Organic Compounds
Checklist

Use this alongside our Walkthrough Guides to tick off the concepts you're confident with to plan your study and find areas of improvement!

Functional Groups

- ◯ I can identify, draw and name alkanes, alkenes and alkynes
- ◯ I can identify, draw and name haloalkanes
- ◯ I can identify, draw and name alcohols
- ◯ I can identify, draw and name carboxylic acids and amines
- ◯ I can identify, draw and name esters
- ◯ I can identify, draw and name acyl chlorides
- ◯ I can identify, draw and name amides
- ◯ I can identify, draw and name ketones and aldehydes
- ◯ I can define the terms primary, secondary and tertiary

Isomers

- ◯ I can define the term isomer
- ◯ I can define the term constitutional (structural) isomers
- ◯ I can define the term optical isomer (enantiomer)
- ◯ I can describe what is required for a molecule to exist as optical isomers (enantiomers)
- ◯ I can describe and explain the similarities and differences between pairs of optical isomers (enantiomers)

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Reactions

- ◯ I can describe **addition reactions** in terms of:
  - ◯ What molecules undergo addition reactions
  - ◯ What happens during addition reactions
  - ◯ The reagents used
  - ◯ I can explain why there can be two products in an addition reaction
  - ◯ I can predict the major and minor products using Markovnikoff's rule
- ◯ I can describe **elimination reactions** in terms of:
  - ◯ What molecules undergo elimination reactions
  - ◯ What happens during elimination reactions
  - ◯ The reagents used
  - ◯ I can explain why there can be two products in an elimination reaction
  - ◯ I can predict the major and minor products using reverse-Markovnikoff's rule
- ◯ I can describe **oxidation reactions** in terms of:
  - ◯ What molecules undergo oxidation
  - ◯ What happens during oxidation
  - ◯ The reagents used
  - ◯ The possible products of oxidation reactions
- ◯ I can describe **reduction reactions** in terms of:
  - ◯ What molecules undergo reduction
  - ◯ What happens during reduction
  - ◯ The reagents used for reduction reactions
  - ◯ The possible products of reduction reactions
- ◯ I can describe **substitution reactions** in terms of:
  - ◯ What molecules undergo substitution
  - ◯ What happens during substitution
  - ◯ The reagents used
  - ◯ The possible products of substitution reactions
- ◯ I can describe, explain, and predict the products of neutralisation reactions of carboxylic acids
- ◯ I can explain, and predict the products of neutralisation reactions of amines
- ◯ I can explain, and predict the products of condensation reactions
- ◯ I can describe, explain and predict the products of hydrolysis reactions in both basic and acidic solutions

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Apparatus

- ◯ I can draw and identify a distillation apparatus
- ◯ I can describe and explain the purpose of distillation
- ◯ I can draw and identify a reflux apparatus
- ◯ I can describe and explain the purpose of reflux
- ◯ I can draw and identify a separating funnel
- ◯ I can describe and explain the purpose of a separating funnel

Polymers

- ◯ I can define the term condensation polymer
- ◯ I can identify amino acids
- ◯ I can predict the polymer that would be formed given monomers

Properties

- ◯ I can identify if an organic compound will be polar or non-polar
- ◯ I can describe the observations when both polar and non-polar liquids are added to water
- ◯ I can describe whether a compound will have a low or high melting/boiling point

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Identification Tests

- ◯ I can describe and explain which compounds will react with red and/or blue litmus paper
- ◯ I can describe and explain how bromine water can be used to distinguish between alkenes and alkanes
- ◯ I can describe and explain what reagents can be used to distinguish between aldehydes and ketones
- ◯ I can describe and explain how to identify acyl chlorides by adding water

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