Chem 4A Scolars Worksheet 11

MO Diagrams and VSEPR Revisited

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Questions:

1. Draw the lewis structure for CO_3^{2-}.

   Draw the MO diagram for CO_3^{2-}.

   Is CO_3^{2-} paramagnetic or diamagnetic?

2. Draw the molecular interaction diagram for CO, determine it's bond order, and it's magnetism.

What about CO^+ and CO^-? And which one is more stable among the three?

3. Draw the Lewis structure for OF_2, determine the SN, and determine its molecular geometry.

Draw the Lewis structure and molecular geometries $SbCl_3F_3^-$

You may notice that the above ion has two possible molecular geometries, which one is more stable, and why?

Rank the the following angles from lowest to highest:
$\angle$HOH, 109.5°, $\angle$FOF, 90°, $\angle$FSbF, $\angle$ClSbCl, $\angle$HCH in C_2H_4