

**PREPARATION AND CHARACTERIZATION OF NAPHTHOQUINONE
DERIVATIVES AND ISOMERS**

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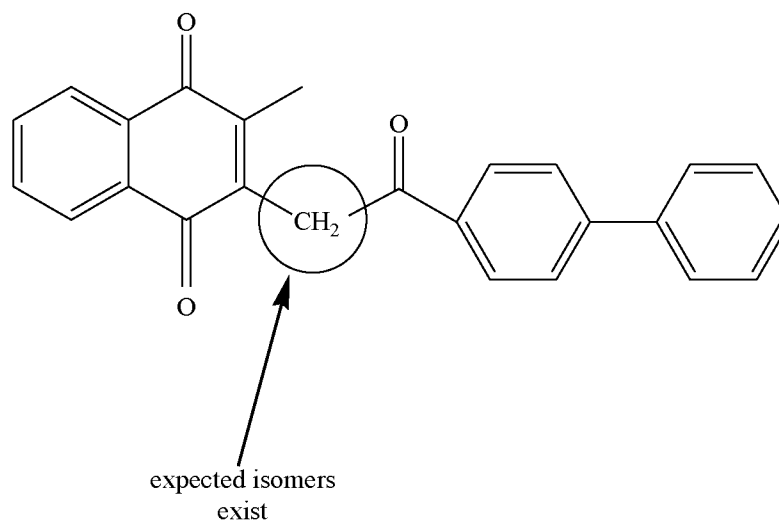
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ABSTRACT

PREPARATION AND CHARACTERIZATION OF NAHTHOQUINONE DERIVATIVES AND ISOMERS

Pyridinium salt **30** was prepared by reaction of pyridine with bromoketone. The bromoketone used was 4-phenylphenacylbromide **29**. The percentage yield of the pyridinium salt obtained was 66.137%. The pyridinium salt was then reacted with menadione to form compound **33**. There are two possible stereoisomers of the compound **33** as can be seen in predicted mechanisms of reaction and formation. This possible pathway occurs due to the tautomerisation of the menadione. The expected stereoisomers occur in compound **33** since it consists of two colours; yellow and red colours but the properties are the same in ^1H NMR and ^{13}C NMR. This result was obtained by comparing the NMR and IR results of the mixture from the previous study, red and yellow compound, with NMR and IR of pure yellow compound obtained. The isomer was expected to exist in α -carbon as shown in figure below.



Unfortunately, due to the poor isolation only yellow crystals was obtained in pure form but the red still has some impurities. Besides that, the red compound was too little and not adequate for analysis and difficult to be isolated in order to obtain pure compound. The process of isolation was ended due to the time limitation of the study.

CHAPTER 1

INTRODUCTION

1.1 What is quinone?

Quinone or benzoquinone is one of the two isomers of cyclohexenedione or the derivatives. Quinones are conjugated dienes and non-aromatic compound. The chemical formula of the quinone is $C_6H_4O_2$. *Ortho*-benzoquinone is the 1,2-dione while *para*-benzoquinone is the 1,4-dione. Figure 1.1 shows the structures of the *ortho* **1** and *para*-benzoquinones **2**. (Wikipedia contributors, 2007)

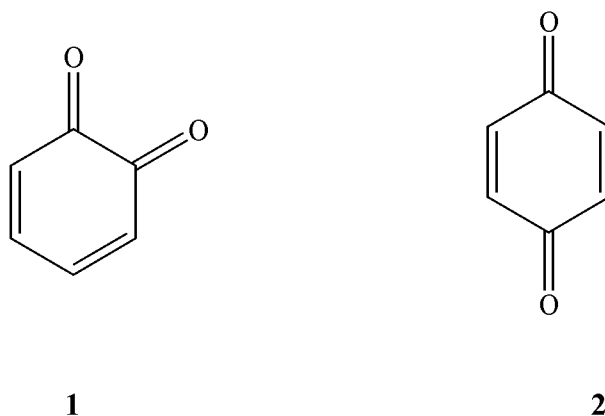


Figure 1.1 *Ortho* and *para*-benzoquinone

1.2 How to prepare quinone?