

Product Profile

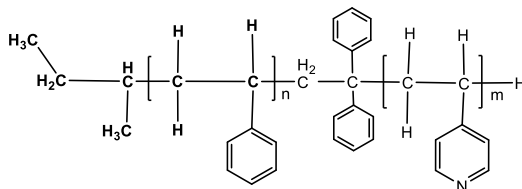
Identification

Product Name: Poly(styrene-b-4-vinyl-pyridine)

Product Lot Number: P45578-S4VP

CAS #: 26222-40-2

Product Chemical Architecture:



Composition:

Composition (S-b-4VP)	12,000-b-12,000
Mn (g/mole)	24,000
Mw (g/mole)	25,500
Mw/Mn	1.06
dn/dc (mL/g) in DMF at 35 °C	0.163

Method of Synthesis

The polymer is synthesized by anionic polymerization process.

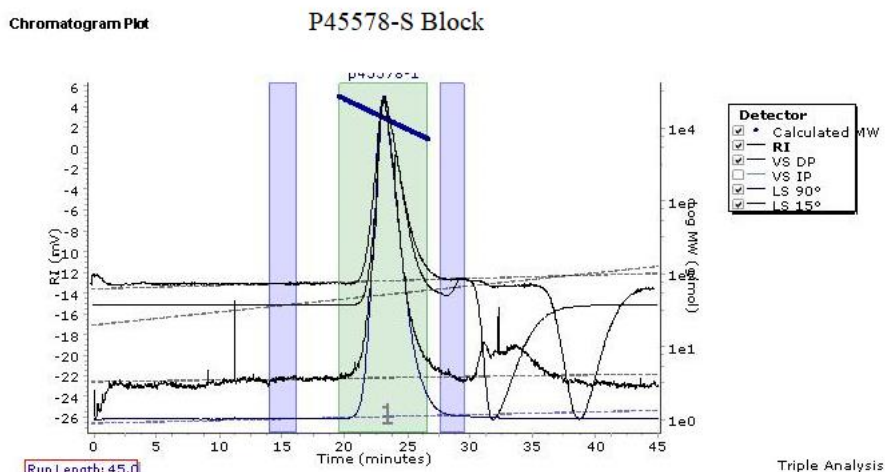
Solubility in different solvents:

THF	Depends on composition	DMF	√
Alcohol	Depends on composition	CHCl ₃	√
Toluene _(hot)	X	Water	X

Validation of Architecture

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

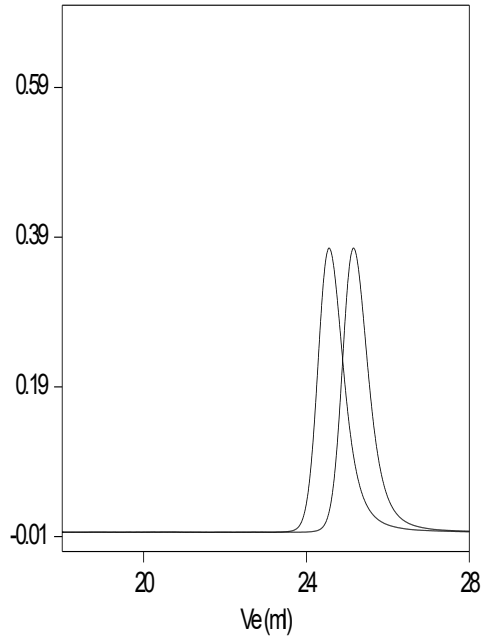
Molecular weights were determined by Malvern OmniSec Reveal & Resolve GPC/SEC System equipped with Triple detector (RI, Viscometer, RALS 90° and LALS 7°) and two columns (PSS, SDV, 8x300 mm). DMF with 0.023M LiBr was the eluent. The flow rate was 0.7 ml/min.



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	13851	12244	12662	13056	13422	12993	1.034

P45578-S4VP



Size exclusion chromatography of polystyrene-b-poly(4-vinylpyridine)

- Polystyrene, $M_n=12,000$, $M_w=12,800$, $PI=1.02$
- Block Copolymer PS(12,000)-b-P4VP(12,000), $PI=1.06$ Run in DMF

B. NMR (1H NMR) of S4VP in DMF, 500 MHz

