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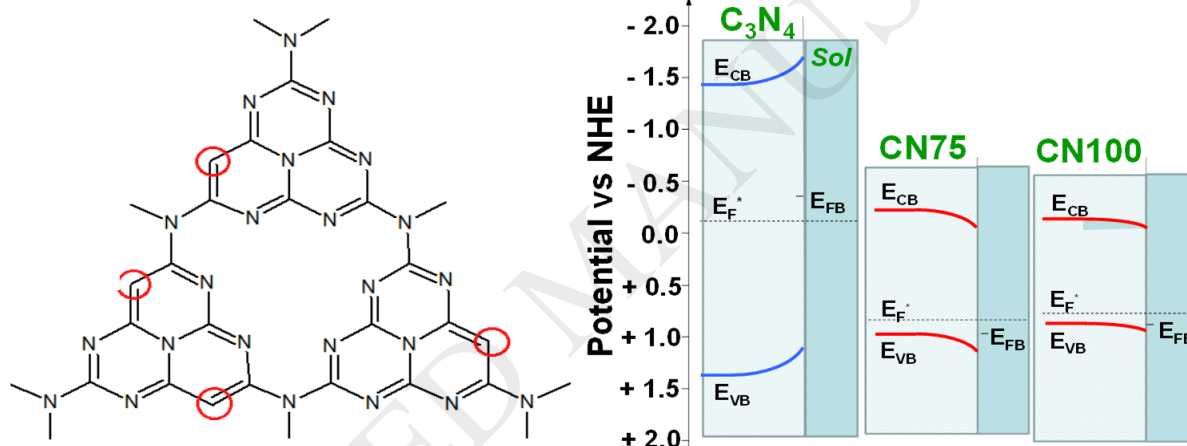
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# Synthesis, characterization and photocatalytic performances of p-type Carbon Nitride

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## Graphical Abstract



## Highlights

- p-doped carbon nitride is obtained tuning the melamine-triaminopyrimidine ratio
- p-doped carbon nitride exhibits higher photoactivity under visible light than  $C_3N_4$
- Carbon doping reduces band gap and the energy of the conduction band
- Exfoliation of the raw carbon nitride powders is essential for high photoactivity
- Novel p-doped carbon nitride has been successfully employed in AOP-like treatment

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