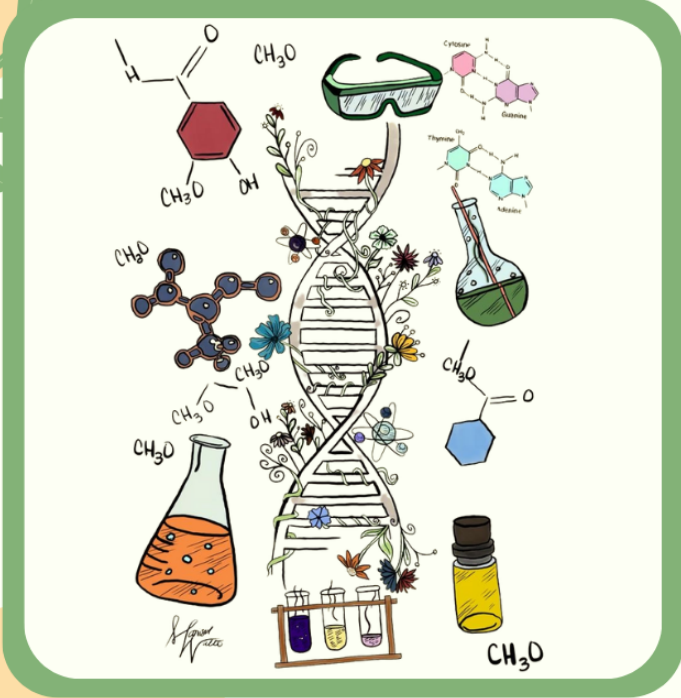


تفريغ عقاقير



اسم الموضوع: Chapter 4 part two

إعداد الصيدلاني/ة: لؤي المجدلاوي

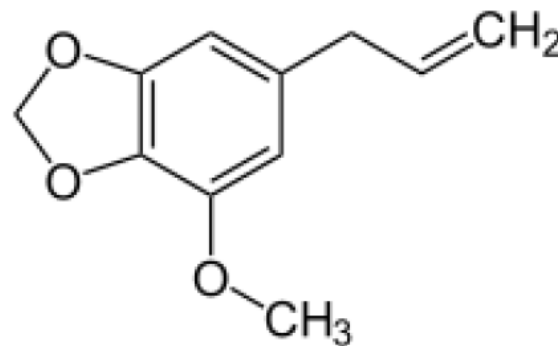


C) Seeds: Nutmeg جوزة الطيب

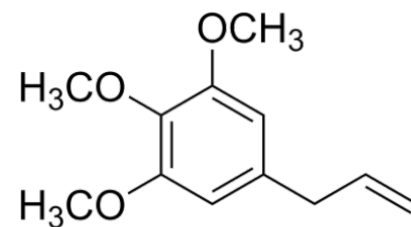
Myristica fragrans Myristicaceae

القشرة
البنيضاء

- القشرة الرفيعة الداخلية التي تغطي الجدار الداخلي لثمرة جوزة الطيب
- Nutmeg: usually used as complete fruit but the V.O. is obtained from the seeds or kernel.^{الب}
 - The oil of the nutmeg is very expensive because the fruits need long time to be
 - mature and they are very light, so when the farmer cultures large number of the plant trees he will have small weight of the fruits (nutmeg)..



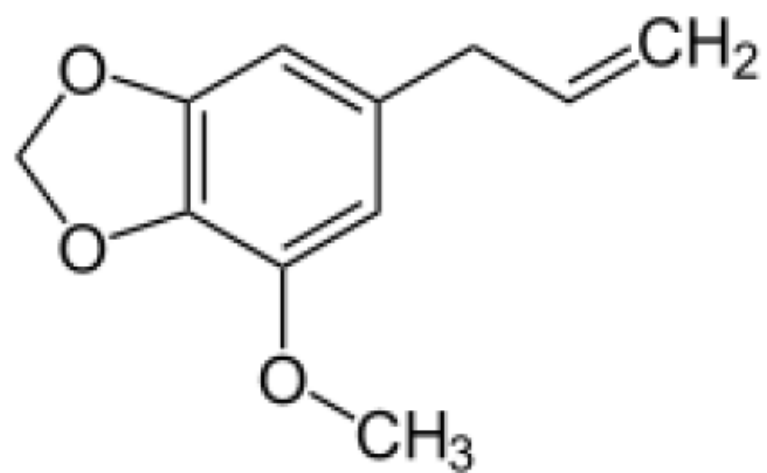
myristicine



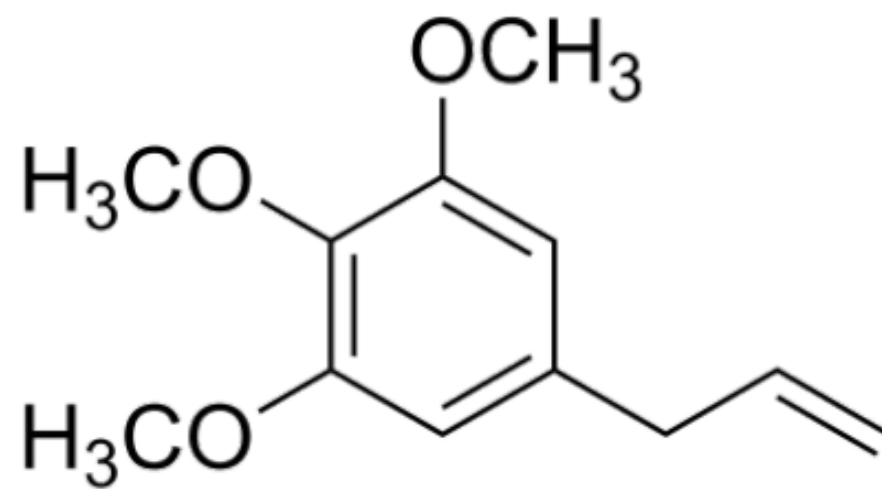
elemicin

structure
مش حفظ
بني الاسماء حفظ





myristicine



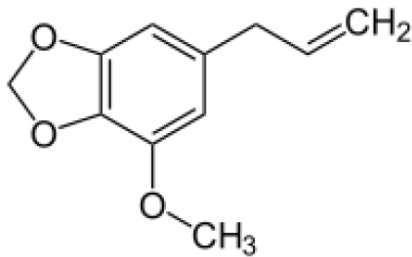
elemicin

جوزة الطيب Nutmegs

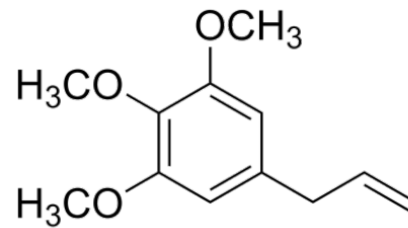
Myristica fragrans Myristicaceae

* زيتها يستخرج من اللب ولكن لا نه قليل قد تستخدم القشرة أحيانا

- To have oil has similar odor to the nutmeg oil, they take the mace.
- In the US it's used by prisoners as alternative to hallucinogenic compounds, so it's called prison opium because it gives the same effect of the opium. * تستخدم كمادة مهلوسة بدلا من الـ opium السجناء
- The effect of nutmeg is similar to that of atropine, the only difference between them is that atropine causes mydriasis but nutmeg causes miosis * أيضا نفس تأثير الـ atropine ما عدا توسع الحدقة يعمل العكس تقلا يقلل التوسع الحدقي
- They study the ability of use nutmeg as flavouring agent due to the presence of myristicine and elemicin.



myristicine



elemicin

حبة البركة

Nigella sativa

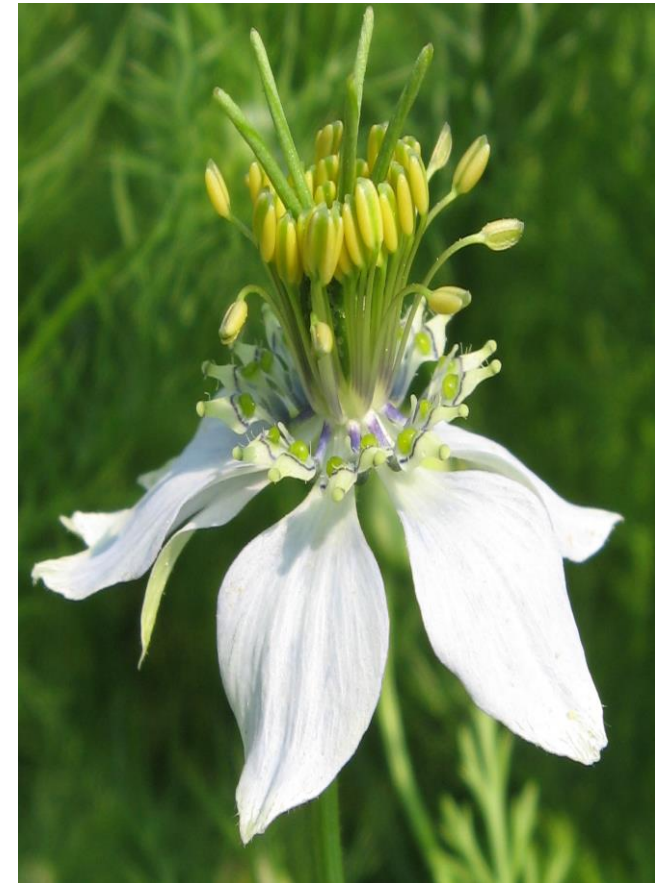
- **Medicinal Uses (Black Cumin) —**
- This herb apparently may be even more important to the Muslims than to the Christians and Jews.
- يقول رسول الله - صلى الله عليه وسلم إن في الحبة السوداء شفاء من كل داء إلا السأم. الخارجي البخاري
- According to an Arab proverb, “in the black seed is the medicine for every disease except death.”
- Small wonder that the literature regards it as ^{للمنفخة}carminative, ^{مُعرق}diaphoretic, ^{محفز الحليب}digestive, ^{محفز للطمت}diuretic, emmenagogue, excitant, lactagogue, laxative, ^{مُلين}resolvent, stimulant, stomachic, and tonic. ^{مقوِّ}

مذيب للالتهاب

(Black seed)

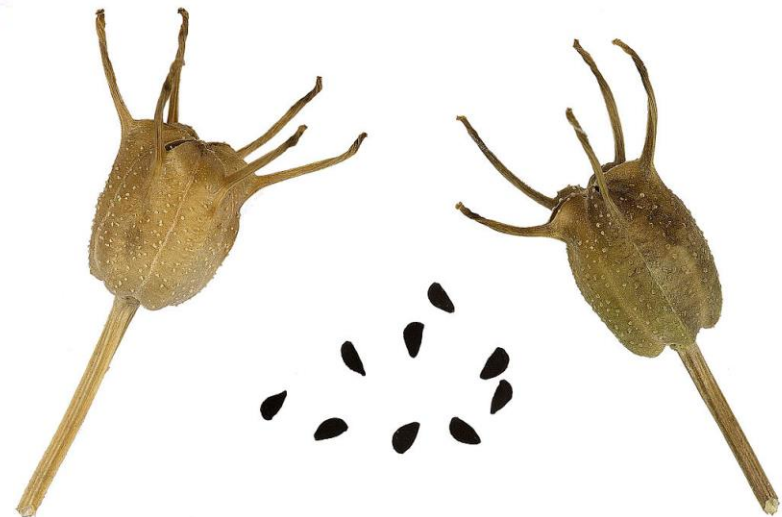


Nigella sativa (Black seed)



Antidiabetic Activity of *Nigella sativa* Seed Extract in Cultured
Pancreatic β -cells, Skeletal Muscle Cells, and Adipocytes

Pharmaceutical Biology; Jan2008, Vol. 46 Issue 1/2, p96-104

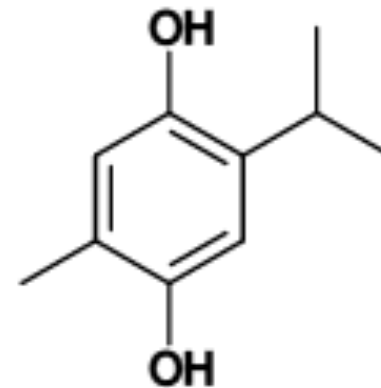
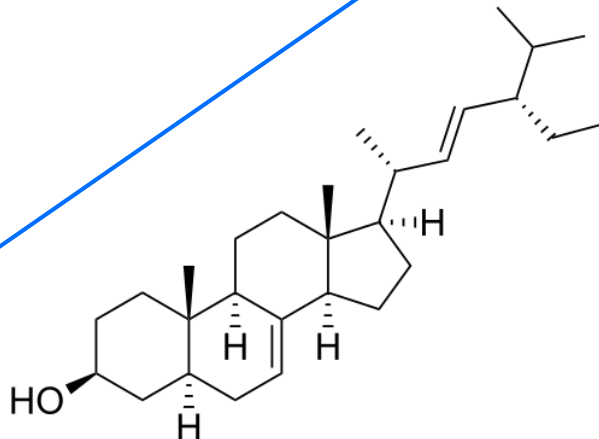


* غير مطلوب

Chemicals and their Biological Activities in: *Nigella sativa* L. (Ranunculaceae) -- Black Caraway, Black Cumin, Fennel-Flower, Nutmeg-Flower, Roman Coriander

- **ALPHA-SPINASTEROL** *Seed*: Antiinflammatory
- **ASPARAGINE** *Seed*: Diuretic
- **CAMPESTEROL** *Seed*: Antioxidant ; Hypocholesterolemic
- **CARVONE** *Seed*; Antiacetylcholinesterase ; Antiproliferative; Antiseptic
- **HEDERAGENIN** *Seed*: Allergenic; Anticapillary-Fragility; Antiedemic; Antifibrinolytic;
- **PHYTOSTEROLS** *Seed*: Antiprostatotic; Hypocholesterolemic
- **THYMOHYDROQUINONE** *Seed*: Antibacterial *MIC*=6.25-100 $\mu\text{g/ml}$;
- **THYMOQUINONE** *Seed*: Antiarthritic; Antiasthmatic; Antibacterial; Antibronchitic;

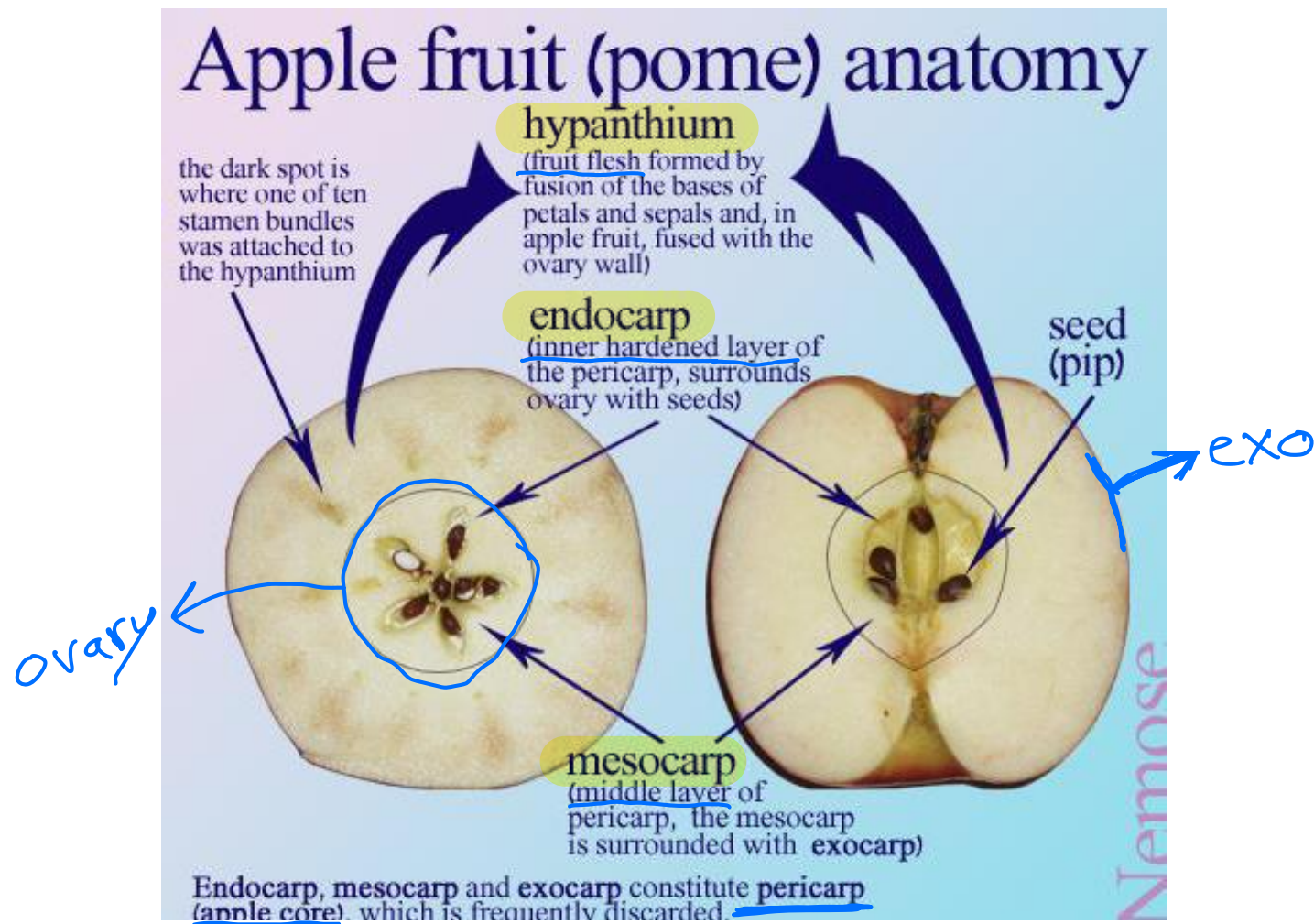
ALPHA-SPINASTEROL



ThymoHydroQuinone

D) Fruits:

- Matured and ripened ovaries. Holds and protects the seeds until they mature.



اليانسون Anise



- **Pimpinella anisum** L. Family: **Umbelliferae** or **Apiaceae**. *or carrot family*
- The **medicinal parts** are the essential **oil** from the ripe fruit and the dried fruit.
- **Active constituents:**
 - **Volatile oil** (2 to 6%): chief constituent trans-
① anethole (94%), → *Antibacterial*
 - ② **Coumarins**

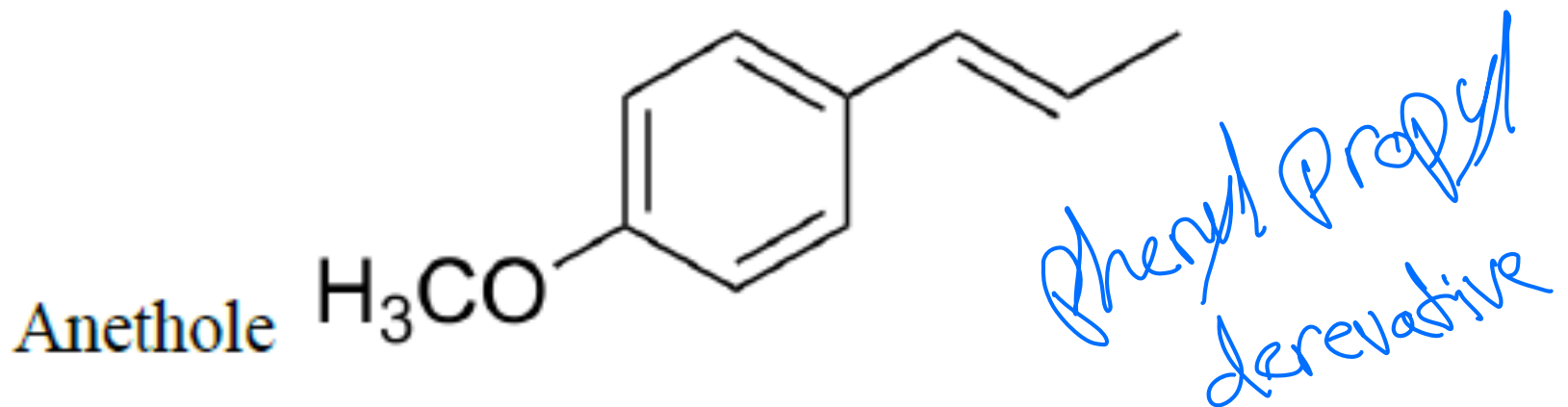
اليانسون Anise

- **Herbal Uses:**
- The drug is said to have an ^{مقشع} expectorant, mildly ^{مضاد للتشنج} spasmolytic and antibacterial effect based on the essential oil.
- Common cold
- Cough/bronchitis

اليانسون Anise

- The main constituent is **Anethole**, it's a phenylpropene , para to it is a methoxy group , this compound is responsible for **the anise odor and many biological effects** , a **problem is during storage** a molecule of the **anethole** is **combined to another molecule** of Anethole by the **propene side chain** to **form a dimeric compound** , **this dimer binds to the estrogen receptors** (has estrogen-like receptors), so anyone who takes estrogen like combination pills **contraceptive** that contains estrogen in microgram **with anise** that's **improperly stored** in high temperatures or for long periods , a competition between the dimeric estrogen-like compound with estrogen is responsible for the **failure of contraception** when large amounts of the anise is used , and the treatment will be unsuccessful.

* قد يرتبط 2 Anethole مع بعضهما (من طرفي ال propyl) بسبب سوء التخزين وهذا المركب يسمى dimer (estrogen like receptor) وإذا تم أخذه مع contraceptive سيُسبب خلل في عمله



anise is available as oil or the anethole is added to the cough suppressants , it reduces the trachea contractions and reduces irritation that causes the cough.

- Mainly used as a **flavoring agent** in the pharmaceutical industry , especially for indigestion products like Gaviscon® to provide a better taste for the formula.

Examples of Umbellifera (Apiaceous)



Caraway (*Carum carvi*)

- Characteristics
 - ^{کل سنتین} Biennial in carrot family Apiaceae
 - Usually grown for its seed
- Only require a few plants to have enough seed for a family *rich in seeds*
- Seeds will shatter when fully mature
 - Cut off seed stalk when seeds turn brown and place inside a bag



E) Barks^{اللحاء}



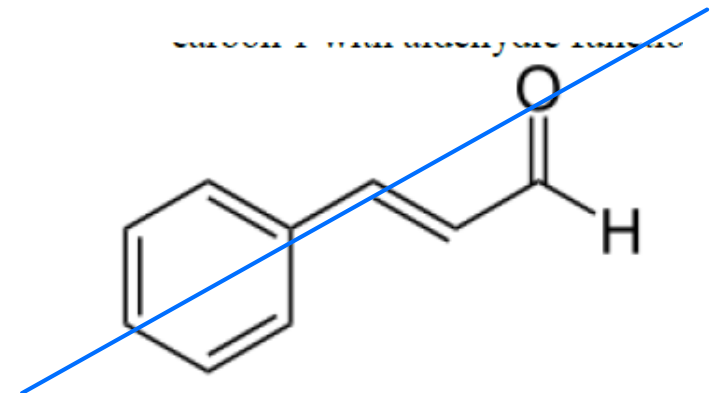
- Definition:
- Barks consists of all the tissues outside the cambium of the stem or the root of the medicinal plant.
- Collection and Preparation:
- Barks are collected either from stems or roots by making transverse and longitudinal incisions and peeling the outer layers (layers outside the cambium).
- Barks are best collected in the spring (why?)
- They are sun-dried, and some barks are decorticated (e.g. Cinnamon).



***Cinnamomum aromaticum* Nees (Lauraceae)**

CASSIA, CASSIA BARK, CASSIA LIGNEA, CHINA JUNK CASSIA, CHINESE CASSIA,
CHINESE CINNAMON, SAIGON CINNAMON

- **Synonym** — *Cinnamomum cassia* auct.
- In South China, it is grown in a moderately cool climate, ^{ارتفاع} annual rainfall ca. 1200–1300 ^{معدل المطر} mm, elevation mostly 90–300 m, usually propagated by cutting but sometimes
- **Chemistry (Cassia)** — Here are a few of the more notable chemicals found in cassia.
 - ① *Cincassiol* — Antiallergic.
 - ② *Cinnamaldehyde* — Orally, cinnamaldehyde stimulates the CNS at low doses and inhibits it at high doses ^{علاقة عكسية مع تحفيز ال CNS}
 - ③ *Cinnamic-ACID* also found in *Cinnamomum verum*.
 - ④ *Trans-Cinnamaldehyde*



- **Herbal Use**
- •Cinnamon is stated to possess antispasmodic, carminative antimicrobial and anthelmintic properties..
قاتل للديدان
- •Cinnamon bark may possess a potentiating effect on insulin (Khan et al., 1990), and can be useful in the treatment of type 2 diabetes; as well as lowering triglyceride levels and serum cholesterol (Jayaprakasha et al., 2002).

- Cinnamon is mainly **used at winter** because it's **carminative** , **antispasmodic** , exerts a **warming effect** due to its **vasodilatation effect**.
- - **Contraindicated** in the **first trimester of pregnancy** because it can increase the risk of **abortion** due to its **uterine stimulating effect**.
- - Also used traditionally to **induce menstruation**.

لا يجب استخدامه

بداية الحمل خصوصا اول

إجهاض

Cinnamon

غير مفيد طبي

Cinnamon foliage



Scientific classification

- Kingdom: [Plantae](#)
- Division: [Magnoliophyta](#)
- Class: [Magnoliopsida](#)
- Order: [Lurales](#)
- Family: [Lauraceae](#)
- Genus: [*Cinnamomum*](#)
- Species: [*C. zeylanicum*](#)

الصفصاف

للأسبرين قصة طويلة بدأت عندما استخدم الطبيب الإغريقي أبقراط مستخلص لحاء شجرة الصفصاف لتسكين الآلام حيث يحتوي لحاء الصفصاف على مادة الساليسيلين الفعالة في تسكين الألم. وقد سميت هذه المادة بهذا الاسم نسبة إلى الجنس النباتي ساليكس وهو الجنس الذي ينتمي إليه نبات الصفصاف. ويوجد مركب آخر مابه لمادة الساليسيلين هو مركب ميثيل الساليسيلات الذي يتواجد في النباتات التي تنتمي إلى نوع الجولثيريا في زيت الوينترجرين. أما بالنسبة لعقار الأسبرين فقد قام بتصنيعه عالم ألماني يعمل لدى شركة باير، وهو من أطلق عليه اسم الأسبرين وهنال طريقتان لتصنيع الأسبرين أو الأستيل ساليسيلات، إما من مادة الساليسيلين أو من مادة الميثيل ساليسات

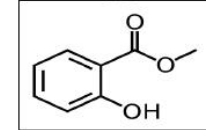
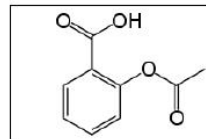
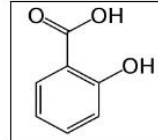
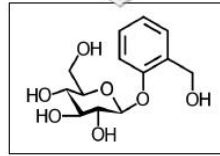
⑤

②

Salicylic acid

Active form

Acetyl Salicylic acid (Aspirin)



جذري ينمو تحت الارض
فهو يشبه الجذر

F) Roots & Rhizomes

Rhizome is horizontal stem growing under or sub soil surface.

Common name	Arabic name	Binomial name	Family
Ginger root	الزنجبيل	<i>Zingiber officinale</i>	<i>Zingiberaceae.</i>
Ginseng root	الجنسنگ	<i>Panax ginseng</i> (Asian)	Araliaceae
Rhubab rhizome	الراوند	<i>Rheum officinale</i>	Rubaceae

Ginger (Zingiber officinale)

- from the rhizome
- Over 12 compounds with anti-oxidant activities greater than vitamin E
- anti-tumor
- anti-emetic (مضاد للاستفراغ inhibits vomiting)



Ginseng

- The roots of the herbaceous plants *Panax ginseng* (Araliaceae)
- Indogenous to ^{بلده الاصل} China, Korea and Russia,
- Panax species have been widely used for the treatment of a number of diseases, including anaemia, diabetes, gastritis, insomnia, and sexual impotence, and as a general ^{تجديد الطاقة} restorative.





- The dried and usually peeled root provides white ginseng, whereas red ginseng is obtained by steaming the root, this process generating a reddish-brown caramel-like colour.
- Ginseng is classified as an 'adaptogen', **helping the body to adapt to stress, improving energy and concentration, and providing a normalizing and restorative effect**. It is also widely promoted as an aphrodisiac.

Sexual impotence

- Long-term use of ginseng can lead to symptoms similar to those of corticosteroid poisoning, including hypertension, nervousness and sleeplessness in some subjects, yet hypotension and tranquillizing effects in others.

- It contains a large number of triterpenoid saponins based on the dammarane subgroup, saponins that have been termed ginsenosides, or panaxo-sides.
- These are derivatives of two main aglycones, protopanaxadiol and protopanaxatriol, though the aglycones liberated on acid hydrolysis are panaxadiol and panaxatriol respectively.

Actions and Uses

- Ginseng has been found to:
 - protect the body & nervous system from stress → adaptogen
 - stimulate & increase metabolic function → restorative
 - increase physical & mental efficiency
 - lower blood pressure & glucose levels when they are high, and raise them (blood pressure & glucose levels) when they are low. * علاقة عكسية مع الضغط و نسبة السكر
* الـ cinnamaldehyde مادة بالقرنفل، أيضا علاقة عكسية لكن مع CNS مقو
- The German Commission E approved ginseng as a tonic for fortification in times of fatigue and debility or declining capacity for work and concentration. Also approved ginseng for use during convalescence.^{فترة نقاهة}