Organic Chemistry Chapter 2: Polymers

2.1 Vocabulary Define the following:

|  |  |
| --- | --- |
| Concept | Definition |
| Polymer (p.80) |  |
| Monomer (p.80) |  |
| Homopolymer (p. 80) |  |
| Copolymer (p. 81) |  |

Apply to real life: describe any everyday item created using a copolymer and a homopolymer. (p. 81, history p.82)

2.2 Synthetic Addition Polymers

|  |  |
| --- | --- |
| Concept | Definition |
| Addition Polymer (p.84) |  |

Create a polyvinyl chloride from a vinyl chloride monomer. (p. 85)

Create polystyrene from a styrene monomer. (p.86)

Describe and analyze how these compounds (polyvinyl chloride, polypropylene) are used in our everyday lives. (p.85)

Use the Internet and your textbook to help you answer these questions. How long does it take for plastic garbage bags to decompose in a landfill site? What biodegradable materials can be used to replace polystyrene as a packaging material?

2.4 Synthetic Condensation Polymers

|  |  |
| --- | --- |
| Concept | Definition |
| Condensation polymer (p.95) |  |

What is polyester? Illustrate the formation of polyester by a hydrolysis reaction. Show an ester linkage and a balanced chemical equation. (p. 95)

Explain the difference between an addition reaction and a condensation polymerization reaction? (Reference p.98). Propose a personal course of action to reduce the use of compounds (such as phthalates) that are harmful to human health and the environment. Reference p. 98. Use your text and the Internet to help you.