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## ***Psoralea corylifolia* L. a Potent Medicinal Plant with reservoir of Bioactive Compounds and Broad Spectrum Antifungal Activity**

Kiran B. <sup>\*\*\*</sup> and Lalitha V. <sup>ba</sup>

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### **ABSTRACT**

Antifungal activity of the bioactive compound 2H-Furo[2,3-H]-1-benzopyran-2-one isolated from seeds of *Psoralea corylifolia* L. recorded complete inhibition of *Drechslera halodes* and *Trichoderma viride* at 800 ppm concentration. *Cladosporium cladosporoides* recorded 98.0% inhibition at 1000 ppm, *Curvularia lunata* recorded 71.0% inhibition at 800ppm and *Alternaria alternata* recorded 90.0% inhibition at 900ppm concentration respectively. The Minimum Inhibitory Concentration (MIC) of all the test fungi was identified and all the results obtained were compared to synthetic fungicide Dithane M45 and Bavistin.

**Background and Objective:** Nature has been a source of medicinal agents for thousands of years and an impressive number of modern drugs have been isolated from natural sources, many based on their use in traditional medicine. The use of traditional plant extracts as well as other alternative forms of medical treatments have been getting momentum since the 1990s. Currently, medicinal plants are widely used as home remedies or as alternative treatments by both rural and urban inhabitants in developing countries. Plants generally produce many secondary metabolites which constitute an important source of microbicides, pesticides and many pharmaceutical drugs. Plant products still remain the principal source of pharmaceutical agents used in traditional medicine. Evidence has accumulated to demonstrate the promising potential of

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# Green Chemistry Principles and Spectroscopic Methods Applied to Nanomaterials

Anindita De, Roopa R.A., Manasa H.S., Mridula Guin

Nanomaterials have revolutionized the twenty-first century through many industrial breakthroughs. Hazardous chemical methods from non-renewable sources mostly perform the synthesis of these nanomaterials. Thus, synthesizing nanomaterials by twelve principles of green chemistry is the most demanding method that outperforms the chemical and physical synthesis methods in various aspects. The key features of the green approach are environmental friendliness, cost-effectiveness, and biocompatibility. The green principles use natural resources for nanomaterial synthesis and are currently on their way from the laboratory to commercial application. This chapter presents principles of green chemistry that are followed for nanomaterial synthesis. Recent advances in this field and overcoming the challenges to improve their commercialization have also been discussed.

## Keywords

Green Chemistry, Green Synthesis, Nanomaterials, Nanotechnology, Environment Friendly, Natural Source, Toxicity

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## Chapter 4

# Analysis of *Drosophila* eye pigments by paper and thin layer chromatography

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**Recommended Level:** UG/ PG/ Research

**Sub-discipline:** Genetics/Biochemistry

### Background:

Adult *Drosophila melanogaster* bears two red colored compound eyes. Eye color mutants hold a pivotal space in the history of *Drosophila* genetics. Discovery of the white-eye mutation by T. H. Morgan marked the advent of *Drosophila* as a genetic model organism. Since then many eye color mutants have been identified in *D. melanogaster* (see [Chapter 3](#)) and other species of *Drosophila*. Identification of pigments responsible for color of *Drosophila* eyes dates back to 1940s (Ephrussi and Herold, 1944; Wald and Allen, 1946).

## *Chapter 92*

# **Negative geotaxis or climbing assay for assessment of locomotor function in adult *Drosophila***

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**Recommended Level:** UG/PG/Research

**Sub-discipline:** Neurobiology/ Behavioral Biology

### **Background:**

Motor disorders, like Parkinson's and Huntington's diseases, are neurodegenerative disorders that are associated, among other malfunctions, with involuntary or uncontrolled movements or actions of the body. Several chemical induced or transgenic system based models have been developed in mice, *Drosophila* and other organisms to mimic the physiological and symptomatic traits of such neurodegenerative disorders. Rotenone is an inhibitor of mitochondrial complex I and is also known to induce Parkinsonian traits like



## ಕರ್ನಾಟಕ ಏಕೀಕರಣ ಚಳುವಳಿಯ ಬೆಳವಣಿಗೆ - ಒಂದು ಅಧ್ಯಯನ

■ ಡಾ. ಶ್ರೀಧರ ಹೆಚ್

ಲೇಖನ ಸಾರ (Abstract):

ಪ್ರಸ್ತುತ ಸಂಶೋಧನಾ ಲೇಖನದಲ್ಲಿ ನಾನು 'ಕರ್ನಾಟಕ ಏಕೀಕರಣ ಚಳುವಳಿಯ ಬೆಳವಣಿಗೆ - ಒಂದು ಅಧ್ಯಯನ' ಎಂಬ ವಿಷಯವನ್ನು ಕುರಿತು ಅಧ್ಯಯನ ನಡೆಸಲು ಪ್ರಯತ್ನಿಸಿರುತ್ತೇನೆ. ಆಧುನಿಕ ಕರ್ನಾಟಕ ಇತಿಹಾಸದಲ್ಲಿ ಅತ್ಯಂತ ಮಹತ್ವದ ಮೈಲಿಗಲ್ಲೆಂದರೆ, ಕರ್ನಾಟಕ ಏಕೀಕರಣ ಚಳುವಳಿ. ಅಖಂಡ ಕರ್ನಾಟಕ ರಾಜ್ಯದ ನಿರ್ಮಾಣಕ್ಕಾಗಿ ಕನ್ನಡಿಗರು ನಡೆಸಿದ ದಿಟ್ಟತನದ ಹೋರಾಟದ ಕತೆಯೇ ಏಕೀಕರಣ ಚಳುವಳಿ. ಟಿಪ್ಪುವಿನ ಮರಣಾನಂತರ ವಿವಿಧ ಆಡಳಿತ ಘಟಕಗಳಲ್ಲಿ ಹರಿದು ಹಂಚಿ ಹೋಗಿದ್ದ ಕನ್ನಡದ ಪ್ರದೇಶಗಳೆಲ್ಲವೂ ಸುದೀರ್ಘ ಹೋರಾಟದ ಫಲವಾಗಿ ಕರುನಾಡಿಗೆ ಸೇರಿ ೧೯೫೬, ನವೆಂಬರ್ ೧ ರಂದು 'ನವ ಮೈಸೂರು ರಾಜ್ಯ' ಉದಯವಾಯಿತು. ಕರ್ನಾಟಕ ಏಕೀಕರಣ