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AL LT LV MK RO SI• **Okazaki, Seiji****Kamakura-shi Kanagawa 248-0034 (JP)**• **Tanahashi, Masahiko****Kamakura-shi Kanagawa 248-0034 (JP)**• **Kim, Kang, Jung****Tokyo 102-0085 (JP)**• **Iwase, Miho****Chigasaki-shi Kanagawa 253-0008 (JP)**(30) Priority: **02.08.1999 JP 21846499**(71) Applicant: **TORAY INDUSTRIES, INC.****Tokyo 103-8666 (JP)**(74) Representative: **Coleiro, Raymond et al****MEWBURN ELLIS****York House****23 Kingsway****London WC2B 6HP (GB)**

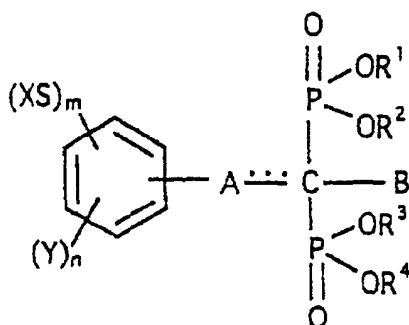
(72) Inventors:

• **Ito, Masatoshi****Yokohama-shi Kanagawa 235-0023 (JP)**• **Kawai, Yuriko****Kamakura-shi Kanagawa 248-0034 (JP)**(54) **INSERTION STABILIZERS FOR IMPLANTS**

(57) The present invention relates to an implant attachment stabilizer having, as an effective component, a methanebisphosphonic acid derivative represented by general formula (I)

[where, in the formula, X, Y, m, n, $\dots$, A, B, R¹, R², R³ and R⁴ are as defined in the Specification], or hydrate thereof.

The methanebisphosphonic acid derivatives represented by general formula (I) or the hydrates thereof, to which the present invention relates, have an interstitial tissue proliferation inhibiting action and an osteolytic factor production inhibiting action and, in particular, since they inhibit osteolysis through the inhibition of the interstitial tissue proliferation which accompanies implant attachment and the inhibition of osteolysis factor production at the implant periphery, they are effective in the prevention of implant loosening and detachment, and it is possible to extend the implant attachment period in the case of implants such as artificial joints, and implants in the oro-dental field.

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