



Abstracts

FOR

5th International Symposium on Phytochemicals in Medicine and Food

(5-ISPMPF)

AUGUST 25 – SEPTEMBER 01 2021, NANCHANG, CHINA



Welcome Address

It is our great pleasure to welcome you to the 5th International Symposium on Phytochemicals in Medicine and Food (5-ISPMPF), which is organized by the International Association of Dietetic Nutrition and Safety (IADNS), Phytochemical Society of Europe (PSE), Physiological Society of Japan, and Phytochemical Society of Asia (PSA). 5-ISPMPF is jointly organized by Nanchang University, Jiangsu University and University of Vigo. Over 410 scientists from 62 countries and other 350 scientists from China have registered to attend this online conference. 5-ISPMPF also has obtained the supports from several international journals including Food Chemistry Marine Drugs, International Journal of Molecular Sciences, Food Chemistry X, Oxidative Medicine and Cellular Longevity, Phytochemistry Reviews, and so on. The international organizing committee and scientific committee board of 5-ISPMPF assembled an exciting and diverse program, featuring 16 plenary lectures, 82 invited lectures, 142 oral presentation, a graduate student forum consisting of 70 short lecture, and more than 100 posters, which dedicate to creating a stage for exchanging the update research results in the phytochemicals for food and human health.

Executive Chairman



Prof. Shaoping Nie
Nanchang University, China

Co-Chairman



Prof. Jesus Simal-Gandara
University of Vigo, Spain

Co-Chairman



Prof. Xiaobo Zou
Jiangsu University, China

Executive chairman

Shaoping Nie, Nanchang University, China

Co-chairman

Jesus Simal-Gandara, University of Vigo, Spain

Xiaobo Zou, Jiangsu University, China

Organizing Committees

Baiyi Lu, Zhejiang University, China

Ningyang Li, Shandong Agricultural University

Fang Chen, China Agricultural University, China

Zhaojun Wei, Hefei University of Technology, China

Haijin Mou, Ocean University of China, China

Tiehua Zhang, Jilin University, China

Weibin Bai, Jinan University, China

Chongdesun, Zhejiang University, China

Ping Shao, Zhejiang University of Technology, China

Jing Wang, Zhejiang University, China

Baiyi Lu, Zhejiang University, China

Lei Chen, Guangdong Ocean University, China

Fang Wang, Nanjing University of Finance & Economics

Lijun You, South China University of Technology

Xiaojun Huang, Nanchang University

Lingjun Ma, China Agricultural University

Hui Cao, Guangdong Ocean University

Chao Zhao, Fujian A & F University

Huifan Liu, Zhongkai University of Agriculture and Engineering

Xiaodan Fu, Nanchang University

Hongxun Tao, Jiangsu University

Jiyong Shi, Jiangsu University

Xiumin Chen, Jiangsu University

Lu Li, Beijing Technology and Business University

International Scientific Committees

Jianbo Xiao, China & Spain (Chairman)

Adam Matkowski, Poland

Aline Priscilla Gomes da Silva, Brasil

Amin Ismail, Malaysia

Amir Reza Jassbi, Iran

Ana Sanches-Silva, Portugal

Anca Miron, Romania

Avi Shpigelman, Israel

A. Gulcin Sagdicoglu Celep, Türkiye

Bernhard Hennig, USA

Carlos L. Cespedes Acuña, Chile

Christian Carpené, France

Daniel Granato, Brazil

Daniela Andrea Ramirez, Argentina

Domenico Trombetta, Italy

Elwira Sieniawska, Poland

Esra Capanoglu Guven, Turkey

Efstathia Ioannou, Greece

Francisco A. Macias, Spain

Francesca Giampieri, Italy

Franz Bucar, Austria

Didem Sohretoglu, Turkey

Haroon Khan, Pakistan

Hidayat Hussain, Germany

Hye-Kyung Na, South Korea

Ipek Sutar, Turkey

Jianbo Xiao, China

Jelena Djordjevic, Serbia

José M. Alvarez-Suarez, Ecuador

Katalin Patonay, Hungary

Vivek K. Bajpai, South Korea

Krystyna Skalicka-Woźniak, Poland

Laura Cornara, Italy

Li-Shu Wang, USA

Loizzo Monica Rosa, Italy

Maria Daglia, Italy

Maria José U. Ferreira, Portugal

Maria Graça Campos, Portugal

Marc Diederich, South Korea

Mario M. Martinez, Denmark

Moklesur Rahman Sarker, Bangladesh

Maurizio Battino, Italy

Milen I. Georgiev, Bulgaria

Miroslav Strnad, Czech

Mohamed Ali Ali Farag, Egypt

Nataša Poklar Ulrih, Slovenia

Nilufar Z. Mamadaliyeva, Uzbekistan

Nokwanda P. Makunga, South African

Noureddine Djebli, Algeria

Petra Högger, Germany

Pharkphoom Panichayupakaranant, Thailand

Randolph Arroo, UK

Robert Verpoorte, Netherlands

Rosa Tundis, Italy

Salah Akkal, Algeria

Simona Dragan, Romania

Thomas Efferth, Germany

Thomas Netticadan, Canada

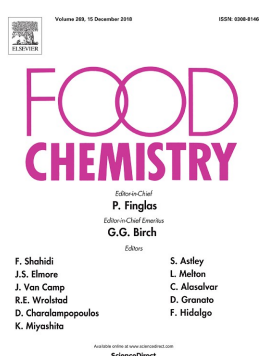
Yoshinori Asakawa, Japan

Yoshinori Marunaka, Japan

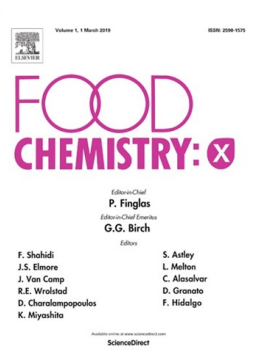
Young-Joon Surh, South Korea

Yoshinori Marunaka, Japan

Supporting Journals:



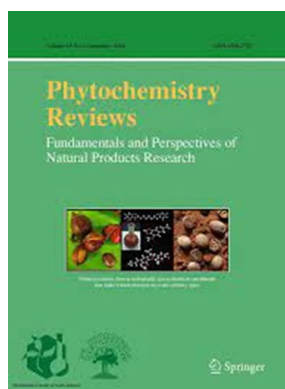
(Elsevier, IF 7.514)



(Elsevier, IF 5.182)



(Hindawi, IF 6.534)



(Springer, IF 5.374)



(MDPI, IF 5.118)



(MDPI, IF 5.923)

PP65: Nutritional and chemical characterization of biowastes from the agri-food sector: the particular case of *Malpighia emarginata* DC (acerola)

María Carolina Cerino^{1,2}, Cristina Caleja¹, Isabel C.F.R. Ferreira¹, Clara Saux², Lillian Barros¹, Eliana Pereira¹

¹Centro de Investigação de Montanha (CIMO), Instituto Politécnico de Bragança, Portugal

²Centro de Investigación y Tecnología Química (CITEQ) CONICET-Universidad Tecnológica Nacional-Facultad Regional Córdoba, Argentina

The agri-food by-products, particularly fruits and vegetables, are renewable sources that can originate new added-value ingredients with functional compounds and properties. The processing of natural matrices has been identified as excellent sources of nutrients, presenting benefits to the human health^[1]. Considering the importance attributed to the biowaste from the food industry, this work focuses in the *Malpighia emarginata* DC biowastes characterization, concerning their nutritional value and chemical composition.

The nutritional profile (protein, ash, fat, carbohydrate content and energy value) was evaluated using official analysis methodologies (AOAC) and the chemical profile was determined by chromatographic techniques, being the free sugars identified/quantified by HPLC- RI, the organic acids by UFLC-PDA and the fatty acids by GC-FID.

The results showed that carbohydrates (8.57 ± 0.04 g/100 g fw) were the macronutrient presented in higher amounts, followed by proteins (1.15 ± 0.04 g/100 g fw). The fat concentration was considerably low, presenting a value of 0.30 ± 0.001 g/100 g fw and, in terms of moisture (89.74 ± 0 g/100 g), the sample showed a high-water content in its composition. The energy level of the *M. emarginata* fruits was 39.42 ± 0.04 kcal/100 g fw. Regarding the sugar profile, the samples showed the presence of three sugars groups, two monosaccharides (glucose and fructose) and one disaccharide (sucrose), being the fructose the main free sugar detected. Organic acids were also detected, namely oxalic, malic, ascorbic and succinic acids, and succinic acid. It should be highlighted malic acid concentration. Considering the fatty acids individual profile, fourteen compounds were identified, with oleic acid (C18:1n9c) and palmitic acid (C16:0) detected in the highest percentage (31.830 ± 0.677 % and 24.44 ± 0.16 %, respectively).

Based on the obtained results, it can be concluded that the fruits of *M. emarginata* could have a potential value as functional food ingredients, due to their excellent nutritional and chemical composition.

Acknowledgments:

The authors are grateful to the Foundation for Science and Technology (FCT, Portugal) and FEDER under Programme PT2020 for financial support to CIMO (UIDB/00690/2020); national funding by FCT, P.I., through the institutional scientific employment program-contract for L. Barros, R. Calhela, M.I. Dias and C. Pereira's contracts; and to FEDER-Interreg España-Portugal programme for financial support through the projects TRANSCoLAB (0612_TRANS_CO_LAB_2_P) and Green Health (Norte-01-0145-FEDER-000042). This work has been supported by the Ministry of Education, Science and Technological Development of Republic of Serbia (451-03-68/2021-14/200007).

1. Faustino M, Veiga M, Sousa P, et al. Molecules, 2019, 24, 1056.