

Valence Bond Theory and Hybridization

Explain the difference between a σ bond and π bond.

What hybridization is expected for atoms that have the following numbers of charge clouds?

a.) 2

b) 3

c) 4

What hybridization is expected for the underlined atom in each of the following: (**Hint:** Draw the Lewis Structure)

a) BH₃

b) BH₄⁻

c) H₂CO

d) CH₂NH₂

c) CH₃⁻

d) CH₃⁺

Indicate the types of orbital overlap for the two carbon atoms in CH₃COOH. What is the hybridization of the two carbons and two oxygens?

How many sigma bonds? How many pi bonds?

