ECONOMIC SYNTHESIS OF BIODEGRADABLE POLYMER USING AGRICULTURAL WASTE

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ABSTRACT

Innovative technologies aiming at reusing onerous waste products are playing more and more pronounced role in modern-day global economy. In recent years, biodegradable polymers have attracted increasing interest due to their wide applications in food packaging, pharmaceuticals and in the biomedical sciences. Plastics are inevitable part of our modern life and used in different sectors of society like packaging, consumer products and many more. Synthetic polymers are almost not degradable by natural processes in the environment. Present work illustrates an effort to isolate bio-polymer from agricultural waste. Waste generated from sugar industries can be used as a raw material for the production of biodegradable polymer of Pharmaceutical use. Moto of the present research work is to develop biodegradable polymer having properties feasible to use in pharmacy. The properties of the final polymers were extremely soft, ideal to be used. The UV peak at 243 nm & IR graphs obtained confirmed the presence of biodegradable polymer PHA. These eco-friendly polymers reduce rapidly and replace the usage of the petroleum-based synthetic polymers due to their safety, low production costs, and biodegradability.

KEYWORDS: Biodegradable, Industrial waste, low cost, eco-friendly, petroleum-based polymer.

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