

Velocities of Chlamydomonas Reinhardtii Strains

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Measurement of velocities of phototaxis of different *Chlamydomonas reinhardtii* strains using bright field video microscopy

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Phototaxis is the ability of movement of a motile organism in response to light. *Chlamydomonas reinhardtii* is a photosynthetic unicellular biflagellated green micro-alga that shows both positive phototaxis (moving towards light) and negative phototaxis (moving away from the light). This research aimed to measure and, compare the velocities of a *Chlamydomonas* two different *Chlamydomonas* strains: 1) wild type strain, 4A+ which show both positive and negative phototaxis, a mutant strain, and 2) *bbs4*, which is exclusively phototaxis negative (only swims away from the light but cannot swim towards light). We recorded the motion of these *Chlamydomonas* strains using an inverted Nikon TE300 microscope with bright field microscopy and tracked the position of the swimming cells using LabVIEW. Our results show that mutant *Chlamydomonas* strain *bbs4* moved at a faster velocity than the wild type strains 4A+ .