

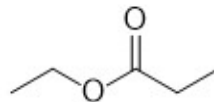
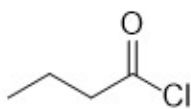
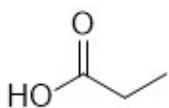
CHM 3150 Organic Chemistry II
Dr. Laurie S. Starkey, Cal Poly Pomona
Chapter 20 Carb. Acids & Derivatives Part 4
(& Exam Review) – [Practice Problems](#)

For clicker question voting, go to:
<https://pollev.com/lauriestarke263>

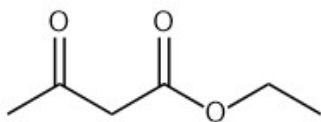


1

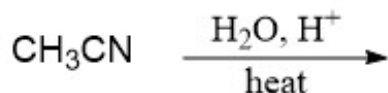
Provide the correct IUPAC name for each compound.



2

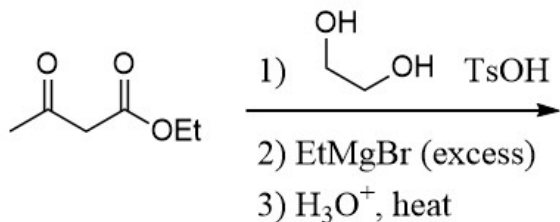


3



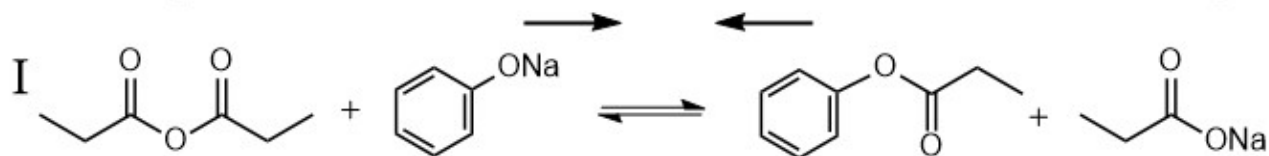
- A) Formic acid
- B) *N,N*-Dimethylformamide
- C) Acetic acid
- D) Hydroxyacetone
- E) Acetamide

4

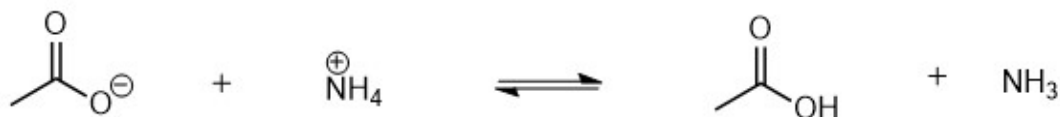


5

For each, predict whether the forward or reverse reaction is favored. Explain.



II

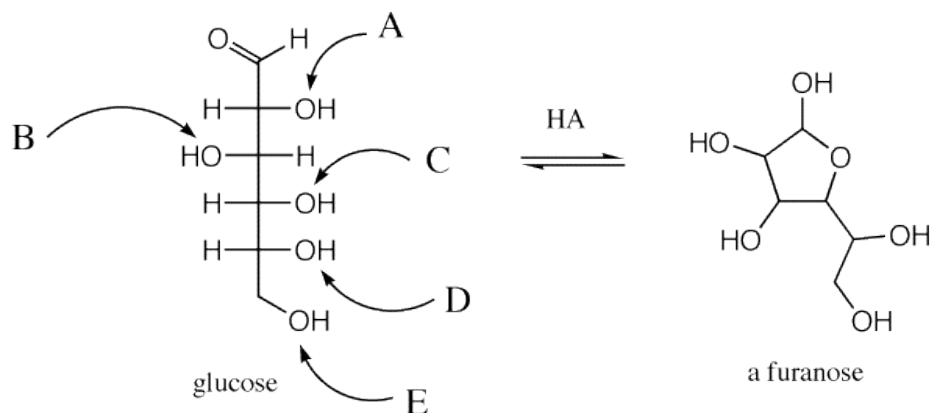


III



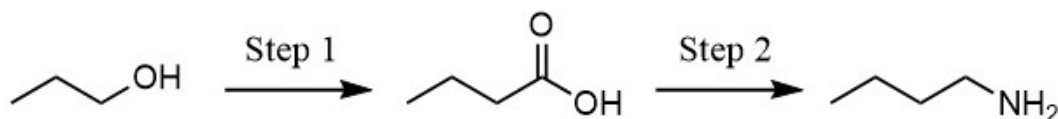
Which of the oxygen in glucose was involved in the cyclization to the furanose form shown?

6

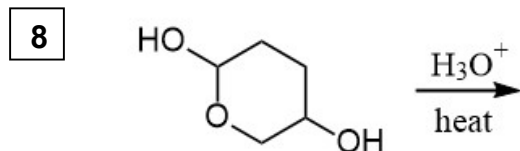


7

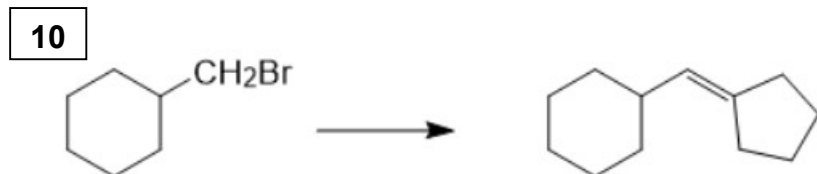
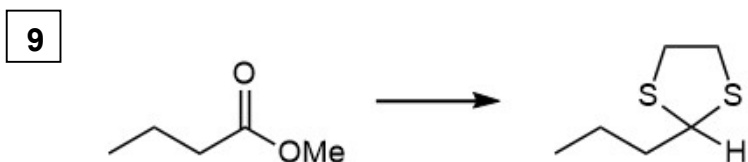
Provide the necessary reagents.



Predict the major product for the following reaction.

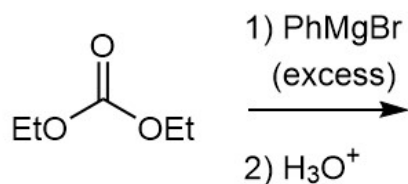


Provide the necessary reagents.

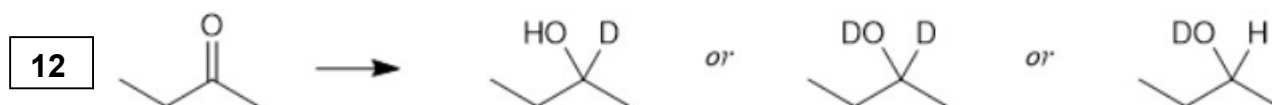


11

Predict the major product.

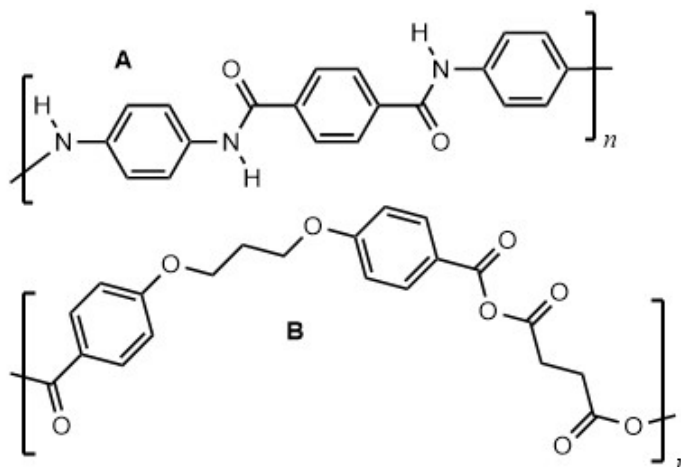


Synthesize the following compounds from 2-butanone, using NaBH_4 , NaBD_4 , H_2O , and D_2O as needed. Recall that deuterium (D) is an isotope of hydrogen ($\text{D} = {}^2\text{H}$).



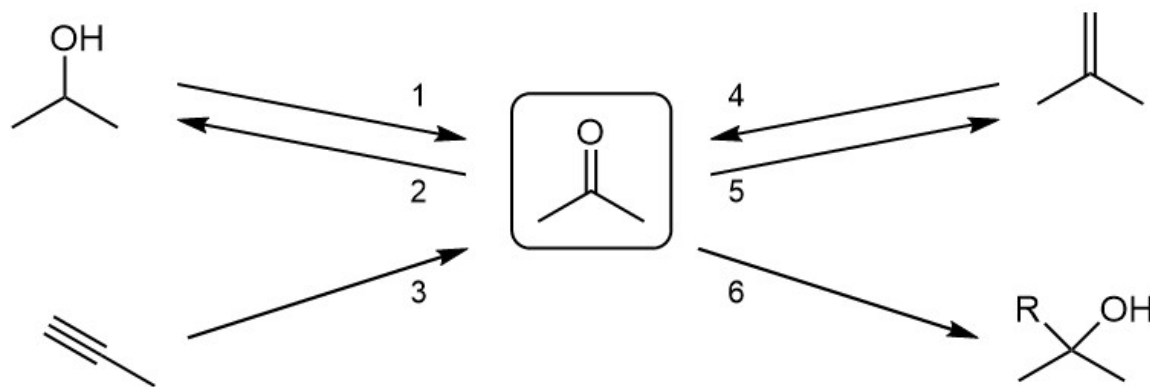
13

One of these polymers is very strong and durable (bulletproof vests) and the other is easily hydrolyzed (biodegradable). Identify each polymer and explain the difference in properties. What monomers could be used to make each polymer?



14

Provide the missing reagents (each transformation corresponds to one letter).



My solution:

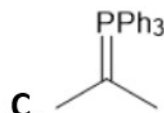
1	2	3	4	5	6

(enter into PollEverywhere as one word, such as **abcde**)

Correct answer:

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A. t-BuOK

B. 1) R₃ONa; 2) H₃O⁺

D. ROH, TsOH

E. 1) LiAlH₄; 2) H₃O⁺F. 1) BH₃-THF; 2) H₂O₂, NaOH

G. MCPBA

H. H₂SO₄, H₂O, HgSO₄I. conc. H₂SO₄, heatJ. Ph₃P=CH₂K. 1) RMgBr; 2) H₃O⁺L. Na₂Cr₂O₇, H₂SO₄, H₂O