Seco-abietanoids and dimeric abietanoid peroxides with xanthine oxidase inhibitory activities from the bark of *Cryptomeria japonica*

Three new seco-abietanoids, 12-methoxy-7-oxo-6,7-secoabieta-8,11,13-trien-6-oic acid (1), 12-methoxy-6,7-secoabieta-8,11,13-triene-6,7-dioic acid (2), and 12-hydroxy-6,7-secoabieta-8,11,13-triene-6,7-dioic acid (3), and two new dimeric abietane-type diterpenoids, 12-hydroxyabieta-8,11,13-trien-7α-yl 7-oxoabieta-8,11,13-trien-12-yl peroxide (5) and 12-hydroxyabieta-8,11,13-trien-7α-yl 7-oxoabieta-5,8,11,13-tetraen-12-yl peroxide (7), together with three known compounds (6-8), were isolated from the methanol extract of the bark of *Cryptomeria japonica*. Their structures were established by mean of spectroscopic analysis and comparison of NMR data with those of known analogues. At a concentration of 50 μM, compounds 1–8 exhibited 14.7–39.3% inhibition toward xanthine oxidase.