

Video (TVO): Organic Chemistry 2

Polyethylene

1. Polyethylene, formed under high pressures, was first used to _____.
2. What are some uses for polyethylene? _____
3. Plastics are made of molecules called _____, which are extremely _____ molecules.
4. Polymers are made of repeating units called _____.
5. One of the simplest monomers is _____, which is what polyethylene is made of.
6. Polyethylene is made through a reaction known as _____.
7. The following conditions are needed to convert ethylene into polyethylene: _____.
8. The reactive site on ethylene is _____.
9. One product of industrial polyethylene synthesis (at a high pressure using benzoyl peroxide as a catalyst) is _____ (LDPE), a highly _____ structure. This branching produces a very _____ plastic.
10. Another polymerization process (at a lower pressure and using a chromium oxide catalyst) produces more uniform, linear molecules called _____ (HDPE).

Fibres

1. The fibrous material of plants is _____. The most _____ compound in the world.
2. The polymers of cellulose are held together with _____ bonding between _____ groups.
3. Hydrogen bonds are relatively weak, but it is the _____ effect that makes this a strong attraction.
4. Nylon is like a protein polymer because it is held together with an _____ functional group.
5. A functional group is that part of a molecule that undergoes a _____.

6. An amide is produced by reacting a _____ group with an _____ group.
7. Nylon, a polyamide, must be _____ so that the hydrogen bonding is _____ before it develops its final properties.
8. The promising _____ composite fibres are mainly used in the aerospace industry.

Soaps

1. Why is water alone not a good solvent for bathing or washing clothes?

2. Fats and oils are _____ and therefore cannot be dissolved by water.
3. Originally, soap was made by combining fatty _____ tied to _____ producing an _____.
4. A soap molecule has an _____ head but a _____ tail.
5. An oily stain is dissolved by a formation called a _____.
6. A common detergent is _____ which is a primary alkyl sulfate and is primarily used in _____.

ASA

1. The Willow tree is a natural source of _____, which lowers _____.
2. Draw and label a picture of salicylic acid:
3. A problem with salicylic acid is that it is _____ to mucus membranes.
4. Hoffman reacted acetic anhydride with salicylic acid to yield _____.
5. ASA blocks the production of _____, which is involved in the body's "pain reaction".
6. Some problems with the use of ASA are: _____
7. Brands of ASA only vary in the _____ of ASA and some contain _____.
8. Acetaminophen does not have _____ properties.