

Product Profile

Identification

Product Name: Poly(styrene-b-methylmethacrylate)

Product Lot Number: P4745-R-SMMA

CAS #: 25034-86-0

Product Chemical Architecture:



Composition:

Composition (S-b-MMA)	14,000-b-86,000
MMA mole%	85.6
Tacticity (atac, iso, syn)	PMMA > 78% syn
Mn (g/mole)	100,000
Mw (g/mole)	117,000
Mw/Mn	1.18
dn/dc (mL/g) in THF at 30 °C	0.104

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

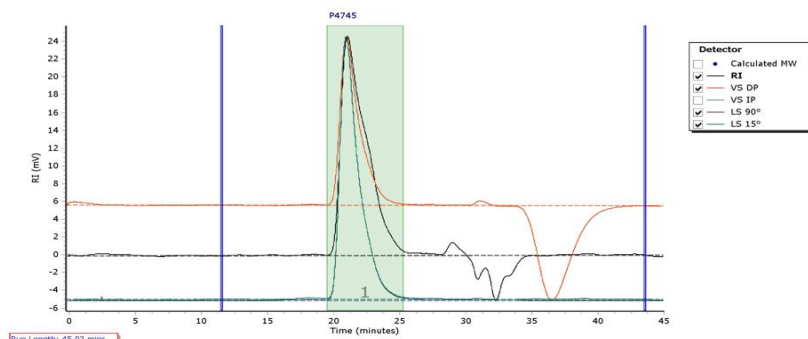
A. Gel Permeation Chromatography (GPC), SEC Profile:

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

P4745

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	146936	99886	117386	132156	143968	132124	1.175

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.

