

Removal of Magnesium by Mg-dechelataase Is a Major Step in the Chlorophyll-Degrading Pathway in *Ginkgo biloba* in the Process of Autumnal Tints

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Autumnal tints are one of the most manifest and fascinating natural phenomena, but the mechanism of chlorophyll (Chl)-breakdown in deciduous trees has not been fully elucidated. In this study, we analyzed the composition of Chl-related compounds and determined the activities of initial Chl-degrading enzymes in *Ginkgo* leaves at various stages in the process of autumnal coloring. Only pheophytin *a* (Pheo *a*, Mg-free Chl *a*) was detected in yellow leaves by HPLC analysis, and the activity of Mg-dechelataase in yellow leaves was found to be higher than in green leaves. These findings showed that the removal of magnesium from Chl *a* occurred in advance of dephytylation in the *Ginkgo*.