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# BIOFUELS AND BIOENERGY

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## Bioethanol production from two monoculture algal species *Cladophora fracta* (Dillw.) Kützing and *Euglena polymorpha* Dangeard

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Algae are an attractive biofuel feedstock because of their fast growth rates and improved land use efficiency when compared with terrestrial crops. Altogether two microalgae species *Cladophora fracta* (Dillw.) Kützing and *Euglena Polymorpha* Dangeard were collected from various freshwater ponds, channels and tanks of Sheikhpura. Collected species were analyzed for bioethanol production capacity. *Cladophora fracta* (Dillw.) Kützing treated showed high quantity of bioethanol (0.29 gm) whereas *Euglena polymorpha* Dangeard untreated became the least efficient (0.10 gm). *Euglena polymorpha* Dangeard untreated left 99% biomass after bioethanol. pH of bioethanol of all experimental algal species fall in the range of 5.8-6. The Fourier transform infrared spectroscopy (FTIR) analysis was performed to prove the bond representation events including purified fatty acid ethyl esters of biomass. A dominant peak at 3342.67 cm<sup>-1</sup> corresponds to OH bending in cellulose and hemicellulose. This band was expanded to 1641.70 cm<sup>-1</sup> in treated sample of *Cladophora fracta* (Dillw.) Kützing which is showing the separation in some parts of cellulose. The band was expanded to 1415.10 cm<sup>-1</sup> in treated sample of *Euglena polymorpha* Dangeard which is showing the separation in some parts of cellulose. Gas Chromatography-Mass Spectrometer (GC-MS) analysis has shown ions composition in the bioethanol. The ethanol contents in the bioethanol was measured by gas chromatography.

### Biography

Ghazala B has her expertise in algal culturing and extraction of biofuel. She has 12 years' experience in this regard and many projects were completed under her supervision. She works as Associate Professor of Phycology and Chairperson of Department of Botany, GC University.

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