

# **Chapter 9**

## **Organic Chemistry: The Infinite Variety of Carbon Compounds**



Which of the following organic compounds would be liquid at room temperature (25 °C)?

Name	Molecular Formula	Melting Point (°C)	Boiling Point (°C)
Methane	CH <sub>4</sub>	-183	-162
Ethane	C <sub>2</sub> H <sub>6</sub>	-172	-89
Propane	C <sub>3</sub> H <sub>8</sub>	-188	-42
Butane	C <sub>4</sub> H <sub>10</sub>	-138	0
Pentane	C <sub>5</sub> H <sub>12</sub>	-130	36
Hexane	C <sub>6</sub> H <sub>14</sub>	-95	69

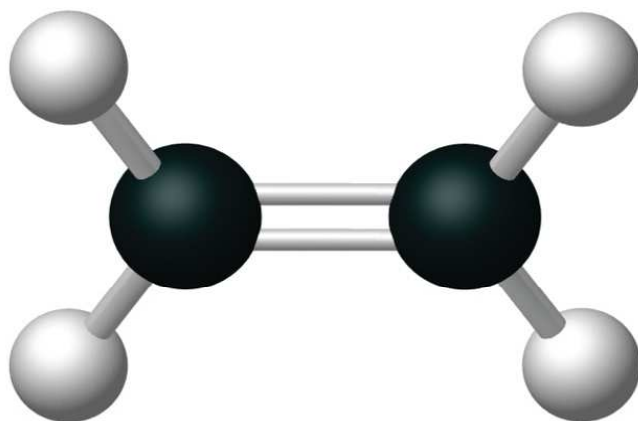
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The following chemical belongs to what family of organic compounds?

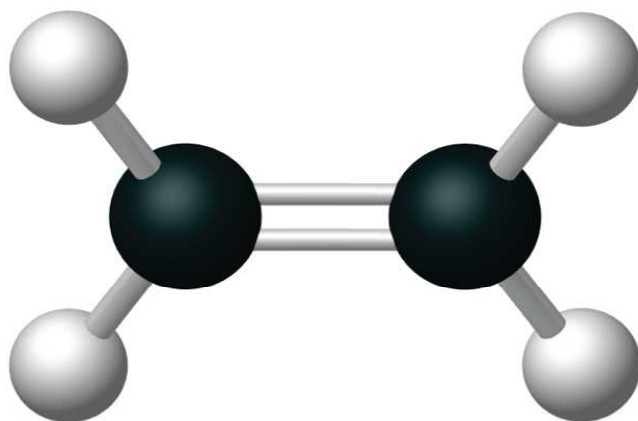


(a)

- a. Alkanes
- b. Alkenes
- c. Alkynes
- d. Aromatics
- e. Aldehydes



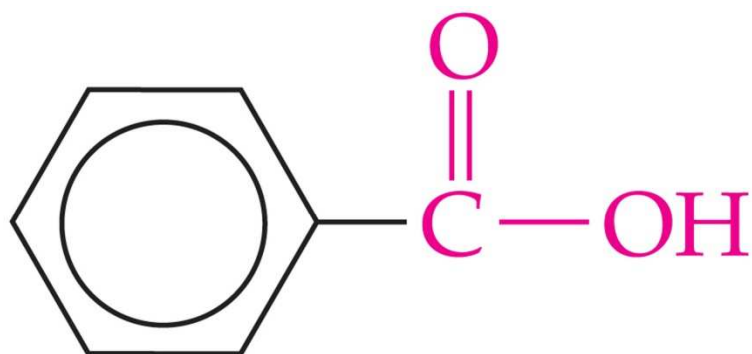
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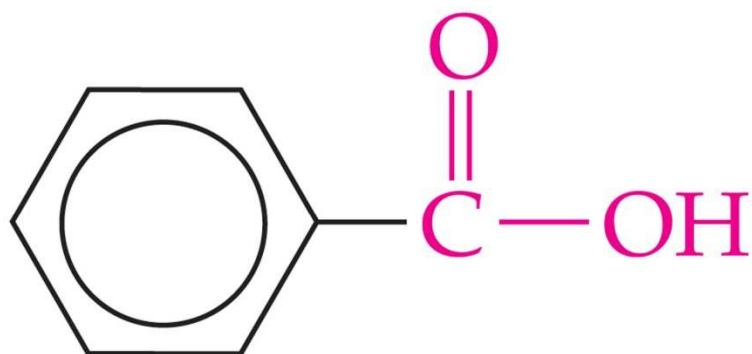
To which family of organic compounds does the following chemical belong?



- a. Alkanes
- b. Alkenes
- c. Aromatic
- d. Cyclic
- e. Heterocyclic

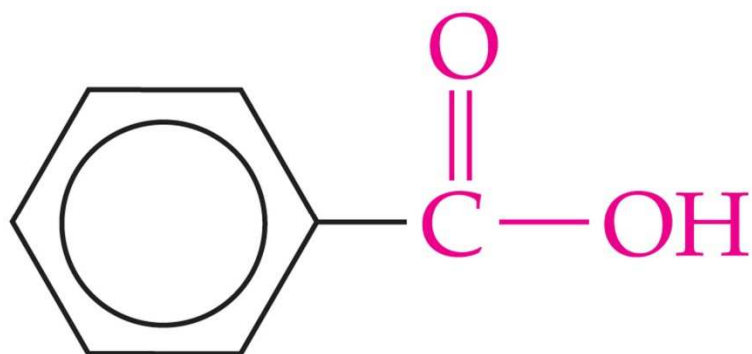


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Which functional group does the following chemical contain?

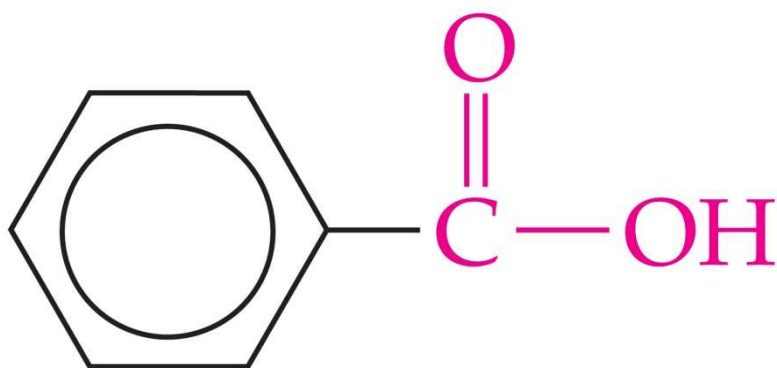


- a. Aldehydes
- b. Ketones
- c. Alcohols
- d. Carboxylic acids
- e. Esters





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Benzoic acid

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Which of the following compounds would you expect to be responsible for the fragrance of pears?



- a. 1-Propanol
- b. Methyl propyl ketone
- c. Propionaldehyde
- d. Methyl propyl ether
- e. Propyl acetate

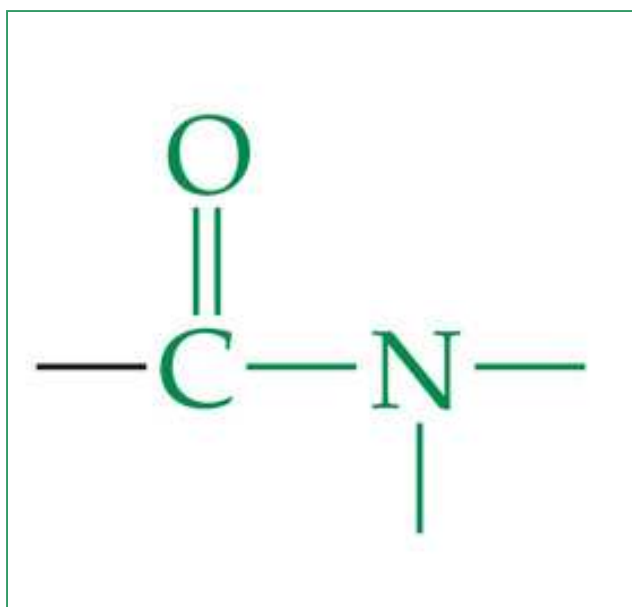


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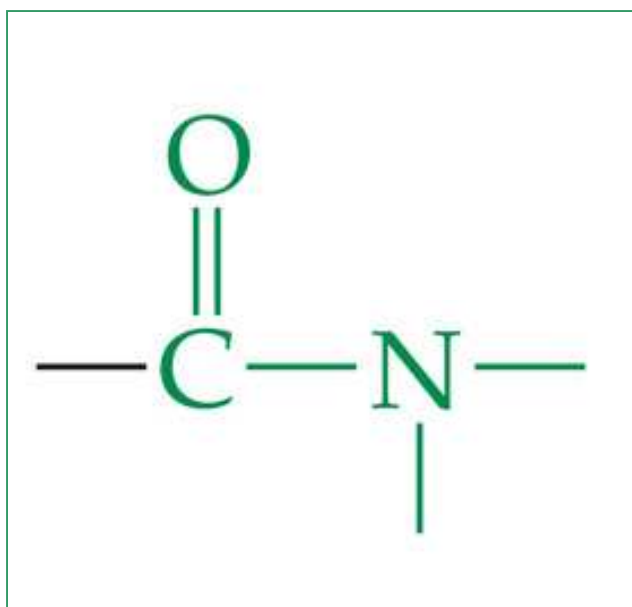
Many natural and synthetic fibers, such as silk, wool, and nylon, all have this *functional group* in common:



- a. Alcohol
- b. Ether
- c. Phenyl
- d. Amide
- e. Amine



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