

Episode 21 - Carbon

1. What is organic chemistry?
2. How many carbon compounds exist?
3. How many bonds can carbon form?
4. When was nylon first developed? Why was its development so essential?
5. What was the first organic synthesis?
6. What is a hydrocarbon?
7. What is meant by an isomer?
8. How are organic compounds divided into categories?
9. How are esters used?
10. What were the "ingredients" in the synthesis of acetylsalicylic acid - aspirin?
11. What must be done to produce a drug found in nature?
12. What is special about benzene?

Answer Key

1. What is organic chemistry?

The branch of chemistry dealing with compounds of carbon.

2. How many carbon compounds exist? *Millions*

3. How many bonds can carbon form?

Four bonds

4. When was nylon first developed? Why was its development so essential?

Before World War II. A substitute for silk.

5. What was the first organic synthesis?

Wöhler's synthesis of urea.

6. What is a hydrocarbon?

A compound formed only of hydrogen and carbon atoms.

7. What is meant by an isomer?

Two molecules that have the same formula but have different structures.

8. How are organic compounds divided into categories?

By functional groups.

9. How are esters used?

Flavorings and scents.

10. What were the "ingredients" in the synthesis of acetylsalicylic acid - aspirin?

Salicylic acid and acetic anhydride (with an acid catalyst).

11. What must be done to produce a drug found in nature?

Extract the drug, purify it, determine its structure, and then determine how to produce it synthetically.

12. What is special about benzene?

It is the starting material for the synthesis of many organic compounds.