

Practical Guidelines for Generating Resonance Contributors

Identify the “pushable” electrons (source)

- unshared electron pairs (atom w/ neutral or negative charge)
- pi electrons of multiple bonds

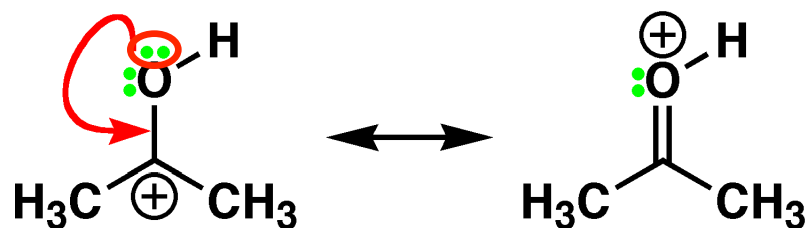
Identify the places to which electrons can be pushed i.e., the sink

- Atoms with formal positive charge
- Atoms that can accommodate formal negative charge

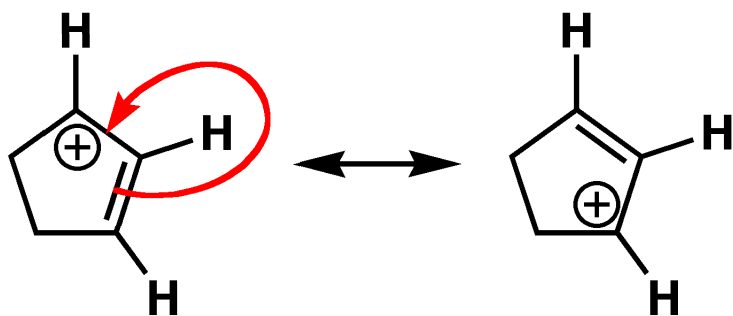
Identify a pathway of delocalized electrons that connects the pushable electrons to their destination



Generating Resonance Structures - Examples

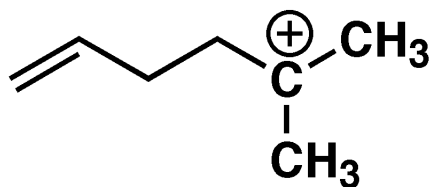


Source: lone pair
Sink: cation

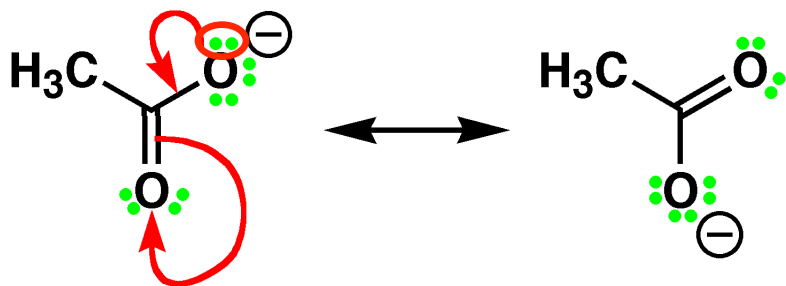


Source: π electrons
Sink: cation

Generating Resonance Structures - Examples



What's wrong?
No pathway of
delocalized electrons



Source: lone pair (-)
Sink: electronegative atom