

Measurement of Coffee Taste Using Lipid Membrane Taste Sensors

H. KOMAI¹, Y. NAITO¹, K. SATO¹, H. IKEZAKI¹, A. TANIGUCHI¹, K. TOKO²

¹Research Laboratory Anritsu Corporation 1800, Onna, Atsugi-shi, Kanagawa-ken 243, Japan

²Department of Electronics, Faculty of Engineering, Kyushu University

SUMMARY

Instant coffee and the components of coffee were measured by the taste sensing system which used lipid membrane taste sensors. The brands of instant coffee were discriminated easily and the difference of strength of sourness appeared clearly. In the case of measurement of components of coffee, only one-dimensional information was obtained, because all the response patterns are related to pH. Therefore it was difficult to detect a difference of delicate taste other than sourness. Thereupon, the preliminary treatment to coffee was tried to increase the information. The response of ch3 changed by adding milk or skim milk to coffee. Different output patterns from other channels were obtained. In case of discrimination of brands of instant coffee contribution rate of PC2 improved by 5.8 times and the discriminating resolution was improved. The difference of delicate taste other than sourness was detected as PC2. The preliminary treatment to coffee increases the information and has the effect of improving discriminating resolution.

An improvement of the resolution by the preliminary treatment to coffee will greatly contribute to quality control of coffee and development of new products. Improvements of taste sensors and studies of connection between response of sensor and sensory evaluation are being carried out.