



## Porous nanomaterial catalysed green synthesis of some derivatives of indoles

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### Abstract:

Catalysis represents the cornerstone of chemistry, since catalytic processes are ubiquitous in almost all chemical processes developed for obtaining consumer goods. Nanocatalysis represents nowadays an innovative approach to obtain better properties for the catalysts: stable activity, good selectivity, easy to recover, and the possibility to be reused. Over the last few years, for the obtaining of new catalysts, classical methods—based on potential hazardous reagents—have been replaced with new methods emerged by replacing those reagents with plant extracts obtained in different conditions. Due to being diversified in morphology and chemical composition, these materials have different properties and applications, representing a promising area of research. In this context, the present review focuses on the metallic nanocatalysts' importance, different methods of synthesis with emphasis to the natural compounds used as support, characterization techniques, parameters involved in tailoring the composition, size and shape of nanoparticles and applications in catalysis. This review presents some examples of green nanocatalysts, grouped considering their nature (mono- and bi-metallic nanoparticles, metallic oxides, sulfides, chlorides, and other complex catalysts).

### Biography:

Ratnesh Das is a Professor in the Department of Chemistry, Dr. Harisingh Gour Central University, Sagar, India. He commands a rich experience in teaching, and research of about 16 years during which he has supervised many sponsored research projects. His active research areas include Heterocyclic synthesis, medicinal chemistry, electro-organic chemistry, synthesis of nano-catalysts and green chemistry. He has authored about 60 research papers in peer-reviewed national and international journals and refereed conferences organized by professional societies around the world. He is an active member of several professional bodies and societies, both in India and abroad. He is a vibrant speaker and delivered many lectures in conferences, workshops, and seminars organized both in India and abroad.



### Publication of speakers:

- Ratnesh Das et al..An Efficient Green Synthesis of Some Functionalized Spiro Chromene Based Scaffolds as Potential Antitubercular Agents.
- Ratnesh Das et al..ISSN 0975-413X CODEN (USA): PCH-HAX Synthesis, Antitubercular Activity and DNA-binding Study of some 2-Amino-3-cyano-4H-chromen-4-ylphosphonates.
- Ratnesh Das et al..Absorption, Emission Spectroscopic and Molecular Docking Study of Glutamic Acid with Double-Stranded Calf Thymus DNA.
- Ratnesh Das et al..A facile synthesis of some novel indole derivatives as potential antitubercular agents
- Ratnesh Das et al..Porous CuO catalyzed green synthesis of some novel 3-alkylated indoles as potent antitubercular agents

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