

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

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

Add to
Favorite / Citation
Articles AlertsAdd to
Favorite
PublicationsRegister
AlertsMy J-STAGE
HELP[TOP](#) > [Available Issues](#) > [Table of Contents](#) > [Abstract](#)

PRINT ISSN : 0040-8891

The Bulletin of Tokyo Dental College

Vol. 51 (2010), No. 1 :7-13

[\[PDF \(416K\)\]](#) [\[References\]](#)**Corrosion Properties of Ag-Au-Cu-Pd System Alloys Containing Indium**[Masayuki Hattori](#)¹⁾, [Teruhiko Tokizaki](#)¹⁾, [Michihiko Matsumoto](#)¹⁾ and [Yutaka Oda](#)¹⁾*1) Department of Dental Materials Science, Tokyo Dental College*

(Received November 18, 2009)

(Accepted December 18, 2009)

Abstract: In this study, the corrosion resistance of Ag-Au-Cu-Pd system alloys consisting of 5 or 10 mass% indium was evaluated. Levels of element release and tarnish were determined and electrochemical measurements performed. Results were compared with those for commercial silver-palladium-gold alloy. In terms of electrochemical behavior, the transpassive potential of these experimental alloys was 168-248mV. Experimental alloys with 25 mass% Au showed similar corrosion resistance to control gold-silver-palladium alloy. Amount of released elements was 14-130 $\mu\text{g}/\text{cm}^2$ at 7 days, which is in the allowable range for dental alloys. Addition of indium to Ag-Au-Cu-10mass%Pd system alloys was effective in increasing resistance to tarnish and alloys containing 10 mass% of indium showed a minimal decrease in L^* values after immersion. These findings indicate that 25Au-37.5Ag-15Cu-10Pd-2Zn-10In-0.5Ir alloy is applicable in dental practice.

Key words: [Ag-Au-Cu-Pd system alloy](#), [Corrosion resistance](#), [Tarnish](#)[\[PDF \(416K\)\]](#) [\[References\]](#)Download Meta of Article [\[Help\]](#)[RIS](#)[BibTeX](#)

To cite this article:

Masayuki Hattori, Teruhiko Tokizaki, Michihiko Matsumoto and Yutaka Oda: "Corrosion

doi:10.2209/tdcpublication.51.7

JOI JST.JSTAGE/tdcpublication/51.7

Copyright (c) 2010 by Tokyo Dental College, Japan



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

