Special Issue

Utilization of Lignocellulose for Biofuel and Fine Chemical Production by *Anaerobic Thermophiles*

Message from the Guest Editor

Over the years, thermophilic anaerobic bacteria (Thermoanaerobacter, Thermoanaerobacterium, Caloramator, Caldicellulosiruptor, Thermotoga, and others) have received increased interest since their discovery, ranging from their use as fermentation factories to produce biofuels (hydrogen, ethanol, methane) and, more recently, to produce a variety of fine chemicals. The most common substrates for bioethanol production are monosugars (mainly glucose) released from starch and sugarcane; however, it is more sustainable to use agricultural waste and lignocellulose. By using such complex substrates, thermophiles gain certain advantages. Although these bacteria produce ethanol as their main end product, they also produce other volatile compounds. Thermophilic anaerobic bacteria are interesting not only because of their production of biofuels but also of various fine chemicals, which mostly originate from fossil fuels at present.

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