

## Answer on Question #40607-Chemistry-Inorganic Chemistry

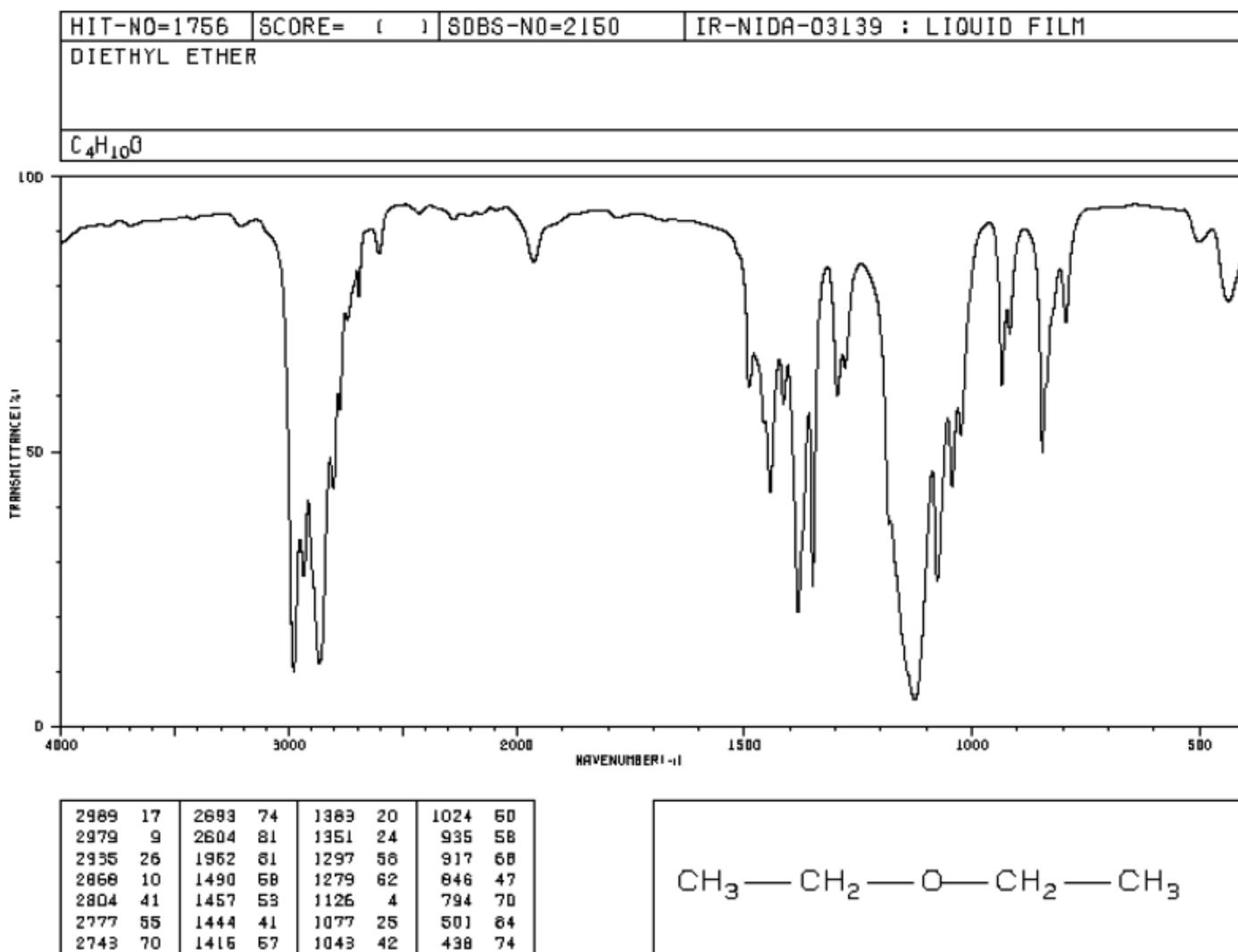
### Question

Sketch the spectrum of diethyl ether?

### Answer

Since it is not specified what kind of spectrum is required, all kinds of spectra (IR,  $^1\text{H-NMR}$ ,  $^{13}\text{C-NMR}$ , Mass, Raman) are given below.

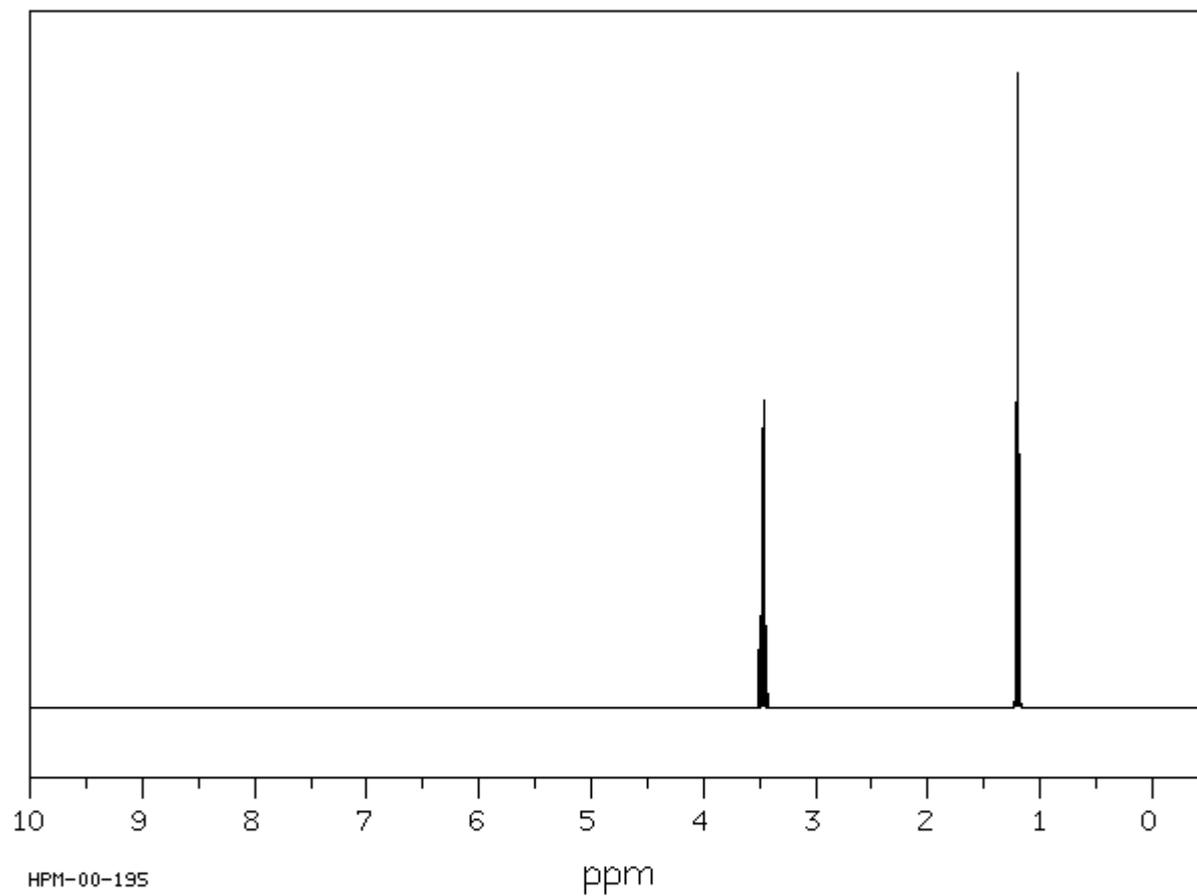
### IR spectrum of diethyl ether



# <sup>1</sup>H-NMR spectrum of diethyl ether

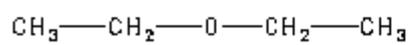
300 MHz

0.04 ml : 5.5 ml CDCl<sub>3</sub>



HPM-00-195

(B) (A)

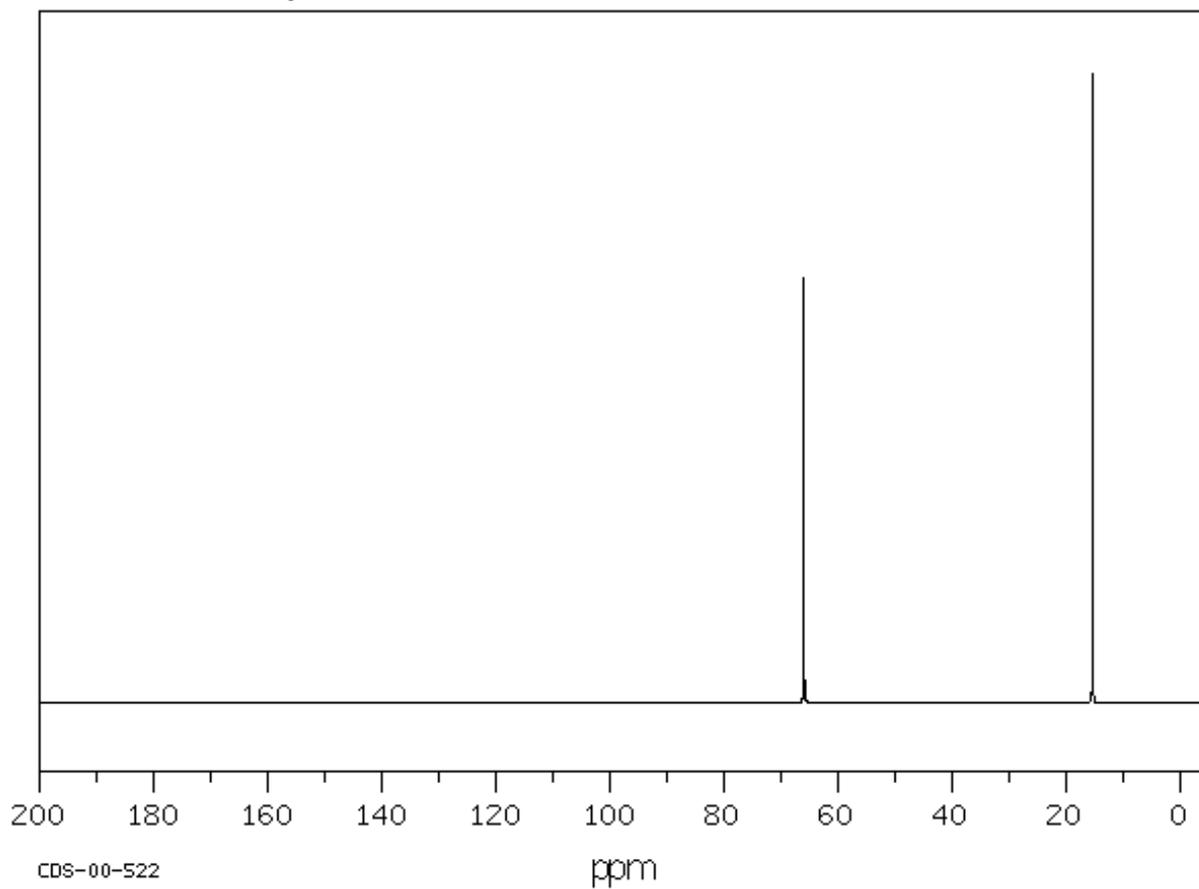


Parameter	ppm	Hz
D(A)	3.472	
D(B)	1.206	
J(A,B)		7.00

<sup>13</sup>C-NMR spectrum of diethyl ether

25.16 MHz

0.5 ml : 1.5 ml CDCl<sub>3</sub>



2—1—0—1—2

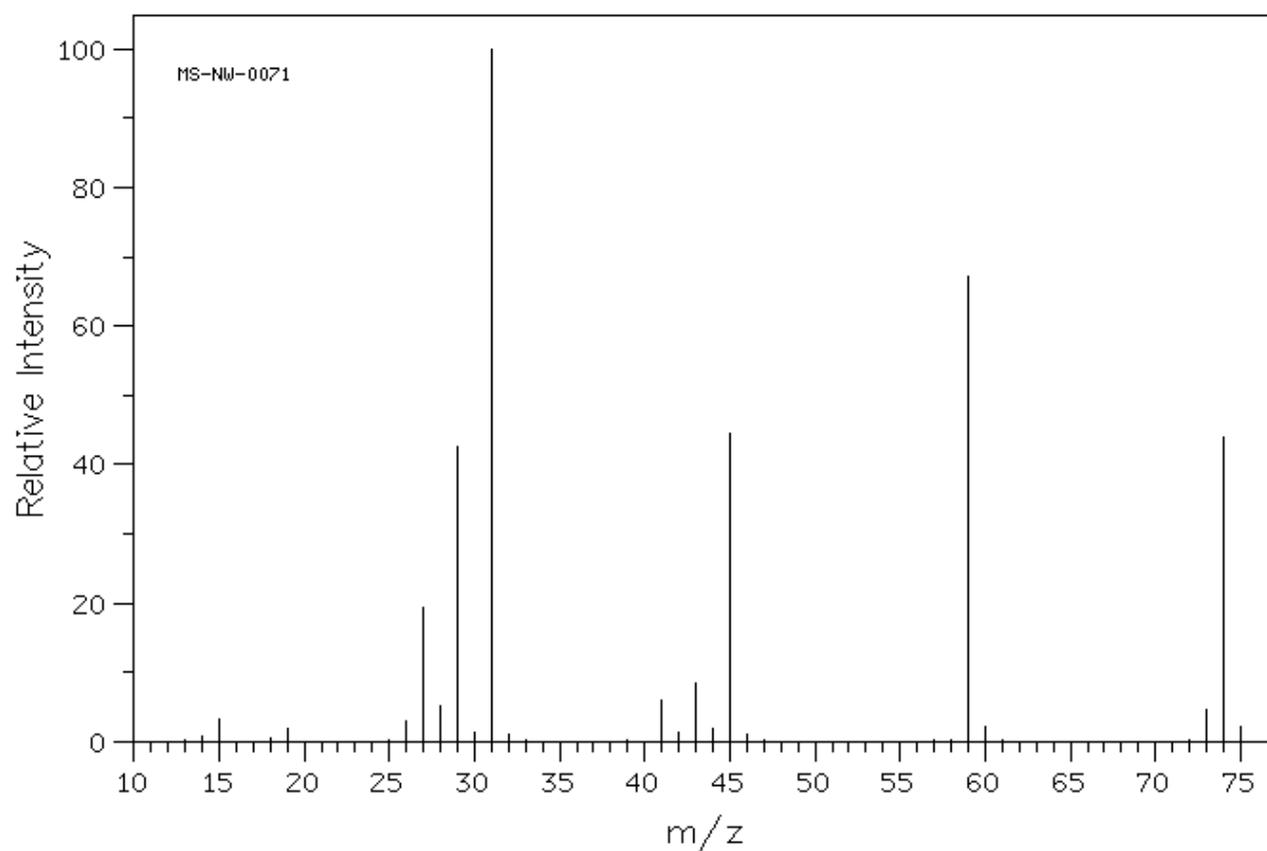
**ppm**   **Int.**   **Assign.**

65.97	675	1
15.35	1000	2

# Mass spectrum of diethyl ether

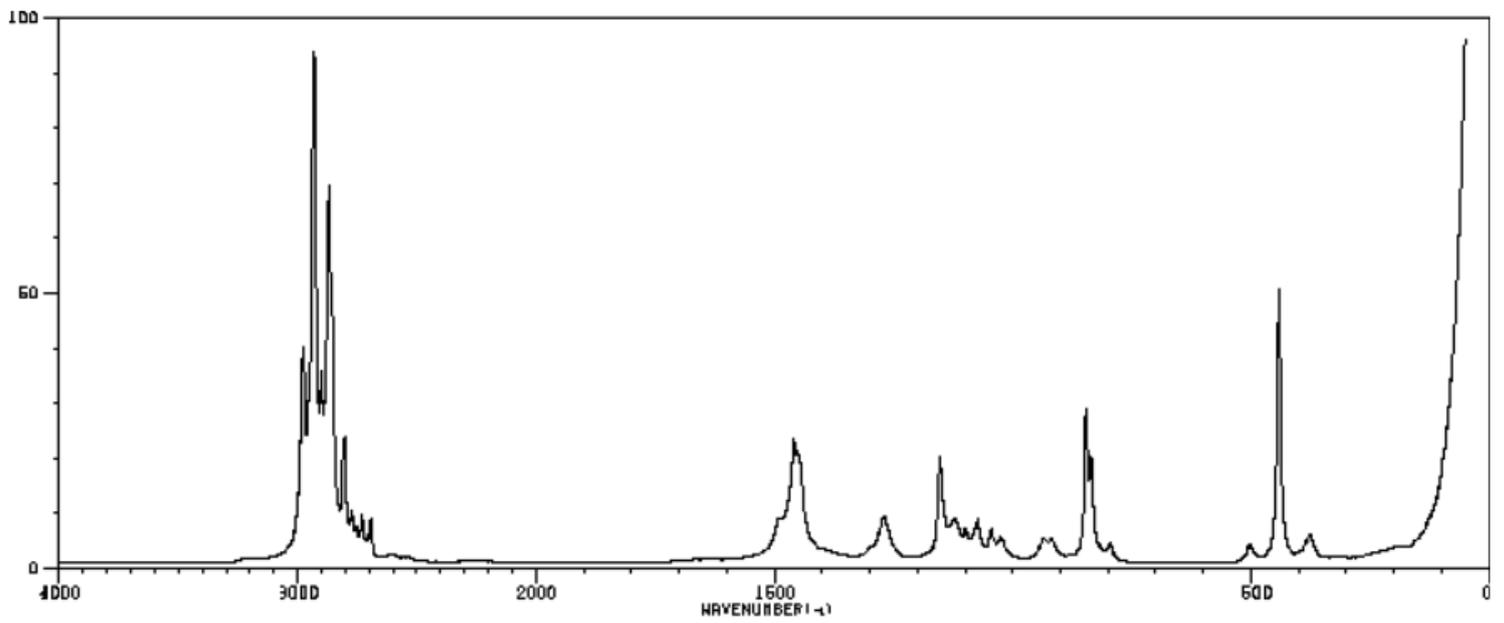
diethyl ether  
C<sub>4</sub>H<sub>10</sub>O

(Mass of molecular ion: 74)

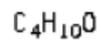


Source Temperature: 230 °C  
Sample Temperature: 25 °C  
RESERVOIR, 75 eV

# Raman spectrum of diethyl ether



DIETHYL ETHER  
SDBSNO = 2150



RM-01-00026 : 4880A.200M.LIQUID

2978	39	837	19
2931	93	443	60
2902	35		
2870	69		
2810	23		
2804	23		
2775	10		
1460	23		
1154	19		
848	29		