

**Title** Change of secondary metabolites in leaves of *Ginkgo biloba* L. in response to UV-B induction

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### Abstract

A novel treatment by introducing ultraviolet-B (UV-B) radiation to *Ginkgo biloba* leaves was investigated for the first time to enrich their health-related compounds. This study was aimed to quantify and identify secondary metabolites involved in the response to UV-B in freshly collected *Ginkgo* leaves. In this study, leaves were put in the inducing device with or without UV-B radiation of  $82.90 \mu\text{W cm}^{-2}$  intensity. After radiation, methanol extractable compounds were quantified using high performance liquid chromatography (HPLC) by measuring change of flavonoids concentration. Leaves age and radiation time effects were investigated. Younger leaves (April) and moderate radiation time (120 min) showed distinct increase of flavonoids after UV-B screening (with an increase up to 56%). Furthermore, compound Gb1 which are thought to trigger an array of defensive response named 3-(4'-hydroxyphenyl)-1-thiol-2-propylene showed a significant enhancement in UV-B treated leaves. Our findings showed that UV-B radiation time-, leaf age-, phytochemical-specific were key factors that influenced the change of secondary metabolism. UV-B would be a novel and feasible processing method to increase the health-related compounds of fresh collected products.