

# Product Profile

## Identification

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

**Product Lot Number:** P5153-R-S4VP

**CAS #:** 26222-40-2

**Product Chemical Architecture:**

**Composition:**

<b>Composition (S-b-4VP)</b>	<b>339,000-b-53,000</b>
<b>4VP mole %</b>	<b>13.6</b>
<b>Mn (g/mole)</b>	<b>393,000</b>
<b>Mw (g/mole)</b>	<b>402,000</b>
<b>Mw/Mn</b>	<b>1.03</b>
<b>dn/dc (mL/g) in DMF at 35 °C</b>	<b>0.163</b>

## Method of Synthesis

The polymer is synthesized by anionic polymerization process.

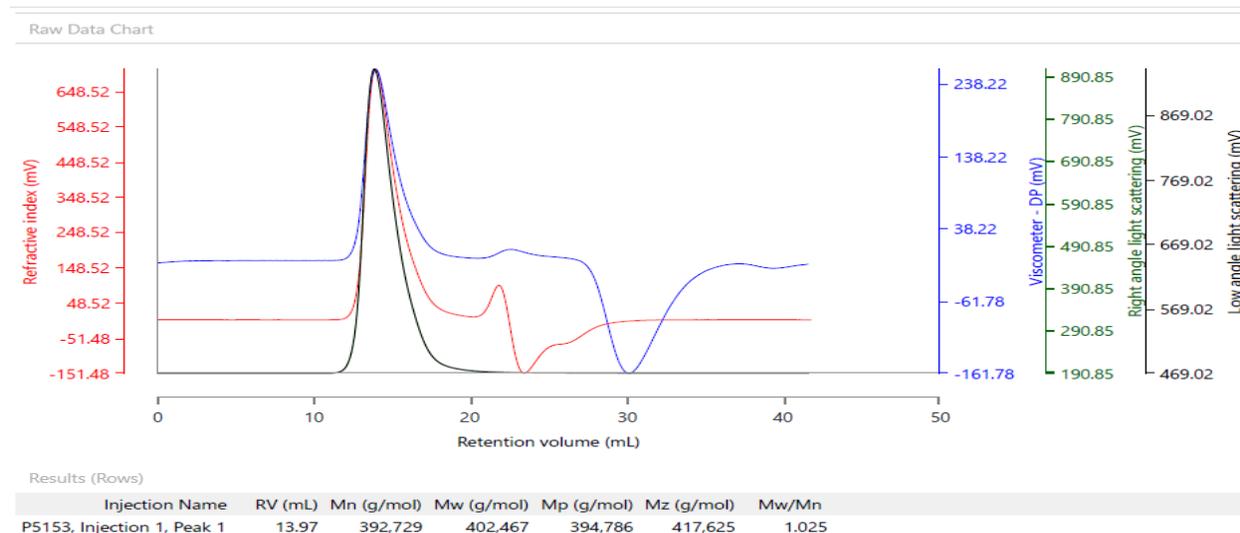
**Solubility in different solvents:**

THF	Depends on composition	DMF	√
Alcohol	Depends on composition	CHCl <sub>3</sub>	√
Toluene <sub>(hot)</sub>	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.



B. NMR ( $^1\text{H}$ NMR) of S4VP in  $\text{CDCl}_3$ , 500 MHz

