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Biogas technology for sustainable energy generation: Development and perspectives

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Biogas from biomass appears to have potential as an alternative energy source, which is potentially rich in biomass resources. This is an overview of some salient points and perspectives of biogas technology. The current literature is reviewed regarding the ecological, social, cultural and economic impacts of biogas technology. This article gives an overview of present and future use of biomass as an industrial feedstock for production of fuels, chemicals and other materials. However, to be truly competitive in an open market situation, higher value products are required. Results suggest that biogas technology must be encouraged, promoted, invested, implemented, and demonstrated, but especially in remote rural areas.

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Synthesis of novel thiazolidinedione derivatives and evaluation of their antiviral activity

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We previously identified one large molecular structure targeting the HIV-1 gp41, 2-Aryl 5-(4-Oxo-3-phenethyl-2-thioxothiazolidinylidenemethyl) furan, which acts as lead compound for our novel synthesized drugs. On the basis of molecular docking analysis, we designed a series of 5-benzylidene-3-phenethylimidazolidine-2,4-dione. Novel thiazolidinedione derivatives were synthesized starting from hydantoin and thiohydantoin. 5-benzylidene-3-phenethylimidazolidine-2,4-diones were synthesized by alkylation followed by a Knoevenagel condensation and tested for their anti-HIV-1 activity and cytotoxicity on MT-2 cells. The synthesized compounds were characterized by ¹H NMR, ¹³C NMR, mass spectroscopy, high resolution mass spectroscopy, IR and physical data.

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