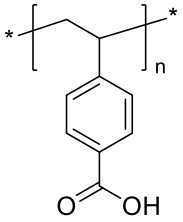
Product Name: **Poly(4-vinylbenzoic acid)**

Product ID: **P7493B-VBA**

Structure:

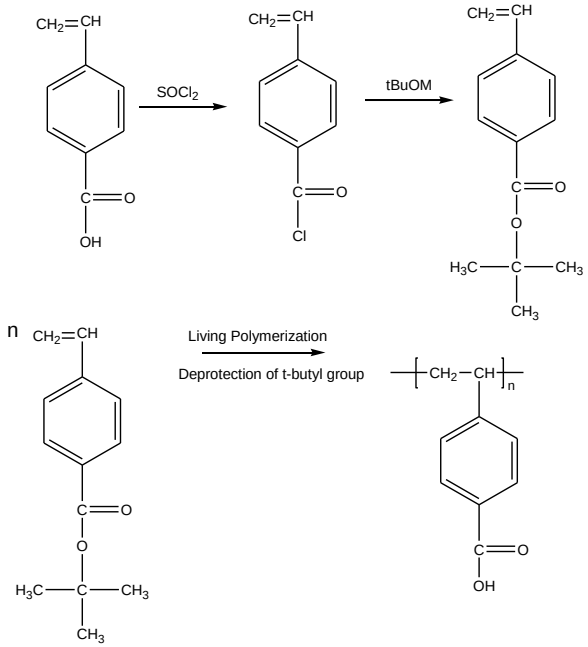


Composition:

$M_n \times 10^3$ (g/mol)	M_w/M_n
2.5	1.3

Synthesis Procedure:

Poly(4-vinyl benzoic acid) was synthesized by making the t-butyl vinylbenzoate monomer followed by polymerization and hydrolysis of the t-butyl ester group. The reaction scheme is shown below.



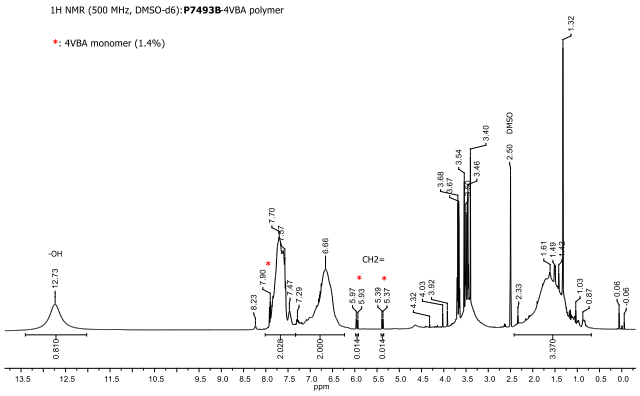
Characterization:

The molecular weight and polydispersity index of poly(t-butyl vinylbenzoate) were obtained by size exclusion chromatography (SEC). The molecular weight of the final product – poly(4-vinyl benzoic acid) – was calculated from poly(t-butyl vinylbenzoate) SEC data. The purity of the polymer was checked by proton NMR and FT-IR spectroscopies.

Solubility:

The polymer is soluble in DMSO, DMF, methanol, ethanol; and it precipitates from water and hexanes.

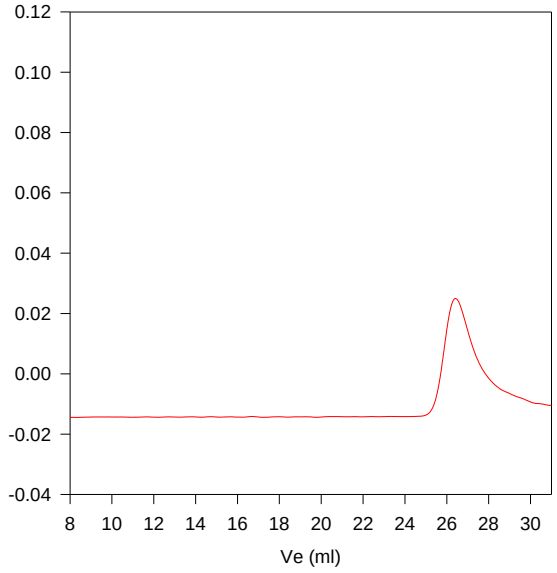
^{1}H NMR of poly(4-vinylbenzoic acid) in DMSO-d_6:



P7493B-4VBA polymer contains 1.4% 4-vinylbenzoic acid monomer.

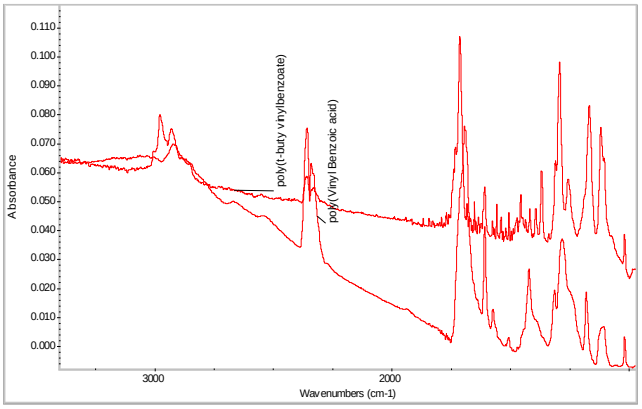
SEC of poly(t-butyl vinylbenzoate) in THF:

P7493B-tBuVB(precursor for the 4 vinyl benzoic acid)



Size exclusion chromatograph of the poly ter.butyl vinyl benzoate:
Mn : 3500 Mw: 4500 Mw/Mn 1.3
after the hydrolysis of tert.butyl ester:
poly 4 vinyl benzoic acid: Mn 2500 Mw/Mn 1.3

FTIR spectra:



(v. I-02)