

*Faculty of Science*

*Department: Chemistry*

*Name: Mohamed F. Abdel-Megeed,*

*Title: 3-Arylazo-2thioxo-2,3-dihydro-1H-quinazolin-4-ones as Azodisperse dyes for dyeing polyester fabrics.*

*Authors: Mohamed F. Abdel-Megeed, Mohamed M. Azaam & Gamal A. El-Hiti.*

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**Abstract:**

Diazotized 3-amino-2-thioxo-2,3-hH-quinazolin-4-one was coupled with various hydroxyl aromatics to give the corresponding 3-arylazo-2-thioxo-2,3-dihydro-1H-quinazolin-4-ones in reasonable yields. The dyes produced were applied to polyesters as disperse dyes and their fastness properties were elevated.

**Keywords:**

3-Amino-2-thioxo-2,3-dihydro-1H-quinazolin-4-one; Diazonium salt; disperse dyes; fastness properties; polyester.

*Faculty of Science*

*Department: Chemistry*

*Name: Mohamed F. Abdel Megeed*

*Title: Inhibition of mammalian aspartate transcarbamylase by quinazolinone derivatives.*

*Authors: Mahmoud Balbaa, Mohamed Abdel Megeed, Thoria Diab & Hamdy Mansour*

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***Abstract:***

Quinazolinone derivatives have been studied as both in vitro and in vivo inhibitors of aspartate transcarbamylase (ATCase). In vitro treatment of mammalian ATCase with four compounds revealed that they inhibited enzyme activity and that 2-phenyl-1,3,4(H)benzothiazin-4-thione was the most potent one. This compound acts as a noncompetitive inhibitor towards both aspartate and carbamoyl phosphate. The values of the inhibition constant ( $K_i$ ) indicate that this compound exerts a potent inhibitory effect upon ATCase activity. Moreover, in vivo treatment with different doses of these derivatives showed also an inhibitory effect upon ATCase, the relative activity being decreased by 40%-58% with a 1 mg dose. These data support the inhibition of ATCase by quinazolinone derivatives as a new type of inhibitor for the enzyme.

***Keywords:***

Aspartate transcarbamylase, inhibition, noncompetitive inhibition, quinazolinones