

Microscale Organic Laboratory With Multistep And Multiscale Syntheses 6th Edition

This cutting-edge lab manual takes a multiscale approach, presenting both micro, semi-micro, and macroscale techniques. The manual is easy to navigate with all relevant techniques found as they are needed. Cutting-edge subjects such as HPLC, bioorganic chemistry, multistep synthesis, and more are presented in a clear and engaging fashion.

This work offers a comprehensive introductory treatment of the organic laboratory techniques for handling glassware and equipment, safety in the laboratory, micro- and mini-scale experimental procedures, theory of reactions and techniques, applications and spectroscopy.

Providing even more emphasis on inquiry-based learning, a new green experiment, and more than a dozen new discovery experiments, this Fifth Edition of Gilbert and Martin's proven EXPERIMENTAL ORGANIC CHEMISTRY contains procedures for both miniscale (also known as small scale) and microscale users. The manual first covers equipment, record keeping, and safety in the laboratory, then walks students step by step through the laboratory techniques they need to perform the book's experiments with confidence. Chapters show students how to use the book's techniques to synthesize compounds and analyze their properties, complete multi-step syntheses of organic compounds, and solve structures of unknown compounds. A bioorganic experiment in Chapter 24 reflects the increasing emphasis on bioorganic chemistry in the course and gives students an opportunity to accomplish a mechanistically interesting and synthetically important coupling of two α -amino acids to produce a dipeptide. Important Notice: Media content referenced within the product description or the product text may not be available in the ebook version.

This is a laboratory text for the mainstream organic chemistry course taught at both two and four year schools, featuring both microscale experiments and options for scaling up appropriate experiments. It provides complete coverage of organic laboratory experiments and techniques with a strong emphasis on modern laboratory instrumentation, a sharp focus on safety in the lab, excellent pre- and post-lab exercises, and multi-step experiments. There is also another text available by the same authors titled Microscale Techniques for the Organic Lab, Second Edition which has more material on techniques and spectroscopy, but has no experiments.

Perform chemistry experiments with skill and confidence in your organic chemistry lab course with this easy-to-understand lab manual. EXPERIMENTAL ORGANIC CHEMISTRY: A MINISCALE AND MICROSCALE APPROACH, Sixth Edition first covers equipment, record keeping, and safety in the laboratory, then walks you step by step through the laboratory techniques you'll need to perform all experiments. Individual chapters show you how to use the techniques to synthesize compounds and analyze their properties, complete multi-step syntheses of organic compounds, and solve structures of unknown compounds. New experiments in Chapter 17 and 18 demonstrate the potential of chiral agents in fostering enantioselectivity and of performing solvent-free reactions. A bioorganic experiment in Chapter 24 gives you an opportunity to accomplish a mechanistically interesting and synthetically important coupling of two α -amino acids to produce a dipeptide. Important Notice: Media content referenced within the product description or the product text may not be available in the ebook version.

La microchimie est fondée sur une optimisation des quantités de matière première suffisantes pour que les manipulations soient démonstratives (rendements, caractérisations), et assez réduites pour éviter les dépenses inutiles, assurer une atmosphère de travail saine, diminuer les stocks de produits, les risques en laboratoire et le traitement des rejets. Cet ouvrage présente, à l'aide d'expériences de chimie générale, inorganique et organique, une introduction aux techniques de la microchimie, exploitable lors de la formation pratique des étudiants en chimie, aux niveaux secondaire et premières années d'études supérieures.

This expansive and practical textbook contains organic chemistry experiments for teaching in the laboratory at the undergraduate level covering a range of functional group transformations and key organic reactions. The editorial team have collected contributions from around the world and standardized them for publication. Each experiment will explore a modern chemistry scenario, such as: sustainable chemistry; application in the pharmaceutical industry; catalysis and material sciences, to name a few. All the experiments will be complemented with a set of questions to challenge the students and a section for the instructors, concerning the results obtained and advice on getting the best outcome from the experiment. A section covering practical aspects with tips and advice for the instructors, together with the results obtained in the laboratory by students, has been compiled for each experiment. Targeted at professors and lecturers in chemistry, this useful text will provide up to date experiments putting the science into context for the students.

In this laboratory textbook for students of organic chemistry, experiments are designed to utilize microscale glassware and equipment. The textbook features a large number of traditional organic reactions and syntheses, as well as the isolation of natural products and experiments with a biological or health sciences focus. The organization of the text is based on essays and topics of current interest. The lab manual contains a comprehensive treatment of laboratory techniques.

This book addresses the diversity of tropical microorganisms and its applications in agriculture, renewable energy production and environmental protection. It covers several tropical habitats such as rain forests, mangroves, sea and river waters and describes how microorganisms isolated from these regions can be used to control insects and plant diseases, to improve sugar cane and biofuels production among other applications. The book also aims to bring researchers' attention to the potential of tropical microorganisms for biotechnological purposes, an area that is still far from being well explored.

This updated revision offers total coverage of organic laboratory experiments and techniques focusing on modern laboratory instrumentation, a strong emphasis on lab safety, additional concentration on sequential reaction sequences, excellent pre- and post-lab exercises, and multistep experiments which maximize the number of manipulations students perform per lab period. The microscale approach is low in cost, offers ease of doing experiments and uses minimal amounts of chemicals. A number of experiments include instructions for scaling up.

This is a laboratory text for the mainstream organic chemistry course taught at both two and four year schools, featuring both microscale experiments and options for scaling up appropriate experiments for use in the macroscale lab. It provides complete coverage of organic laboratory experiments and techniques with a strong emphasis on modern laboratory instrumentation, a sharp focus on safety in the lab,

