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Electrical based harvesting of microalgae: Type electrodes

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We investigate the harvesting of microalgae, living in a culture fluid, by an application of constant electrical current via planar electrodes are made from different materials: aluminum, stainless steel, and graphite. All of these electrodes produce similar fine sub-millimeter bubbles which can levitate the microalgae to the top surface. Unlike graphite, metal sheets are cheap and convenient to handle but both of them are prone to erosion and cause metal contamination when used as positive electrodes. To minimize the metal contamination as well as the production cost, we combine the advantage of the different materials by using metal and graphite sheets as negative and positive electrodes, respectively. A usage of the combined electrodes in a large container to harvest *Dunaliella Salina* microalgae for beta-carotene production is demonstrated.

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