

## Oils with Evidence:

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### Standout compounds:

#### Camphor

\*Camphor Induces Proliferative and Anti-senescence Activities in Human Primary Dermal Fibroblasts and Inhibits UV-Induced Wrinkle Formation in Mouse Skin.(Tran et al., 2015).

\*Camphor exhibits a number of biological properties such as insecticidal, antimicrobial, antiviral, anticoccidial, anti-nociceptive, anticancer and antitussive activities, in addition to its use as a skin penetration enhancer.

\*Antitussive (Chen et al., 2013).

\*Circulatory stimulant used externally to move the blood to relieve stagnation of blood and Qi for neuropathies and other pain (Chen et al., 2013).

\*topically applied analgesics and rubefacients for treatment of minor muscle aches and pains  
\*However, camphor is a very toxic substance and numerous cases of camphor poisoning have been documented.

\*Insecticidal

\*Review of history, biological activity:  
<http://www.mdpi.com/1420-3049/18/5/5434>

**Linalool** (from lavender and many other plants)

\*Sedative effect *in vitro* (including by inhalation; Linck et al., 2009)

\*Antioxidant, antiinflammatory effects in humans (Seol et al., 2016)

\*Synergistic compound in many essential oils for enhanced antimicrobial effects

\*Inhibits inflammation induced by cigarette smoking

\*anxiolytic properties with no demonstrable effects *in vivo*

\*Anti-stress effects, reduces cortisol in humans (Hoferi et al, 2006)

\*Anti-tumorigenic effects *in vivo* (Jana et al., 2014)

\*Antidepressant activity *in vivo* (Guzman-Gutierrez et al., 2012)

\*Anticonvulsant activity close to that of diazepam *in vivo* (de Sousa et al., 2010)

\*adenosine receptor agonist for nociception (Peana et al., 2006)

\*linalool is one of the major odor elements in jasmine tea

## Selected Herbal Oils

#### Cajeput

\*Antiherpetic, antibacterial

#### Basil

\*Up to 70% linalool (like lavender)

\*Linalool studies show sedative effect, some clinical reports and small trials

\*Anticancer, antiinflammatory, analgesic effect for chronic pain; antioxidant

\*Antimicrobial

#### Bergamot

\*anticancer (limonene); inhibits acetylcholinesterase

\*psychological issues--anxiety

\*cortisol decrease--antistress activity

**Birch oil** (sweet birch, black birch, cherry birch)

\*up to 99% methyl salicylate (CAUTION, very toxic when taken internally)

\*Analgesic when applied externally (caution during pregnancy, young children)

#### Camphor

\*Camphor trees are widespread, commonly cultivated

\*Up to 9x% camphor (camphor CT); up to 87% linalool (linalool CT)

\*Externally, pain, neuropathies; CAUTION, internally, especially with kids and pregnancy

**Cinnamon** (not cassia cinnamon, true cinnamon)

\*moves the blood--blood stagnation, pain, etc.

- \*antimicrobial, antiviral, antifungal; may have immunomodulating properties
- \*temperature: very warm or hot
- \*much more biological activities summarized in EBEOT
- \*CAUTION during pregnancy

### **Citronella**

- \*antiinflammatory, analgesic, antioxidant
- \*vasorelaxation

### **Clove**

- \*up to 80% eugenol
- \*anticholinesterase activity; may be of use in neurological conditions
- \*analgesic
- \*immunomodulating; anticandidal
- \*anticaries
- \*lots of other research and bioactivity

### **Eucalyptus**

- \*up to 84% eucalyptol (1,8-cineol)
- \*decongestant, expectorant, mast cell-stabilizer (antiallergic)
- \*antiinflammatory; immunomodulatory
- \*famous for coughs, URI--check Fisherman's Friend
- \*CAUTION for very young children (<4 years old)

### **Fennel**

- \*up to 94% estragole, up to 22% limonene
- \*both high estragole CT and trans-anethole CT
- \*CAUTION with excessive doses of high estragole CT (suspected carcinogen, likely with chronic exposure)
- \*may have mild estrogen-like effects (estragole)
- \*well-known digestive aid, anti-flatulence

### **Frankincense (*Boswellia*)**

- \*antiinflammatory, analgesic
- \*external, internal use

### **Geranium (rose geranium)**

- \*citranellal, geraniol
- \*nervine, calmative
- \*antineuralgic, analgesic
- \*urinary tract infections--antibacterial for UTI pathogens

### **German Chamomile**

- \*up to 61% chamazulene--strongest antiinflammatory
- \*bisabolol oxide, up to 56%
- \*antiinflammatory, analgesic!

### **Ginger**

- \*up to 32% zingiberene; geraniol, curcumene
- \*analgesic, bronchodilator, antiinflammatory
- \*carminative
- \*antinauseant

### **Helichrysum**

- contains up to 22.5% gamma-curcument (antiinflammatory) OR neryl-acetate CT (up to 50% neryl-acetate)
- \*retards formation of scars
- \*analgesic
- \*helps relieve chronic skin conditions
- \*nervine

### **Lavandin**

- \*up to 40% linalool (calmative); camphor (up to 12%)
- \*a number of other CTs, all contain significant linalool, smaller amounts of camphor

### **Lavender--English (*Lavandula agnustifolia*)**

- \*up to 51% linalool and 45% linalyl acetate
- \*[French lavender, up to 69% linalool]
- \*relieves burns, sunburn
- \*calmative, sleep aid, relaxant, anxiolytic, etc.
- \*many studies both by inhalation and ingestion

### **Melaleuca (tea tree)**

- \*up to 47% terpinen-4-ol; gamma-terpinene, up to 28%
- \*antiseptic, antiviral, antibacterial

### **Melissa (lemon balm)**

- \*up to 45% geraniol; up to 34% neral; up to 32% caryophyllene oxide
- \*antispasmodic (relieves digestive, uterine cramps)
- \*calmative

### **Neroli (orange flowers)**

- \*up to 34% linalool; 28% limonene; 19% beta-pinene
- \*analgesic
- \*calmative, anti-stress

### **Oregano**

- \*up to 83% carvacrol (thymol isomer)
- \*antibacterial, antifungal, antiviral, immune stimulant
- \*likely one of the best herbal antimicrobials available

### **Peppermint**

- \*up to 77% menthol (stimulates cool receptors)
- \*up to 30% menthone
- \*relieves headache (applied, inhaled)
- \*aids digestion; digestive upset, inflammation
- \*enteric-coated caps for IBS
- \*eases nausea, vomiting
- \*carminative (relaxes intestines, sphincters, allows gas to clear)

### **Roman chamomile**

- \*up to 36% isobutyl angelate; 24% isoamyl isobutyrate
- \*relieves pain
- \*relieves colic
- \*antineuralgic
- \*painful menstruation

### **Rose Otto**

- \*up to 46% citronellol + nerol (ISO 9842 Standard)
- \*up to 25% geraniol
- \*hydrocarbons
- \*"balances heart function"
- \*calmative
- \*stress management
- \*calm spirit

### **Rosemary**

- Several major CTs:
- high 1,8-cineol (up to 52%)
- high alpha pinene (up to 62%)
- high beta myrcene (up to 30%)
- high borneol (up to 20%)
- high borneol acetate (up to 36%)

- high camphor (up to 36%)
- high verbenone (up to 25%)
- \*antibacterial
- \*antispasmodic
- \*skin conditions
- \*nerve activation; relieves torpor (high camphor)
- \*by tradition--aids memory

### **Sage (*Salvia officinalis*)**

- \*Several major CTs:
- high 1,8-cineol (up to 50%)
- high alpha-thujone (up to 53%)
- high beta-thujone (up to 50%)
- high camphor (up to 37%)
- \*strong antibacterial, antiviral
- \*aids memory (but what cultivar?)

### **Wintergreen**

- \*up to 99.6% methyl salicylate
- \*CAUTION--not for internal use
- \*externally for pain relief (locally-absorbed salicylate)