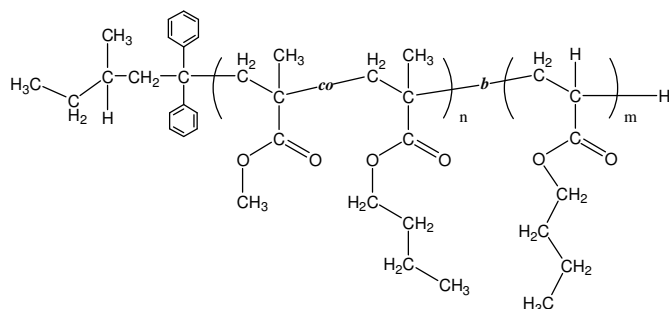


**Sample Name:**

**Poly(methyl methacrylate-*co*<sub>(random)</sub>-n-butyl methacrylate)  
-*block*-poly(n-butylacrylate)**

**Sample #: P19738A-MMAAnBuMAran-b-nBuA****Structure:****Composition:**

$M_n \times 10^3$ (g/mol)	17.5- <i>b</i> -5.0
$M_w/M_n$	1.14
Molar ratio MMA : nBuMA	52 : 48 (mol/mol)
$T_g$	48 °C

**Synthesis Procedure:**

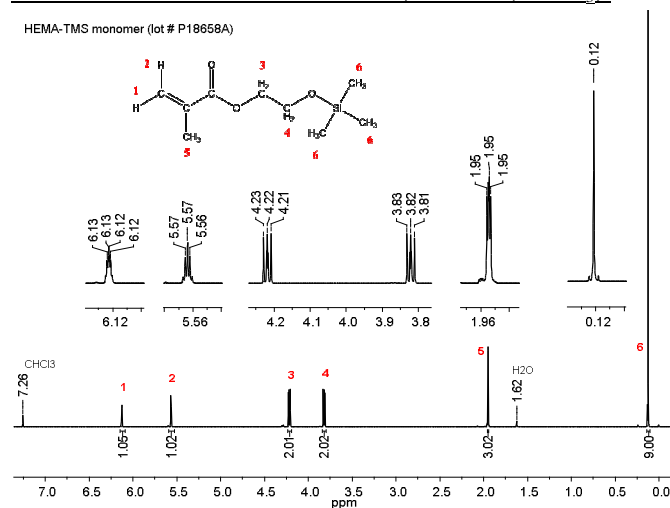
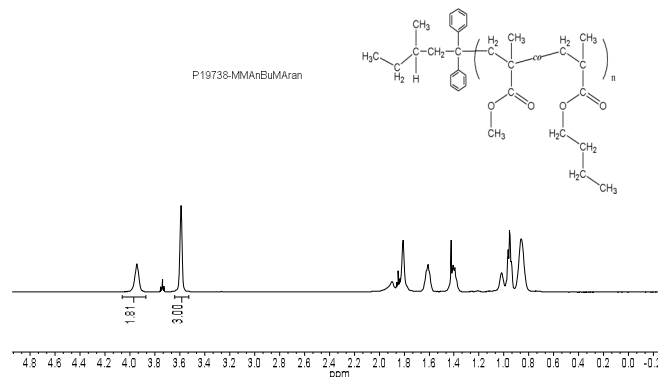
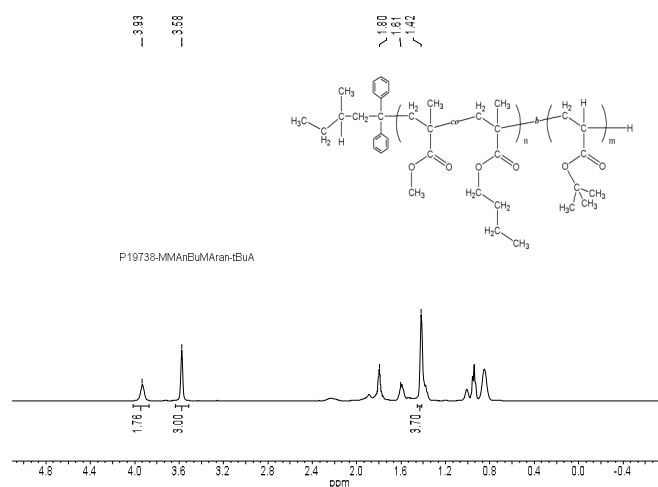
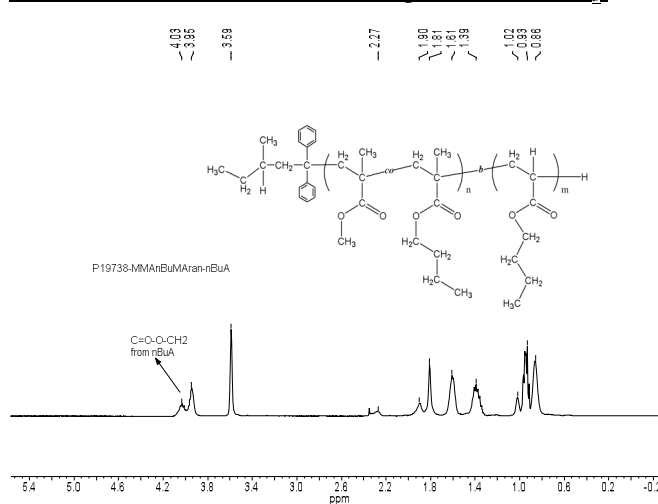
The polymer was synthesized by anionic process.

**Solubility:** The polymer is soluble in THF, DMF.

**Characterization:**

The polymer composition was calculated by  $^1\text{H}$  NMR.

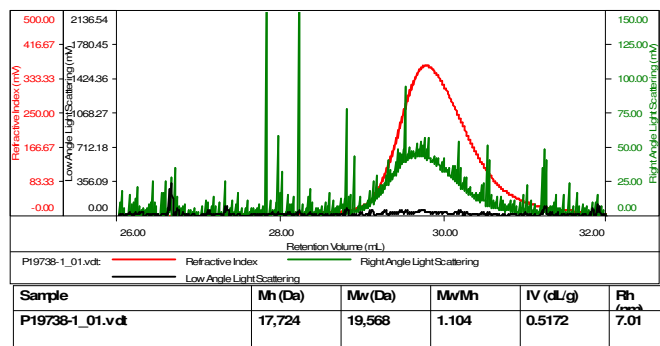
The average molecular weight and polydispersity index were determined by size exclusion chromatography (SEC). Thermal analysis of the sample was done on a TA Q100 differential scanning calorimeter (DSC) at a heating rate of  $10^\circ\text{C}/\text{min}$ . The glass transition temperature ( $T_g$ ) was determined as a midpoint of step change in heat flow curve for the second heating scan.

 **$^1\text{H}$  NMR of HEMA-TMS monomer (500 MHz,  $\text{CDCl}_3$ ):** **$^1\text{H}$  NMR of MMAAnBuMA (first block) in  $\text{CDCl}_3$ :** **$^1\text{H}$  NMR of MMAAnBuMA-b-tBuA (precursor) in  $\text{CDCl}_3$ :** **$^1\text{H}$  NMR of MMAAnBuMA-b-nBuA (product) in  $\text{CDCl}_3$ :**

## SEC of MManBuMA (first block):

### Sample ID-P19738-1 MManBuMAran

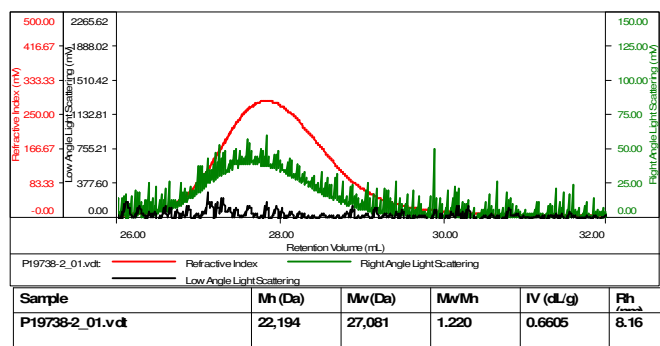
Concentration (mg/mL)	4.5746
Sample dn/dc (mL/g)	0.0950
Method File	PS80K-Jan-2016-0000.vcm
Column Set	3x PL 1113-6300
Solvent	THF



## SEC of MManBuMA-b-tBuA (precursor for diblock):

### Sample ID-P19738-2MManBuMAran-tBuA

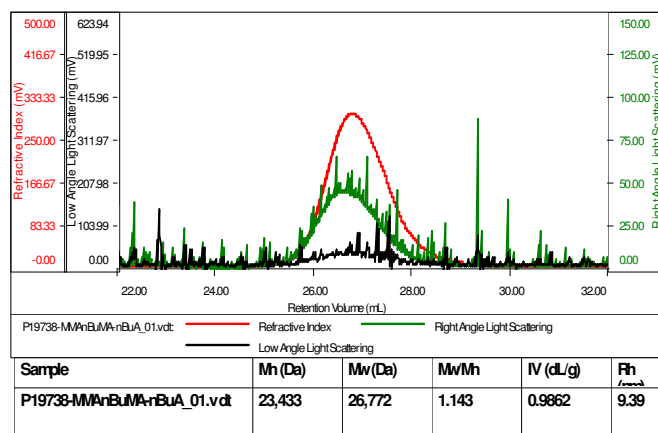
Concentration (mg/mL)	5.7274
Sample dn/dc (mL/g)	0.0940
Method File	PS80K-Jan-2016-0000.vcm
Column Set	3x PL 1113-6300
Solvent	THF



## SEC of MManBuMA-b-nBuA (product):

### Sample ID-P19738-2MManBuMAran-nBuA

Concentration (mg/mL)	5.9028
Sample dn/dc (mL/g)	0.0940
Method File	PS80K-Jan-2016-0000.vcm
Column Set	3x PL 1113-6300
Solvent	THF



## DSC thermogram (2<sup>nd</sup> heating run, 10°C/min):

Sample: P19738A-MManBuMAran-b-nBuA  
Size: 11.7000 mg

DSC

File: P19738-A\_002

