Measurement of oxygen in an abalone using a non-invasive technique

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Abstract

The progressive climate change that the planet is going through is affecting the structure and functionality of the marine ecosystem, causing increases in temperature, deoxygenation and acidification. Consequently, this has affected the health of many marine species, in particular the population of the blue abalone Haliotis fulgens (Philippi, 1845), which is one of the species of the rocky reefs of the western coast of the Baja California Peninsula, for the which there are reports of effects due to environmental changes such as detachment of organisms from their substrates, and even mortality events. Therefore, the objective of the present work is to monitor the oxygen levels in the blood of abalone. To monitor the oxygen saturation in your blood, a sensor was designed that is suitable for working with biological samples under the principles of pulse measurement combined with photoplethysmography.

Keywords
Hailiotis fulgens, oxygen saturation, hemocyanin, oximetry.

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