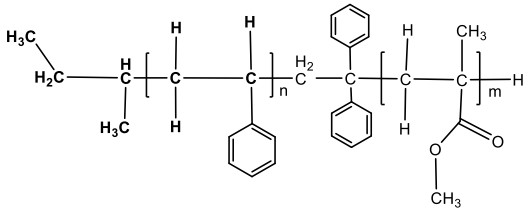
Product Profile

Identification

Product Name: Poly(styrene-b-methylmethacrylate)
Product Lot Number: P3931-R-SMMA
CAS #: 25034-86-0
Product Chemical Architecture:



Composition:

Composition (S-b-MMA)	**38,000-b-14,500**
MMA mole%	**27.7**
Tacticity (atac, iso, syn)	**PMMA > 78% syn**
Mn (g/mole)	**52,500**
Mw (g/mole)	**63,000**
Mw/Mn	**1.20**
dn/dc (mL/g) in THF at 30 ºC	**0.159**

Method of Synthesis

The polymer is synthesized by anionic polymerization process.

Solubility in different solvents:

THF	√	DMF	√
Alcohol	**X**	$CHCl_3$	√
Toluene	**Depends on composition**	Water	**X**

Validation of Architecture

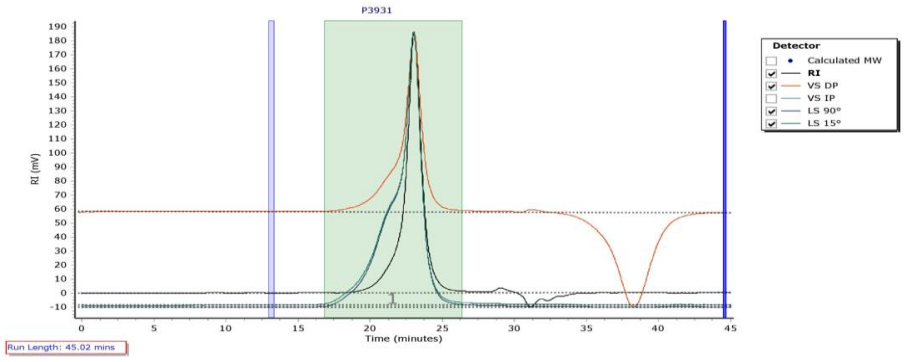
A. <u>Gel Permeation Chromatography (GPC), SEC Profile:</u>

Molecular weights were determined by Agilent Technologie 1260 Infinity II GPC/SEC System equipped with Triple detector (RI, Viscometer, RALS 90º and LS 15º) and three columns (PLgel, 7.5x300 mm, 5µm-10µm, 10^5-10^6Å). THF (stabilized BHT) with 1%(v/v%) TEA was the eluent. The flow rate was 1.0 ml/min.

Agilent GPC/SEC Software

P3931

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	52578	52456	63158	86637	155156	78334	1.204

B. NMR (H^1NMR) of SMMA

SMMA sample was dissolved in $CDCl_3$. ^1H NMR spectra was determined using a 500 MHz. Bruker Avance III spectrometer.