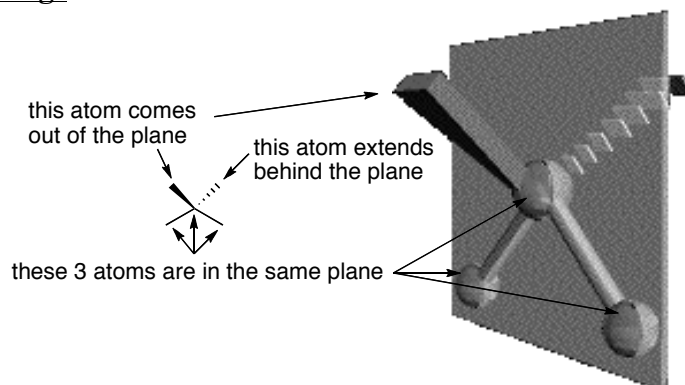


Conformational Analysis

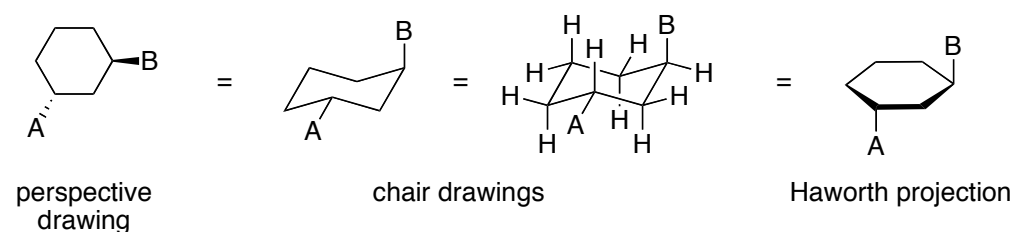
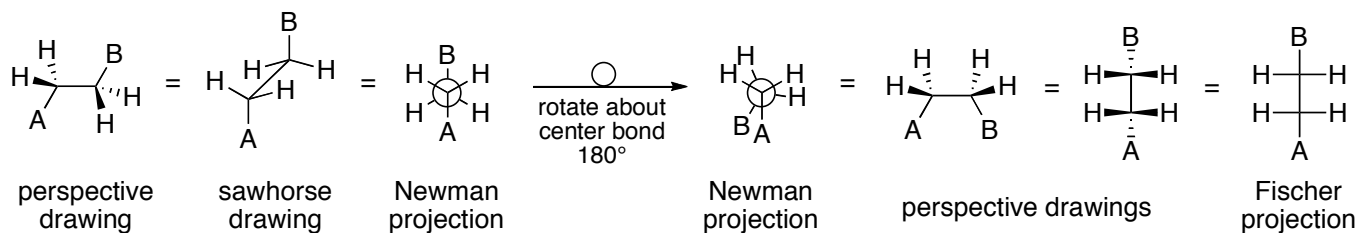
A quick guide to perspective drawings

Perspective Drawings

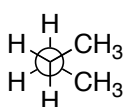
..... (dash)	Shows a bond going back, behind the page.
▴ (wedge)	Shows a bond coming out of the page.



There are many ways to depict the 3D structure of acyclic and cyclic compounds

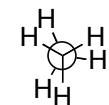


Important Values to Know for Conformational Analysis



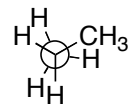
a $\text{CH}_3 / \text{CH}_3$ gauche interaction is approx 0.9 kcal/mol (3.8 kJ/mol) in torsional strain

$\text{sp}^3\text{C}-\text{C}_{\text{sp}^3}$ Bond length = 1.54 Å (154 pm)

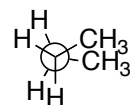


each $\text{C}-\text{H} / \text{C}-\text{H}$ eclipsing interaction is approx 1 kcal/mol (4.2 kJ/mol) in torsional strain

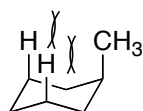
$\text{sp}^3\text{C}-\text{H}$ Bond length = 1.10 Å (110 pm)



each $\text{C}-\text{CH}_3 / \text{C}-\text{H}$ eclipsing interaction is approx 1.4 kcal/mol (5.6 kJ/mol) in torsional strain



each $\text{C}-\text{CH}_3 / \text{C}-\text{CH}_3$ eclipsing interaction is approx 2.6 kcal/mol (10.9 kJ/mol) in torsional strain



each $\text{C}-\text{CH}_3 / \text{C}-\text{H}$ diaxial interaction is approx 0.9 kcal/mol (3.8 kJ/mol) in torsional strain