Course: Organic Chemistry 2 credits: 5

Course code	CHVH24ORGCHEMIE2
Name	Organic Chemistry 2
Study year	2025-2026
ECTS credits	5
Language	Dutch, with parts in English
Coordinator	J. van Assen

Modes of delivery	Practical / Training Tutorial
Assessments	Organische Chemie 2 Theory - Written, organised by STAD examinations Practicum Organische Chemie 2 - Other assessment

Learning outcomes

You explain and apply various reactions involving aldehydes and ketones, carboxylic acids, nitriles and esters in syntheses.

You recognize and apply carbonyl α-substitutions and condensations, including the mechanisms of these reactions.

You name the boundary conditions of nucleophilic acyl substitution reactions and draw the reaction mechanisms.

You perform organic syntheses in a safe and responsible manner, work up the reaction mixture, apply relevant analytical techniques and report on them according to applicable guidelines.

Content

This module focuses on the carbonyl group. In the first part, we are introduced to various carboxylic acid derivatives, in particular acid chlorides, anhydrides, esters, amides as well as carboxylic acids themselves. In this part you will learn the relationships between these derivatives and how they can be converted into each other. The second part concerns the reactivity of aldehydes and ketones. The nucleophilic acyl substitution reaction is the focus here. Attention is also paid to condensation reactions and substitution reactions at the α-position relative to the carbonyl group. Practical work includes the synthesis of fluorenone and a PTC (Phase Transfer Catalysis) oxidation of an alkene, and is assessed through logbooks, practical competencies and a report. Theory is taught by instructional lectures and tested by written examination.

Included in programme(s)

Chemistry

School(s)

Institute for Life Science & Technology

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