

Separation of Selected Components of Ylang-Ylang Oil

Essential oils have been a staple of the food, fragrance, and health markets for many years. Owing to their unique composition, essential oils can be used for a variety of applications including antiparasitics, antivirals, bactericides, fungicides, insecticides, repellants, as well as food flavoring and mood enhancers. Market growth, coupled with limited production of naturally occurring products, has led a large segment of industrial essential oil suppliers to turn to the addition of synthetic additives. The production of an essential oil through synthetic routes (arrived at through the use of petroleum products), was adopted for two main reasons; the price of natural oils, and for consistency of products (natural oils can vary in the percentage of individual components from year-to-year). Unfortunately, the addition of these synthetic adjuncts can give rise to a number of health concerns that are generally associated with petroleum products, such as allergic reactions, migraines, asthma attacks, nausea, eczema, and various other sensitivities.

In this study of an essential oil, we have developed an HPLC method for the separation of 6 well-known markers for the determination of purity of Ylang-Ylang oil. This method utilizes one of the benefits of polymeric based columns, the ability to consistently operate in alkaline pH without sacrificing performance. In this method, we have chosen the typical markers for an extracted essential oil utilizing the Hamilton PRP-C18 column.

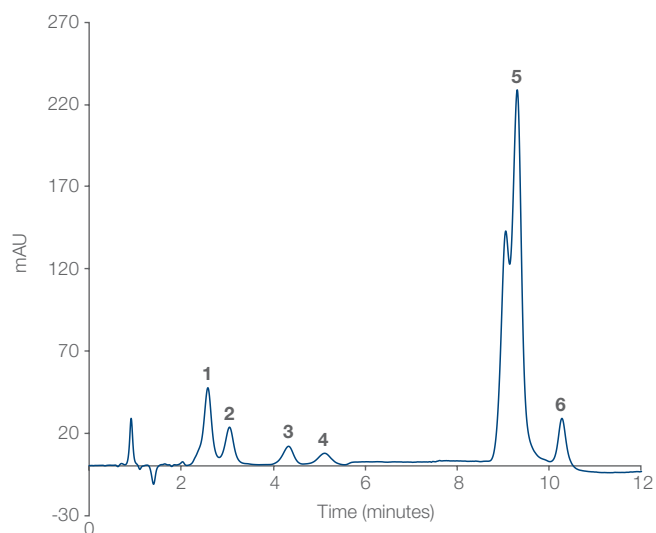
Column Information

Packing Material	PRP-C18, 5 μ m
Part Number	79676

Chromatographic Conditions

Gradient	0–5 min, 60% B 5.01–9 min, 60–100% B 9.01–14 min, 100% B
Temperature	30°C
Injection Volume	5 μ L
Detection	UV at 214
Dimensions	150 x 4.6 mm
Eluent A	30 mM Et ₂ NH (pH = 12)
Eluent B	Acetonitrile
Flow Rate	2.0 mL/min

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Compounds:

- | | | |
|---------------|-------------|--------------------|
| 1: Isoeugenol | 3: Geraniol | 5: Farnesol |
| 2: Eugenol | 4: Linalool | 6: Benzyl Benzoate |

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