

Investigation of the Effect of the Coordination Compound 6-Benzylaminopurine with Cobalt-II Nitrate Dihydrate on Cotton «Bukhara-102»

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Annotation: 6-Benzylaminopurine is a broad-spectrum plant growth regulator, capable of rejuvenating plants, bringing plants out of dormancy, causing the formation of lateral shoots and root shoots, stimulating the formation of chlorophyll and positively affecting photosynthesis, making the leaf darker and greener, stronger, in many crops, it is able, when outside root treatments of green fruits and berries, to postpone the ripening period somewhat in favor of size and weight.

Keywords: 6-Benzylaminopurine, plant growth regulator, lateral shoot, chlorophyll formation, root growth, photosynthesis, green fruit, berries, size weight, alcohol solution of 2,5% and 5%, humidity.

INTRODUCTION

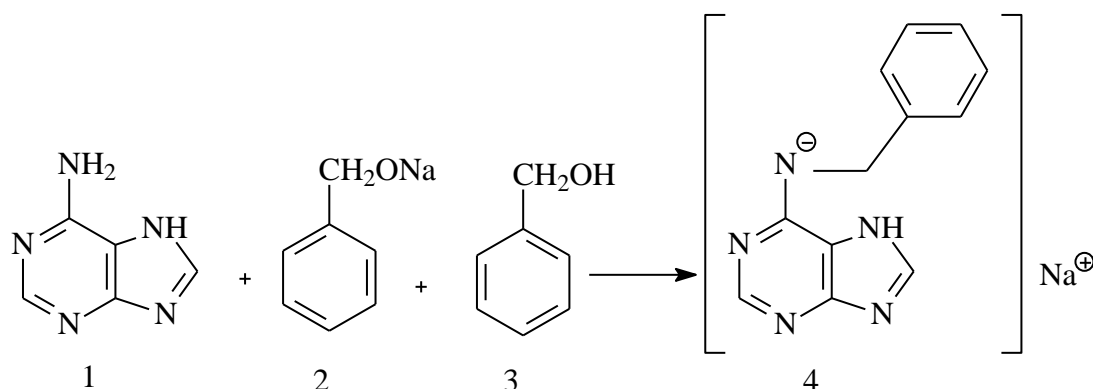
Currently, the main attention in synthetic coordination chemistry is paid to the problems of synthesis and construction of organic ligands with a clear stereochemical structure. Polymer sorbents, such as chelating ligands, are very important. One of the main tasks of the chemical industry is the synthesis of chelating sorbents - polymer ligands, the separation of intermediate metals from solutions by complex sorption methods, the study of the composition, structure and physico-chemical properties of coordination compounds formed during sorption[1-4]. Chelating sorbents are widely used in hydrometallurgy to concentrate various metal ions and neutralize waste solutions containing heavy metal ions. Improper use of fertilizers, herbicides, insecticides, as well as various bioregulators in agriculture can lead to changes in soil composition [5-12]. currently, the number of beneficial microorganisms living in the soil is decreasing, as well as endemic bacteria that affect the processes of plant growth from the air.

In our previous study, we demonstrated methods for the synthesis of the coordination compound 6-benzylaminopurine with cobalt (II)- nitrate dihydrate.

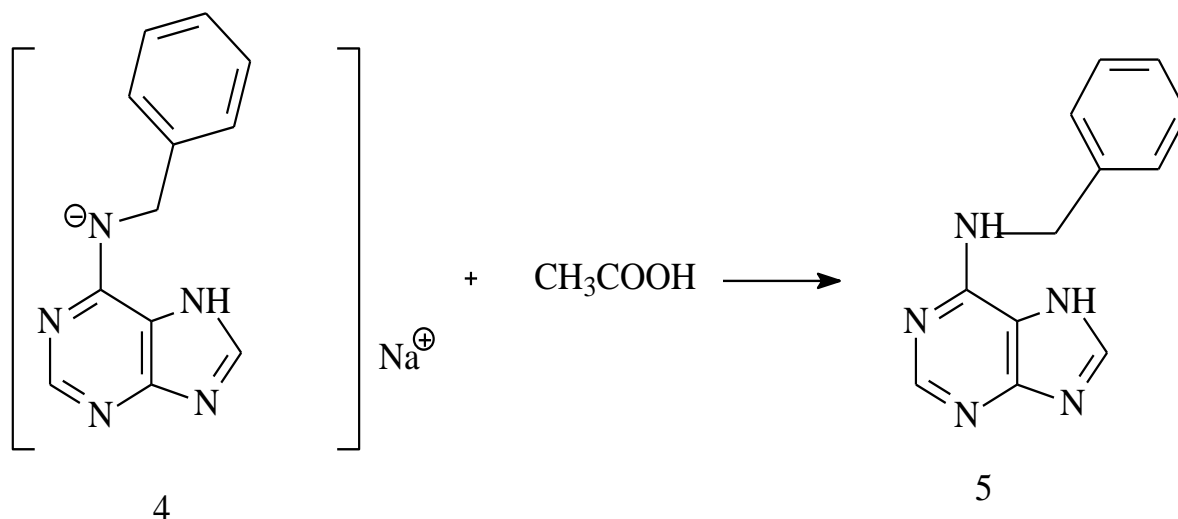
Continuing our research, we studied the influence of the resulting coordination connection on the shipping of the «Bukhara-102» cotton.

METHOD OF OBTAINING 6-BENZYLAMINOPURINE.

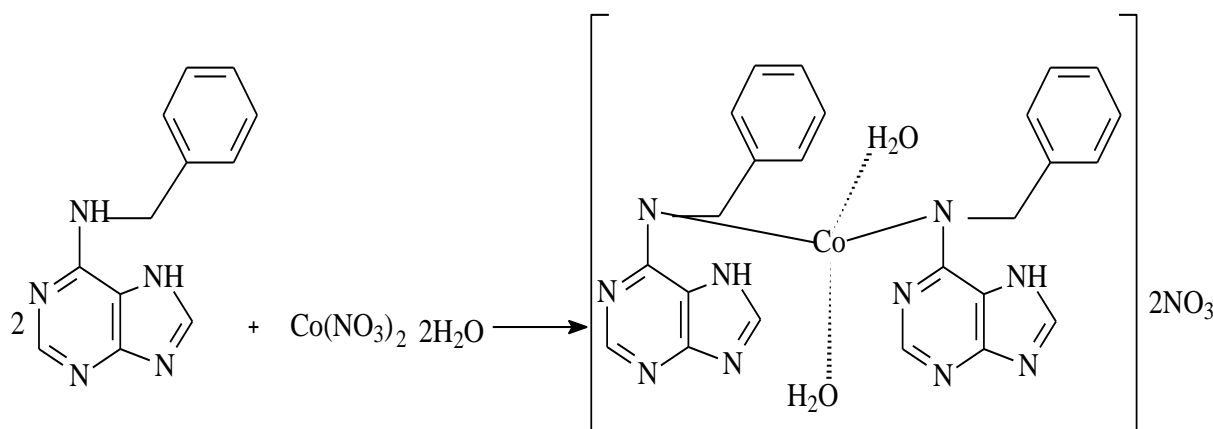
3 gr of adenine (1), (0,023 mol), 2,9 gr of sodium benzylate (2), (0,023 mol) and 20 ml of benzyl alcohol (3), (0,194 mol) were added to the flask (the molar ratio of adenine, sodium benzylate, benzyl alcohol is 1:1; 8,7) and boiled for 2,5 hours with stirring. Cooled to room temperature, 150 ml of diethyl ether was added and the precipitate was filtered. 5,2 gr of sodium salt of 6-benzylaminopurine (4) was obtained, the yield was 94%.



5,2 gr of sodium salt of 6-benzylaminopurine (4) was dissolved in 150-200 ml of hot water, 1,3-1,5 ml of acetic acid was added to pH 6,5-7,5, cooled to room temperature and filtered, dried.



0,2 moles of 6-benzylaminopurine 0,1 mole of cobalt (II)-nitrate crystallohydrate is mixed in a porcelain mortar. Grind in a mortar and mix for three hours. During mixing, every 10-15 minutes, the surface around the porcelain mortar and mixer is cleaned by scraping.



The effects of the reaction of coordination compounds of cobalt II nitrate with 6-benzylaminopurine of cotton *Gossypium* on varieties «Bukhara-102» were studied.

The expected results in our experiment consists of the following stages.

Coordination compounds of cobalt (II)-nitrate with 6-benzylaminopurine we prepared an alcohol solution of 2,5% and 5% solutions were prepared on distilled water. 20 seeds in 2,5% solution for 5 and 10 hours, 20 seeds in 5% solution for 5 and 10 hours in solution were poured.

Effect coordination compounds of cobalt II nitrate with 6-benzylaminopurine on seed germination. Seeds of four petri dishes and one 20 pcs at equal distances. In total, the sample was placed in a thermostat in 5 Petri dishes. The temperature is

27 °C, humidity is 40%. 2,5 and 5 hours, the seeds are soaked in a 5% solution for 10 hours. the processes of increase were observed, 5% in 5 hours the seeds were soaked in solution for 10 hours, the processes of enlargement were observed. The root growth rate is performed in the same order. For 5 hours in 2,5% solution as the roots grow. It is desirable to sow seeds evenly. We're counting on it.

In conclusion, Cobalt is necessary for plants to absorb molecular nitrogen, it is a trace element, the nodes of legumes and the formation of nodular bacteria on the leaves will give. Cobalt accumulates in the wood of the plant and accelerates growth, participates in the metabolism of oxin, that is, an important nutrient for plant growth processes, including cell membranes, helps to lengthen. This metal ion is involved in the proliferation of leaf cells. An increase in the thickness and volume of mesophylic, columnar and volume of cells in the turbid-leaf parenchyma and dormice. In addition, cobalt is a common water for plants. increases the maintenance and, consequently, the drought of crops increases the longevity. The concentration of chloroplasts and pigments in the leaves, the formation of the photosynthetic apparatus of plants and the effect of the coordination of cobalt compounds is very important.

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