

Electrosynthesis Of New Aromatic And Phenothiazine Hydroxylamines

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The hydroxylamines constitute an interesting class of organic intermediates. In this paper we present the electrosynthesis of different hydroxylamines in different electrolytes having as major goal synthesis of new class of compounds from the nitroderivatives, such starting materials [1].

In this purpose we made the detailed study of the electrochemical behaviour for the nitro derivatives and hydroxyl amines [2-4]:

- having the main structure of 2 amino-*p*-nitro phenyl 1,3 propane
- some simple molecule, named "model" molecules (nitrobenzene, *p*-toluene or nitrobenzylic alcohol).
- phenothiazine nitroderivatives

Using two different type of cell (Hg batch cell and the "redox" cell, equipped with porous graphite felt electrodes) the hydroxylamines have been generated and captured in reaction with different reagents.

Coulometric analysis showed certain instability of the formed hydroxyl amines in methanol. We were interested to find out more about the evolution of the electro generated hydroxylamines of model molecule and after that to extrapolate to *p*-nitrophenylserinol hydroxylamine's. We tried to explain this

instability and we proposed a mechanism on the basis of isolated main and by products [2].

The hydroxylamines were stables in acetonitril.

A comparative study of the stability of the electro generated hydroxyl amines as well as the yields of the formed products (azo, azoxy, nitroso derivatives and benzoxazine dione) is presented.

References:

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