

INTERMOLECULAR FORCES - GENERAL CHEMISTRY FORMATIVE ASSESSMENT



STUDENT CHECK FOR UNDERSTANDING

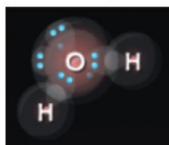
Concepts:
Molecular Polarity,
Types of IMFs (London
Dispersion Forces,
Dipole-Dipole,
Hydrogen Bonding),
Strength of IMFs,
Molecular
Geometry and Polarity

i

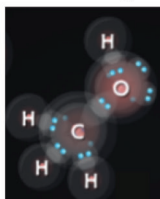
PART I DIRECTIONS:

Match each molecule in the box with the correct electrostatic potential map. On the electrostatic potential maps below, brighter colors (red, orange, yellow) indicate areas of the molecule that have a more partially negative charge due to electrons spending more time in those locations. Darker colors (blue and green) indicate areas that have a more partially positive charge due to electrons spending relatively less time around them.

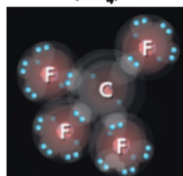
Water (H_2O)



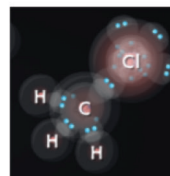
Methanol (CH_3OH)



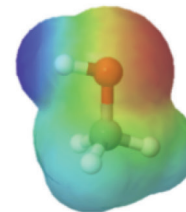
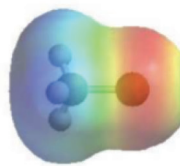
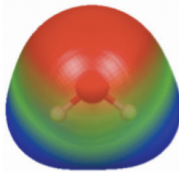
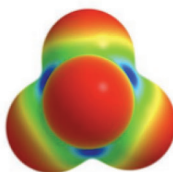
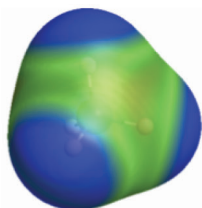
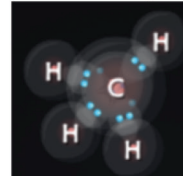
Carbon Tetrafluoride
(CF_4)



Chloromethane (CH_3Cl)



Methane (CH_4)

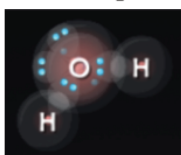


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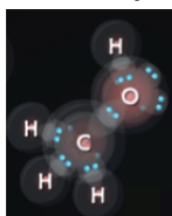
PART II DIRECTIONS:

The arrow in the middle of the image below indicates increasing strength of the intermolecular forces between molecules. Correctly order the molecules shown below by increasing intermolecular forces by filling the larger box with the name of the molecule and the smaller box with the type of intermolecular force that will predominate (LDF, D-D, or HB).

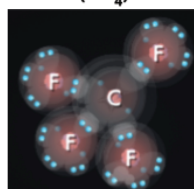
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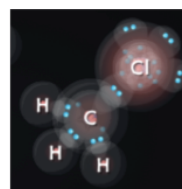
Methanol (CH_3OH)



Carbon Tetrafluoride
(CF_4)



Chloromethane (CH_3Cl)



Methane (CH_4)

