



## Oral presentations

**E301**

### **The effect of sugar substitution on model confectionary system**

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Excessive consumption of added sugar is associated with many health problems. Therefore the WHO published a dietary guideline for free sugar intake in 2015. It recommends that the sugar should not represent more than 10% of the daily caloric intake. Hence in food industry the product reformulation by total replacement or partial reduction of sugar is one of the most studied strategy. The aim of this research to investigate the effect of sugar substitution on model systems. The influence of sugar replacement (by xylitol and stevia) on the texture properties, the viscosity and thermal properties of samples were studied. Based on our results the sugar substitution affect the physical properties of the investigated samples. The apparent viscosity and the texture properties were changed due to the different dry matter content in the samples. In the DSC curves the different melting of the samples were expressed according to the changes in sugar content. As a summary we could conclude that the sugar substitution have effect on the physical properties of the model samples. Further research can be done with other sugar replacers.

**E302**

### **Quality control of fatty acid profiling in vitro digests**

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The main part of our foods' fat content are made of triglycerides (TG). During digestion TG content dissociates into monoglycerides and free fatty acids (FFA). Our body primarily absorbs the FFAs formed during the digestion process. Biologically available fat content depends on the effectiveness of digestion and food materials initial TG content. Knowing the biologically accessible fat content of a given food product could be an important factor in its consumer evaluation. Our method creates a selective, repeatable and cost-effective way for evaluating the total TG-, and FFA content of food products, and their alteration during digestion, thus giving the available fat content. Digestion process was simulated by the standardized in vitro INFOGEST model and a GC-MS method, covering more than 30 fatty acid methyl ester standards for selective, quantitative and qualitative analysis of fatty acids was developed. Three model materials were tested during the method development, poultry liver pate, coconut milk and whipping cream. Quality control and validation of method was performed via using C19:0 methyl ester, C17:0 FFA, and TriC17:0 glyceride and TriC19:0 glyceride as surrogates, used as pure components as well as spiked to model matrices.

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