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Dynamic changes in physiochemical, structural, and flavor characteristics of ginger-juice milk curd

Key words: Ginger, Milk coagulation, Characterization, Volatile compounds

Research Summary

This research mainly focused on the dynamic changes of ginger-juice milk curd during coagulation in the following aspects:

- **Physiochemical characteristics**
  - Texture characteristics: hardness, adhesiveness, water holding capacity
  - Composition changes: soluble protein content, caseinolytic activity, calcium content of whey
- **Structural characteristics**
  - Microstructure by scanning electron microscopy
  - Rheological properties by rheometer
  - Intrinsic fluorescence by enzyme-linked immunosorbent assay reader
- **Flavor characteristics**
  - Taste analysis by electronic tongue
  - volatile compounds analysis by gas chromatograph and mass spectrometer

Innovation points

- **Elaborate on the dynamic changes of physicochemical (Figs. 1-2) and structural (Figs. 3-5) properties, and revealed their change rule**

- **Milk could neutralize the astringency and saltiness of ginger juice (Figs. 6-7). Predominant and unique volatile compounds in ginger-juice milk curd were identified (Tables 1-2).**

- **Contribute to better understanding of the coagulation mechanism and offering valuable insights for ginger utilization.**

Figure 4