



Characterization of complex sugar mixtures

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What we are looking for

Technology is available for licensing and/or co-development

What it is needed for?

To guarantee the quality and authenticity of foods such as honey, fruit juices or nectars, it is important to have detailed information on the type and quantity of sugars they contain.

The more common methods used to quantify sugars and oligosaccharides are based on separation techniques such as HPLC and GC, but they do not yield precise results on different instruments.

The present invention proposes a method for the identification and quantification of sugars present in complex foods with the CSSF TOCSY NMR, a technique capable of simultaneously identifying and quantifying the types of sugars present in honey, fruit juices, milk or wine with greater precision.

In particular, the method is applied to food matrices as is without the need for expensive chemical pretreatments before instrumental analysis.

In this context, the same method also lends itself to the analysis of biofluids such as urine, serum, saliva and breast milk, to trace the presence of metabolites that may indicate any disease conditions.

Advantages

- Elevated quantitative accuracy;
- Identification of many different mixed sugars simultaneously;
- Sample preparation is in many cases unnecessary;
- No false-positives;
- Automatable;
- High specificity.

Applications

- Fruit juice sugar content analysis;
- Milk lactose content analysis;
- Honey quality analysis;
- Complex carbohydrate mix analysis.

