

UNIVERSITI TEKNOLOGI MARA

**SYNTHESIS OF 3-METHYLESTER-6-NITRO-12-
BENZYLOXYSTILBENE**

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ABSTRACT

The main objective of this study is to synthesize a stilbene analogue, 3-methylester-6-nitro-12-benzyloxystilbene. This study was carried out via Heck reaction process to achieve the objective. Heck reaction was expected as efficient method to synthesize stilbene. Three established reactions have been used in order to accomplish the project. First is the protection of *p*-iodophenol using benzyl bromide to yield *p*-iodoanisol. The yield of the product is 77.3%. Subsequently, the synthesis of styrene was carried out by using a Wittig reaction which gives yield of 19%. Product of the Wittig reaction and *p*-iodoanisol are then used to synthesize the stilbene analogue via Heck reaction. The yield of the stilbene obtained from the Heck reaction failed to meet the objective of this project even though proper experimental settings has been used. The products in the reaction were analyzed using TLC and extracted using ethyl acetate and hexane. The synthesized compounds are then, purified by Preparative Thin Layer Chromatography (TLC).

CHAPTER 1

INTRODUCTION

1.1 Stilbene

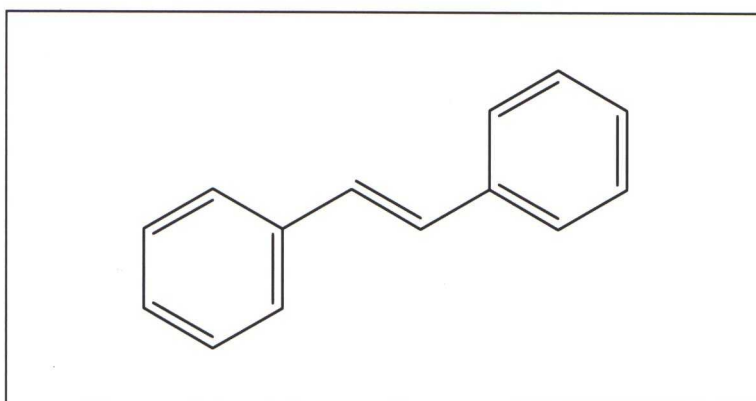


Figure 1.1: 1 Structure of E-stilbene

Stilbenes or trans-1,2-diphenylethylene 1 belongs to a class of compounds known as phenolics. They naturally occur in higher family of plants. Stilbenoids can be found in two forms, the E-stilbene and Z-stilbene. In natural environment condition, Z-stilbene is sterically hindered and less stable. Its melting point also is much lower than E-stilbene.