

## Study on the change of odor constituents during the storage of lavender extract

*Saitama Municipal Omiya Kita High School*

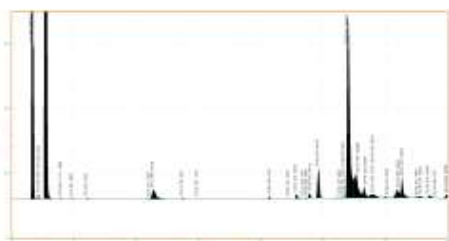
Watanabe Ryusei, Sekine Kazuki Itoh Hiroto, Kimura Mayu, Amano Yoko, and Kanda Kaito

**1. Introduction**

The following description was found in the warning of the box of commercially available perfume. "The perfume should be kept in a cool, dark place." We had a question which is the important factor light or heat. In this study, we took up lavender flower and investigated the change of the odor constituents during the storage by Gas Chromatography (GC).

**2. Result and Discussion**

The main odor constituents of lavender flower are reported to be linalool and linalyl acetate. We paid an attention on the change of these two components by light and/or heat.

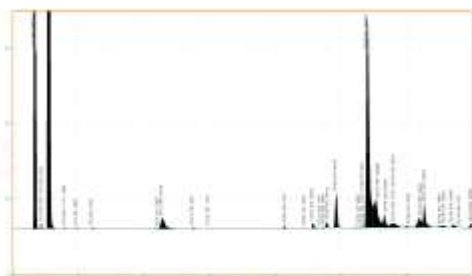
(1) Effect of UV irradiationBefore UV irradiation ( $A_0$ )After UV irradiation for 1 day ( $A_{1a}$ )

The sample was sealed in a plastic bag and irradiated for 1 day by UV (254 nm). The odor constituents were extracted by hexane. The GC analysis of the obtained hexane extract indicated that the most all of odor constituents disappeared by UV irradiation. (see the above figures).

By the way, the UV irradiation apparatus get heat by a long-time irradiation. Thus we can't exclude the effect of heat about the above obtained result. Next, we investigated the change of odor constituents of lavender flower by heat.

(2) Effect of Heating

The sample was sealed in a plastic bag and heated at 40 C for 1 day. The odor constituents were extracted by hexane. The definite decrease of the constituents (see below figures) in the obtained hexane extract was observed by GC analysis.

Before Heating at 40 C ( $A_0$ )After Heating at 40 C for 1 day ( $B_{1a}$ )**3. Summary and Problem in the Future**

Our obtained result indicated that the heating affected the change of the constituents, but the effect of UV irradiation was questionable. We have a plane to study about the effect of UV irradiation by the improvement of a way to experiment .