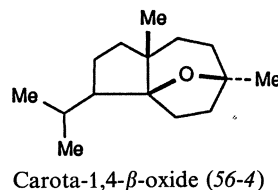
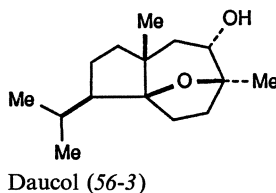
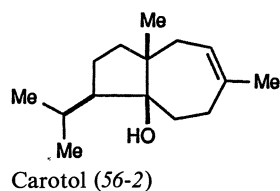
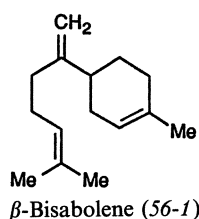


### 56.1 Introduction

Nanheshi, Fructus Carotae, is the dry ripe fruits of *Daucus carota* L. (Apiaceae) collected in the fall when the fruits have become ripe. It is officially listed in the Chinese Pharmacopoeia and used in traditional Chinese medicine mainly as an anthelmintic.

### 56.2 Chemical Constituents

From the essential oil of carrot seed some terpenes were isolated and identified. They are  $\alpha$ -thujene,  $\alpha$ -pinene, camphene,  $\beta$ -pinene,  $\beta$ -phellandrene, limonene,  $\beta$ -caryophyllene,  $\beta$ -bisabolene (56-1), geranyl acetate, terpinyl acetate, bornyl acetate, carotol (56-2), daucol (56-3), and a mixture of coumarins with tarry materials. The major components were carotol, daucol, and terpinyl acetate with contents of 36%, 13%, and 18.6%, respectively [1]. The presence of esters, particularly terpinyl acetate, is interesting. The isolation of a new sesquiterpene, carota-1,4- $\beta$ -oxide (56-4), from the seeds of *D. carota* was reported [2].



The flavone glycosides apigenin-4'-*O*- $\beta$ -D-glucoside, kaempferol-3-*O*- $\beta$ -D-glucoside, and apigenin-7-*O*- $\beta$ -D-galactopyranosyl-(1 $\rightarrow$ 4)- $\beta$ -D-mannopyranoside were also isolated from carrot seeds [3].