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لم ترد بالأصل

**Studies With Functionally Substituted
N-Alkylheteroaromatics: Novel Synthesis
of Azoles, Pyridazinones and Pyridines**

A THESIS SUBMITTED

By

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B.Sc. (1979), MSc. (1994)

For

**The Ph. D. Degree
(Organic Chemistry)**

**Department of Chemistry – Faculty Of Science
Cairo University**

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APPROVAL SHEET FOR SUBMISSION

Title of [Ph.D.] thesis:

“Studies with functionally substituted N-alkylheteroaromatics:
Novel synthesis of Azyles, pyridazines and pyridines”.

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ABSTRACT

Name : Osama Abdel-Motaleb Yousef Salah

Title of thesis:

Studies with functionally substituted N- Alkylheteroaromatics: Novel synthesis of Azyles, Pyridazinones and Pyridines

Degree:

(Ph. D) thesis organic chemistry Faculty of science, Cairo university 2001/2002

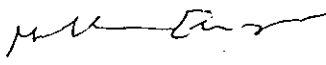
This work has been carried out to investigate the:

Reactivity of benzotriazolylacetone toward a variety of carbon and nitrogen electrophiles and synthesis of novel azolylbenzotriazoles as well as benzotriazolyl-cinnolines and enaminonitriles for synthesis of condensed heterocycles.

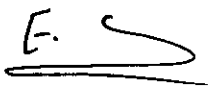
Key words:

Benzotriazolylacetone, N, N-Dimethylformamide dimethylacetal, azolylbenzotriazolyl, benzotriazolyl cinnolines, enaminones, aminothiophene carbonitrile.

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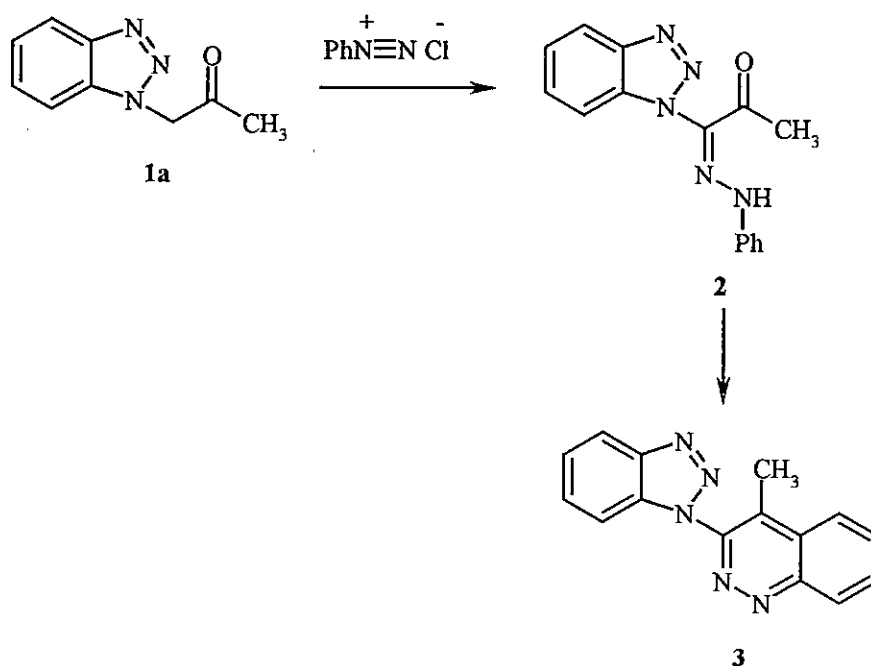
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ENGLISH SUMMARY

Part I

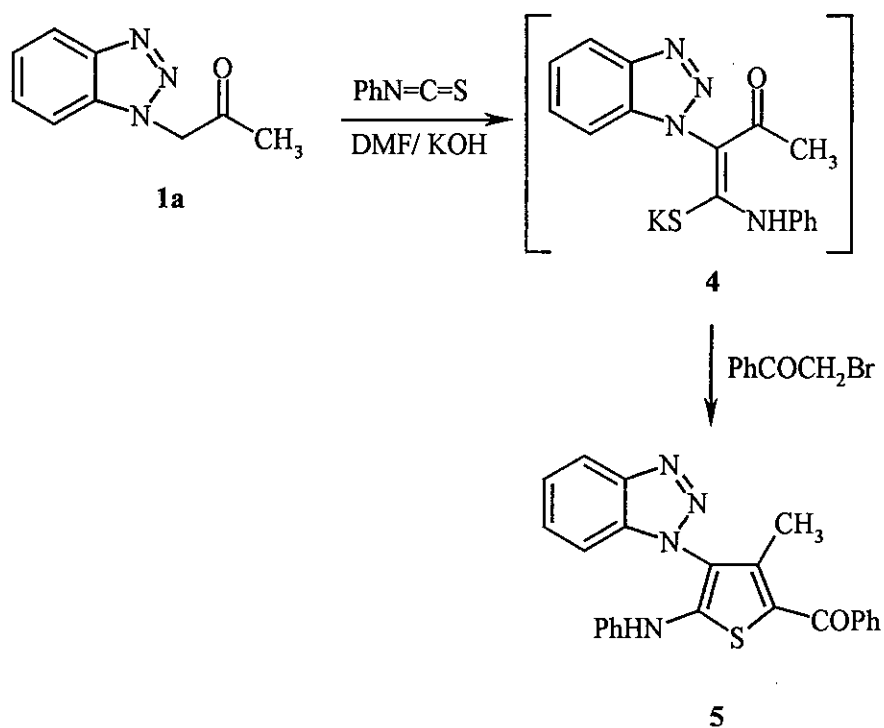
In this thesis we report on the reactivity of alkylbenzotriazole acetone derivative toward nitrogen and carbon electrophiles.

Thus benzotriazole acetone **1a** coupled with benzene diazonium chloride yielding the corresponding phenylhydrazone derivative (**2**) that cyclized to the cinnoline derivative (**3**) under basic condition.

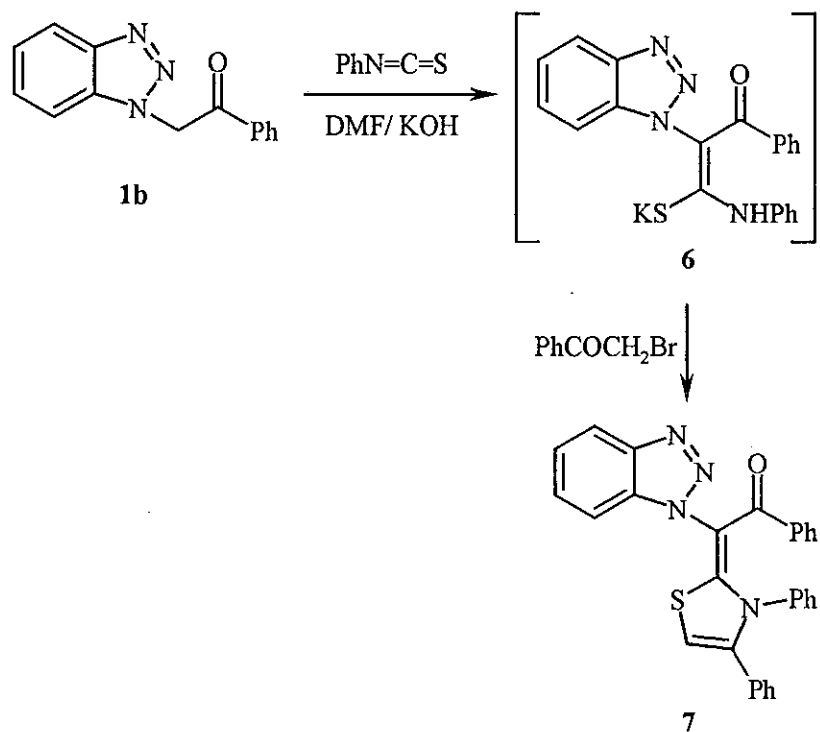


The reaction of benzotriazole acetone **1a** toward a variety of carbon electrophile has been also investigated with the aim of preparing novel functionally substituted heteroaromatics.

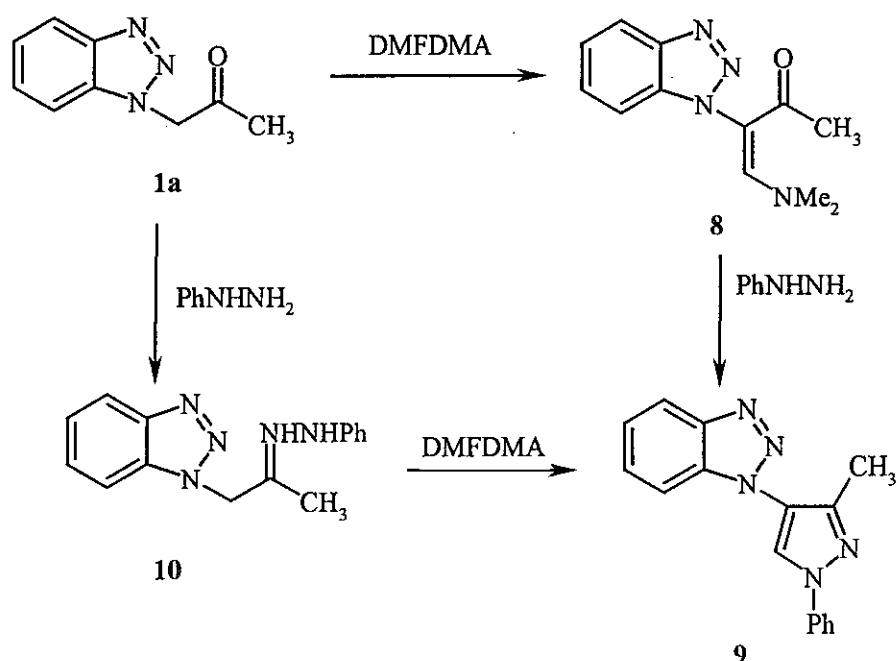
Thus treatment of **1a** with phenylisothiocyanate in a basic medium and subsequent treatment of the formed adduct (**4**) in situ with phenacylbromide afforded the benzothiophene derivatives (**5**).



while treatment of **1b** with the same reagent under similar conditions the thiazole derivative **7** is obtained.



Compound **1a** condensed with dimethyldiformamide acetal yielding the enaminone **8** that reacted with phenyl hydrazine to yield the pyrazole derivative **9**. isomeric pyrazole derivative was obtained via initial condensation of **1a** with phenyl hydrazine and subsequent treatment of the hydrazone (**10**) with dimethyldiformamide acetal.



Compound **1a** reacted with hippuric acid in refluxing acetic anhydride to yield the pyranone **11** which is an extension of the Kepe-2H-pyranone synthesis [147].

