

## Kinetics of biomass and hydrocarbon oils production of microalgae *Botryococcus braunii* in continuous culture

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*Botryococcus braunii* as one of the most outstanding green microalga attracts increasing attention. It can biosynthesize high content of hydrocarbons oils reaching 50% of dry weight or more and secrete them out of cell. Hydrocarbons oils in *B. braunii* are similar to those found in petroleum which is regarded as one of the most readily available source for converting into biofuels. During the recent years, a lot of papers have described some growth characteristics and hydrocarbon production as a function of different conditions. Even though progresses have been made, the hydrocarbon productivity is still relatively low and not already cost-effective for industry production. In addition, most of the studies were carried out in batch cultures for relative short durations. There are few studies of continuous culture of *B. braunii*. The objective is to gain better knowledge and understanding of the underlying physiological processes in relation to hydrocarbons production which accumulate in an extracellular matrix. In this study, kinetic studies started by cultivation of a strain of *B. braunii* within a full controlled photo-bioreactors. Under steady state regimes, the effects of different cultural factors on the kinetics of biomass and hydrocarbon oils (total lipids and purified hydrocarbon) production in relation to changes in the rates of some physiological reactions were studied. Such experimental data could be important for further improvement of culture conditions and culture systems for high biofuel productivity.

### Biography

Jian Jin is a PhD student in lab of GEPEA, University of Nantes, France. He has completed his Master's degree from Renmin University of China (Majoring in Food Science, 2012) and Bachelor's degree from China Agricultural University (Majoring in Bio-engineering, 2010). He is interested in cultivation of microalgae in bioreactor for production of biofuels and other high value products.

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