

# List of All Chemicals

## **P** Eucalyptus populnea (Myrtaceae)

### How used

#### Medicinal

\*Unless otherwise noted all references are to Duke, James A. 1992. Handbook of phytochemical constituents of GRAS herbs and other economic plants. Boca Raton, FL. CRC Press.

| Chemical      | Part  | Low PPM | High PPM | StdDev | *Reference  |
|---------------|-------|---------|----------|--------|---|
| (+)-QUERCITOL | Plant | --      | --       |        | Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.  |
| 1,8-CINEOLE   | Leaf  | --      | 2210.0   | -0.25  | Bignell, C.M., Dunlop, P.J., Brophy, J.J., and Jackson, J.F. 1995. Volatile Leaf Oils of Some South-western and Southern Australian Species of the Genus Eucalyptus. Part VI. Subgenus Symphyomyrtus, Section Adnataria. Flavour and Fragrance J. 10(6):359-364 |

#### Activities (67)

|  |  |
|--|--|
| (-)-Chronotropic 87 n/ml               | Hansel, R., Keller, K., Rimpler, H., and Schneider, G. eds. 1992. Hager's Handbuch der Pharmazeutischen Praxis, Drogen (A-D), 1209 pp., 1993 (E-O), 970 pp., 1994 (P-Z), 1196 pp. Springer-Verlag, Berlin.               |
| (-)-Inotropic 87 n/ml                  | Hansel, R., Keller, K., Rimpler, H., and Schneider, G. eds. 1992. Hager's Handbuch der Pharmazeutischen Praxis, Drogen (A-D), 1209 pp., 1993 (E-O), 970 pp., 1994 (P-Z), 1196 pp. Springer-Verlag, Berlin.               |
| Acaricide LC100=6 uM                   |  |
| Allelopathic                           |  |
| Allergenic                             |  |
| Anesthetic                             |  |
| Anthelmintic                           | Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.   |
| Antiacetylcholinesterase IC50=41 ug/ml |  |
| Antiallergic                           | J. Food Hyg. Soc. Jap. 33(6): 569.   |
| Antibacterial 50 ppm                   |  |
| Antibronchitic                         |  |
| Anticariogenic                         |  |
| Anticatarrh                            | Martindale's 29th  |
| Anticholinesterase IC50=50-70          |  |
| Antifatigue                            |  |
| Antihalitosis                          | American Health, 12(4): 17, 1993.  |
| Antiinflammatory                       |  |
| Antilaryngitic                         |  |
| Antinociceptive                        |  |
| Antipharyngitic                        |  |
| Antiplateau                            |  |
| Antirheumatic                          |  |
| Antirhinitic                           |  |
| Antiseptic                             | Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.   |
| Antisinusitic                          |  |
| Antispasmodic                          |  |
| Antistaphylococcic 50 ppm              |  |
| Antitussive                            |  |
| Antiulcer                              |  |
| CNS-Stimulant                          |  |
| Candidicide                            |  |
| Carcinogenic                           | Zebovitz, T. C. Ed. 1989. Part VII. Flavor and Fragrance Substances, in Keith L. H. and Walters, D.B., eds. Compendium of Safety Data Sheets for Research and Industrial Chemicals. VCH Publishers, New York. 3560-4253. |
| Choleretic                             |  |
| Convulsant                             |  |
| Counterirritant                        | Martindale's 29th  |
| Cytochrome-P450-Inducer                |  |
| Decongestant                           |  |
| Degranulant 0.3 ul/ml                  |  |
| Dentifrice                             | Martindale's 29th  |
| Edemagenic inj                         |  |

|                                  |  |  |  |  |  |
|----------------------------------|--|--|--|--|--|
| Expectorant                      | Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.       |  |  |  |  |
| FLavor FEMA 1-200                | Aloe Research Council - Duke writeup of non-peer reviewed book by Coats and draft by Henry   |  |  |  |  |
| Fungicide                        |  |  |  |  |  |
| Gastroprotective                 |  |  |  |  |  |
| Gram(+)-icide                    |  |  |  |  |  |
| Gram(-)-icide                    |  |  |  |  |  |
| Hepatotoxic                      |  |  |  |  |  |
| Herbicide IC50=78 µM             | Keeler, R.F. and Tu, A.T. eds. 1991. Toxicology of Plant and Fungal Compounds. (Handbook of Natural Toxins Vol. 6) Marcel Dekker, Inc. NY. 665 pp.           |  |  |  |  |
| Hypotensive                      |  |  |  |  |  |
| Inflammatory inj                 |  |  |  |  |  |
| Insectifuge                      |  |  |  |  |  |
| Irritant                         | Rinzler, C. A. 1990. The Complete Book of Herbs, Spices and Condiments. Facts on File, New York. 199 pp.   |  |  |  |  |
| Myorelaxant                      | Newall, C. A., Anderson, L. A. and Phillipson, J. D. 1996. Herbal Medicine - A Guide for Health-care Professionals. The Pharmaceutical Press, London. 296pp. |  |  |  |  |
| Nematicide                       | Nigg, H.N. and Seigler, D.S., eds. 1992. Phytochemical Resources for Medicine and Agriculture. Plenum Press, New York. 445 pp.                               |  |  |  |  |
| Neurotoxic                       |  |  |  |  |  |
| P450-Inducer                     |  |  |  |  |  |
| Pediculicide 2.3 x pyrethrin     |  |  |  |  |  |
| Perfume                          | Aloe Research Council - Duke writeup of non-peer reviewed book by Coats and draft by Henry   |  |  |  |  |
| Pesticide                        |  |  |  |  |  |
| Rubefacient                      | Martindale's 29th  |  |  |  |  |
| Secretagogue                     |  |  |  |  |  |
| Sedative                         |  |  |  |  |  |
| Spasmogenic                      |  |  |  |  |  |
| Surfactant                       |  |  |  |  |  |
| Testosterone-Hydroxylase-Inducer |  |  |  |  |  |
| Transdermal                      |  |  |  |  |  |
| Trichomonicide LD100=1,000 µg/ml |  |  |  |  |  |

|                            |      |    |      |       |   |
|----------------------------|------|----|------|-------|---|
| A-MUROLENE                 | Leaf | -- | 1.8  | -0.79 | Bignell, C.M., Dunlop, P.J., Brophy, J.J., and Jackson, J.F. 1995. Volatile Leaf Oils of Some South-western and Southern Australian Species of the Genus Eucalyptus. Part VI. Subgenus Symphyomyrtus, Section Adnataria. Flavour and Fragrance J. 10(6):359-364 |
| ALLO-AROMADENDRENE         | Leaf | -- | 35.0 | -0.19 | Bignell, C.M., Dunlop, P.J., Brophy, J.J., and Jackson, J.F. 1995. Volatile Leaf Oils of Some South-western and Southern Australian Species of the Genus Eucalyptus. Part VI. Subgenus Symphyomyrtus, Section Adnataria. Flavour and Fragrance J. 10(6):359-364 |
| ALPHA-BULNESENE            | Leaf | -- | 8.0  | -0.67 | Bignell, C.M., Dunlop, P.J., Brophy, J.J., and Jackson, J.F. 1995. Volatile Leaf Oils of Some South-western and Southern Australian Species of the Genus Eucalyptus. Part VI. Subgenus Symphyomyrtus, Section Adnataria. Flavour and Fragrance J. 10(6):359-364 |
| ALPHA-CAMPHOLENIC-ALDEHYDE | Leaf | -- | 1.8  | -0.82 | Bignell, C.M., Dunlop, P.J., Brophy, J.J., and Jackson, J.F. 1995. Volatile Leaf Oils of Some South-western and Southern Australian Species of the Genus Eucalyptus. Part VI. Subgenus Symphyomyrtus, Section Adnataria. Flavour and Fragrance J. 10(6):359-364 |
| ALPHA-COPAENE              | Leaf | -- | 1.8  | -0.35 | Bignell, C.M., Dunlop, P.J., Brophy, J.J., and Jackson, J.F. 1995. Volatile Leaf Oils of Some South-western and Southern Australian Species of the Genus Eucalyptus. Part VI. Subgenus Symphyomyrtus, Section Adnataria. Flavour and Fragrance J. 10(6):359-364 |
| ALPHA-CUBEBENE             | Leaf | -- | 1.8  | -0.4  | Bignell, C.M., Dunlop, P.J., Brophy, J.J., and Jackson, J.F. 1995. Volatile Leaf Oils of Some South-western and Southern Australian Species of the Genus Eucalyptus. Part VI. Subgenus Symphyomyrtus, Section Adnataria. Flavour and Fragrance J. 10(6):359-364 |
| ALPHA-EUDES MOL            | Leaf | -- | 3.0  | -0.69 | Bignell, C.M., Dunlop, P.J., Brophy, J.J., and Jackson, J.F. 1995. Volatile Leaf Oils of Some South-western and Southern Australian Species of the Genus Eucalyptus. Part VI. Subgenus Symphyomyrtus, Section Adnataria. Flavour and Fragrance J. 10(6):359-364 |
| ALPHA-FENCHENE             | Leaf | -- | --   | -0.46 | Bignell, C.M., Dunlop, P.J., Brophy, J.J., and Jackson, J.F. 1995. Volatile Leaf Oils of Some South-western and Southern Australian Species of the Genus Eucalyptus. Part VI. Subgenus Symphyomyrtus, Section Adnataria. Flavour and Fragrance J. 10(6):359-364 |
| ALPHA-GURJUNENE            | Leaf | -- | 1.8  | -0.61 | Bignell, C.M., Dunlop, P.J., Brophy, J.J., and Jackson, J.F. 1995. Volatile Leaf Oils of Some South-western and Southern Australian Species of the Genus Eucalyptus. Part VI. Subgenus Symphyomyrtus, Section Adnataria. Flavour and Fragrance J. 10(6):359-364 |
| ALPHA-P-DIMETHYLSTYRENE    | Leaf | -- | 1.8  |       | Bignell, C.M., Dunlop, P.J., Brophy, J.J., and Jackson, J.F. 1995. Volatile Leaf Oils of Some South-western and Southern Australian Species of the Genus Eucalyptus. Part VI. Subgenus Symphyomyrtus, Section Adnataria. Flavour and Fragrance J. 10(6):359-364 |
| ALPHA-PHELLANDRENE         | Leaf | -- | 1.8  | -0.31 | Bignell, C.M., Dunlop, P.J., Brophy, J.J., and Jackson, J.F. 1995. Volatile Leaf Oils of Some South-western and Southern Australian Species of the Genus Eucalyptus. Part VI. Subgenus Symphyomyrtus, Section Adnataria. Flavour and Fragrance J. 10(6):359-364 |

**Activities (11)**

|                    |   |
|--------------------|---|
| Antibacterial      | Wright,C.W.(Ed)2002.Medicinal&Aromatic Plants-Industrial Profiles.Artemisia.344pp.Maffei,M.(Ed)2002.Vetiveria.The Genus Vetiveria.Taylor&Francis.NY,NY.191pp.Southwell,I.,Lowe,R.(Eds)1999.Tea Tree.The Genus Melaleuca.Harwood Acad.Pub.Amsterdam,Netherlands. |
| Antistaphylococcic | Wright,C.W.(Ed)2002.Medicinal&Aromatic Plants-Industrial Profiles.Artemisia.344pp.Maffei,M.(Ed)2002.Vetiveria.The Genus Vetiveria.Taylor&Francis.NY,NY.191pp.Southwell,I.,Lowe,R.(Eds)1999.Tea Tree.The Genus Melaleuca.Harwood Acad.Pub.Amsterdam,Netherlands. |
| Dermal             | Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.  |
| Emetic             |   |
| FLavor FEMA 10-130 | Aloe Research Council - Duke writeup of non-peer reviewd book by Coats and draft by Henry   |
| Fungicide          | Hansel, R., Keller, K., Rimpler, H., and Schneider, G. eds. 1992. Hager's Handbuch der Pharmazeutischen Praxis, Drogen (A-D), 1209 pp., 1993 (E-O), 970 pp., 1994 (P-Z), 1196 pp. Springer-Verlag, Berlin.  |
| Insectiphile       | Pakistan Encyclopedia Planta Medica. 1986.  |
| Irritant           | Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.  |
| Laxative           |   |
| Perfumery          | Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.  |
| Pesticide          |   |

ALPHA-PINENE      Leaf      --      71.0      -0.22      Bignell, C.M., Dunlop, P.J., Brophy, J.J., and Jackson, J.F. 1995. Volatile Leaf Oils of Some South-western and Southern Australian Species of the Genus Eucalyptus. Part VI. Subgenus Symphyomyrtus, Section Adnataria. Flavour and Fragrance J. 10(6):359-364

**Activities (28)**

|                                  |  |
|----------------------------------|--|
| Allelochemic                     |  |
| Allergenic                       |  |
| Antiacne                         |  |
| Antibacterial                    |  |
| Antifeedant                      |  |
| Antiflu                          | Economic & Medicinal Plant Research, 5: 195.   |
| Antiinflammatory 500 mg/kg       |  |
| Antipneumonic                    |  |
| Antiseptic                       |  |
| Antispasmodic                    |  |
| Antistaphylococcic               |  |
| Antiviral                        | Economic & Medicinal Plant Research, 5: 195.   |
| Cancer-Preventive                | Stitt, P. A. Why George Should Eat Broccoli. Dougherty Co, Milwaukee, WI, 1990, 399 pp.  |
| Coleoptophile                    |  |
| Expectorant                      | Michael Castleman 1991. The Healing Herbs. Rodale Press, Emmaus, PA 436 pp.  |
| FLavor FEMA 15-150               | Aloe Research Council - Duke writeup of non-peer reviewd book by Coats and draft by Henry  |
| Herbicide IC50=30 uM             | Keeler, R.F. and Tu, A.T. eds. 1991. Toxicology of Plant and Fungal Compounds. (Handbook of Natural Toxins Vol. 6) Marcel Dekker, Inc. NY. 665 pp.     |
| Insecticide 0.82 uM/fly          |  |
| Insectifuge 50 ppm               |  |
| Insectiphile                     | J. Stored. Prod. Res., 22:141, 1986.   |
| Irritant                         | Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp. |
| P450-2B1-Inhibitor IC50=0.087 uM |  |
| Perfumery                        | Aloe Research Council - Duke writeup of non-peer reviewd book by Coats and draft by Henry  |
| Pesticide                        |  |
| Sedative                         | Lawrence Review of Natural Products, Jun-90.   |
| Spasmogenic                      |  |
| Tranquilizer                     | Lawrence Review of Natural Products, Jun-90.   |
| Transdermal                      |  |

ALPHA-SELINENE      Leaf      --      1.8      -0.76      Bignell, C.M., Dunlop, P.J., Brophy, J.J., and Jackson, J.F. 1995. Volatile Leaf Oils of Some South-western and Southern Australian Species of the Genus Eucalyptus. Part VI. Subgenus Symphyomyrtus, Section Adnataria. Flavour and Fragrance J. 10(6):359-364

**Activities (3)**

|                               |  |
|-------------------------------|--|
| Antimalarial IC50=>50 ug/ml   | Rukunga, G. and Simons, A. J. 2006. The Potential of Plants as a Source of Antimalarial Agents - A Review. Africa Herbal Antimalaria Meeting. PlantaPhile Publications, Berlin. 72 pp. |
| Antiplasmodial IC50=>50 ug/ml | Rukunga, G. and Simons, A. J. 2006. The Potential of Plants as a Source of Antimalarial Agents - A Review. Africa Herbal Antimalaria Meeting. PlantaPhile Publications, Berlin. 72 pp. |
| Perfumery                     | Aloe Research Council - Duke writeup of non-peer reviewd book by Coats and draft by Henry  |

ALPHA-TERPINEOL      Leaf      --      1.8      -0.59      Bignell, C.M., Dunlop, P.J., Brophy, J.J., and Jackson, J.F. 1995. Volatile Leaf Oils of Some South-western and Southern Australian Species of the Genus Eucalyptus. Part VI. Subgenus Symphyomyrtus, Section Adnataria. Flavour and Fragrance J. 10(6):359-364

**Activities (23)**

|   |   |
|---|---|
| ACE-Inhibitor 100 ug/ml (weak activity) |   |
| Aldehyde-Reductase-Inhibitor 100 ug/ml  | Okamura, K., Iwakami, S., Matsunaga, T. 1992. Biological Activity of Monoterpenes from Trees. Toyama-Ken Yakuji Kenkyusho Nenpo, (20): 95-101.  |
| Allelopathic                            | Wright,C.W.(Ed)2002.Medicinal&Aromatic Plants-Industrial Profiles.Artemisia.344pp.Maffei,M.(Ed)2002.Vetiveria.The Genus Vetiveria.Taylor&Francis.NY,NY.191pp.Southwell,I.,Lowe,R.(Eds)1999.Tea Tree.The Genus Melaleuca.Harwood Acad.Pub.Amsterdam,Netherlands. |
| Antiacne                                |   |
| Antibacterial MIC=800-1,600 ug/ml       | Muroi, H. and Kubo, I. 1993. Combination Effects of Antibacterial Compounds in Green Tea Flavor against Streptococcus mutans. J. Agric. Food Chem. 41: 1102-1105.   |
| Anticancer                              | Joseph, J., Nadeau, D. and Underwood, A. 2001. The Color Code. Hyperion, NY.  |
| Anticariogenic MIC=800-1,600 ug/ml      | Muroi, H. and Kubo, I. 1993. Combination Effects of Antibacterial Compounds in Green Tea Flavor against Streptococcus mutans. J. Agric. Food Chem. 41: 1102-1105.   |
| Antiinflammatory                        |   |
| Antiproliferant                         |   |
| Antiseptic                              | Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.  |
| Cicatrizant ED50=240 ug/g mus           |   |
| FLavor FEMA 5-40                        | Aloe Research Council - Duke writeup of non-peer reviewd book by Coats and draft by Henry   |
| Insecticide 1.29 uM/fly                 |   |
| Interleukin-6-Inhibitor                 |   |
| Mosquitofuge > Deet                     |   |
| Motor-Depressant                        | Buchbauer et al, e.g.Buchbauer et al,1993.Therapeutic properties of essential oils and fragrances. Chap.12 in Teranishi,R, Buttery,R.G and Sugisawa,H. Eds. Bioactive Volatile Compounds from Plants. ACS Symposium Series 525. Amer. Chem. Soc., Washington DC |
| Nematicide MLC=1 mg/ml                  | Shoyakugaku Zasshi, 44: 183.  |
| Perfumery                               | Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.  |
| Pesticide                               |   |
| Sedative                                | Buchbauer et al, e.g.Buchbauer et al,1993.Therapeutic properties of essential oils and fragrances. Chap.12 in Teranishi,R, Buttery,R.G and Sugisawa,H. Eds. Bioactive Volatile Compounds from Plants. ACS Symposium Series 525. Amer. Chem. Soc., Washington DC |
| Termiticide IC100=5 mg/g                |   |
| Transdermal                             |   |
| Vulnerary ED50=240 ug/g mus             |   |

|               |      |    |       |       |   |
|---------------|------|----|-------|-------|---|
| AROMADENDRENE | Leaf | -- | 110.0 | -0.55 | Bignell, C.M., Dunlop, P.J., Brophy, J.J., and Jackson, J.F. 1995. Volatile Leaf Oils of Some South-western and Southern Australian Species of the Genus Eucalyptus. Part VI. Subgenus Symphyomyrtus, Section Adnataria. Flavour and Fragrance J. 10(6):359-364 |
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**Activities (3)**

|                   |  |
|-------------------|--|
| Antiseptic        | Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp. |
| Cancer-Preventive | Stitt, P. A. Why George Should Eat Broccoli. Dougherty Co, Milwaukee, WI, 1990, 399 pp.  |
| Pesticide         |  |

|                    |      |    |     |       |   |
|--------------------|------|----|-----|-------|---|
| BETA-CARYOPHYLLENE | Leaf | -- | 1.8 | -0.33 | Bignell, C.M., Dunlop, P.J., Brophy, J.J., and Jackson, J.F. 1995. Volatile Leaf Oils of Some South-western and Southern Australian Species of the Genus Eucalyptus. Part VI. Subgenus Symphyomyrtus, Section Adnataria. Flavour and Fragrance J. 10(6):359-364 |
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|                  |      |    |     |       |   |
|------------------|------|----|-----|-------|---|
| BETA-CIS-OCIMENE | Leaf | -- | 1.8 | -0.39 | Bignell, C.M., Dunlop, P.J., Brophy, J.J., and Jackson, J.F. 1995. Volatile Leaf Oils of Some South-western and Southern Australian Species of the Genus Eucalyptus. Part VI. Subgenus Symphyomyrtus, Section Adnataria. Flavour and Fragrance J. 10(6):359-364 |
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|---------------|------|----|-----|-------|---|
| BETA-CUBEBENE | Leaf | -- | 1.8 | -0.31 | Bignell, C.M., Dunlop, P.J., Brophy, J.J., and Jackson, J.F. 1995. Volatile Leaf Oils of Some South-western and Southern Australian Species of the Genus Eucalyptus. Part VI. Subgenus Symphyomyrtus, Section Adnataria. Flavour and Fragrance J. 10(6):359-364 |
|---------------|------|----|-----|-------|---|

|              |      |    |     |       |   |
|--------------|------|----|-----|-------|---|
| BETA-ELEMENE | Leaf | -- | 8.0 | -0.38 | Bignell, C.M., Dunlop, P.J., Brophy, J.J., and Jackson, J.F. 1995. Volatile Leaf Oils of Some South-western and Southern Australian Species of the Genus Eucalyptus. Part VI. Subgenus Symphyomyrtus, Section Adnataria. Flavour and Fragrance J. 10(6):359-364 |
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| Activities (5)      |  |  |  |  |  |
|---------------------|--|--|--|--|--|
| Anticancer (Cervix) |  |  |  |  | Medicinal and Poisonous Plants of the Tropics. Leeuwenberg, A.J.M., ed. Pudoc, Wageningen. 1987. |
| Antigliomic         |  |  |  |  |  |
| Antiproliferant     |  |  |  |  |  |
| Antitumor (Cervix)  |  |  |  |  | Medicinal and Poisonous Plants of the Tropics. Leeuwenberg, A.J.M., ed. Pudoc, Wageningen. 1987. |
| Apoptotic           |  |  |  |  |  |

|                |      |    |     |       |   |
|----------------|------|----|-----|-------|---|
| BETA-EUDES MOL | Leaf | -- | 5.0 | -0.61 | Bignell, C.M., Dunlop, P.J., Brophy, J.J., and Jackson, J.F. 1995. Volatile Leaf Oils of Some South-western and Southern Australian Species of the Genus Eucalyptus. Part VI. Subgenus Symphyomyrtus, Section Adnataria. Flavour and Fragrance J. 10(6):359-364 |
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| Activities (13)               |  |  |  |  |  |
|-------------------------------|--|--|--|--|--|
| AntiEBV                       |  |  |  |  |  |
| Antianoxic ED60=300 orl mus   |  |  |  |  | Yamahara, J., Matsuda, H., Naitoh, Y., Fujimura, H., and Tamai, Y. 1990. Antianoxic Action and Active Constituents of Atractylodis Lanceae Rhizoma. Chem. Pharm. Bull. 38(7): 2033-2034, 1990. |
| Antimutagenic ID50=0.09 uM/ml |  |  |  |  |  |
| Antipeptic                    |  |  |  |  | Chem & Pharm. Bull., 34: 3854, 1986.   |
| Antisalmonella >0.18 uM/ml    |  |  |  |  |  |
| Antitumor-Promoter?           |  |  |  |  |  |
| Antiulcer                     |  |  |  |  |  |
| CNS-Inhibitor                 |  |  |  |  |  |
| Calcium-Antagonist 40 uM mus  |  |  |  |  |  |
| Hepatoprotective              |  |  |  |  |  |
| Neurogenic                    |  |  |  |  |  |
| Pesticide                     |  |  |  |  |  |
| Sedative                      |  |  |  |  |  |

|                   |      |    |     |       |   |
|-------------------|------|----|-----|-------|---|
| BETA-PHELLANDRENE | Leaf | -- | 1.8 | -0.46 | Bignell, C.M., Dunlop, P.J., Brophy, J.J., and Jackson, J.F. 1995. Volatile Leaf Oils of Some South-western and Southern Australian Species of the Genus Eucalyptus. Part VI. Subgenus Symphyomyrtus, Section Adnataria. Flavour and Fragrance J. 10(6):359-364 |
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| Activities (3) |  |  |  |  |  |
|----------------|--|--|--|--|--|
| Expectorant    |  |  |  |  | Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.   |
| Fungicide      |  |  |  |  | Hansel, R., Keller, K., Rimpler, H., and Schneider, G. eds. 1992. Hager's Handbuch der Pharmazeutischen Praxis, Drogen (A-D), 1209 pp., 1993 (E-O), 970 pp., 1994 (P-Z), 1196 pp. Springer-Verlag, Berlin. |
| Perfumery      |  |  |  |  | Merck 11th Edition   |

|                             |      |    |     |      |   |
|-----------------------------|------|----|-----|------|---|
| BETA-PHENYLETHYL-PROPIONATE | Leaf | -- | 1.8 | -0.7 | Bignell, C.M., Dunlop, P.J., Brophy, J.J., and Jackson, J.F. 1995. Volatile Leaf Oils of Some South-western and Southern Australian Species of the Genus Eucalyptus. Part VI. Subgenus Symphyomyrtus, Section Adnataria. Flavour and Fragrance J. 10(6):359-364 |
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|             |      |    |     |       |   |
|-------------|------|----|-----|-------|---|
| BETA-PINENE | Leaf | -- | 3.0 | -0.42 | Bignell, C.M., Dunlop, P.J., Brophy, J.J., and Jackson, J.F. 1995. Volatile Leaf Oils of Some South-western and Southern Australian Species of the Genus Eucalyptus. Part VI. Subgenus Symphyomyrtus, Section Adnataria. Flavour and Fragrance J. 10(6):359-364 |
|-------------|------|----|-----|-------|---|

| Activities (13)    |  |  |  |  |  |
|--------------------|--|--|--|--|--|
| Allergenic         |  |  |  |  |  |
| Antiinflammatory   |  |  |  |  |  |
| Antiseptic         |  |  |  |  | Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.  |
| Antispasmodic      |  |  |  |  |  |
| Candidicide        |  |  |  |  |  |
| FLavor FEMA 15-600 |  |  |  |  | Aloe Research Council - Duke writeup of non-peer reviewd book by Coats and draft by Henry  |
| Herbicide          |  |  |  |  | Keeler, R.F. and Tu, A.T. eds. 1991. Toxicology of Plant and Fungal Compounds. (Handbook of Natural Toxins Vol. 6) Marcel Dekker, Inc. NY. 665 pp.   |
| Insectifuge        |  |  |  |  | Jacobson, M., Glossary of Plant-Derived Insect Deterrents, CRC Press, Inc., Boca Raton, FL, 213 p, 1990.   |
| Irritant           |  |  |  |  | Zebowitz, T. C. Ed. 1989. Part VII. Flavor and Fragrance Substances, in Keith L. H. and Walters, D.B., eds. Compendium of Safety Data Sheets for Research and Industrial Chemicals. VCH Publishers, New York. 3560-4253. |
| Perfumery          |  |  |  |  | Aloe Research Council - Duke writeup of non-peer reviewd book by Coats and draft by Henry  |
| Pesticide          |  |  |  |  |  |
| Spasmogenic        |  |  |  |  | Newall, C. A., Anderson, L. A. and Phillipson, J. D. 1996. Herbal Medicine - A Guide for Health-care Professionals. The Pharmaceutical Press, London. 296pp.   |
| Transdermal        |  |  |  |  |  |

|               |      |    |     |       |   |
|---------------|------|----|-----|-------|---|
| BETA-SELINENE | Leaf | -- | 1.8 | -0.51 | Bignell, C.M., Dunlop, P.J., Brophy, J.J., and Jackson, J.F. 1995. Volatile Leaf Oils of Some South-western and Southern Australian Species of the Genus Eucalyptus. Part VI. Subgenus Symphyomyrtus, Section Adnataria. Flavour and Fragrance J. 10(6):359-364 |
|---------------|------|----|-----|-------|---|

**Activities (3)**

|                               |  |
|-------------------------------|--|
| Antimalarial IC50=>50 ug/ml   | Rukunga, G. and Simons, A. J. 2006. The Potential of Plants as a Source of Antimalarial Agents - A Review. Africa Herbal Antimalaria Meeting. PlantaPhile Publications, Berlin. 72 pp. |
| Antiplasmodial IC50=>50 ug/ml | Rukunga, G. and Simons, A. J. 2006. The Potential of Plants as a Source of Antimalarial Agents - A Review. Africa Herbal Antimalaria Meeting. PlantaPhile Publications, Berlin. 72 pp. |
| Perfumery                     | Aloe Research Council - Duke writeup of non-peer reviewd book by Coats and draft by Henry  |

|                    |      |    |     |       |   |
|--------------------|------|----|-----|-------|---|
| BETA-TRANS-OCIMENE | Leaf | -- | --  | -0.67 | Bignell, C.M., Dunlop, P.J., Brophy, J.J., and Jackson, J.F. 1995. Volatile Leaf Oils of Some South-western and Southern Australian Species of the Genus Eucalyptus. Part VI. Subgenus Symphyomyrtus, Section Adnataria. Flavour and Fragrance J. 10(6):359-364 |
| BICYCLOELEMENE     | Leaf | -- | 1.8 | -0.92 | Bignell, C.M., Dunlop, P.J., Brophy, J.J., and Jackson, J.F. 1995. Volatile Leaf Oils of Some South-western and Southern Australian Species of the Genus Eucalyptus. Part VI. Subgenus Symphyomyrtus, Section Adnataria. Flavour and Fragrance J. 10(6):359-364 |
| BICYCLOGERMACRENE  | Leaf | -- | 1.8 | -0.28 | Bignell, C.M., Dunlop, P.J., Brophy, J.J., and Jackson, J.F. 1995. Volatile Leaf Oils of Some South-western and Southern Australian Species of the Genus Eucalyptus. Part VI. Subgenus Symphyomyrtus, Section Adnataria. Flavour and Fragrance J. 10(6):359-364 |
| BORNEOL            | Leaf | -- | 1.8 | -0.47 | Bignell, C.M., Dunlop, P.J., Brophy, J.J., and Jackson, J.F. 1995. Volatile Leaf Oils of Some South-western and Southern Australian Species of the Genus Eucalyptus. Part VI. Subgenus Symphyomyrtus, Section Adnataria. Flavour and Fragrance J. 10(6):359-364 |

**Activities (35)**

|                                  |  |
|----------------------------------|--|
| (-)-Chronotropic 29 ug/ml        | Hansel, R., Keller, K., Rimpler, H., and Schneider, G. eds. 1992. Hager's Handbuch der Pharmazeutischen Praxis, Drogen (A-D), 1209 pp., 1993 (E-O), 970 pp., 1994 (P-Z), 1196 pp. Springer-Verlag, Berlin.                                 |
| (-)-Inotropic 29 ug/ml           | Hansel, R., Keller, K., Rimpler, H., and Schneider, G. eds. 1992. Hager's Handbuch der Pharmazeutischen Praxis, Drogen (A-D), 1209 pp., 1993 (E-O), 970 pp., 1994 (P-Z), 1196 pp. Springer-Verlag, Berlin.                                 |
| Allelochemic                     |  |
| Analgesic                        |  |
| Antiacetylcholine                | Newall, C. A., Anderson, L. A. and Phillipson, J. D. 1996. Herbal Medicine - A Guide for Health-care Professionals. The Pharmaceutical Press, London. 296pp.   |
| Antibacterial MIC=125-250 ug/ml  |  |
| Antibronchitic                   | Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.   |
| Antiescherichic MIC=125 ug/ml    |  |
| Antifeedant                      |  |
| Antiinflammatory                 |  |
| Antiotitic                       |  |
| Antipyretic                      |  |
| Antisalmonella MIC=125 ug/ml     |  |
| Antispasmodic ED50=0.008 mg/ml   |  |
| Antistaphylococcic MIC=250 ug/ml |  |
| Antiyeast MIC=250 ug/ml          |  |
| CNS-Stimulant                    | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.   |
| CNS-Toxic                        | Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.   |
| Candidicide MIC=250 ug/ml        |  |
| Choleretic                       |  |
| FLavor FEMA<1                    | Aloe Research Council - Duke writeup of non-peer reviewd book by Coats and draft by Henry  |
| Fungicide                        |  |
| Hepatoprotective                 |  |
| Herbicide IC50=470 mM            | Lydon, J. & Duke, S., The potential of pesticides from plants, pp. 1-41 in Craker, L. & Simon, J., eds, Herbs, Spices & Medicinal Plants: Recent Advances in Botany, Horticulture, & Pharmacology, v. 4, Oryx Press, Phoenix, 1989, 267pp. |
| Herbicide IC50=470 uM            | Keeler, R.F. and Tu, A.T. eds. 1991. Toxicology of Plant and Fungal Compounds. (Handbook of Natural Toxins Vol. 6) Marcel Dekker, Inc. NY. 665 pp.   |
| Inhalant                         | Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.   |
| Insect-Repellent                 |  |
| Insectifuge                      | Jacobson, M., Glossary of Plant-Derived Insect Deterrents, CRC Press, Inc., Boca Raton, FL, 213 p, 1990.   |
| Irritant                         | Rinzler, C. A. 1990. The Complete Book of Herbs, Spices and Condiments. Facts on File, New York. 199 pp.   |
| Myorelaxant                      | Newall, C. A., Anderson, L. A. and Phillipson, J. D. 1996. Herbal Medicine - A Guide for Health-care Professionals. The Pharmaceutical Press, London. 296pp.   |
| Nematicide MLC=1 mg/ml           | Shoyakugaku Zasshi, 44: 183.   |
| Perfumery                        | Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.   |
| Pesticide                        |  |
| Sedative                         | Medline (post 1990 searches filed in my computer)  |
| Tranquilizer                     |  |

|                  |      |    |     |       |   |
|------------------|------|----|-----|-------|---|
| CADINA-1,4-DIENE | Leaf | -- | 4.0 | -0.64 | Bignell, C.M., Dunlop, P.J., Brophy, J.J., and Jackson, J.F. 1995. Volatile Leaf Oils of Some South-western and Southern Australian Species of the Genus Eucalyptus. Part VI. Subgenus Symphyomyrtus, Section Adnataria. Flavour and Fragrance J. 10(6):359-364 |
| CALACORENE       | Leaf | -- | 3.0 | -0.99 | Bignell, C.M., Dunlop, P.J., Brophy, J.J., and Jackson, J.F. 1995. Volatile Leaf Oils of Some South-western and Southern Australian Species of the Genus Eucalyptus. Part VI. Subgenus Symphyomyrtus, Section Adnataria. Flavour and Fragrance J. 10(6):359-364 |
| CALAMENENE       | Leaf | -- | 1.8 | -0.61 | Bignell, C.M., Dunlop, P.J., Brophy, J.J., and Jackson, J.F. 1995. Volatile Leaf Oils of Some South-western and Southern Australian Species of the Genus Eucalyptus. Part VI. Subgenus Symphyomyrtus, Section Adnataria. Flavour and Fragrance J. 10(6):359-364 |
| CARVONE          | Leaf | -- | 7.0 | -0.28 | Bignell, C.M., Dunlop, P.J., Brophy, J.J., and Jackson, J.F. 1995. Volatile Leaf Oils of Some South-western and Southern Australian Species of the Genus Eucalyptus. Part VI. Subgenus Symphyomyrtus, Section Adnataria. Flavour and Fragrance J. 10(6):359-364 |

#### Activities (19)

|   |   |
|---|---|
| Allergenic                                  |   |
| Antiacetylcholinesterase<br>IC50=1.4-1.8 mM |   |
| Antiproliferative                           |   |
| Antiseptic 1.5 x phenol                     | Wagner & Wolff, eds. 1977. New Natural Products (RS164. I56. 176)   |
| CNS-Stimulant                               |   |
| Cancer-Preventive                           | Stitt, P. A. Why George Should Eat Broccoli. Dougherty Co, Milwaukee, WI, 1990, 399 pp.   |
| Candidistat                                 |   |
| Carminative                                 | Yamamoto, A., Umemori, S., and Muranishi, S. 1993. Absorption Enhancement of Intrapulmonary Administered Insulin by Various Absorption Enhancers and Protease Inhibitors in Rats. J. Pharm. Pharmacol. 46: 14-18, 1994.   |
| FLavor FEMA 80-3,000                        | Aloe Research Council - Duke writeup of non-peer reviewed book by Coats and draft by Henry  |
| Fungistat                                   |   |
| Insecticide                                 | Jacobson, M., Glossary of Plant-Derived Insect Deterrents, CRC Press, Inc., Boca Raton, FL, 213 p, 1990.  |
| Insectifuge                                 | Jacobson, M., Glossary of Plant-Derived Insect Deterrents, CRC Press, Inc., Boca Raton, FL, 213 p, 1990.  |
| Motor-Depressant                            | Buchbauer et al, e.g. Buchbauer et al, 1993. Therapeutic properties of essential oils and fragrances. Chap. 12 in Teranishi, R., Buttery, R.G and Sugisawa, H. Eds. Bioactive Volatile Compounds from Plants. ACS Symposium Series 525. Amer. Chem. Soc., Washington DC |
| Nematicide MLC=1 mg/ml                      | Shoyakugaku Zasshi, 44: 183.  |
| Perfumery                                   | Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.  |
| Pesticide                                   |   |
| Sedative                                    | Buchbauer et al, e.g. Buchbauer et al, 1993. Therapeutic properties of essential oils and fragrances. Chap. 12 in Teranishi, R., Buttery, R.G and Sugisawa, H. Eds. Bioactive Volatile Compounds from Plants. ACS Symposium Series 525. Amer. Chem. Soc., Washington DC |
| Trichomonicide<br>LD100=300 ug/ml           |   |
| Vermicide                                   |   |

|                     |      |    |     |       |   |
|---------------------|------|----|-----|-------|---|
| CARYOPHYLLENE-OXIDE | Leaf | -- | 1.8 | -0.45 | Bignell, C.M., Dunlop, P.J., Brophy, J.J., and Jackson, J.F. 1995. Volatile Leaf Oils of Some South-western and Southern Australian Species of the Genus Eucalyptus. Part VI. Subgenus Symphyomyrtus, Section Adnataria. Flavour and Fragrance J. 10(6):359-364 |
|---------------------|------|----|-----|-------|---|

#### Activities (8)

|                                      |   |
|--------------------------------------|---|
| Antiedemic                           | Shimizu, *M., et al. 1990. Anti-inflammatory Constituents of Topically Applied Crude Drugs. IV.1) Constituents and Anti-inflammatory Effect of Paraguayan Crude Drug 'Alhucema' (Lavandula latifolia Vill.)2). Chem. Pharm. Bull. 38(8): 2283-2284, 1990. |
| Antifeedant                          | Bettarini, F., Borgonovi, G.E., et al. 1991. Antiparasitic Compounds from East African Plants: Isolation and Biological Activity of Anonaine, Matricarianol, Canthin-6-One and Caryophyllene Oxide. Insect Sci. Applic. 14(1): 93-99, 1993.               |
| Antiinflammatory                     | Shimizu, *M., et al. 1990. Anti-inflammatory Constituents of Topically Applied Crude Drugs. IV.1) Constituents and Anti-inflammatory Effect of Paraguayan Crude Drug 'Alhucema' (Lavandula latifolia Vill.)2). Chem. Pharm. Bull. 38(8): 2283-2284, 1990. |
| Antitumor                            | Zheng, G-Q., Kenney, P.M., and Lam, L.K.T. Sesquiterpenes From Clove (Eugenia caryophyllata) As Potential Anticarcinogenic Agents. Journal of Natural Products 55(7): 999-1003, 1992.   |
| Calcium-Antagonist<br>ED50=32 uM gpg |   |
| Fungicide                            |   |
| Insecticide                          | Bettarini, F., Borgonovi, G.E., et al. 1991. Antiparasitic Compounds from East African Plants: Isolation and Biological Activity of Anonaine, Matricarianol, Canthin-6-One and Caryophyllene Oxide. Insect Sci. Applic. 14(1): 93-99, 1993.               |
| Pesticide                            |   |

|                               |      |    |      |       |   |
|-------------------------------|------|----|------|-------|---|
| CIS-P-MENTHA-1(7),8-DIEN-2-OL | Leaf | -- | 19.0 | 1.04  | Bignell, C.M., Dunlop, P.J., Brophy, J.J., and Jackson, J.F. 1995. Volatile Leaf Oils of Some South-western and Southern Australian Species of the Genus Eucalyptus. Part VI. Subgenus Symphyomyrtus, Section Adnataria. Flavour and Fragrance J. 10(6):359-364 |
| CIS-P-MENTHA-1,8-DIEN-6-OL    | Leaf | -- | 1.8  | -0.88 | Bignell, C.M., Dunlop, P.J., Brophy, J.J., and Jackson, J.F. 1995. Volatile Leaf Oils of Some South-western and Southern Australian Species of the Genus Eucalyptus. Part VI. Subgenus Symphyomyrtus, Section Adnataria. Flavour and Fragrance J. 10(6):359-364 |
| CIS-PIPERITOL                 | Leaf | -- | 5.0  | -0.34 | Bignell, C.M., Dunlop, P.J., Brophy, J.J., and Jackson, J.F. 1995. Volatile Leaf Oils of Some South-western and Southern Australian Species of the Genus Eucalyptus. Part VI. Subgenus Symphyomyrtus, Section Adnataria. Flavour and Fragrance J. 10(6):359-364 |

|                |      |    |     |       |   |
|----------------|------|----|-----|-------|---|
| CRYPTONE       | Leaf | -- | 3.0 | -0.28 | Bignell, C.M., Dunlop, P.J., Brophy, J.J., and Jackson, J.F. 1995. Volatile Leaf Oils of Some South-western and Southern Australian Species of the Genus Eucalyptus. Part VI. Subgenus Symphyomyrtus, Section Adnataria. Flavour and Fragrance J. 10(6):359-364 |
| CUMINAL        | Leaf | -- | 1.8 | -0.34 | Bignell, C.M., Dunlop, P.J., Brophy, J.J., and Jackson, J.F. 1995. Volatile Leaf Oils of Some South-western and Southern Australian Species of the Genus Eucalyptus. Part VI. Subgenus Symphyomyrtus, Section Adnataria. Flavour and Fragrance J. 10(6):359-364 |
| DELTA-CADINENE | Leaf | -- | 8.0 | -0.43 | Bignell, C.M., Dunlop, P.J., Brophy, J.J., and Jackson, J.F. 1995. Volatile Leaf Oils of Some South-western and Southern Australian Species of the Genus Eucalyptus. Part VI. Subgenus Symphyomyrtus, Section Adnataria. Flavour and Fragrance J. 10(6):359-364 |

#### Activities (9)

Aldose-Reductase-Inhibitor

Antiacne

Antibacterial MIC800 ug/ml Muroi, H. and Kubo, I. 1993. Combination Effects of Antibacterial Compounds in Green Tea Flavor against Streptococcus mutans. J. Agric. Food Chem. 41: 1102-1105.

Anticariogenic MIC800 ug/ml Muroi, H. and Kubo, I. 1993. Combination Effects of Antibacterial Compounds in Green Tea Flavor against Streptococcus mutans. J. Agric. Food Chem. 41: 1102-1105.

Antistreptococcic

Cytochrome-P450-Inducer

P450-Inducer

Pesticide

Testosterone-Inducer

|               |      |    |     |       |   |
|---------------|------|----|-----|-------|---|
| DELTA-CADINOL | Leaf | -- | 1.8 | -0.66 | Bignell, C.M., Dunlop, P.J., Brophy, J.J., and Jackson, J.F. 1995. Volatile Leaf Oils of Some South-western and Southern Australian Species of the Genus Eucalyptus. Part VI. Subgenus Symphyomyrtus, Section Adnataria. Flavour and Fragrance J. 10(6):359-364 |
|---------------|------|----|-----|-------|---|

#### Activities (1)

Termiticide Material und Organismen , 24: 1, 1989.

|               |      |    |     |      |   |
|---------------|------|----|-----|------|---|
| DELTA-ELEMENE | Leaf | -- | 1.8 | -0.8 | Bignell, C.M., Dunlop, P.J., Brophy, J.J., and Jackson, J.F. 1995. Volatile Leaf Oils of Some South-western and Southern Australian Species of the Genus Eucalyptus. Part VI. Subgenus Symphyomyrtus, Section Adnataria. Flavour and Fragrance J. 10(6):359-364 |
|---------------|------|----|-----|------|---|

|                 |      |    |     |       |   |
|-----------------|------|----|-----|-------|---|
| DELTA-TERPINEOL | Leaf | -- | 9.0 | -0.27 | Bignell, C.M., Dunlop, P.J., Brophy, J.J., and Jackson, J.F. 1995. Volatile Leaf Oils of Some South-western and Southern Australian Species of the Genus Eucalyptus. Part VI. Subgenus Symphyomyrtus, Section Adnataria. Flavour and Fragrance J. 10(6):359-364 |
|-----------------|------|----|-----|-------|---|

|    |      |    |        |      |   |
|----|------|----|--------|------|---|
| EO | Leaf | -- | 3600.0 | -0.7 | Bignell, C.M., Dunlop, P.J., Brophy, J.J., and Jackson, J.F. 1995. Volatile Leaf Oils of Some South-western and Southern Australian Species of the Genus Eucalyptus. Part VI. Subgenus Symphyomyrtus, Section Adnataria. Flavour and Fragrance J. 10(6):359-364 |
|----|------|----|--------|------|---|

|         |      |    |     |      |   |
|---------|------|----|-----|------|---|
| FENCHOL | Leaf | -- | 1.8 | -0.9 | Bignell, C.M., Dunlop, P.J., Brophy, J.J., and Jackson, J.F. 1995. Volatile Leaf Oils of Some South-western and Southern Australian Species of the Genus Eucalyptus. Part VI. Subgenus Symphyomyrtus, Section Adnataria. Flavour and Fragrance J. 10(6):359-364 |
|---------|------|----|-----|------|---|

|                 |      |    |     |       |   |
|-----------------|------|----|-----|-------|---|
| GAMMA-EUDES MOL | Leaf | -- | 1.8 | -0.74 | Bignell, C.M., Dunlop, P.J., Brophy, J.J., and Jackson, J.F. 1995. Volatile Leaf Oils of Some South-western and Southern Australian Species of the Genus Eucalyptus. Part VI. Subgenus Symphyomyrtus, Section Adnataria. Flavour and Fragrance J. 10(6):359-364 |
|-----------------|------|----|-----|-------|---|

|                 |      |    |     |       |   |
|-----------------|------|----|-----|-------|---|
| GAMMA-TERPINENE | Leaf | -- | 1.8 | -0.37 | Bignell, C.M., Dunlop, P.J., Brophy, J.J., and Jackson, J.F. 1995. Volatile Leaf Oils of Some South-western and Southern Australian Species of the Genus Eucalyptus. Part VI. Subgenus Symphyomyrtus, Section Adnataria. Flavour and Fragrance J. 10(6):359-364 |
|-----------------|------|----|-----|-------|---|

#### Activities (11)

ACE-Inhibitor 100 ug/ml (weak activity)

Acaricide

Aldose-Reductase-Inhibitor 100 ug/ml Okamura, K., Iwakami, S., Matsunaga, T. 1992. Biological Activity of Monoterpenes from Trees. Toyama-Ken Yakuji Kenkyusho Nenpo, (20): 95-101.

Antiacetylcholinesterase IC23=1.2 mM

Antifeedant Blaschek, W., Hansel, R., Keller, K., Reichling, J., Rimpler, H., and Schneider, G. eds. 1998. Hager's Handbuch der Pharmazeutischen Praxis, Auflage Band 2 (A-K), 909 pp., (L-Z), 858 pp. Springer-Verlag, Berlin.

Antioxidant Jim Duke's personal files.

FLavor FEMA 1-40 Aloe Research Council - Duke writeup of non-peer reviewed book by Coats and draft by Henry

Insectifuge Blaschek, W., Hansel, R., Keller, K., Reichling, J., Rimpler, H., and Schneider, G. eds. 1998. Hager's Handbuch der Pharmazeutischen Praxis, Auflage Band 2 (A-K), 909 pp., (L-Z), 858 pp. Springer-Verlag, Berlin.

Irritant Zebovitz, T. C. Ed. 1989. Part VII. Flavor and Fragrance Substances, in Keith L. H. and Walters, D.B., eds. Compendium of Safety Data Sheets for Research and Industrial Chemicals. VCH Publishers, New York. 3560-4253.

Perfumery Aloe Research Council - Duke writeup of non-peer reviewed book by Coats and draft by Henry

Pesticide



GERANIOL Leaf -- -- -0.23 Bignell, C.M., Dunlop, P.J., Brophy, J.J., and Jackson, J.F. 1995. Volatile Leaf Oils of Some South-western and Southern Australian Species of the Genus Eucalyptus. Part VI. Subgenus *Symphomyrtus*, Section *Adnataria*. *Flavour and Fragrance J.* 10(6):359-364

### Activities (35)

|                                      |  |
|--------------------------------------|--|
| Allergenic                           |  |
| Anthelmintic                         | Madaus, G. 1976. <i>Lehrbuch der Biologischen Hilfsmittel</i> . Vol., 1-3. 2862 pp. (+ 144 p. index). Georg Olms Verlag, Hildesheim. Reprint of 1938 Madaus.   |
| Antibacterial<br>MIC=400 ug/ml       | Muroi, H. and Kubo, I. 1993. Combination Effects of Antibacterial Compounds in Green Tea Flavor against <i>Streptococcus mutans</i> . <i>J. Agric. Food Chem.</i> 41: 1102-1105.   |
| Antibacterial MIC=64 ug/ml           |  |
| Antibacterial<br>MBC=800 ug/ml       |  |
| Anticancer<br>(Pancreas) IC50=265 uM |  |
| Anticariogenic<br>MIC=400 ug/ml      | Muroi, H. and Kubo, I. 1993. Combination Effects of Antibacterial Compounds in Green Tea Flavor against <i>Streptococcus mutans</i> . <i>J. Agric. Food Chem.</i> 41: 1102-1105.   |
| Antimelanomic<br>IC50=150 uM/l       |  |
| Antisalmonella<br>MIC=400 ug/ml      |  |
| Antiseptic 7 x phenol                | Wagner & Wolff, eds. 1977. <i>New Natural Products</i> (RS164. I56. 176)   |
| Antiseptic MIC=64 ug/ml              |  |
| Antiseptic 400-800 ug/ml             |  |
| Antispasmodic                        | Buchbauer, G., Jirovetz*, L., Nikiforov, A., Remberg, G., Raverdino, V. 1989. Headspace-Analysis and Aroma Compounds of Austrian Hay-Blossoms ( <i>Flores Graminis</i> , <i>Graminis Flos</i> ) used in Aromatherapy. <i>J. Ess. Oil Res.</i> , 2: 185-191, 1990.  |
| Antitubercular<br>MIC=64 ug/ml       |  |
| Antitumor                            | Yu, S.G., Anderson, P.J., and Elson, C.E. 1995. Efficacy of B-Ionone in the Chemoprevention of Rat Mammary Carcinogenesis. <i>J. Agric. Food Chem.</i> 43: 2144-2147.  |
| Antitumor (Pancreas)<br>IC50=265 uM  |  |
| Ascaricide                           | Madaus, G. 1976. <i>Lehrbuch der Biologischen Hilfsmittel</i> . Vol., 1-3. 2862 pp. (+ 144 p. index). Georg Olms Verlag, Hildesheim. Reprint of 1938 Madaus.   |
| CNS-Stimulant                        | List, P.H. and Horhammer, L., <i>Hager's Handbuch der Pharmazeutischen Praxis</i> , Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.   |
| Cancer-Preventive                    | Stitt, P. A. <i>Why George Should Eat Broccoli</i> . Dougherty Co, Milwaukee, WI, 1990, 399 pp.  |
| Candidicide                          |  |
| Embryotoxic                          |  |
| Emetic 3 x ipecac                    | Lawrence Review of Natural Products, Sep-97.   |
| Expectorant                          | Madaus, G. 1976. <i>Lehrbuch der Biologischen Hilfsmittel</i> . Vol., 1-3. 2862 pp. (+ 144 p. index). Georg Olms Verlag, Hildesheim. Reprint of 1938 Madaus.   |
| FLavor FEMA 1-10                     | Aloe Research Council - Duke writeup of non-peer reviewed book by Coats and draft by Henry   |
| Fungicide IC93=2 mM                  | Lydon, J. & Duke, S., <i>The potential of pesticides from plants</i> , pp. 1-41 in Craker, L. & Simon, J., eds, <i>Herbs, Spices &amp; Medicinal Plants: Recent Advances in Botany, Horticulture, &amp; Pharmacology</i> , v. 4, Oryx Press, Phoenix, 1989, 267pp. |
| Herbicide IC100-2,000 uM             | Keeler, R.F. and Tu, A.T. eds. 1991. <i>Toxicology of Plant and Fungal Compounds</i> . (Handbook of Natural Toxins Vol. 6) Marcel Dekker, Inc. NY. 665 pp.   |
| Insectifuge 50 ppm                   |  |
| Insectiphile                         | Merck 11th Edition   |
| Mycobactericide<br>MIC=64 ug/ml      |  |
| Nematicide<br>IC86=100 ug/ml         | Nigg, H.N. and Seigler, D.S., eds. 1992. <i>Phytochemical Resources for Medicine and Agriculture</i> . Plenum Press, New York. 445 pp.   |
| Nematicide<br>MLC=1,000 ug/ml        | Shoyakugaku Zasshi, 44: 183.   |
| Perfumery                            | Merck 11th Edition   |
| Pesticide                            |  |
| Sedative                             |  |
| Trichomonicide<br>LD100=300 ug/ml    |  |

GLOBULOL Leaf -- 145.0 -0.36 Bignell, C.M., Dunlop, P.J., Brophy, J.J., and Jackson, J.F. 1995. Volatile Leaf Oils of Some South-western and Southern Australian Species of the Genus Eucalyptus. Part VI. Subgenus *Symphomyrtus*, Section *Adnataria*. *Flavour and Fragrance J.* 10(6):359-364

ISOAMYL-ISOVALERATE Leaf -- -- -0.5 Bignell, C.M., Dunlop, P.J., Brophy, J.J., and Jackson, J.F. 1995. Volatile Leaf Oils of Some South-western and Southern Australian Species of the Genus Eucalyptus. Part VI. Subgenus *Symphomyrtus*, Section *Adnataria*. *Flavour and Fragrance J.* 10(6):359-364

ISOBUTYL-ISOVALERATE Leaf -- 1.8 -0.57 Bignell, C.M., Dunlop, P.J., Brophy, J.J., and Jackson, J.F. 1995. Volatile Leaf Oils of Some South-western and Southern Australian Species of the Genus Eucalyptus. Part VI. Subgenus *Symphomyrtus*, Section *Adnataria*. *Flavour and Fragrance J.* 10(6):359-364

LIMONENE Leaf -- 1.8 -0.45 Bignell, C.M., Dunlop, P.J., Brophy, J.J., and Jackson, J.F. 1995. Volatile Leaf Oils of Some South-western and Southern Australian Species of the Genus Eucalyptus. Part VI. Subgenus *Symphomyrtus*, Section *Adnataria*. *Flavour and Fragrance J.* 10(6):359-364

**Activities (60)**

|   |  |
|---|--|
| AChE-Inhibitor                                      | Grundy, D. L. and Still, C. C., Inhibition of acetylcholinesterases by pulegone-1,2-epoxide, <i>Oest. Biochem. &amp; Physiol.</i> , 23, 1985, 383-8. |
| Acaricide LC100=8 uM                                |  |
| Allelochemic  |  |
| Allergenic 1/20th carene                            |  |
| Antiacetylcholinesterase IC22-26=1.2 mM             |  |
| Antiadenomic  |  |
| Antialzheimeran?                                    | Grundy, D. L. and Still, C. C., Inhibition of acetylcholinesterases by pulegone-1,2-epoxide, <i>Oest. Biochem. &amp; Physiol.</i> , 23, 1985, 383-8. |
| Antiasthmatic                                       |  |
| Antibacterial                                       | Revista Itiliana Eppos, 12: 5, 1994.   |
| Anticancer  |  |
| Antiesophagitic                                     |  |
| Antifeedant   |  |
| Antiflu   | Economic & Medicinal Plant Research, 5: 195.   |
| Antiinflammatory                                    |  |
| Antilithic  |  |
| Antilymphomic                                       |  |
| Antimetastatic (Stomach)                            |  |
| Antimutagenic                                       | Economic & Medicinal Plant Research, 6: 235.   |
| Antiobesity   |  |
| Antiseptic  |  |
| Antispasmodic ED50=0.197 mg/ml                      | Fitoterapia No.59-1984.  |
| Antitumor   |  |
| Antitumor (Breast)                                  |  |
| Antitumor (Colon)                                   |  |
| Antitumor (Pancreas)                                |  |
| Antitumor (Prostate)                                |  |
| Antitumor (Stomach)                                 |  |
| Antiviral   |  |
| Apoptotic   |  |
| Bronchoprotectant                                   |  |
| Cancer-Preventive                                   | Stitt, P. A. Why George Should Eat Broccoli. Dougherty Co, Milwaukee, WI, 1990, 399 pp.  |
| Candidistat   |  |
| Chemopreventive                                     |  |
| Cholesterolytic                                     |  |
| Detoxicant  |  |
| Enterocontractant                                   | J. Aromatherapy 4: 22.   |
| Expectorant   |  |
| FLavor  |  |
| Fungiphilic   | J. Agric. Food Chem. 43: 2283.   |
| Fungistat   |  |
| GST-Inducer   |  |
| Herbicide IC50=45 uM                                | Keeler, R.F. and Tu, A.T. eds. 1991. Toxicology of Plant and Fungal Compounds. (Handbook of Natural Toxins Vol. 6) Marcel Dekker, Inc. NY. 665 pp.   |
| Histaminic  |  |
| Immunomodulator                                     |  |
| Insecticide 0.37 uM/fly                             |  |
| Insectifuge   | Jacobson, M., Glossary of Plant-Derived Insect Deterrents, CRC Press, Inc., Boca Raton, FL, 213 p, 1990.   |
| Interleukin-6-Inhibitor                             |  |
| Irritant  |  |
| Lipolytic   |  |
| Myorelaxant 50 mg/kg                                |  |
| NO-Genic  |  |
| Nematicide IC=100 ug/ml                             | Nigg, H.N. and Seigler, D.S., eds. 1992. Phytochemical Resources for Medicine and Agriculture. Plenum Press, New York. 445 pp.                       |
| Ornithine-Decarboxylase-Inhibitor ~750 mg/kg (diet) |  |
| Ozone-Scavenger                                     |  |
| P450-Inducer  |  |
| Peristaltic   |  |
| Pesticide   |  |
| Photosensitizer                                     | Rinzler, C. A. 1990. The Complete Book of Herbs, Spices and Condiments. Facts on File, New York. 199 pp.   |
| Sedative ED=1-32 mg/kg                              | Wagner & Wolff, eds. 1977. New Natural Products (RS164. I56. 176)  |
| Transdermal   |  |

**Activities (53)**

|   |   |
|---|---|
| Acaricide C90=<15 ul/l (= <15 ppm)                    |   |
| Allergenic  |   |
| Analgesic   |   |
| Anesthetic 0.01-1 ug/ml                               |   |
| Antiacetylcholinesterase                              |   |
| Antiallergic  | Huang, K. C. 1993. <i>The Pharmacology of Chinese Herbs</i> . CRC Press, Boca Raton, FL 388 pp.   |
| Antianaphylactic                                      |   |
| Antibacterial MIC=1,600 ug/ml                         |   |
| Anticariogenic MIC=1,600 ug/ml                        | Muroi, H. and Kubo, I. 1993. Combination Effects of Antibacterial Compounds in Green Tea Flavor against <i>Streptococcus mutans</i> . <i>J. Agric. Food Chem.</i> 41: 1102-1105.  |
| Anticolic   |   |
| Anticonvulsant 200 mg/kg ipr mus                      |   |
| Antiedemic  |   |
| Antiglutamaergic                                      |   |
| Antihistaminic  | Huang, K. C. 1993. <i>The Pharmacology of Chinese Herbs</i> . CRC Press, Boca Raton, FL 388 pp.   |
| Antiinflammatory                                      |   |
| Antileukemic IC50=3.5-4.2 ug/ml                       | Chiang, L. C., Chiang, W., Chang, M. Y., Ng, L. T., Lin, C. C. 2003. Antileukemic activity of selected natural products in Taiwan. <i>Am J Chin Med</i> , 31(1):37-46.  |
| Antilymphomic IC50=3.5-4.2 ug/ml                      | Chiang, L. C., Chiang, W., Chang, M. Y., Ng, L. T., Lin, C. C. 2003. Antileukemic activity of selected natural products in Taiwan. <i>Am J Chin Med</i> , 31(1):37-46.  |
| Antimange   |   |
| Antimite  |   |
| Antimutagenic   |   |
| Antiseptic 5 x phenol                                 | Wagner & Wolff, eds. 1977. <i>New Natural Products</i> (RS164. I56. 176)  |
| Antishock   | Huang, K. C. 1993. <i>The Pharmacology of Chinese Herbs</i> . CRC Press, Boca Raton, FL 388 pp.   |
| Antispasmodic   | Buchbauer, G., Jirovetz*, L., Nikiforov, A., Remberg, G., Raverdino, V. 1989. Headspace-Analysis and Aroma Compounds of Austrian Hay-Blossoms ( <i>Flores Graminis</i> , <i>Graminis Flos</i> ) used in Aromatherapy. <i>J. Ess. Oil Res.</i> , 2: 185-191, 1990.       |
| Antiviral   |   |
| Barbituate-Synergist                                  |   |
| Bronchorelaxant                                       | Huang, K. C. 1993. <i>The Pharmacology of Chinese Herbs</i> . CRC Press, Boca Raton, FL 388 pp.   |
| CNS-Depressant  |   |
| Cancer-Preventive                                     | Stitt, P. A. <i>Why George Should Eat Broccoli</i> . Dougherty Co, Milwaukee, WI, 1990, 399 pp.   |
| Candidistat   |   |
| Carminative   |   |
| Culicide LC50=156-194 mg/l                            |   |
| Cytotoxic   |   |
| Expectorant   | Huang, K. C. 1993. <i>The Pharmacology of Chinese Herbs</i> . CRC Press, Boca Raton, FL 388 pp.   |
| FLavor FEMA 2-40                                      | Aloe Research Council - Duke writeup of non-peer reviewd book by Coats and draft by Henry   |
| Fungicide   | <i>Acta Botanica Sinica</i> , 32: 49.   |
| GABA-nergic   |   |
| Hypnotic  |   |
| Hypothermic   |   |
| Insecticide LC50=156-194 mg/l                         |   |
| Insectifuge   | Jacobson, M., <i>Glossary of Plant-Derived Insect Deterrents</i> , CRC Press, Inc., Boca Raton, FL, 213 p, 1990.  |
| Irritant  | Zebovitz, T. C. Ed. 1989. Part VII. <i>Flavor and Fragrance Substances</i> , in Keith L. H. and Walters, D.B., eds. <i>Compendium of Safety Data Sheets for Research and Industrial Chemicals</i> . VCH Publishers, New York. 3560-4253.                                |
| Larvicide LC50=156-194 mg/l                           |   |
| Mosquitofuge > Deet                                   |   |
| Motor-Depressant                                      | Buchbauer et al, e.g.Buchbauer et al,1993.Therapeutic properties of essential oils and fragrances. Chap.12 in Teranishi,R, Buttery,R.G and Sugisawa,H. Eds. <i>Bioactive Volatile Compounds from Plants</i> . ACS Symposium Series 525. Amer. Chem. Soc., Washington DC |
| Nematicide MLC=1 mg/ml                                | <i>Shoyakugaku Zasshi</i> , 44: 183.  |
| Perfumery   | Merck 11th Edition  |
| Pesticide   |   |
| Prooxidant  | Charalambous, G. (Ed.). 1994. <i>Spices, Herbs and Edible Fungi</i> . Elsevier Science B. V. Amsterdam. 764 pp.   |
| Sedative ED=1-32 mg/kg                                | Wagner & Wolff, eds. 1977. <i>New Natural Products</i> (RS164. I56. 176)  |
| Sedative 200 mg/kg ipr mus (1% as active as diazepam) |   |
| Termitifuge   | Jacobson, M., <i>Glossary of Plant-Derived Insect Deterrents</i> , CRC Press, Inc., Boca Raton, FL, 213 p, 1990.  |
| Trichomonicide LD100=600 ug/ml                        |   |
| Tumor-Promoter  |   |

MYRCENE Leaf -- 1.8 -0.17 Bignell, C.M., Dunlop, P.J., Brophy, J.J., and Jackson, J.F. 1995. Volatile Leaf Oils of Some South-western and Southern Australian Species of the Genus Eucalyptus. Part VI. Subgenus *Symphomyrtus*, Section *Adnataria*. *Flavour and Fragrance J.* 10(6):359-364

**Activities (22)**

ACE-Inhibitor 100 ug/ml

Aldose-Reductase-Inhibitor 100 ug/ml Okamura, K., Iwakami, S., Matsunaga, T. 1992. Biological Activity of Monoterpenes from Trees. *Toyama-Ken Yakuji Kenkyusho Nenpo*, (20): 95-101.

Allergenic

Analgesic Kauderer, B., Zamith, H., Paumgartten, F.J.R., and Speit, G. Evaluation of the Mutagenicity of B-Myrcene in Mammalian Cells In Vitro. *Environmental and Molecular Mutagenesis* 18: 28-34, 1991.

Antibacterial

Anticonvulsant

Antimutagenic Kauderer, B., Zamith, H., Paumgartten, F.J.R., and Speit, G. Evaluation of the Mutagenicity of B-Myrcene in Mammalian Cells In Vitro. *Environmental and Molecular Mutagenesis* 18: 28-34, 1991.

Antinutrosaminic

Antinociceptive 10-20 mg/kg ipr mus Rao, V.S.N., Menezes, A.M.S., Viana, G.S.B. 1990. Effect of myrcene on nociception in mice. *J. Pharm. Pharmacol.* 42: 877-878, 1990.

Antinociceptive 20-40 mg/kg scu mus Rao, V.S.N., Menezes, A.M.S., Viana, G.S.B. 1990. Effect of myrcene on nociception in mice. *J. Pharm. Pharmacol.* 42: 877-878, 1990.

Antioxidant Jim Duke's personal files.

Antispasmodic Jim Duke's personal files.

Chemopreventive Stitt, P. A. *Why George Should Eat Broccoli*. Dougherty Co, Milwaukee, WI, 1990, 399 pp.

FLavor FEMA 0.5-9 Aloe Research Council - Duke writeup of non-peer reviewed book by Coats and draft by Henry

Fungicide Keeler, R.F. and Tu, A.T. eds. 1991. *Toxicology of Plant and Fungal Compounds. (Handbook of Natural Toxins Vol. 6)* Marcel Dekker, Inc. NY. 665 pp.

Hypothermic

Insectifuge

Irritant Zebovitz, T. C. Ed. 1989. Part VII. Flavor and Fragrance Substances, in Keith L. H. and Walters, D.B., eds. *Compendium of Safety Data Sheets for Research and Industrial Chemicals*. VCH Publishers, New York. 3560-4253.

Myorelaxant 100-200 mg/kg

P450-2B1-Inhibitor IC50=0.14 uM

Perfumery Jeffery B. Harborne and H. Baxter, eds. 1983. *Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants*. Taylor & Frost, London. 791 pp.

Pesticide

MYRTENAL Leaf -- 7.0 -0.51 Bignell, C.M., Dunlop, P.J., Brophy, J.J., and Jackson, J.F. 1995. Volatile Leaf Oils of Some South-western and Southern Australian Species of the Genus Eucalyptus. Part VI. Subgenus *Symphomyrtus*, Section *Adnataria*. *Flavour and Fragrance J.* 10(6):359-364

**Activities (5)**

Antimalarial IC50=5-50 ug/ml Rukunga, G. and Simons, A. J. 2006. *The Potential of Plants as a Source of Antimalarial Agents - A Review*. Africa Herbal Antimalaria Meeting. PlantaPhile Publications, Berlin. 72 pp.

Antiplasmodial IC50=5-50 ug/ml Rukunga, G. and Simons, A. J. 2006. *The Potential of Plants as a Source of Antimalarial Agents - A Review*. Africa Herbal Antimalaria Meeting. PlantaPhile Publications, Berlin. 72 pp.

Herbicide Keeler, R.F. and Tu, A.T. eds. 1991. *Toxicology of Plant and Fungal Compounds. (Handbook of Natural Toxins Vol. 6)* Marcel Dekker, Inc. NY. 665 pp.

Perfumery Aloe Research Council - Duke writeup of non-peer reviewed book by Coats and draft by Henry

Pesticide

MYRTENOL Leaf -- 1.8 -0.44 Bignell, C.M., Dunlop, P.J., Brophy, J.J., and Jackson, J.F. 1995. Volatile Leaf Oils of Some South-western and Southern Australian Species of the Genus Eucalyptus. Part VI. Subgenus *Symphomyrtus*, Section *Adnataria*. *Flavour and Fragrance J.* 10(6):359-364

**Activities (2)**

Antimalarial IC50=5-50 ug/ml Rukunga, G. and Simons, A. J. 2006. *The Potential of Plants as a Source of Antimalarial Agents - A Review*. Africa Herbal Antimalaria Meeting. PlantaPhile Publications, Berlin. 72 pp.

Antiplasmodial IC50=5-50 ug/ml Rukunga, G. and Simons, A. J. 2006. *The Potential of Plants as a Source of Antimalarial Agents - A Review*. Africa Herbal Antimalaria Meeting. PlantaPhile Publications, Berlin. 72 pp.

NEROL Leaf -- 5.0 -0.28 Bignell, C.M., Dunlop, P.J., Brophy, J.J., and Jackson, J.F. 1995. Volatile Leaf Oils of Some South-western and Southern Australian Species of the Genus Eucalyptus. Part VI. Subgenus *Symphomyrtus*, Section *Adnataria*. *Flavour and Fragrance J.* 10(6):359-364

| Activities (10)                   |  |  |  |  |  |
|-----------------------------------|--|--|--|--|--|
| Antibacterial                     | HerbalGram No. 17.   |  |  |  |  |
| Antihelicobacter                  |  |  |  |  |  |
| Antiseptic                        | Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.  |  |  |  |  |
| Antiulcer                         |  |  |  |  |  |
| Estrogenic                        |  |  |  |  |  |
| FLavor FEMA 1-20                  | Aloe Research Council - Duke writeup of non-peer reviewed book by Coats and draft by Henry   |  |  |  |  |
| Perfumery                         | Merck 11th Edition   |  |  |  |  |
| Pesticide                         |  |  |  |  |  |
| Sedative                          | Zebovitz, T. C. Ed. 1989. Part VII. Flavor and Fragrance Substances, in Keith L. H. and Walters, D.B., eds. Compendium of Safety Data Sheets for Research and Industrial Chemicals. VCH Publishers, New York. 3560-4253. |  |  |  |  |
| Trichomonicide<br>ED100=300 ug/ml |  |  |  |  |  |

|              |      |    |     |      |   |
|--------------|------|----|-----|------|---|
| P-CYMEN-8-OL | Leaf | -- | 3.5 | -0.7 | Bignell, C.M., Dunlop, P.J., Brophy, J.J., and Jackson, J.F. 1995. Volatile Leaf Oils of Some South-western and Southern Australian Species of the Genus Eucalyptus. Part VI. Subgenus Symphyomyrtus, Section Adnataria. Flavour and Fragrance J. 10(6):359-364 |
|--------------|------|----|-----|------|---|

|          |      |    |      |       |   |
|----------|------|----|------|-------|---|
| P-CYMENE | Leaf | -- | 22.0 | -0.38 | Bignell, C.M., Dunlop, P.J., Brophy, J.J., and Jackson, J.F. 1995. Volatile Leaf Oils of Some South-western and Southern Australian Species of the Genus Eucalyptus. Part VI. Subgenus Symphyomyrtus, Section Adnataria. Flavour and Fragrance J. 10(6):359-364 |
|----------|------|----|------|-------|---|

| Activities (16)                         |  |  |  |  |  |
|---|--|--|--|--|--|
| Analgesic                               | Martindale's 28th  |  |  |  |  |
| Antiacetylcholinesterase<br>IC40=1.2 mM |  |  |  |  |  |
| Antibacillary                           |  |  |  |  |  |
| Antibacterial                           |  |  |  |  |  |
| Antiflu                                 |  |  |  |  |  |
| Antirheumatalgic                        | Martindale's 28th  |  |  |  |  |
| Antiviral                               |  |  |  |  |  |
| FLavor FEMA 12-250                      | Aloe Research Council - Duke writeup of non-peer reviewed book by Coats and draft by Henry   |  |  |  |  |
| Fungicide                               | Keeler, R.F. and Tu, A.T. eds. 1991. Toxicology of Plant and Fungal Compounds. (Handbook of Natural Toxins Vol. 6) Marcel Dekker, Inc. NY. 665 pp.   |  |  |  |  |
| Herbicide IC50=50 uM                    | Keeler, R.F. and Tu, A.T. eds. 1991. Toxicology of Plant and Fungal Compounds. (Handbook of Natural Toxins Vol. 6) Marcel Dekker, Inc. NY. 665 pp.   |  |  |  |  |
| Insectifuge                             | Blaschek, W., Hansel, R., Keller, K., Reichling, J., Rimpler, H., and Schneider, G. eds. 1998. Hager's Handbuch der Pharmazeutischen Praxis, Auflage Band 2 (A-K), 909 pp., (L-Z), 858 pp. Springer-Verlag, Berlin.      |  |  |  |  |
| Irritant                                | Zebovitz, T. C. Ed. 1989. Part VII. Flavor and Fragrance Substances, in Keith L. H. and Walters, D.B., eds. Compendium of Safety Data Sheets for Research and Industrial Chemicals. VCH Publishers, New York. 3560-4253. |  |  |  |  |
| Laxative                                | Zebovitz, T. C. Ed. 1989. Part VII. Flavor and Fragrance Substances, in Keith L. H. and Walters, D.B., eds. Compendium of Safety Data Sheets for Research and Industrial Chemicals. VCH Publishers, New York. 3560-4253. |  |  |  |  |
| Pesticide                               |  |  |  |  |  |
| Sedative                                | Zebovitz, T. C. Ed. 1989. Part VII. Flavor and Fragrance Substances, in Keith L. H. and Walters, D.B., eds. Compendium of Safety Data Sheets for Research and Industrial Chemicals. VCH Publishers, New York. 3560-4253. |  |  |  |  |
| Trichomonicide<br>LD100=50 ug/ml        |  |  |  |  |  |

|           |      |    |     |       |   |
|-----------|------|----|-----|-------|---|
| PALUSTROL | Leaf | -- | 1.8 | -0.47 | Bignell, C.M., Dunlop, P.J., Brophy, J.J., and Jackson, J.F. 1995. Volatile Leaf Oils of Some South-western and Southern Australian Species of the Genus Eucalyptus. Part VI. Subgenus Symphyomyrtus, Section Adnataria. Flavour and Fragrance J. 10(6):359-364 |
|-----------|------|----|-----|-------|---|

|             |      |    |      |      |   |
|-------------|------|----|------|------|---|
| PINOCARVONE | Leaf | -- | 62.0 | 0.14 | Bignell, C.M., Dunlop, P.J., Brophy, J.J., and Jackson, J.F. 1995. Volatile Leaf Oils of Some South-western and Southern Australian Species of the Genus Eucalyptus. Part VI. Subgenus Symphyomyrtus, Section Adnataria. Flavour and Fragrance J. 10(6):359-364 |
|-------------|------|----|------|------|---|

| Activities (1) |  |  |  |  |  |
|----------------|--|--|--|--|--|
| Perfumery      | Aloe Research Council - Duke writeup of non-peer reviewed book by Coats and draft by Henry |  |  |  |  |

|            |      |    |     |       |   |
|------------|------|----|-----|-------|---|
| PIPERITONE | Leaf | -- | 1.8 | -0.36 | Bignell, C.M., Dunlop, P.J., Brophy, J.J., and Jackson, J.F. 1995. Volatile Leaf Oils of Some South-western and Southern Australian Species of the Genus Eucalyptus. Part VI. Subgenus Symphyomyrtus, Section Adnataria. Flavour and Fragrance J. 10(6):359-364 |
|------------|------|----|-----|-------|---|

| Activities (7)          |  |  |  |  |  |
|-------------------------|--|--|--|--|--|
| Antiasthmatic           |  |  |  |  |  |
| FLavor FEMA 1-2         | Aloe Research Council - Duke writeup of non-peer reviewed book by Coats and draft by Henry   |  |  |  |  |
| Herbicide<br>IC50=30 mM | Lydon, J. & Duke, S., The potential of pesticides from plants, pp. 1-41 in Craker, L. & Simon, J., eds, Herbs, Spices & Medicinal Plants: Recent Advances in Botany, Horticulture, & Pharmacology, v. 4, Oryx Press, Phoenix, 1989, 267pp. |  |  |  |  |
| Herbicide<br>IC50=75 uM | Keeler, R.F. and Tu, A.T. eds. 1991. Toxicology of Plant and Fungal Compounds. (Handbook of Natural Toxins Vol. 6) Marcel Dekker, Inc. NY. 665 pp.   |  |  |  |  |
| Insectifuge (> DEET)    | Bowers, W.S., Ortego, F., You, X., and Evans, P.H. Insect Repellents From The Chinese Prickly Ash Zanthoxylum bungeanum. Journal of Natural Products, 56(6): 935-938, 1993.  |  |  |  |  |
| Perfumery               | Aloe Research Council - Duke writeup of non-peer reviewed book by Coats and draft by Henry   |  |  |  |  |
| Pesticide               |  |  |  |  |  |

|          |      |    |     |       |   |
|----------|------|----|-----|-------|---|
| SABINENE | Leaf | -- | 1.8 | -0.26 | Bignell, C.M., Dunlop, P.J., Brophy, J.J., and Jackson, J.F. 1995. Volatile Leaf Oils of Some South-western and Southern Australian Species of the Genus Eucalyptus. Part VI. Subgenus Symphyomyrtus, Section Adnataria. Flavour and Fragrance J. 10(6):359-364 |
|----------|------|----|-----|-------|---|

#### Activities (5)

|                  |   |
|------------------|---|
| Antibacterial    |   |
| Antihelicobacter |   |
| Antiseptic       |   |
| Antiulcer        |   |
| Perfumery        | Aloe Research Council - Duke writeup of non-peer reviewd book by Coats and draft by Henry |

|             |      |    |      |       |   |
|-------------|------|----|------|-------|---|
| SPATHULENOL | Leaf | -- | 23.0 | -0.65 | Bignell, C.M., Dunlop, P.J., Brophy, J.J., and Jackson, J.F. 1995. Volatile Leaf Oils of Some South-western and Southern Australian Species of the Genus Eucalyptus. Part VI. Subgenus Symphyomyrtus, Section Adnataria. Flavour and Fragrance J. 10(6):359-364 |
|-------------|------|----|------|-------|---|

|               |      |    |     |       |   |
|---------------|------|----|-----|-------|---|
| TERPINEN-4-OL | Leaf | -- | 1.8 | -0.34 | Bignell, C.M., Dunlop, P.J., Brophy, J.J., and Jackson, J.F. 1995. Volatile Leaf Oils of Some South-western and Southern Australian Species of the Genus Eucalyptus. Part VI. Subgenus Symphyomyrtus, Section Adnataria. Flavour and Fragrance J. 10(6):359-364 |
|---------------|------|----|-----|-------|---|

#### Activities (23)

|   |   |
|---|---|
| Allelopathic                                | Wright,C.W.(Ed)2002.Medicinal&Aromatic Plants-Industrial Profiles.Artemisia.344pp.Maffei,M.(Ed)2002.Vetiveria.The Genus Vetiveria.Taylor&Francis.NY,NY.191pp.Southwell,I.,Lowe,R.(Eds)1999.Tea Tree.The Genus Melaleuca.Harwood Acad.Pub.Amsterdam,Netherlands. |
| Antiacyetylcholinesterase<br>IC21-24=1.2 mM |   |
| Antiacne                                    |   |
| Antiallergic                                |   |
| Antiasthmatic                               | Chin. J. Tuber. Respir. Dis., 4:203, 1982.  |
| Antibacterial                               |   |
| Antioxidant                                 |   |
| Antiseptic                                  | Flav. & Frag. J. 9: 129.  |
| Antispasmodic                               |   |
| Antitussive                                 | Chin. J. Tuber. Respir. Dis.  |
| Antiulcer                                   |   |
| Bacteriostatic                              | Chin. J. Tuber. Respir. Dis.  |
| Diuretic 0.1 ml/rat                         |   |
| Fungicide                                   |   |
| Herbicide IC50=200 mM                       | Lydon, J. & Duke, S., The potential of pesticides from plants, pp. 1-41 in Craker, L. & Simon, J., eds, Herbs, Spices & Medicinal Plants: Recent Advances in Botany, Horticulture, & Pharmacology, v. 4, Oryx Press, Phoenix, 1989, 267pp.                      |
| Herbicide IC50=22 uM                        | Keeler, R.F. and Tu, A.T. eds. 1991. Toxicology of Plant and Fungal Compounds. (Handbook of Natural Toxins Vol. 6) Marcel Dekker, Inc. NY. 665 pp.  |
| Insectifuge                                 |   |
| Irritant                                    | Newall, C. A., Anderson, L. A. and Phillipson, J. D. 1996. Herbal Medicine - A Guide for Health-care Professionals. The Pharmaceutical Press, London. 296pp.  |
| Nematicide MLC=1 mg/ml                      | Shoyakugaku Zasshi, 44: 183.  |
| Pesticide                                   |   |
| Renoirritant                                | Newall, C. A., Anderson, L. A. and Phillipson, J. D. 1996. Herbal Medicine - A Guide for Health-care Professionals. The Pharmaceutical Press, London. 296pp.  |
| Spermicide<br>ED100=0.015                   |   |
| Vulnerary                                   | Lawrence Review of Natural Products, Jan-91.  |

|             |      |    |     |       |   |
|-------------|------|----|-----|-------|---|
| TERPINOLENE | Leaf | -- | 1.8 | -0.23 | Bignell, C.M., Dunlop, P.J., Brophy, J.J., and Jackson, J.F. 1995. Volatile Leaf Oils of Some South-western and Southern Australian Species of the Genus Eucalyptus. Part VI. Subgenus Symphyomyrtus, Section Adnataria. Flavour and Fragrance J. 10(6):359-364 |
|-------------|------|----|-----|-------|---|

| Activities (9)    |  |  |  |  |   |
|-------------------|--|--|--|--|---|
| Allelochemic      |  |  |  |  |   |
| Antifeedant       |  |  |  |  |   |
| Antinitrosaminic  |  |  |  |  |   |
| Antioxidant       |  |  |  |  |   |
| Deodorant         |  |  |  |  | Jeffery B. Harborne and H. Baxter, eds. 1983. <i>Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants.</i> Taylor & Frost, London. 791 pp. |
| FLavor FEMA 15-60 |  |  |  |  | Aloe Research Council - Duke writeup of non-peer reviewd book by Coats and draft by Henry   |
| Fungicide         |  |  |  |  | Keeler, R.F. and Tu, A.T. eds. 1991. <i>Toxicology of Plant and Fungal Compounds. (Handbook of Natural Toxins Vol. 6)</i> Marcel Dekker, Inc. NY. 665 pp.     |
| Perfumery         |  |  |  |  | Aloe Research Council - Duke writeup of non-peer reviewd book by Coats and draft by Henry   |
| Pesticide         |  |  |  |  |   |

|                                 |      |    |      |       |   |
|---------------------------------|------|----|------|-------|---|
| TORQUATONE                      | Leaf | -- | 10.0 | -0.48 | Bignell, C.M., Dunlop, P.J., Brophy, J.J., and Jackson, J.F. 1995. Volatile Leaf Oils of Some South-western and Southern Australian Species of the Genus <i>Eucalyptus</i> . Part VI. Subgenus <i>Symphomyrtus</i> , Section <i>Adnataria</i> . <i>Flavour and Fragrance J.</i> 10(6):359-364 |
| TRANS-P-MENTH-2-EN-1-OL         | Leaf | -- | 1.8  | -0.89 | Bignell, C.M., Dunlop, P.J., Brophy, J.J., and Jackson, J.F. 1995. Volatile Leaf Oils of Some South-western and Southern Australian Species of the Genus <i>Eucalyptus</i> . Part VI. Subgenus <i>Symphomyrtus</i> , Section <i>Adnataria</i> . <i>Flavour and Fragrance J.</i> 10(6):359-364 |
| TRANS-P-MENTHA-1(7),8-DIEN-2-OL | Leaf | -- | 19.0 | 0.13  | Bignell, C.M., Dunlop, P.J., Brophy, J.J., and Jackson, J.F. 1995. Volatile Leaf Oils of Some South-western and Southern Australian Species of the Genus <i>Eucalyptus</i> . Part VI. Subgenus <i>Symphomyrtus</i> , Section <i>Adnataria</i> . <i>Flavour and Fragrance J.</i> 10(6):359-364 |
| TRANS-P-MENTHA-1,8-DIEN-6-OL    | Leaf | -- | 1.8  | -0.56 | Bignell, C.M., Dunlop, P.J., Brophy, J.J., and Jackson, J.F. 1995. Volatile Leaf Oils of Some South-western and Southern Australian Species of the Genus <i>Eucalyptus</i> . Part VI. Subgenus <i>Symphomyrtus</i> , Section <i>Adnataria</i> . <i>Flavour and Fragrance J.</i> 10(6):359-364 |
| TRANS-PINOCARVEOL               | Leaf | -- | 75.0 | -0.36 | Bignell, C.M., Dunlop, P.J., Brophy, J.J., and Jackson, J.F. 1995. Volatile Leaf Oils of Some South-western and Southern Australian Species of the Genus <i>Eucalyptus</i> . Part VI. Subgenus <i>Symphomyrtus</i> , Section <i>Adnataria</i> . <i>Flavour and Fragrance J.</i> 10(6):359-364 |

| Activities (2)                 |  |  |  |  |   |
|--------------------------------|--|--|--|--|---|
| Antimalarial IC50=5-50 ug/ml   |  |  |  |  | Rukunga, G. and Simons, A. J. 2006. <i>The Potential of Plants as a Source of Antimalarial Agents - A Review.</i> Africa Herbal Antimalaria Meeting. PlantaPhile Publications, Berlin. 72 pp. |
| Antiplasmodial IC50=5-50 ug/ml |  |  |  |  | Rukunga, G. and Simons, A. J. 2006. <i>The Potential of Plants as a Source of Antimalarial Agents - A Review.</i> Africa Herbal Antimalaria Meeting. PlantaPhile Publications, Berlin. 72 pp. |

|                 |      |    |     |       |   |
|-----------------|------|----|-----|-------|---|
| TRANS-PIPERITOL | Leaf | -- | 1.8 | -0.75 | Bignell, C.M., Dunlop, P.J., Brophy, J.J., and Jackson, J.F. 1995. Volatile Leaf Oils of Some South-western and Southern Australian Species of the Genus <i>Eucalyptus</i> . Part VI. Subgenus <i>Symphomyrtus</i> , Section <i>Adnataria</i> . <i>Flavour and Fragrance J.</i> 10(6):359-364 |
| VERBENONE       | Leaf | -- | 1.8 | -0.36 | Bignell, C.M., Dunlop, P.J., Brophy, J.J., and Jackson, J.F. 1995. Volatile Leaf Oils of Some South-western and Southern Australian Species of the Genus <i>Eucalyptus</i> . Part VI. Subgenus <i>Symphomyrtus</i> , Section <i>Adnataria</i> . <i>Flavour and Fragrance J.</i> 10(6):359-364 |

| Activities (5) |      |    |      |       |   |
|----------------|------|----|------|-------|---|
| Allelochemic   |      |    |      |       |   |
| Coleopterifuge |      |    |      |       |   |
| Insectifuge    |      |    |      |       |   |
| Perfumery      |      |    |      |       | Aloe Research Council - Duke writeup of non-peer reviewd book by Coats and draft by Henry   |
| Pesticide      |      |    |      |       |   |
| VIRIDIFLORENE  | Leaf | -- | 1.8  | -0.67 | Bignell, C.M., Dunlop, P.J., Brophy, J.J., and Jackson, J.F. 1995. Volatile Leaf Oils of Some South-western and Southern Australian Species of the Genus <i>Eucalyptus</i> . Part VI. Subgenus <i>Symphomyrtus</i> , Section <i>Adnataria</i> . <i>Flavour and Fragrance J.</i> 10(6):359-364 |
| VIRIDIFLOROL   | Leaf | -- | 60.0 | -0.44 | Bignell, C.M., Dunlop, P.J., Brophy, J.J., and Jackson, J.F. 1995. Volatile Leaf Oils of Some South-western and Southern Australian Species of the Genus <i>Eucalyptus</i> . Part VI. Subgenus <i>Symphomyrtus</i> , Section <i>Adnataria</i> . <i>Flavour and Fragrance J.</i> 10(6):359-364 |

| Activities (1)                         |  |  |  |  |  |
|--|--|--|--|--|--|
| Antiacetylcholinesterase IC50=25 ug/ml |  |  |  |  |  |