

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. 9 (2003) , No. 2 pp.128-133

[\[PDF \(204K\)\]](#) [\[References\]](#)**Oxidation of Tea Catechins: Chemical Structures and Reaction Mechanism**[Takashi TANAKA](#)¹⁾ and [Isao KOUNO](#)¹⁾*1) Department of Molecular Medicinal Sciences, Graduate School of Biomedical Sciences, Nagasaki University*

(Received: January 6, 2003)

(Accepted: February 3, 2003)

Black tea accounts for almost 80% of the world's tea production and is the most important source of polyphenol in the world. However, little has been known about the chemistry of black tea polyphenols due to their complexity. Since most of the black tea polyphenols are produced by enzymatic oxidation of green tea catechins, *in vitro* model fermentation experiments using purified catechins are very useful, and recently structures of some novel oxidation products of theaflavins, black tea pigments, have been elucidated. In addition, accumulation of unstable dimer quinones of epigallocatechin and its gallate during tea fermentation has been demonstrated, and the dimer quinones are converted to theasinensins, another major polyphenol characteristic of black tea, on heating. Formation and degradation of theaflavins and epigallocatechin dimer quinones are major pathways in catechin oxidation during tea fermentation and understanding the chemical mechanism is important in clarifying black tea polyphenols.

Keywords: [black tea](#), [tea](#), [polyphenol](#), [catechin](#), [theaflavin](#), [oxidation](#)[\[PDF \(204K\)\]](#) [\[References\]](#)Download Meta of Article [\[Help\]](#)

To cite this article:

Oxidation of Tea Catechins: Chemical Structures and Reaction Mechanism Takashi TANAKA and Isao KOUNO, *FSTR*. Vol. **9**, 128-133. (2003) .

doi:10.3136/fstr.9.128

JOI JST.JSTAGE/fstr/9.128

Copyright (c) 2007 by Japanese Society for Food Science and Technology



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

