Multiple bonds & polarity

Thursday, 15 February 2024 9:30 am

Decreasing length - more electrostatic attraction - increase the strength

Repulsion:
Lone pair - lone pair > lone pair - bonding pair > bonding pair - bonding pair

Polar covalent bonds

- Sharing electron in covalent bond is not even. Some element have stronger attraction to electrons - this depends on the electronegativity - more electronegativity - more share (electronegativity is depends on the proton) (this result in dipole and a polar bond)
- Electronegativity difference between that two element decide whether the polar bond is formed If there is a difference in electronegativity the bond is polar - however, if there's little difference between electronegativity, thus the compound non polar.

:N≡N:
electron are equally shared

non-polar

C — H

electronegativity:

2.55 2.2

En diff: 0.35 → non Polar

if 0.5 < En diff < 1.8 → polar

if En diff > 1.8 → ionic

Polar covalent bond

- Element do not share the electron in covalent bond equally, this is due to the electronegativity of the element, more electronegativity means stronger attraction to electron therefore, the polar bond/dipole bond form
- If the difference between the electronegativity is small, then the bond is not form