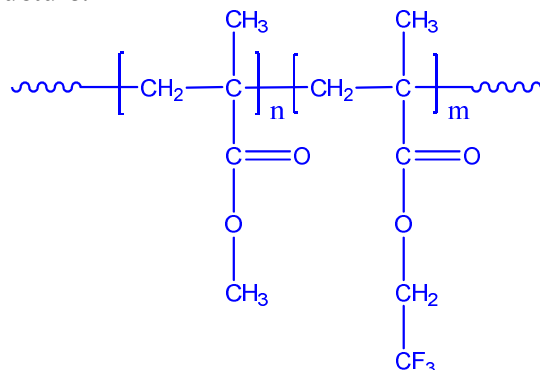


**Sample Name:** Poly(methylmethacrylate-b-2,2,2-trifluoroethyl methacrylate)

**Sample #:** P19165-MMAMATRIFE

**Structure:**



**Composition:**

Mn × 10 <sup>3</sup> MMA-b-MATRIFE	PDI
46.0-b-22.0	1.27

### Synthesis Procedure:

Poly(methyl methacrylate-b-2,2,2-trifluoroethyl methacrylate) (MATRIFE) block copolymer is synthesized by living anionic polymerization with sequence addition of methyl methacrylate followed by addition of MATRIFE. The obtained polymer was precipitation in methanol/water.

### Characterization:

Polymer was analyzed by size exclusion chromatography (SEC) to obtain the molecular weight and polydispersity index (PDI). The final block copolymer composition was calculated from HNMR.

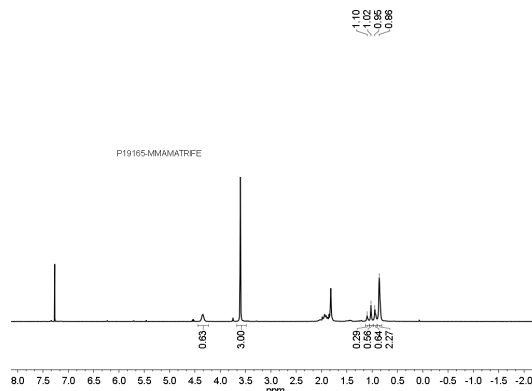
### Thermal analysis:

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<sub>g</sub>).

### Solubility:

Polymer is soluble in THF, chloroform etc, and precipitated into hexanes and water-methanol mixture.

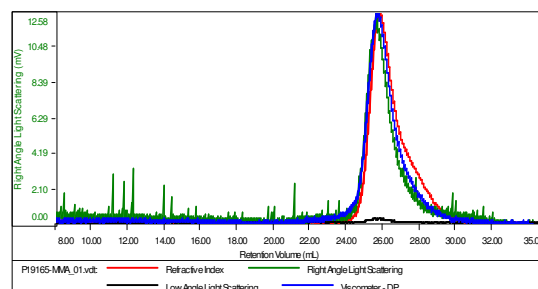
### <sup>1</sup>H-NMR Spectrum of the block copolymer:



### SEC of the block copolymer:

**Sample ID:** P19165-MMA block

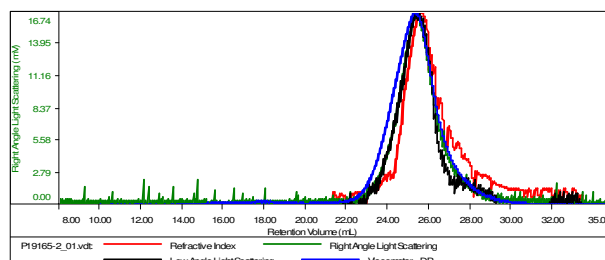
Concentration (mg/mL)	4.1937
Sample chn/c (mL/g)	0.0840
Method File	PS80K-March6-2015-0000.vcm
Column Set	3x PL 1113-6300
Solvent	THF



Sample	MW Number Average (Da)	MW Weight Average (Da)	MW at Peak (Da)	Polydispersity	Intrinsic Viscosity (dL/g)
P19165-MMA_01.vdt	46,409	52,644	57,118	1.134	0.1562

**Sample ID:** P19165-MMAMATRIFE

Concentration (mg/mL)	6.3060
Sample chn/c (mL/g)	0.0660
Method File	PS80K-March6-2015-0000.vcm
Column Set	3x PL 1113-6300
Solvent	THF



Sample	MW Number Average (Da)	MW Weight Average (Da)	MW at Peak (Da)	Polydispersity	Intrinsic Viscosity (dL/g)
P19165-2_01.vdt	82,086	104,697	107,312	1.275	0.2834