Organic: Polymers

1. Choose from the list of compounds given below. The most likely compound used as a starting compound for plastic is \_\_\_\_\_\_\_\_\_

|  |  |
| --- | --- |
| Number | Compound |
| 1 | CH4 |
| 2 | C2H4 |
| 3 | CO2 |
| 4 | C2H2 |
| 5 | CCl4 |
| 6 | C3H8 |
| 7 | HOOCCOOH |

1. 2 b) 3

c) 5 d) 6

2. The process used to join individual molecules of an organic compound together to form a chain of identical repeating units is called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

1. Fractional distillation b) Catalytic cracking

c) Esterification d) Polymerization

3. An organic compound most commonly used as a starting compound in the manufacture of products such as antifreeze, tetraethyl lead, paints, drugs, and polyester is \_\_\_\_\_\_\_\_\_\_

a) methane b) carbon tetrachloride

c) ethylene d) butan- 1- ol

1. Diamonds are artificially made by subjecting powdered graphite to high temperatures and pressures to make a tremendously large molecule composed only of carbon. This process is called a(n)\_\_\_\_\_\_\_\_\_\_\_\_\_\_ reaction.

a) Hydrocarbon combustion b) Polymerization

c) Catalytic cracking d) Elimination

5. The conversion of smaller hydrocarbon molecules into large molecules is known as \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

a) Elimination b) Polymerization

c) Substitution d) Decomposition

1. Charles Goodyear accidentally developed a process to produce a synthetic rubber compound. His process increased the length of the synthetic material. A description of the process is that it involves \_\_\_\_\_\_\_\_\_\_\_
2. Cracking long hydrocarbon chains into shorter useable chains.
3. Polymerization of long hydrocarbon chains into shorter useable chains.
4. Cracking short hydrocarbon chains into longer useable chains.
5. Polymerization of short hydrocarbon chains into longer useable chains.
6. Consider the diagram as follows:  **[…….CH2CHCl–CH2CHCl CH2CHCl ……..]**

Which of the following monomers is required to produce the polymer in the structural diagram above?

1. [CH2ClCHCl]n

b) [CH3CH2Cl]n

c) [CH2=CHCl]n

d) [CHCCl]n

Solutions:

1. A
2. D
3. C
4. B
5. B
6. D
7. C