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Environmental Pollution and Monitoring

GREEN CHEMISTRY AND SUSTAINABLE DEVELOPMENT

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Abstract

"Green chemistry" is chemistry for environment and is really a philosophy and a way of thinking what can help chemists in research and production to develop more eco-friendly and efficient products and processes.
The biosynthesis processes are known as inducing accumulation – in Nature – of some significant amounts of chemical compounds, most of them being indispensable for normal evolution of human society. Our studies lead us to the conclusion that phytomass could be processed to assure a suitable resource not only for chemical compound and energy (biodiesel production, ethanol, landfill gas or biogas, Btu gas) but also for biological compounds or forerunners for them. Thus by using different kinds of phytomass we have demonstrated the possibilities to separate and to utilize natural aromatic products (lignins or its derivatives and polyphenols) in nonmodified and modified forms in several biological systems. The biological activity of these products was tested in experiments of plant development.

Keywords: green chemistry, biomass, phytomass, energy, biofuel, biological compounds

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