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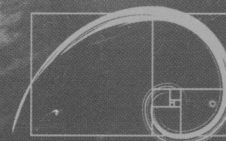
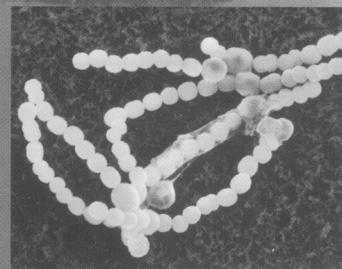
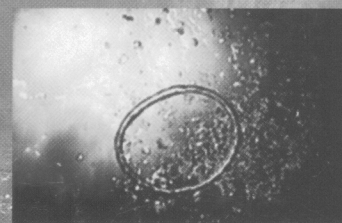
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Combined influence of intensity of incident light and temperature in the biochemical profiles of *Pavlova lutheri*

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In terms of physical parameters, light and temperature are major factors that affect overall biomass productivities in algal systems. Consequently, it is of great interest to experimentally establish their independent and combined effects, aiming at the optimization of processes involving them. Although the study of each effect isolated has already been described in the literature, extrapolations from studies that hold irradiance constant while varying temperature, or hold temperature constant while varying irradiance may be misleading; there are indeed indication that some species may shift their acclimation strategies in response to the combination of said factors. In this study, the simultaneous effects of light intensity and temperature were assessed on growth of the microalga *Pavlova lutheri*. The experiments were planned according to a factorial design, in order to measure both the isolated effects of each parameter and the interactions thereof. Results obtained at the mid-exponential growth phase show consistent trends along all temperature-light intensity conditions tested for some biochemical parameters, e.g. concentration of carotenoids, whereas for others it is not possible to depict consistent results; this is the case of the amount of carbohydrates, which increases with light intensity for the experiments at a constant temperature of 18°C, although the reverse is observed for the experiments at a constant temperature of 22°C. Combination of all pieces of information was drawn using response surface methods, in order to find the optimal combination of light intensity and temperature that potentiates specific end products.