

Resource Book for Sixth-form Practical Chemistry



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**Science Education Section
Education and Manpower Bureau**



**Subjects Division
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Contents

	Page
Foreword	1
Experiments	
1 Complex formation and solubility product	2
2 Acidity of copper(II) sulphate(VI) solution and solubility product of copper(II) hydroxide	8
3 Calcium carbonate in eggshell	13
4 Synthesis of ferrate(VI) ions	22
5 EDTA titration: calcium in calcium supplements	29
6 Synthesis of an iron(III)-EDTA complex	38
7 Preparation and relative stability of copper(II) complexes	45
8 Synthesis of an azo dye - the coupling reaction of benzenediazonium ion with naphthalen-2-ol	53
9 Isolation of the essential oils from common spices and spectroscopic analysis of their major constituents	67
10 Alcohol breath analyser	82
11 Separation and identification of the major components of common over-the-counter painkilling drugs	89
12 Green chemistry: an environmental-friendly preparation of 1,6-hexanedioic acid	96

Foreword

The Department of Chemistry at The Chinese University of Hong Kong has long been dedicated to providing highly educated graduates to support the development of Hong Kong. Apart from striving for excellence in teaching, learning and research in the University, the Department also has a heavy commitment towards chemical education in high schools. It is our aim to arouse high school students' interest in chemistry and science, which in turn will attract the best students to the study of chemistry. As part of this endeavor, the Department has been organizing or participating in many programmes and activities such as lecture series, exhibitions and summer learning camps, etc. In addition, we have also been involved in the preparation of various resource materials to support the teaching and learning of chemistry in high schools. In 2003, when the new Secondary 4-5 Chemistry Curriculum was launched, the Department collaborated with the Curriculum Development Institute (CDI) of the Education and Manpower Bureau to hold a teacher workshop and then to prepare an exemplary manual afterwards to introduce an inquiry-based approach for practical work in Secondary 4-5 Chemistry. Now, along with the implementation of the new Secondary 6-7 Chemistry Curriculum, we continue our collaboration with the CDI and Hong Kong Examinations and Assessment Authority (HKEAA) to prepare this manual for sixth-form practical chemistry.

The aim of this resource book is to further strengthen the practical training of the sixth formers in Hong Kong. It consists of 12 specially designed experiments in various disciplines covering several important and new topics such as drug development and green chemistry. Special emphasis has been placed on the relatively novel preparative procedures and experiments involving spectroscopic analysis of compounds, which is also one of the new topics in the new curriculum. While most of the experiments are provided with step-by-step instructions, there are others that are designed in an inquiry-based manner with an objective to enrich students' experience with this new approach.

This resource book was made possible only with the joint effort of several colleagues and students in our Department. We are especially grateful to Professor Dennis K. P. Ng for his most important initiation and coordination of this work. The experiments were designed by Dr. Wing-Fat Chan, Dr. Yu-San Cheung, Dr. Kendrew K. W. Mak, Professor Cheuk-Wai So and Dr. Lea L. W. Yang. The trial runs of these experiments were carried out by our students Mr. King-Hang Lam and Ms. Julven Ng. The dedication and contribution of these colleagues and students to this project are gratefully acknowledged. We also owe special thanks to Mr. Raymond W. H. Fong and Dr. Tak-Man Li of the CDI, and Mr. Chiu-Wah Pau of the HKEAA for their valuable suggestions and kind arrangement for the printing and distribution of this manual. We very much hope that this resource book will become a useful tool for the teaching and learning of practical chemistry in high schools in Hong Kong.

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