# QUANTITATIVE DETERMINATION THYMOL IN SYRUP "KALINOL PLUS" OF THE HPLC METHOD.

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**Introduction.** Syrup "Kalinol plus" (state registration number: LS№15-00336) production «Azerfarm Ltd" plant, composed of thyme extract, sugar syrup, potassium bromide and 80% ethanol. In medical practice, used as a mucolytic and expectorant in acute and chronic inflammation of the air ways. The main active components are a syrup thymol extract and potassium bromide. Most drugs with extract of thyme essential oil or thyme, standardized not only the total number of essential oils, but also thymol or carvacrol.

**Aim**. Despite the widespread use of HPLC method for analysis of essential oils obtained from plants, direct determination of thymol and carvacrol in the various dosage forms of this method is unacceptable. In connection with the above stated , the use of the HPLC method to determine the number of separate components in a multicomponent herbal preparations composition is of paramount importance.

The present study focuses on the quantitative determination of thymol in the preparation " Kalinol plus" by HPLC. Experimental studies were carried out in the UV-detector chromatography HPLC-«Agilent-1100" (USA). Stationary phase column «Zorbax SB-C18», 5 micron particle size. Temperature of column 30 °C, solvent flow rate of 1 ml / minute, standard sample volume 10 mcl. The time of analysis 15 minutes.

**Materials.** Preparation of the test solution. 1.0 g of syrup (accurately weighed) "Kalinol plus" was placed in a volumetric flask of 25 ml, 20 ml of solvent and agitated until dissolved and then for 5 minutes, the resulting solution was kept in an ultrasonic bath, further the solution is made up to the required amount of the same solvent, under stirring.

The resulting solution was centrifuged for 5 minutes at 10000 rpm. Preparation of the reference solution of 50 mg (accurately weighed) was placed in a thymol volumetric flask of 100 ml, was added to 20 ml of solvent and agitated until complete dissolution, then the solution is made up to the required amount of the same solvent, under stirring.

**Methods**: 50 mg of thymol standard sample was placed in a volumetric flask of 100 ml, was added thereto about 20 ml of solvent and agitated until complete dissolution and then the solution is made up to the required amount of the same solvent. The volumetric flask was placed 50 ml of 2 ml of the standard solution,

approximately 20 ml of mobile phase and agitated, then the volume was adjusted to the desired amount of the same solvent. The volumetric flask was placed 25 ml of 5 ml was added thereto about 20 ml of solvent and agitated, then adjusted to the desired amount of the same solvent to give a solution with a concentration of 0.004 mg/ml.

1.0 g (accurately weighed) Syrup "Kalinol plus" was placed in a volumetric flask of 25 ml, were added 20 ml of solvent and agitated to ensure complete mixing. The volume was adjusted to the required volume with the same solvent to thymol concentration 0.004 mg / ml. Solution then was degassed for 5 minutes in an ultrasonic bath. The resulting solution was centrifuged for 10 minutes at 10000 rpm.

**Results and discussion.** Studies have found that the rate peak thymol 28,701 relative area units per 12,789 minutes, the peak area in the chromatogram of the test substance are well separated, have no obstacles in the definition of the solvent, excipients and the main active ingredient.

The results are shown in Figure №1.

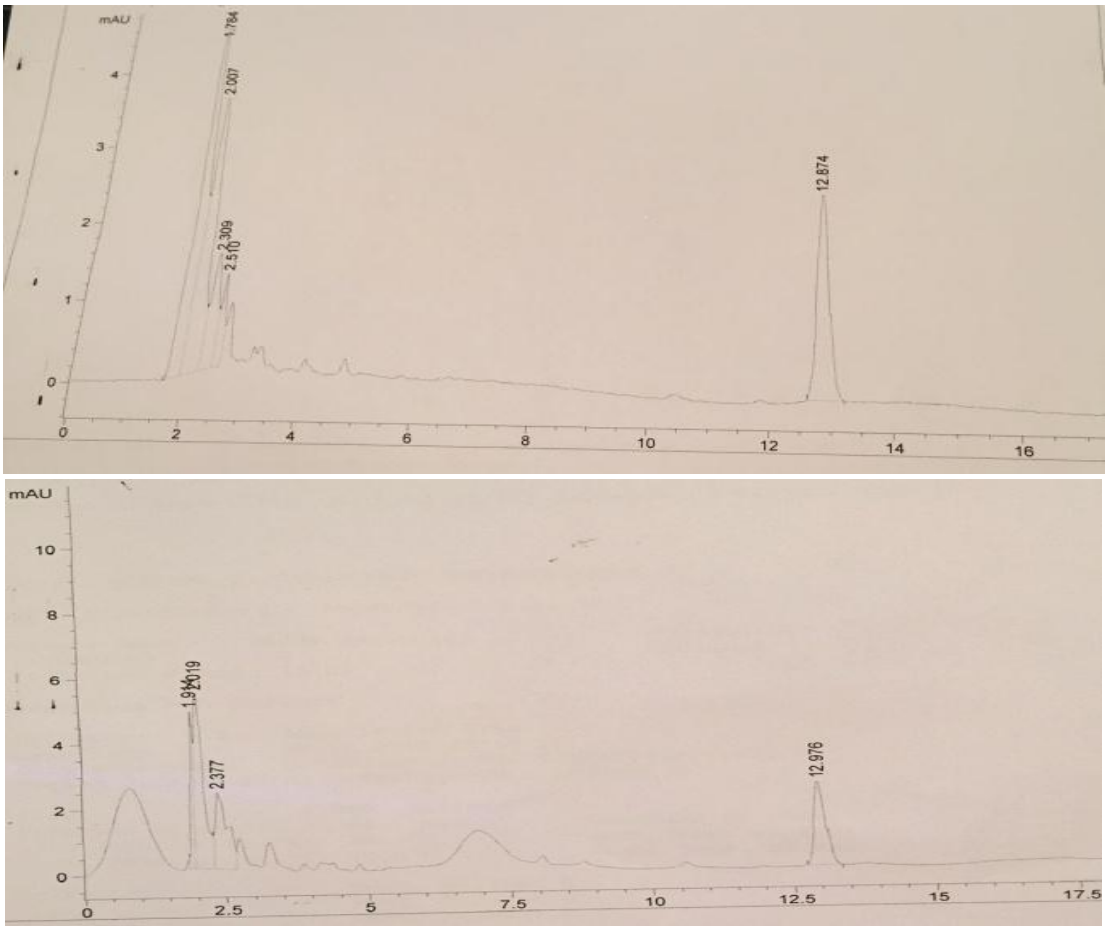


***Figure 1**. The chromatograms thyme extract and model mix.*