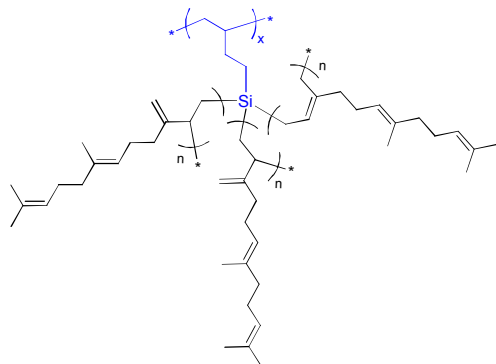


Sample Name:

Polyfarnesene grafted on silyl-modified oligo(1,2-butadiene)

Alternate Name: Nine-arm 1,4-Polyfarnesene

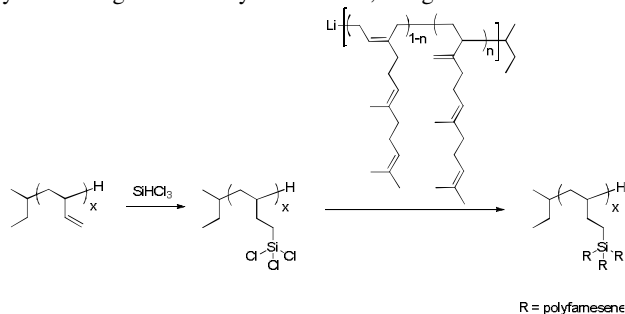
Sample # P18419-9-Farne



M _n (arm), g/mol	M _n (total), g/mol	M _w /M _n
4.5 × 10 ³	40.0 × 10 ³	1.07

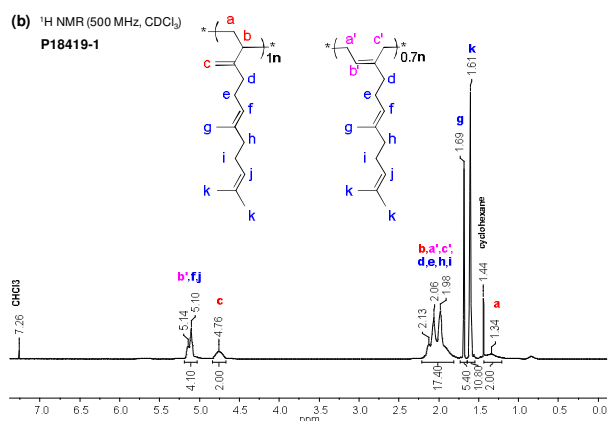
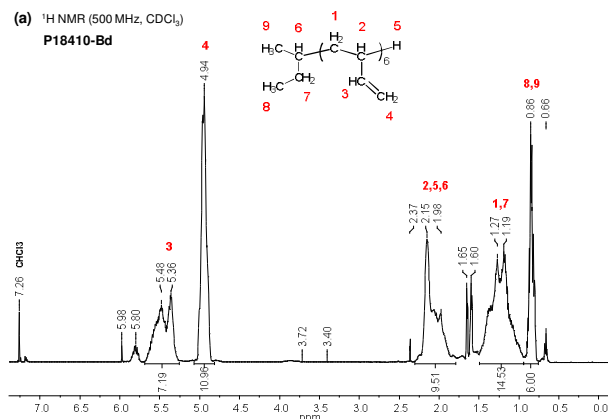
Synthesis and Purification:

1,2-polybutadiene (main chain) and polyfarnesene (arms) were synthesized (separately) by anionic living polymerization of 1,3-butadiene in THF and β-farnesene in THF/cyclohexane, respectively, using secBuLi as an initiator. Polybutadiene was coupled with trichlorosilane and added to polyfarnesene, resulted in polyfarnesene grafted on silyl-modified 1,2-oligobutadiene.

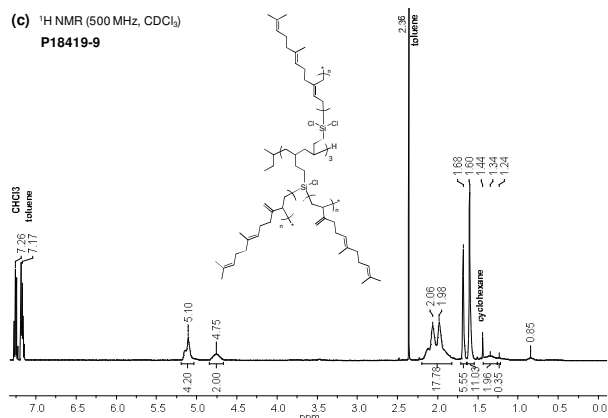


Characterization:

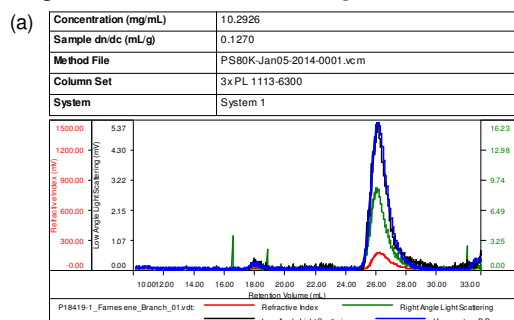
¹H NMR: (a) oligobutadiene (Dp=6), (b) polyfarnesene, (c) star.



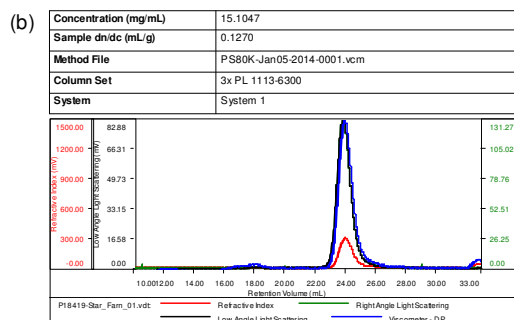
Ratio 1,2-polyfarnesene : 1,4-polyfarnesene = 0.4 : 0.6



SEC elugrams: (a) PF arm, (b) PBd-g-PF.



Sample	M _n	M _w	M _p	M _w /M _n	IV
P18419-1_Farnesene_Branch_01.vdt	4,561	4,736	4,971	1.038	0.0486



Sample	M _n	M _w	M _p	M _w /M _n	IV
P18419-Star_Fam_01.vdt	39,852	42,496	43,297	1.066	0.0828