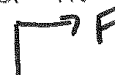


Molecular Attraction (p. 350-355) 14.1

e⁻ neg

atoms ability to attract e⁻ involved in bonding



ionic bond

≥ 1.67 EN, transfer of e⁻

cov bond
(2)

< 1.67 EN, share e⁻

(1) non-polar

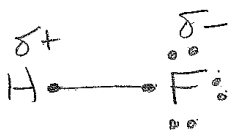
equal sharing EN = 0 ex: H₂, O₂ ...
gases at room T
low BP

(2) Polar

unequal sharing
usually solid at room T
Higher BP

ex:

HF



unequal sharing
e⁻ most often
around F

dipole
moment
delta

positive $\longleftrightarrow$ negative

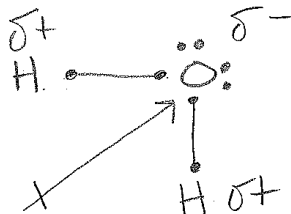
δ^+ δ^- partial charge

dipole

unequal sharing

ex:

H₂O



Demo
Bend H₂O

Intra-
molecular
force

Force within a molec that holds it together
(bonds)
See transparency #33

Van der Waals Forces

intermolec

Forces between molecules

dipole-dipole

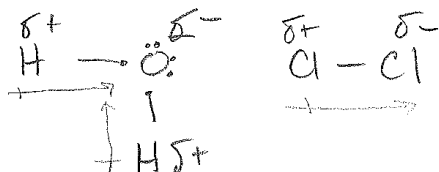


Polar molecules line up with δ^+ near δ^- and are attracted

induced dipole

• a nonpolar molecule comes near a polar molecule and a dipole is induced.

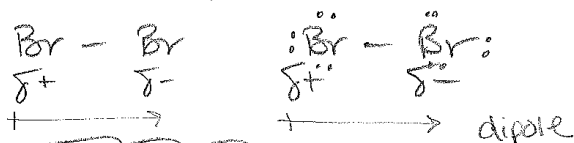
ex.



Temporary dipoles

• set up between 2 non-polar molec
• called dispersion forces

ex.



Do guided notes