

Plant nanotech-Application of novel nanotechnology strategies on *Abutilon theophrasti*

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The detailed study on plants is an ultimate weapon in the hands of a biologist and in 21st century Nano invasion has opened many new windows in the development of the plant science. Comparative studies in Nano science and modern techniques available now give us a great reliability not only on the medicinal values but also on various metabolites in many fields. The basic plant studies help us to extend the borders to a vast extent. In the present study the antibacterial, Pesticidal, Larvicidal and antioxidant studies were conducted in methanol, ethyl acetate and chloroform extracts. The antibacterial property against pathogenic bacteria like gram positive (*Bacillus subtilis*, *Salmonella aureus* and *Salmonella epidermidis*) and gram negative (*Escherichia coli*, *Pseudomonas aeruginosa* and *Klebsiella pneumonia*) is observed. The pesticidal activity at different concentrations is tested on *Sitophilus oryzae*. Larvicidal activity for different concentrations is tested on shrimp cells. Further the presence of phytochemicals such as flavonoids, tannins, saponins, cardiac glycosides, steroids was confirmed. Silver Nano-particles are reduced by the plant leaves and its Pesticidal, Larvicidal and Anti-bacterial properties against pathogenic bacteria like gram positive (*Bacillus subtilis*, *Salmonella aureus* and *Salmonella epidermidis*) and gram negative (*Escherichia coli*, *Pseudomonas aeruginosa* and *Klebsiella pneumonia*) are compared with normal plant leaf extract. SEM analysis of the particles is reported. The long term pest resistance of the plant extract is discussed. The results of the present study are clearly discussed in the full paper.

Biography

Y. V. Vamsi Bharadwaj has completed his intermediate course at age of 16 from Narayana junior college, Hyderabad in 2011. At present he is doing his graduation (2nd year), in St. Joseph's college of engineering, Chennai. He has attended several national level conferences and won several poster awards and paper presentations across the state, in various fields of Mathematics, English and Plant Biotechnology.

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Fe & Au and Fe₃O₄ & Au nanomaterials prepared by pulsed plasma in liquid method

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The use of gold nanoparticles as chemotherapeutic drug delivery vehicles is attractive as it is non toxic, non-immunogenic, and provides a highly tunable surface to which drugs can be attached. By using both iron oxide and gold within the one drug delivery vehicle, a multifaceted system can be developed which exploits the surface chemistry of the gold whilst retaining the magnetic character of the iron oxide, allowing for biologically sound drug delivery and imaging. Here we present gold coated iron and iron oxide nanoparticles prepared using a well known, very simple technique - Pulsed Plasma in Liquid (PPL). Two approaches were applied: One is applying Impulse Plasma between two electrodes submerged in HAuCl₄ solution; Second one is combination of pulsed plasma and chemical reduction methods (two steps). The presence of intensive Au & Fe₃O₄ (sample 1), Au & Fe (sample 2) reflections was indicated by X-ray Diffraction analysis. Particles morphology, size and magnetic behavior were studied further by Transmission Electron Microscopy (TEM), VS-Magnetometer and Thermo gravimetric analysis.

Biography

Zhazgul Kelgenbaeva is a 2nd Grade Doctoral Course Student of Kumamoto University Graduate School of Science and Technology. She came from Kyrgyzstan. So far, she has attended in one International Conference and her proceeding paper was submitted to the Japanese Journal of Applied Physics.

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