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Building a fructan LC–MS2 library and its application to reveal the fine structure of cereal grain fructans - DTU Orbit (09/11/2017)

Building a fructan LC–MS2 library and its application to reveal the fine structure of cereal grain fructans

A liquid chromatography-mass spectrometry (LC–MS) library is presented containing the relative retention times of 28 fructan oligomers and MS2 spectra of 18 of them. It includes the main representatives of all fructan classes occurring in nature and with a degree of polymerization between three and five. This library enables a rapid and unambiguous detection of these 18 fructan structures in any type of sample without the need for fructan purification or the synthesis of fructan standards. Its wide applicability is demonstrated by the analysis of fructans in a set of cereal flour samples. Marked differences were observed in the types of fructans present in oat, barley, rye, spelt and wheat flour. A putative link between the accumulation of certain fructan types and cereal phylogeny is described.

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