

Author: [ADVANCED](#)

Volume Page

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

ONLINE ISSN : 1881-1361

PRINT ISSN : 0287-4547

Dental Materials Journal

Vol. 26 (2007) , No. 6 p.761-765

[\[PDF \(447K\)\]](#) [\[References\]](#)**A Study of the Effects of Irradiation on the Polymerization of Dual-cured Self-etching Bonding System Using Electron Spin Resonance (ESR) Spectroscopy**

[Naho HAMANO](#)¹⁾, [Satoshi INO](#)¹⁾, [Satoru HOJO](#)¹⁾, [Fumihiko YOSHINO](#)²⁾, [Tomonaga WATANABE](#)¹⁾, [Yuki KATSUMATA](#)¹⁾, [Masaichi-Chang-il LEE](#)²⁾ and [Minoru TOYODA](#)¹⁾

1) Division of Prosthetics, Department of Oral and Maxillofacial Rehabilitation, Kanagawa Dental College

2) Division of Pharmacology and ESR Laboratories, Department of Clinical Care Medicine, Kanagawa Dental College

(Received March 28, 2007)

(Accepted May 31, 2007)

Abstract:

The purpose of this study was to investigate the effect of irradiation on the polymerization behavior of a bonding agent of a dual-cured self-etching bonding system. By means of electron spin resonance spectroscopy, it was shown that the concentration of polymer radicals in samples cured chemically without irradiation was closely similar to that in samples dual-cured under irradiation. There was no significant difference in the time required to reach the maximum spin concentration between these two sample groups, thereby showing that the radical generation rates were similar. Findings of this study revealed that the dual-cured self-etching bonding system tested in this study was effective in polymerization in regions where irradiated light could hardly reach.

Key words:

[Polymerization](#), [Electron spin resonance spectroscopy](#), [Dual-cure](#)

[\[PDF \(447K\)\]](#) [\[References\]](#)

To cite this article:

Naho HAMANO, Satoshi INO, Satoru HOJO, Fumihiko YOSHINO, Tomonaga WATANABE, Yuki KATSUMATA, Masaichi-Chang-il LEE and Minoru TOYODA. A Study of the Effects of Irradiation on the Polymerization of Dual-cured Self-etching Bonding System Using Electron Spin Resonance (ESR) Spectroscopy . Dent. Mater. J. 2007; 26: 761-765 .

doi:10.4012/dmj.26.761

JOI JST.JSTAGE/dmj/26.761

Copyright (c) 2009 The Japanese Society for Dental Materials and Devices



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

