

Cohesive Chemistry Newsletter

#47 - Classification of organic compounds

(5 min read)

In my current course structure, I have avoided breaking apart individual subtopics to keep things as clean and simple as possible. For the most part, this has worked quite well. Students can clearly identify the content we have covered, making the organisation of units, revision resources, and unit tests relatively straightforward.

One subtopic that doesn't fit well with this approach is *Structure 3.2 - Functional groups: Classification of organic compounds*. The SL component of this subtopic depends on memorising many functional groups/classes and naming several types of compounds. Students were quickly overwhelmed when I tried this a couple of weeks ago.

To minimise cognitive overload, I want to integrate much of this content into earlier units and revisit it as we move through the year. I do this to some extent already, but placing a greater emphasis on it i.e. including it in unit tests, will be beneficial in the long term. Here is my provisional plan:

SL S3.2 content	Integrated into	How does it fit?
Alkanes	S2.1 - How much? The amount of chemical change	Stoichiometry of combustion reactions
Alcohols and homologous series	R1.1 - Measuring enthalpy changes	Measuring the enthalpy of combustion lab
Types of formula, isomers, aldehydes, ketones, and carboxylic acids	S2.2 - The covalent model	Intermolecular forces
Types of formula, carboxylic acids and amines	R3.1 - Proton transfer reactions	Weak acids and weak bases

Alkenes, esters and amides	S2.4 - From models to materials	Addition polymerisation (SL) and condensation polymerisation (HL)
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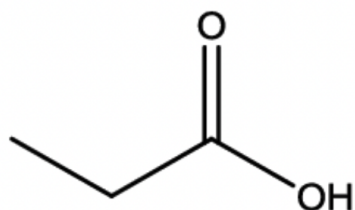
Most of this content is revisited in later units so plenty of retrieval practice is possible. Most of this content is revisited in later units so plenty of retrieval practice is possible. I am also adapting some Quizlets ([link](#)) from the old course to help students.

An observation

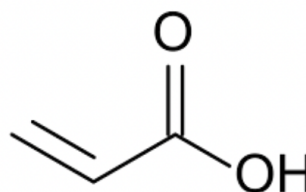
In writing this newsletter I noticed a minor detail in the syllabus worth asking about. For S3.2.5:

Apply IUPAC nomenclature to saturated or mono-unsaturated compounds that have up to six carbon atoms in the parent chain and contain one type of the following functional groups: halogeno, hydroxyl, carbonyl, carboxyl.

The wording indicates students could be asked to name monounsaturated compounds with a functional group (which wasn't the case in the previous course nor does it feature in textbooks). For example:



Propanoic acid



Propenoic acid

All it requires is changing an **a** to an **e** but I need to double-check this with someone more involved in writing the syllabus!

Updates on resources

- [Link](#) to previous newsletters

It's half-term for me so the next newsletter will be in two weeks. Enjoy the break if you have one!

Cheers

Ollie

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