

**The electron paramagnetic resonance signals of the acellular slime mould *Physarum nudum* plasmodia irradiated with white light**

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Plasmodia of acellular slime mould *Physarum nudum* change their color from yellow to dark brown when irradiated with white light of a moderate intensity. The investigation of this phenomenon using the electron paramagnetic resonance (EPR) technique revealed its correlation with the appearance and increase of a strong, narrow EPR singlet line characteristic of free radicals. An analogous EPR signal was detected for the dark pigment isolated from the irradiated plasmodia. The features of the EPR signals of both the irradiated plasmodia and the dark pigment isolated from them strongly suggest that the plasmodia turn deep brown due to melanin synthesis in the organism. This is the first demonstration of a melanin-type pigment production in a vegetative phase of the acellular slime mould plasmodia as a consequence of irradiation.