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Spis treści

Introduction

To learn and not to think is a waste of time,
to think and not to learn its a danger
Confucius

We have prepared the script book for Laboratory exercises in Organic Chemistry for foreign students of Green Technology and Monitoring and related fields. Laboratory exercises play a key role in understanding the secrets of organic chemistry, enabling learning and mastering basic skills in the techniques and principles of safe work in an organic chemistry laboratory.

Text of this script book has been divided into chapters describing basic laboratory techniques such as: distillation (distillation at atmospheric pressure, steam distillation, fractional distillation, distillation under reduced pressure), crystallization, extraction, filtration under reduced pressure, chromatography and determination of physical constants (melting point, boiling point, refractive index, etc.).

This handbook also contains descriptions of the syntheses of selected preparations based on literature sources and experiences collected by the authors during many years of work in organic synthesis. The list of preparations includes: oxidation and reduction reactions, aldehydes and ketones, carboxylic acids and their derivatives, diazonium salts and syntheses using organo-magnesium compounds.

The script book is adapted to the skills of students, its aim is to familiarize the student with the basic laboratory operations accompanying organic synthesis and identification of the obtained compounds.

Before starting work, the student should get acquainted with the Material Safety Data Sheets (available online at **http://www.english.poch.com.pl/**) of the reagents with which they work.

This script book also includes questions for self-solving to check the acquired information, work regulations in the laboratory of organic chemistry, which must be followed to ensure the safe usage of chemicals, often flammable, explosive, carcinogenic, mutagenic, teratogenic or toxic and a report describing the characteristics of the obtained product, quoted literature and index.

Authors