

## **Modulation of Gut Microbiota and Short-Chain Fatty Acid Production by Gac Fruit Juice and Its Fermentation in In Vitro Colonic Fermentation**

**Marisa Marnpae,<sup>a,b</sup> Vernabelle Balmori,<sup>a,c</sup> Kritmongkhon Kamonsuwan,<sup>a</sup> Uarna Nungarlee,<sup>b</sup> Suvimol Charoensiddhi,<sup>d</sup> Thavaree Thilavech,<sup>e</sup> Tanyawan Suantawee,<sup>a</sup> Pavaret Sivapornnukul,<sup>f</sup> Prangwalai Chanchaem,<sup>f</sup> Sunchai Payungporn,<sup>f</sup> Winai Dahlan,<sup>b</sup> Nazimah Hamid,<sup>g</sup> Thumnoon Nhujak,<sup>h</sup> Sirichai Adisakwattana<sup>a,b\*</sup>**

<sup>a</sup>Center of Excellence in Phytochemical and Functional Food for Clinical Nutrition, Department of Nutrition and Dietetics, Faculty of Allied Health Sciences, Chulalongkorn University, Bangkok 10330, Thailand. Email: Sirichai.a@chula.ac.th

<sup>b</sup> The Halal Science Center, Chulalongkorn University, Bangkok 10330, Thailand

<sup>c</sup> Department of Food Science and Technology, Southern Leyte State University, Southern Leyte 6606, Philippines

<sup>d</sup> Department of Food Science and Technology, Faculty of Agro-Industry, Kasetsart University, Bangkok 10900, Thailand.

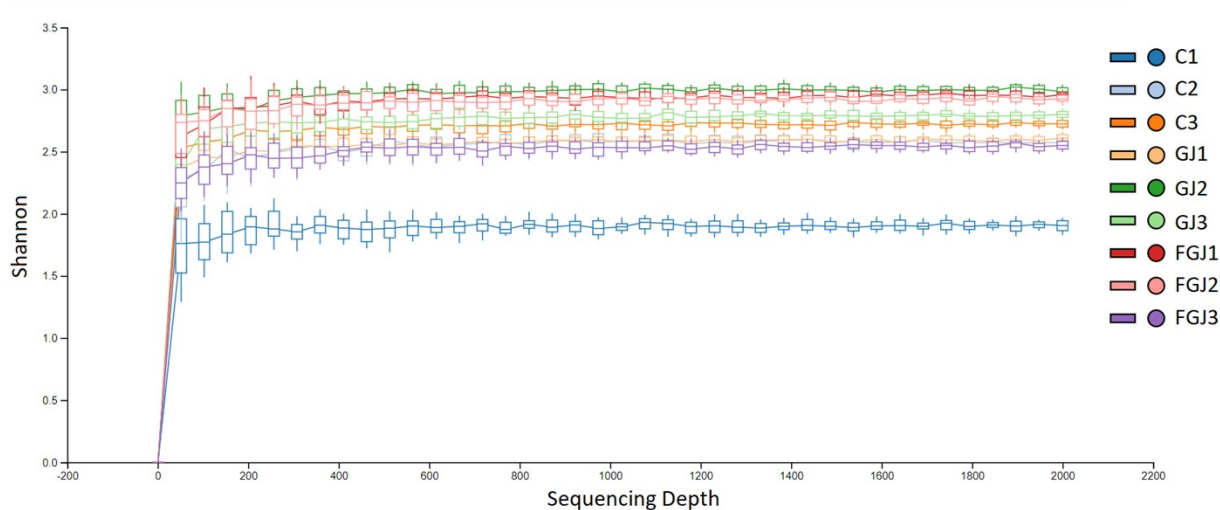
<sup>e</sup> Department of Food Chemistry, Faculty of Pharmacy, Mahidol University, Bangkok 10400, Thailand

<sup>f</sup> Center of Excellence in Systems Microbiology, Department of Biochemistry, Faculty of Medicine, Chulalongkorn University, Bangkok, 10330, Thailand

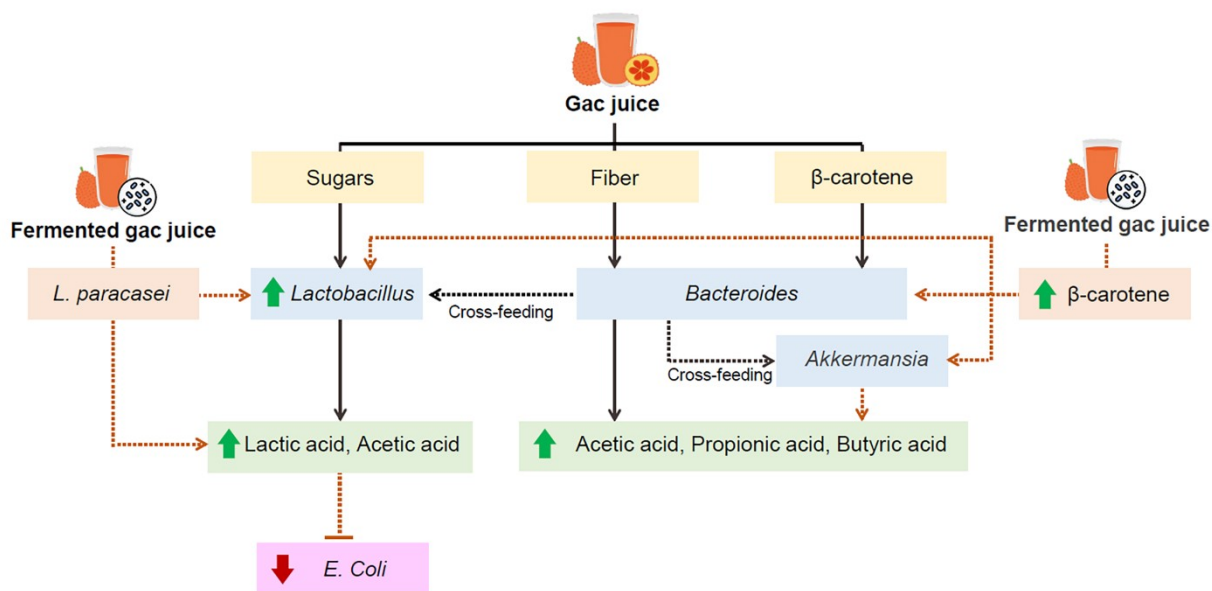
<sup>g</sup> Department of Food Science, Faculty of Health and Environment Sciences, Auckland University of Technology, Auckland 1010, New Zealand

<sup>h</sup> Department of Chemistry, Faculty of Science, Chulalongkorn University, Bangkok 10330, Thailand

# Supplementary File



**Fig. S1 Alpha rarefaction curve at 24h.** Shannon indices of the nine groups kept steady indicating that the sequencing depth of the groups was adequate to characterize the composition of the microbial communities.



**Fig. S2 Proposed Relationship between the composition of gac Juice (GJ) and fermented gac juice (FGJ) and mainly changes in gut microbiota and short-chain fatty acids (SCFAs).**