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DETERMINATION OF THC BY HPLC/DAD IN FOOD SUPPLEMENT SAMPLES OF HEMP SEED OIL

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The EU member states have different regulation in allowed limit of controlled compound Δ-9-tetrahydrocannabinol (THC) in hemp seed oil, produced for consumption or as food supplement. The THC traces were analyzed in few samples by recommended HPLC isocratic method. Using different HPLC columns (C8 and C18) it was not succeeded to separate THC from one component present also in the other plant oils (flax seed oil and rape seed oil), used as blank samples. This unidentified compound has not quite characteristic UV spectrum and it is similar with the UV spectrum of THC. Then we developed the gradient mode HPLC method and succeeded to separate THC's peak (18.6 min) from this compound's peak (19.4 min) with suitable resolution (R_s is 2.36) (Fig. 1). The obtained results for found quantity of THC in tested samples of hemp seed oil are in range: 2.66 mg/L – 9.84 mg/L. These results are in correlation with the already published data for this kind of samples.

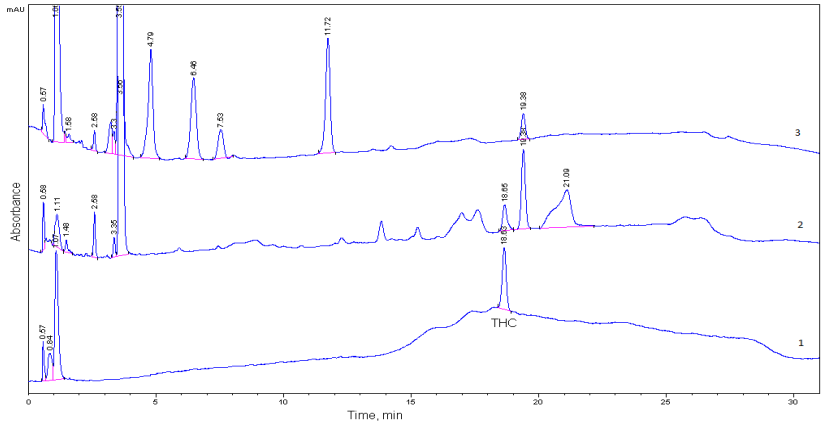

Fig. 1 Comparative chromatograms of: (1) THC standard substance solution; (2) hemp seed oil solution; (3) flax seed oil solution (blank sample); all obtained using gradient method, scanned at 220 nm

Key words: hemp seed oil; HPLC/DAD; THC