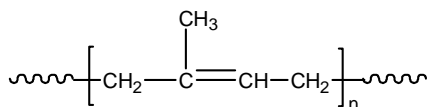


**Sample Name:** Polyisoprene, *rich in 1,4-addition*

**Sample #:** P18953A-lp



### Composition:

Mn x 10 <sup>3</sup>	Mw/Mn
316.0	1.05

### Microstructure:

1,4-addition		1,2- & 3,4-addition
Cis-isomer	Trans-isomer	
90 %	10 %	—

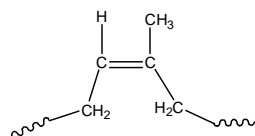
### Synthesis Procedure:

Polyisoprene was obtained by living anionic polymerization.

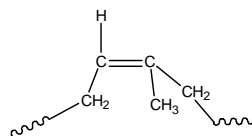
### Characterization:

The microstructure of polymer was calculated from <sup>1</sup>H NMR data. Molecular weight and polydispersity index (M<sub>w</sub>/M<sub>n</sub>) of the polymer were determined by size exclusion chromatography (SEC).

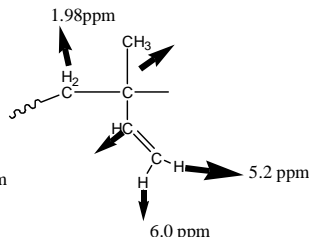
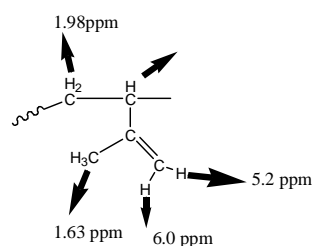
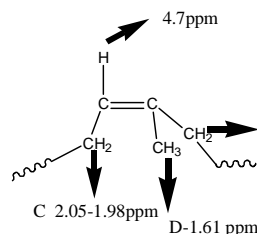
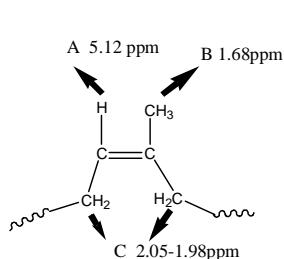
### Proton shifts in <sup>1</sup>H NMR:



Cis 1,4 addition

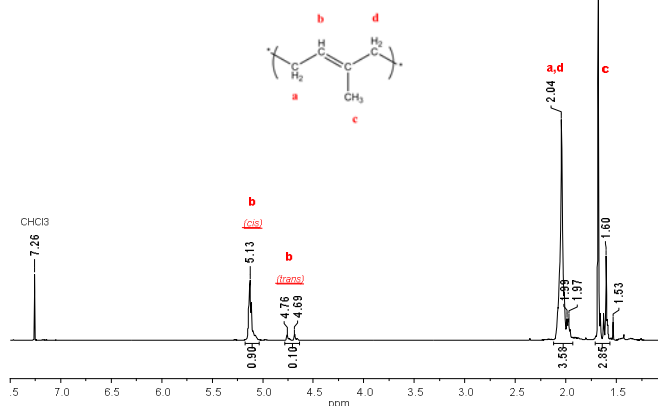


Trans 1,4 addition



### <sup>1</sup>H NMR (500 MHz; CDCl<sub>3</sub>) of polyisoprene:

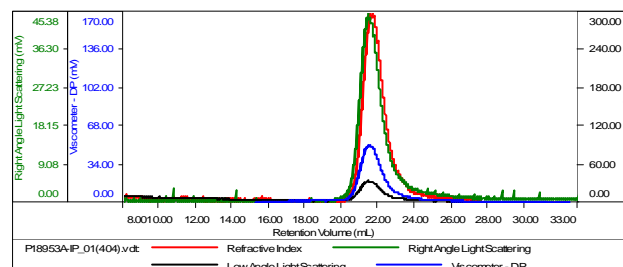
<sup>1</sup>H NMR (500 MHz, CDCl<sub>3</sub>) of P18953A-lp



### SEC elugram of polyisoprene:

Sample ID: P18953A-IP

Concentration (mg/mL)	1.6327
Sample dn/dc (mL/g)	0.1250
Method File	PS80K-NDV-2014-0008.vcm
Column Set	3x PL 1113-6300
Solvent	THF



Sample	MW Number Average (Da)	MW Weight Average (Da)	MW at Peak (Da)	Polydispersity	Intrinsic Viscosity (dL/g)
P18953A-IP_01(404).vdt	316,288	331,257	308,199	1.047	1.1706