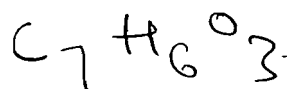
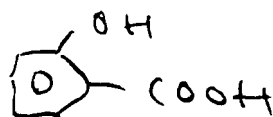
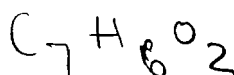
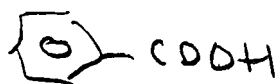
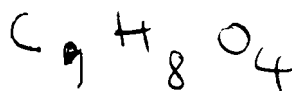
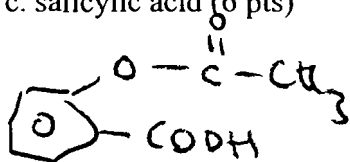


1. Indicate which statements are correct: A. I could have used acetic acid instead of acetic anhydride to prepare aspirin. B. I could have replaced sulfuric acid by sodium sulfate, with the same results. C. Water converts sulfuric acid into acetic acid. D. Aspirin is an acid. E. Aspirin is an ester. (5 pts).

2. Show valid structural formulas and molecular formulas for a. aspirin, b. benzoic acid, c. salicylic acid (6 pts)



3. Acetic anhydride and water react to generate acetic acid. How much water would it take to convert 11.0 grams of acetic anhydride to acetic acid? (Atomic weights: C = 12.011, H = 1.008, O = 16.00) 4 pts

$$MW(CH_3C(=O)-O-C(=O)-CH_3) = 102.1$$

$$MW(H_2O) = 18.02$$

$$\frac{11.0}{102.1} \times 18.02 = 1.94 \text{ g water needed}$$

$$(\text{or } \sim 1.08 \text{ moles})$$