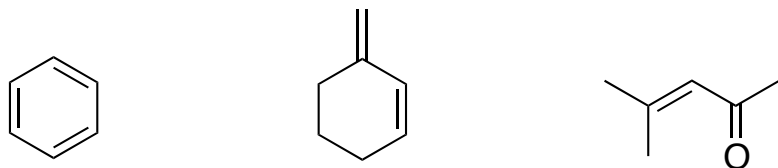


## CHAPTER 7: ALKENES (part 1). STRUCTURE

**Unsaturation** - an unsaturation is defined being equal to the sum of rings and pi bonds in a molecule.

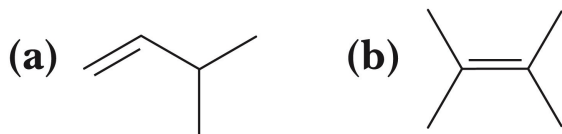
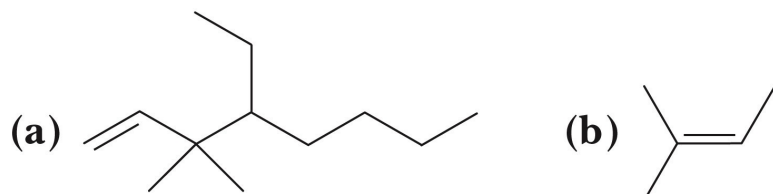
Predict the degree/index of unsaturation (I) of the following structures, then check and see if you're correct by applying the equation shown below.

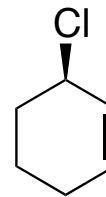
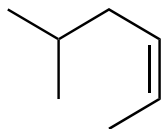
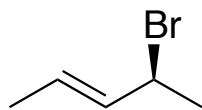


$$I = \frac{2C + 2 - H}{2}$$

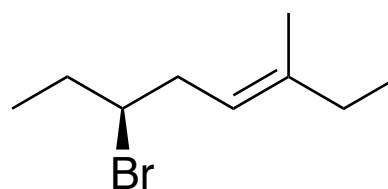
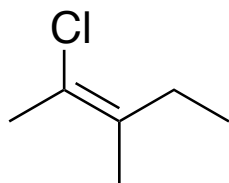
does not apply for  
molecules containing  
N or X

### Nomenclature - Simple Alkenes



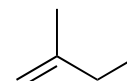
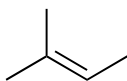
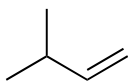


### Naming - E and Z



### Structure and Stability

Consult the table, below, and rank these in terms of their stability (A is the most stable, C is the least stable).



Given your answers, if a mixture of these three alkenes was placed into a flask with a chemically reactive ingredient, which one would be first to react?

### $\Delta H$ (enthalpy) of hydrogenation

	-126 kJ/mol	mono-substituted
	-120 kJ/mol	di-substituted
	-116 kJ/mol	di-substituted
	-113 kJ/mol	tri-substituted
	-111 kJ/mol	tetra-substituted