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[\[Image PDF \(619K\)\]](#) [\[References\]](#)**Self-cleaning Ability of a Photocatalyst-containing Denture Base Material**[Yali CHENG](#)¹⁾, [Takako SAKAI](#)¹⁾, [Ryoji MOROI](#)¹⁾, [Masaharu NAKAGAWA](#)²⁾, [Hidetaka SAKAI](#)³⁾, [Tetsuro OGATA](#)⁴⁾ and [Yoshihiro TERADA](#)¹⁾

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Abstract:

This study examined the ability of a photocatalyst mixed in a denture base resin to decompose organic substances which adhered to the denture base resin surface. The photocatalyst was mixed with denture base resin at concentrations of 0, 5, 10, and 15% (w/w). Decomposition test, bending test, and surface roughness measurement were performed at 1, 7, 30, 90, and 180 days after polymerization. Decomposition ability was evaluated based on the residual amount of methylene blue (MB) dissolved in ethanol after UV irradiation for 12 hours. As the mixing ratio increased, the amount of MB in the solution decreased. Meanwhile, no changes in the amount of MB in the immersion solution were observed in the photocatalyst-free resin specimen. Therefore, the results indicated that a denture base resin containing a photocatalyst might have a photocatalytic ability.

Key words:[Decomposition ability](#), [Denture base material](#), [Photocatalyst](#)

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