

Product Profile

Identification

Product Name: Poly(styrene-b-2-vinyl-pyridine)

Product Lot Number: P4704-R-S2VP

CAS #: 24980-54-9

Product Chemical Architecture:



Composition:

Composition (S-b-2VP)	78,000-b-46,000
2VP mole %	37.4
Mn (g/mole)	124,000
Mw (g/mole)	129,000
Mw/Mn	1.04
dn/dc (mL/g) in DMF at 35 °C	0.161

Method of Synthesis

The polymer is synthesized by anionic polymerization process.

Solubility in different solvents:

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

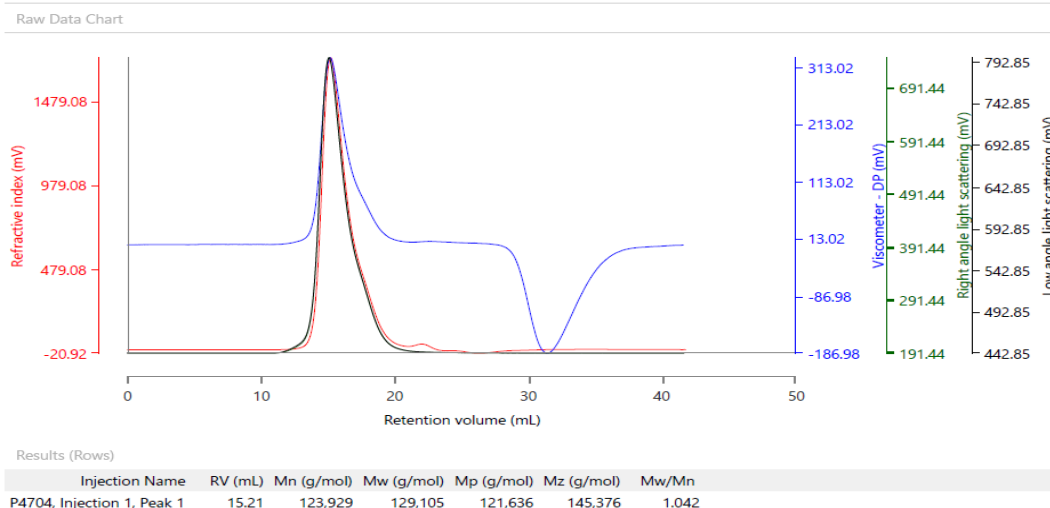
Validation of Architecture

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.

Polymer Source

Malvern Panalytical



The figure displays the ¹H NMR spectrum of the polymer P4704-R-S2VP. The x-axis represents the chemical shift in ppm (f1), ranging from 9.0 to 0.5. The y-axis represents the intensity, ranging from -200 to 3200. The spectrum shows several distinct peaks: a multiplet between 8.0 and 8.5 ppm (integration 1.00), a large multiplet between 6.0 and 7.5 ppm (integration 11.38), a small peak at approximately 3.5 ppm, a multiplet between 1.5 and 2.5 ppm, and a multiplet between 0.5 and 1.5 ppm. The chemical structure of P4704-R-S2VP is shown above the spectrum, featuring a backbone with various substituents, including methyl groups, phenyl rings, and a pyridine ring. The structure is labeled with 'n' and 'm' to indicate repeating units. A green circle highlights the pyridine ring in the structure, and a red circle highlights the methyl group in the structure.