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Cross-cultural differences in consumer acceptance and emotional response to alcohol-free beer by an online survey and home use test

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Background:

For health reasons, alcohol-free beer is getting more attention. With increasing consumer spending in the Asian market, the interest in better understanding how Asian and Western consumers differ in terms of sensory perception and hedonic response is also increasing.

Research questions:

- Are there any cross-cultural differences between Asian Chinese and Caucasian Danish in hedonic and emotional response to beers?
- Do consumers respond differently to alcoholic and alcohol-free beers?
- Can an online survey and home use test be important tools in COVID-19 pandemic?

Methods:

Online survey



Consumers

- Chinese (n=263)
- Danish (n=231)

Beer images with product information

- Alcohol-free beers (n=3)
- Alcoholic beers (n=5)

Home use test



Consumers

- Chinese (n=85)
- Danish (n=75)

Beer samples

- Alcohol-free beers (n=2)
- Alcoholic beers (n=2)

Alcohol-free beers	Brooklyn Special Effect Hoppy Lager (BroS0)	Erdinger-alcoholfrei (ErdA0)	Heineken 0.0 beer (Hei00)
Alcoholic beers	Brooklyn Defender IPA (BroD+)	Erdinger Hefeweissbier (ErdH+)	Heineken Lager Beer (HeiL+)
			Royal Pilsner (RoyP+)
			TsingTao Premium (TsiT+)

Table 1 List of beers samples and the abbreviation

In both tests, participants' familiarity, hedonic response, emotional response to beers, food neophobia, sociodemographic information, etc. were collected.

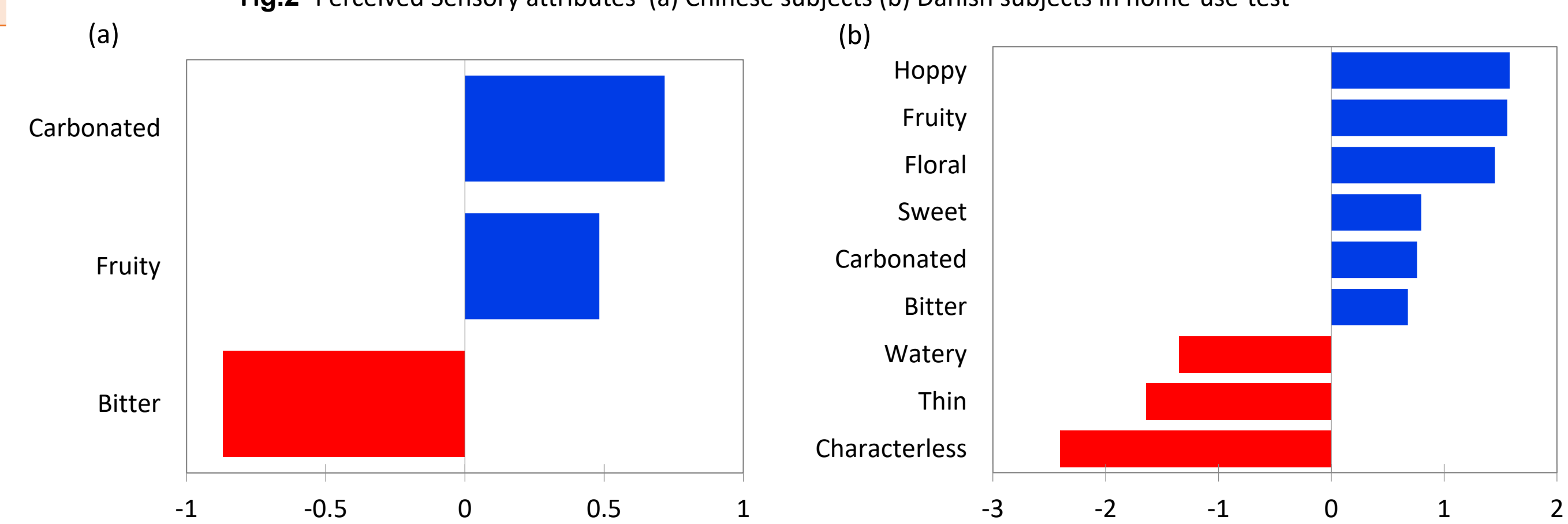
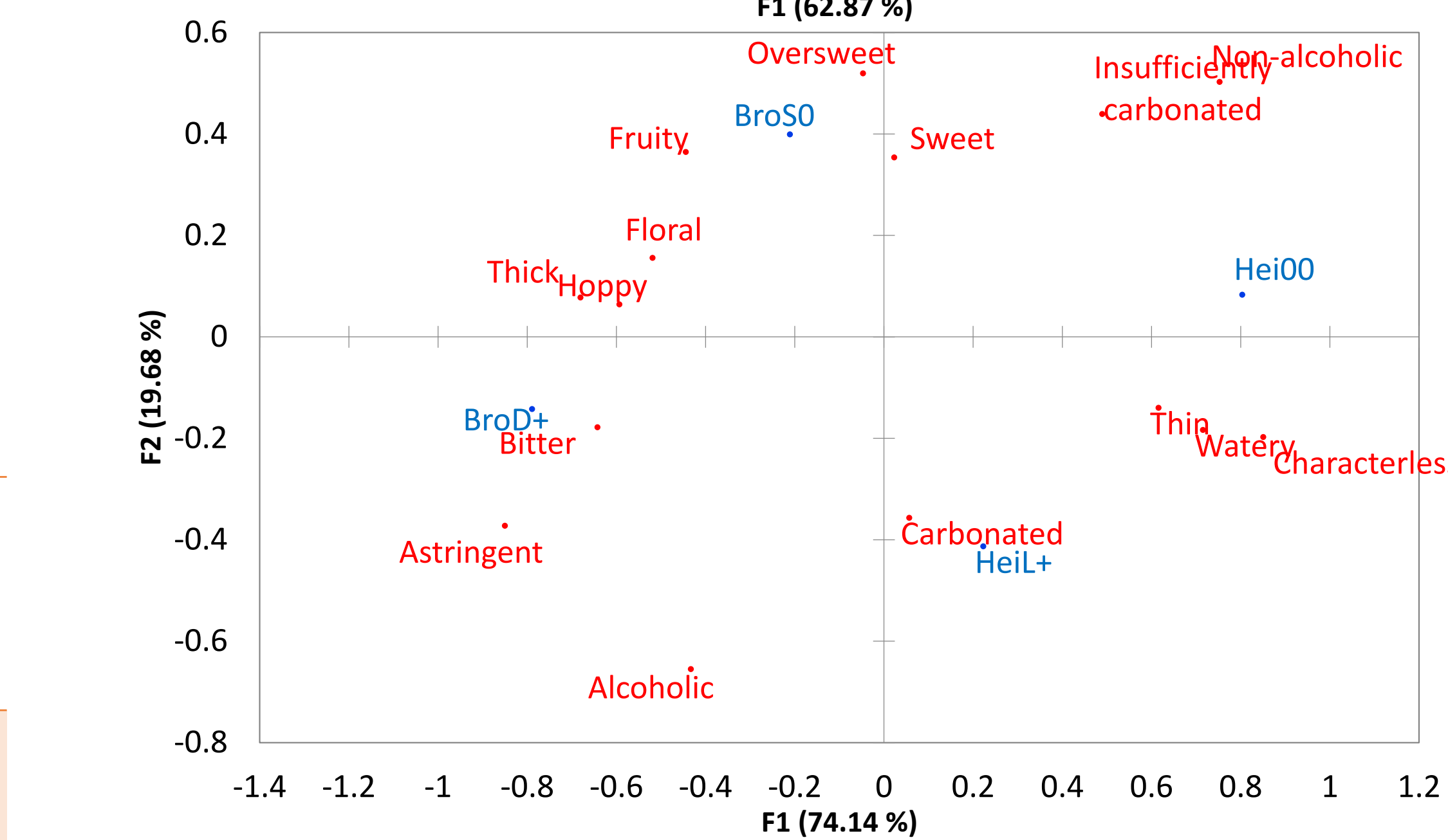
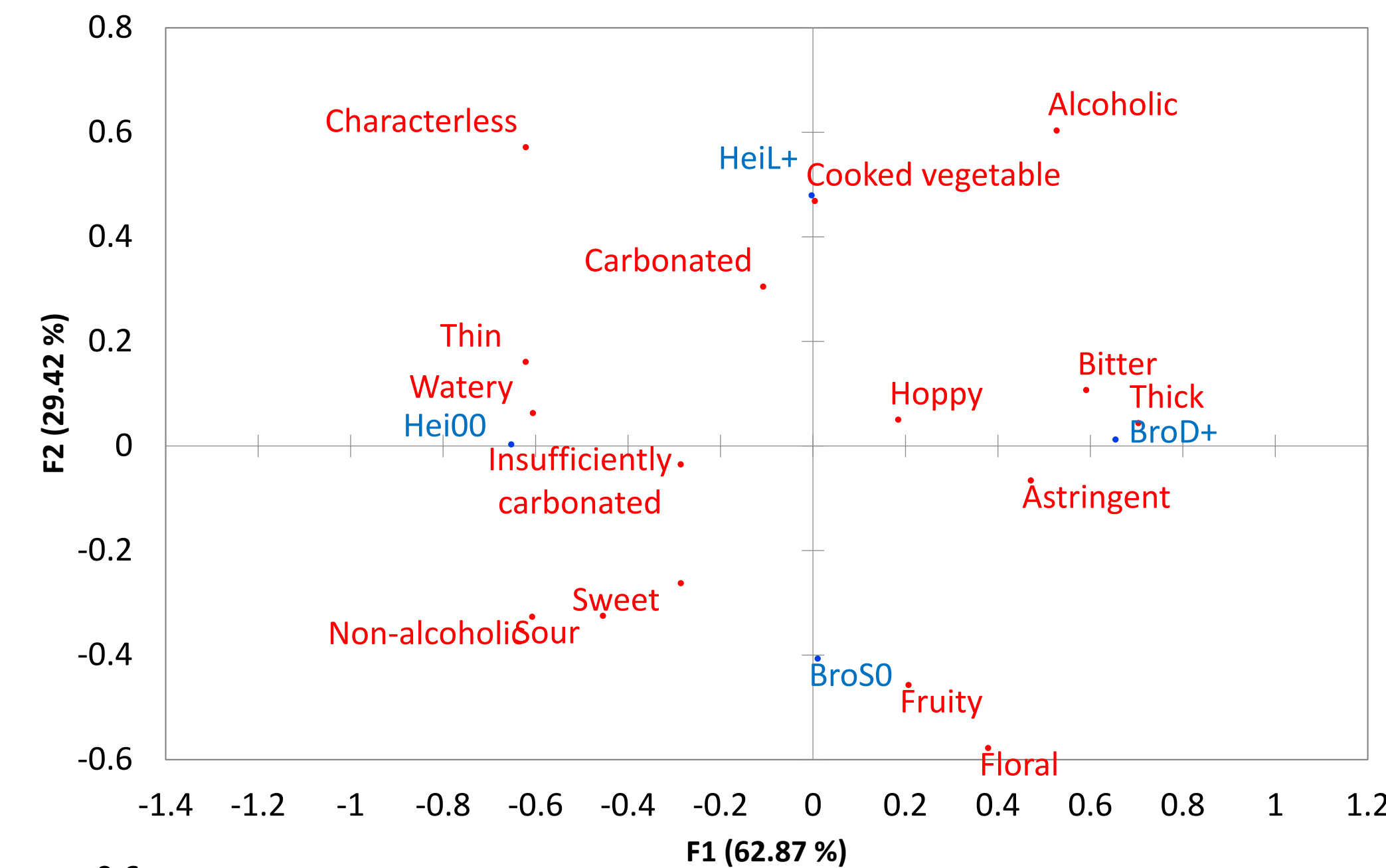
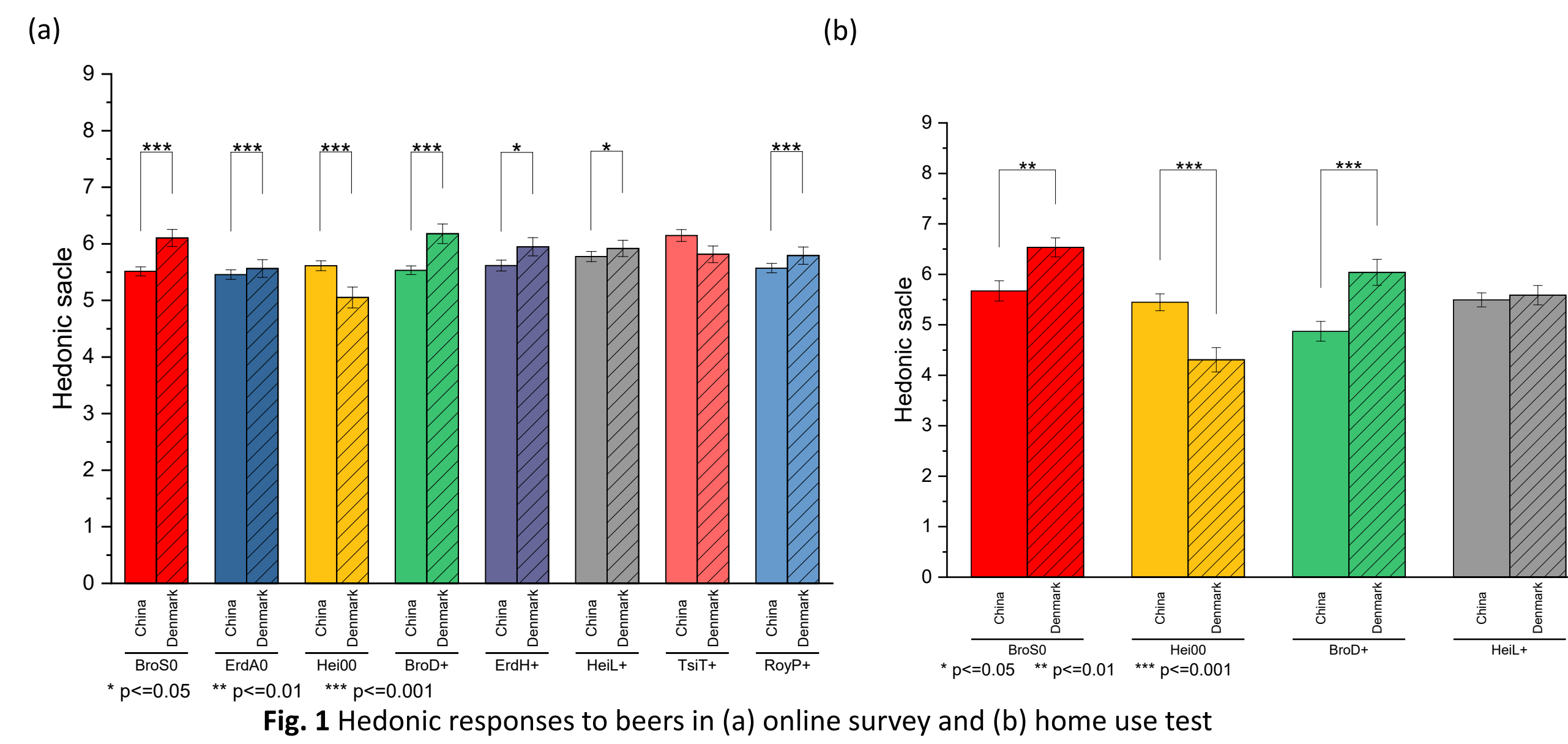


Fig. 3 Impact of beer sensory attributes on hedonic responses (a) Chinese subjects (b) Danish subjects in home use test

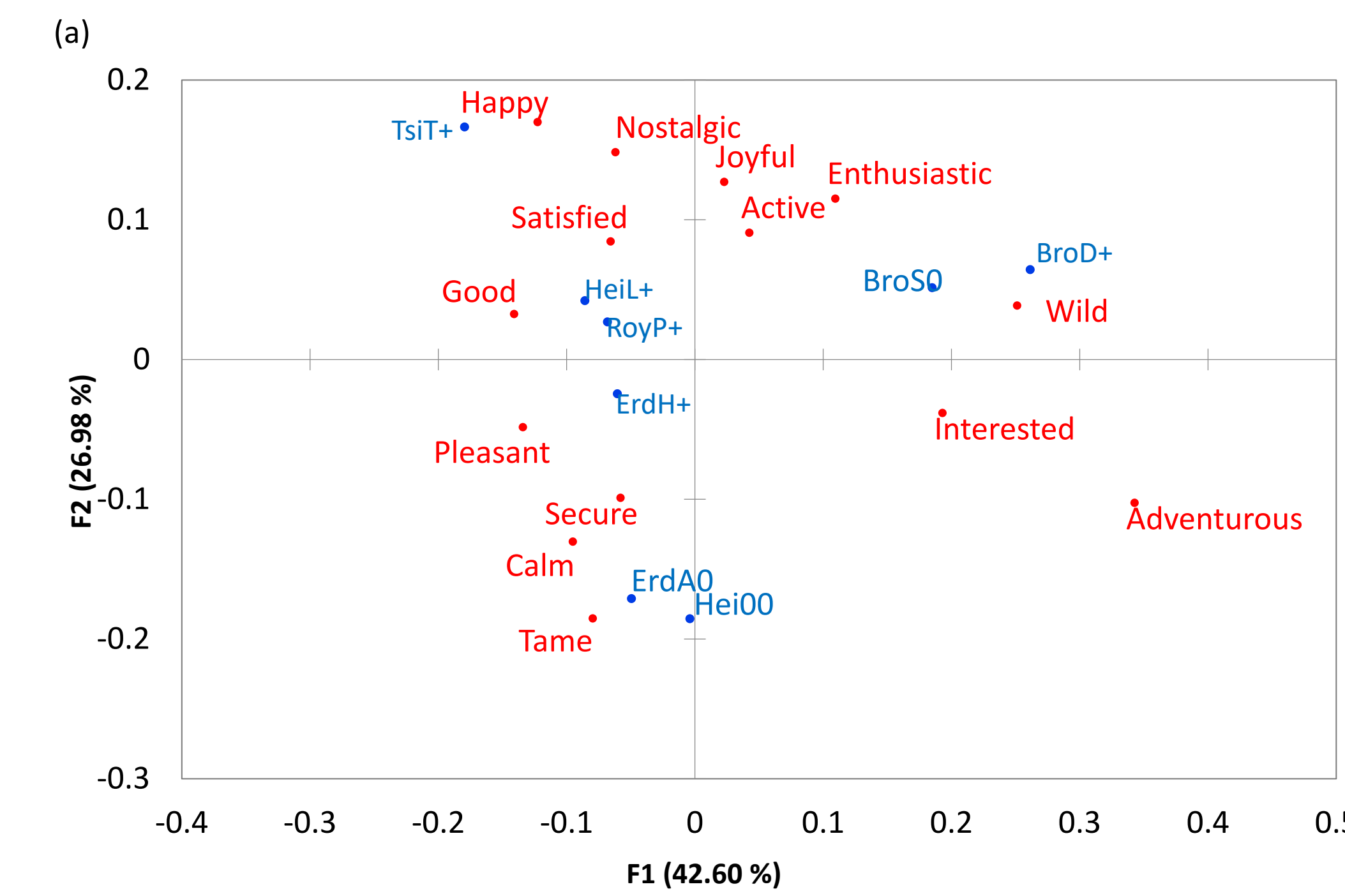


Fig. 4 Emotional responses to beer images by (a) Chinese subjects and (b) Danish subjects in online survey

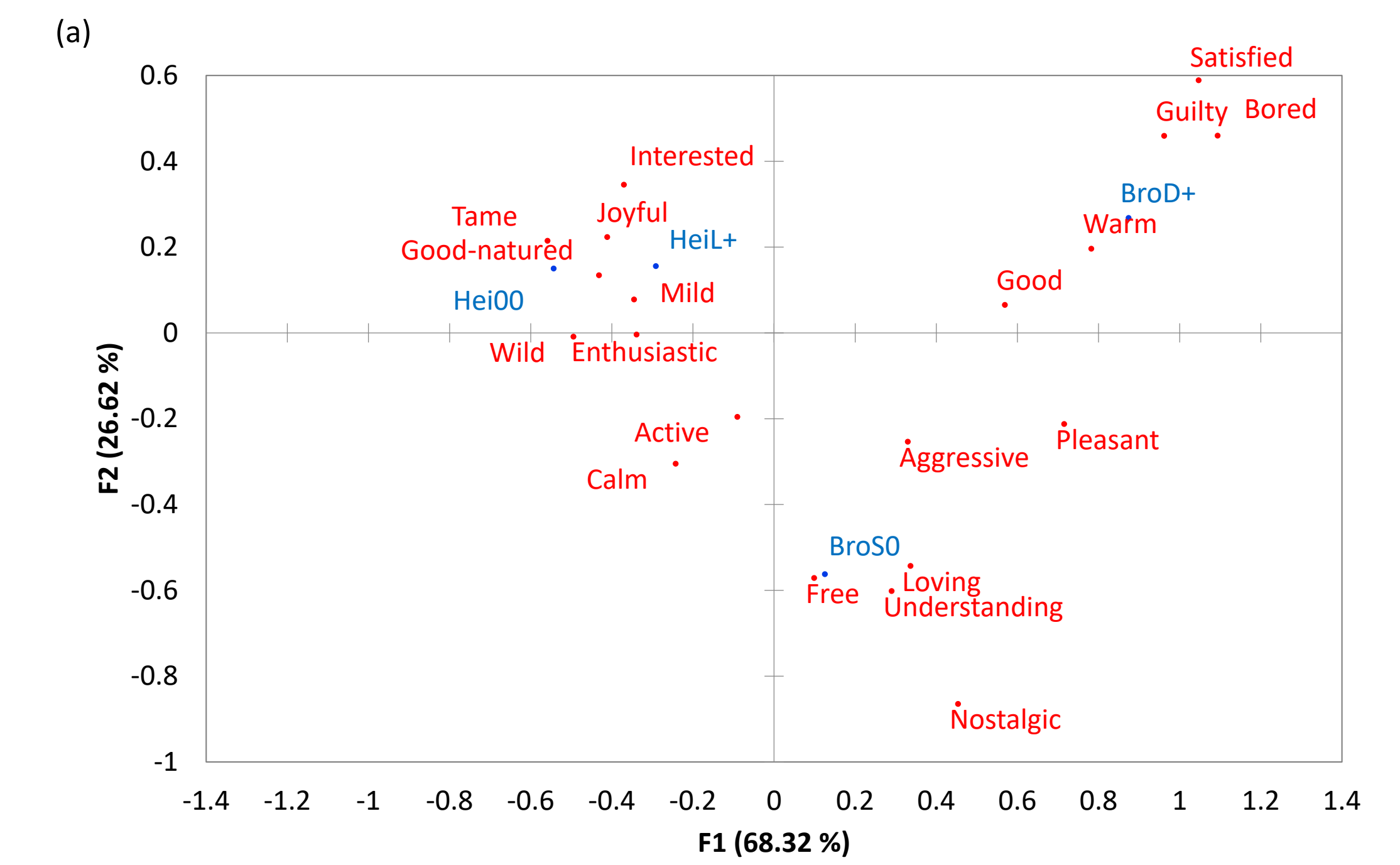


Fig. 5 Emotional responses to beers by (a) Chinese subjects and (b) Danish subjects in home use test

Results:

- In both tests Chinese subjects had significantly stronger food neophobia and lower familiarity towards beers compared to Danish subjects.
- Cultural difference in the hedonic responses of beers was both found in the online survey and in the home use test (Fig.1).
- To some degree, Chinese and Danish subjects perceived different sensory attributes for the same beer (Fig. 2).
- Chinese and Danish subjects had different preferences for sensory attributes of beers. (Fig. 3)
- A cultural effect in emotional responses to beers was observed in both online survey and home use test (Fig.4 & 5).
- Alcohol-free beer tended to reduce Chinese hedonic response in the online survey, but it did not happen in home use test for both populations.

Discussion and conclusion:

- The work highlights the importance of conducting cross-cultural research in beer between Asian and Caucasian subjects.
- The online survey and home use test are shown feasible in COVID pandemic.
- The differences between the two test-settings demonstrate the necessity for sensory input in order to obtain more detailed cross-cultural differences in the patterns of perception