

Anthocyanins, Colour and Antioxidant Properties of Eggplant (*Solanum melongena* L.) and Violet Pepper (*Capsicum annuum* L.) Peel Extracts

Eva Sadilova, Florian C. Stintzing*, and Reinhold Carle

Section Plant Foodstuff Technology, Institute of Food Technology, Hohenheim University, August-von-Hartmann-Straße 3, D-70599 Stuttgart, Germany. Fax: +497 11-4 59-41 10.
E-mail: stintzin@uni-hohenheim.de

* Author for correspondence and reprint requests

Z. Naturforsch. **61c**, 527–535 (2006); received March 15/April 11, 2006

Acetone extracts from eggplant (*Solanum melongena* L.) and violet pepper (*Capsicum annuum* L.) peels both belonging to the Solanaceae plant family were characterized with respect to their anthocyanin profiles, colour qualities and antioxidant capacities. According to HPLC-DAD-MS³ analyses the major anthocyanin in eggplant was delphinidin-3-rutinoside, while the predominant pigment in violet pepper was assigned to delphinidin-3-*trans*-coumaroylrutinoside-5-glucoside. Since virtually all anthocyanins were delphinidin-based, the effect of acylation and glycosylation patterns on colour stability and antioxidant capacity could be assessed. Application of two *in vitro*-assays for antioxidant capacity assessment revealed that eggplant generally exhibited higher values compared to violet pepper which was ascribed to 3,5-diglycosylated structures predominating in the latter. The higher extent of acylation in violet pepper was reflected by a more purplish colour shade of the extracts, but did not translate into a higher stability against fading which again was attributed to additional glycosyl substitution at C5. These findings support the relevance of structure-related activities of anthocyanins both for understanding food colour and their particular nutritional value.

Key words: Eggplant, Violet Pepper, Anthocyanin