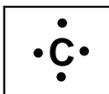


## CARBON IS A UNIQUE ELEMENT

1. Carbon is tetravalent:



2. Carbon form covalent bonds.

3. Carbon always forms 4 covalent bonds.

4. Its covalent bonds can be in various combinations:

4 single bonds  
2 single bond / 1 double bond  
1 single bond / 1 triple bond  
2 double bonds

5. Carbon bonds to itself:

Straight chains  
Branched chains  
Cyclic (rings)

6. Carbon bonds to other elements:  
(shown in the order they most  
commonly occur)

Hydrogen (H) – one bond only (Group 1A)  
Oxygen (O) – two bonds (Group 6A)  
Nitrogen (N) – three bonds (Group 5A)  
Sulfur (S) - two bonds (Group 6A)