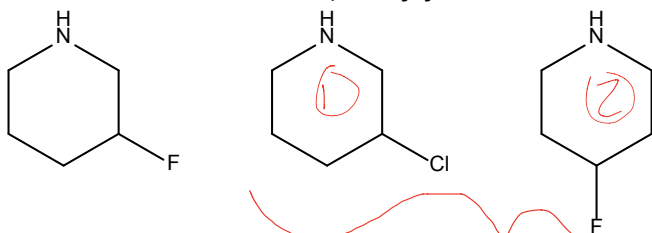


KEY

Quiz 1

1. Circle the weakest acid. Justify your choice in one sentence.



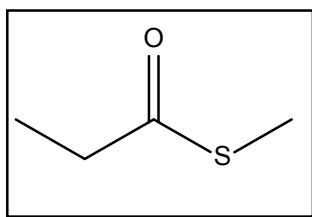
correct
either accepted w/ explanation

(Cl is less electronegative than F, so W has weaker inductive effect than others, leading to less acidity.)

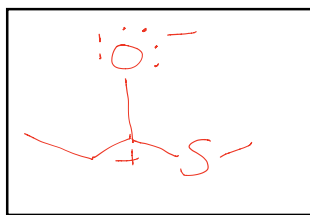
OR

② The inductively withdrawing atoms farthest away, so ② has least inductive effect, leading to less acidity.

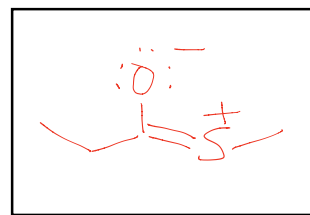
2. In boxes B and C, draw two other resonance forms for the structure in box A.



A



B

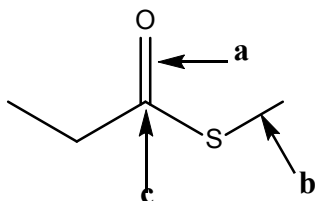


C

Using >, <, or = signs, rank the three structures shown above:

A > C > B

3. For the molecule shown below, provide the requested information in the blanks to the right.



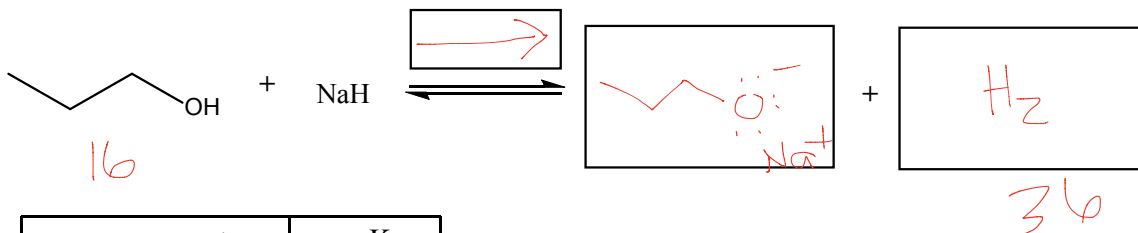
Bond type(s): (a) $1\sigma, 1\pi$

Bond type(s): (b) σ

Hybridization: (c) sp^2

Atom geometry: (c) trigonal planar

4. For the reaction shown below (1) Draw in products. (2) Write pKa values under the appropriate structures. (3) Use an arrow to show which side of the equilibrium is favored.



| Compound | pKa |
|--|------|
| CH ₃ CH ₂ OH | 13.6 |
| CH ₃ CH ₂ CH ₂ OH | 16 |
| NH ₃ | 38 |
| H ₂ | 36 |