

Polymers

Chemistry

Addition and condensation polymerisation, and how to spot each.

Addition

- Monomers with $C=C$
- No by-product
- Repeat unit has the same formula as the monomer
- Poly(ethene), poly(propene), PVC
- Chemically inert; hard to break down

Condensation

- Two functional groups per monomer
- Loses water or HCl
- Polyesters, polyamides
- Nylon, terylene, proteins
- Can be hydrolysed

THE DIFFERENCE THAT MATTERS

Condensation polymers are biodegradable because the ester or amide links can be hydrolysed. Addition polymers cannot.

Draw a repeat unit with the bonds extending beyond the brackets and n outside. Both details are marked.