

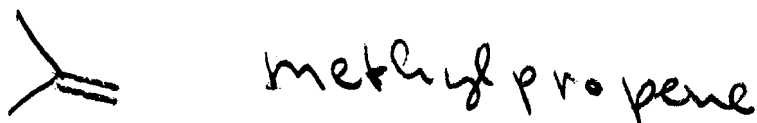
11/10/09

Student ID# _____

1. Assume that you need 0.3 moles of HCl. You have 37% hydrochloric acid on hand, density 1.18. How many milliliters will you need? (Atomic weights, H = 1.01; Cl = 35.45) (4 pts).

$$\frac{36.46 \times 0.3 \times 100}{37 \times 1.18} \approx 25.1 \text{ mL}$$

2. When 2-methyl-2-propanol was treated with hot sulfuric acid rather than hydrochloric acid, an alkene was obtained. Propose a name and a structural formula for this alkene! (4 pts)



3. Circle all correct statements. They refer to the preparation of 2-chloro-2-methylpropane: A "The 2-methyl-2-propanol I used last time is a secondary alcohol" B "I could make the same product by using phosphoric acid instead of HCl in last week's experiment" C "I could have prepared 2-chloro-2-methylpropane by addition of HCl to methylpropene" D "I could have replaced calcium chloride by sodium sulfate in last week's procedure" E "I also could prepare 2-chloro-2-methylpropane by addition of chlorine to methylpropene" (5 pts).

4. Name the compound you will prepare today! (2 pts)

phenoxyacetic acid