This book presents a comprehensive study on the development of advanced nanocatalysts based on polyaniline (PANI) and its metal-doped derivatives with manganese (Mn) and cobalt (Co). Focusing on innovative synthesis routes and detailed physicochemical characterization, it explores the structural, morphological, and catalytic properties of PANI composites. The integration of transition metals into the polyaniline matrix enhances catalytic performance, stability, and reusability, making these materials highly promising for various organic synthesis and environmental applications.

Through systematic experimentation and analytical techniques such as FTIR, SEM, and XRD, the book provides valuable insights into the correlation between material structure and catalytic efficiency. Designed for researchers, postgraduate students, and professionals in chemistry and materials science, it bridges the gap between fundamental polymer science and practical catalysis. This work contributes to the growing field of green chemistry and nanotechnology by emphasizing eco-friendly, cost-effective, and efficient catalytic systems based on conducting polymer composites.

Dr. Umesh S. Shelke M.Sc., Ph.D., GATE, NET (UGC-JRF) and NET (CSIR-JRF), Studied Heterocyclic Chemistry and Organic Synthesis at Sant Gadge Baba Amravati University, Amaravati. Associate Professor in Chemistry at Rayat Shikshan Sanstha's Rajarshi Chhatrapati Shahu College, Kolhapur. No. of Research papers and articles have been published.

UMESH SHELKE

DATTATRAY YEDAGE

SANDIP MAHAMUNI

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