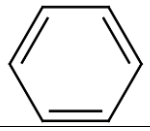
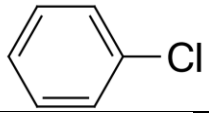
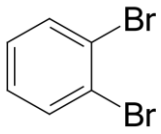
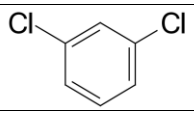
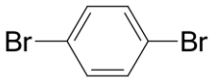
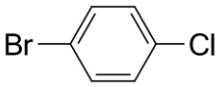
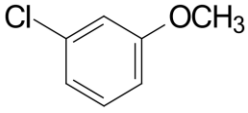
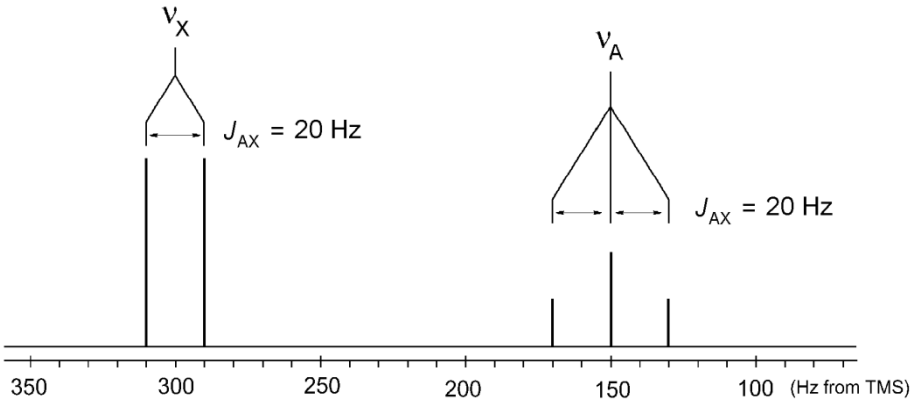
SL worksheet

1) Given the following table, determine the number of unique hydrogen environments and carbon environments in the following structures.

Structure	Number of ^{1}H environment	Number of ^{13}C environment
CH_3-CO-$CH_2CH_2CH_3$		
CH_3CH_2-CO-CH_2CH_3		
CH_2=$CHCH_2CH_3$		
		
		
		
		
		
		
		

2) Consider the H NMR spectrum below



Frequencies in Hz from TMS: Va=150; Vx=300

a) Give the chemical shifts on the ppm scale corresponding to the above spectrum obtained with an instrument operating at 400MHz for protons.

3) Consider the following H NMR spectrum

a) Give the frequencies in Hz that the peaks Va and Vx are from TMS, considering that the instrument was operating at 60MHz