

General Diaz Process, Industrial Diaz

Lamenra Hodar Banki
Assist. Lecture
Department of Clinical Chemistry
00439 S
Thailand

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Abstract

According to general essential of colorant of azo derivatives and structure, releasing the substitution of the azo components by electron attracting groups produces required activity enables to get blue shades from structures .

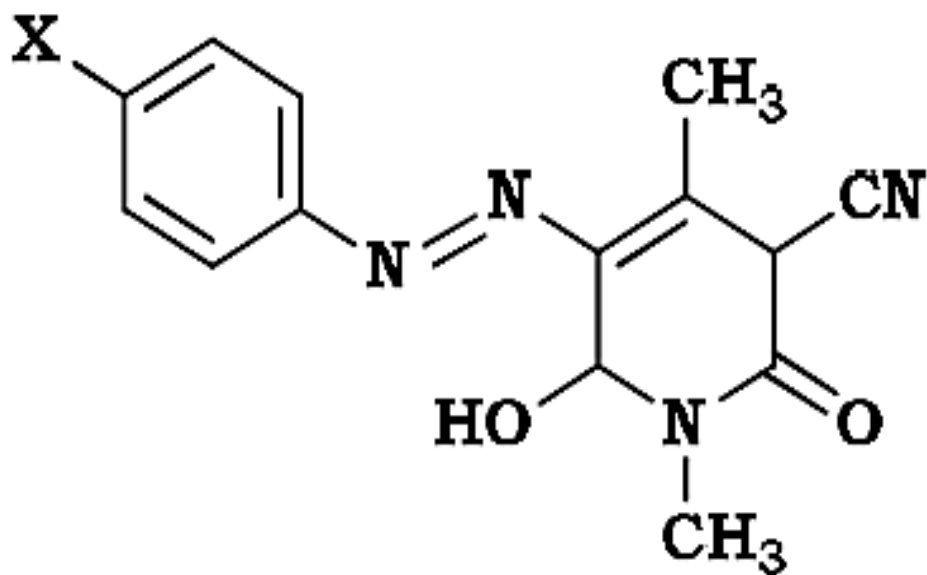
Keywords: Structure, Form, Produce.

1. Introduction

Derivatives dyes emerge as a fairly common part of pigments for using to the majority of synthetic fibers. Disperse dyes commonly used to dye polyester which are nonionic and colored the Polymer fiber by a diffusion mechanism. Prolonged boiling of the pigment bath solution loosens the forces binding the polymeric chains to each other, causing fiber to swell product into limited penetration of dye into fiber. Further the rate of diffusion of disperse dyes in polyester is much lower than that on nylon and cellulose triacetate fibers. Deep shades and good fastness properties on polyester can be achieved by using disperse dyes in presences of carriers, or high temperature dyeing techniques. However the use of carriers, high temperatures and pressures the stringent requirements in the dyeing processes have led to the synthesis of many new dyes specifical designed for polyester fibers. These disperse dyes are mainly dyes. Pigments and dyes have heterocyclic intermediates either as azonium components and coupling components for bathochromic shift from red to blue⁸⁴. Since 1950, there has been a steady development of new disperse dyes to meet the demands imposed by the application methods and provide needed improvement in fastness properties .

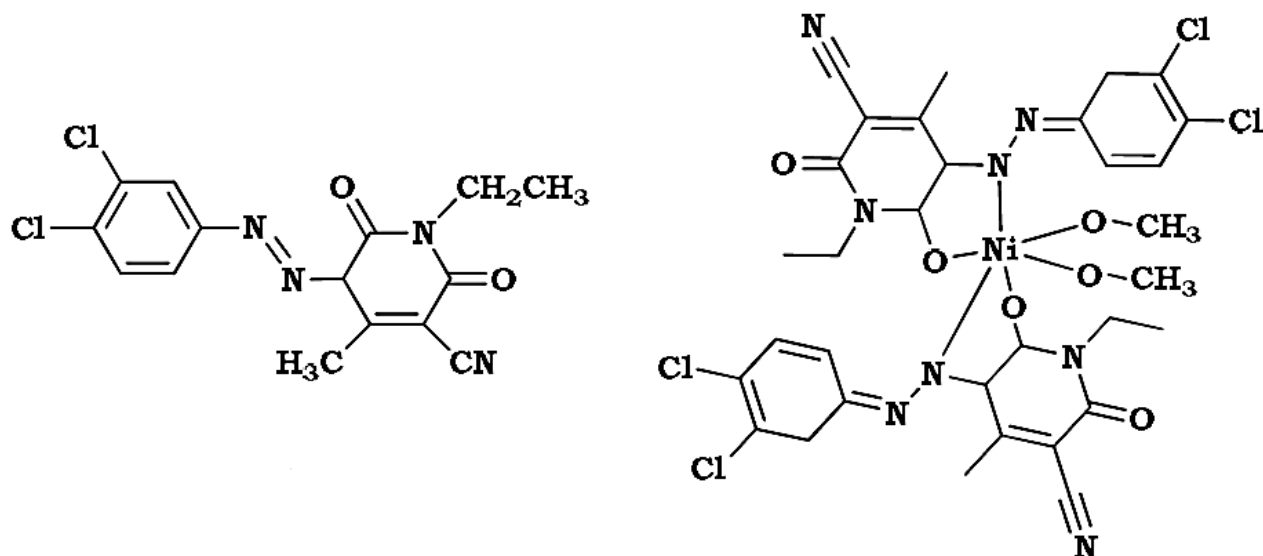
2. Formation of dyes

New pigments dyes were formatted by diazo coupling of 4-antipyrinyl diazonium salt with a variety of coupling components e.g. thiazole, thiophene, pyridone, and pyrazole moieties. These dyes were used as disperse dyes for dyeing polyester fabrics and their fastness properties were evaluated:



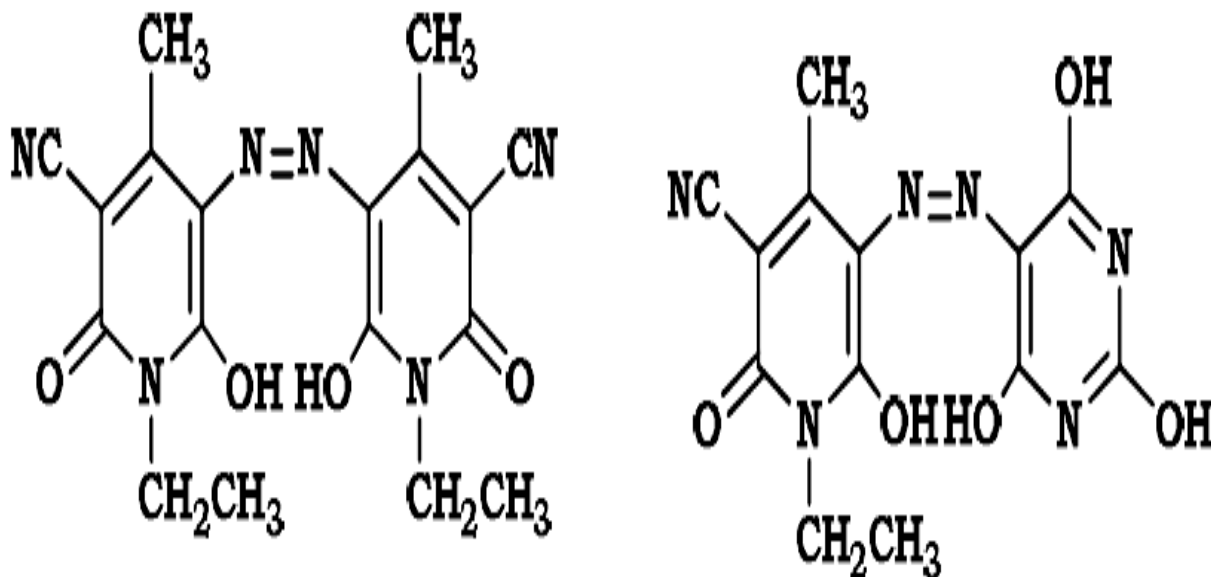
3. Polyester- Diaz

The catalytic fading of combination dyeing on polyester fabric of pyridone-azo yellow disperse dyes imparted by C.I. Disperse Blue 165 as a result of exposure to a carbon arch in air was analyzed in terms of reactivity (k_0). Disperse dyes with excellent light fastness on polyester exhibit low values of both f and k_0 . The f values observed for the combination dyeing did not show simple activity:



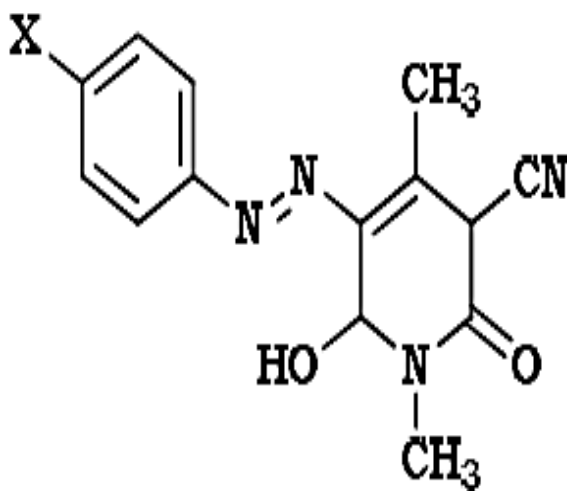
5-amino-3-methyl-4-heteroarylazo-1H-pyrazoles coupling with 3-cyano-6-hydroxy-4-methyl-2-pyridone and 3-methyl-1H-pyrazole-5-one. The novel dyes were characterized by elemental analysis and spectral methods and

the solvato chromic behavior of the dyes in various solvents was evaluated. Substituent, acid and base effects on the visible absorption maxima of the dyes were also reported.



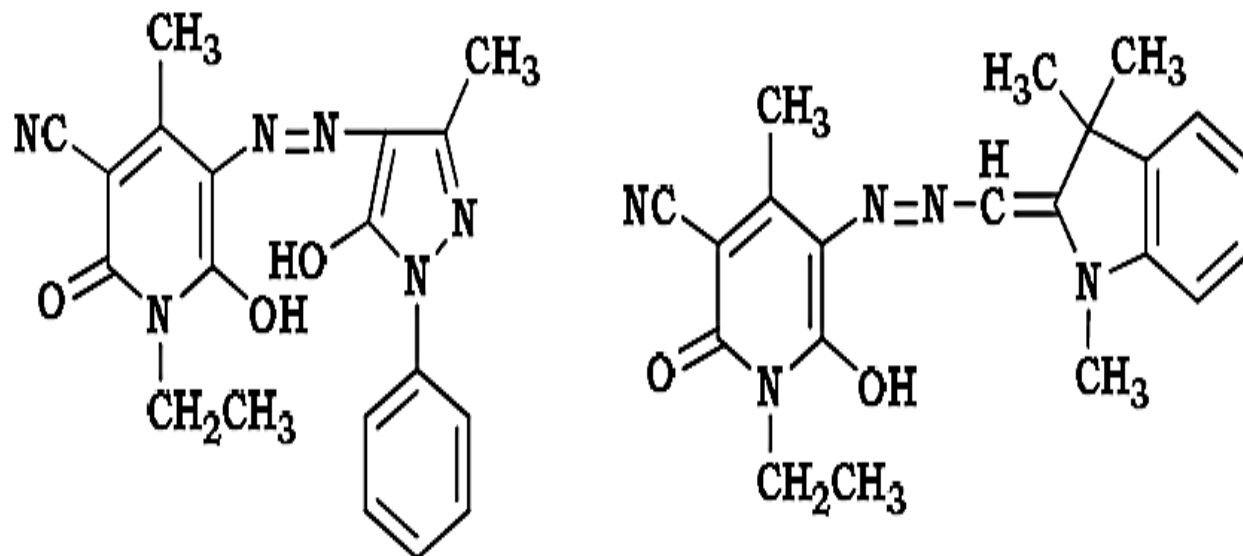
4.Sensitivity of Diaz

Absorption spectra of 5-(4-substituted aryl azo)-6-hydroxy-4-methyl-3-cyano-2-pyridones have been recorded.

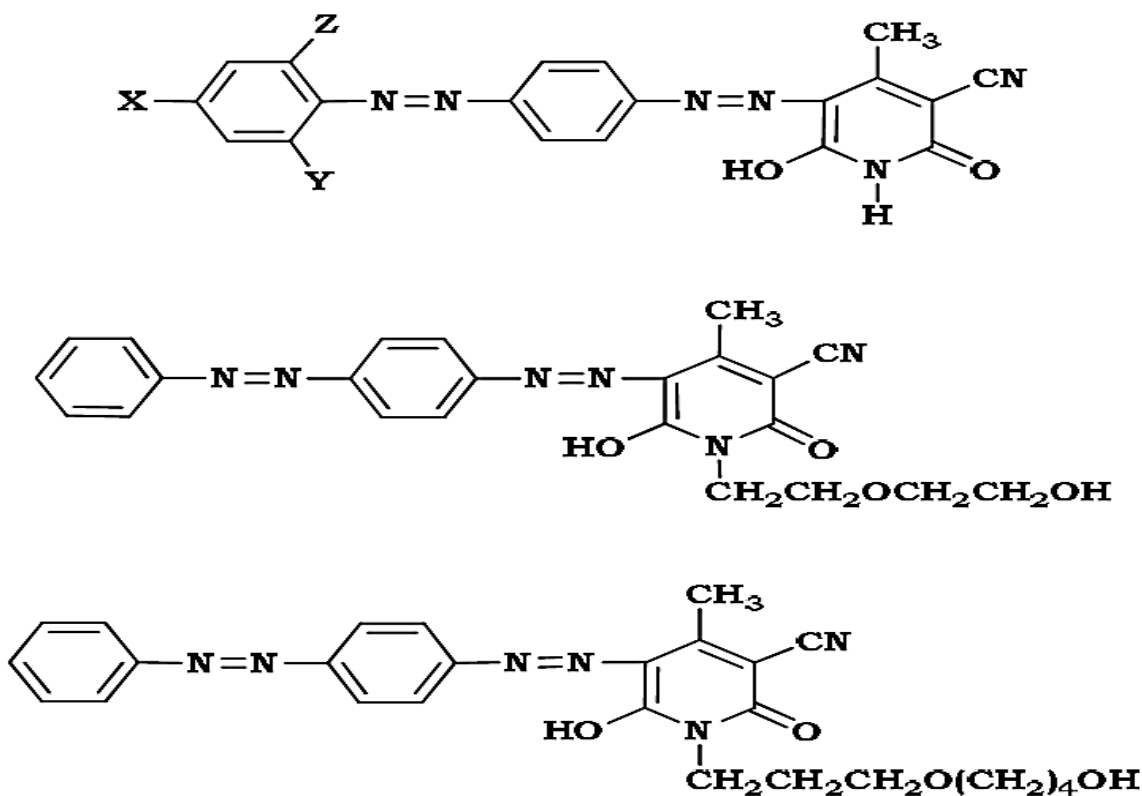


Where, X = OH, OCH₃, CH₃, C₂H₅, H, Cl, Br, I, COOH, NO₂

The effects of substituents on the absorption spectra of investigated compounds are interpreted by correlation of absorption frequencies with simple Hammett equation.



The effects of solvent polarity and solvent/solute hydrogen bonding interactions are analyzed. The azo - hydrazone tautomeric equilibration is found to depend upon substituents as well as on solvents.



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