

CHALCHONIC PROFILE OF YELLOW FOOD POWDER-FORM PIGMENT, OBTAINED FROM SAFFLOWER PETALS

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The aim of this work was to establish the relationship of yellow compounds in new powder-form food pigment, obtained by our process [Patent MD-1453, BOPI 2020, **8**, 59. *Process for producing dyes from Safflower*]. HPLC system “Shimadzu LC-2030-C 3D Plus” with photodiode array (PDA) detector were used. The separation of the compounds was performed using the C18 type column “Phenomenex” (4.6x150mm, particle size 5μm), gradient elution at 25°C, with a flow 0.5 mL/min; Phase A – Water, Phase B – Acetonitrile. The UV-Vis spectra were recorded in the range of 200-500nm. Chromatograms were analyzed at wavelengths λ₁ = 340 and λ₂ = 404nm. Five yellow compounds were separated (Figure 1), and identified by UV-Spectra as: Safflomin C (T_R=18.86, 6.9%); Anhydrosafflor Yellow B (T_R=19.59, 5.9%); Hydroxisafflor Yellow A (basic dye, T_R=20.84; 50.4%) Precarthamin (T_R=22.27; 10.1%); Safflor Yellow B (T_R=24.39; 26.7%).

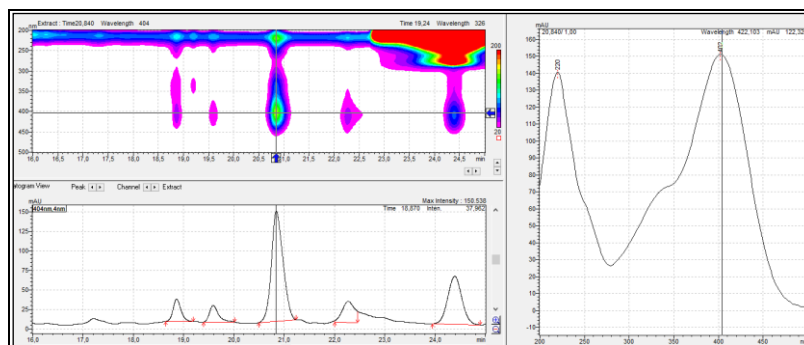


Figure 1. 3D- and 404 nm Chromatograms of yellow compounds (left); UV-Spectra of basic dye, Hydroxisafflor Yellow A (right).

Conclusion: Powder-form yellow pigment (PFYP) contain 5 chalcones, identically with compounds from safflower petals. Thus, in the process of PFYP obtaining, there are no losses of natural chalcones biological activity.

Keywords: Safflower, Natural Yellow Food Pigment, HPLC, Chalcones, Bioactivity

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