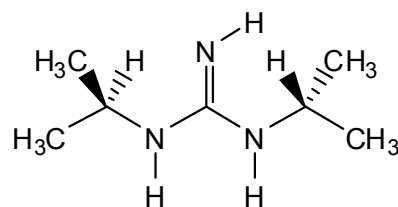
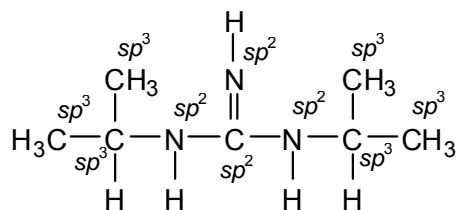
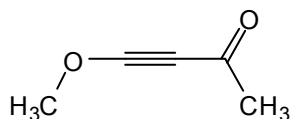
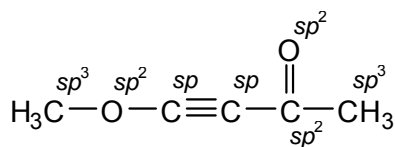
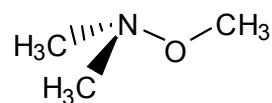
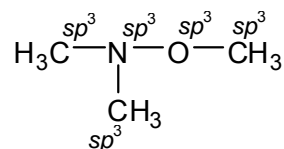
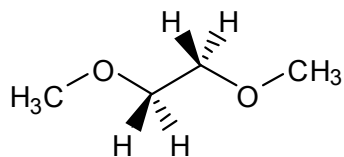
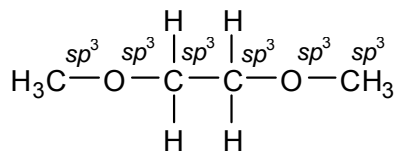


Workshop 6 Solutions Hybridization and Molecular Shape

1.



Why sp^2 at the leftmost oxygen? It would nominally be sp^3 , but it has lone pairs that are adjacent to the central triple bond. As a result, the O lone pair switches to a p orbital to mix with the $\text{C}\equiv\text{C}$ π bond, and the O is sp^2 .

The two bottom nitrogens would nominally be sp^3 , but they have lone pairs that are adjacent to the central double bond. As a result, the bottom N lone pairs switch to p orbitals to mix with the $\text{C}=\text{N}$ π bond, and the N's are sp^2 .

2.

