

Sweetness Sensor with Lipid/Polymer Membranes: Response to Various Sugars

Kentaro Toyota*, Hong Cui, Kentaro Abe,
Masaaki Habara, Kiyoshi Toko¹ and Hidekazu Ikezaki

Intelligent Sensor Technology, Inc.

5-1-1 Onna, Atsugi-shi, Kanagawa 243-0032, Japan

¹Graduate School of Information Science and Electrical Engineering, Kyushu University
744 Motoooka, Nishi-ku, Fukuoka 819-0385, Japan

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A sweetness sensor with lipid/polymer membranes has been developed for evaluating the sweetness of sugars and sugar alcohols. In this paper, experiments were performed to compare the electric responses of the sweetness sensor with the chemical structure of various sugars. The results demonstrated that the presence of two adjacent hydroxyl groups in a sugar molecule is important and that the optimum distance between the two adjacent hydroxyl groups is approximately 3 Å. The interaction between the sweetness sensor and sugars is discussed.

*Corresponding author: e-mail: Toyota.Kentaro@insent.co.jp