Influence of Molecular Oxygen on the Chlorophyll Fluorescence Decay of Green Algae

Silke Oellerich*, Daniel Berg, Karlheinz Maier, Frank Terjung**

Fachbereich für Physik, Carl von Ossietzky-Universität Oldenburg, D-26111 Oldenburg, Germany

Z. Naturforsch. **54c**, 348–352 (1999); received December 7, 1998/March 3, 1999

Chlorella vulgaris, Chlorophyll Fluorescence Quenching, Green Algae, Molecular Oxygen

Molecular oxygen can act as a collisional quencher of the singlet excited state of chlorophyll a. This effect is well described for chlorophyll a in various solvents but not for chlorophyll a in the antenna complexes of photosynthetic organisms. We studied the chlorophyll fluorescence decay of Chlorella vulgaris cells under different oxygen concentrations but did

not find any evidence for quenching by oxygen.

Reprint requests to S. Oellerich. Fax: 0049-208-3063951.