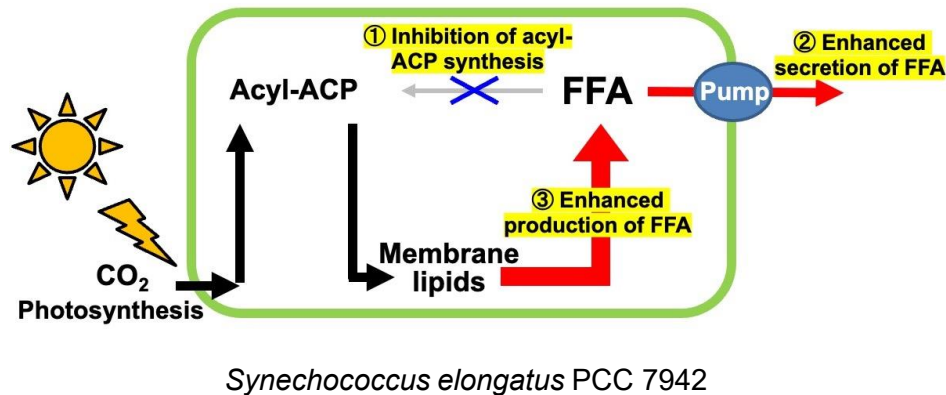


# Biofuel production with microalgae

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## Research

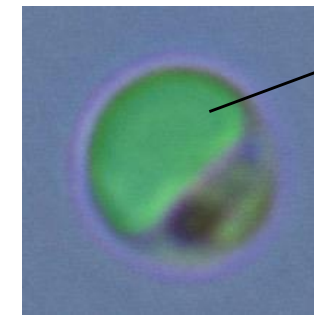
① Production of free fatty acids with cyanobacteria



We are generating cyanobacterial strains that produce free fatty acids (FFAs) effectively and secrete them to the media efficiently, without introduction of foreign genes. FFAs can be converted to biodiesel by methyl esterification.

In collaboration with TAISE Corp.

② Production of triacyl glycerol with *Nannochloropsis*



Oil droplet (triacyl glycerol: TAG)

Oil droplets occupy about 50% of cell volume under nutrient deficiency.

*Nannochloropsis oceanica*

We are examining the culture condition and genetic manipulation that allow efficient production of triacyl glycerol (TAG) in *Nannochloropsis oceanica*. TAG can also be converted to biodiesel by methyl esterification.

In collaboration with MAZDA MOTOR Corp.,  
JST COI-NEXT Program

➤ Our study aims at contributing to the development of renewable energy (SDG 7) and the actions to environmental changes (SDF 13).