

[Available Issues](#) | [Japanese](#)
[>> Publisher Site](#)

 Author: [ADVANCED](#) | Volume Page
 Keyword: |

[TOP](#) > [Available Issues](#) > [Table of Contents](#) > Abstract

ONLINE ISSN : 1881-3984

PRINT ISSN : 1344-6606

Food Science and Technology Research

Vol. 10 (2004) , No. 2 pp.199-204


[\[PDF \(618K\)\]](#) [\[References\]](#)
Formation of Pyrazines in Aqueous Maltose/Glucose/Fructose-Glutamine Model Systems upon Heating at below 100°C
[Kenji ITO](#)¹⁾ and [Masataka MORI](#)¹⁾
1) Tobacco Science Research Center, Japan Tobacco Inc.

(Received: October 21, 2003)

(Accepted: December 16, 2003)

Pyrazines generated from aqueous sugar-glutamine model systems heated at 90°C were investigated quantitatively. To determine trace levels of pyrazines in aqueous matrices, an efficient method using solid-phase extraction (SPE) and gas chromatography/mass spectrometry (GCMS) was developed. A series of alkylpyrazines as well as trace levels of acetylpyrazines and bis-(2-furyl)pyrazines were detected in the model systems by this method. Remarkable difference in the formation of pyrazines between monosaccharide and disaccharide was observed. The yield of acetylpyrazines and bis-(2-furyl)pyrazines from maltose was larger than those from fructose and glucose, while that of alkylpyrazines was less. The pH dependency on the generation of pyrazines in maltose-glutamine model systems was also examined.

Keywords: [sugar](#), [glutamine](#), [non-enzymatic browning reaction](#), [pyrazine](#), [pH dependency](#), [solid-phase extraction](#)


[\[PDF \(618K\)\]](#) [\[References\]](#)

 Download Meta of Article [\[Help\]](#)
[RIS](#)
[BibTeX](#)

To cite this article:

Formation of Pyrazines in Aqueous Maltose/Glucose/Fructose-Glutamine Model Systems upon Heating at below 100°C Kenji ITO and Masataka MORI, *FSTR*. Vol. 10, 199-204. (2004) .

doi:10.3136/fstr.10.199

JOI JST.JSTAGE/fstr/10.199

Copyright (c) 2008 by Japanese Society for Food Science and Technology



[Japan Science and Technology Information Aggregator, Electronic](#)

