

## Enhanced growth of micro alga *Botryococcus braunii* using adsorbants

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### Abstract

*Botryococcus braunii*, unicellular photosynthetic micro alga, was grown with three types of adsorbents – mesoporous silica SBA-15, amine functionalized SBA-15 and natural clay kaolin, separately. Effect of these adsorbents on growth of *B. braunii* was measured in terms of specific growth rate (K). The local ambient conditions like temperature (i.e., 25-30 °C), humidity (50-90%), natural sun light (0.4-0.8 mw/cm<sup>2</sup>), pH 6.8-7.0 and 2-4% CO<sub>2</sub> are found to be suitable for the growth of the micro alga. The growth rate of algae was 4-times enhanced using mesoporous silica and 12-times enhanced using natural clay (kaolin) as CO<sub>2</sub> adsorbents compared to adsorbent-free growth medium.

**Key words: Adsorbents, Biofuel, Botryococcus braunii, Growth Rate, Kaolin, Micro alga**

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