

Supplementary Materials

The effect of microwave radiation on the green color loss of green tea powder

Huijuan Wang[†], Yan Zhu[†], Dongchao Xie, Haihua Zhang, Yahui Zhang, Peng Jin^{*}, Qizhen Du^{*}

Department of Food Science and Technology, The College of Food and Health, Zhejiang A & F University, Linan, 311300, China

[†] These authors contributed equally.

^{*} Corresponding Author: The College of Agricultural and Food Sciences, Zhejiang A & F University, Hangzhou 311300, China. Tel.: +86-571-63742176; Fax: +86-571-88218710. E-mail addresses: jinpeng@zafu.edu.cn (P. Jin), qizhendu@163.com (Q. Du).

1 Color spectrum

The color spectrum in CIE system in the second phase limit include yellow and green (Figure S1).

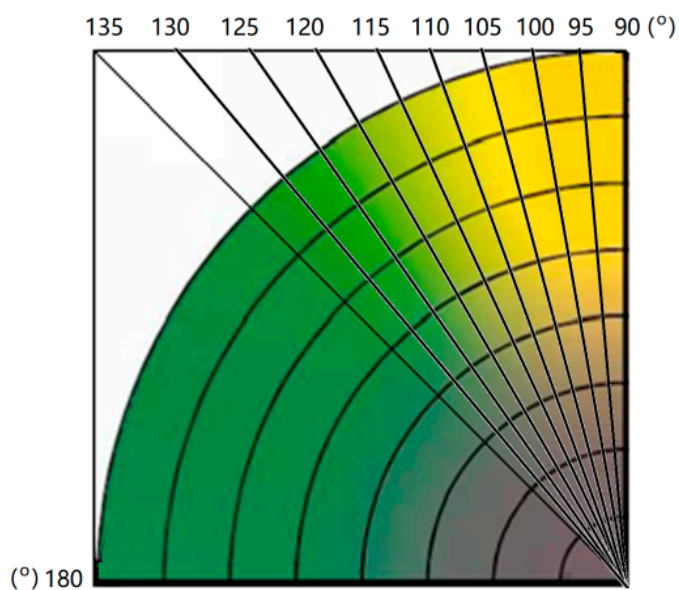


Figure S1 The color spectrum corresponding Hue angle 90–135°

2 Calibration of L , a , and b values

A spectrophotometer is usually used to measure L , a , and b values for various samples. However, it could not provide actual values for powdery samples because light scatters among powdery particles. Therefore, the measured L , a , and b values of green tea powder must be calibrated.

After color pictures of green tea powder treated with a series of microwave radiation were obtained, the color was matched with the SLcolor software, which could give the corresponding L , a , and b values (Figure S2). The average values of the ratio of

matched value/measured value for L, a, and b for six green tea powder samples were 0.951 ± 0.080 , 2.293 ± 0.017 , and 1.115 ± 0.075 ($n = 6$), respectively, indicating that the calibrated values (L^* , a^* , and b^*) from the measured L, a, and b values could be obtained by the calibration coefficients 0.951, 2.293, and 1.115, respectively.

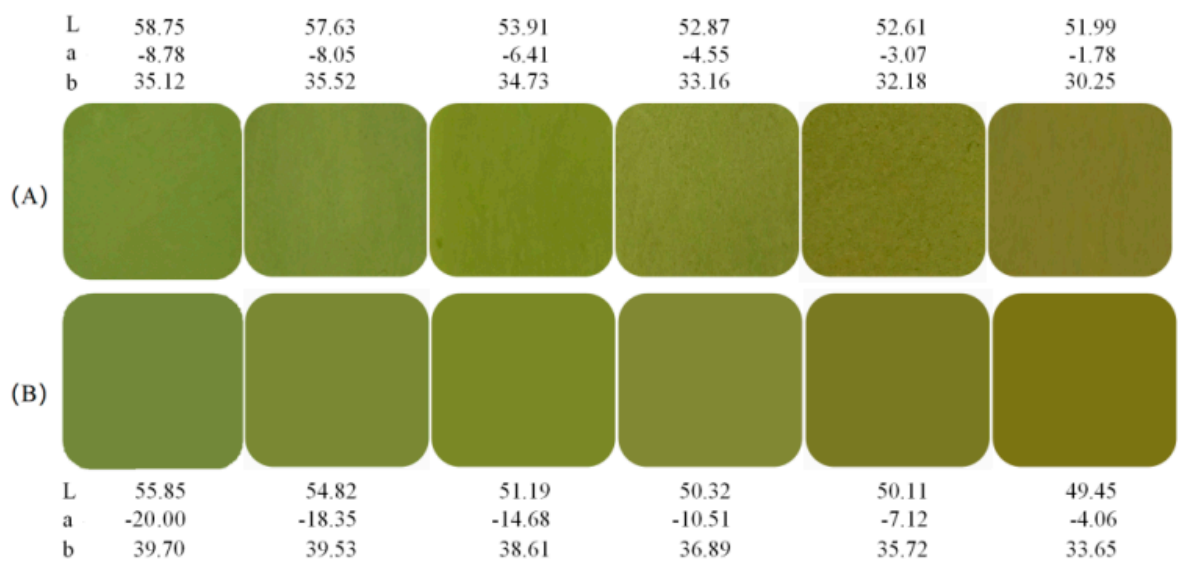


Figure S2 The color and measured L, a, and b value (A) and the corresponding matched color and values of L, a and b given by software for the GTP samples (B).