

Product Profile

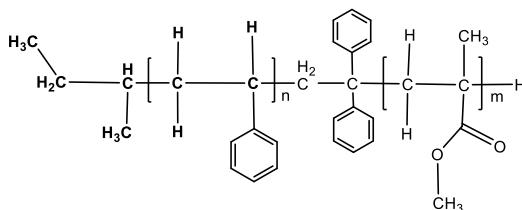
Identification

Product Name: Poly(styrene-b-methylmethacrylate)

Product Lot Number: P4746-R-SMMA

CAS #: 25034-86-0

Product Chemical Architecture:



Composition:

Composition (S-b-MMA)	13,000-b-90,500
MMA mole%	87.7
Tacticity (atac, iso, syn)	PMMA > 78% syn
Mn (g/mole)	103,000
Mw (g/mole)	107,000
Mw/Mn	1.03
dn/dc (mL/g) in THF at 30 °C	0.102

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

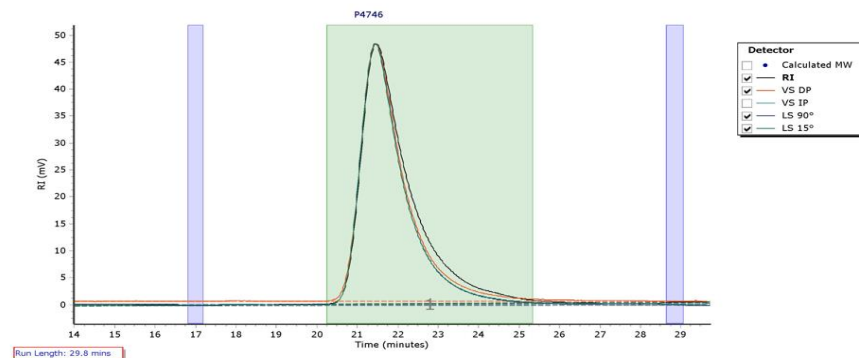
A. Gel Permeation Chromatography (GPC), SEC Profile:

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, 10⁵-10⁶Å). THF (stabilized BHT) with 1%(v/v%) TEA was the eluent. The flow rate was 1.0 ml/min.

Agilent GPC/SEC Software

P4746

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	116629	103298	106681	109454	111748	109361	1.033

B. NMR (¹H NMR) of SMMA

SMMA sample was dissolved in CDCl₃. ¹H NMR spectra was determined using a 500 MHz. Bruker Avance III spectrometer.

