

**In-Class Exercise:
Unsaturation Number**

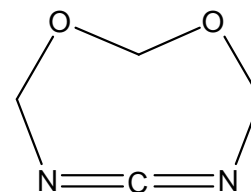
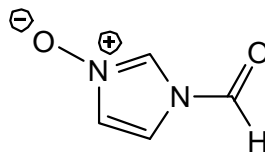
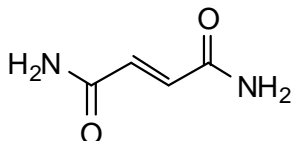
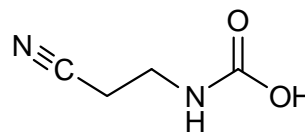
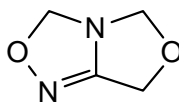
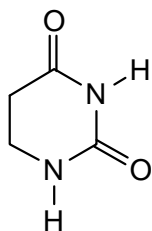
For the chemical formula $C_4H_6N_2O_2$,

$$\bullet \quad UN = \#C - \frac{\#H}{2} - \frac{\#Hal}{2} + \frac{\#N}{2} + 1$$

$$UN = 4 - \frac{6}{2} - 0 + \frac{2}{2} + 1$$

$$UN = 3 \text{ (rings or multiple bonds)}$$

- Lots of chemical structures fit this criterion. You could have 3 multiple bonds, or 1 ring and 2 multiple bonds, or....



...and many others. (The problem doesn't say the structures have to be realistic....)