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Authors: D. Das, D. Banerjee, M. Mondal, A. Shett, B. Das, N.S. Das, U.K. Ghorai, K.K. Chattopadhyay

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Nickel Doped Graphitic Carbon Nitride Nanosheets and Its Application for Dye Degradation by Chemical Catalysis

D. Das[1)], D. Banerjee[2,#)], M.Mondal[1)], A. Shett[1)], B. Das[3)], N.S. Das[1,$)], U.K. Ghorai[4)] , K.K. Chattopadhyay[1,3, *)]

[1)] School of Material Science and Nanotechnology,
Jadavpur University, Kolkata 700032, India

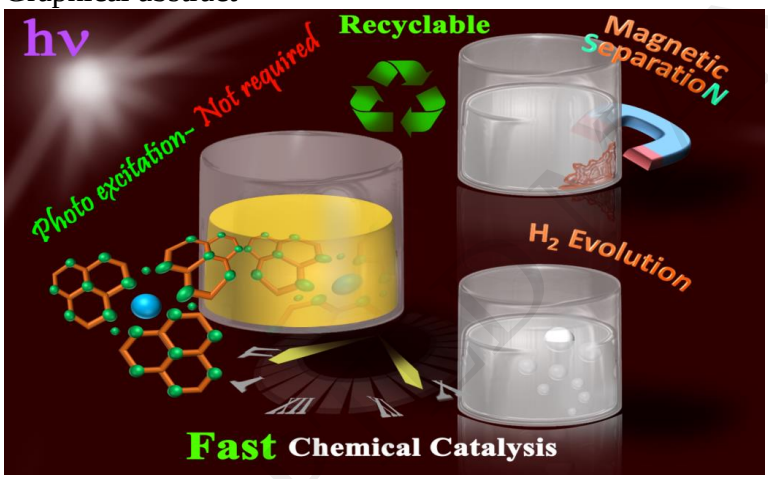
[2)]Dr. M.N. Dastur School of Materials Science Engineering
Indian Institute of Engineering Science and Technology, Shibpur, Howrah

[3)] Department of Physics, Jadavpur University, Kolkata 700032, India

[4)] Department of Industrial Chemistry,
Ramakrishna Mission Vidyamandira
Belur Math, Howrah-711202

Corresponding author: [*)]kalyan_chattopadhyay@yahoo.com(K. K. Chattopadhyay)
[#)]nilju82@gmail.com(D. Banerjee)
Present Address: [$)] Department of Basic Science and Humanities; Techno India Batanagar

Graphical abstract



Research Highlights

- Nickel doped Graphitic carbon nitride (GCN) was synthesized chemically.
- Mott-Schottky was done to calculate the flat band potentials and donor densities of pure and doped samples.
- Toxic Methyl Orange dye was degraded efficiently by doped samples in the presence of $NaBH_4$ accompanied by hydrogen evolution.
- Enhancement of catalytic activity with increasing doping concentration was studied in presence of varying amount of $NaBH_4$.
- A plausible mechanism for catalytic degradation was discussed in details.