54g Extraction and Production of Value-Added Products from Waste Feedstocks

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There many valuable products that can be derived from waste biomass. Bulk chemicals such as alcohols (ethanol, etc.) and organic acids (acetic acid, etc) can be microbially produced from the sugars in these feedstocks. Biodiesel is another bulk chemical that has been produced from used grease or animal fat. In addition to the production of bulk chemicals, there is a tremendous potential for the production of specialty chemicals from these feedstocks. For instance, the nutraceutical glucosamine is derived from seafood processing waste via hydrolysis. Glycerol from the production of biodiesel is another feedstock from which numerous products can be microbially produced such as propanediol, lactic acid, etc. The utilization of proteins and polypeptides as feedstocks in the production of polymers, drying agents, etc is another potential use of these wastes. The extraction of valuable fatty acid such as linolenic, eicosapentaenoic, docosahexaenoic, etc. from some of the waste feedstocks and could be used as a nutraceutical. The extraction and production of value added products from waste feedstocks could help to improve the economics of the production of bulk chemicals from these wastes.