

Production and Optimisation of Epoxy from Oleic Acid Palm Oil-based via in-situ Generated Performic Acid Mechanism

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Presentation Outline

01 Introduction

02 Research Methodology

03 Results & Discussion



Introduction



Epoxide-ring degradation

To minimize process losses to achieve good yields and high peroxide values



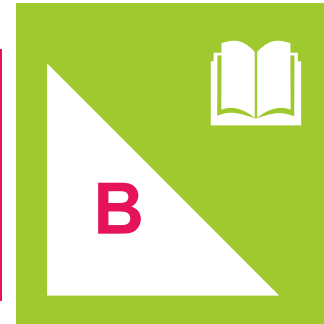
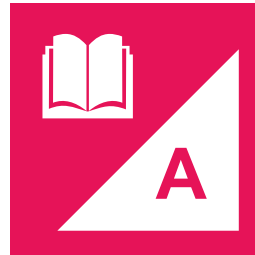
Epoxidation of palm oleic acid
Act as a green chemical precursor

Vegetable Oil- Palm oil
Utilizing renewable resources is one of the top research interests



Significance of Research

Promote and expand the palm oil industry in Malaysia- from a low value co-product into value added raw material .



Enhance understanding of the optimum parameter and factors that affect of epoxidation RBC palm oleic acid

Research Methodology

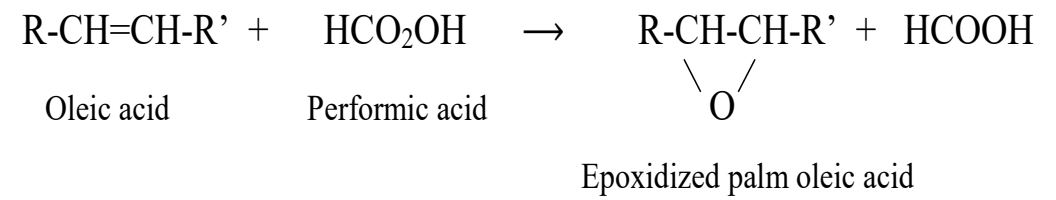
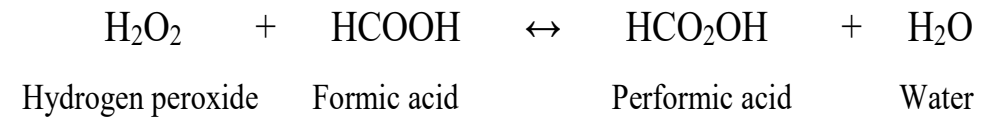
Epoxidation of Palm Fatty Acids



Wet Analysis

- oxirane oxygen content (OOC)
- Relative conversion to oxirane (RCO)

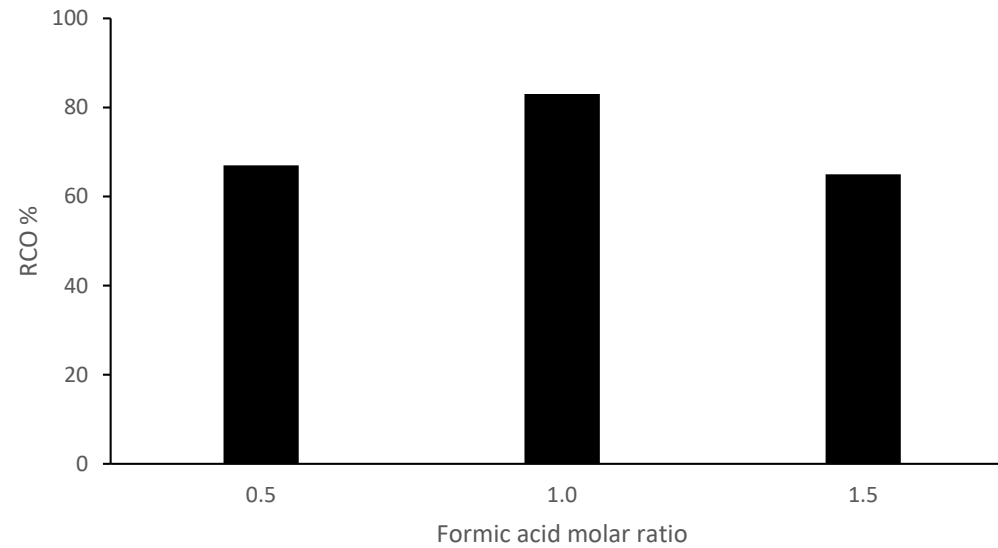
Epoxidation reaction



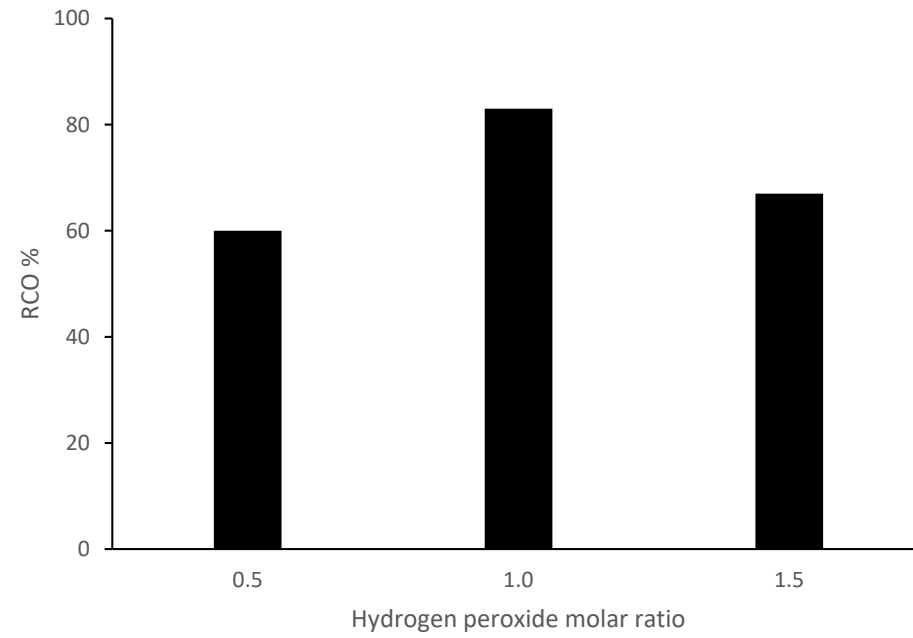
Results & Discussion



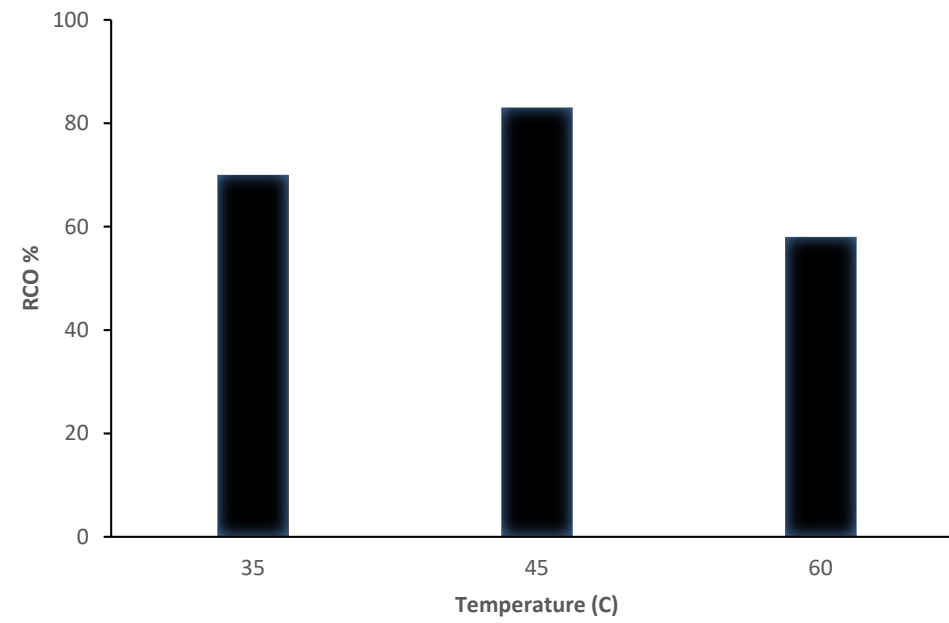
Effect of formic acid to epoxidized palm oil



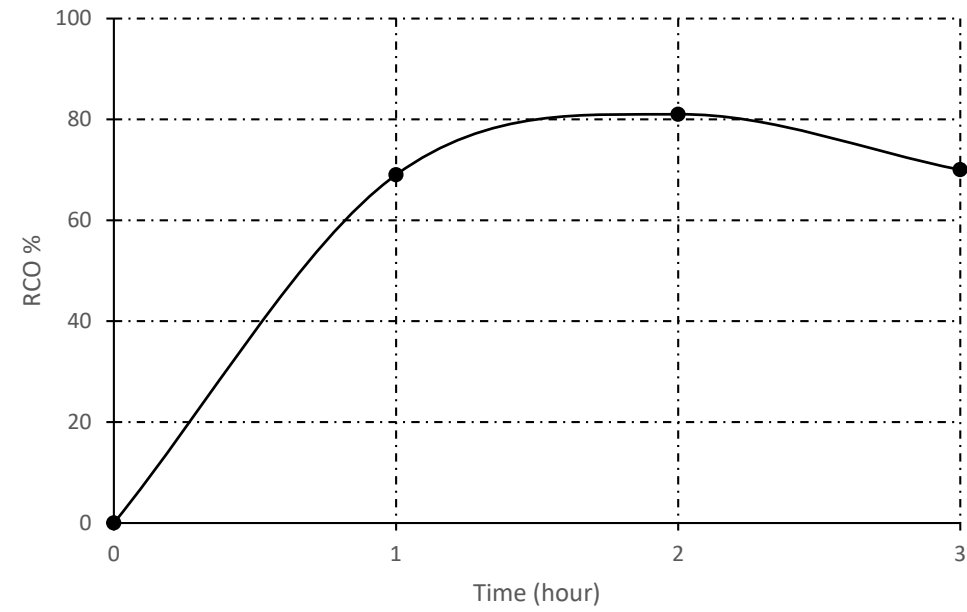
Effect of hydrogen peroxide to epoxidized palm oil



Effect of temperature to epoxidized palm oil



Effect of time to epoxidized palm oil





Thank You