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The peak effect of the photocurrent from thylakoids on the concentration of electron mediators YUE YU, FULIN ZUO, Department of Physics, University of Miami, CHEN-ZHONG LI, Nanobioengineering/Nanobioelectronics Laboratory, Department of Biomedical Engineering, Florida International University — Photocurrent extracted from the thylakoids has been studied as a function of electron mediator concentration. The electron mediators are used to facilitate the charge transfer from the thylakoid's charge transport chain to the outside medium. This measured photocurrent has been checked to originate from the photosynthesis on the thylakoid membranes. The photocurrent has a linear dependence on light intensity. It shares similar frequency dependence as that of absorption spectrum of chlorophyll and it decreases or disappears with the application of an inhibitor. We report here a new peak effect in the photocurrent as a function of the concentration of electron mediators. A simplistic model is proposed to explain the peak effect.

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