

## Synthesis and property of dye receptor based on moiety of pamoic acid

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### Introduction

Recently, many scientists are working on the use of Pamoic acid. Pamoic acid with the functional groups applies a wide variety of synthesis and properties, and several of these are used to create various synthetic dyes. Main properties of these kinds of dyes were uses as the detection purposes of harmful metal ions. This structure functions can be connected with the detection ability of metal ions. This metal complexed structure shows the significant characteristic functions such as metal-to-ligand charge transfer (MLCT), excited state proton transfer (ESPT), etc. In this work, we reported on the synthesis findings and photo physical properties from heterocyclic pamoic moiety.

We notify a potential possibility that the following synthesis route is possible and then a variety of applications of through these syntheses can be considered.

### Experimental

Pamoic acid was purchased by *TCI CHEM CO*. Reagent grade of *o*-penylenediamine was purchased by Sigma-Ardrich.

The mixture of 0.39g (1mmol) Pamoic acid and 0.24g (2.2mmol) *o*-penylenediamine was added into 15ml of ethylene glycol at 200 °C. This reaction was heated for 36h under the nitrogen gas (N<sub>2</sub>).

After the reaction, the mixture solution was resulted in black solid compound. The solid was filtered and recrystallization was carried out with ethanol.

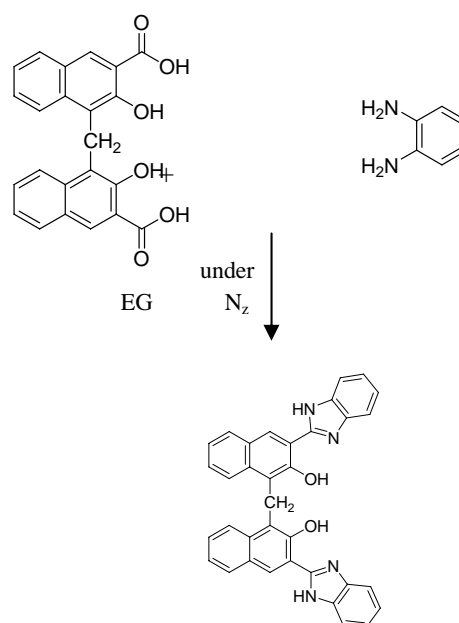


Fig. 1. Synthesis method.

### Results and discussions

The pamoic moiety may provide efficient metal sensing properties. The functional groups of pamoic acid can be altered easily to heterocyclic form and changed easily to various forms. The product has been studied many times in terms of MLCL and ESPT characteristics of pamoic moiety.

We came to know that this product will increase color strength in various fluorescence sensing. These properties can be used in various sensing application areas.

### Reference

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