

Polymers

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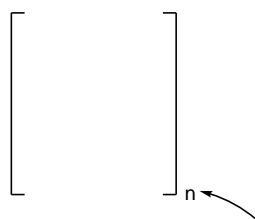
Summary

There are two types of polymers students need to be familiar with in the year 11-12 chemistry curriculum. These are addition polymers and condensation polymers.

Representing Polymers

Square brackets are used as a shorthand to draw polymers. They are drawn around the monomer, or repeating unit. Subscript on the left side of the square brackets specify the number of repeating units.

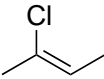
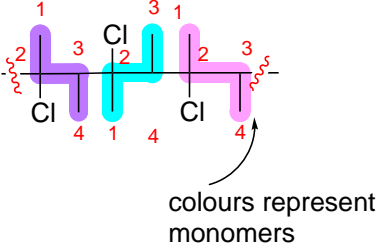
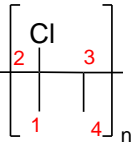
square brackets represent
the repeating unit



n represents the number
of repeating units

Addition Polymers

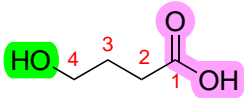
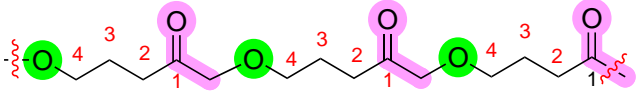
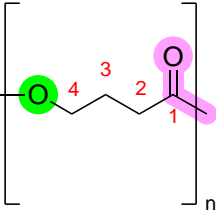
Addition polymers are formed when a double or triple bond is broken to make the polymer.

<p>Monomer</p>	 <p>2-chlorobut-2-ene</p>
<p>Polymer – full</p>	 <p>colours represent monomers</p>
<p>Polymer – polymer notation</p>	

Condensation Polymers

Condensation polymers are formed when two functional groups which are able to bind together through a condensation reaction, are used to make the polymer.

For example, alcohol and carboxylic acid functional groups on a monomer lead to the formation of a polyester

Monomer	
	4-hydroxybutanoic acid
Polymer – full	
Polymer – polymer notation	

Polypeptides, also known as proteins, are a type of condensation polymer. They are formed when amine and carboxylic acid functional group on the monomer form the polymer. These are covered in the polypeptides section of this document.