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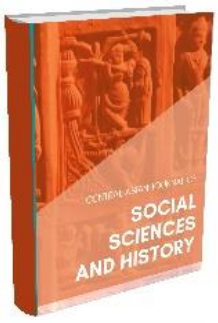

Synthesis and Properties of Some Azophenol Derivatives

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Abstract:
Azophenol: propargyl halide: it is based on the fact that the instability of the intermediate alcohol molecule formed in the catalyst system increases due to the breaking of ionic bonds, and the nucleophilic addition reaction proceeds easily;

Propargyl ethers of azophenol are formed in high (88.6-93.1%) yields, it is proved by the fact that electron-donating solvents easily break the S-H bond in the initial components, increase the ionization energy and reaction intensity;

acetylene bond, electron pair unshared oxygen and azo groups are arranged consecutively,it was proved that azophenol 4,4'-dipropargyl diephyr with a linear structure is an effective inhibitor of corrosion protection of metals, and it was determined that the level of protection at a concentration of 0.02% is 81.0% when the aggressive environment is rN=2 - 5;

azophenol mono-, dipropargyl esters have been identified for industrial polymer materials in bright colors (orange, crimson and green), whose physico-mechanical properties do not change in different climatic conditions;

A technology for obtaining mono- and dipropargyl esters of azophenol was created.

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Key word: azophenol, methyl group, methyl and bromo substituted properties, diazotizing mixture of 4-bromophenol, DMFA, DMSO, diethyl ketone, dioxane, acetone, nitrobenzene, chlorinated allyl and 2,4-dimethylphenyl-azo-51-bromophenol-21 with propargyl acetone, IK-spectrum.

As a result of the study of published scientific articles and patents, it became known that highly effective, low-toxic dyes based on industrial azophenol are the subject of active research by more than 40 companies of the world [1-3].

In addition, the world tradition of technology development of synthesis of selective, highly effective, low-toxicity industrial dyes based on azophenol substitutes is noticeable. Among the patented industrial azophenols, there are many structural substituents, and compounds containing different

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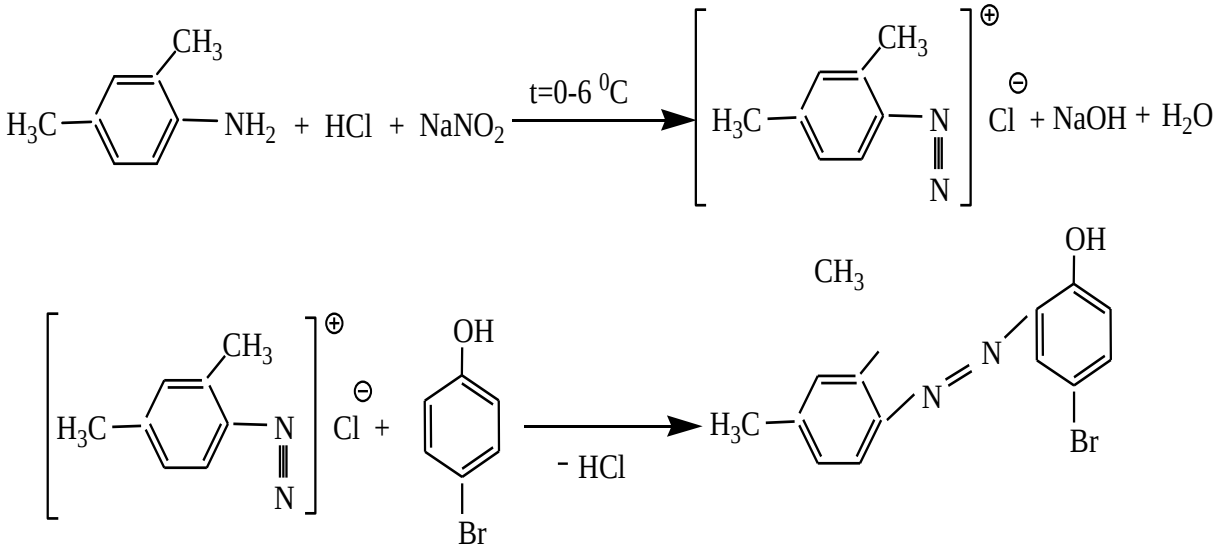
positions of the methyl group atoms in the ring are of particular importance. The use of derivatives of methyl and bromine substituted azophenols is used in many fields. That is why the development, synthesis and development of the technology for obtaining methyl and bromine substituted products is one of the important issues of the world level of the basic organic synthesis technology of modern organic chemistry. The device consists of one technological line, the process in which is cyclic. The method of obtaining 2,4-dimethylphenyl-azo-51-bromophenol-21 is based on two-step reaction filtration and drying at a temperature of 110-1150, in the process of its extraction, gases and solid wastes are not formed.

A weak solution of NaCl salt in water is formed as a liquid waste. In the reaction in the first diagram, a mixture of hydrochloric acid and sodium nitrite (HCl+NaNO2) was reacted with 2,4-dimethylphenylamine, and in the second diagram, the resulting compound interacts with the diazotizing mixture of 4-bromophenol. The equations for these reactions will look like this:



The resulting finished product 2,4-dimethylphenyl-azo-51-bromophenol-21 is a light brown powder with a melting point of 118-1190C and is well soluble in DMFA, DMSO, diethyl ketone, dioxane, acetone, nitrobenzene and many other organic solvents. , insoluble in water 2,4-dimethylphenyl-azo-51-bromophenol-21 colored compound is now used in industrial products for dyeing polypropylene, polyethylene, polystyrene, polyacrylates and other synthetic polymers. The products are painted in brown color. To ensure that dyes do not migrate from the finished dyed products, wipe 5 times with a cotton rag soaked in hot (30-400C) aqueous vinegar.

Chemical properties of the coloring compound.

In order to study the chemical properties of the resulting dye 2,4-dimethylphenyl-azo-51-bromophenol-21, reactions of nucleophilic substitution at the expense of the hydroxyl group and acetylation reactions were carried out. The reaction of 2,4-dimethylphenyl-azo-51-bromophenol-21 with chlorinated allyl and propargyl was carried out in the presence of dried potash in an acetone solvent at a temperature of 850 for 3.5-4.0 hours.

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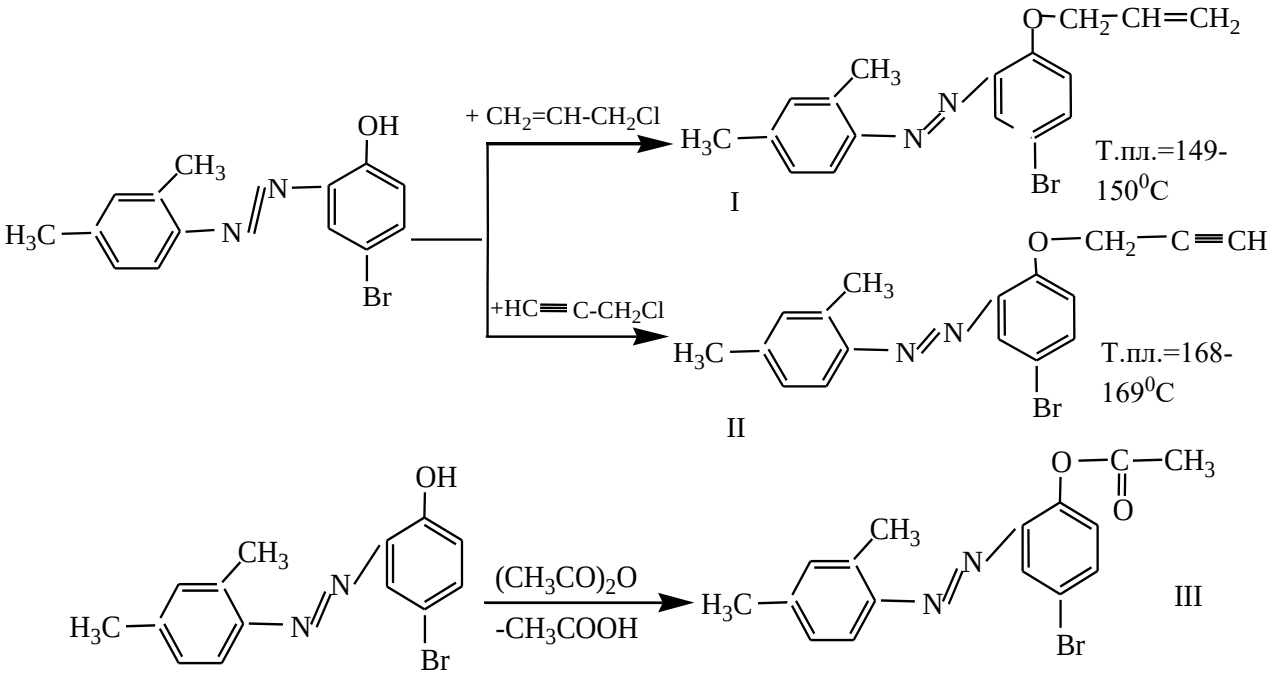
The yield of the reaction is 85-90%, the melting temperature is high, the structure of the allyl and propargyl ether of the formed (2,4-dimethylphenyl)-azo-(51-bromophenol-21) was confirmed by elemental analysis and (ShiMADZI IK Furge) IR-spectra. In addition, acetic anhydride was reacted with substances I and II. The resulting acetate derivatives have the same appearance as in III.



It proves the high reactivity of the above-mentioned reaction group and easy reaction. As a result of the reaction, the yield of acetate derivative III was 87.4%. Its structure was confirmed by elemental analysis and IK-spectrum.

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