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## Examination of the pigment makeup of a heat-resistant cyanobacteria strain: Thermostichus lividus PCC6715 cultivated under various temperature conditions.

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Thermophilic strains of cyanobacteria, prokaryotic organisms capable of photosynthesis, hold significant promise for biotechnological applications owing to their potential in synthesizing valuable compounds. One category of such compounds known for their antioxidant properties is carotenoids. Within cyanobacteria, a specific subgroup of carotenoids, myxoxanthophylls (carotenoid glycosides), is noteworthy. Given the limited understanding of how thermophilic cyanobacteria respond to temperature fluctuations, we conducted an examination of the pigment composition of Thermostichus lividus PCC6175 cultivated under varying temperatures. Our analysis employed spectroscopic, HPLC, and LC-MS techniques. Results indicated an increase in myxoxanthophyll accumulation at lower temperatures, whereas higher temperatures prompted elevated production of  $\beta$ -carotene and its hydroxylated derivatives.

## Field

Biosciences

## Length

Poster

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