

## **Terpenoid, benzenoid and phenylpropanoid compounds in the floral scent of vanda mimi palmer.**

### **ABSTRACT**

Vanda Mimi Palmer is the product of a cross between Vanda Tan Chay Yan and Vanda tessellata. The flower of this hybrid produces a sweet-smelling fragrance during day time at the open-flower stage. This study aimed to investigate the floral scent constituents in Vanda Mimi Palmer. Scent emission analysis of this orchid was carried out at different time points in a 24-h cycle and also at different floral developmental stages. A comparison was also made on the volatiles emitted by Vanda Mimi Palmer and both of its parents. Gas chromatography-mass spectrometry (GC-MS) analysis showed that the scent of Vanda Mimi Palmer was dominated by terpenoid, benzenoid, and phenylpropanoid compounds. The identified terpenoids were ocimene, linalool oxide, linalool, and nerolidol; while the benzenoid and phenylpropanoid compounds were methylbenzoate, benzyl acetate, phenylethanol, and phenylethyl acetate. The emission of terpenoid, benzenoid, and phenylpropanoid compounds was developmentally and temporally regulated. Comparison of the volatiles emitted by both of its parents showed that the scent of Vanda Mimi Palmer is dissimilar to that of its fragrant parent, *V. tessellata*.

**Keyword:** Vanda Mimi Palmer; Scent emission; Gas chromatography mass-spectrometry (GC-MS); Terpenoids; Benzenoid and phenylpropanoid compounds.