



## Method For The Determination of Some Pyrethroid Insecticides In Environmental And Biological Samples

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### ABSTRACT

*A modified and sensitive spectrophotometric method for the determination of nitrile insecticides i. e., cypermethrin, fenvalerate, deltamethrin, in sub-microgram levels is described. During alkaline hydrolysis of pyrethroids to produce cyanide ion, which react with bromine-water to form cynogen bromide, the pyridine rings are spilt by Konig reaction and the reaction products are coupled with diazotised p-aminobenzoic acid. The colour system obeys Beer's law in the following working range in ppm - cypermethrin 0.13-0.93, fenvalerate 0.27-2.0 and deltamethrin 0.2-1.33 respectively. The Molar absorptivity, Sandell's sensitivity, Correlation coefficient have been determined. Other pyrethroids not containing a hydrolysable nitrile group (permethrin, resmethrin, allenthin, etc), should not interfere. Moreover organochlorine, organophosphorous and carbamate insecticides do not give colour spot. The method is highly reproducible and have been successfully applied for determination of nitrile containing insecticides in environmental and biological samples.*

**Keywords:** Nitrile pesticides (Cypermethrin, Fenvalerate, Deltamethrin), Environmental & Biological samples.

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