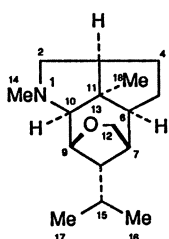


57.1 Introduction

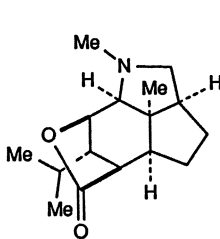
Shihu, Herba Dendrobii, is the dry stems of *Dendrobium loddigesii* Rolfe., *D. fimbriatum* Hook. var. *oculatum* Hook., *D. chrysanthum* Wall., *D. candidum* Wall. ex Lindl. or *D. nobile* Lindl. (Orchidaceae) and is officially listed in the Chinese Pharmacopoeia. It can be collected throughout the year. *Dendrobium* stems are used in traditional Chinese medicine as a tonic to improve the digestive function after recovery from ailments.

57.2 Chemical Constituents

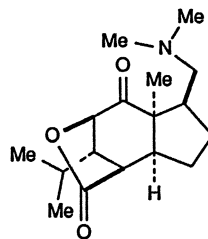
The main constituents obtained from *Dendrobium* species are sesquiterpene alkaloids [1]. A number of sesquiterpene alkaloids were isolated from *D. nobile*. Dendrobine (57-2), one of the major alkaloid components, was the first to be isolated [2] and structurally determined [3, 4]. The sesquiterpene skeleton for dendrobine and most of the *Dendrobium* alkaloids was designated as dendrobane (57-1). Then other alkaloids, nobiline (57-3) [5, 6], dendroxine (57-4) [7], dendramine (6-hydroxydendrobine, 57-5) [8, 9], dendrine (57-6) [10], 8-hydroxydendroxine (57-7) [11], 3-hydroxy-2-oxodendrobine (57-8) [12], and 6-hydroxydendroxine (57-9) [9] were successively isolated and structurally elucidated.



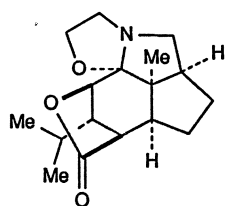
Dendrobane (57-1)



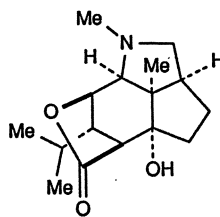
Dendrobine (57-2)



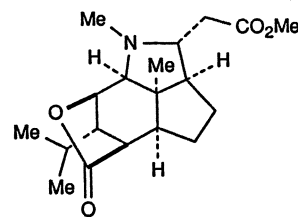
Nobiline (57-3)



Dendroxine (57-4)



Dendramine (57-5)



Dendrine (57-6)