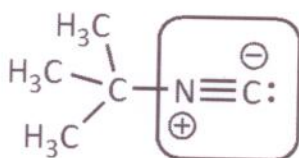


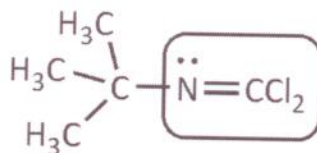
Quiz 1 (25 points)

Name Key

For questions 1-2, consider the structures shown below.



A



B

1. For A, what is the hybridization of each of the atoms inside the box (N and C)?

sp for N sp for C

2. For A, what type of orbital does the lone pair of electrons occupy?

sp on C

3. For B, what is the approximate bond angle for the Cl-C-Cl bonds?

$\approx 120^\circ$ expected sp^2 geometry

For questions 3-4, consider the two cases below a. and b.

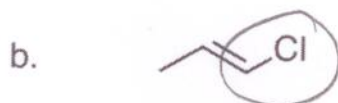
3. In a. circle the molecule with the longer carbon halogen bond.

4. in b., circle the molecule with the longer C-Cl bond.



longer

iodine is a larger atom so longer bond



longer



sp orbitals shorter than sp^2