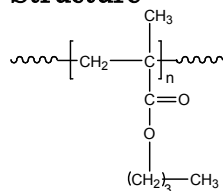


Sample Name: Poly(n-butyl methacrylate)

Sample #: P8420-nBuMA

**Structure:**

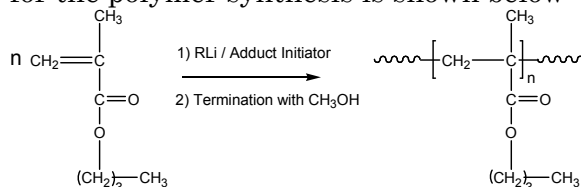


**Composition:**

$M_n \times 10^3$	PDI
330.0	1.09
$T_g (^{\circ}\text{C})$	54

**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:**

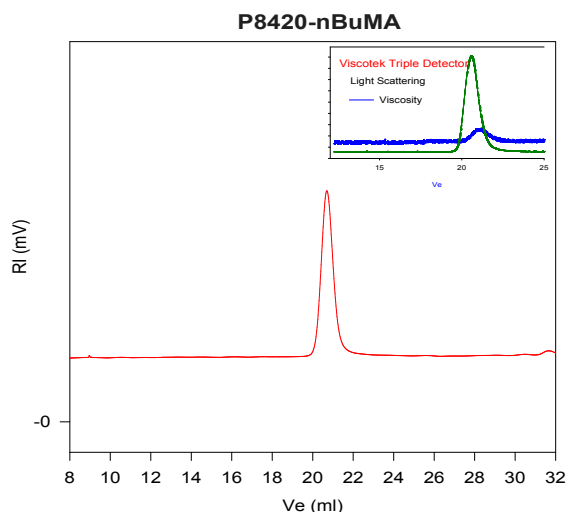
The molecular weight and polydispersity index (PDI) of Poly(n-butyl methacrylate) are obtained by size exclusion chromatography.

Thermal analysis 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(n-butyl methacrylate) is soluble in THF,  $\text{CHCl}_3$ , toluene and dioxane. The polymer precipitates from cold methanol and ethanol.

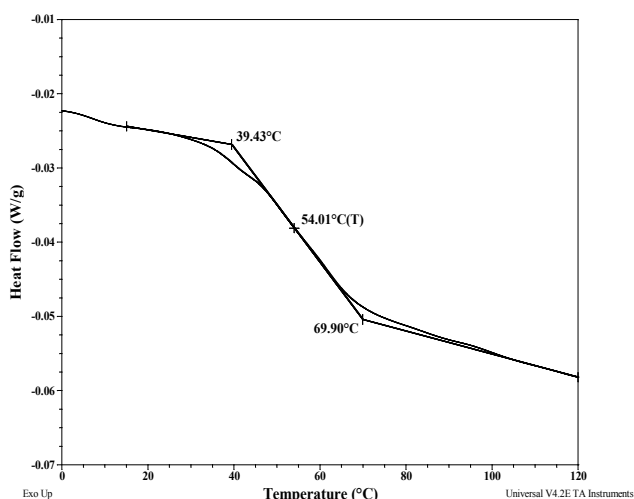
**SEC of Homopolymer:**



Size Exclusion Chromatography of poly(n-butyl methacrylate):

—  $M_n = 330,000$ ,  $M_w = 359,000$ ,  $M_w/M_n = 1.09$   
 $dn/dc$  in THF at 35 °C: 0.084dl/g  
 $R_{gw}$ : 19.01 nm

**DSC thermogram for the polymer:**



**References for further information:**

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2. 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.
3. Ph. Teyssie, R. Fayt, J. P. Hautekeer, C. Jacobs, R. Jerome, L. Leemans and S. K. Varshney *Makromolekular Chemie, Macromol. Symp.*, 1990, 32, 61-73.
4. S. K. Varshney, J. P. Hautekeer, R. Fayt, R. Jerome, and Ph. Teyssie *Macromolecules*, 1990, 23, 2618-2622.