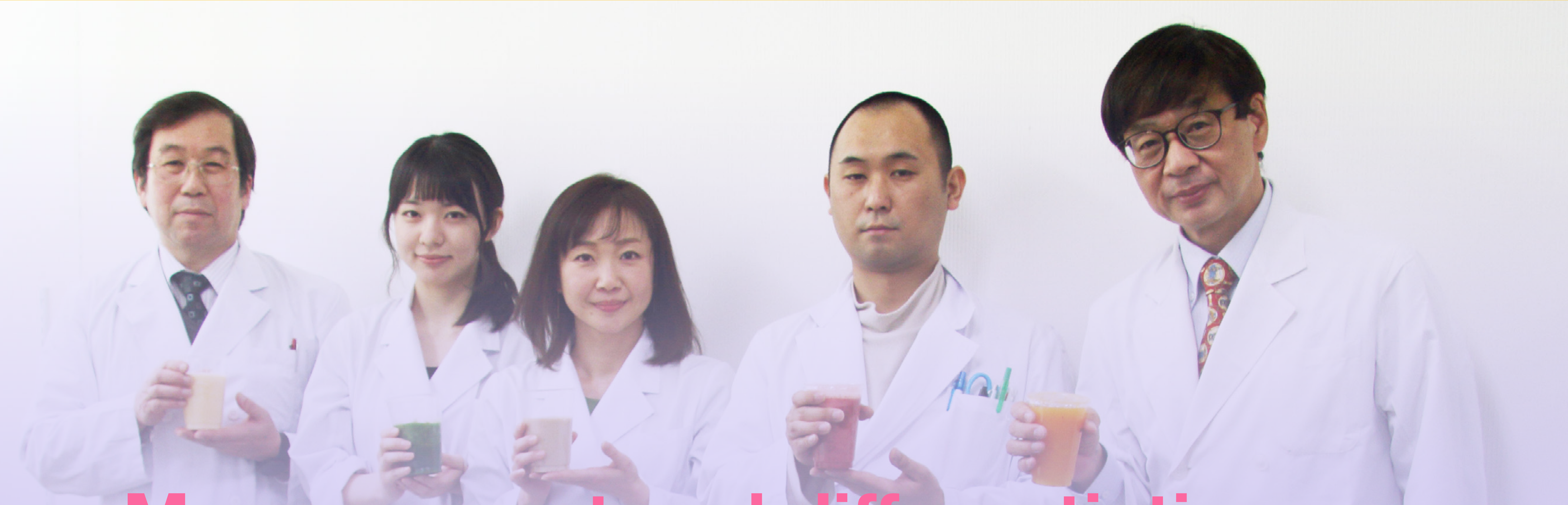

Measurement and differentiation of banana juice scent using an electronic nose FF-2A

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BACKGROUND

Banana juice is becoming a popular beverage in Japan and the number of soft-drink stands or shops that take great care and pride in the quality of their products has been increasing.

This study aims to measure the scent of banana juice from different brands using the electronic (e-) nose FF-2A in order to identify the characteristics, time-related changes, and the differences among them.

How do we compare the scent of different juices?

METHODS

We standardized the scent value of banana juice by using FF-2A, an e-nose with 10 different types of sensors. Each sensor recorded reactivity as absolute values and **determined the absolute value in three different shops**. We compared the similarities in samples from each shop with axis data created using standardized measurement.

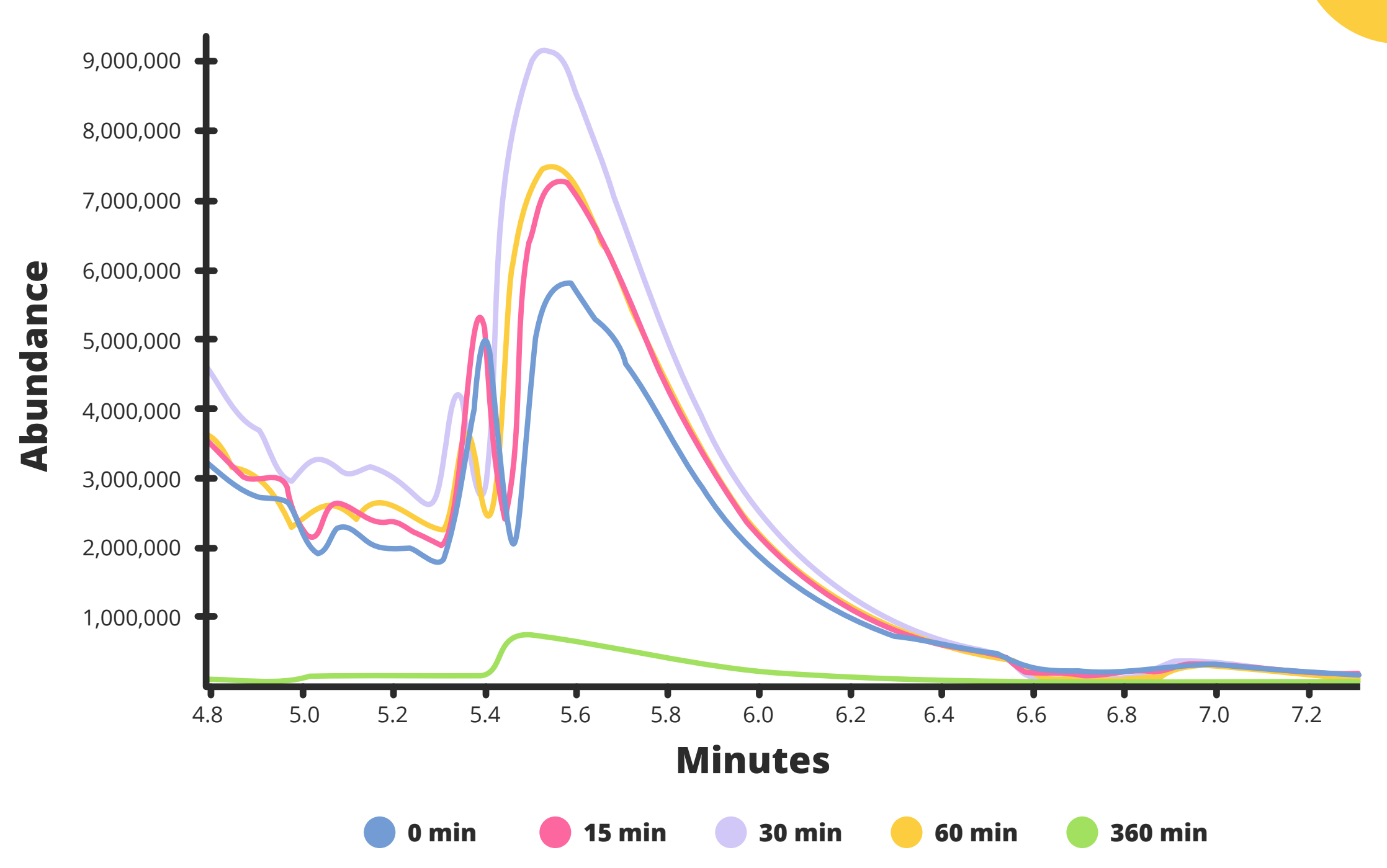
Electronic nose FF-2A may work!

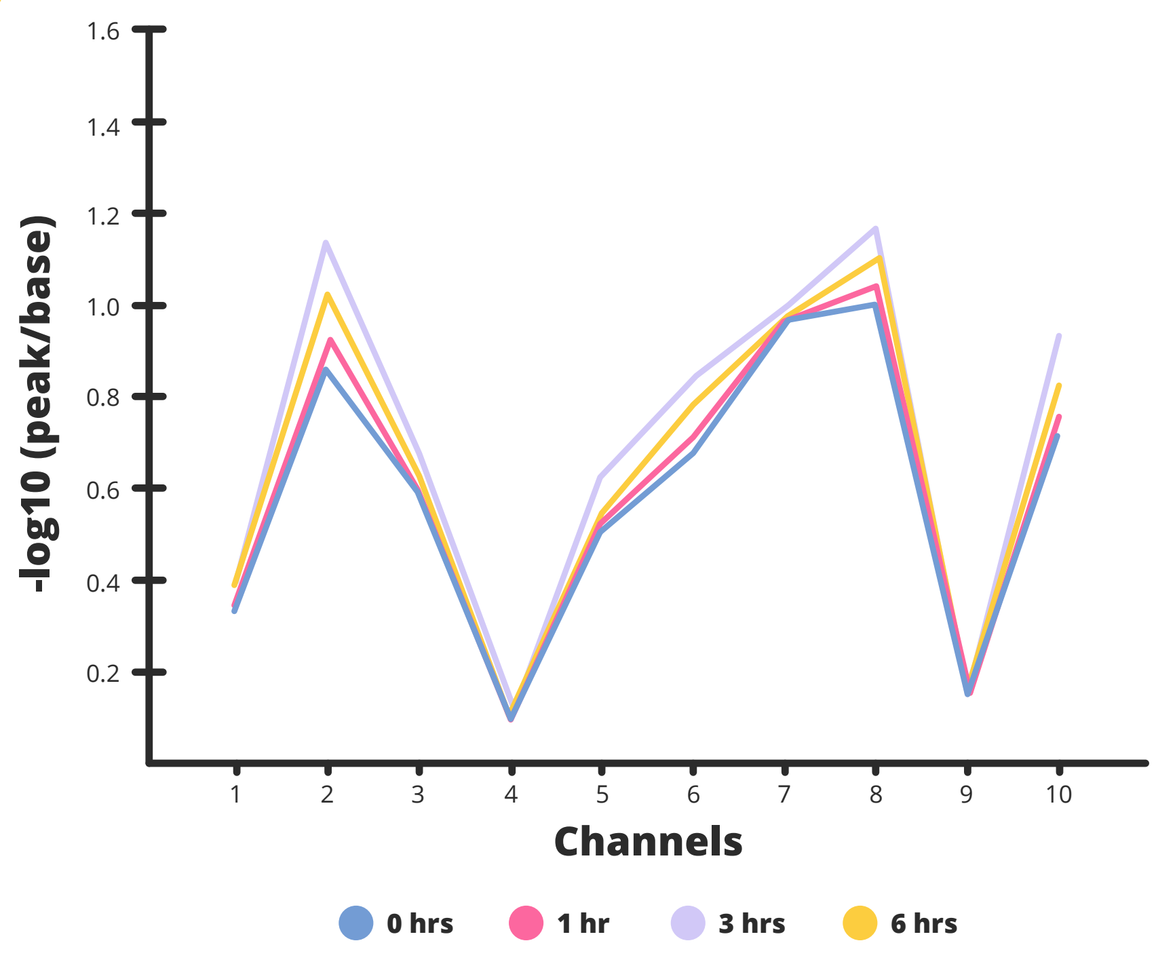
With FF-2A we identified the scent common to all banana juice samples from a composite scent and determined the numerical similarities to the reference gas.

RESULTS

The juices from each shop had their own characteristics and we were able to identify the difference between some of these. **The response of FF-2A varied according to the increase/decrease in the number of characteristic molecules measured by GC-MS (Gas Chromatography Mass Spectrometry),** such as overtime fluctuations in the gas. These data were shown along with the differences between the various banana juices.

GC-MS vs. **Electronic Nose (FF-2A)**





CONCLUSIONS

FF-2A was able to identify the banana juice's scent from each shop as well as time related changes. By combining GC-MS, we were able to evaluate scent components that changed over time. **The results using the electronic nose may prove useful for objective evaluation and scent comparison with other juice types.**

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