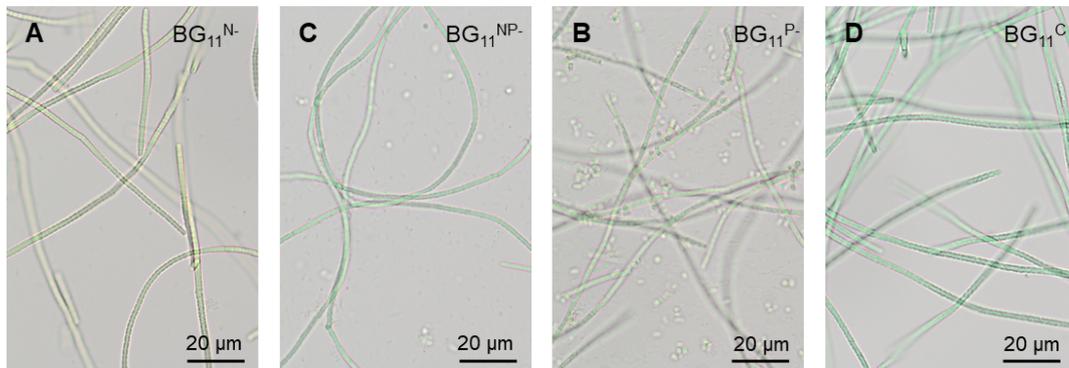
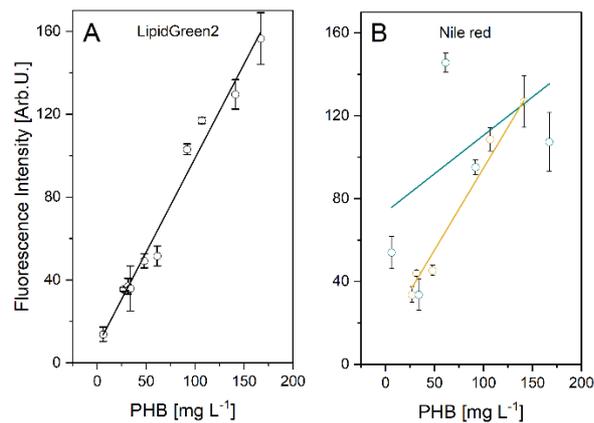


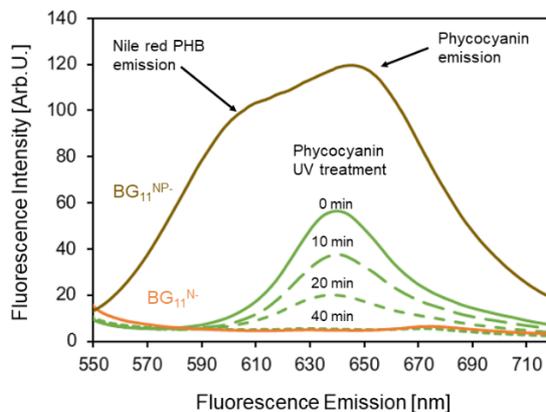
## Supplementary Figures



**Figure S1.** Morphological changes of *Leptolyngbya* sp. NIVA-CYA 255 during nitrate-deficiency, ( $BG_{11}^{N-}$ , **A**), nitrate- and phosphate- deficiency, ( $BG_{11}^{NP-}$ , **B**), phosphate- deficiency, ( $BG_{11}^{P-}$ , **C**), compared to the control culture without any deficiency, ( $BG_{11}^C$ , **D**). Images were taken after 14 d of cultivation.

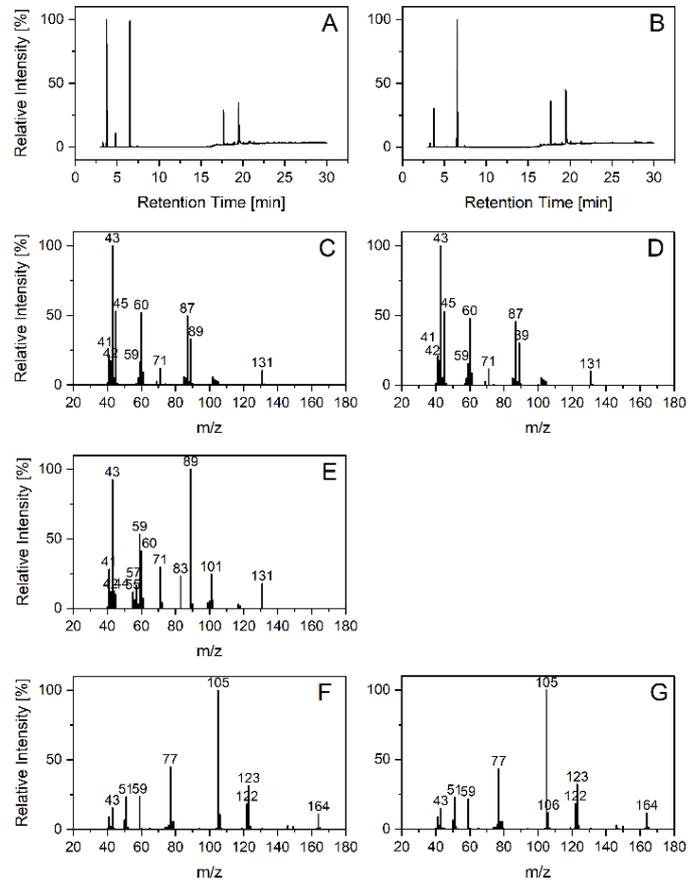


**Figure S2.** Linear agreement ( $R^2 = 0.9883$ ) of LipidGreen2 fluorescence of combined  $BG_{11}^{N-}$  and  $BG_{11}^{NP-}$  cultures (**A**) and agreements of Nile red fluorescence (**B**) of  $BG_{11}^{N-}$  (Orange,  $R^2 = 0.9484$ ) or  $BG_{11}^{NP-}$  (Blue,  $R^2 = 0.3375$ ) to analytical PHB values.



**Figure S3.** Fluorescence emission signal overlap of phycocyanin and Nile red during PHB staining of *Leptolyngbya* sp. NIVA-CYA 255. The presence of phycocyanin (emission peaks highlighted in green) can be eliminated by  $UV_{234}$  radiation for at least 40 min. After UV treatment, phycocyanin emission was comparable to

BG<sub>11</sub><sup>N</sup>, which did not show incident phycocyanin fluorescence (orange). Emission spectra were obtained at 525 nm excitation.



**Figure S4.** GC-MS chromatograms and mass spectra of PHBHV standard [left row] and PHB extracted from *Leptolyngbya* sp. NIVA-CYA 255 [right row]. Retention times: 3.75 min: hydroxybutyrate (C, D), 4.8 min: hydroxyvalerate (E), 6.5 min: benzoic acid, (F, G).