

Singapore Stanford Partnership Programme

MS Project MS08-04

Biological Productions of Hydrocarbons from *Botryococcus Braunii*

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Microalgae are considered as the one of most sustainable producer of oil for biodiesel for their high growth rate, high photosynthetic efficiency, high oil content and capacity to growth in most environments. However, biodiesel production from algae is still limited by cultivation issues and the need to recover and convert the algal oil into biodiesel, a process that carries its own environmental limitations. Among microalgae, *Botryococcus Braunii* has the remarkable ability to accumulate large amounts of hydrocarbons that can be converted into petrol (instead of lipid being transformed into biodiesel). The objectives of this project will be to conduct a thorough critical literature review on hydrocarbon production from *B. Braunii*, identify the key limitation to the scaling and economical profitability of the process under various scenarios, and conduct laboratory experiments using indigenous strains under locally relevant operating conditions. This project will be conducted in collaboration with Alpha Synovate Pte. Ltd.