

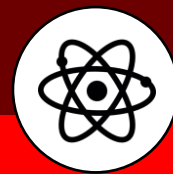
2004

18 The general formula for the alkane series of hydrocarbons is C_nH_{2n+2}

The primary amine series has the same saturated structure as the alkanes, but also contains an $-NH_2$ group.

What is the general formula for the primary amine series?

- A $C_nH_{2n}N$
- B $C_nH_{2n+1}N$
- C $C_nH_{2n+2}N$
- D $C_nH_{2n+3}N$



Organic Chemistry

2005

- 7 During metabolism, two molecules of pyruvic acid, $C_3H_4O_3$, are formed from one molecule of glucose, $C_6H_{12}O_6$.

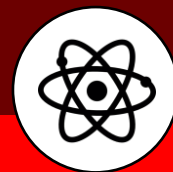
This is an example of which of the following?

- A oxidation and decomposition
 - B oxidation and synthesis
 - C reduction and decomposition
 - D reduction and synthesis
- 23 A sample of butane, C_4H_{10} is treated with deuterium, D (an isotope of hydrogen) and some of the hydrogen atoms are replaced by deuterium atoms.

Analysis shows that the substituted butane contains 80.0% of carbon by mass.

Which one of the following is its formula? (A_r : H=1; D=2; C=12)

- A C_4H_9D
- B $C_4H_8D_2$
- C $C_4H_7D_3$
- D $C_4H_6D_4$



2008

10 Which one of the following would **not** be formed by cracking the hydrocarbon $C_{12}H_{26}$?

- A CH_4
- B C_2H_4
- C C_6H_{16}
- D C_8H_{18}
- E $C_{12}H_{24}$
- F H_2

18 The general formula for the alkane series is C_nH_{2n+2}

The amide series has the same saturated structure as the alkanes but with one H substituted by the $-CONH_2$ group.

What is the general formula for the amide series?

- A $C_nH_{2n}ON$
- B $C_nH_{2n+2}ON$
- C $C_nH_{3n-1}ON$
- D $C_{n+1}H_{2n}ON$
- E $C_{n+1}H_{2n+1}ON$
- F $C_{n+1}H_{2n+3}ON$