Disaccharides determination : a review of analytical methods.

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Disaccharides are determined mainly for dietetic purposes, hence the most analyses are carried out for food and drink samples. Its content can also be used to profile groceries in order to identify the origin and quality of the products. They also can be an indicator of the rate of metabolism as well as for the control of some technological and biotechnological processes. Unfortunately most of technological analysis are performed with nonselective polarimetry methods. Sugars due to specific physicochemical properties of compounds are difficult to determine with classical analytical techniques. The most common disaccharides are composed of several types of monomers connected by a different configuration of the glycosidic bond, therefore, there are subject of the same characteristic reactions. This often enforces the need for pre-separation of sample components. Therefore, nowadays the most popular analytical methodologies for disaccharides determination are based on chromatographic and electrophoretic techniques. An alternative is enzymes application that allow both selective recognition of target analyte and its conversion to easy detected product, allowing detection by relatively simple conventional analytical methods. Another approach is the use of advanced chemometric methodologies for computing of data obtained from some spectroscopic techniques. This article is a review of the recent analytical literature devoted to non-selective and selective methods for disaccharide determination in real samples.

Słowa kluczowe

Chromatography, Disaccharides, Electrophoresis, Enzymatic methods, Spectroscopy