

Supporting Information for
Studies on the Selective Synthesis of Diorganyl Diselenides Using Potassium
Hydroxide and Their Mechanistic Investigations

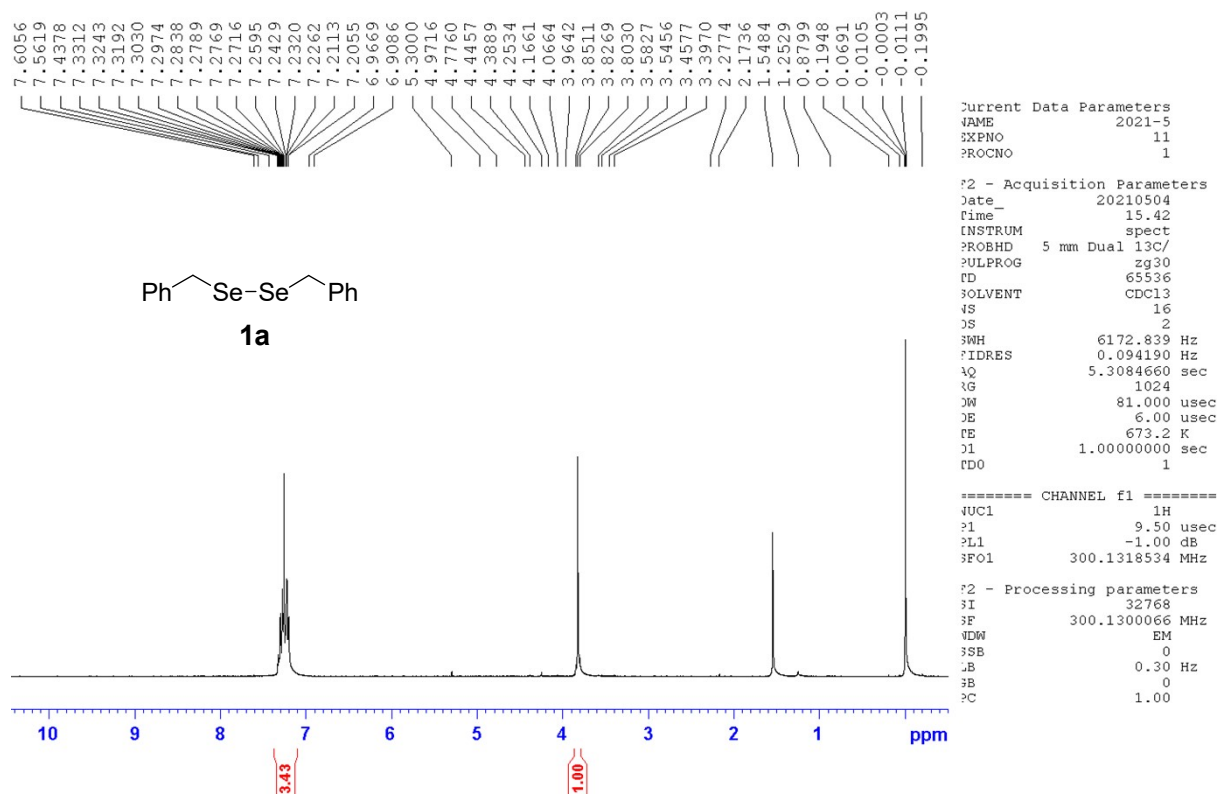
Sang Hyup Lee *, Yoo Jin Lim, Chorong Kim, Ye Eun Kim and Hyunsung Cho

College of Pharmacy and Innovative Drug Center, Duksung Women's

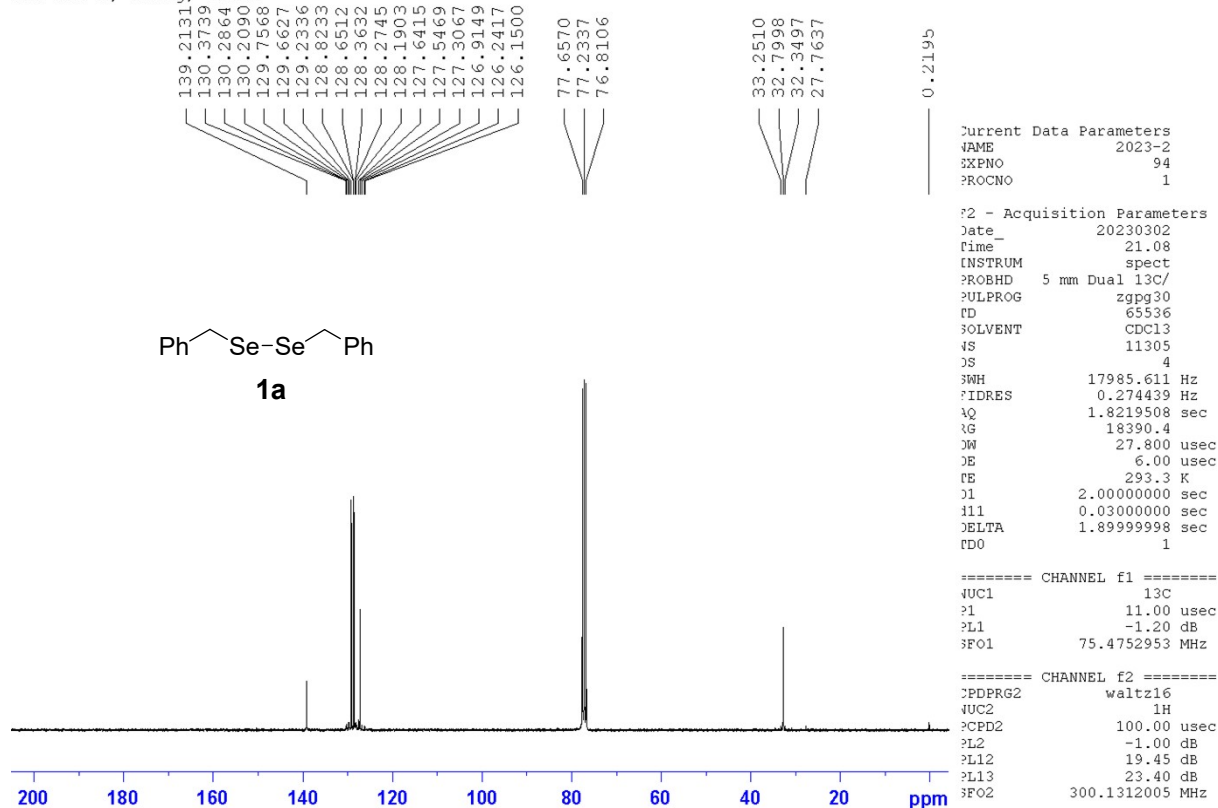
University, Seoul 01369, Republic of Korea,

*sanghyup@duksung.ac.kr

LYJ-399-A, CDCl₃



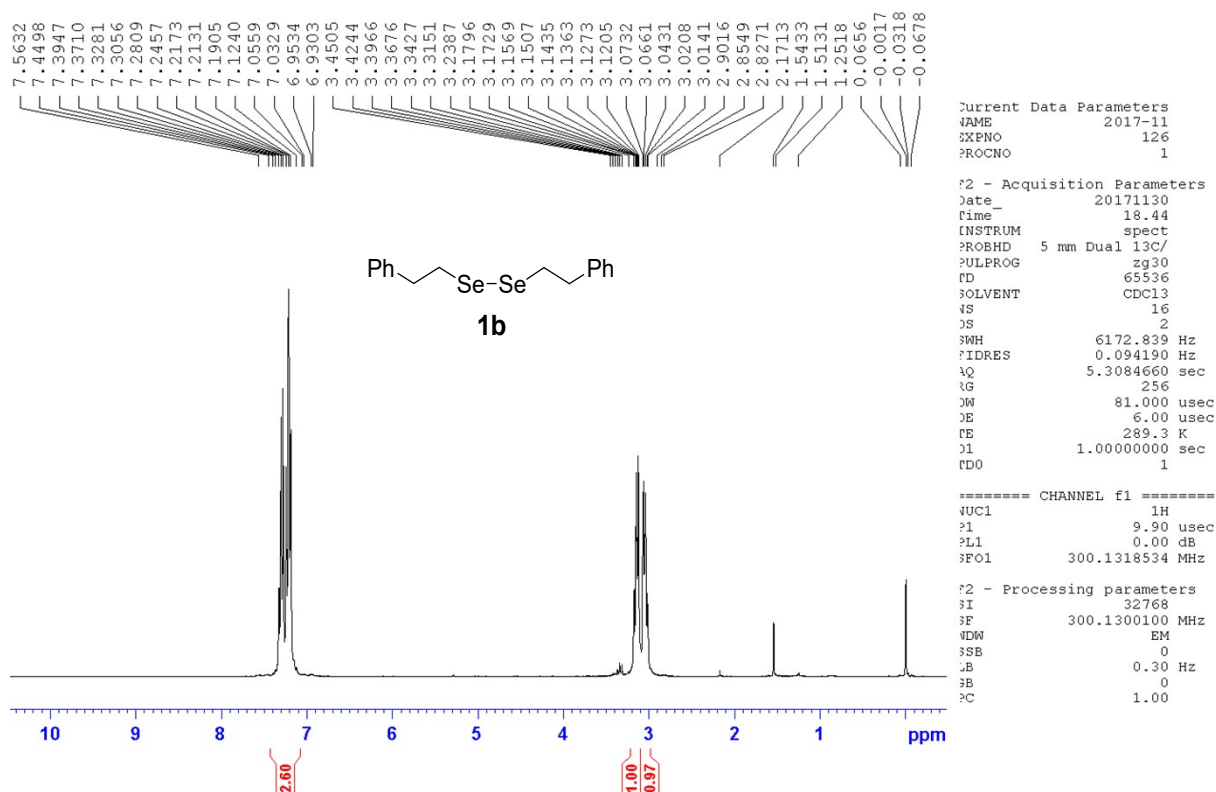
LYJ-608-A, 11 mg, CDCl₃



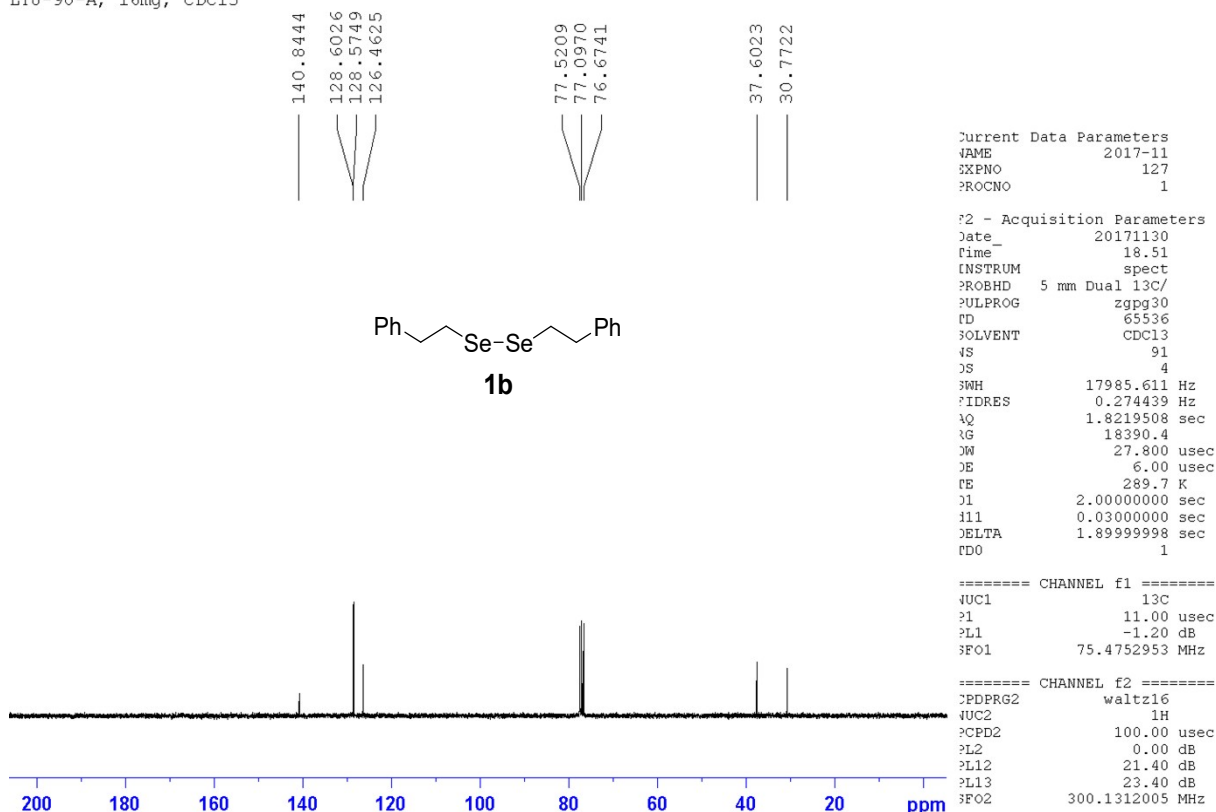
¹H NMR spectrum (300 MHz, CDCl₃) of compound 1a

¹³C NMR spectrum (75 MHz, CDCl₃) of compound 1a

LYJ-90-A, 16mg, CDCl₃



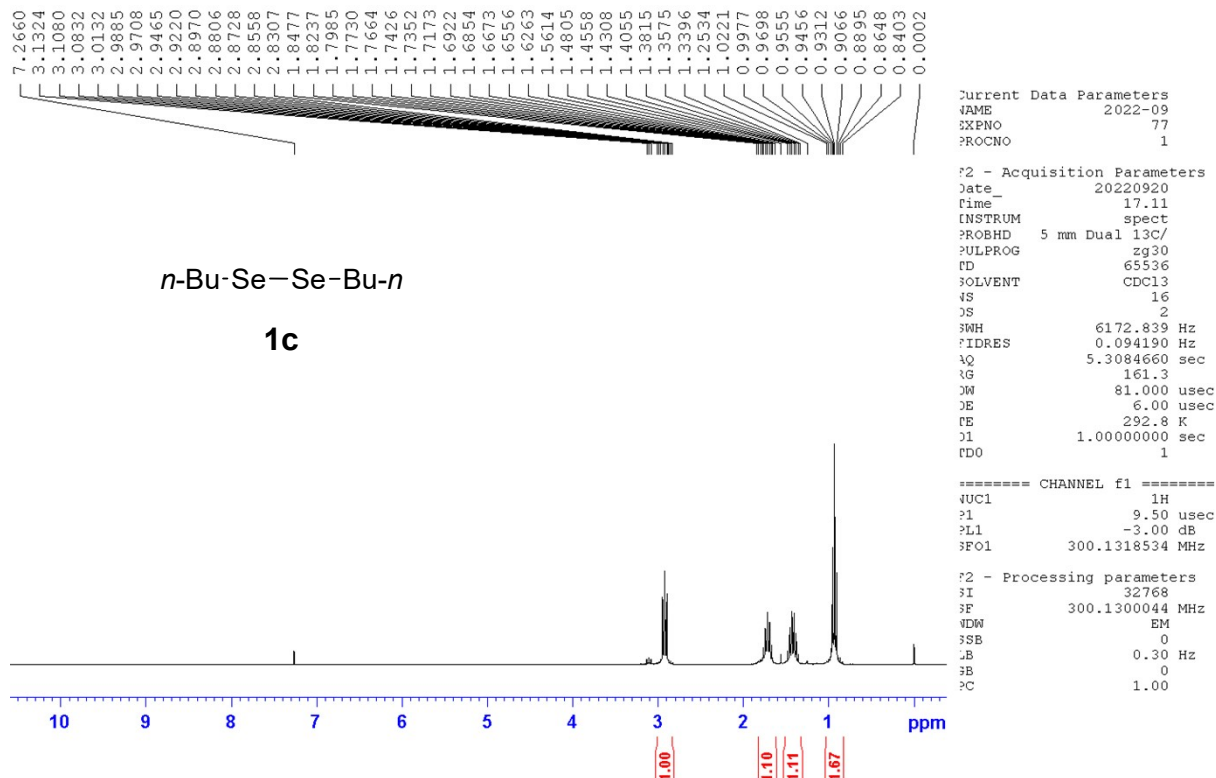
LYJ-90-A, 16mg, CDCl₃



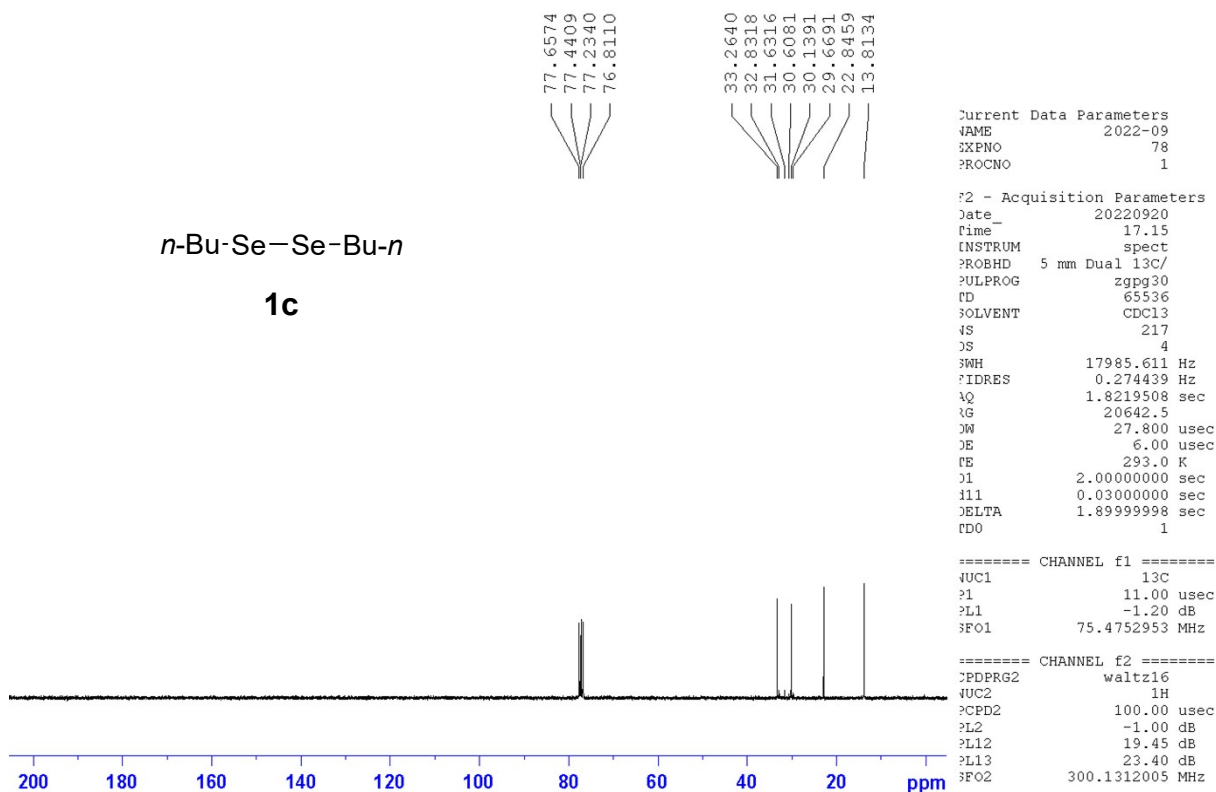
¹H NMR spectrum (300 MHz, CDCl₃) of compound 1b

¹³C NMR spectrum (75 MHz, CDCl₃) of compound 1b

LYJ-422-A, 19.2 mg, CDCl₃



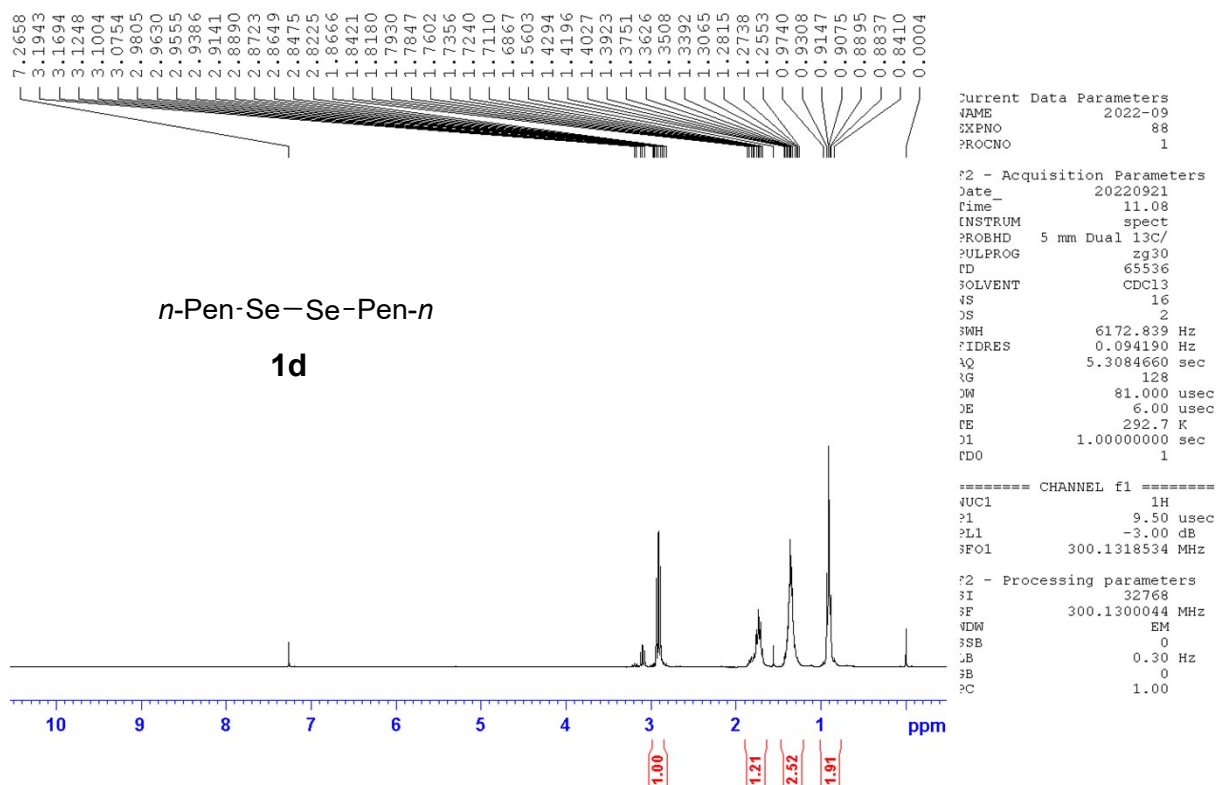
LYJ-422-A, 19.2 mg, CDCl₃



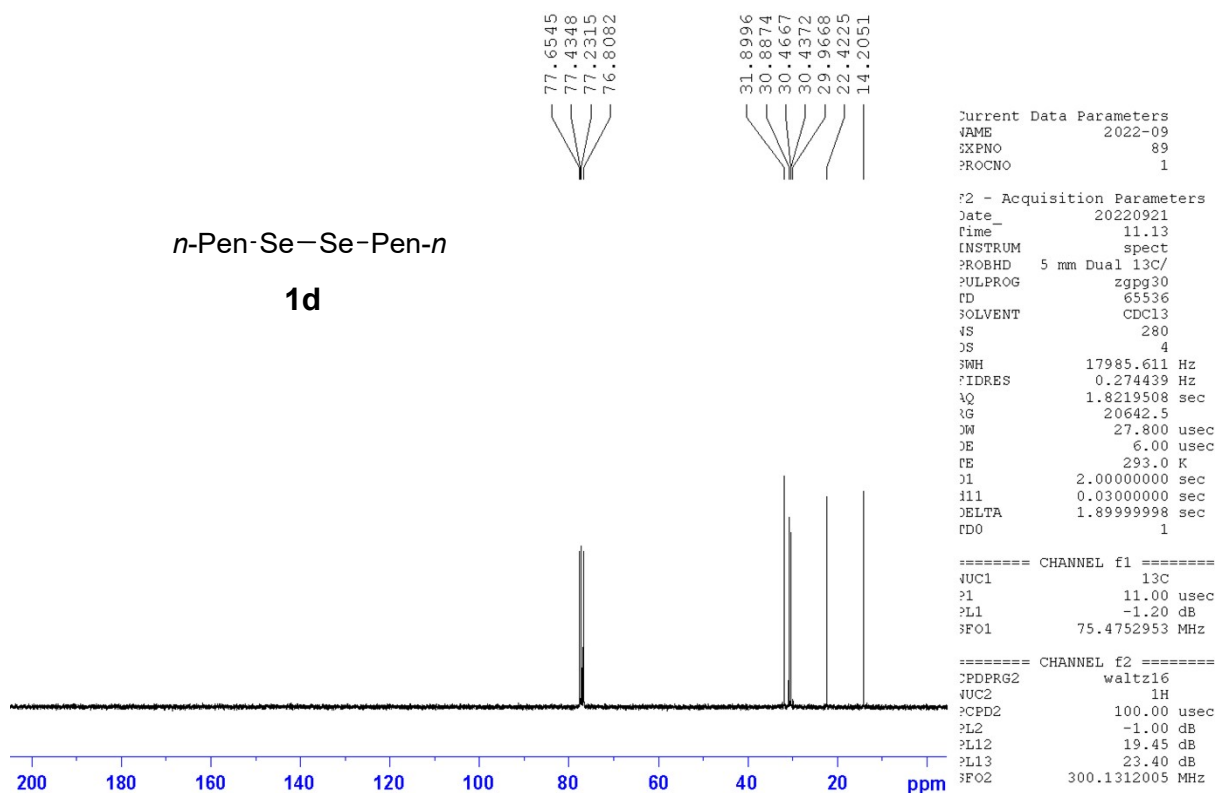
¹H NMR spectrum (300 MHz, CDCl₃) of compound 1c

^{13}C NMR spectrum (75 MHz, CDCl_3) of compound 1c

LYJ-429-A, 23 mg, CDCl₃



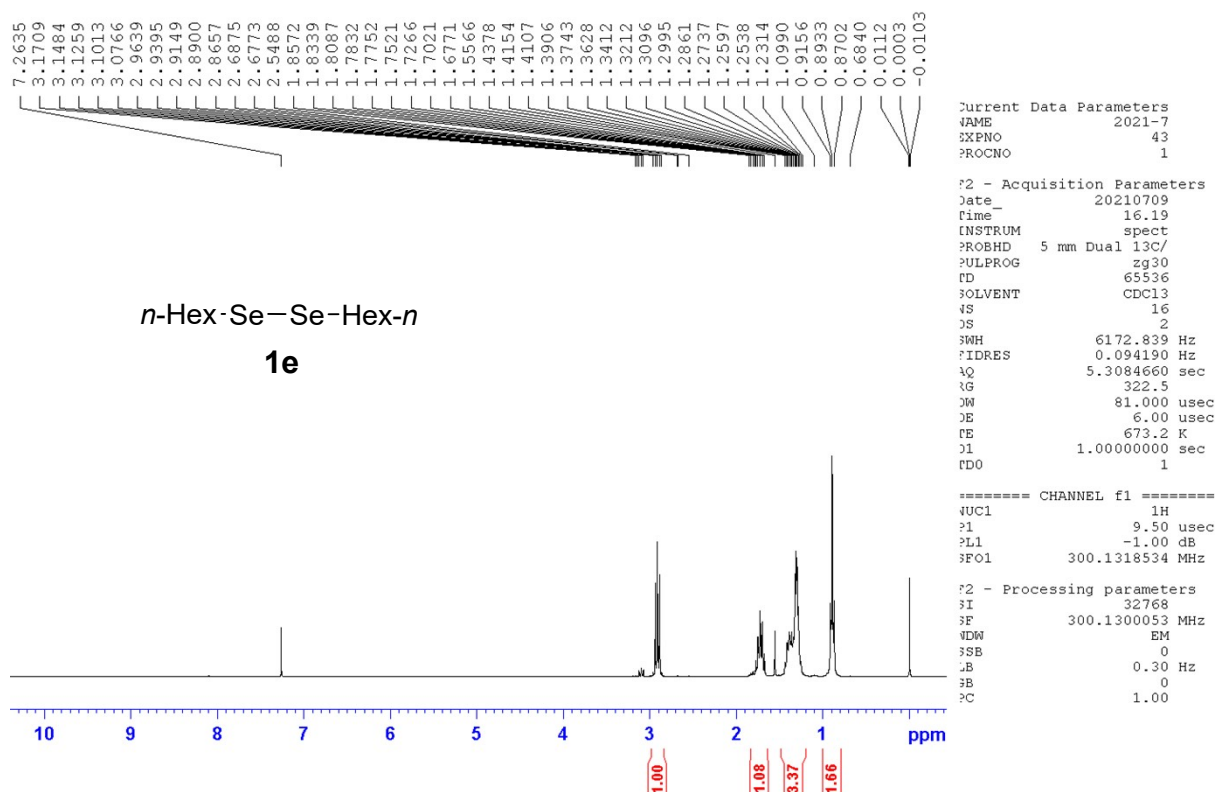
LYJ-429-A, 23 mg, CDCl₃



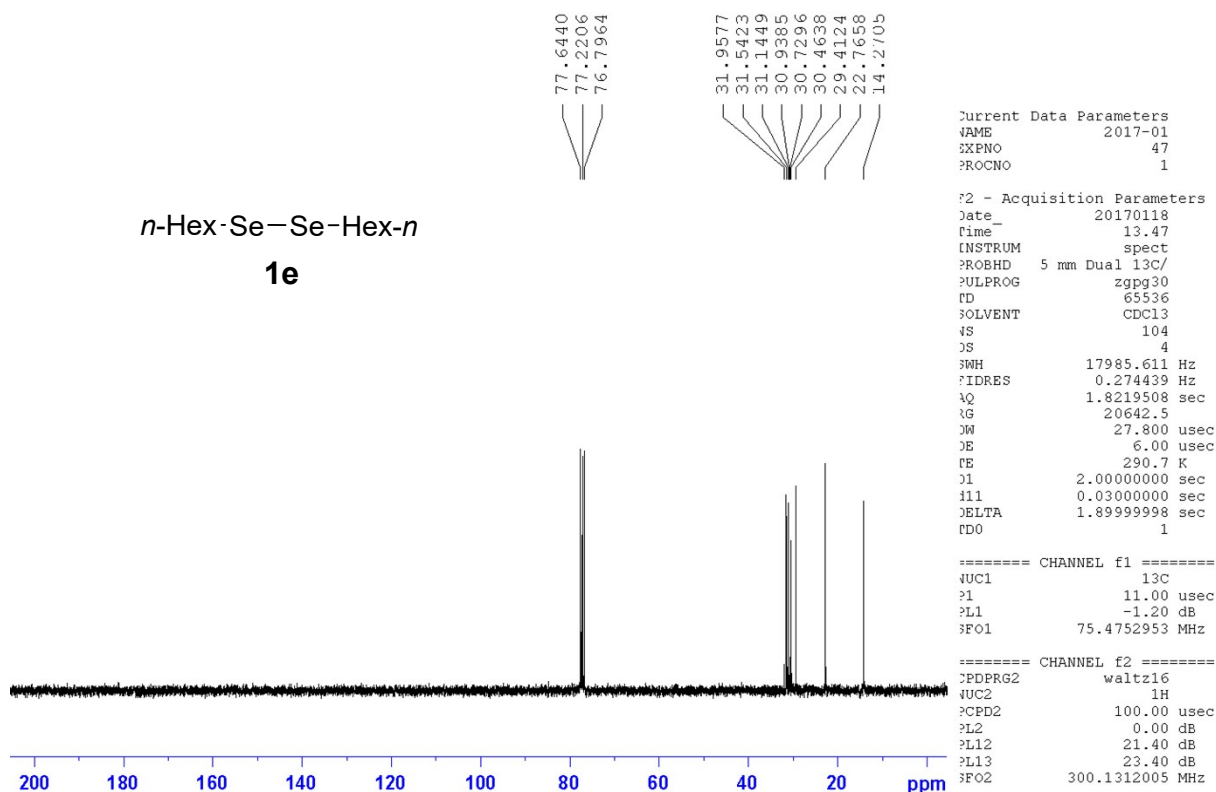
¹H NMR spectrum (300 MHz, CDCl₃) of compound **1d**

¹³C NMR spectrum (75 MHz, CDCl₃) of compound **1d**

LYJ-434-cr, 10mg, CDCl₃



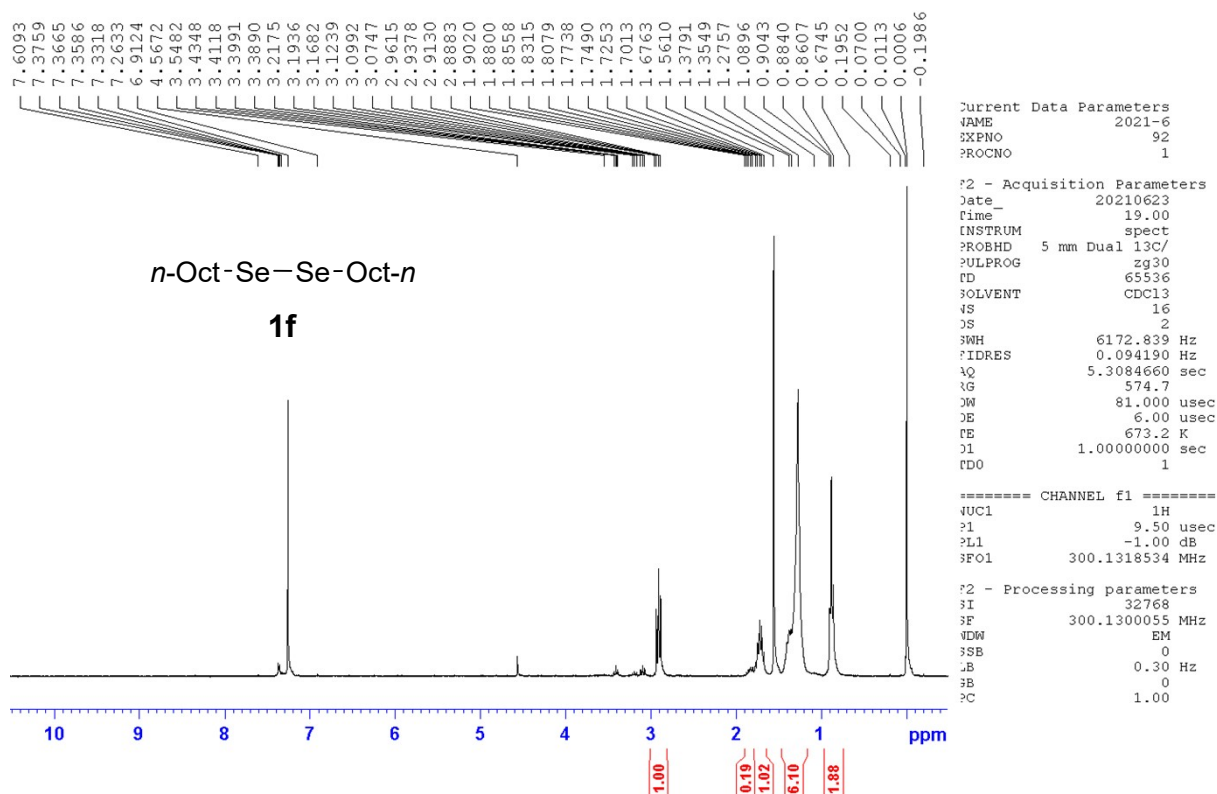
LYJ-2-A, 24 mg, CDCl₃



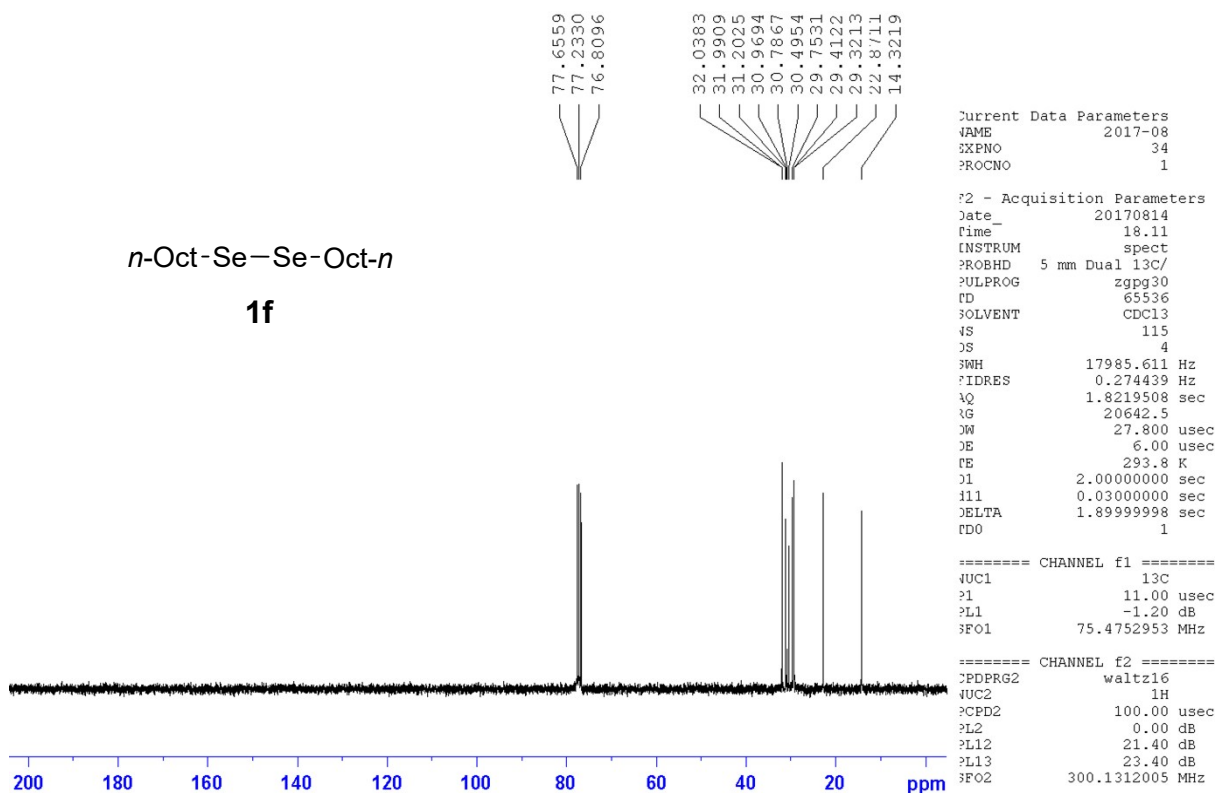
¹H NMR spectrum (300 MHz, CDCl₃) of compound **1e**

^{13}C NMR spectrum (75 MHz, CDCl_3) of compound 1e

LYJ-423-CRUDE, 2 mg, CDCl₃



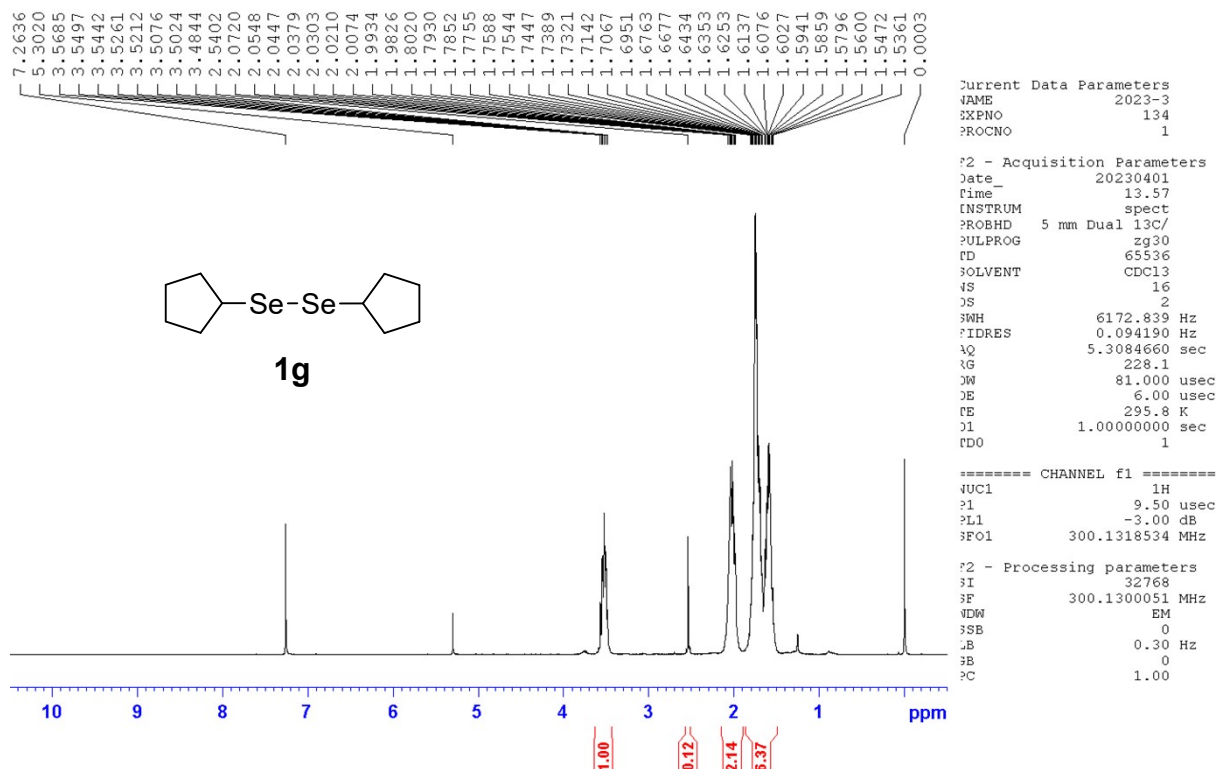
LYJ-55-A, 2mg, CDCl₃



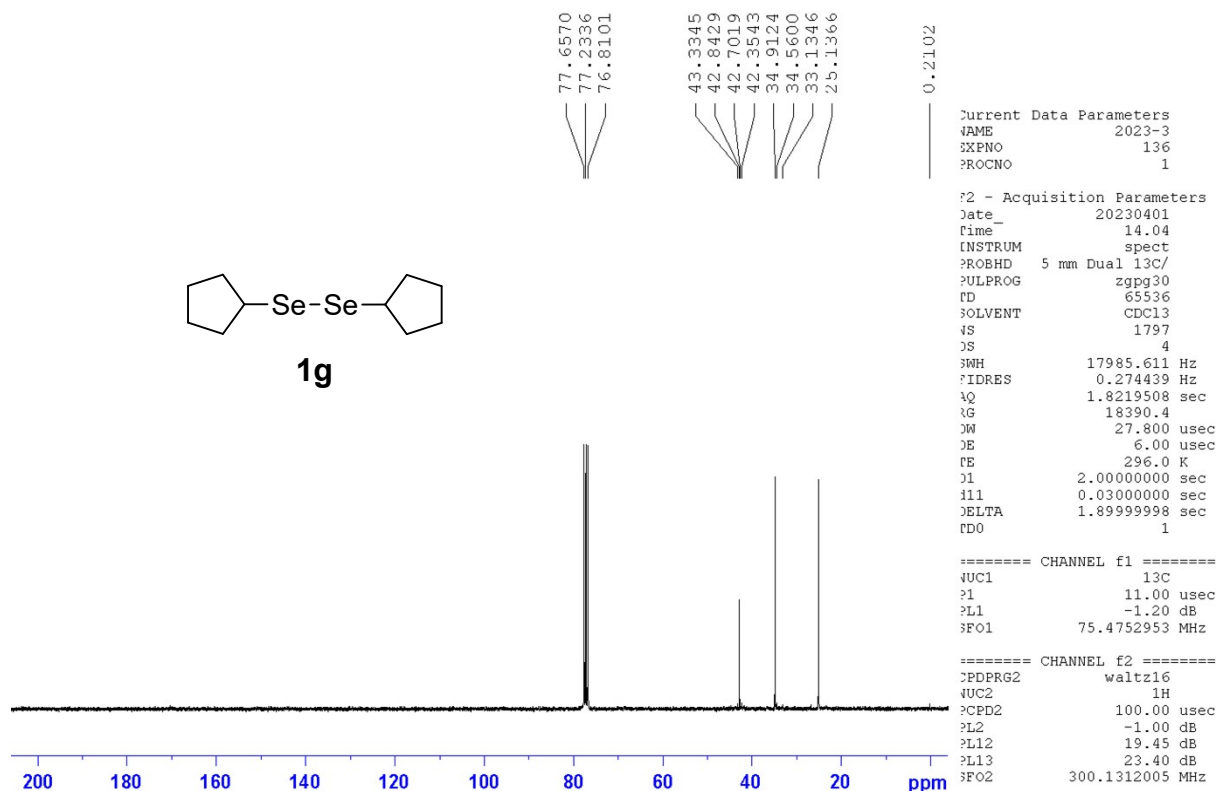
¹H NMR spectrum (300 MHz, CDCl₃) of compound **1f**

¹³C NMR spectrum (75 MHz, CDCl₃) of compound **1f**

LYJ-617-A, 15.6 mg, CDCl₃



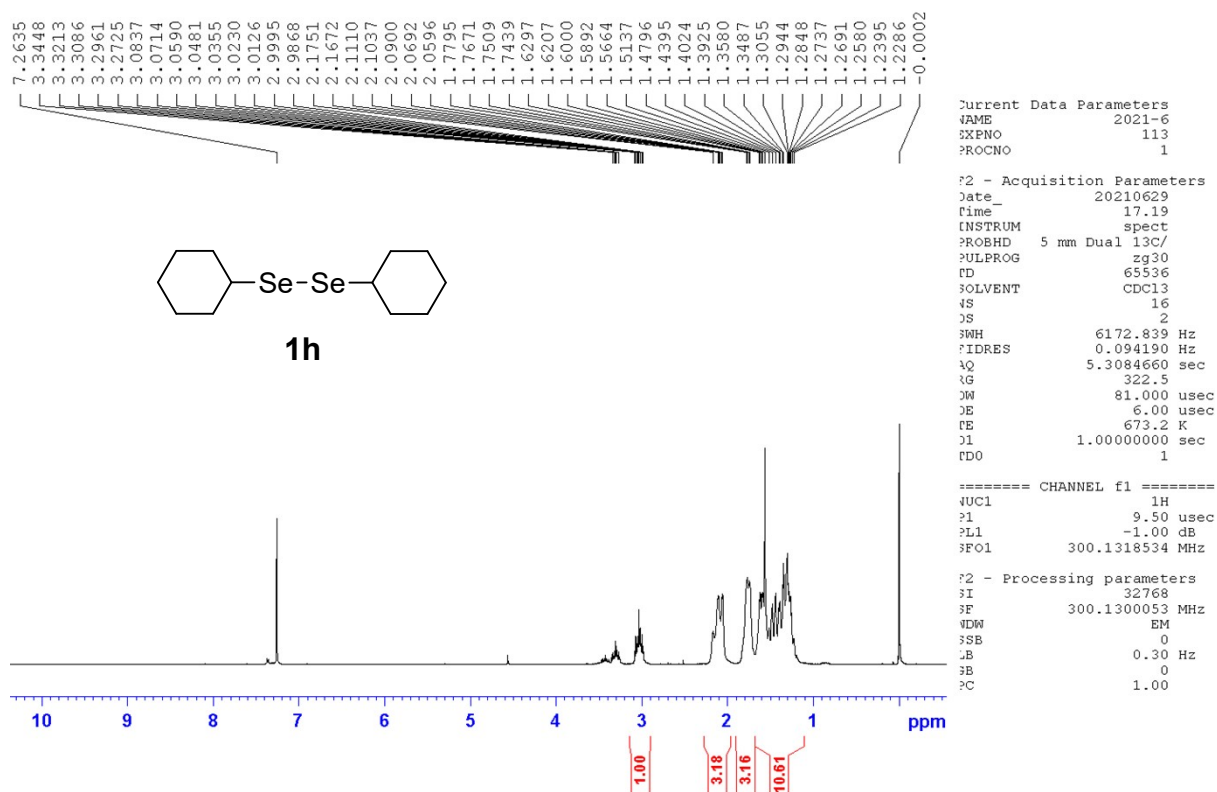
LYJ-617-A, 15.6 mg, CDCl₃



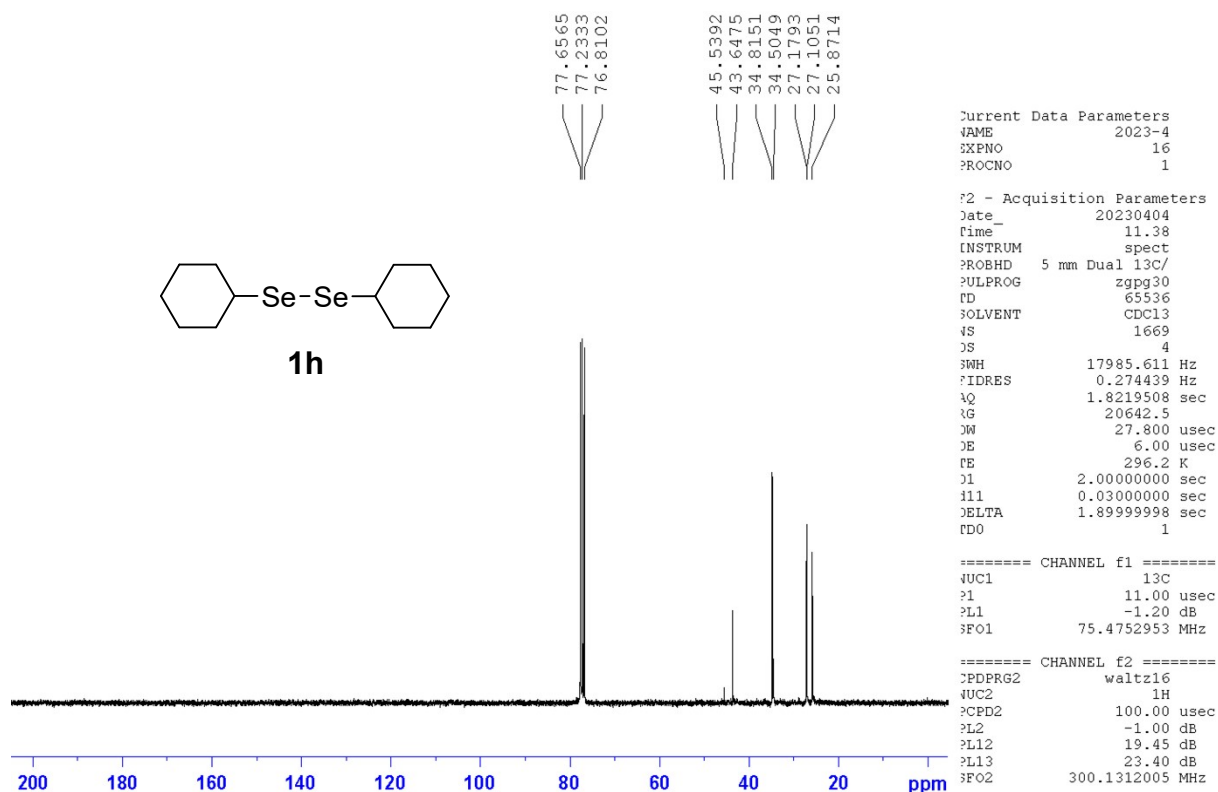
¹H NMR spectrum (300 MHz, CDCl₃) of compound **1g**

^{13}C NMR spectrum (75 MHz, CDCl_3) of compound 1g

LYJ425-A, 9 mg, CDCl₃



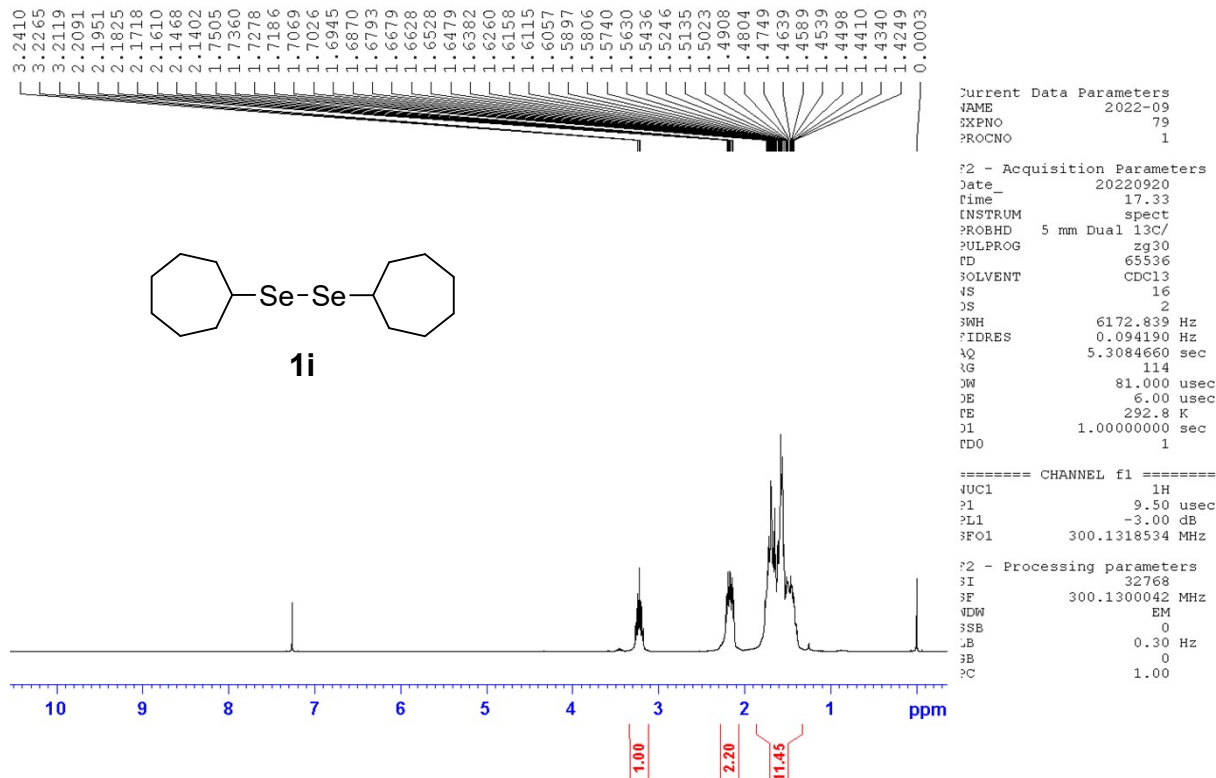
LYJ-618-A, 16 mg, CDCl₃



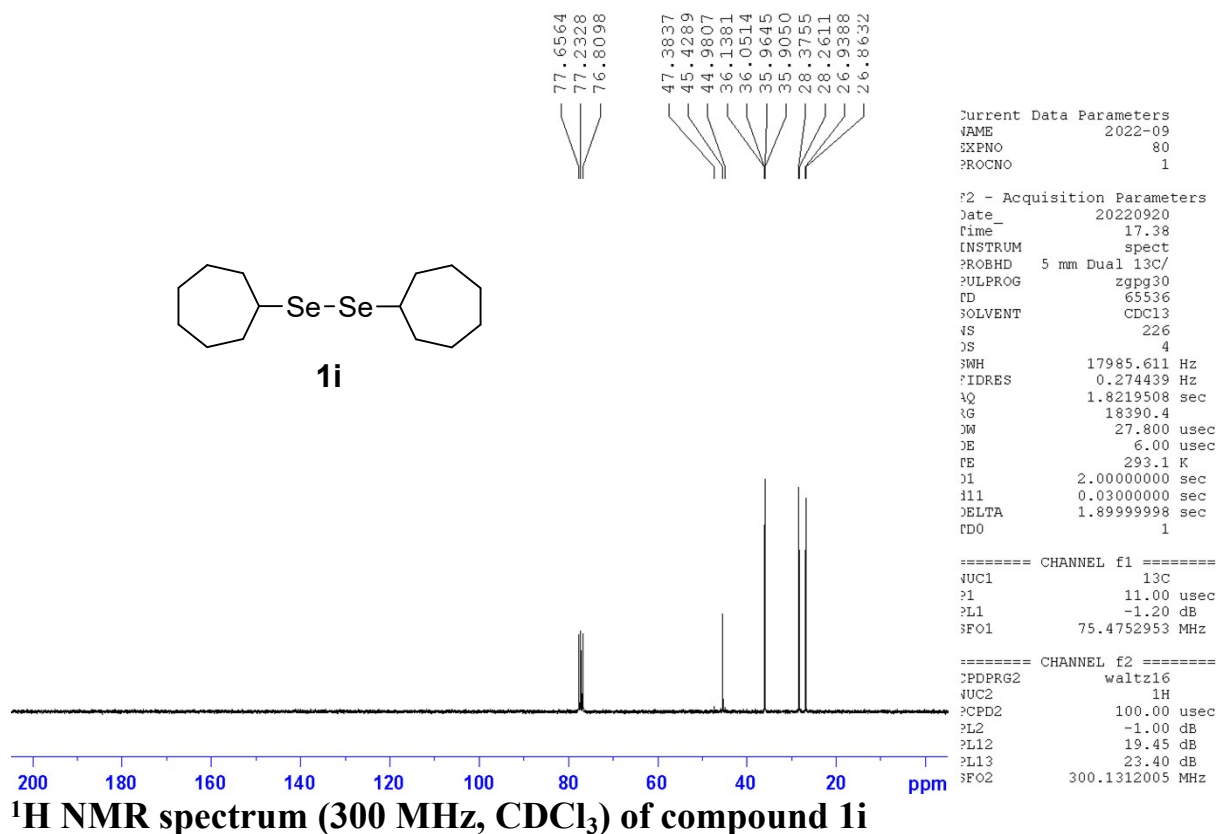
¹H NMR spectrum (300 MHz, CDCl₃) of compound 1h

¹³C NMR spectrum (75 MHz, CDCl₃) of compound 1h

LYJ-426-A, 27.9 mg, CDCl₃



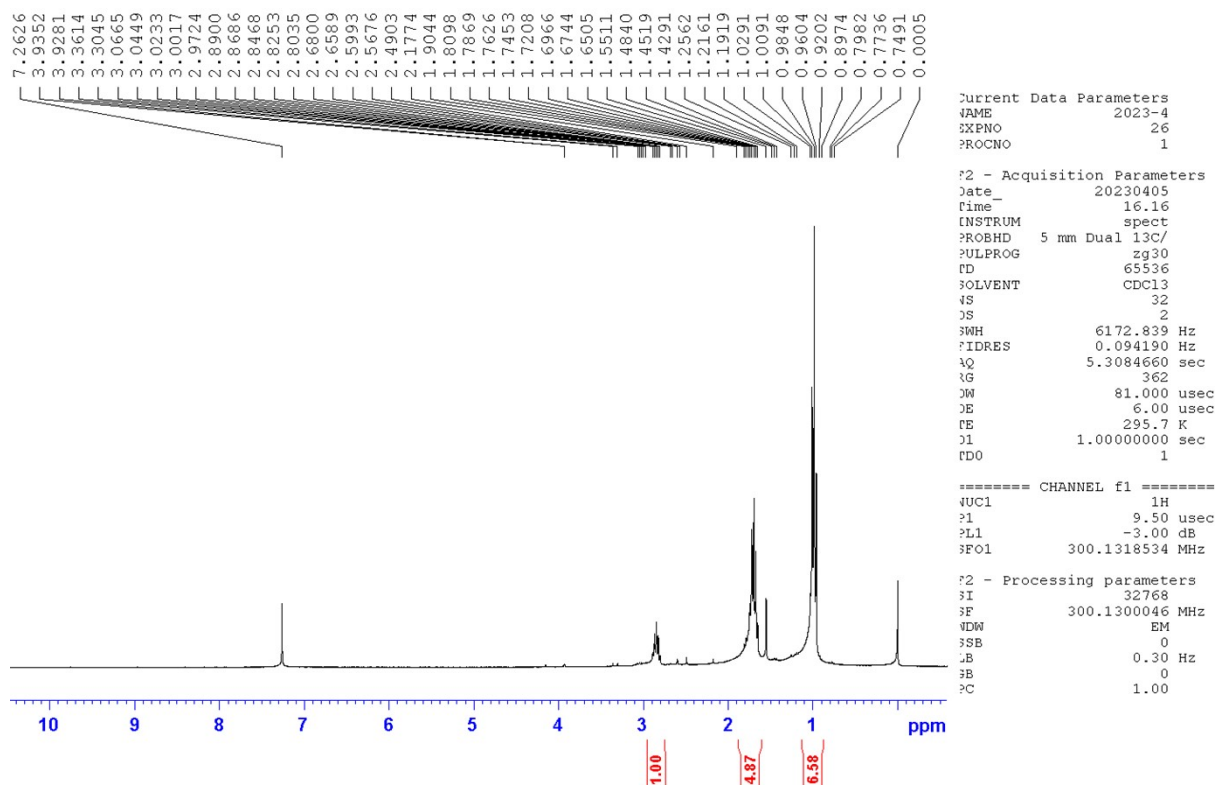
LYJ-426-A, 27.9 mg, CDCl₃



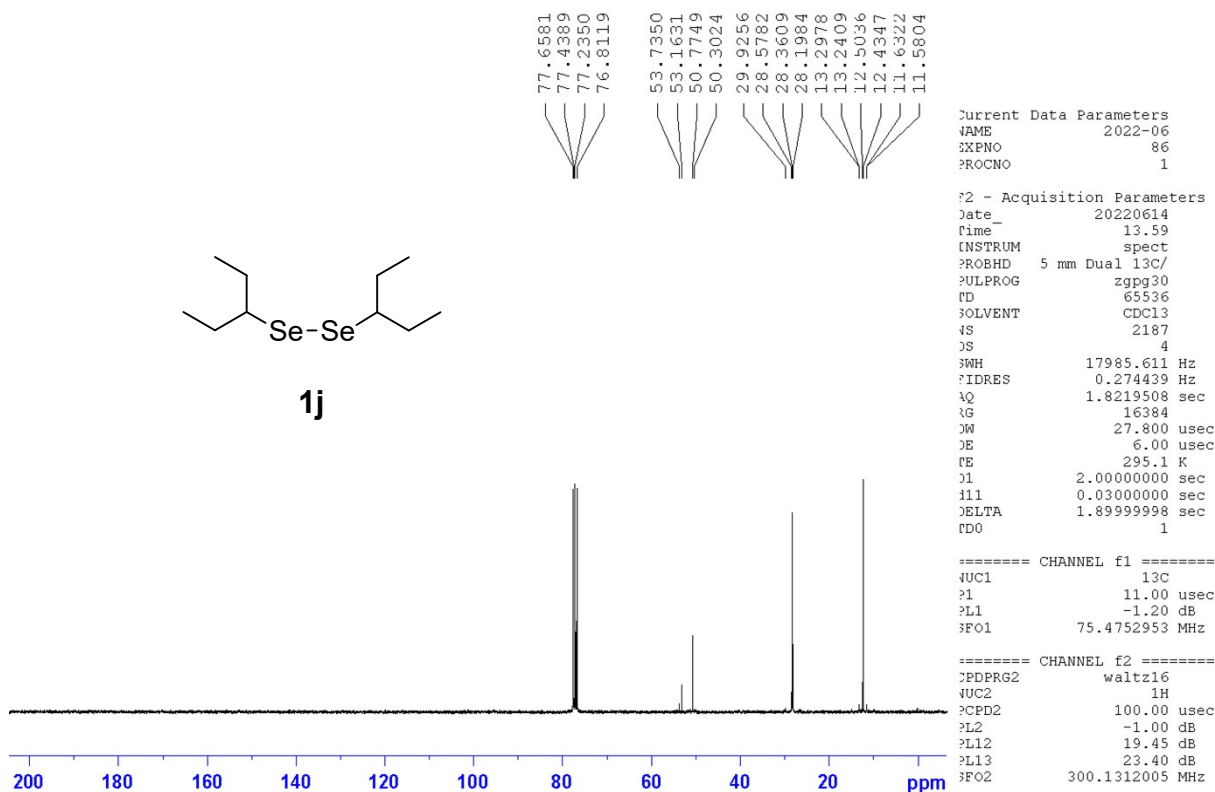
¹H NMR spectrum (300 MHz, CDCl₃) of compound **1i**

^{13}C NMR spectrum (75 MHz, CDCl_3) of compound 1i

LYJ-621-CR, 4.6 mg, CDCl₃



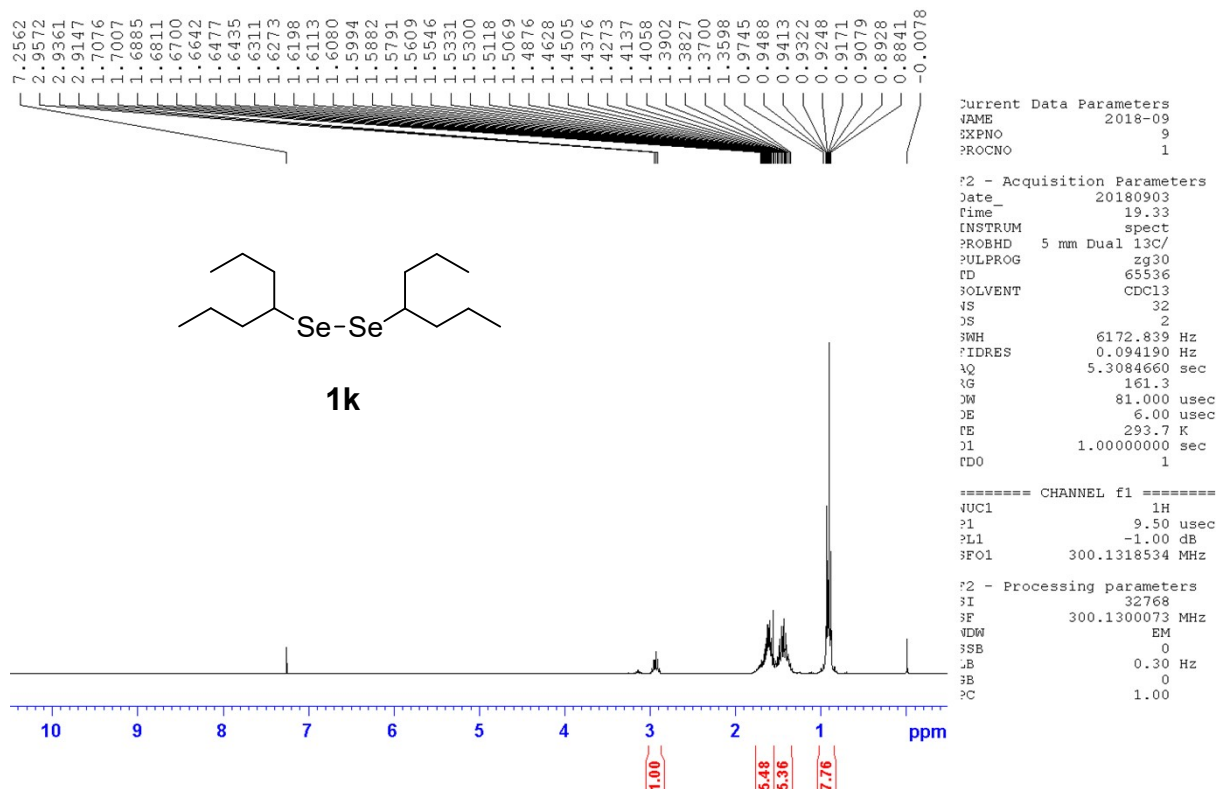
LYJ-538-A, 15mg, CDCl₃



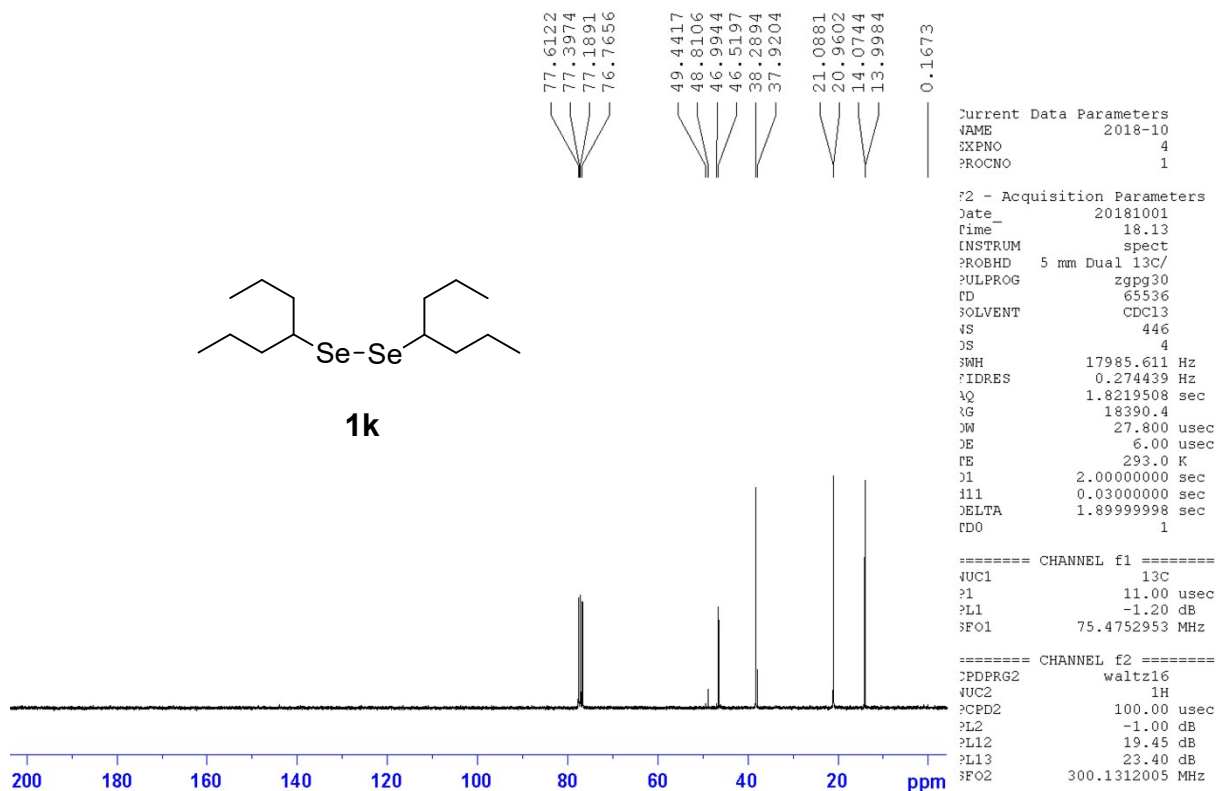
¹H NMR spectrum (300 MHz, CDCl₃) of compound 1j

¹³C NMR spectrum (75 MHz, CDCl₃) of compound 1j

LYJ-158-A, 17 mg, CDCl₃



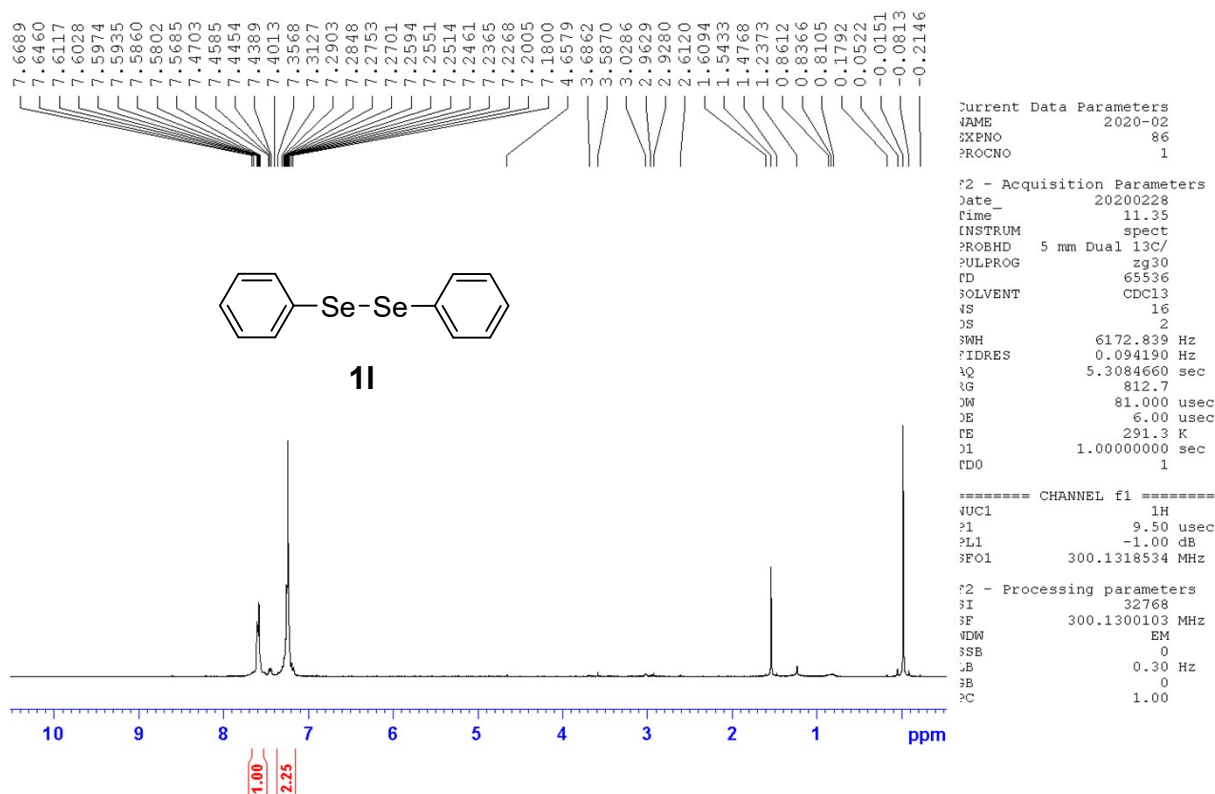
LYJ-158-A, 25mg, CDCl₃



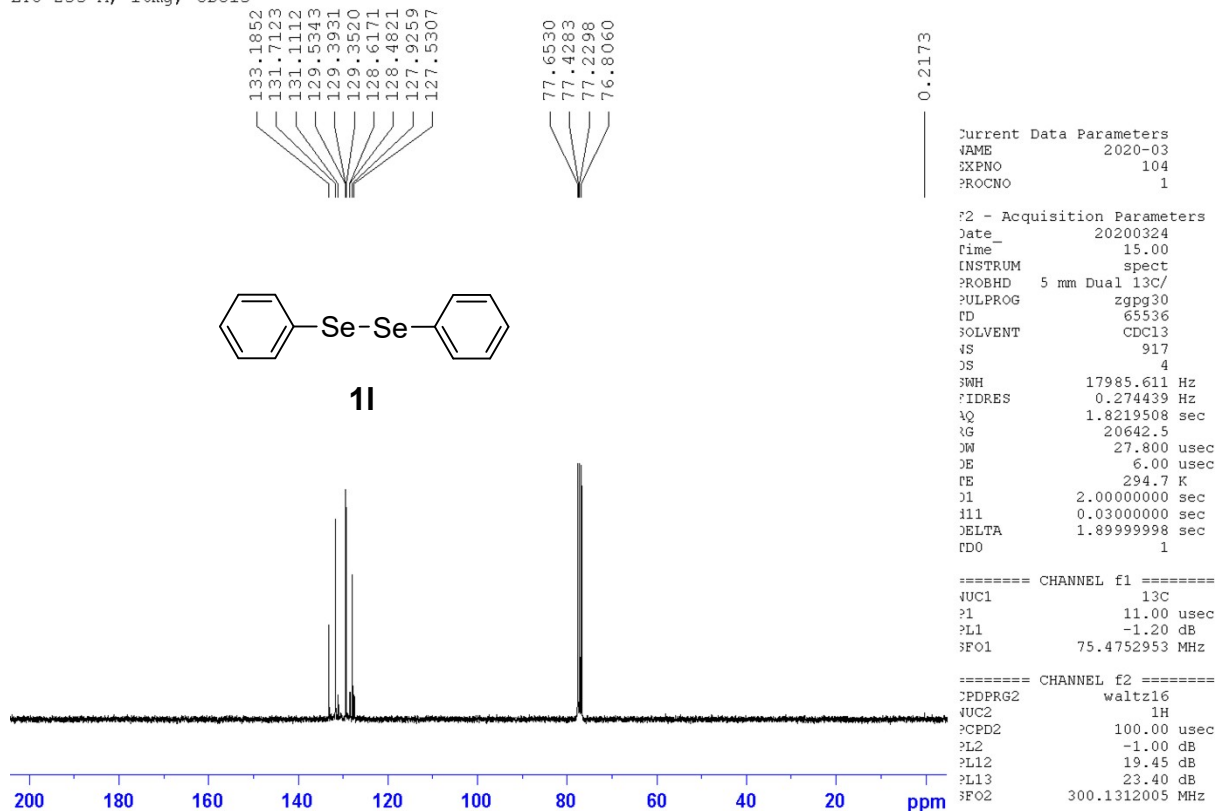
¹H NMR spectrum (300 MHz, CDCl₃) of compound 1k

^{13}C NMR spectrum (75 MHz, CDCl_3) of compound 1k

LYJ-224-crdue, 2.5 mg, CDCl₃



LYJ-233-A, 16mg, CDCl₃



¹H NMR spectrum (300 MHz, CDCl₃) of compound **11**

¹³C NMR spectrum (75 MHz, CDCl₃) of compound **11**

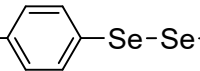
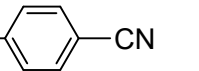
Chemical structure of **1m** is shown above the spectrum. The spectrum displays peaks corresponding to the chemical structure, with the following chemical shifts (ppm) listed above the peaks:

7.9691, 7.9468, 7.8434, 7.8150, 7.7370, 7.6985, 7.6713, 7.5983, 7.5701, 7.5637, 7.5492, 7.5363, 7.5215, 7.4185, 7.3879, 7.2638, 7.2623, 6.9407, 6.9123, 5.6072, 5.3036, 5.1972, 4.9340, 4.3203, 3.9078, 3.8653, 3.5482, 3.3975, 2.7989, 2.1762, 1.9199, 1.6929, 1.5596, 1.5587, 1.3332, 1.2540, 1.1422, 1.1069, 0.8829, 0.8522, 0.7611, 0.1966, 0.0690, 0.0096, 0.0012, -0.0003, -0.1979.

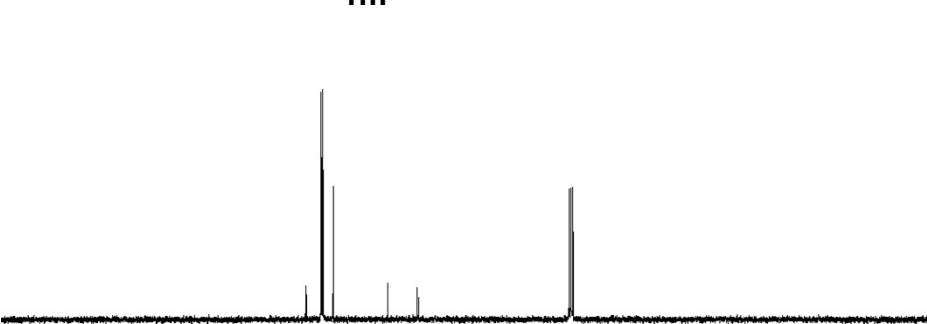
The spectrum shows a complex set of peaks in the aromatic region (4.0-8.0 ppm) and a singlet at 1.5 ppm. The x-axis is labeled in ppm, ranging from 10 to 0. The integration values 1.00 and 1.61 are indicated for the aromatic and methylene regions, respectively.

136.8351
136.5278
133.3735
133.2912
133.1038
132.8672
130.6735
118.4025
111.8572
111.5083

77.6585
77.2343
76.8108

NC--Se-Se--CN

1m

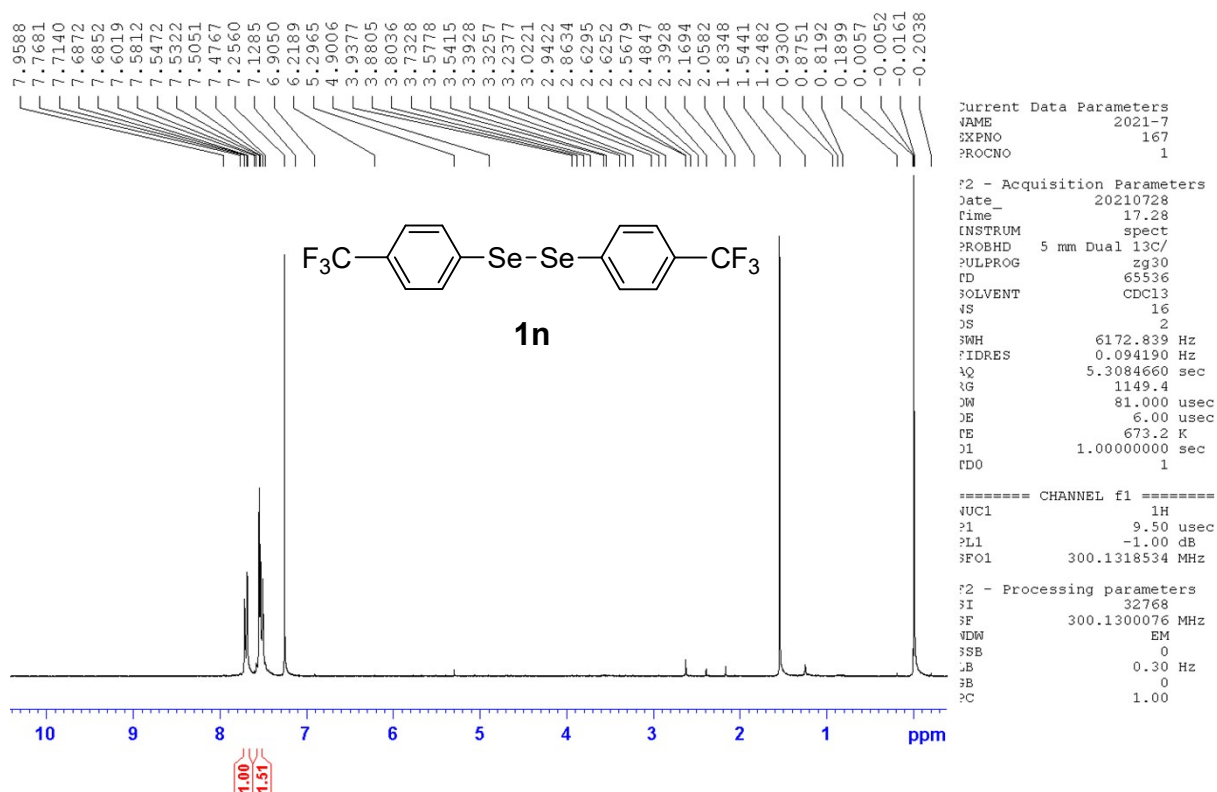


200 180 160 140 120 100 80 60 40 20 ppm

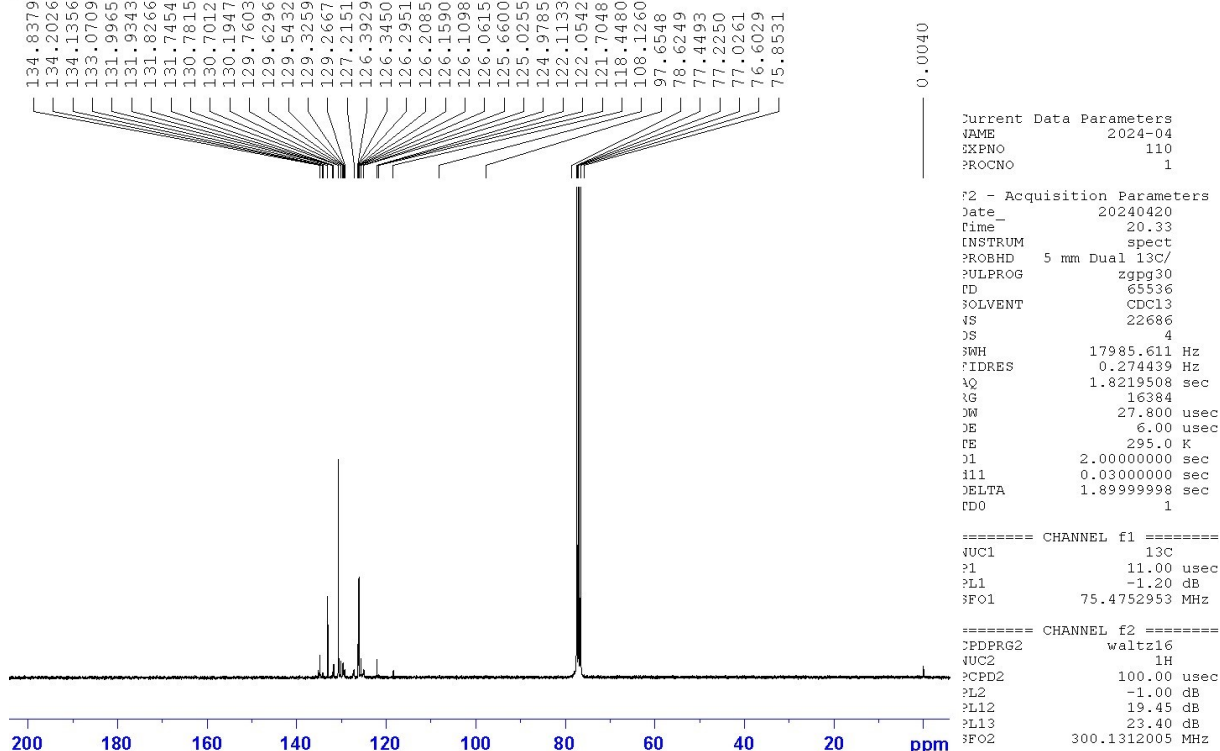
¹H NMR spectrum (300 MHz, CDCl₃) of compound 1m

^{13}C NMR spectrum (75 MHz, CDCl_3) of compound 1m

LYJ-442-A, 2.7 mg, CDCl₃



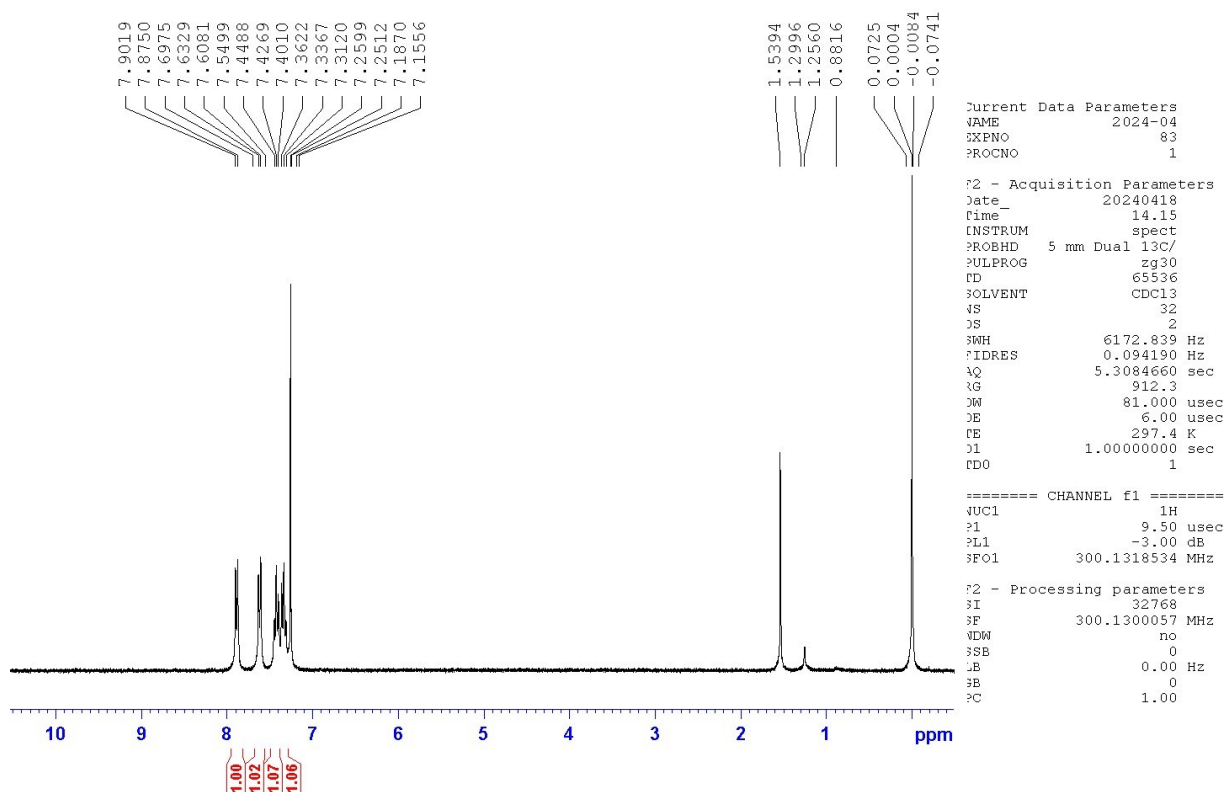
LYJ-57-A, 14.3 mg, CDCl₃



¹H NMR spectrum (300 MHz, CDCl₃) of compound 1n

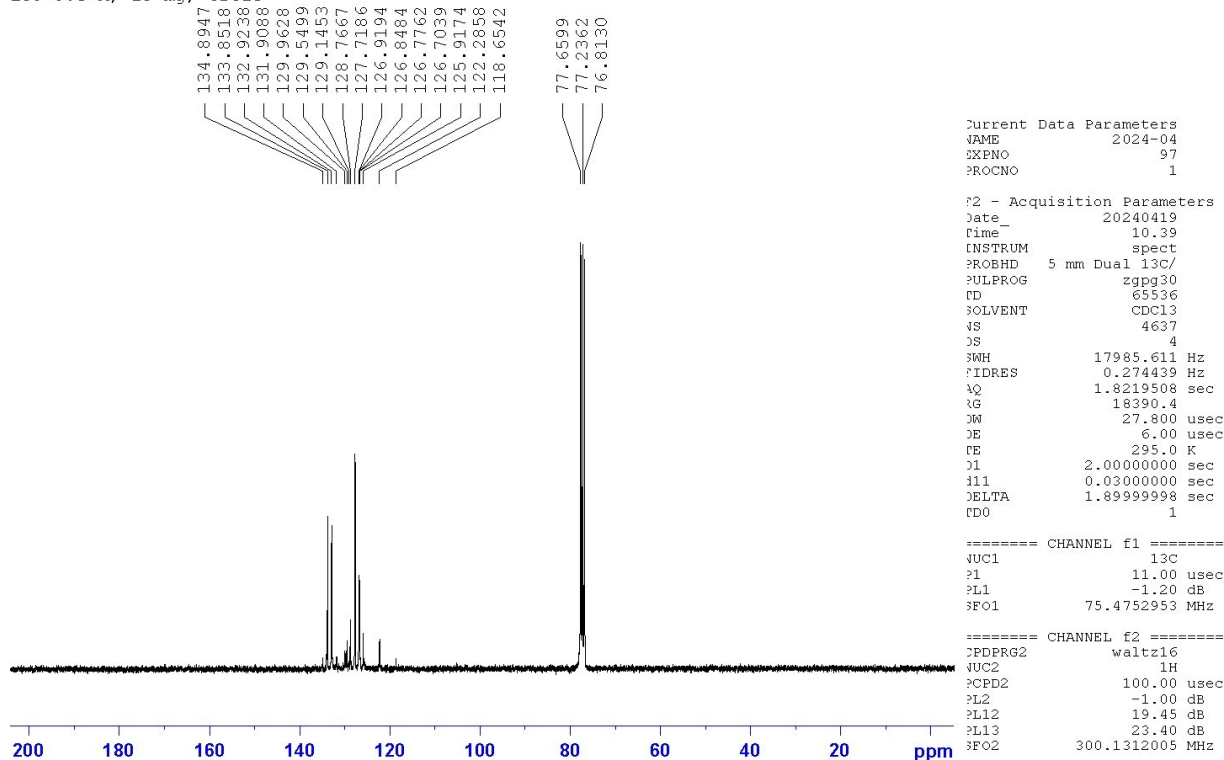
¹³C NMR spectrum (75 MHz, CDCl₃) of compound 1n

LYJ-803-A, 3.2mg, CDCl₃



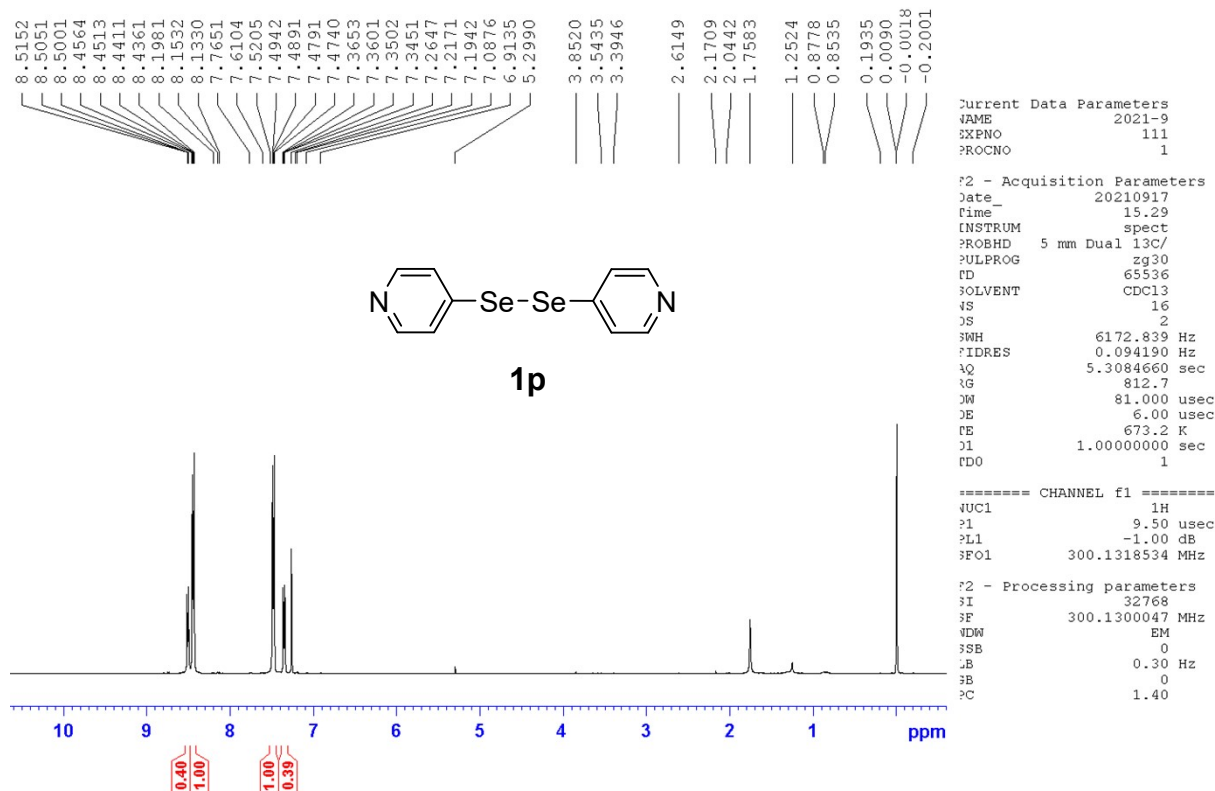
¹H NMR spectrum (300 MHz, CDCl₃) of compound 1o

LYJ-803-A, 19 mg, CDCl₃

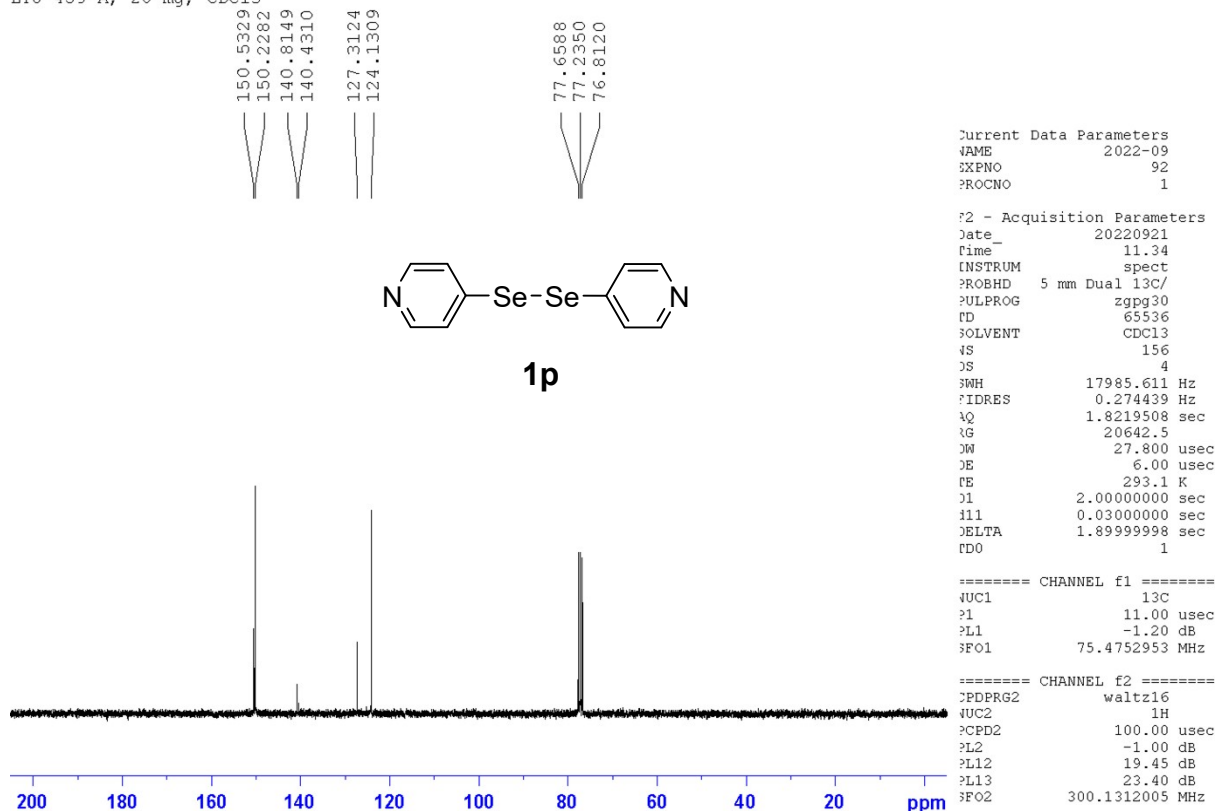


¹³C NMR spectrum (75 MHz, CDCl₃) of compound 1o

LYJ-459-A, 6mg, CDCl₃



LYJ-459-A, 20 mg, CDCl₃



¹H NMR spectrum (300 MHz, CDCl₃) of compound 1p

¹³C NMR spectrum (75 MHz, CDCl₃) of compound 1p

