

Organic Chemistry Practice Problems - *Answers at end*

Note: **Ar** = **benzene** (so is C_6H_5), **R** = any carbon chain and **R'** = carbons different from R.

1. Which of the following is the general formula for an alcohol?
 - (a) $\text{Ar}-\text{OH}$
 - (b) $\text{R}-\text{NH}_2$
 - (c) $\text{R}-\text{OH}$
 - (d) $\text{R}-\text{O}-\text{R}'$
 - (e) $\text{R}-\text{X}$

2. Which of the following is the general formula for a phenol (alcohol on a benzene ring)?
 - (a) $\text{Ar}-\text{OH}$
 - (b) $\text{R}-\text{NH}_2$
 - (a) $\text{R}-\text{OH}$
 - (b) $\text{R}-\text{O}-\text{R}'$
 - (c) $\text{R}-\text{X}$

3. Which of the following is a general formula for ether?
 - (a) $\text{Ar}-\text{OH}$
 - (b) $\text{R}-\text{NH}_2$
 - (c) $\text{R}-\text{OH}$
 - (d) $\text{R}-\text{O}-\text{R}'$
 - (e) $\text{R}-\text{X}$

4. Which of the following is a general formula for an amine?
 - (a) $\text{Ar}-\text{OH}$
 - (b) $\text{R}-\text{NH}_2$
 - (c) $\text{R}-\text{OH}$
 - (d) $\text{R}-\text{O}-\text{R}'$
 - (e) $\text{R}-\text{X}$

5. What class of compound has the following general formula: $\text{Ar}-\overset{\text{O}}{\underset{\text{||}}{\text{C}}}-\text{H}$?
- (a) aldehyde
 - (b) carboxylic acid
 - (c) ester
 - (d) ketone
 - (e) phenol

6. What class of compound has the following general formula: $\text{R}-\overset{\text{O}}{\underset{\text{||}}{\text{C}}}-\text{R}'$?
- (a) aldehyde
 - (b) alkene
 - (c) carboxylic acid
 - (d) ester
 - (e) ketone

7. What class of compound has the following general formula: $\text{R}-\overset{\text{O}}{\underset{\text{||}}{\text{C}}}-\text{OH}$?
- (a) aldehyde
 - (b) carboxylic acid
 - (c) ester
 - (d) ketone
 - (e) phenol

8. What class of compound has the following general formula: $\text{R}-\overset{\text{O}}{\underset{\text{||}}{\text{C}}}-\text{O}-\text{R}'$?
- (a) aldehyde
 - (b) carboxylic acid
 - (c) ester
 - (d) ketone
 - (e) phenol

9. What class of compound has the following general formula: $\text{R}-\overset{\text{O}}{\underset{\text{||}}{\text{C}}}-\text{NH}_2$?
- (a) aldehyde
 - (b) amide
 - (c) amine
 - (d) carboxylic acid
 - (e) ketone

10. What class of compound is the following: $\text{CH}_3\text{-CH}_2\text{-OH}$?
- (a) organic halide
 - (b) alcohol
 - (c) phenol
 - (d) ether
 - (e) amine
11. What class of compound is the following: $\text{C}_6\text{H}_5\text{-OH}$?
- (a) organic halide
 - (b) alcohol
 - (c) phenol
 - (d) ether
 - (e) amine
12. What class of compound is the following: $\text{CH}_3\text{-CH}_2\text{-O-CH}_2\text{-CH}_3$?
- (a) organic halide
 - (b) alcohol
 - (c) phenol
 - (d) ether
 - (e) amine
13. What class of compound is the following: $\text{CH}_3\text{-CH}_2\text{-NH}_2$?
- (a) organic halide
 - (b) alcohol
 - (c) phenol
 - (d) ether
 - (e) amine
14. What class of compound is the following: $\text{CH}_3\text{-CH}_2\text{-C}\begin{matrix} \text{O} \\ || \end{matrix}\text{-H}$?
- (a) aldehyde
 - (b) ketone
 - (c) carboxylic acid
 - (d) ester
 - (e) amide

15. What class of compound is the following: $\text{CH}_3\text{-CH}_2\text{-}\overset{\text{O}}{\underset{\text{||}}{\text{C}}}\text{-CH}_2\text{-CH}_3$?
- (a) aldehyde
 - (b) ketone
 - (c) carboxylic acid
 - (d) ester
 - (e) amide

16. What class of compound is the following: $\text{H-}\overset{\text{O}}{\underset{\text{||}}{\text{C}}}\text{-OH}$?
- (a) aldehyde
 - (b) ketone
 - (c) carboxylic acid
 - (d) ester
 - (e) amide

17. What class of compound is the following: $\text{H-}\overset{\text{O}}{\underset{\text{||}}{\text{C}}}\text{-O-CH}_3$?
- (a) aldehyde
 - (b) ketone
 - (c) carboxylic acid
 - (d) ester
 - (e) amide

18. What class of compound is the following: $\text{H-}\overset{\text{O}}{\underset{\text{||}}{\text{C}}}\text{-NH}_2$?
- (a) aldehyde
 - (b) ketone
 - (c) carboxylic acid
 - (d) ester
 - (e) amide

19. What class of compound is methanol?
- (a) aldehyde
 - (b) ketone
 - (c) carboxylic acid
 - (d) ester
 - (e) alcohol

20. What class of compound is butanal?
- (a) aldehyde
 - (b) ketone
 - (c) carboxylic acid
 - (d) ester
 - (e) alcohol
21. What class of compound is methyl propanoate?
- (a) aldehyde
 - (b) ketone
 - (c) carboxylic acid
 - (d) ester
 - (e) alcohol
22. What class of compound is butanone?
- (a) aldehyde
 - (b) ketone
 - (c) carboxylic acid
 - (d) ester
 - (e) alcohol
23. What class of compound is ethanamide?
- (a) aldehyde
 - (b) ketone
 - (c) amide
 - (d) ester
 - (e) alcohol
24. What class of compound is dopamine?
- (a) aldehyde
 - (b) ketone
 - (c) carboxylic acid
 - (d) amine
 - (e) alcohol

Answer Key

1C, 2A, 3D, 4B, 5A, 6E, 7B, 8C, 9B, 10B, 11C, 12D, 13E, 14A, 15B, 16C, 17D, 18E, 19E,
20A, 21D, 22B, 23C, 24D