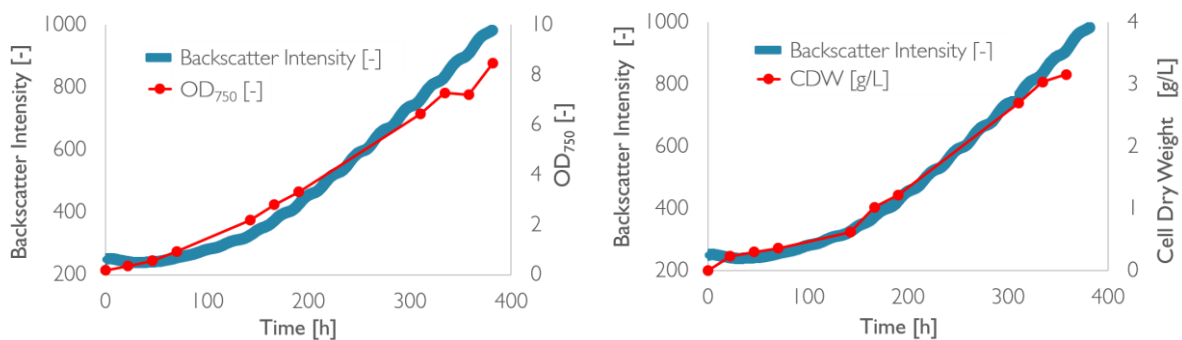


## Customer Success Story: Using the CGQ for phototrophic organisms

**Customer:** Prof. Dr. Ilka Maria Axmann (Heinrich-Heine-Universität Düsseldorf, Germany)

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**Background:** The unicellular cyanobacterium *Synechococcus elongatus* PCC 7942 (*S. elongatus*), growing optimally at 33 °C and light intensities of  $120 \frac{\mu\text{mol}}{\text{m}^2 \cdot \text{s}}$ , thrives in freshwater ponds and is commonly used as a phototrophic model organism (Kuan et al. 2015). Here, we characterized the growth of *S. elongatus* in a CO<sub>2</sub>-incubator shaker under constant light conditions:



**Fig. 1** Growth curves of *S. elongatus* in BG-11 medium as measured by the aquila biolabs' Cell Growth Quantifier (CGQ). Online backscatter intensity growth curves were compared to manual offline CDW and OD<sub>750</sub> measurement. Cultivation conditions: 30 °C, 0,5 % CO<sub>2</sub>, 75 % humidity, 150 rpm,  $80 \frac{\mu\text{mol}}{\text{m}^2 \cdot \text{s}}$  light intensity with an Infors Multitron shaker incubator.

### Our opinion about the CGQ:

"For the first time, we were able to generate high-quality growth curves of photosynthetic *S. elongatus* without necessarily relying on classical manual measurements like OD<sub>750</sub> or cell dry weight, especially when it comes to high cell densities during our very long cultivation times of 16 days and more. Thus, we don't face the omnipotent risk of contamination anymore. This greatly boosts our experimental shake flask throughput. My team and I really appreciated the performance of the CGQ and we're looking forward to using it in our daily lab routine!"

Prof. Dr. Ilka Maria Axmann