

## Product Profile

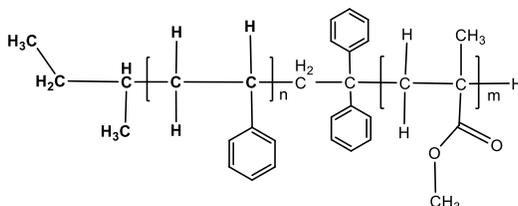
### Identification

**Product Name:** Poly(styrene-b-methylmethacrylate)

**Product Lot Number:** P7551-R-SMMA

**CAS #:** 25034-86-0

**Product Chemical Architecture:**



**Composition:**

<b>Composition (S-b-MMA)</b>	<b>71,000-b-24,000</b>
<b>MMA mole%</b>	<b>25.0</b>
<b>Tacticity (atac, iso, syn)</b>	<b>PMMA &gt; 78% syn</b>
<b>Mn (g/mole)</b>	<b>94,000</b>
<b>Mw (g/mole)</b>	<b>95,000</b>
<b>Mw/Mn</b>	<b>1.00</b>
<b>dn/dc (mL/g) in THF at 30 °C</b>	<b>0.161</b>

### Method of Synthesis

The polymer is synthesized by anionic polymerization process.

**Solubility in different solvents:**

THF	√	DMF	√
Alcohol	X	CHCl <sub>3</sub>	√
Toluene	<b>Depends on composition</b>	Water	X

### Validation of Architecture

#### A. Gel Permeation Chromatography (GPC), SEC Profile:

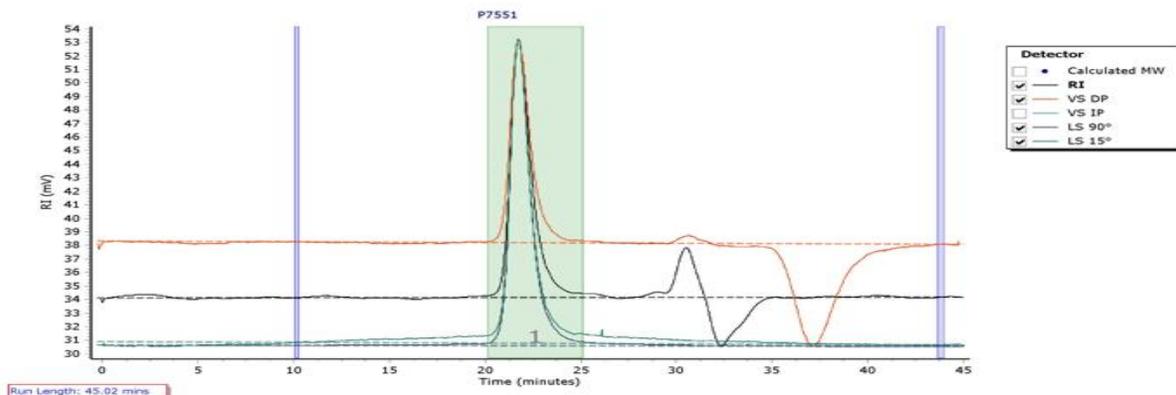
Molecular weights were determined by Agilent Technologie 1260 Infinity II GPC/SEC System equipped with Triple detector (RI, Viscometer, RALS 90° and LS 15°) and three columns (PLgel, 7.5x300 mm, 5µm-10µm, 10<sup>5</sup>-10<sup>6</sup>Å).

THF (stabilized BHT) with 1%(v/v%) TEA was the eluent. The flow rate was 1.0 ml/min.



P7551

Chromatogram Plot

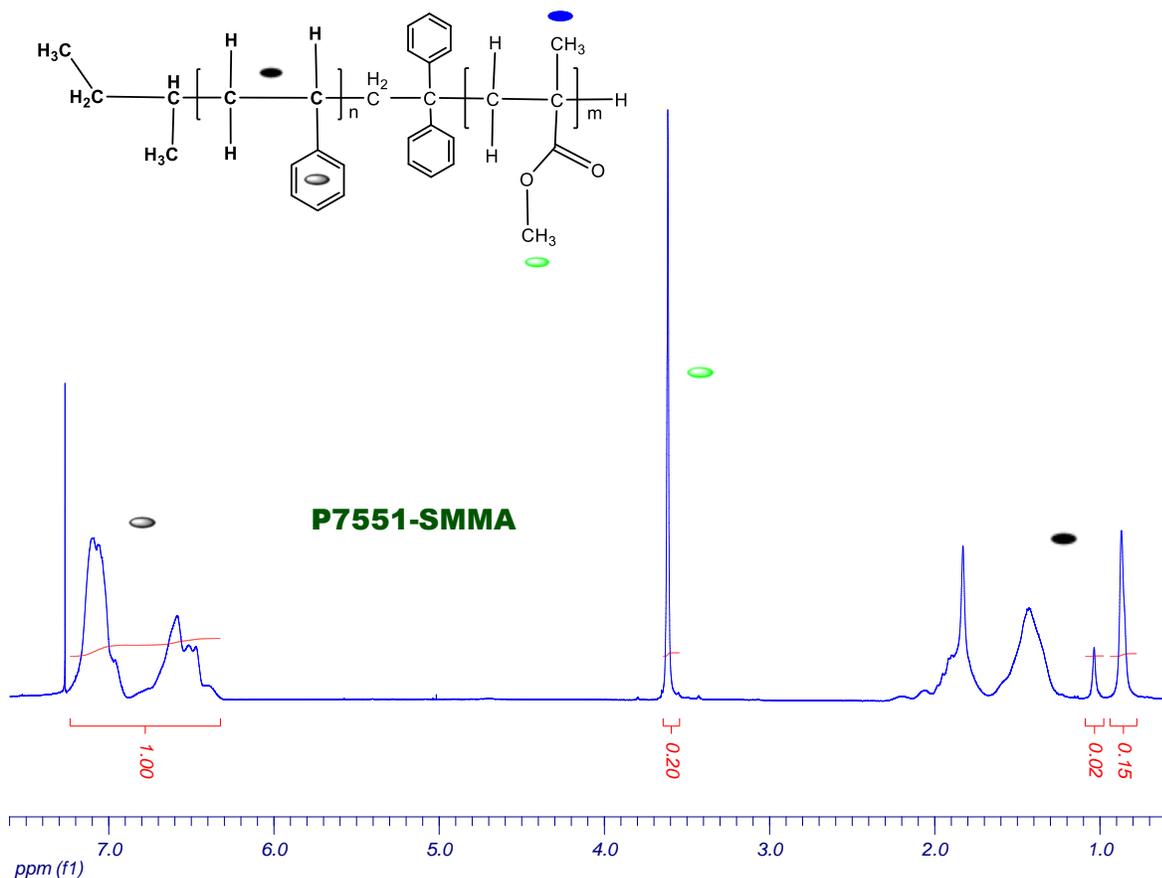


Molecular Weight Averages

Peak	Mp (g/mol)	Mn (g/mol)	Mw (g/mol)	Mz (g/mol)	Mz+1 (g/mol)	Mv (g/mol)	PD
Peak 1	96204	94299	94518	94726	94924	94699	1.002

B. NMR (H<sup>1</sup>NMR) of SMMA

SMMA sample was dissolved in CDCl<sub>3</sub>. <sup>1</sup>H NMR spectra was determined using a 500 MHz. Bruker Avance III spectrometer.



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