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Synthesis of biobased nanocomposites and their application in catalytic degradation of organic dyes present in waste water**Priti Malhotra**

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Biobased substances contain highest percentage of carbon and feature among the various precursors used for synthesizing nanomaterials including composites. Composite materials formed on the templates of carbonaceous polysaccharides have off late attracted a great deal of attention and have been successfully explored for various shapes and sizes and have shown prime importance and efficacy in a wide range of applications. The porous surfaces of nanomaterials exhibit tremendous adsorbing potential which is well known of nanosurfaces and to impart them stability and strength their composite formation is widely acknowledged. The composite formation of nanoparticles by nanocoating brings about their immobilization and further enhances their efficiency. Many nanocomposites have been innovated whose versatility lie in their adsorbing vigor and have been meticulously utilized in absorbing wide range of contaminants and hazardous substances present in waste water mainly industrial effluents. Rice husk which is an agricultural waste, after harvesting paddy crop which is a rich source of carbon is present in its starch content. It also contains silica along with starch and has been trapped to make nanosilica which was characterized and later coated with ZrO₂ to develop desired composite material. The nanosilica obtained from rice husk when coated with ZrO₂ gives rise to nanocomposites possessing improved strength and activity towards catalytic degradation of organic dyes present in waste water.

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