

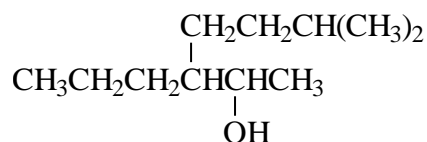
Honor-2: ALCOHOLS

- 1 What is the IUPAC name of the compound below?



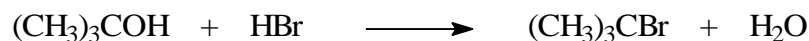
- ☒ 1) 5,5-dimethyl-2-hexanol 3) 5,5-dimethyl-2-pentanol
2) 2,2-dimethyl-5-hexanol 4) 2,2-dimethyl-5-pentanol

- 2 What is the IUPAC name of the compound below?



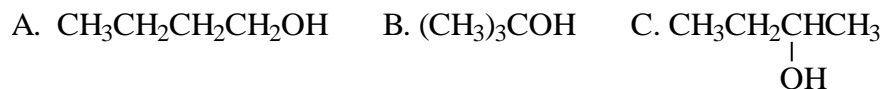
- 1) 3-isobutyl-2-hexanol 3) 2-methyl-5-propyl-6-heptanol
2) 2-methyl-5-(1-hydroxyethyl)octane ☒ 4) 6-methyl-3-propyl-2-heptanol

- 3 What is the nucleophile in the following substitution reaction?



- 1) $(\text{CH}_3)_3\text{COH}$ 2) $(\text{CH}_3)_3\text{C}^+$ ☒ 3) Br^- 4) H^+

- 4 Rank the following alcohols in order of increasing reaction rate with HBr.



- ☒ 1) $\text{B} < \text{C} < \text{A}$ 2) $\text{C} < \text{B} < \text{A}$ 3) $\text{A} < \text{C} < \text{B}$ 4) $\text{A} < \text{B} < \text{C}$

- 5 Which method or methods would work to quantitatively prepare a sodium ethoxide solution?

- A. $\text{CH}_3\text{CH}_2\text{OH} + \text{NaOH}$
B. $\text{CH}_3\text{CH}_2\text{OH} + \text{NaH}$
C. $\text{CH}_3\text{CH}_2\text{OH} + \text{Na}$

- 1) A and B 2) A and C 3) B and C 4) A, B, and C

6 What are the products of the following reaction?

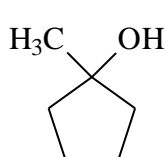


- 1) 1-bromobutane and water 3) butane and HOBr
2) 1-bromobutane and hydrogen 4) $\text{CH}_3\text{CH}_2\text{CH}_2\text{CH}_2\text{OBr}$ + hydrogen

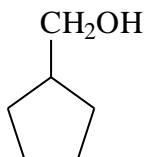
7 Which of the following is most reactive with HBr?

- 1) CH_3OH 3) $(\text{CH}_3)_2\text{CHOH}$
2) $\text{CH}_3\text{CH}_2\text{OH}$ 4) $(\text{CH}_3)_3\text{COH}$

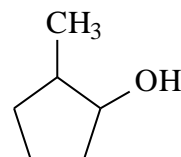
8 Arrange the following alcohols in order of their decreasing reactivity with HBr (most reactive first).



A



B



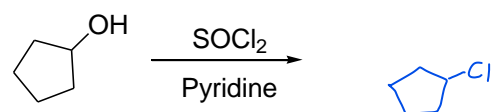
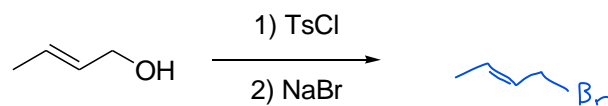
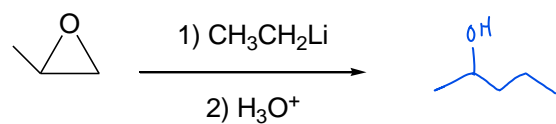
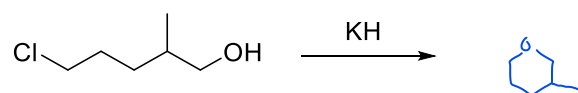
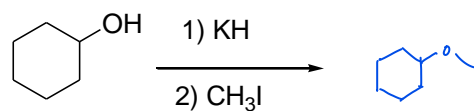
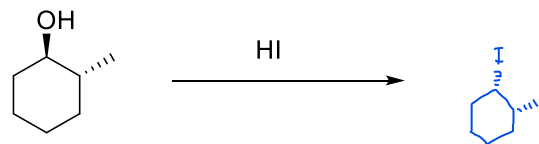
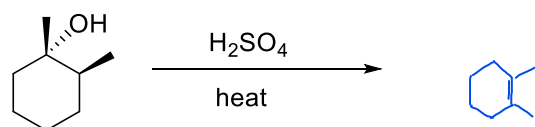
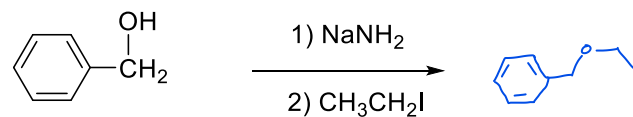
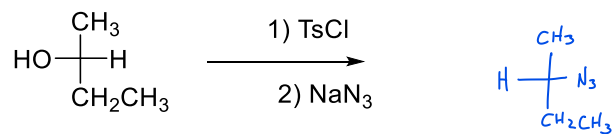
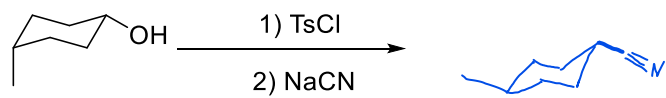
C

- 1) A>B>C 2) A>C>B 3) C>A>B 4) B>C>A

9 What is the product of the following reaction? $\text{BrCH}_2\text{CH}_2\text{CH}_2\text{CH}_2\text{OH} + \text{SOCl}_2 \rightarrow$

- 1) $\text{ClCH}_2\text{CH}_2\text{CH}_2\text{CH}_2\text{OH}$ 3) $\text{BrCH}_2\text{CH}_2\text{CH}_2\text{CH}_2\text{Cl}$
2) $\text{ClCH}_2\text{CH}_2\text{CH}_2\text{CH}_2\text{Cl}$ 4) $\text{ClCH}_2\text{CH}_2\text{CH}_2\text{CH}_2\text{SOCl}$

10: Predict the major products with correct stereochemistry (if any) for the following reactions



11. Propose a synthesis plan for the following transformations:

