

# List of All Chemicals

## **P** *Tabebuia impetiginosa* (Bignoniaceae)

### Common name(s)

Taheebo; Pau d'arco

### 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 <input type="button" value="All"/>	Low PPM	High PPM	StdDev	*Reference
(+)-2-(1'-HYDROXY-ETHYL)-NAPHTHO-(2,3,B)-FURAN-4,9-DIONE	Stem Bark	--	--		*
(-)-5-HYDROXY-2-(1'-HYDROXY-ETHYL)-NAPHTHO-(2,3,B)-FURAN-4,9-DIONE	Stem Bark	--	10.0		*
(-)-6-HYDROXY-MELLEIN	Stem Bark	--	--		*
1-(1-HYDROXY-ETHYL)-FURONAPHTHOQUINONE	Bark	--	--		*
1-HYDROXYANTHRAQUINONE	Heart Wood	--	16.0		*
<b>Activities (3)</b>					
Carcinogenic	De Smet, P.A.G.M., Keller, K., Hansel, R. and Chandler, R.F., eds. 1993. Adverse Effects of Herbal Drugs 2. Springer-Verlag, Berlin. 348pp.				
Genotoxic	De Smet, P.A.G.M., Keller, K., Hansel, R. and Chandler, R.F., eds. 1993. Adverse Effects of Herbal Drugs 2. Springer-Verlag, Berlin. 348pp.				
Tumorigenic	De Smet, P.A.G.M., Keller, K., Hansel, R. and Chandler, R.F., eds. 1993. Adverse Effects of Herbal Drugs 2. Springer-Verlag, Berlin. 348pp.				
1-METHOXY-ANTHRAQUINONE	Heart Wood	--	3.6		*
2,3-DIMETHYL-1,4-NAPHTHOQUINONE	Heart Wood	--	32.0		*
2-(1-HYDROXY-ETHYL)-NAPHTHO-(2-3-B)-FURAN-4-9-DIONE	Bark	--	--		*
2-ACETOXY-METHYL-ANTHRAQUINONE	Heart Wood	--	40.0		*
2-ACETYL-5-HYDROXY-NAPHTHO-(2-3-B)-FURAN-4-9-DIONE	Tissue Culture	--	50.0		*
2-ACETYL-5-HYDROXY-NAPHTHO-(2-3-B)-FURAN-4-9-DIONE	Stem Bark	--	3.7		*
2-ACETYL-8-HYDROXY-NAPHTHO-(2-3-B)-FURAN-4-9-DIONE	Stem Bark	--	4.3		*
2-ACETYL-NAPHTHO-(2-3-B)-FURAN-4-9-DIONE	Stem Bark	--	--		*
2-ACETYL-NAPHTHO-(2-3-B)-FURAN-4-9-DIONE	Bark	--	--		*
2-DEHYDRO-ALPHA-LAPACHONE	Bark	--	350.0		*
2-ETHYL-NAPHTHO(2,3-B)-FURAN-4-9-DIONE	Bark	--	--		*
2-HYDROXY-3-METHYL-ANTHRAQUINONE	Heart Wood	--	62.0		*
2-HYDROXY-METHYL-ANTHRAQUINONE	Heart Wood	--	24.0		*

Activities (2)				
Antileukemic ED50=2.6 ug/ml				
Cytotoxic		Jeffery B. Harborne and H. Baxter, eds. 1983. <i>Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants.</i> Taylor & Frost, London. 791 pp.		
3,4,5-TRIMETHOXYBENZOIC-ACID	Stem Bark	--	--	*
4-HYDROXY-BENZOIC-ACID	Stem Bark	--	--	*
4-HYDROXY-BENZOIC-ACID	Heart Wood	--	196.0	*
5-HYDROXY-2-(1-HYDROXY-ETHYL)-NAPHTHO(2,3-B)-FURAN-4-9-DIONE	Bark	--	2.8	*
6-O-(3-4-DIMETHOXY-BENZOYL)-AJUGOL	Bark	--	200.0	*
6-O-(P-HYDROXY-BENZOYL)-AJUGOL	Bark	--	356.0	*
6-O-(P-METHOXY-BENZOYL)-AJUGOL	Bark	--	1400.0	*
8-HYDROXYISOLARICRESINOL	Bark	--	300.0	*
ALPHA-LAPACHONE	Heart Wood	--	44.0	*
Activities (1)				
Antitrypanosomic				
ALPHA-LAPACHONE	Bark	--	--	*
Activities (1)				
Antitrypanosomic				
ANISALDEHYDE	Stem Bark	--	--	*
Activities (7)				
Antimutagenic		Economic & Medicinal Plant Research, 6: 235.		
Fungicide				
Insecticide		Newall, C. A., Anderson, L. A. and Phillipson, J. D. 1996. <i>Herbal Medicine - A Guide for Health-care Professionals.</i> The Pharmaceutical Press, London. 296pp.		
Pesticide				
Tyrosinase-Inhibitor ID50=320 uM				
Tyrosinase-Inhibitor ID50=0.32 mM				
Tyrosinase-Inhibitor ID50=380-970 uM				
ANISIC-ACID	Stem Bark	--	--	*
Activities (6)				
Antibacterial MBC=800 ug/ml				
Antirheumatic				
Antisalmonella MIC=800 ug/ml				
Antiseptic 800 ug/ml				
Pesticide				
Tyrosinase-Inhibitor ID50=680 uM				
ANTHRAQUINONE-2-ALDEHYDE	Heart Wood	--	32.0	*
ANTHRAQUINONE-2-CARBOXYLIC-ACID	Heart Wood	--	36.0	*
BENZO[B]FURAN-6-CARBOXALDEHYDE	Stem Bark	--	5.0	*
BETA-LAPACHONE	Heart Wood	--	152.0	*

Activities (5)				
Antitrypanosomic				
Reverse-Transcriptase-Inhibitor				
Topoisomerase-I-Inhibitor 250 uM	Li, C. J., Verboukh, L., Pardee, A. B. 1993. Beta-lapachone, a Novel DNA Topoisomerase I Inhibitor With a Mode of Action Different From Camptothecin. <i>J Biol Chem</i> , 268: 22463-22468.			
Topoisomerase-I-Inhibitor 1 ug/mL	Frydman, B., et al. 1997. Induction of DNA Topoisomerase II-Mediated DNA Cleavage by Beta-lapachone and Related Naphthoquinones. <i>Cancer Research</i> , 57: 620-627.			
Topoisomerase-I-Inhibitor IC50=1 uM	Weller, M., et al. 1997. Topoisomerase I Inhibitors For Human Malignant Glioma: Differential Modulation of P53, P21, BAX and BEL-2 Expression and of CD95-Mediated Apoptosis. <i>Int J Cancer</i> , 73: 707-714.			

BETA-LAPACHONE                      Bark      --      --                      \*

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Antitrypanosomic				
Reverse-Transcriptase-Inhibitor				
Topoisomerase-I-Inhibitor 250 uM	Li, C. J., Verboukh, L., Pardee, A. B. 1993. Beta-lapachone, a Novel DNA Topoisomerase I Inhibitor With a Mode of Action Different From Camptothecin. <i>J Biol Chem</i> , 268: 22463-22468.			
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BETA-LAPACHONE                      Wood      --      --                      Jeffery B. Harborne and H. Baxter, eds. 1983. *Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants.* Taylor & Frost, London. 791 pp.

Activities (5)				
Antitrypanosomic				
Reverse-Transcriptase-Inhibitor				
Topoisomerase-I-Inhibitor 250 uM	Li, C. J., Verboukh, L., Pardee, A. B. 1993. Beta-lapachone, a Novel DNA Topoisomerase I Inhibitor With a Mode of Action Different From Camptothecin. <i>J Biol Chem</i> , 268: 22463-22468.			
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Topoisomerase-I-Inhibitor IC50=1 uM	Weller, M., et al. 1997. Topoisomerase I Inhibitors For Human Malignant Glioma: Differential Modulation of P53, P21, BAX and BEL-2 Expression and of CD95-Mediated Apoptosis. <i>Int J Cancer</i> , 73: 707-714.			

CHRYSANTHEMIN                      Flower      --      --                      \*

CYANIDIN-3-O-BETA-D-RUTINOSIDE                      Flower      --      --                      \*

DEHYDRO-ALPHA-ISOLAPACHONE                      Bark      --      200.0                      \*

DEHYDRO-ALPHA-LAPACHONE                      Heart      --      62.0                      \*  
Wood

Activities (3)				
Insectifuge	Jacobson, M., <i>Glossary of Plant-Derived Insect Deterrents</i> , CRC Press, Inc., Boca Raton, FL, 213 p, 1990.			
Pesticide				
Termitifuge	Jacobson, M., <i>Glossary of Plant-Derived Insect Deterrents</i> , CRC Press, Inc., Boca Raton, FL, 213 p, 1990.			

DEHYDRO-ALPHA-LAPACHONE                      Stem      --      --                      \*  
Bark

Activities (3)				
Insectifuge	Jacobson, M., <i>Glossary of Plant-Derived Insect Deterrents</i> , CRC Press, Inc., Boca Raton, FL, 213 p, 1990.			
Pesticide				
Termitifuge	Jacobson, M., <i>Glossary of Plant-Derived Insect Deterrents</i> , CRC Press, Inc., Boca Raton, FL, 213 p, 1990.			

DEHYDRO-ALPHA-LAPACHONE                      Bark      --      350.0                      \*

Activities (3)				
Insectifuge	Jacobson, M., <i>Glossary of Plant-Derived Insect Deterrents</i> , CRC Press, Inc., Boca Raton, FL, 213 p, 1990.			
Pesticide				
Termitifuge	Jacobson, M., <i>Glossary of Plant-Derived Insect Deterrents</i> , CRC Press, Inc., Boca Raton, FL, 213 p, 1990.			

DEOXYLAPACHOL                      Heart      --      28.0                      \*  
Wood

**Activities (3)**

Allergenic Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.  
Pesticide  
Termitifuge Jacobson, M., Glossary of Plant-Derived Insect Deterrents, CRC Press, Inc., Boca Raton, FL, 213 p, 1990.

KIGELINONE	Bark	--	2.8	*
KIGELINONE	Tissue Culture	--	500.0	*
LAPACHENOLE	Heart Wood	--	200.0	*
LAPACHENOLE	Bark	15.0	150.0	*
LAPACHOL	Bark	--	1400.0	*

**Activities (48)**

Abortifacient 100 mg/kg rat	Mills, Simon and Bone, Kerry. 2000. <i>Phytotherapy</i> . Churchill Livinston, Edinburgh.
Allergenic	
Analgesic	
Antiabscess ED57=150	
Antibacterial	
Antibacterial	
Anticarcinomic 100-400 ppm	Mills, Simon and Bone, Kerry. 2000. <i>Phytotherapy</i> . Churchill Livinston, Edinburgh.
Anticoagulant	
Antiedemic ED76=100	
Antiestrogenic	Mills, Simon and Bone, Kerry. 2000. <i>Phytotherapy</i> . Churchill Livinston, Edinburgh.
Antiexudative IC76=100 mg/kg orl rat	Hansel, R., Keller, K., Rimpler, H., and Schneider, G. eds. 1992. <i>Hager's Handbuch der Pharmazeutischen Praxis, Drogen (A-D)</i> , 1209 pp., 1993 (E-O), 970 pp., 1994 (P-Z), 1196 pp. Springer-Verlag, Berlin.
Antiflu	Economic & Medicinal Plant Research, 5: 195.
Antiherpetic	
Antiinflammatory ED76=100	
Antileishmanic	
Antileukemic	Mills, Simon and Bone, Kerry. 2000. <i>Phytotherapy</i> . Churchill Livinston, Edinburgh.
Antilymphosarcomic	Mills, Simon and Bone, Kerry. 2000. <i>Phytotherapy</i> . Churchill Livinston, Edinburgh.
Antimalarial	
Antimelanomic	Mills, Simon and Bone, Kerry. 2000. <i>Phytotherapy</i> . Churchill Livinston, Edinburgh.
Antipolio	Economic & Medicinal Plant Research, 5: 195.
Antipsoriac	
Antiretroviral	Mills, Simon and Bone, Kerry. 2000. <i>Phytotherapy</i> . Churchill Livinston, Edinburgh.
Antisarcomic 100 mg/kg	Hansel, R., Keller, K., Rimpler, H., and Schneider, G. eds. 1992. <i>Hager's Handbuch der Pharmazeutischen Praxis, Drogen (A-D)</i> , 1209 pp., 1993 (E-O), 970 pp., 1994 (P-Z), 1196 pp. Springer-Verlag, Berlin.
Antiseptic	
Antistomatitic	Economic & Medicinal Plant Research, 5: 195.
Antitrypanosomic	
Antitumor	
Antiulcerogenic	
Antiviral	
Clastogenic	
Contraceptive	Mills, Simon and Bone, Kerry. 2000. <i>Phytotherapy</i> . Churchill Livinston, Edinburgh.
Cytotoxic ED50=4.4 ug/ml	
Emetic	
Estrogenic	Mills, Simon and Bone, Kerry. 2000. <i>Phytotherapy</i> . Churchill Livinston, Edinburgh.
Fungicide	Mills, Simon and Bone, Kerry. 2000. <i>Phytotherapy</i> . Churchill Livinston, Edinburgh.
Gastroprotective	
Immunostimulant 0.01 mg/ml	
Immunosuppressant 1 mg/ml	
Insectifuge	
Mutagenic	
Pesticide	
Protisticide	
Respiradepressant	Merck 11th Edition
Schistosomicide	
Teratogenic 100 mg/kg rat	Mills, Simon and Bone, Kerry. 2000. <i>Phytotherapy</i> . Churchill Livinston, Edinburgh.
Termiticide	Jacobson, M., <i>Glossary of Plant-Derived Insect Deterrents</i> , CRC Press, Inc., Boca Raton, FL, 213 p, 1990.
Trypanocide	
Uterotrophic	Mills, Simon and Bone, Kerry. 2000. <i>Phytotherapy</i> . Churchill Livinston, Edinburgh.

LAPACHOL

Stem -- -- \*

Bark

**Activities (48)**

Abortifacient 100 mg/kg rat	Mills, Simon and Bone, Kerry. 2000. <i>Phytotherapy</i> . Churchill Livinston, Edinburgh.
Allergenic	
Analgesic	
Antiabscess ED57=150	
Antibacterial	
Antibacterial	
Anticarcinomic 100-400 ppm	Mills, Simon and Bone, Kerry. 2000. <i>Phytotherapy</i> . Churchill Livinston, Edinburgh.
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Antiedemic ED76=100	
Antiestrogenic	Mills, Simon and Bone, Kerry. 2000. <i>Phytotherapy</i> . Churchill Livinston, Edinburgh.
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Antiflu	Economic & Medicinal Plant Research, 5: 195.
Antiherpetic	
Antiinflammatory ED76=100	
Antileishmanic	
Antileukemic	Mills, Simon and Bone, Kerry. 2000. <i>Phytotherapy</i> . Churchill Livinston, Edinburgh.
Antilymphosarcomic	Mills, Simon and Bone, Kerry. 2000. <i>Phytotherapy</i> . Churchill Livinston, Edinburgh.
Antimalarial	
Antimelanomic	Mills, Simon and Bone, Kerry. 2000. <i>Phytotherapy</i> . Churchill Livinston, Edinburgh.
Antipolio	Economic & Medicinal Plant Research, 5: 195.
Antipsoriac	
Antiretroviral	Mills, Simon and Bone, Kerry. 2000. <i>Phytotherapy</i> . Churchill Livinston, Edinburgh.
Antisarcotic 100 mg/kg	Hansel, R., Keller, K., Rimpler, H., and Schneider, G. eds. 1992. <i>Hager's Handbuch der Pharmazeutischen Praxis, Drogen (A-D)</i> , 1209 pp., 1993 (E-O), 970 pp., 1994 (P-Z), 1196 pp. Springer-Verlag, Berlin.
Antiseptic	
Antistomatitic	Economic & Medicinal Plant Research, 5: 195.
Antitrypanosomic	
Antitumor	
Antiulcerogenic	
Antiviral	
Clastogenic	
Contraceptive	Mills, Simon and Bone, Kerry. 2000. <i>Phytotherapy</i> . Churchill Livinston, Edinburgh.
Cytotoxic ED50=4.4 ug/ml	
Emetic	
Estrogenic	Mills, Simon and Bone, Kerry. 2000. <i>Phytotherapy</i> . Churchill Livinston, Edinburgh.
Fungicide	Mills, Simon and Bone, Kerry. 2000. <i>Phytotherapy</i> . Churchill Livinston, Edinburgh.
Gastroprotective	
Immunostimulant 0.01 mg/ml	
Immunosuppressant 1 mg/ml	
Insectifuge	
Mutagenic	
Pesticide	
Protisticide	
Respiradepressant	Merck 11th Edition
Schistosomicide	
Teratogenic 100 mg/kg rat	Mills, Simon and Bone, Kerry. 2000. <i>Phytotherapy</i> . Churchill Livinston, Edinburgh.
Termiticide	Jacobson, M., <i>Glossary of Plant-Derived Insect Deterrents</i> , CRC Press, Inc., Boca Raton, FL, 213 p, 1990.
Trypanocide	
Uterotrophic	Mills, Simon and Bone, Kerry. 2000. <i>Phytotherapy</i> . Churchill Livinston, Edinburgh.

LAPACHOL

Wood

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159000.0

\*

**Activities (48)**

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Allergenic	
Analgesic	
Antiabscess ED57=150	
Antibacterial	
Antibacterial	
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Antiedemic ED76=100	
Antiestrogenic	Mills, Simon and Bone, Kerry. 2000. <i>Phytotherapy</i> . Churchill Livinston, Edinburgh.
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Antiflu	Economic & Medicinal Plant Research, 5: 195.
Antiherpetic	
Antiinflammatory ED76=100	
Antileishmanic	
Antileukemic	Mills, Simon and Bone, Kerry. 2000. <i>Phytotherapy</i> . Churchill Livinston, Edinburgh.
Antilymphosarcomic	Mills, Simon and Bone, Kerry. 2000. <i>Phytotherapy</i> . Churchill Livinston, Edinburgh.
Antimalarial	
Antimelanomic	Mills, Simon and Bone, Kerry. 2000. <i>Phytotherapy</i> . Churchill Livinston, Edinburgh.
Antipolio	Economic & Medicinal Plant Research, 5: 195.
Antipsoriac	
Antiretroviral	Mills, Simon and Bone, Kerry. 2000. <i>Phytotherapy</i> . Churchill Livinston, Edinburgh.
Antisarcomic 100 mg/kg	Hansel, R., Keller, K., Rimpler, H., and Schneider, G. eds. 1992. <i>Hager's Handbuch der Pharmazeutischen Praxis, Drogen (A-D)</i> , 1209 pp., 1993 (E-O), 970 pp., 1994 (P-Z), 1196 pp. Springer-Verlag, Berlin.
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Antitumor	
Antiulcerogenic	
Antiviral	
Clastogenic	
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Gastroprotective	
Immunostimulant 0.01 mg/ml	
Immunosuppressant 1 mg/ml	
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Mutagenic	
Pesticide	
Protisticide	
Respiradepressant	Merck 11th Edition
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Termiticide	Jacobson, M., <i>Glossary of Plant-Derived Insect Deterrents</i> , CRC Press, Inc., Boca Raton, FL, 213 p, 1990.
Trypanocide	
Uterotrophic	Mills, Simon and Bone, Kerry. 2000. <i>Phytotherapy</i> . Churchill Livinston, Edinburgh.

LAPACHOL

 Heart  
Wood

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41240.0

\*

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Allergenic	
Analgesic	
Antiabscess ED57=150	
Antibacterial	
Antibacterial	
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Anticoagulant	
Antiedemic ED76=100	
Antiestrogenic	Mills, Simon and Bone, Kerry. 2000. <i>Phytotherapy</i> . Churchill Livinston, Edinburgh.
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Antiherpetic	
Antiinflammatory ED76=100	
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Antilymphosarcomic	Mills, Simon and Bone, Kerry. 2000. <i>Phytotherapy</i> . Churchill Livinston, Edinburgh.
Antimalarial	
Antimelanomic	Mills, Simon and Bone, Kerry. 2000. <i>Phytotherapy</i> . Churchill Livinston, Edinburgh.
Antipolio	Economic & Medicinal Plant Research, 5: 195.
Antipsoriac	
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Antisarcinomic 100 mg/kg	Hansel, R., Keller, K., Rimpler, H., and Schneider, G. eds. 1992. <i>Hager's Handbuch der Pharmazeutischen Praxis, Drogen (A-D)</i> , 1209 pp., 1993 (E-O), 970 pp., 1994 (P-Z), 1196 pp. Springer-Verlag, Berlin.
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Antistomatitic	Economic & Medicinal Plant Research, 5: 195.
Antitrypanosomic	
Antitumor	
Antiulcerogenic	
Antiviral	
Clastogenic	
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Cytotoxic ED50=4.4 ug/ml	
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Immunosuppressant 1 mg/ml	
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Pesticide	
Protisticide	
Respiradepressant	Merck 11th Edition
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Teratogenic 100 mg/kg rat	Mills, Simon and Bone, Kerry. 2000. <i>Phytotherapy</i> . Churchill Livinston, Edinburgh.
Termiticide	Jacobson, M., <i>Glossary of Plant-Derived Insect Deterrents</i> , CRC Press, Inc., Boca Raton, FL, 213 p, 1990.
Trypanocide	
Uterotrophic	Mills, Simon and Bone, Kerry. 2000. <i>Phytotherapy</i> . Churchill Livinston, Edinburgh.

LAPACHOL-METHYL-ETHER	Heart Wood	--	26.0	*
MENAQUINONE-1	Heart Wood	--	10.0	*
O-HYDROXYBENZOIC-ACID	Heart Wood	--	82.0	*
P-HYDROXY-BENZOIC-ACID	Plant	--	--	Jeffery B. Harborne and H. Baxter, eds. 1983. <i>Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants</i> . Taylor & Frost, London. 791 pp.



**Activities (13)**

Antibacterial	
Antimutagenic	Economic & Medicinal Plant Research, 6: 235.
Antioxidant	Phenolic Compounds in Food and Their Effects on Health, 65.
Antiradicular	
Antisickling 10.5 ug/ml	
Cancer-Preventive	Stitt, P. A. Why George Should Eat Broccoli. Dougherty Co, Milwaukee, WI, 1990, 399 pp.
Fungistat EC50=607 ug/ml	Nigg, H.N. and Seigler, D.S., eds. 1992. Phytochemical Resources for Medicine and Agriculture. Plenum Press, New York. 445 pp.
Immunosuppressant	
Pesticide	
Phytoalexin	Nigg, H.N. and Seigler, D.S., eds. 1992. Phytochemical Resources for Medicine and Agriculture. Plenum Press, New York. 445 pp.
Prostaglandinogenic	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
Secretagogue	Newall, C. A., Anderson, L. A. and Phillipson, J. D. 1996. Herbal Medicine - A Guide for Health-care Professionals. The Pharmaceutical Press, London. 296pp.
Ubiquit	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.

PEONIDIN-3-CINNAMYL-SOPHOROSIDE Flower -- -- \*

PHTHILOL Heart -- 18.0 \*  
Wood

QUERCETIN Heart -- -- \*  
Wood

**Activities (176)**

11B-HSD-Inhibitor	
5-Lipoxygenase-Inhibitor IC50 (uM)=4	
ATPase-Inhibitor	Nigg, H.N. and Seigler, D.S., eds. 1992. Phytochemical Resources for Medicine and Agriculture. Plenum Press, New York. 445 pp.
Aldehyde-Oxidase-Inhibitor IC70-96=10 uM	
Aldose-Reductase-Inhibitor 100 uM	
Aldose-Reductase-Inhibitor 4 ug/ml	Ichikawa, K., et al. 1991. Isolation and Structure Determination of Aldose Reductase Inhibitors from Traditional Thai Medicine, and Syntheses of Their Derivatives. Sankyo Kenkyusho Nempo, 43: 99-110.
Aldose-Reductase-Inhibitor IC50=0.84 ug/ml cow	Okada, Y. et al. 1995. Search for Naturally Occurring Substances to Prevent the Complications of Diabetes. II. Inhibitory Effect of Coumarin and Flavonoid Derivatives on Bovine Lens Aldose Reductase and Rabbit Platelet Aggregation. Chem Pharm Bull 43(8):1385-1387
Aldose-Reductase-Inhibitor IC50=0.344 uM	Maq, X. M., Zhang, J. Q. 1993. Inhibition of Aldose Reductase by Extracts of Chinese Herbal Medicine. Zhongguo Zhongyao Zazhi, 18(10): 623-624.
Allelochemic IC82=1 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.
Allergenic	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
Analgesic	
AntiCrohn's 400 mg/man/3x/day	Pizzorno, J.E. and Murray, M.T. 1985. A Textbook of Natural Medicine. John Bastyr College Publications, Seattle, Washington (Looseleaf).
AntiGTF ID50=120 ug/ml	
AntiHIV	
AntiPMS 500 mg/2x/day/wmn	Pizzorno, J.E. and Murray, M.T. 1985. A Textbook of Natural Medicine. John Bastyr College Publications, Seattle, Washington (Looseleaf).
Antiaflatoxin IC50=25 uM	
Antiaflatoxin IC50=7.5 ppm	
Antiaggregant IC50=55 uM	Economic & Medicinal Plant Research, 5: 333.
Antiaggregant 30 uM	
Antiaging	
Antiallergic IC50=14 uM	Jim Duke's personal files.
Antialzheimeran	
Antianaphylactic	Meli, R., Autore, G., Di Carlo, G., Capasso, F. Inhibitory Action of Quercetin on Intestinal Transit in Mice. Phytotherapy Research 4(5): 201, 1990.
Antiangiogenic	
Antiarthritic	
Antiasthmatic IC50=14 uM	
Antiatherosclerotic	
Antibacterial	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
Anticarcinomic (Breast) IC50=1.5 uM	Medline (post 1990 searches filed in my computer)
Anticariogenic ID50=120 ug/ml	
Anticataract	
Anticolitic 400 mg/man/3x/day	Pizzorno, J.E. and Murray, M.T. 1985. A Textbook of Natural Medicine. John Bastyr College Publications, Seattle, Washington (Looseleaf).

Anticomplementary	
Anticystitic 1,000 mg/day/4 weeks	
Antidepressant	
Antidermatitic	Pizzorno, J.E. and Murray, M.T. 1985. A Textbook of Natural Medicine. John Bastyr College Publications, Seattle, Washington (Looseleaf).
Antidiabetic	
Antielastase IC50=0.8 ug/ml	
Antiencephalitic	Economic & Medicinal Plant Research, 5: 199.
Antiescherichic	
Antiestrogenic	
Antifeedant IC52=<1,000 ppm diet	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.
Antifibrosarcomic	
Antiflu	Vlietinck, A.J. and Dommissie, R.A. eds. 1985. Advances in Medicinal Plant Research. Wiss. Verlag. Stuttgart.
Antigastric	Rastitel'nye Resursy, 21: 85.
Antigonadotropic	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
Antihepatotoxic	Joyeux, M., Rolland, A., Fleurentin, J., Mortier, F., and Dorfman, P. 1989. Tert-Butyl Hydroperoxide-Induced Injury in Isolated Rat Hepatocytes: A Model for Studying Anti-Hepatotoxic Crude Drugs. <i>Planta Medica</i> 56(2): 171-173, 1990.
Antiherpetic 48-150 ug/ml	
Antihistaminic IC50=<10 uM	
Antihydrophobic	Vlietinck, A.J. and Dommissie, R.A. eds. 1985. Advances in Medicinal Plant Research. Wiss. Verlag. Stuttgart.
Antihypertensive	Huang, K. C. 1993. The Pharmacology of Chinese Herbs. CRC Press, Boca Raton, FL 388 pp.
Antiinflammatory 20-150 mg/kg	Fitoterapia No.5-1990.
Antileishmanic IC50=64	
Antileukemic IC50=10 uM	Economic & Medicinal Plant Research, 5: 225.
Antileukemic IC50=>10 ug/ml	Life Sciences 55: 1061.
Antileukemic 5.5-60 uM	
Antileukotriene	Pizzorno, J.E. and Murray, M.T. 1985. A Textbook of Natural Medicine. John Bastyr College Publications, Seattle, Washington (Looseleaf).
Antilipoperoxidant IC67=50	
Antimalarial IC50=1-6.4 ug/ml	Medicinal and Poisonous Plants of the Tropics. Leeuwenberg, A.J.M., ed. Pudoc, Wageningen. 1987.
Antimelanomic	
Antimetastatic	
Antimutagenic ID50=2-5 nM	Phenolic Compounds in Food and Their Effects on Health. Antioxidants & Cancer Prevention. Huang, M.T., Ho, C.T. and Lee, C.Y. eds. 1992. ACS Symposium Series 507.ACS, Washington 402 pp.
Antimutagenic ID50=0.62 ug/ml	
Antimyocarditic	Economic & Medicinal Plant Research, 5: 199.
Antinitrosaminic	
Antinociceptive	
Antioxidant IC96=300 ppm	Phenolic Compounds in Food and Their Effects on Health. Antioxidants & Cancer Prevention. Huang, M.T., Ho, C.T. and Lee, C.Y. eds. 1992. ACS Symposium Series 507.ACS, Washington 402 pp.
Antioxidant ED50=2.3 uM	Seidel, V., Verholle, M., Malard, Y., Tilleguin, F., Fruchart, J-C., Duriez, P., Bailleul, F., Teissier, E. 2000. Phenylpropanoids from <i>Ballota nigra</i> L. Inhibit in vitro LDL Peroxidation. <i>Phytotherapy Research</i> , 14(2): 93-98.
Antioxidant 4.7 x Vit. E	
Antioxidant IC47=10 uM	
Antipancreatic	Joseph, J., Nadeau, D. and Underwood, A. 2001. The Color Code. Hyperion, NY.
Antiperiodontal	Pizzorno, J.E. and Murray, M.T. 1985. A Textbook of Natural Medicine. John Bastyr College Publications, Seattle, Washington (Looseleaf).
Antiperistaltic	
Antipermeability	
Antiperoxidant	<i>Planta Medica</i> , 57: A110, 1991.
Antipharyngitic	Pizzorno, J.E. and Murray, M.T. 1985. A Textbook of Natural Medicine. John Bastyr College Publications, Seattle, Washington (Looseleaf).
Antiplateau	Pizzorno, J.E. and Murray, M.T. 1985. A Textbook of Natural Medicine. John Bastyr College Publications, Seattle, Washington (Looseleaf).
Antiplasmodial IC50=13-64	
Antipodriac	
Antipolio	Pizzorno, J.E. and Murray, M.T. 1985. A Textbook of Natural Medicine. John Bastyr College Publications, Seattle, Washington (Looseleaf).
Antiproliferant 10 nM	
Antiprostanoic	
Antiprostatic	Joseph, J., Nadeau, D. and Underwood, A. 2001. The Color Code. Hyperion, NY.
Antipsoriac	Pizzorno, J.E. and Murray, M.T. 1985. A Textbook of Natural Medicine. John Bastyr College Publications, Seattle, Washington (Looseleaf).
Antiradicular IC50=4.6 uM	<i>Planta Medica</i> , 56(6): 695, 1990.
Antispasmodic	
Antistreptococcic ID50=120 ug/ml	
Antithiamin	Phenolic Compounds in Food and Their Effects on Health, 69.
Antithrombic	

Antitrypanosomic IC50=13	
Antitumor 10 uM	
Antitumor (Bladder)	
Antitumor (Breast)	
Antitumor (Colon)	
Antitumor (Lung)	
Antitumor (Ovary)	
Antitumor (Skin) 20 uM	
Antitumor-Promoter	Pizzorno, J.E. and Murray, M.T. 1985. A Textbook of Natural Medicine. John Bastyr College Publications, Seattle, Washington (Looseleaf).
Antiulcer	
Antiviral IC50=10 uM	Economic & Medicinal Plant Research, 5: 225.
Antiviral 48-150 ug/ml	Amoros, M., Simoes, C.M.O., Girre, L., et al. Synergistic Effect Of Flavones And Flavonols Against Herpes Simplex Virus Type 1 In Cell Culture. Comparison With The Antiviral Activity Of Propolis. J. of Natural Products 55(12):1732-1740, 1992.
Apoptotic 20-60 uM	
Bacteristat 10 mg/ml	
Bradycardiac	Huang, K. C. 1993. The Pharmacology of Chinese Herbs. CRC Press, Boca Raton, FL 388 pp.
COMT-Inhibitor	
COX-2-Inhibitor <40 uM	
Calmodulin-Antagonist	Pizzorno, J.E. and Murray, M.T. 1985. A Textbook of Natural Medicine. John Bastyr College Publications, Seattle, Washington (Looseleaf).
Cancer-Preventive	Stitt, P. A. Why George Should Eat Broccoli. Dougherty Co, Milwaukee, WI, 1990, 399 pp.
Candidicide	
Capillariprotective	Merck 11th Edition
Carcinogenic 40,000 ppm (diet) mus	Nigg, H.N. and Seigler, D.S., eds. 1992. Phytochemical Resources for Medicine and Agriculture. Plenum Press, New York. 445 pp.
Catabolic	
Copper-Chelator	
Cyclooxygenase-Inhibitor	
Cytochrome-P450-1A2-Inhibitor	
Cytotoxic ED50=70 ug/ml	Matsukawa, Y., et al. The Effect of Quercetin and Other Flavonoids on Cell Cycle Progression and Growth of Human Gastric Cancer Cells. Planta Medica, 56(6): 677, 1990.
Cytotoxic IC82=100 ug/ml	Planta Medica, 57: A113, 1991.
Deiodinase-Inhibitor	Jim Duke's personal files.
Diaphoretic?	Lawrence Review of Natural Products, Dec-90.
Differentiator 5.5 uM	
Estrogenic 10% genistein	
Fungicide	
Glucosyl-Transferase-Inhibitor ID50=120 ug/ml	
HIV-RT-Inhibitor IC50=<1 ug/ml	Nakane, H., Fukushima, M., and Ono*, K. Differential Inhibition Of Reverse Transcriptase And Various DNA Polymerases By Digallic Acid And Its Derivatives. Journal of Natural Products, 53(5): 1234-1240, 1990.
Hemostat	Huang, K. C. 1993. The Pharmacology of Chinese Herbs. CRC Press, Boca Raton, FL 388 pp.
Hepatomagenic 5,000 ppm (diet) rat	Phenolic Compounds in Food and Their Effects on Health. Antioxidants & Cancer Prevention. Huang, M.T., Ho, C.T. and Lee, C.Y. eds. 1992. ACS Symposium Series 507.ACS, Washington 402 pp.
Hepatoprotective	
Hypoglycemic 100 mg/kg orl rat	Ivorra, M.D., Paya, M., and Villar, A. 1989. A Review of Natural Products and Plants as Potential Antidiabetic Drugs. Journal of Ethnopharmacology, 27: 243-275, 1989.
Inotropic	
Insulinogenic	Pizzorno, J.E. and Murray, M.T. 1985. A Textbook of Natural Medicine. John Bastyr College Publications, Seattle, Washington (Looseleaf).
Juvabional	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.
Larvostat 8,000 ppm diet	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.
Lipoxygenase-Inhibitor IC11=1.25 mM	Oszmianski, J. and Lee, C.Y. 1990. Inhibitory Effect of Phenolics on Carotene Bleaching in Vegetables. J. Agric. Food Chem. 38: 688-690.
Lipoxygenase-Inhibitor IC50=0.1-5 uM	
MAO-A-Inhibitor	
MMP-9-Inhibitor 20 uM	
Mast-Cell-Stabilizer	
Metal-Chelator (Copper)	Seidel, V., Verholle, M., Malard, Y., Tilleguin, F., Fruchart, J-C., Duriez, P., Bailleul, F., Teissier, E. 2000. Phenylpropanoids from Ballota nigra L. Inhibit in vitro LDL Peroxidation. Phytotherapy Research, 14(2): 93-98.
Metalloproteinase-Inhibitor IC50=>42 uM	
Mutagenic	
NADH-Oxidase-Inhibitor	
NEP-Inhibitor IC50=>42 uM	
NF-kB-Inhibitor	
NO-Inhibitor IC>50=125 uM	
NO-Inhibitor IC50=20 uM	
NO-Synthase-Inhibitor 5-50 uM	

Neuroprotective 5-25 uM	
Ornithine-Decarboxylase-Inhibitor <10 uM	
P450-Inducer 5 uM	Father Nature's Pharmacy: The aggregate of all these three-letter citations.
P450-Inhibitor 50-100 uM	Father Nature's Pharmacy: The aggregate of all these three-letter citations.
PGE2-Inhibitor	
PTK-Inhibitor 0.4-24 uM	
Pesticide	
Phospholipase-Inhibitor	
Plasmodicide	Neuwinger, H. D. 1996. African Ethnobotany - Poisons and Drugs. Chapman & Hall, New York. 941 pp.
Proliferant	
Prostaglandin-Synthesis-Inhibitor 40 ug/ml	Ibewuik, J. C., Ogungbamila, F. O., Ogundaini, A. O., Okeke, I. N., Bohlin, L. 1997. Antiinflammatory and Antibacterial Activities of C-methylflavonol from <i>Piliostigma thonningii</i> . <i>Phytotherapy Research</i> , 11(4): 281-284.
Protein-Kinase-C-Inhibitor	Naim, M., Zehavi, U., Nagy, S., and Rouseff, R.L. Hydroxycinnamic Acids as Off-Flavor Precursors in Citrus Fruits and Their Products. <i>Phenolic Compounds in Food and Their Effects on Health</i> , Ch.14.
Quinone-Reductase-Inducer 6 uM	Uda, Y., Price, K. R., Williamson, G., Rhodes, M. J. C. 1997. Induction of the Anticarcinogenic Marker Enzyme, Quinone Reductase, in Murine Hepatoma Cells In Vitro by Flavonoids. <i>Cancer Lett.</i> , 120 (2): 213-216.
Quinone-Reductase-Inducer 13 uM	
TNF-alpha-Inhibitor IC50=3.11 uM	
Teratologic	
Topoisomerase-I-Inhibitor IC50=12.8 ug/ml	
Topoisomerase-I-Inhibitor IC50=42 uM	
Topoisomerase-II-Inhibitor IC50=1-6.9 ug/ml	
Topoisomerase-II-Inhibitor IC50=23-40 uM	
Tumorigenic 0.1% diet orl rat/yr	Jim Duke's personal files.
Tyrosinase-Inhibitor ID50=70 uM	
Tyrosine-Kinase-Inhibitor	Economic & Medicinal Plant Research, 6: 170.
VEGF-Inhibitor	
Vasodilator	
Xanthine-Oxidase-Inhibitor IC50=>0.4 ug/ml	Chem. & Pharm. Bull. 38: 1772.
Xanthine-Oxidase-Inhibitor IC50=10.6 ug/ml	
Xanthine-Oxidase-Inhibitor 3.1 uM	
cAMP-Phosphodiesterase-Inhibitor	Pizzorno, J.E. and Murray, M.T. 1985. A Textbook of Natural Medicine. John Bastyr College Publications, Seattle, Washington (Looseleaf).
iNOS-Inhibitor IC50=20 uM	

RS-8-HYDROXY-2-(1'-HYDROXY-ETHYL)-NAPHTHO-(2,3,B)-FURAN-4,9-DIONE	Stem Bark	--	4.0	*
TABEBUIN	Heart Wood	--	20.0	*
TECTOQUINONE	Heart Wood	--	150.0	*

#### Activities (3)

Insectifuge	Jeffery B. Harborne and H. Baxter, eds. 1983. <i>Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants.</i> Taylor & Frost, London. 791 pp.
Pesticide	
Termitifuge 500 ppm	Jacobson, M., <i>Glossary of Plant-Derived Insect Deterrents</i> , CRC Press, Inc., Boca Raton, FL, 213 p, 1990.

VANILLIC-ACID	Stem Bark	--	--	*
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**Activities (24)**

Aldose-Reductase-Inhibitor 100 uM/l	
Allelopathic	
Anthelmintic	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
Antibacterial 1.5-15 mg/ml	Recio, M. C., Rios, J. L., and Villar, A., A review of some antimicrobial compounds isolated from medicinal plants reported in the literature 1978-1988, Phytotherapy Research, 3(4), 1989, 117-125.
Anticancer	
Antifatigue	
Antiinflammatory	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
Antileukemic IC50=25-56 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. Am J Chin Med, 31(1):37-46.
Antioxidant IC21=30 ppm	
Antioxidant 1/3 BHA	
Antiperoxidant IC15-65=100-200 ug/ml	
Antiradicular 7 x quercetin	
Antiseptic	
Antisickling	Planta Medica, 56(6): 681, 1990.
Antitumor	
Antitumor-Promoter	
Ascaricide	
Cancer-Preventive	Stitt, P. A. Why George Should Eat Broccoli. Dougherty Co, Milwaukee, WI, 1990, 399 pp.
Choleretic	
Fungicide	
Immunosuppressant	
Laxative	=ICMR(Indian Council of Medical Research).1976.Medicinal Plants of India.Vol.1.Indian Council of Med. Res.Cambridge Printing Works, New Delhi.487 pp;ICMR.1987.Medicinal Plants of India.Vol.2.Indian Council of Med. Res.Cambr. Printing Works,New Delhi.600pp
Pesticide	
Ubiquiot	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.

VANILLIN

Stem	--	--	*
Bark			

**Activities (28)**

Allelochemic IC50=4.26 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.
Allergenic	
Antianemic	
Anticancer	
Antidrepanocytic	
Antiescherichic 10-100 mmol/l	
Antilactobacillic 10-100 mmol/l	
Antilisteria	
Antimutagenic	Economic & Medicinal Plant Research, 6: 235.
Antioxidant #NAME?	
Antipolio	Economic & Medicinal Plant Research, 5: 194.
Antiradicular 7 x quercetin	
Antisickling	
Antitumor	
Antitumor-Promoter	
Antiviral	Economic & Medicinal Plant Research, 5: 194.
Antiyeast 8-30 mM	
Bacteristat 10-40 mmol/l	
Cancer-Preventive	Stitt, P. A. Why George Should Eat Broccoli. Dougherty Co, Milwaukee, WI, 1990, 399 pp.
Candidicide 8-20 mM	
Choleretic	Rinzler, C. A. 1990. The Complete Book of Herbs, Spices and Condiments. Facts on File, New York. 199 pp.
FLavor FEMA 50-20,000	Aloe Research Council - Duke writeup of non-peer reviewd book by Coats and draft by Henry
Fungicide	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
Immunosuppressant	
Insectifuge?	Martindale's 28th
Irritant	
Perfumery	
Pesticide	

VERATRIC-ACID	Stem	--	--	*
	Bark			
VERATRIC-ALDEHYDE	Stem	--	--	*
	Bark			
XYLOIDONE	Bark	--	--	*

**Activities (3)**

Candidicide	
Fungicide	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
Pesticide	