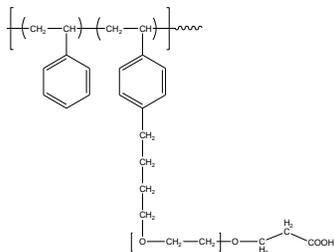


**Sample Name: Polystyrene Graft Ethylene Oxide  
Functionalized with carboxy acid groups**

**Sample #: P41760A-SEOCOOHcomb**

**Structure:**

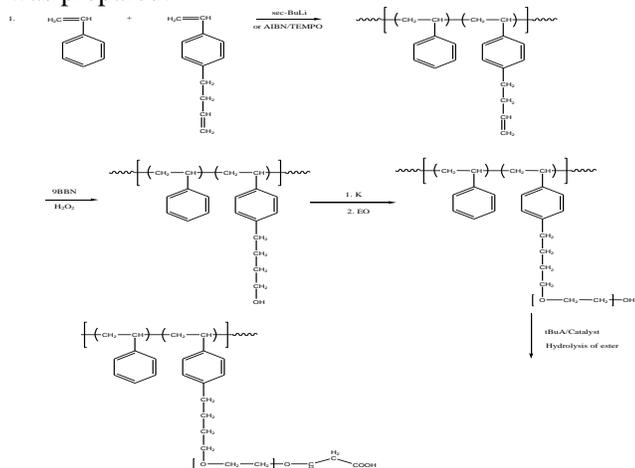


**Composition:**

Mn x 10 <sup>3</sup> (Main Chain)	Mn x 10 <sup>3</sup> (Graft Chain)	Mn x 10 <sup>3</sup> (Total Chain)	Mw/Mn (Total)
6.0	12.0	126.0	1.10
PEO: 10 branches			

**Synthesis Procedure:**

Polystyrene-g-poly (ethylene oxide) is synthesized by polymerization of ethylene oxide on the polystyrene bearing hydroxyl functions. The following reaction scheme shows how the product was prepared:



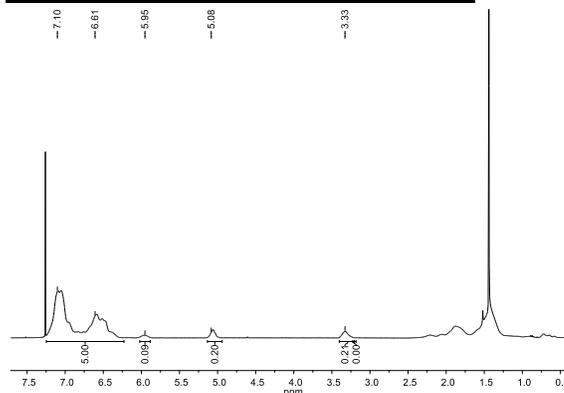
**Characterization:**

The product was characterized by size exclusion chromatography (SEC) and <sup>1</sup>H NMR.

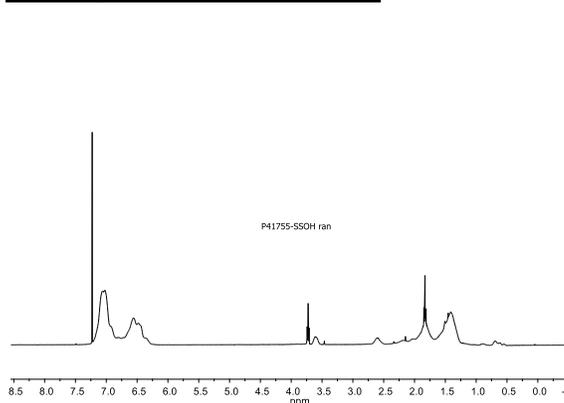
**Solubility:**

Polystyrene-g-poly (ethylene oxide) is soluble in THF, DMF, chloroform, and Toluene. It precipitates from hexanes and cold ether.

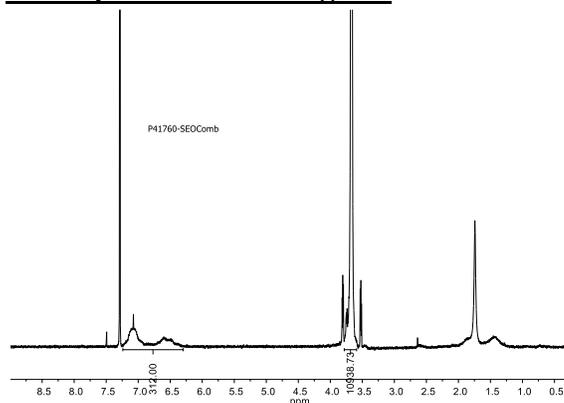
**NMR spectrum of SSButene random:**



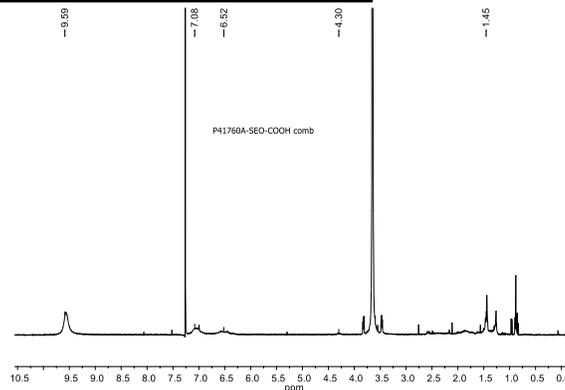
**NMR spectrum of SSButanol:**



**NMR spectrum of SSEO graft:**

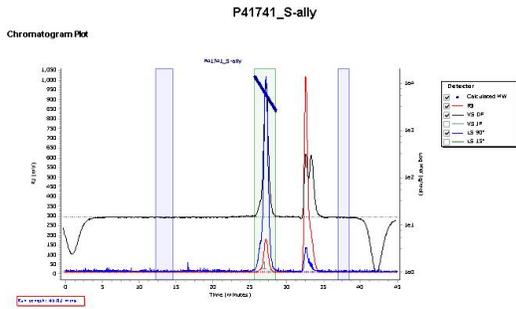


**NMR spectrum of the Sample:**



## SEC elugram of SSallyl ran Lot P41741:

Agilent GPC/SEC Software



Molecular Weight Averages

Peak	MP (g/mol)	Mn (g/mol)	Mw (g/mol)	Mz (g/mol)	Mz+1 (g/mol)	Mv (g/mol)	PI
Peak 1	6076	6777	6026	6304	6628	6198	1.043

## SEC elugram of the Sample:

Agilent GPC/SEC Software

