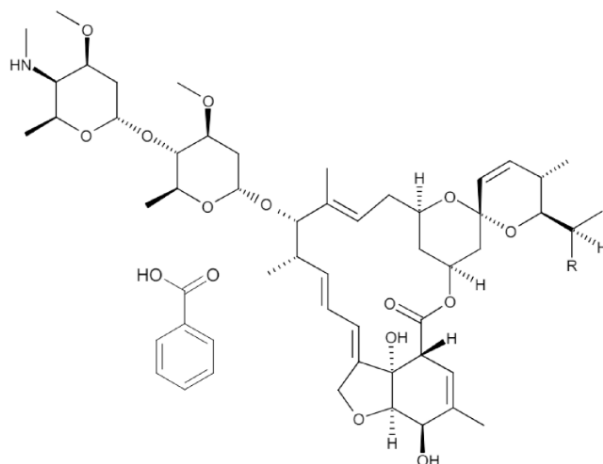


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R = CH₂CH₃ for emamectin B_{1a} benzoate

R = CH₃ for emamectin B_{1b} benzoate

0791 Emamectin benzoate

Allocated to CHIPAC

CIPAC methods published in: CIPAC Handbook -

CIPAC

CIPAC 68th meeting, June 2024 Wageningen

Emamectin benzoate by Ms Xu Rong

Ms Xu Rong presented the results of a small scale collaborative trial of emamectin benzoate in three TC samples by three Chinese participants. The analysis was performed by high performance liquid chromatography on a reversed phase column (C18, no brand indicated, 250 × 4.6 mm, 5.0 μm) at 30°C ± 2°C with UV detection at 245 nm and external standardization. The eluent was methanol : acetonitrile : ammonia solution, 25:55:20 (v/v/v) at a flow rate of 1.2 ml/min. The composition of the ammonia solution was not given. Each of the three participating laboratories used a different HPLC column and one laboratory had to adjust the flow rate to 1.0 ml/min accordingly. The deviations were assessed as minor. Statistical evaluation of the data was accomplished following the “Guidelines for CIPAC Collaborative Study Procedures for Assessment of Performance of Analytical Methods”, according to DIN ISO 5725. Testing for outliers/stragglers of the participating laboratory mean values was not performed. The HorRat values of emamectin sum of B_{1a} and B_{1b} of the three TC samples were 0.5 each. The HorRat values of emamectin B_{1a} were in the range of 0.04 - 0.05. All results fulfilled the required criteria.

Ms Xu Rong finalised her presentation by stating that CHIPAC considered the method for the analysis of emamectin benzoate in TC material to be suitable validated and recommended a full scale CIPAC collaborative trial.

Questions and remarks from the meeting.

- It was remarked that where emamectin benzoate was mentioned, emamectin (without the counter ion) was analysed. This should be clearly clarified in the method. Emamectin benzoate is a derivative of the a.s. emamectin having the ISO common name.

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- The ammonia concentration should be specified.
- The total run time is 35 minutes which is long. The chromatograms looks empty and the baseline separation between both abamectin B1a and B1b is approximately 5 minutes. Why is not tried to go for a shorter retention time?
 - In samples more interfering peaks might be present.
- In the table about analytical conditions the wavelength of laboratory three was given as 210 nm. This should probably be 245, in line with the method and both other laboratories.
- If photodegradation is rapid, then this should be highlighted in the text of the method by mentioning that special precautions are required.

Closed meeting:

Some remarks were given by the meeting.

- The remarks and questions during the open meeting were not fully satisfactory answered. The method should be adjusted before initiating the full scale trial

Conclusion: after adjustment of the method it can proceed as full scale trial.