

INTERMOLECULAR FORCES - INTRODUCTION TO COLLEGE CHEMISTRY FORMATIVE ASSESSMENT - KEY



STUDENT CHECK FOR UNDERSTANDING

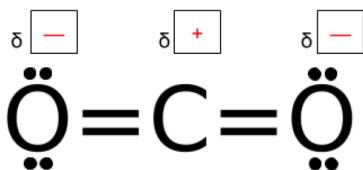
Concepts:
Molecular Polarity,
Types of IMFs (London
Dispersion Forces,
Dipole-Dipole,
Hydrogen Bonding),
Strength of IMFs,
Molecular
Geometry &
Polarity

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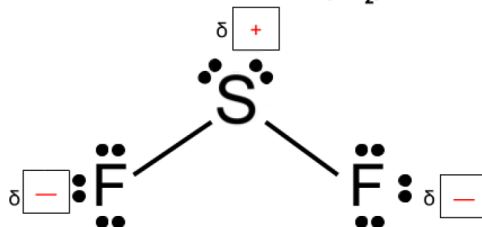
PART I DIRECTIONS:

Label the molecules below by filling the boxes with either "+" or "-" to reflect the partial charges of different atoms in the structure. Once you have done so, decide which molecule should be entered into the Dipole-Dipole Rail beneath them in order to successfully make the intermolecular force. Sketch the Lewis structures of the molecule into each box and write a justification for your answer choice in the space to the right.

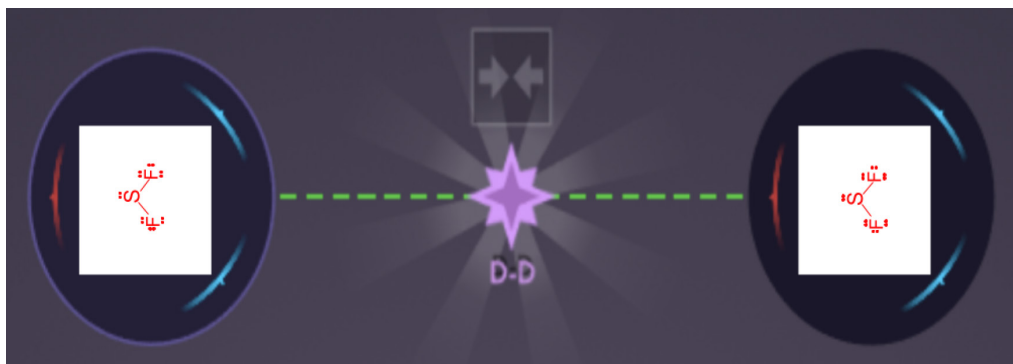
Carbon Dioxide (CO₂)



Sulfur Difluoride (SF₂)



JUSTIFICATION:

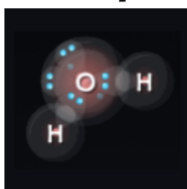


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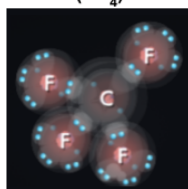
PART II DIRECTIONS:

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).

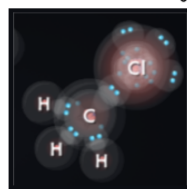
Water (H_2O)



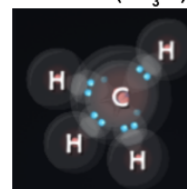
Carbon Tetrafluoride (CF_4)



Chloromethane (CH_3Cl)



Methane (CH_4)



Methane

LDF

Chloromethane

D-D

Carbon
Tetrafluoride

LDF

HB

Water

Increasing
Strength of
IMFs