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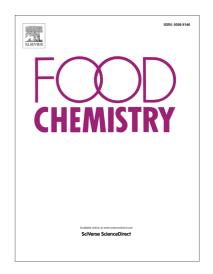
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CEPTED MANU

Analysis, potency and occurrence of (Z)-6-dodeceno-γ-lactone in white wine

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Abstract

(Z)-6-Dodeceno-γ-lactone is a potent aroma compound that has been little studied and its prevalence in wines is

unknown. An efficient stable isotope dilution assay was developed using a simple, direct immersion solid-phase

microextraction and gas chromatography-tandem mass spectrometry method suitable for routine use with a low

ng/L limit of quantitation. Using this method, 99 out of 104 young white wines analysed were found to contain

detectable (Z)-6-dodeceno-γ-lactone. The highest concentrations were found in Riesling and Viognier wines.

(Z)-6-Dodeceno-γ-lactone was found to have an aroma detection threshold of 700 ng/L in a neutral white wine.

This study established that (Z)-6-dodeceno-y-lactone is widely present in Australia's most popular white wine

varieties, but generally at concentrations below its aroma detection threshold.

KEYWORDS: GC-MS/MS; wine; (Z)-6-dodeceno-γ-lactone; (Z)-dairy lactone; aroma; analysis

Chemical compounds studied in this article

(Z)-6-Dodeceno-γ-lactone (PubChem CID: 5352428)

1. Introduction

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