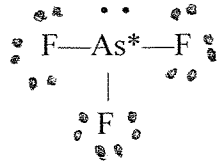
Gen Chem I (CHM 111) Fall 16 Dr. Hahn MW 8 am Quiz IV Form Pink 11/30 W Exam # _____

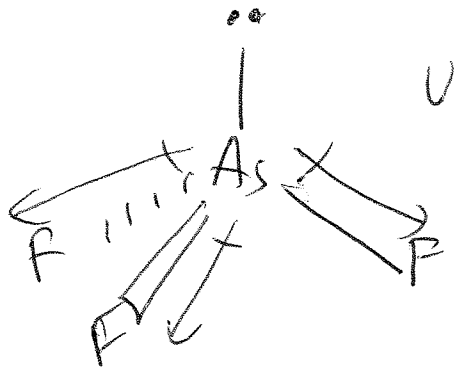
Name Key Print Name _____ Sign

In all questions, **show work** for partial credit and full credit.

Lewis Dot Structure



Your 3D structure drawing below.



vector sum ≠ 0

(5pts)

Answer the following for the given Lewis Dot structure **at the atom with the ***

(6pts each, 36pts)

What is the **VSEPRT # electron pairs ("electron groups" according to your textbook)** 4

How many lone pair electrons does the atom with the * have ? 1

What is the VSEPRT geometry of electron pairs ? tetrahedral

What is the VSEPRT geometry of the molecule ? trigonal pyramidal

What is the bond angle between F—As—F ? ~109.5°

What is the hybridization of the atom with the * ? sp^3

Draw a 3D structure of the molecule around the atom with the * in the space above and **then draw all non zero dipole moment arrows.**

(4pts)

Is the molecule as a whole [(polar) or (nonpolar)] (circle one) (5 pts)

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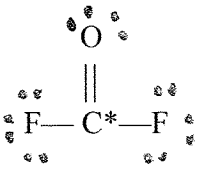

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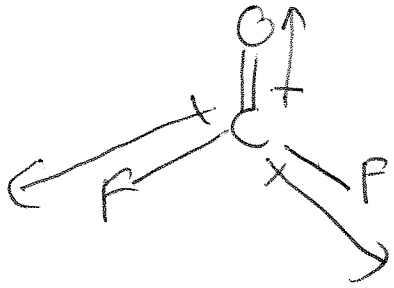

vector sum ≠ 0

(5 pts)

Answer the following for the given Lewis Dot structure **at the atom with the ***

(6 pts each, 36 pts)

What is the **VSEPRT # electron pairs ("electron groups" according to your textbook)** 3

How many lone pair electrons does the atom with the * have ? 0

What is the VSEPRT geometry of electron pairs ? trigonal planar

What is the VSEPRT geometry of the molecule ? trigonal planar

What is the bond angle between F— C — O ? 120°

What is the hybridization of the atom with the * ? sp^2

Draw a 3D structure of the molecule around the atom with the * in the space above and **then draw all non zero dipole moment arrows.**

(4 pts)

Is the molecule as a whole [(polar) or (nonpolar)] (circle one) 5 pts

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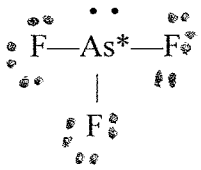

_____ (5pts)

Answer the following for the given Lewis Dot structure **at the atom with the ***

(6pts each, 36pts)

What is the **VSEPRT # electron pairs ("electron groups" according to your textbook)** _____

How many lone pair electrons does the atom with the * have ? _____

What is the VSEPRT geometry of electron pairs ? _____

What is the VSEPRT geometry of the molecule ? _____

What is the bond angle between F—As—F ? _____

What is the hybridization of the atom with the * ? _____

Draw a 3D structure of the molecule around the atom with the * in the space above and **then draw all non zero dipole moment arrows.**

4pts

Is the molecule as a whole [(polar) or (nonpolar)] (circle one) (5pts)

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Lewis Dot Structure

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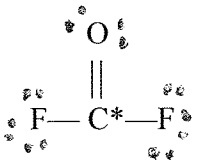

_____

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What is the VSEPRT geometry of electron pairs ? _____

What is the VSEPRT geometry of the molecule ? _____

What is the bond angle between F— C — O ? _____

What is the hybridization of the atom with the * ? _____

Draw a 3D structure of the molecule around the atom with the * in the space above and **then draw all non zero dipole moment arrows.**

(4pts)

Is the molecule as a whole [(polar) or (nonpolar)] (circle one) (5pts)