

Summary

Determining Unsaturation from a Structure

Double Bond = 1 Unsaturation

Ring = 1 Unsaturation

Triple Bond = 2 Unsaturation

Determining Unsaturation from a Formula

Use the general formula:

$$\text{\# Unsaturation} = \frac{\text{Saturated \# of H} - \text{Unsaturated \# of H}}{2}$$

Determine the number of saturated H using:

$$\text{Saturated \# of H: } C_n H_{2n+2}$$

Halogen: add 1H to formula for each halogen.

Nitrogen: subtract 1H from formula for each nitrogen.

Oxygen: just ignore any oxygen in the formula.