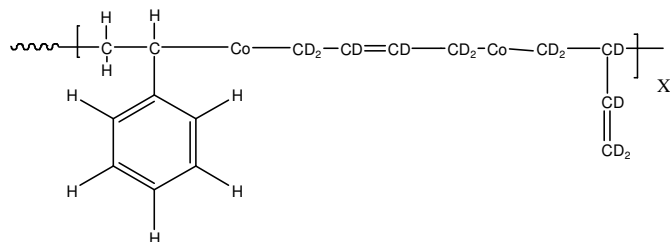


**Sample Name: Random Copolymer**  
**Poly(Styrene-co-deuterated Butadiene (d6))**

(Note: PS block is protonated, PBd block is deuterated.)

**Sample # P18634-PSdBdran**

Structure:



**Composition: dPs : 25 wt%**

$M_n \times 10^3$ SdBdran	PDI
43.0	1.20

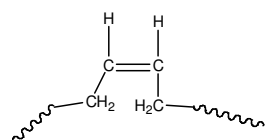
Tg	-24°C
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**Synthesis:**

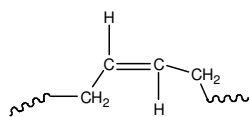
By anionic polymerization in the presence of t-BuOLi and TEMEDA at 60°C.

**Characterization:**

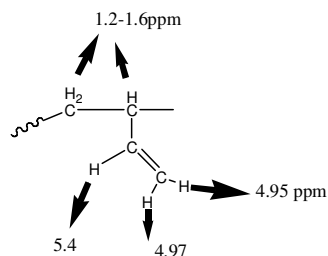
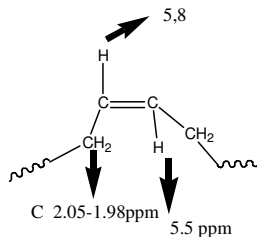
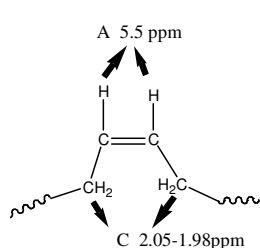
Size exclusion chromatography (SEC): Varian liquid chromatograph equipped with light scattering detector and refractive detector (Viscotek model 270) .



Cis 1,4 addition

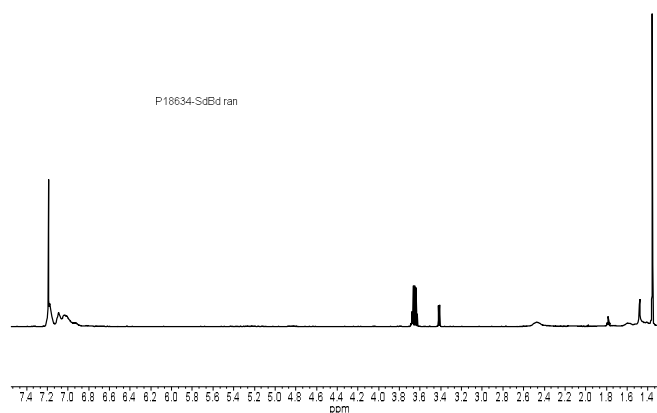
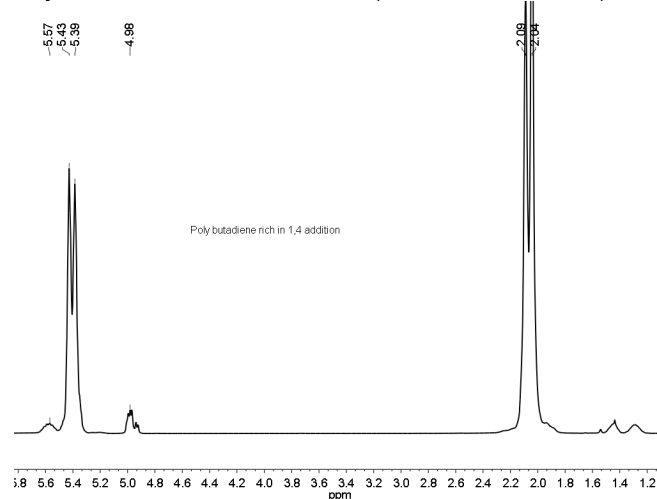


Trans 1,4 addition



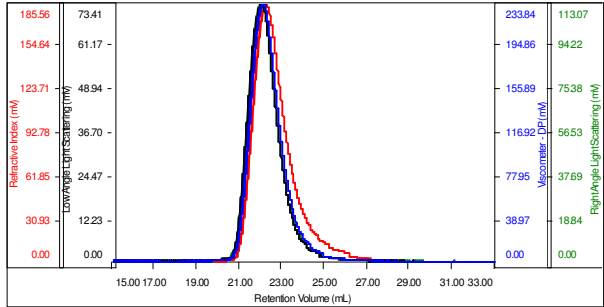
**<sup>1</sup>H NMR spectra (500 MHz, CDCl<sub>3</sub>):**

PolyButadiene rich in 1,4 addition (used for calculations):



SEC elugram of PS-d<sub>6</sub>Bd random copolymer:  
Sample ID: P18634-SdBd ran

Concentration (mg/mL)	28.3579
Sample dn/dc (mL/g)	0.1290
Method File	PS80K-Apr15-2014-0000.vcm
Column Set	3xPL 1113-6300
System	System 1



Sample	Mh	Mw	Mp	Mw/Mh	IV
P18634-SdBdran_01.vdt	43,052	53,650	60,225	1.246	0.2598

DSC:

