

Public Review

Title: *Laboratory Manual: General Chemistry II Honors*

Author: Adedoyin Adeyoga

Reviewer: Martilias Farrell

This collection of laboratory experiments is designed for undergraduate introductory or general chemistry courses. It provides a practical approach to learning fundamental chemical principles through hands-on activities such as soap synthesis via saponification, compound identification using various spectroscopic methods, the synthesis of alum from common materials, and the quantitative analysis of total organic carbon in consumer products. Each experiment is structured logically, beginning with an introduction to relevant theories and the experiment's purpose, followed by a comprehensive list of materials, detailed step-by-step procedures, and clear guidelines for data analysis and interpretation. This framework, coupled with post-lab questions, effectively supports student learning and critical engagement with the subject matter. The chemical concepts and laboratory techniques are presented comprehensively for the intended student level.

The manual's key strengths lie in its robust connection of theoretical chemistry to practical laboratory work, offering students experience with a diverse range of essential techniques. These include synthesis, purification methods like vacuum filtration, determination of physical properties such as melting point and density, and an introduction to instrumental analysis. Furthermore, the experiments effectively highlight the real-world relevance of chemistry by engaging students in tasks like creating soap from fats, producing alum from recycled aluminum, and analyzing the composition of everyday items. The clarity of the procedural instructions ensures that students can confidently navigate the experiments, fostering a more effective learning environment.

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