

F.9. SMART TECHNOLOGY FOR OBTAINING OF NATURAL YELLOW FOOD COLORANTS FROM SAFFLOWER

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Abstract. This work deals with obtaining of natural yellow food colorant from petals of Safflower (*Carthamus Tinctorius L.*). Our goal is to improve safety and biological value of protein-rich foods using natural yellow colorants, of high interest but relatively unknown. Yellow pigment from Safflower contains at least three basic chalcone glucosides: Safflower Yellow A, Safflower Yellow B and Precarthamin, with high similarity in their functional groups, spatial structure and polarity. They are hydrophilic and have similarly retention times in case of reverse-phase HPLC analysis. An important property of these substances is their remarkable thermal stability under the food-processing conditions. Results of HPLC, IR, UV-Vis and other investigative methods demonstrate, that separation of these colorants and their obtaining in pure form have no economic reasons. Optimal solution for the food technology is to obtain their powdered mixture, containing food-additives only as secondary components.

Keywords: Food colorants, chalcone glucosides, reverse-phase HPLC, IR, UV-spectra