

# The Synthesis of Tri Directional and Cyanuric Chlorid Based Dopamine and Its Magnetite (Fe<sub>3</sub>O<sub>4</sub>) Nanoparticles Bridged Complexes

Ziya Erdem KOÇ

*Selcuk University, Department of Chemistry, 42031, Selçuklu, Konya, Türkiye.*

*E-mail: zerdemkoc@gmail.com*

An important class of compounds consists of substituted s-triazine derivatives which have anticancer, antitumor, antiviral and antifungal activity. These compounds have been used in the treatment of depression and hence gained a considerable importance. These are valuable bases for estrogen receptor modulators and also used as bridging agents to synthesize herbicides and in the production of drugs or polymers [1-4]. Magnetite (Fe<sub>3</sub>O<sub>4</sub>) toxicity nanoparticles have been tested vigorously for various biomedical [5].

We have reported here that a cyanuric chloride (2,4,6-trichloro-1,3,5-triazine) and its Dopamine (3,4-dihydroxyphenethylamine) have been synthesis to be a new template. The reaction of cyanuric chloride (2,4,6-trichloro-1,3,5-triazine) with 3 equiv of Dopamine (3,4-dihydroxyphenethylamine) in ethyl alcohol has given the desired tripodal-s-triazine in a single step. It may be useful to stress at this point that the new products mentioned above are the main result of this work.

The catechol unit in dopamine based molecule 2,4,6-Tris(3,4-dihidroksifeniletlimino)-1,3,5-triazin is used to replace to around the iron oxide nanoparticles. It can be seen from tripodal-s-triazine Fe<sub>3</sub>O<sub>4</sub> nanoparicles that cyanuric chloride (2,4,6-trichloro-1,3,5-triazine) acts as a bridge to link dopamine- Fe<sub>3</sub>O<sub>4</sub> nanoparticles.

## References

1. D.P. Hoog, P. Gamez, W.L. Dressen and J. Reedijk, Tetrahedron Lett., 43, 6783, (2002).
2. H.S. Patel, V.C. Patel, Eur. Polym. J., 37, 2263 (2001).
3. Z. E. Koc, Journal of Heterocyclic Chemistry, 48, 769-775, (2011).
4. Z. E. Koc, S. Uysal, J. Inorg. Organomet. P., 21, 400-406, (2011).
5. J. Xie, C. Xu, Z. Xu, Y. Hou, K.L., Young, S.X. Wang, N. Pourmand, S. Sun, American Chemical Society, 18, 5401-5403, (2006).