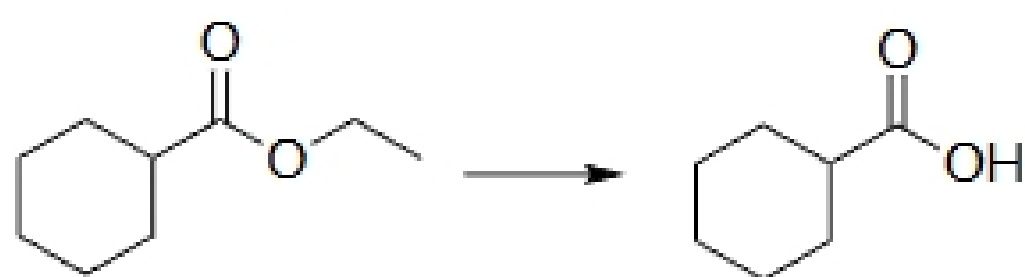
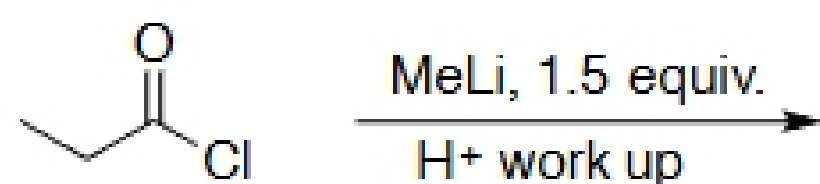


1. How could the reaction below be completed?



- a. NaOH, H^+ work up b. H^+ 1%, H_2O c. 1. $SOCl_2$, pyridine 2. H_2O **d. a and b** e. a, b, and c

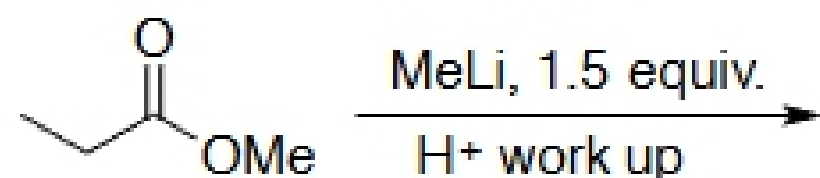
2. The product(s) of the reaction below would be:



- a. b. **c. a mixture of a and b**

- d. a mixture of a and starting material e. a mixture of b and starting material

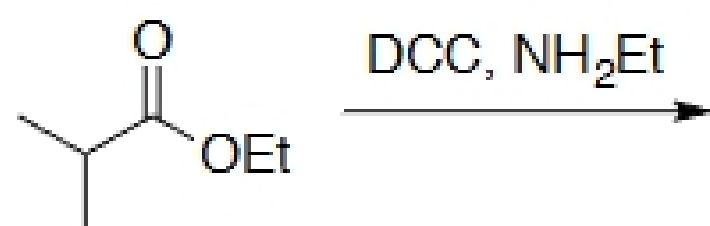
3. The product(s) of the reaction below would be:



- a. b. c. a mixture of a and b

- d. a mixture of a and starting material **e. a mixture of b and starting material**

4. The product of the reaction below would be:



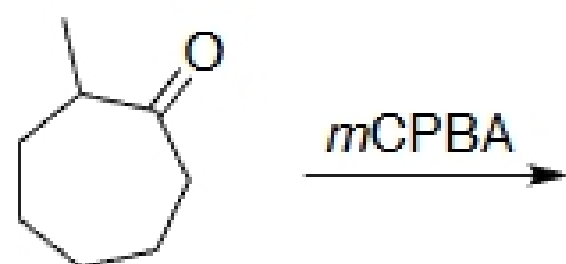
- a.

- b.

- c.

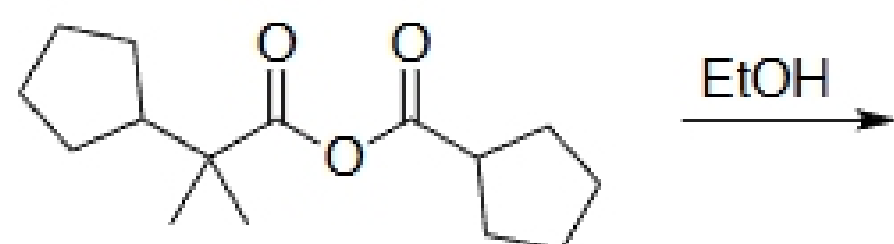
- d.

5. The product of the reaction below would be:



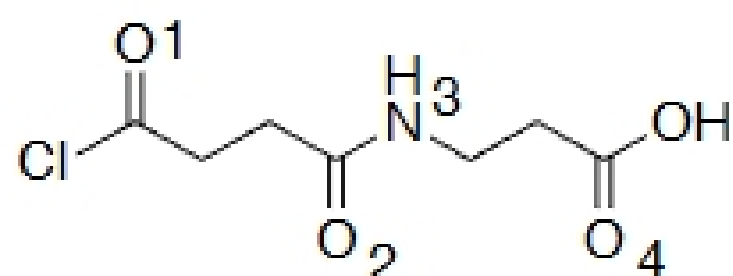
- a.
- b.
- c.
- d.

6. The products of the reaction below are:



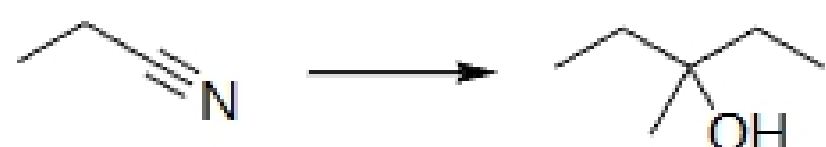
- a.
- b.
- c.
- d.

7. Put the atoms below in order of increasing basicity.



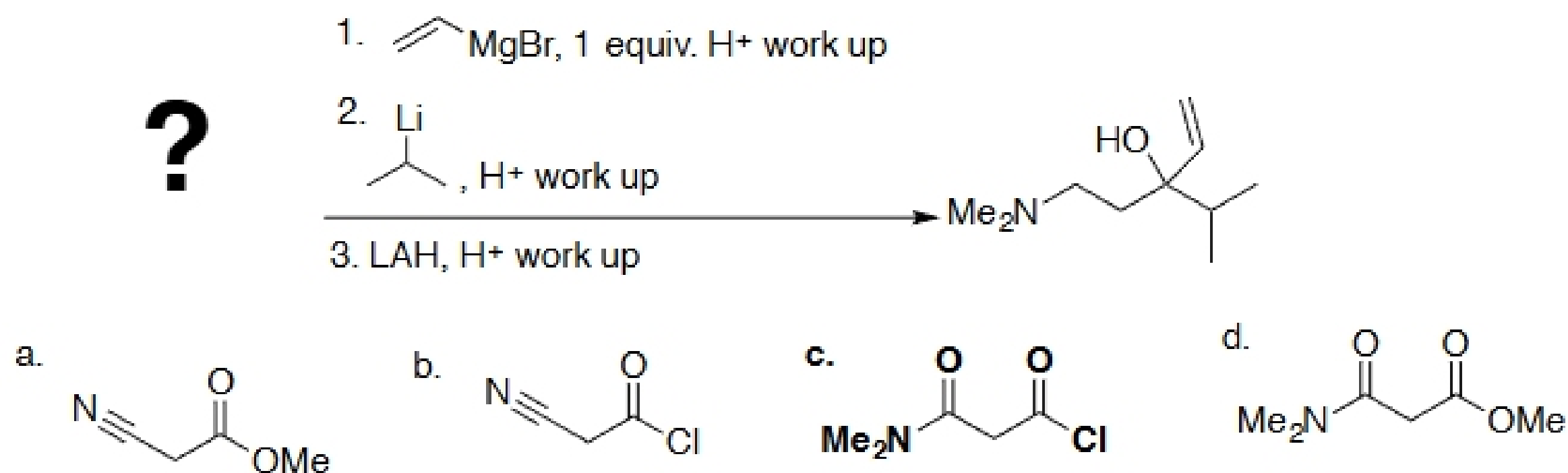
- a. **3<1<4<2** b. 1<3<2<4 c. 4<2<1<3 d. 2<4<3<1

8. Select conditions to complete the synthesis below:



- a. MeLi, 2 equiv., H⁺ work up **b. 1. EtMgBr, 1 equiv., H⁺ work up 2. MeLi, H⁺ work up**
 c. 1. DIBAL, H⁺ work up 2. EtLi, H⁺ work up d. 1. MeLi, 1 equiv., H⁺ work up 2. DIBAL, H⁺ work up

9. Select the appropriate starting material for the reaction below.



10. Which of the following chemical compounds should you accept while Trick-or-Treating?

- a. fructose b. cinnamaldehyde c. glycerol **d. all of the above**