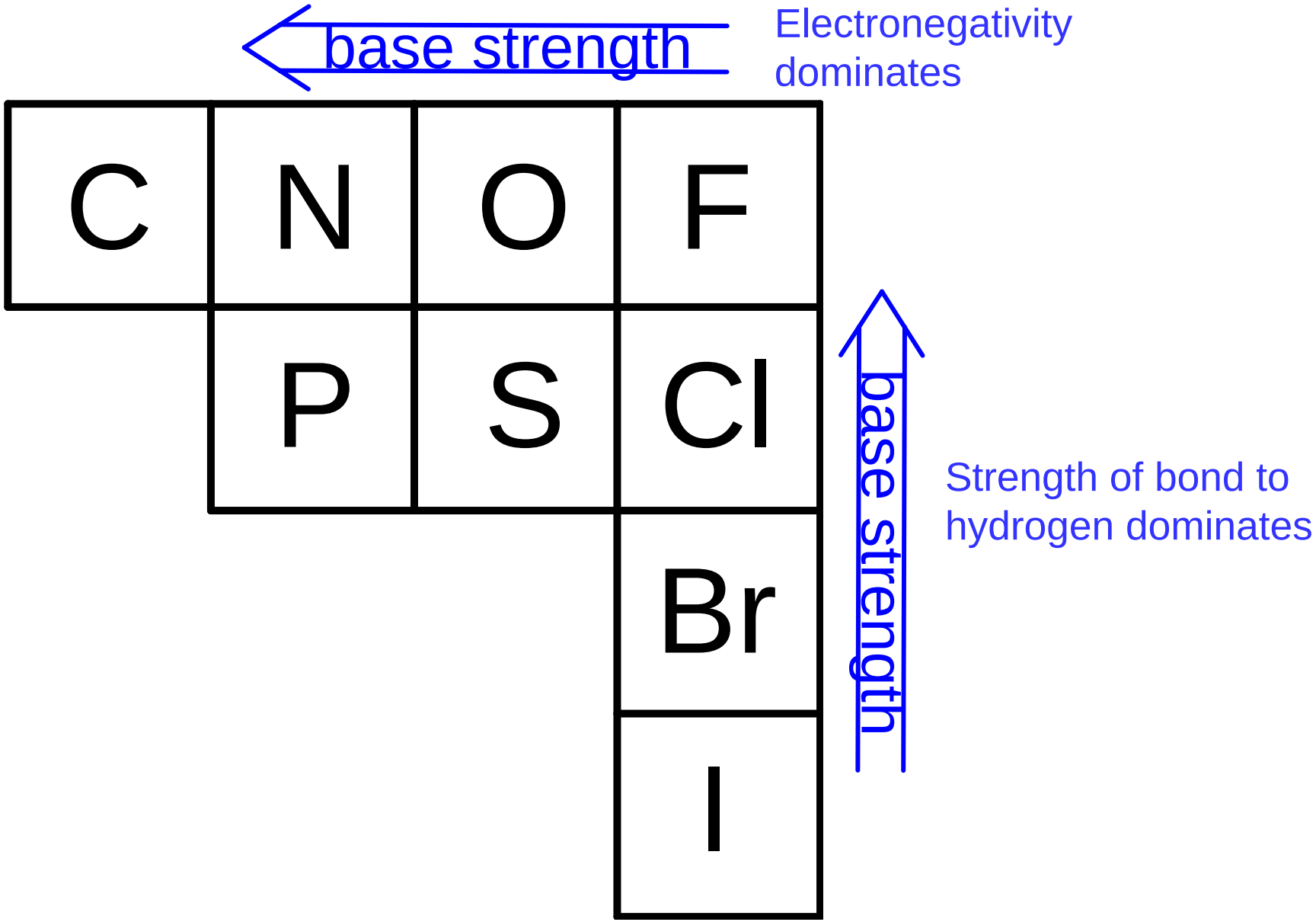
Strength of Brønsted bases

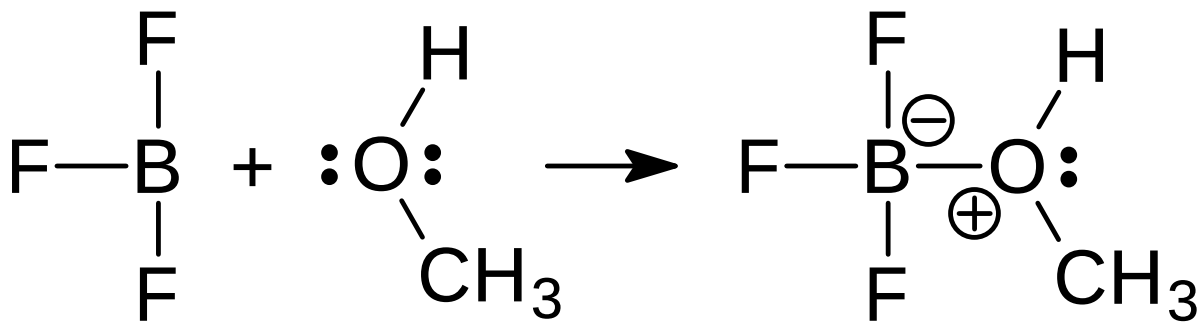
- A stronger base has a weaker conjugate acid
- Stability of anion: more stable = less basic
  - Electronegativity: electrons more tightly held
  - Induction: electrons “sucked away”
  - Resonance: electrons delocalized
  - “Hybridization”:
    Triple-bond < double-bond < single-bond
- Strength of bond to hydrogen:
  stronger = more basic

Brønsted Bases and the periodic table



Strength of Lewis bases

- “Polarizability”
  - Electronegativity: how tightly are electrons held? (tighter = weaker)
    - Induction increases “effective electronegativity” for example CH_3O^- vs. F_3CO^-
  - Atom size: how far away are the valence electrons?



Lewis Bases and the periodic table