size exclusion chromatography.

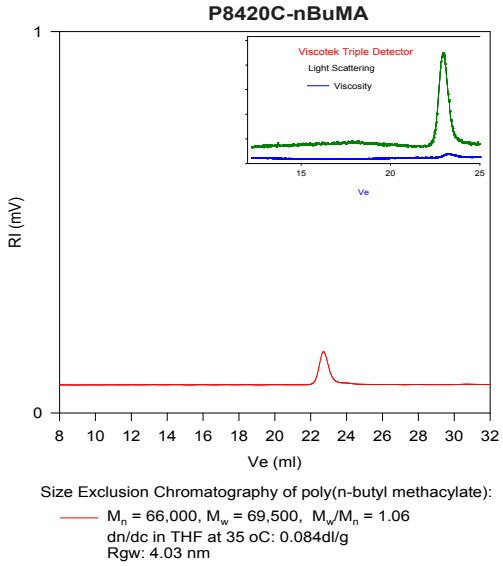
Thermal analysis:

Thermal analysis of the samples was carried out on a TA Q100 differential scanning calorimeter at a heating rate of 10^{o}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(n-butyl methacrylate) is soluble in THF, $CHCl_3$, toluene and dioxane. The polymer precipitates from cold methanol and ethanol.

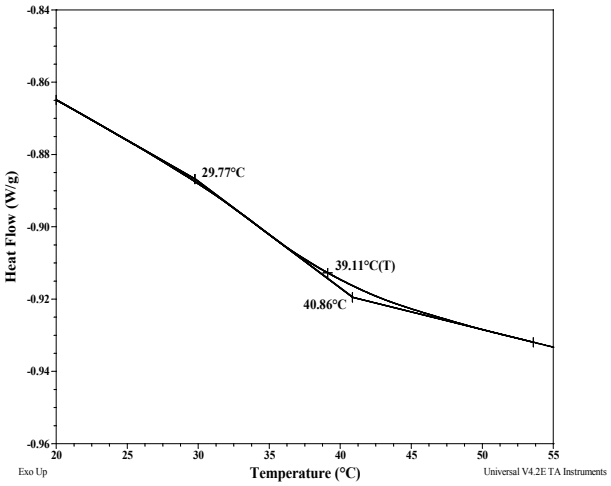
SEC of Homopolymer:



Size Exclusion Chromatography of poly(n-butyl methacylate):
M_n = 66,000, M_w = 69,500, M_w/M_n = 1.06
dn/dc in THF at 35 oC: 0.084dl/g
Rgw: 4.03 nm

D

DSC thermogram for the sample:



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.