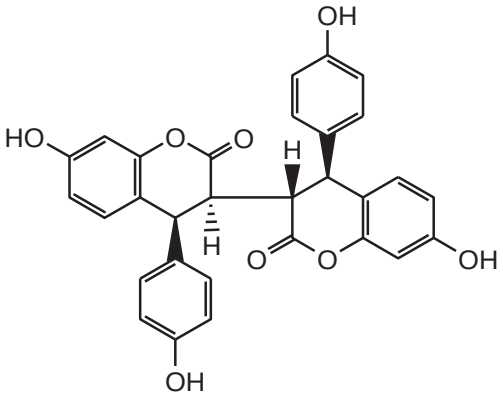
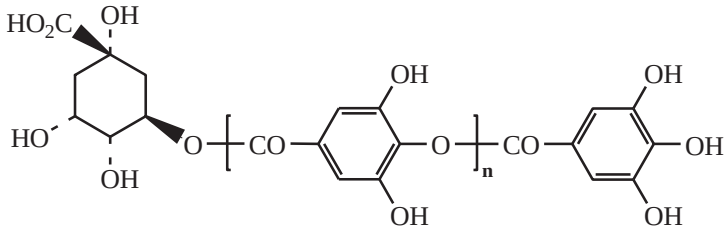


82



83 Pistafolin A n= 2
84 Pistafolin B n= 1

Pistacia species have a wide range of use in food industries. The resin is used in adherent production, in protecting luster for arts of glass, porcelain, bone, wood and metal. It is also used in alcoholic and non-alcoholic refreshments, in some cosmetic mixtures and perfumery; an ingredient of filling material in dentistry and in toothpaste production (Baytop, 1999; Duru *et al*., 2003). Resin is also traditionally used as a chewing gum, against lip-dryness, some stomach diseases and antiseptic for respiratory system (Baytop, 1999; Tuzlaci and Aymas, 2001).

Oleoresins from *Pistacia* species have been generally used in traditional medicine, for various diseases. The wide spectrum of biological properties of these resins that have been established recently, support evidence of their ancient uses. Oleoresins of *Pistacia lentiscus* var. *chia* (mastic gum) have been established to possess antimicrobial, antifungal, anticancer, antioxidant and radical scavenging activity. The ability of this resin to inhibit in vitro LDL oxidation, its antiatherogenic effect and gastric and duodenal anti-ulcer activity have been recently reported. *Pistacia lentiscus* oleoresin (mastic gum) was also established to kill *Helicobacter pylori* and to reduce dental plaque during chewing *Pistacia* resins are also used in cosmetic formulations and perfumery, as chewing gum, as well as food supplements and finally in varnishes and other works of art (Assimopoulou and Papageorgiou, 2007). Mastic gum from *Pistacia* species have been used by traditional healers for the relief of upper abdominal discomfort, stomaches, dyspepsia and peptic ulcers (Al-Said *et al*., 1986; Huwez and Al-Habbal, 1986). *Pistacia* species have also been reported to possess stimulant and diuretic properties (Ben Douissa *et al*., 2005). A double-blind trial of mastic and placebo in the treatment of duodenal ulcer has shown that it produced complete ulcer healing in 70% of the patients compared with 22% of the placebo group (Al-Habbal *et al*., 1984)

Pistacigerrimones A to F (triterpenes), isolated from *Pistacia integerrima* showed significant analgesic activity (Ansari and Ali, 1996). The antibacterial effect of the oleoresin has been proved on various strains of *Staphylococcus aureus, Streptococcus epidermis, Pseudomanus aerugimosa, Escherichi coli* and *Helicobacter pylori* (Delazar *et al*., 2002). The essential oils of *Pistacia chinensis* (Zaghloul and Abdel-Rahman, 2006), *Pistacia vera* (Alma *et al.*2004) and *Pistacia weinmannifoliua* (Zhou, 2008) showed antimicrobial activity.

The oil of *Pistacia chinensis* showed a significant cytotoxic effect on three human cancer cell lines (brain tumour, liver carcinoma and cervix tumour) (Zaghloul and Abdel-Rahman, 2006). The cytotoxicity of the essential oil of *Pistacia weinmannifolia* was also reported (Zhou, 2008).

The dihydrocoumarin derivative, isolated from *Pistacia chinensis*, or its salts are useful for treatment and prevention of prostatic cancer, protostatic hypertrophy, osteoporosis and gynecological diseases. The compound inhibited binding of ^{3}H-estradiol to estrogen receptor

at IC_{50} of 49 nM (Akiyama and Nishimura, 1998).

The two 4-aryl-coumarin (neoflavones) dienes, isolated from *Pistacia chinensis* possess estrogen-like activity (Nishimura *et al*., 2000). The phenolic compounds of *Pistacia weinmannifolia* are histamine-release inhibitors (Minami *et al*., 2006).