

# Research Methodology in Chemistry

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



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# **RESEARCH METHODOLOGY IN CHEMISTRY**

**Edited by**

**Fiona N.-F. How, Ph.D**



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## CHAPTER – 3

### METHODS IN NATURAL PRODUCTS RESEARCH

Deny Susanti

#### **Introduction**

This topic of research, focus on the process (extraction, isolation and characterization) that used in natural products research. This research will provide quantitative data. There are several extraction, isolation and characterization methods for natural products that will give different result for each process. Choosing the correct method in each process is very important to obtain good results.

Before the extraction process, the detection of natural product (alkaloid, steroid, terpenoid, flavonoid, phenolic, and saponin) should be done to decide which extraction method to use. The extraction for alkaloid is different compare to the extraction for other natural products. For the detection of the presence of natural product, phytochemical screening method can be used. Phytochemical screening is the method to detect the presence of natural product, for example alkaloid, steroid, terpenoid, flavonoid, phenolic, and saponin.

#### **Phytochemical Screening of Natural Products**

##### *Extraction*

The extract for phytochemical screening is prepared by maceration of the raw material in methanol with shaking. The mixture is filtered and the solvent is evaporated using rotary evaporator.

##### *Detection of Alkaloids*