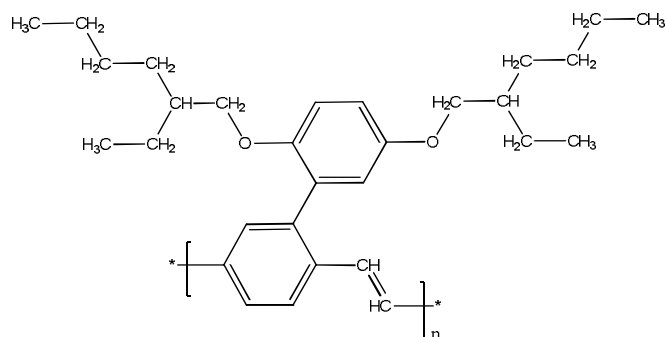


**Sample name:** Poly[2-(2',5'-bis(2''-ethylhexyloxy)phenyl)-1,4-phenylenevinylene]

**Sample #:** P16007A-BEHP-PPV

CAS No: 160894-98-4

#### Structure:

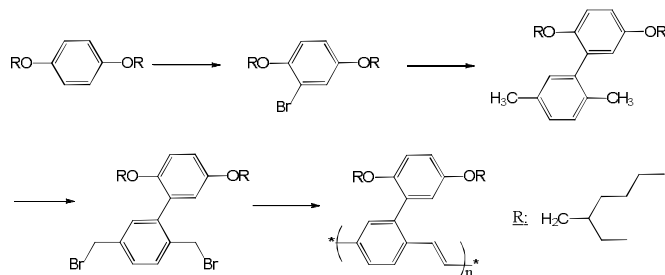


#### Composition:

$M_n \times 10^3$	PDI
31.0	4.3

#### Synthesis procedure:

Scheme of the polymer synthesis is presented below:



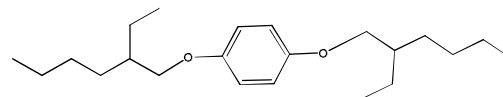
#### Characterization:

The molecular structure of the polymer was confirmed by  $^1\text{H}$  NMR spectroscopy. The molecular weight and polydispersity index were obtained by size exclusion chromatography (SEC) using THF as an eluent. It was observed that RI signal is weak in spite of concentration of polymer solution was 10 mg/mL. Light scattering signal was taken into account to determine molecular weights using  $dn/dc$  for polystyrene.

#### Solubility:

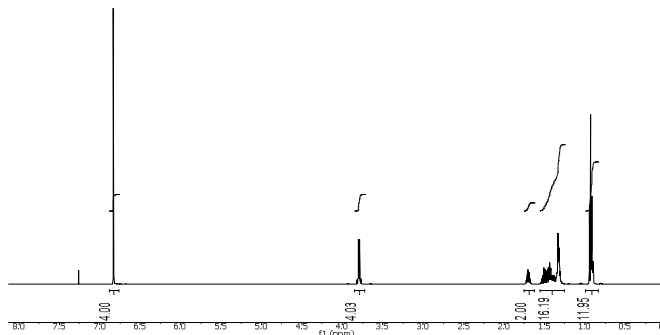
BEHP-PPV polymer is soluble in THF,  $\text{CHCl}_3$ , xylene.

#### $^1\text{H}$ NMR of 1,4-bis((2'-ethylhexyloxy) benzene:

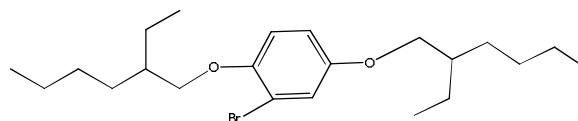


Chemical Formula:  $\text{C}_{22}\text{H}_{38}\text{O}_2$   
Exact Mass: 334.29

Chemical shift:	Protons:	Peak:
0.9 ppm	12H	multiplet
1.3–1.5 ppm	16H	multiplet
1.7 ppm	2H	multiplet
3.8 ppm	4H	doublet
6.8 ppm	4H	singlet

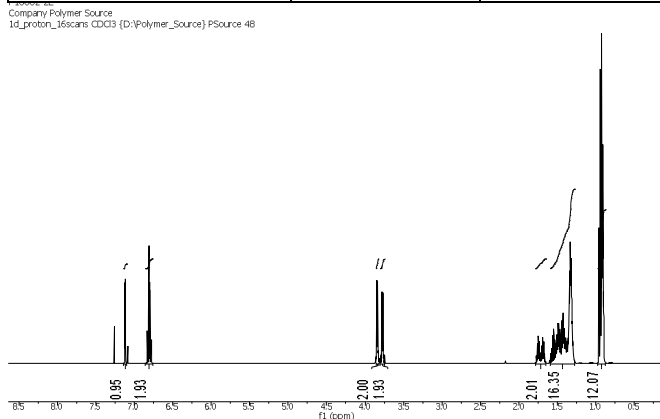


#### $^1\text{H}$ NMR of 2-bromo-1,4-bis(2'-ethylhexyloxy) benzene:

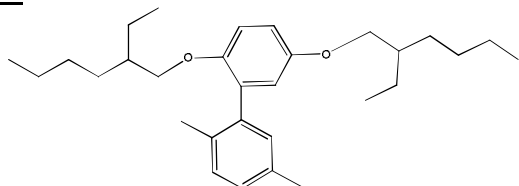


Chemical Formula:  $\text{C}_{22}\text{H}_{37}\text{BrO}_2$   
Molecular Weight: 413.43

Chemical shift:	Protons:	Peak:
0.9 ppm	12H	multiplets
1.3–1.5 ppm	16H	multiplets
1.7 ppm	2H	multiplets
3.7 ppm	2H	doublet
3.8 ppm	2H	doublet
6.8 ppm	1H	doublet
6.8 ppm	1H	singlet
7.1 ppm	1H	doublet

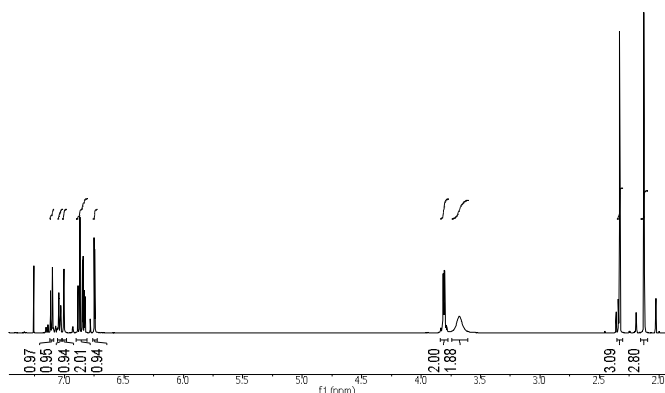


# <sup>1</sup>H NMR of 2-(1',4'-bis(2''-ethylhexyloxy)benzene-p-xylene:

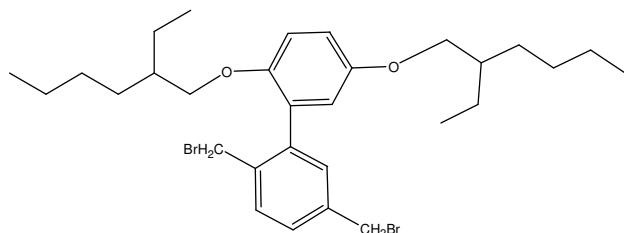


Chemical shift:	Protons:	Peak:
0.72	3H	t
0.80	3H	t
0.91	12H	m
1.1-1.2	7H	m
1.3-1.5	8H	m
1.70	1H	m
3.68	2H	dd
3.83	2H	dd
4.39	2H	dd (not clear)
4.48	2H	dd (not clear)
6.87	1H	s
6.89	2H	s
7.24	1H	d
7.36	1H	dd
7.49	1H	d

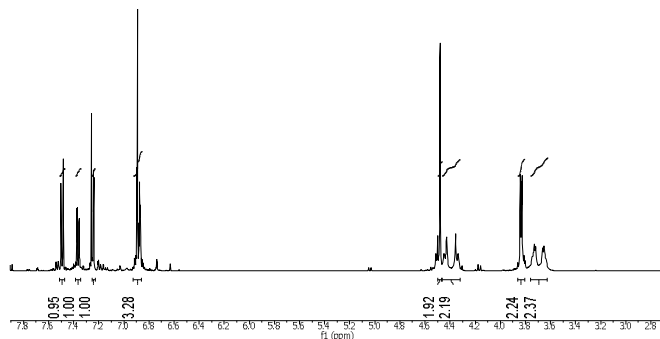
Company Polymer Source  
1d\_proton\_16scans CDCl3 (D:\Polymer\_Source) PSource 45



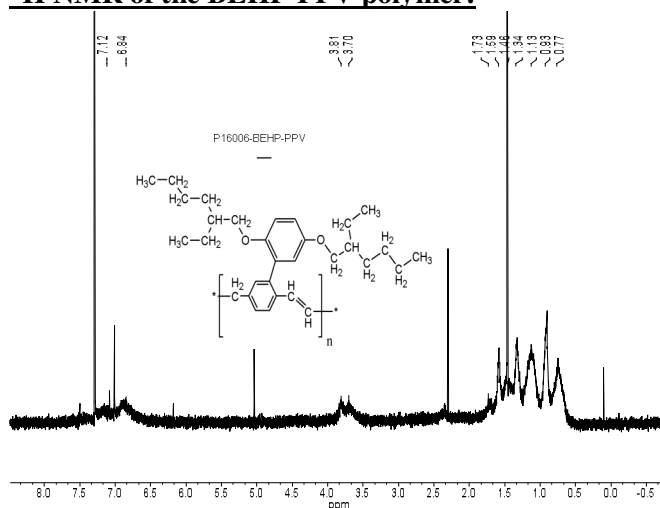
# <sup>1</sup>H NMR of 2-(1',4'-bis(2''-ethylhexyloxy)benzene)-1,4-bis(bromomethyl)benzene:



Company Polymer Source  
1d\_proton\_16scans CDCl3 (D:\Polymer\_Source) PSource 29

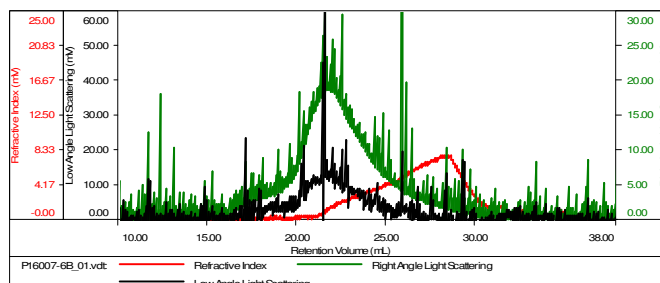


# <sup>1</sup>H NMR of the BEHP-PPV polymer:



# SEC elugram of the BEHP-PPV polymer: Sample ID:P16007A-BEHP-PPV

Concentration (mg/mL)	0.5155
Sample dn/dc (mL/g)	0.1850
Method File	PS80K-April-18-2016-0001.vom
Column Set	3x PL 1113-6000
Solvent	THF



Sample	Mn(Da)	Mw(Da)	Mw/Mn	IV (dL/g)	Rh (nm)	Ret Vol (mL)
P16007-6B_01.v	30,994	132,557	4.277	1.0000	13.32	28.347