

Research Methodology in Chemistry

Edited by
Fiona N.-F. How, Ph.D



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RESEARCH METHODOLOGY IN CHEMISTRY

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Table of content

Preface

Contributor

Reviewers

Chapter – 1: Research Methodology: An Introduction (6467/19269)	X
Chapter – 2: Good Chemistry Research (6467/19275)	6

Part One: Chemical Synthesis Based Research

Chapter – 1: Chemical Synthesis in General (5980/19279)	11
Chapter – 2: Design and Methodology (5980/19283)	17
Chapter – 3: Instrumentations for Chemical Analysis (5980/19290)	24
Chapter – 4: Separation and Purification Methods (5980/19293)	29

Part Two: Natural Products Based Research

Chapter – 1: Introduction (5641/19299)	37
Chapter – 2: Research in Natural Products (5641/19305)	40
Chapter – 3: Methods in Natural Products Research (5641/19308)	46
Chapter – 4: Bioactive Principle from Plants (5641/19311)	55
Chapter – 5: Biological Activity of Natural Products (5641/19489)	62
Chapter – 6: Standardization Process and Plant Metabolomics in Natural Products Research (5641/19490)	67

Part Three: Polymer Based Research

Chapter – 1: Natural Polymers (6312/19492)	73
Chapter – 2: Synthetic Polymers (6312/19494)	77
Chapter – 3: Polymer Analysis and Characterization (6312/19497)	86

Part Four: Analytical Based Research

Chapter – 1: Introduction (5678/19500)	92
Chapter – 2: Selecting a Research Topic and Writing a research proposal (5678/19502)	97

Chapter - 3: Sampling, measurement and result analyses (5678/19505) 105

Part Five: Laboratory Safety Practices

Chapter – 1: General Laboratory Safety Practices (5777/19507) ~~111~~

Chapter – 2: Personal Safety Equipment (5777/19511) ~~117~~

Chapter – 3: Laboratory Safety Equipment (5777/19515) 122

Chapter – 4: Laboratory Equipment Safety (5777/19516) 129

CHAPTER – 3

LABORATORY SAFETY EQUIPMENT

Nurziana Ngah

Laboratory safety equipments include: fume hoods, storage cabinets, refrigerators, eyewash stations, safety showers and fire safety equipments.

Laboratory Chemical Fume Hood

Chemical fume hoods capture, contain, and expel emissions generated by hazardous chemicals. In general, it is a good idea to conduct all laboratory chemical experiments in a fume hood. While you may be able to predict the release of undesirable or hazardous effluents in some laboratory operations, "surprises" can always happen. Therefore, the fume hood offers an extra measure of protection.

✓ Operation

- All laboratory workers with access to a laboratory chemical fume hood should be familiar with its use.
- Maintain the sash at or below the optimum operating height as designated by the label with an arrow.
- The optimum condition for general laboratory work in a chemical fume hood is between 80 and 125 fpm face velocity in a well installed unit. Higher face velocities often produce turbulence inside of the hood sufficient to eject contaminants into the laboratory.
- Raise large objects that must be in the hood (i.e., a water bath) to allow airflow beneath and on all sides of the object

✓ Maintenance

- Keep the inside of the hood clean and uncluttered.