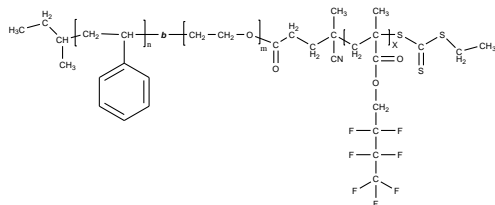


**Sample Name: Poly (styrene-b-ethylene oxide-b-2,2,3,3,4,4-Heptafluorobutyl methacrylate)**

**Sample #: P41573-SEOHFBMA**

### Structure:



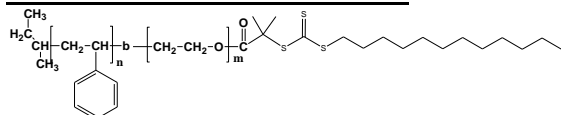
**Composition:**

Mn x 10 <sup>3</sup> S-b-EO-b-HFBMA	PDI
13.0-b-6.5-b-6.5	1.05

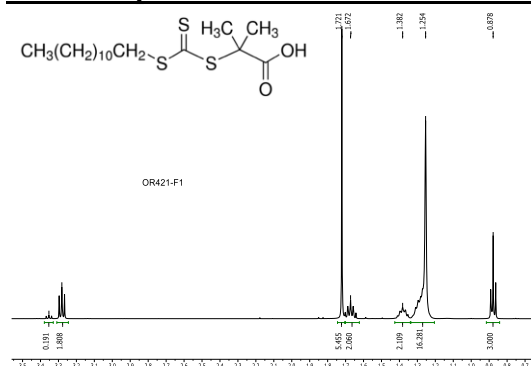
### Synthesis Procedure:

The polymer was prepared by combination of anionic and RAFT polymerization process.

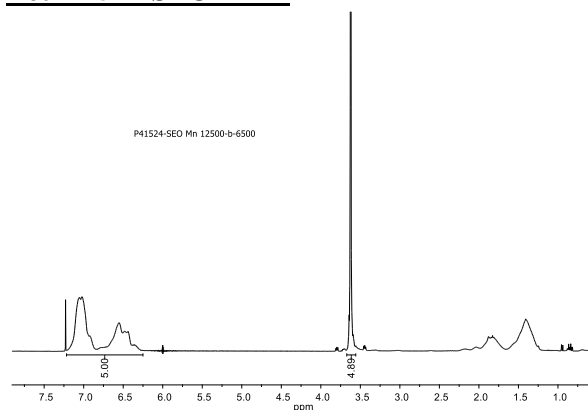
**RAFT macroinitiator structure:**



**<sup>1</sup>H NMR spectrum of the RAFT macroinitiator:**



### **<sup>1</sup>H NMR spectrum of the SEO Sample in CdCl<sub>2</sub>: LotP41524-SEORAF<sub>T</sub>**

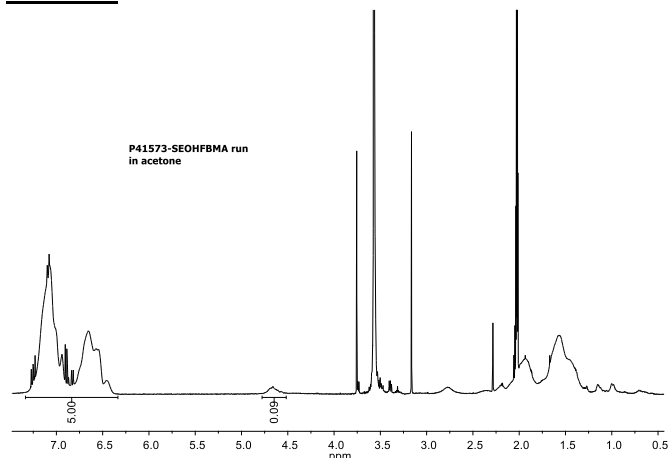


### HNMR analysis of the triblock copolymer:

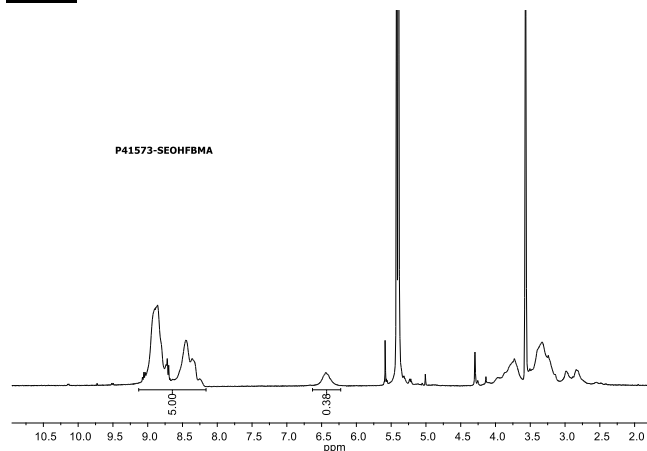
HNMR analysis in  $\text{CdCl}_2$ ,  $\text{D}_6$  Acetone gives ambiguity compositions of HFBMA moiety.

Following are the results in  $\text{CdCl}_2$  or acetone. THF was found the good solvent for the determination of HFBMA composition in triblock copolymer.

### **HNMR spectrum of the SEOHFBMA Sample in d6-Acetone:**



### **HNMR spectrum of the SEOHFBMA Sample in d8-THF:**

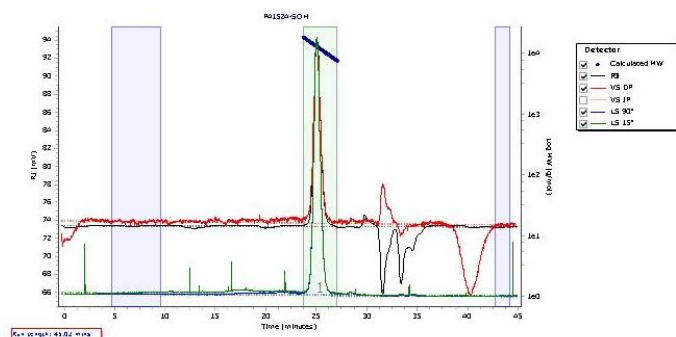


## SEC profile of the SOH Sample:

Agilent GPC/SEC Software

P41524-SOH

Chromatogram Plot



Molecular Weight Averages

Peak	Mp (g/mol)	Mn (g/mol)	Mw (g/mol)	Mz (g/mol)	Mz+1 (g/mol)	Mv (g/mol)	PD
Peak 1	13003	12766	12885	13002	13117	12975	1.009

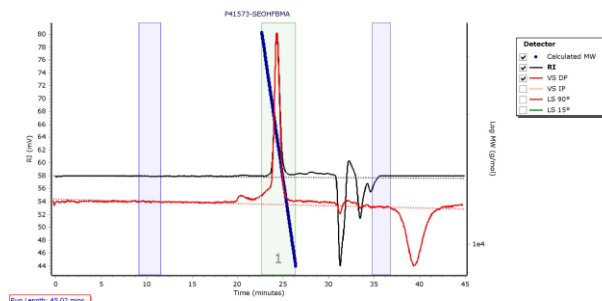
Processing Parameters

## SEC elugram of the Sample:

Agilent GPC/SEC Software

P41573-SEOHFBMA

Chromatogram Plot



Molecular Weight Averages

Peak	Mp (g/mol)	Mn (g/mol)	Mw (g/mol)	Mz (g/mol)	Mz+1 (g/mol)	Mv (g/mol)	PD
Peak 1	26527	24762	26142	27362	26659	27489	1.056

## Solubility in Different solvents:

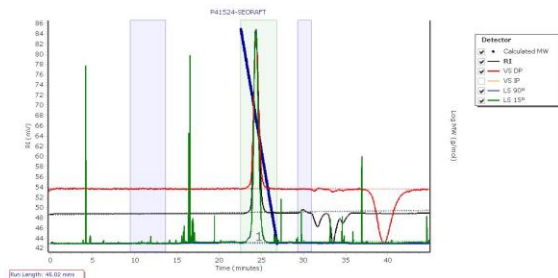
CHCL3	Insoluble
THF	Clear at 35 °C
Acetone	Soluble at Room temperature
DMF	Insoluble

## SEC elugram of the SEO-RAFT Sample:

Agilent GPC/SEC Software

P41524-SEORAFT

Chromatogram Plot



Molecular Weight Averages

Peak	Mp (g/mol)	Mn (g/mol)	Mw (g/mol)	Mz (g/mol)	Mz+1 (g/mol)	Mv (g/mol)	PD
Peak 1	19595	19343	19415	19498	19555	19471	1.004

Processing Parameters

Method: RI  
 Concentration Detector Used in Analysis: RI  
 Injection volume (μL): 100.00  
 Flow rate (mL/min): 1.00  
 Concentration options: Calculate Sample Concentration from Entered Sample Properties  
 Entered dn/dc (mL/g): 0.148  
 Entered Ext Coeff (L/mg/mL): 1.000  
 Calculated RI concentration (mg/mL): 1.705

GPC of the final polymer shows elution counts retarded in comparison to SEO RAFT diblock copolymer. From GPC only, molecular weight distribution calculated and compositions from its HNMR analysis.

Furthermore, Homo poly 2,2,3,3,4,4-Heptafluorobutyl methacrylate polymer shows negative dn/dc in THF.