

# **Simultaneous Determination of Carbazochrome and Troxerutin in Their Binary Mixture by HPLC and TLC-densitometric methods**

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## **Abstract**

Two accurate, precise and sensitive RP-HPLC and TLC-densitometric methods have been developed for determination of Carbazochrome and Troxerutin in their binary mixture without previous separation. Method (A) is RP-HPLC which depended on isocratic elution using C<sub>18</sub> column and mobile phase 2 consisting of water containing (0.2 % triethylamine (TEA), 1 % tetrahydrofuran (THF)): methanol (65: 35, by volume) at a flow rate of 1.5 mL min<sup>-1</sup> and the effluent was monitored at 350 nm. Good resolution was obtained with t<sub>R</sub> values of 2.069 and 5.174 min for carbazochrome and troxerutin, respectively. Method (B) is TLC-Densitometric method, using silica gel 60 F<sub>254</sub> TLC plates and methanol: chloroform: ammonia (40: 60: 7, by volume) as a developing system. The bands were scanned at 350 nm. The proposed methods have been validated as per ICH guidelines and their linearity was evident in the ranges of 0.25-10 and 5 – 50 µg mL<sup>-1</sup> for method (A) and 0.02-0.8 and 0.1-2 µg band<sup>-1</sup> for method (B) for Carbazochrome and Troxerutin, respectively. The developed methods have been applied for determination of the above mentioned drugs in their pharmaceutical formulation where no interference from the excipients has been detected. Statistical comparison of the results obtained by the developed methods and those obtained by the reported HPLC methods showed no significant difference between them. The developed methods are sensitive, accurate and precise and can be easily used for quality control analysis of the studied drugs.

### **Keywords:**

Carbazochrome, Troxerutin, RP-HPLC, TLC-Densitometry, Pharmaceutical formulation.