**Oils with Evidence:**

Christopher Hobbs, Ph.D.

**Standout compounds:**

**Camphor**
- Camphor Induces Proliferative and Antisenescence 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, antinociceptive, 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

**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)

**Selected Herbal Oils**

**Cajeput**
- Antitherpetic, 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 (antiiallergic)
*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)**
*citranelall, 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; geranial, curcumene
*analgesic, brochodilator, 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% geranial; 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)
*antibacteril, 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, enhaled)
*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-cineole (up to 52%)
  -high alpha-pinene (up to 62%)
  -high beta myrcene (up to 30%)
  -high borneol (up to 20%)
  -high boreol 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)