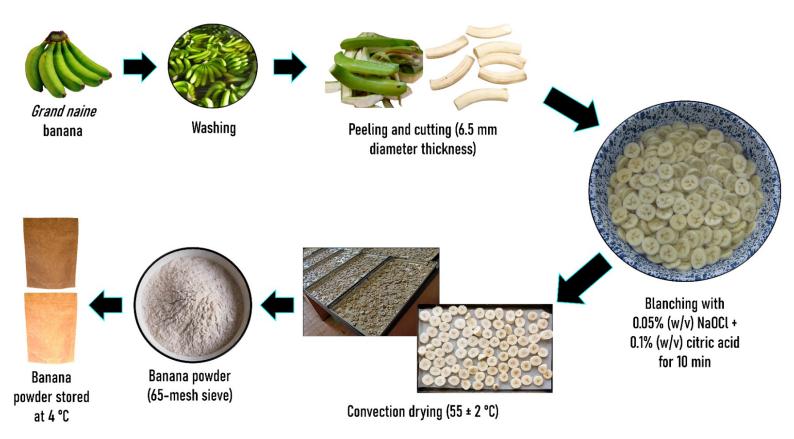
Supplementary Information (SI) for Sustainable Food Technology. This journal is © The Royal Society of Chemistry 2025

# Exploring the functional food potential of *Grand naine* banana flour (GBF) as a prospective weaning formulation by developing GBF-based composite flour mixes

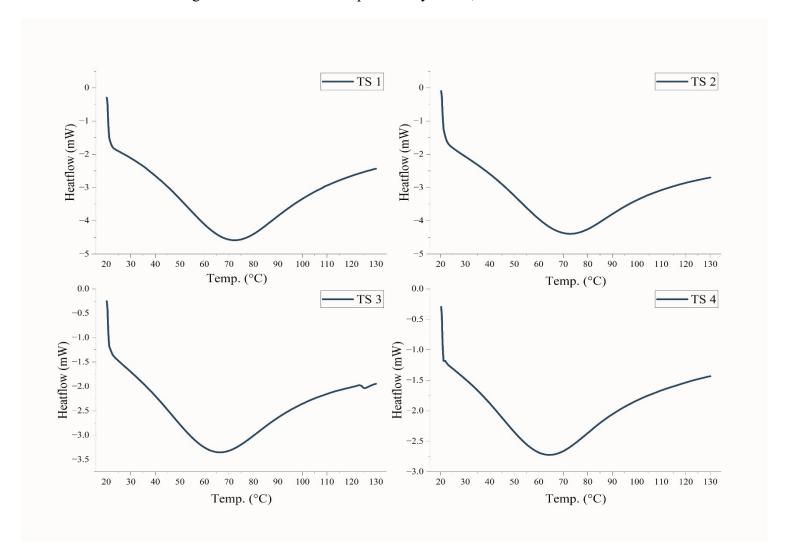
#### **Supplementary files**

1. Processing of grand naine banana (Musa sp.).



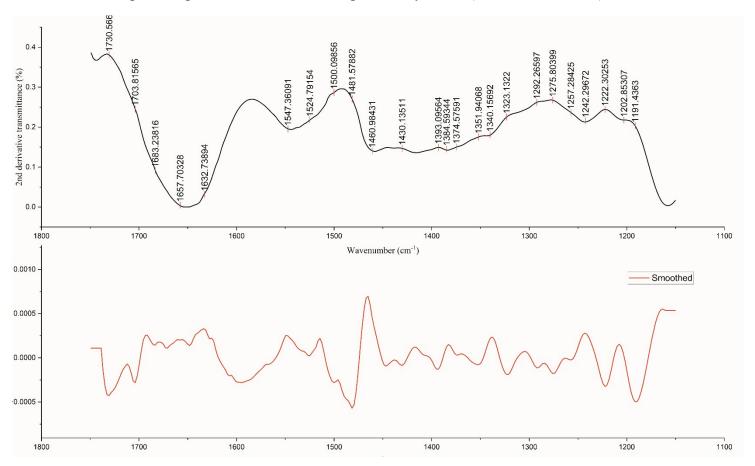
**Supplementary fig. 1.** GBF using hydrothermal treatment (blanching, 100 °C for 10 min), atmospheric forced-air drying (convection tray drying,  $55 \pm 2$  °C, 8 h), pulverizing, and sieving (65-mesh, 212  $\mu$ m) to obtain the final *grand naine* banana flour (GBF) stored at 4 °C until further analysis.

#### 2. DSC thermograms of GBF-based complementary mixes, MIX-1 to MIX-4.

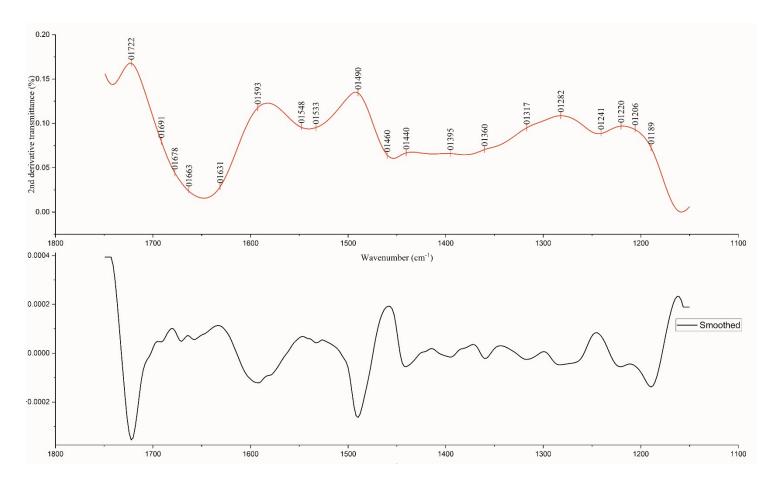


**Supplementary fig. 2.** DSC thermograms (MIX-1 to MIX-4).

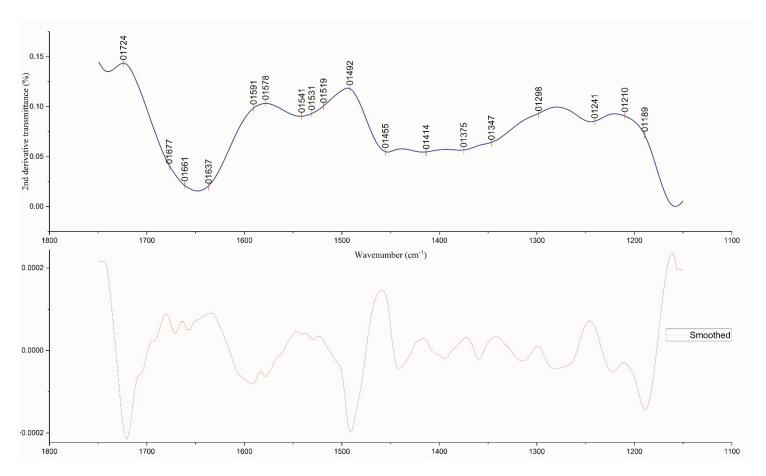
## 3. FTIR protein spectra of GBF-based complementary mixes (2<sup>nd</sup> order derivative).



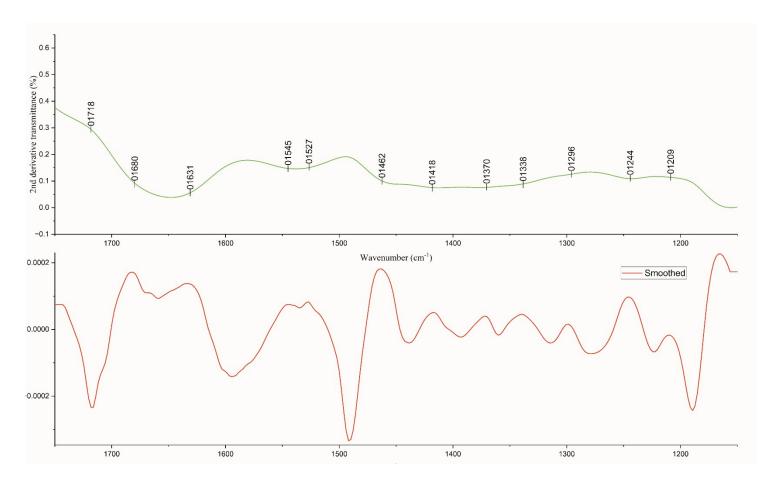
**Supplementary fig. 3A.** MIX-1 associated protein peaks in the amide regions (2<sup>nd</sup> order derivative analysis).



**Supplementary fig. 3B.** MIX-2 associated protein peaks in the amide regions (2<sup>nd</sup> order derivative analysis).

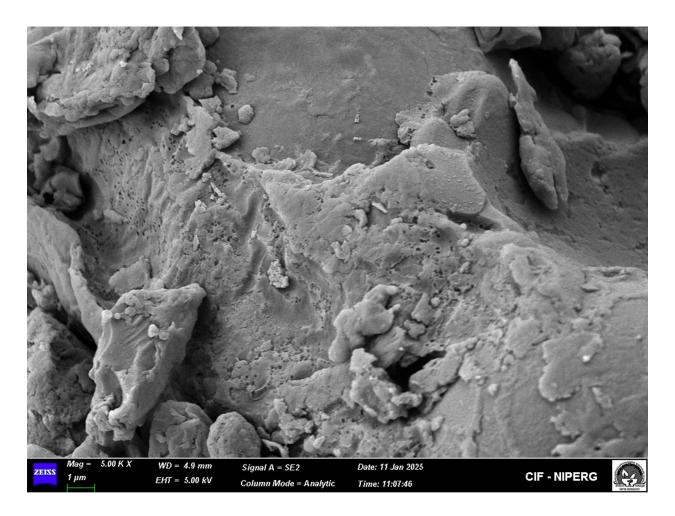


**Supplementary fig. 3C.** MIX-3 associated protein peaks in the amide regions (2<sup>nd</sup> order derivative analysis).

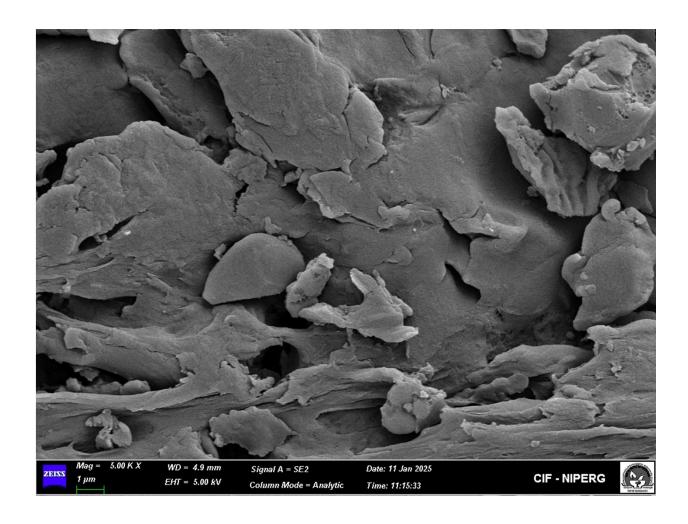


**Supplementary fig. 3D.** MIX-4 associated protein peaks in the amide regions (2<sup>nd</sup> order derivative analysis).

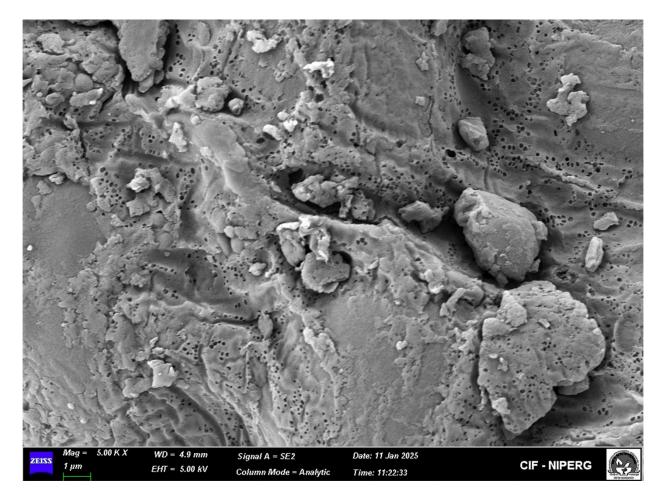
4. Additional SEM images of GBF-based complementary mixes (scale =  $10 \mu m$ ).



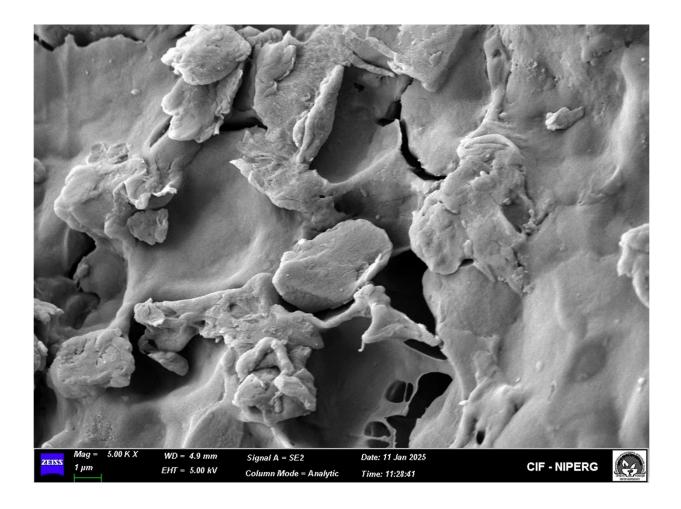
Supplementary fig. 4A. Complementary mix (MIX-1) (scale =  $10 \mu m$ ).



Supplementary fig. 4B. Complementary mix (MIX-2) (scale =  $10 \mu m$ ).

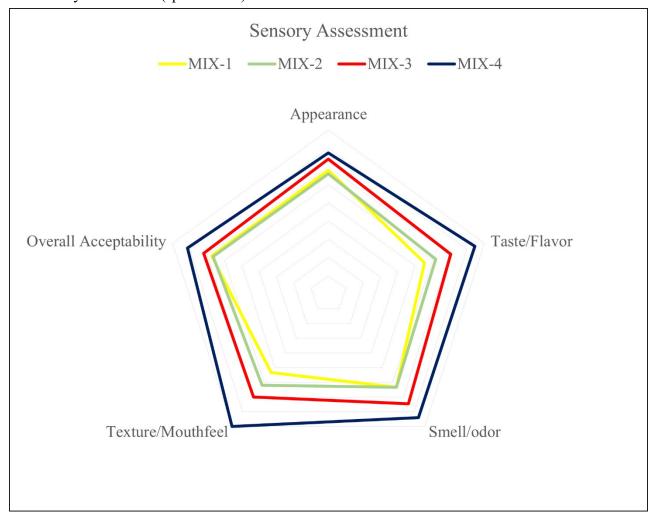


Supplementary fig. 4C. Complementary mix (MIX-3) (scale =  $10 \mu m$ ).



Supplementary fig. 4D. Complementary mix (MIX-4) (scale =  $10 \mu m$ ).

### 5. Sensory assessment (spider chart)



**Supplementary fig. 5.** Sensory assessment of complementary formulations.