

Accepted Manuscript

Simultaneous determination of six main types of lipid-soluble pigments in green tea by visible and near-infrared spectroscopy

Xiaoli Li, Juanjuan Jin, Chanjun Sun, Dapeng Ye, Yufei Liu

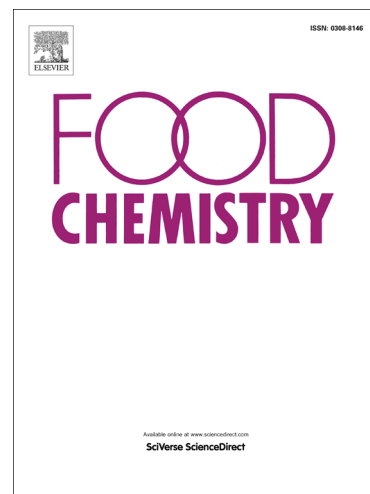
PII: S0308-8146(18)31178-6
DOI: <https://doi.org/10.1016/j.foodchem.2018.07.039>
Reference: FOCH 23154

To appear in: *Food Chemistry*

Received Date: 30 May 2017
Revised Date: 20 June 2018
Accepted Date: 5 July 2018

Please cite this article as: Li, X., Jin, J., Sun, C., Ye, D., Liu, Y., Simultaneous determination of six main types of lipid-soluble pigments in green tea by visible and near-infrared spectroscopy, *Food Chemistry* (2018), doi: <https://doi.org/10.1016/j.foodchem.2018.07.039>

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.



Simultaneous determination of six main types of lipid-soluble pigments in green tea by visible and near-infrared spectroscopy

Xiaoli Li ^a, Juanjuan Jin ^a, Chanjun Sun ^a, Dapeng Ye ^{b,*}, Yufei Liu ^{a,*}

^a *College of Biosystems Engineering and Food Science, Zhejiang University, Hangzhou 310058, China*

^b *College of Mechanical and Electronic Engineering, Fujian Agriculture and Forestry University, Fuzhou 350002, China*

Abstract

Lipid-soluble pigments make great contributions to the color of green tea. This study aimed to rapidly and simultaneously measure six main types of lipid-soluble pigments in green tea by using the visible and near-infrared (Vis-NIR) spectroscopy. A total of 135 tea samples with five kinds and three grades were collected for spectral scanning and color measurement, and their lipid-soluble pigments contents were measured by high performance liquid chromatography. It can be found that tea color was closely related to the six pigments. And there were significant differences in lipid-soluble pigments contents among these kinds and grades. Finally, quantitative determination models of the six pigments obtained excellent results with R_p^2 of 0.975, 0.973, 0.993, 0.919, 0.962 and 0.965 respectively based on

* Corresponding authors at: College of Biosystems Engineering and Food Science, Zhejiang University, Hangzhou 310058, China. Tel: +86-571-88982824 (Yufei Liu), College of Mechanical and Electronic Engineering, Fujian Agriculture and Forestry University, Fuzhou 350002, China. Tel: +86-591-83789372 (Dapeng Ye).

E-mail address: yufeiliu@zju.edu.cn (Yufei Liu), ydp@fafu.edu.cn (Dapeng Ye).

Download English Version:

<https://daneshyari.com/en/article/7583899>

Download Persian Version:

<https://daneshyari.com/article/7583899>

[Daneshyari.com](https://daneshyari.com)