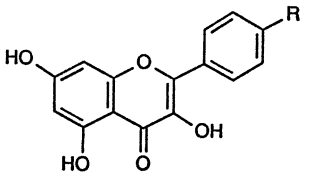
Flavones found in the rhizome of *A. officinarum* are quercetin and its 3-methyl ether; galangin (*12-42*) and its 3-methyl ether; and kaempferol (*12-43*), kaempferide (*12-44*), and isorhamnetin [11, 12].

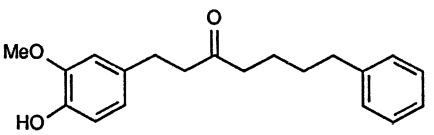


Galangin (*12-42*): R = H
Kaempferol (*12-43*): R = OH
Kaempferide (*12-44*): R = OCH_3

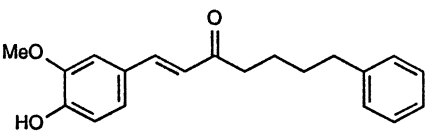
The rhizome of *A. officinarum* also contains a small amount of essential oil, the major component of which is cineole [13].

12.2.4 Chemical Constituents of *Alpinia oxyphylla*

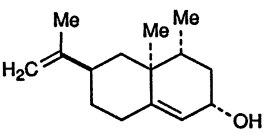
Two diarylheptanoids, yakuchinone A (*12-45*) [14] and yakuchinone B (*12-46*) [15], and a sesquiterpene, nootkatol (*12-47*) [16], were isolated from the fruits of *A. oxyphylla.*



Yakuchinone A (*12-45*)



Yakuchinone B (*12-46*)



Nootkatol (*12-47*)

12.3 Pharmacology

In rats, 1′-acetoxychavicol acetate and 1-acetoxyeugenol acetate, isolated from *A. galanga*, had significantly inhibited gastric ulcers induced by pyloric ligation, when given i.p. at a dose of 1 – 10 mg/kg [1]. 1′-acetoxychavicol acetate also had antifungal activity against *Trichophyton mentagrophytes, T. concentricum, T. rubrum, Aspergillus niger, Penicillium expansum*, and *Rhizopus stolonifer*. The minimal inhibitory concentration of 1′-acetoxychavicol acetate for these dermatophytes ranged from 50 to 250 μg/ml.