

# Product Profile

## Identification

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

**Product Lot Number:** P3565-R-SMMA

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

**Product Chemical Architecture:**



**Composition:**

Composition (S-b-MMA)	55,000-b-12,000
MMA mole%	17.6
Tacticity (atac, iso, syn)	PMMA > 78% syn
Mn (g/mole)	67,000
Mw (g/mole)	69,000
Mw/Mn	1.03
dn/dc (mL/g) in THF at 30 °C	0.168

## Method of Synthesis

The polymer is synthesized by anionic polymerization process.

**Solubility in different solvents:**

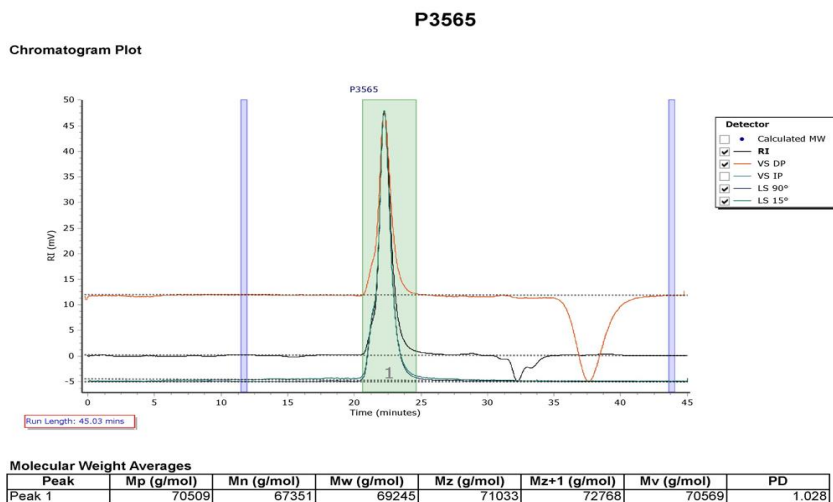
THF	√	DMF	√
Alcohol	X	CHCl <sub>3</sub>	√
Toluene	Depends on composition	Water	X

## 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.

**Agilent GPC/SEC Software**



### B. NMR ( $^1\text{H}$ NMR) of SMMA

SMMA sample was dissolved in  $\text{CDCl}_3$ .  $^1\text{H}$  NMR spectra was determined using a 500 MHz. Bruker Avance III spectrometer.

