

# C BETULIN

## Chemid

BETULIN

\*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.

Plant	Part	Low PPM	High PPM	StdDev	Reference
Abies balsamea	Bark	--	--		Jim Duke's personal files.
Abies balsamea	Leaf	--	--		Jim Duke's personal files.
Abies balsamea	Twig	--	--		Jim Duke's personal files.
Acacia lenticularis	Heart Wood	46.6	46.6	-0.9999999999999998	Jim Duke's personal files.
Acacia modesta	Stem Bark	--	--		Jim Duke's personal files.
Acacia nilotica	Plant	--	--		--
Acacia nilotica	Root Bark	--	--		Jim Duke's personal files.
Acacia senegal	Flower	--	--		Jim Duke's personal files.
Acacia senegal	Root	--	--		Chemical Constituents of Oriental Herbs (3 diff. books)
Acacia tortilis	Heart Wood	--	--		Jim Duke's personal files.
Acacia tortilis	Stem Bark	--	--		Jim Duke's personal files.
Acanthus ilicifolius	Leaf	--	--		Jim Duke's personal files.

<b>Plant</b>	<b>Part</b>	<b>Low PPM</b>	<b>High PPM</b>	<b>StdDev</b>	<b>Reference</b>
Acinos thymoides	Shoot	500	500	0.8497090696541331	Jim Duke's personal files.
Acrotrema arnottianum	Leaf	650	650	-0.19275082310583577	Jim Duke's personal files.
Aerva lanata	Plant	64	64	-0.567039784551438	Jim Duke's personal files.
Alangium lamarckii	Seed	2222.2	2222.2		Jim Duke's personal files.
Alnus crispa	Bark	--	--		Jim Duke's personal files.
Alnus maximowiczii	Root	32.9	32.9	-0.9999999999999999	Jim Duke's personal files.
Alnus nepalensis	Bark	2300	2300	-0.06479485490298917	Jim Duke's personal files.
Alnus rubra	Stem Bark	--	--		Jim Duke's personal files.
Alnus rugosa	Bark	--	--		Jim Duke's personal files.
Alnus rugosa	Fruit	--	--		Jim Duke's personal files.
Alnus rugosa	Leaf	--	--		Jim Duke's personal files.
Alphitonia excelsa	Bark	45	45	-0.40483140514531124	Jim Duke's personal files.
Alphitonia excelsa	Wood	--	--		Jim Duke's personal files.
Alphitonia macrocarpa	Leaf	--	--		Jim Duke's personal files.
Alphitonia macrocarpa	Wood	--	--		Jim Duke's personal files.
Alphitonia petriei	Bark	--	--		Jim Duke's personal files.
Alphitonia petriei	Leaf	--	--		Jim Duke's personal files.
Alphitonia petriei	Wood	--	--		Jim Duke's personal files.
Alphitonia whitei	Bark	340	340	-0.36034768792957506	Jim Duke's personal files.

<b>Plant</b>	<b>Part</b>	<b>Low PPM</b>	<b>High PPM</b>	<b>StdDev</b>	<b>Reference</b>
Alphitonia whitei	Leaf	8	8	-0.48278947910396935	Jim Duke's personal files.
Alphitonia whitei	Wood	12	12	-1.22838013371807	Jim Duke's personal files.
Alstonia scholaris	Leaf	--	--		Jim Duke's personal files.
Alyxia levinei	Shoot	--	--		Jim Duke's personal files.
Amanoa oblongifolia	Stem Bark	0.3	0.3	-0.3693630297936064	Jim Duke's personal files.
Amoora canarana	Root	--	--		Jim Duke's personal files.
Ampelozizyphus amazonicus	Root	--	--		Jim Duke's personal files.
Artocarpus integrifolia	Root Bark	--	--		Jim Duke's personal files.
Atractylis carduus	Shoot	30	30	-0.5576765529614085	Jim Duke's personal files.
Avicennia alba	Leaf	120	120	-0.4321908350669118	Jim Duke's personal files.
Avicennia alba	Stem Bark	100	100	-0.32947895930425736	Jim Duke's personal files.
Avicennia officinalis	Leaf	140	140	-0.4231553629174372	Jim Duke's personal files.
Avicennia officinalis	Stem Bark	270	270	-0.26147201865040226	Jim Duke's personal files.
Avicennia tomentosa	Stem Bark	--	--		Jim Duke's personal files.
Betula alba	Bark	--	--		Jim Duke's personal files.
Betula alleghaniensis	Bark	--	--		Jim Duke's personal files.
Betula alleghaniensis	Heart Wood	--	--		Jim Duke's personal files.
Betula caerulea	Bark	--	--		Jim Duke's personal files.
Betula caerulea-grandis	Bark	--	--		Jim Duke's personal files.

<b>Plant</b>	<b>Part</b>	<b>Low PPM</b>	<b>High PPM</b>	<b>StdDev</b>	<b>Reference</b>
Betula cordifolia	Bark	--	--		Jim Duke's personal files.
Betula dahurica	Bark	--	--		Jim Duke's personal files.
Betula ermanii	Bark	--	--		Jim Duke's personal files.
Betula lenta	Bark	500	500	-0.33622092604985376	Jim Duke's personal files.
Betula lenta	Heart Wood	--	--		Jim Duke's personal files.
Betula maximowicziana	Bark	32000	32000	4.4137353190202795	Jim Duke's personal files.
Betula papyrifera	Bark	15000	15000	1.8502668692998896	Jim Duke's personal files.
Betula papyrifera	Heart Wood	--	--		Jim Duke's personal files.
Betula platyphylla	Bark	--	--		Jim Duke's personal files.
Betula populifolia	Bark	--	--		Jim Duke's personal files.
Betula sp.	Bark	--	--		Jim Duke's personal files.
Betula utilis	Plant	--	--		Jim Duke's personal files.
Bruguiera gymnorrhiza	Leaf	--	--		Jim Duke's personal files.
Bupleurum salicifolium	Leaf	--	--		Jim Duke's personal files.
Buxus microphylla	Shoot	--	--		Jim Duke's personal files.
Byrsonima crassifolia	Leaf	204.7	204.7	-0.3939256105138871	Jim Duke's personal files.
Callistemon lanceolatus	Leaf	--	--		Jim Duke's personal files.
Canavalia bonariensis	Root	--	--		Jim Duke's personal files.
Caraipa densifolia	Bark	32	32	-0.4067917045480386	Jim Duke's personal files.

Plant	Part	Low PPM	High PPM	StdDev	Reference
Careya arborea	Bark	6000	6000	0.4931365135655661	Jim Duke's personal files.
Carlina corymbosa	Plant	--	--		Jim Duke's personal files.
Carya ovata	Stem Bark	--	--		Jim Duke's personal files.
Cassia siamea	Flower	5	5	-1	Jim Duke's personal files.
Cassinia uncata	Shoot	83.3	83.3	-0.39807303448181625	Jim Duke's personal files.
Castanea sativa	Leaf	1000	1000	-0.034630060490030846	Jim Duke's personal files.
Castanopsis concinna	Stem	6	6	-0.011857951711436053	Jim Duke's personal files.
Castanopsis eyrei	Stem	9	9	0.699619150974717	Jim Duke's personal files.
Castanopsis lamontii	Leaf	0.3	0.3	-0.486268135881517	Jim Duke's personal files.
Ceanothus americanus	Root Bark	--	--		Jim Duke's personal files.
Ceriops decandra	Leaf	--	--		Jim Duke's personal files.
Cistus laurifolius	Shoot	13.3	13.3	-0.6076836591266841	Jim Duke's personal files.
Clerodendrum inerme	Stem	--	--		Jim Duke's personal files.
Clinacanthus nutans	Rhizome	--	--		Jim Duke's personal files.
Clinopodium vulgare	Shoot	--	--		Jim Duke's personal files.
Coccinia grandis	Seed	--	--		Akihisa, T., Kimura, Y., Kasahara, Y., Kumaki, K., Thakur, S., Tamura, T. 1997. 7-oxodihydrokarounidiol-3-benzoate and other triterpenes from the seeds of cucurbitaceae. Phytochemistry, 46(7): 1261-1266.
Comptonia peregrina	Leaf	--	--		Jim Duke's personal files.
Comptonia peregrina	Root	--	--		Jim Duke's personal files.

<b>Plant</b>	<b>Part</b>	<b>Low PPM</b>	<b>High PPM</b>	<b>StdDev</b>	<b>Reference</b>
Comptonia peregrina	Stem	--	--		Jim Duke's personal files.
Cornus capitata	Stem	8.3	8.3	0.5336078270146148	Jim Duke's personal files.
Corylus avellana	Bark	--	--		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
Croton macrostachys	Stem Bark	--	--		Jim Duke's personal files.
Croton megalocarpus	Stem Bark	25	25	-0.35948202135742874	Jim Duke's personal files.
Dalbergia sericea	Bark	--	--		Jim Duke's personal files.
Derris trifoliata	Leaf	--	--		Jim Duke's personal files.
Desmodium pulchellum	Root	--	--		Jim Duke's personal files.
Dicliptera roxburghiana	Leaf	--	--		Jim Duke's personal files.
Dillenia anhamanica	Leaf	820	820	-0.11594930983530195	Jim Duke's personal files.
Dillenia aurea	Leaf	450	450	-0.28310554460058146	Jim Duke's personal files.
Dillenia bracteata	Leaf	700	700	-0.17016214273214936	Jim Duke's personal files.
Dillenia indica	Fruit	--	--		Jim Duke's personal files.
Dillenia indica	Leaf	1050	1050	-0.012041380116344428	Jim Duke's personal files.
Dillenia indica	Stem Bark	--	--		Jim Duke's personal files.
Dillenia pentagyna	Leaf	1500	1500	0.19125674324683334	Jim Duke's personal files.
Dillenia pentagyna	Stem Bark	--	--		Jim Duke's personal files.
Dillenia retusa	Leaf	680	680	-0.17919761488162392	Jim Duke's personal files.

<b>Plant</b>	<b>Part</b>	<b>Low PPM</b>	<b>High PPM</b>	<b>StdDev</b>	<b>Reference</b>
Dillenia scabrella	Leaf	1200	1200	0.05572466100471483	Jim Duke's personal files.
Diospyros abyssinica	Bark	--	--		Jim Duke's personal files.
Diospyros argentea	Stem Bark	--	--		Jim Duke's personal files.
Diospyros buxifolia	Shoot	--	--		Jim Duke's personal files.
Diospyros canaliculata	Bark	--	--		Jim Duke's personal files.
Diospyros celebica	Heart Wood	--	--		Jim Duke's personal files.
Diospyros chevalieri	Bark	--	--		Jim Duke's personal files.
Diospyros cinnabarina	Bark	--	--		Jim Duke's personal files.
Diospyros cinnabarina	Wood	--	--		Jim Duke's personal files.
Diospyros consolatae	Leaf	2100	2100	0.4623209077310704	Jim Duke's personal files.
Diospyros crassiflora	Bark	--	--		Jim Duke's personal files.
Diospyros dendo	Bark	60	60	-0.40256952121908735	Jim Duke's personal files.
Diospyros dendo	Wood	--	--		Jim Duke's personal files.
Diospyros discolour	Fruit	500	500	-0.07091039485189377	Jim Duke's personal files.
Diospyros discolour	Stem Bark	--	--		Jim Duke's personal files.
Diospyros discolour	Wood	800	800	1.3476030020501304	Jim Duke's personal files.
Diospyros ebum	Leaf	--	--		Jim Duke's personal files.
Diospyros ebum	Stem Bark	325	325	-0.2394697731447433	Jim Duke's personal files.
Diospyros ebum	Heart Wood	--	--		Jim Duke's personal files.

<b>Plant</b>	<b>Part</b>	<b>Low PPM</b>	<b>High PPM</b>	<b>StdDev</b>	<b>Reference</b>
Diospyros elliptifolia	Bark	--	--		Jim Duke's personal files.
Diospyros eriantha	Bark	--	--		Jim Duke's personal files.
Diospyros fragrans	Wood	--	--		Jim Duke's personal files.
Diospyros gabunensis	Bark	--	--		Jim Duke's personal files.
Diospyros gracilescens	Bark	120	120	-0.3935219855141919	Jim Duke's personal files.
Diospyros gracilescens	Stem Bark	--	--		Jim Duke's personal files.
Diospyros gracilescens	Wood	--	--		Jim Duke's personal files.
Diospyros hirsuta	Bark	2000	2000	-0.11003253342746662	Jim Duke's personal files.
Diospyros hirsuta	Fruit	80	80	-1.187749113769227	Jim Duke's personal files.
Diospyros hirsuta	Wood	1100	1100	2.3283072415557906	Jim Duke's personal files.
Diospyros hoyleana	Bark	110	110	-0.39502990813167443	Jim Duke's personal files.
Diospyros hoyleana	Wood	190	190	-0.6464956182780449	Jim Duke's personal files.
Diospyros ismailii	Fruit	--	--		Jim Duke's personal files.
Diospyros iturensis	Bark	120	120	-0.3935219855141919	Jim Duke's personal files.
Diospyros iturensis	Wood	--	--		Jim Duke's personal files.
Diospyros japonica	Root	--	--		Jim Duke's personal files.
Diospyros kaki	Root	--	--		Jim Duke's personal files.
Diospyros kaki	Stem Bark	--	--		Jim Duke's personal files.
Diospyros kamerunensis	Bark	--	--		Jim Duke's personal files.



<b>Plant</b>	<b>Part</b>	<b>Low PPM</b>	<b>High PPM</b>	<b>StdDev</b>	<b>Reference</b>
Diospyros leucomelas	Leaf	--	--		Jim Duke's personal files.
Diospyros longiflora	Bark	100	100	-0.396537830749157	Jim Duke's personal files.
Diospyros longiflora	Wood	--	--		Jim Duke's personal files.
Diospyros maingayi	Bark	--	--		Jim Duke's personal files.
Diospyros maingayi	Wood	--	--		Jim Duke's personal files.
Diospyros malanonilau	Heart Wood	--	--		Jim Duke's personal files.
Diospyros mannii	Stem Bark	47.6	47.6	-0.3504410986587398	Jim Duke's personal files.
Diospyros maritima	Root	--	--		Jim Duke's personal files.
Diospyros melanoxylon	Bark	5000	5000	0.34234425181730793	Jim Duke's personal files.
Diospyros melanoxylon	Fruit	--	--		Jim Duke's personal files.
Diospyros melanoxylon	Heart Wood	200	200	0.9999999999999998	Jim Duke's personal files.
Diospyros melanoxylon	Leaf	--	--		Jim Duke's personal files.
Diospyros melanoxylon	Plant	2000	2000	2.076960752278003	Jim Duke's personal files.
Diospyros melanoxylon	Stem Bark	2500	2500	0.6306190263972261	Jim Duke's personal files.
Diospyros melanoxylon	Wood	100	200	-0.6138054769611896	Jim Duke's personal files.
Diospyros mespiliformis	Bark	--	--		Jim Duke's personal files.
Diospyros mollis	Root	1800	1800	1.0000000000000002	Jim Duke's personal files.
Diospyros monbuttensis	Bark	--	--		Jim Duke's personal files.
Diospyros montana	Bark	190	190	-0.3829665271918138	Jim Duke's personal files.

<b>Plant</b>	<b>Part</b>	<b>Low PPM</b>	<b>High PPM</b>	<b>StdDev</b>	<b>Reference</b>
Diospyros montana	Fruit	--	--		Jim Duke's personal files.
Diospyros montana	Leaf	--	--		Jim Duke's personal files.
Diospyros montana	Stem Bark	10000	10000	3.630925231714362	Jim Duke's personal files.
Diospyros montana	Wood	300	300	-0.2869040637926362	Jim Duke's personal files.
Diospyros moonii	Wood	560	560	0.5630396104456026	Jim Duke's personal files.
Diospyros oblongifolia	Fruit	1000	1000	1.258659508621122	Jim Duke's personal files.
Diospyros perigrina	Bark	--	--		Jim Duke's personal files.
Diospyros perigrina	Fruit	--	--		Jim Duke's personal files.
Diospyros perigrina	Leaf	10000	10000	4.031332406773524	Jim Duke's personal files.
Diospyros quaesita	Bark	3700	3700	0.14631431154457228	Jim Duke's personal files.
Diospyros quaesita	Wood	480	480	0.30151847991075986	Jim Duke's personal files.
Diospyros rotundifolia	Stem	--	--		Jim Duke's personal files.
Diospyros sanza-minika	Bark	--	--		Jim Duke's personal files.
Diospyros siamang	Bark	--	--		Jim Duke's personal files.
Diospyros siamang	Wood	--	--		Jim Duke's personal files.
Diospyros siamensis	Bark	--	--		Jim Duke's personal files.
Diospyros siamensis	Stem Bark	--	--		Jim Duke's personal files.
Diospyros siderophylla	Bark	--	--		Jim Duke's personal files.
Diospyros singaporensis	Bark	--	--		Jim Duke's personal files.

<b>Plant</b>	<b>Part</b>	<b>Low PPM</b>	<b>High PPM</b>	<b>StdDev</b>	<b>Reference</b>
Diospyros singaporensis	Wood	--	--		Jim Duke's personal files.
Diospyros spinescens	Bark	1620	1620	-0.16733359289180472	Jim Duke's personal files.
Diospyros spinescens	Wood	910	910	1.707194556535539	Jim Duke's personal files.
Diospyros sumatrana	Bark	--	--		Jim Duke's personal files.
Diospyros sumatrana	Wood	--	--		Jim Duke's personal files.
Diospyros sylvatica	Bark	--	--		Jim Duke's personal files.
Diospyros thwaitesii	Wood	550	550	0.5303494691287473	Jim Duke's personal files.
Diospyros tomentosa	Shoot	--	--		Jim Duke's personal files.
Diospyros undulata	Root	--	--		Jim Duke's personal files.
Diospyros verrucosa	Root Bark	500	500	-1	Jim Duke's personal files.
Diospyros verrucosa	Stem Bark	250	250	-0.26947283519791465	Jim Duke's personal files.
Diospyros walkeri	Bark	800	800	-0.2909832475253763	Jim Duke's personal files.
Diospyros walkeri	Wood	290	290	-0.31959420510949155	Jim Duke's personal files.
Diospyros wallichii	Bark	--	--		Jim Duke's personal files.
Diospyros wallichii	Wood	--	--		Jim Duke's personal files.
Diospyros zenkeri	Bark	666.7	666.7	-0.31108385601641914	Jim Duke's personal files.
Diospyros zenkeri	Wood	70	70	-1.038777314080309	Jim Duke's personal files.
Dipterocarpus glandulosus	Wood	--	--		Jim Duke's personal files.
Dipterocarpus hispidus	Wood	--	--		Jim Duke's personal files.

Plant	Part	Low PPM	High PPM	StdDev	Reference
<i>Dipterocarpus insignis</i>	Wood	--	--		Jim Duke's personal files.
<i>Dipterocarpus zeylanicus</i>	Wood	--	--		Jim Duke's personal files.
<i>Dipteryx odorata</i>	Bark	--	--		CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
<i>Duboisia leichhardtii</i>	Shoot	--	--		Jim Duke's personal files.
<i>Ehretia laevis</i>	Bark	160	160	-0.3874902950442615	Jim Duke's personal files.
<i>Erica arborea</i>	Leaf	--	--		Jim Duke's personal files.
<i>Euclea crispa</i>	Root Bark	22000	22000	1	Jim Duke's personal files.
<i>Euclea divinorum</i>	Root	--	--		Jim Duke's personal files.
<i>Eucommia ulmoides</i>	Bark	--	--		Jim Duke's personal files.
<i>Euonymus echinatus</i>	Bark	--	--		Jim Duke's personal files.
<i>Euphorbia broteri</i>	Plant	--	--		Jim Duke's personal files.
<i>Euphorbia hermentiana</i>	Stem	--	--		Jim Duke's personal files.
<i>Euphorbia hirta</i>	Stem	--	--		--
<i>Euphorbia lathyris</i>	Plant	--	--		--
<i>Euphorbia paralias</i>	Plant	300	300	-0.24473393398751858	Jim Duke's personal files.
<i>Fagonia cretica</i>	Plant	--	--		Jim Duke's personal files.
<i>Fagonia indica</i>	Plant	--	--		Jim Duke's personal files.
<i>Flindersia pimenteliana</i>	Bark	--	--		Jim Duke's personal files.
<i>Flindersia pimenteliana</i>	Leaf	--	--		Jim Duke's personal files.

<b>Plant</b>	<b>Part</b>	<b>Low PPM</b>	<b>High PPM</b>	<b>StdDev</b>	<b>Reference</b>
Fraxinus americana	Leaf	--	--		Jim Duke's personal files.
Fraxinus americana	Root	--	--		Jim Duke's personal files.
Garcinia mangostana	Leaf	250	250	-0.3734602660953271	Jim Duke's personal files.
Garcinia xanthochymus	Leaf	7500	7500	2.901898388089203	Jim Duke's personal files.
Givotia rottleriformis	Bark	--	--		Jim Duke's personal files.
Glechoma hirsuta	Plant	100	100	-0.517874485312874	Jim Duke's personal files.
Gmelina arborea	Wood	--	--		Jim Duke's personal files.
Grewia asiatica	Bark	--	--		Jim Duke's personal files.
Grewia asiatica	Stem Bark	--	--		Jim Duke's personal files.
Grewia bicolor	Root	--	--		Jim Duke's personal files.
Grewia flavescens	Root	--	--		Jim Duke's personal files.
Grewia tenax	Stem Bark	--	--		Jim Duke's personal files.
Grewia tiliaefolia	Bark	--	--		Jim Duke's personal files.
Guazuma tomentosa	Tb	--	17		Duke, J. A. Writeups or information summaries on approximately 2,000 economic plants, USDA, ARS, Beltsville, MD 20705.
Guazuma tomentosa	Bark	17	17	-0.40905358847426243	--
Gymnostachyum latifolium	Root	--	--		Jim Duke's personal files.
Gymnostachyum latifolium	Stem	--	--		Jim Duke's personal files.
Haplophyton cimicidum	Plant	--	--		Jim Duke's personal files.
Hedyotis lawsoniae	Shoot	1.2	1.2	-0.6439163528152971	Jim Duke's personal files.

<b>Plant</b>	<b>Part</b>	<b>Low PPM</b>	<b>High PPM</b>	<b>StdDev</b>	<b>Reference</b>
Helichrysum bilobum	Plant	20	20	-0.6271307058430162	Jim Duke's personal files.
Hibiscus syriacus	Bark	--	--		--
Holacantha emoryi	Seed	--	--		Jim Duke's personal files.
Hopea brevipetiolaris	Wood	--	--		Jim Duke's personal files.
Hopea cordifolia	Wood	290	290	-0.31959420510949155	Jim Duke's personal files.
Hopea jucunda	Wood	160	160	-0.744566042228611	Jim Duke's personal files.
Hygrophila auriculata	Root	--	--		Jim Duke's personal files.
Hyssopus ferganensis	Plant	--	--		Jim Duke's personal files.
Hyssopus seravshanicus	Plant	--	--		Jim Duke's personal files.
Ilex verticillata	Bark	--	--		Jim Duke's personal files.
Ilex verticillata	Fruit	--	--		Jim Duke's personal files.
Ilex verticillata	Leaf	--	--		Jim Duke's personal files.
Inonotus obliquus	Plant	--	--		--
Juglans regia	Bark	--	--		Jim Duke's personal files.
Juniperus communis	Fruit	--	--		Jim Duke's personal files.
Juniperus communis	Leaf	--	--		Jim Duke's personal files.
Juniperus communis	Stem	--	--		Jim Duke's personal files.
Juniperus horizontalis	Leaf	--	--		Jim Duke's personal files.
Juniperus horizontalis	Stem	--	--		Jim Duke's personal files.

<b>Plant</b>	<b>Part</b>	<b>Low PPM</b>	<b>High PPM</b>	<b>StdDev</b>	<b>Reference</b>
Kleinhovia hospita	Fruit	--	--		Jim Duke's personal files.
Larix laricina	Root	--	--		Jim Duke's personal files.
Larix laricina	Twig	--	--		Jim Duke's personal files.
Lasianthus chinensis	Leaf	--	--		Jim Duke's personal files.
Lavandula spica	Plant	1666.6	1666.6	1.6216354532186352	Jim Duke's personal files.
Lawsonia inermis	Bark	--	--		--
Lawsonia inermis	Plant	--	--		Rizk, A.F.M. and Al-Nowaihi, A.S., The Phytochemistry of the Horticultural Plants of Qatar, Scientific and Applied Research Centre, University of Qatar.
Lemaireocereus griseus	Plant	--	--		Jim Duke's personal files.
Lemaireocereus thurberi	Stem	--	--		Jim Duke's personal files.
Limnophila rugosa	Plant	--	--		Jim Duke's personal files.
Lithocarpus cornea	Stem	1	1	-1.1976531228550242	Jim Duke's personal files.
Lithocarpus elizabethae	Stem	--	--		Jim Duke's personal files.
Lithocarpus haipinii	Stem	--	--		Jim Duke's personal files.
Lithocarpus polystachya	Stem	0.4	0.4	-1.3399485433922549	Jim Duke's personal files.
Lumnitzera racemosa	Bark	11.4	11.4	-0.40989802514005275	Jim Duke's personal files.
Lumnitzera racemosa	Leaf	83.3	83.3	-0.44877092646119754	Jim Duke's personal files.
Maytenus boaria	Plant	82.2	82.2	-0.5421839943808306	Jim Duke's personal files.
Maytenus canariensis	Plant	--	--		Jim Duke's personal files.

Plant	Part	Low PPM	High PPM	StdDev	Reference
Maytenus octogona	Plant	--	--		Jim Duke's personal files.
Maytenus senegalensis	Leaf	--	--		Jim Duke's personal files.
Melaleuca leucadendra	Bark	--	--		--
Melaleuca leucadendron	Leaf	13	13	-0.4805306110666007	Jim Duke's personal files.
Melaleuca leucadendron	Stem	8	8	0.4624601167459993	Jim Duke's personal files.
Menyanthes trifoliata	Root	--	--		--
Micromeria benthamii	Plant	--	--		Jim Duke's personal files.
Mitrephora heyneana	Bark	--	--		Jim Duke's personal files.
Myrica cerifera	Fruit	--	--		Duke, J. A. Writeups or information summaries on approximately 2,000 economic plants, USDA, ARS, Beltsville, MD 20705.
Myrica cerifera	Leaf	--	--		--
Myrica cerifera	Root	--	--		Duke, J. A. Writeups or information summaries on approximately 2,000 economic plants, USDA, ARS, Beltsville, MD 20705.
Myrica cerifera	Stem	--	--		--
Nerium oleander	Leaf	--	--		Jim Duke's personal files.
Neuracanthus sphaerostachys	Plant	--	--		Jim Duke's personal files.
Origanum compactum	Shoot	90	90	-0.3780103032658075	Jim Duke's personal files.
Orthosphenia mexicana	Shoot	--	--		Jim Duke's personal files.
Panax pseudoginseng	Seed Oil	--	--		Jim Duke's personal files.
Parthenium hysterophorus	Leaf	--	--		Jim Duke's personal files.



<b>Plant</b>	<b>Part</b>	<b>Low PPM</b>	<b>High PPM</b>	<b>StdDev</b>	<b>Reference</b>
Phillyrea latifolia	Leaf	--	--		Jim Duke's personal files.
Phlogacanthus thyrsoiflorus	Leaf	--	--		Jim Duke's personal files.
Phyllanthus flexuosus	Stem Bark	5.3	5.3	-0.36736282565672834	Jim Duke's personal files.
Phyllanthus reticulatus	Root	--	--		Jim Duke's personal files.
Picea mariana	Bark	--	--		Jim Duke's personal files.
Picea mariana	Leaf	--	--		Jim Duke's personal files.
Picea mariana	Twig	--	--		Jim Duke's personal files.
Platycodon grandiflorum	Root	--	--		--
Plectranthus rugosus	Plant	45	45	-0.5929881369273468	Jim Duke's personal files.
Porteresia coarctata	Leaf	--	--		Jim Duke's personal files.
Premna integrifolia	Stem Bark	--	--		Jim Duke's personal files.
Prunus pensylvanica	Bark	--	--		Jim Duke's personal files.
Prunus pensylvanica	Leaf	--	--		Jim Duke's personal files.
Psychotria adenophylla	Leaf	--	--		Jim Duke's personal files.
Pterocarpus santalinus	Bark	--	--		--
Pterospermum acerifolium	Leaf	--	--		Jim Duke's personal files.
Pterospermum lanceaefolium	Flower	3800	3800	1	Jim Duke's personal files.
Pterospermum suberifolium	Leaf	--	--		Jim Duke's personal files.
Pterospermum suberifolium	Seed	--	--		Jim Duke's personal files.

Plant	Part	Low PPM	High PPM	StdDev	Reference
<i>Pterospermum xylocarpum</i>	Leaf	--	--		Jim Duke's personal files.
<i>Pyropolyporus fomentarius</i>	Fruit	--	--		Jim Duke's personal files.
<i>Quercus bambusaefolia</i>	Stem	14	14	1.8854143221183055	Jim Duke's personal files.
<i>Quercus championi</i>	Stem	6.6	6.6	0.1304374688257949	Jim Duke's personal files.
<i>Quercus myrsinaefolia</i>	Stem	0.55	0.55	-1.3043746882579472	Jim Duke's personal files.
<i>Quercus suber</i>	Cork	--	--		--
<i>Rabdosia adenantha</i>	Plant	--	--		Jim Duke's personal files.
<i>Rheedia gardneriana</i>	Bark	--	--		Jim Duke's personal files.
<i>Rhizophora mucronata</i>	Leaf	--	--		Jim Duke's personal files.
<i>Rhododendron anthopogon</i>	Stem	--	--		Jim Duke's personal files.
<i>Rhododendron dauricum</i>	Leaf	--	--		Jim Duke's personal files.
<i>Rhododendron ledebourii</i>	Shoot	--	--		Jim Duke's personal files.
<i>Rhododendron schotense</i>	Leaf	--	--		Jim Duke's personal files.
<i>Rhodomyrtus tomentosa</i>	Leaf	2	22	-0.4764646485993372	Jim Duke's personal files.
<i>Rhodomyrtus tomentosa</i>	Stem	10	10	0.9367781852034347	Jim Duke's personal files.
<i>Rhus alata</i>	Leaf	50	50	-0.4638149875900728	Jim Duke's personal files.
<i>Rhus typhina</i>	Shoot	--	--		Duke, J. A. Writeups or information summaries on approximately 2,000 economic plants, USDA, ARS, Beltsville, MD 20705.
<i>Rosa canina</i>	Fruit	--	--		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.

<b>Plant</b>	<b>Part</b>	<b>Low PPM</b>	<b>High PPM</b>	<b>StdDev</b>	<b>Reference</b>
Rosmarinus officinalis	Plant	--	--		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
Rosmarinus officinalis	Shoot	12.1	12.1	-0.6112769841205962	--
Roylea elegans	Leaf	--	--		Jim Duke's personal files.
Rzedowskia tolantonguensis	Shoot	--	--		Jim Duke's personal files.
Salacia cordata	Stem	2.7	2.7	-0.7944827646662042	Jim Duke's personal files.
Salvia beckeri	Shoot	--	--		Jim Duke's personal files.
Salvia officinalis	Leaf	15	15	-0.47962706385165327	--
Sambucus nigra	Bark	--	--		--
Sambucus nigra	Plant	--	--		--
Sambucus racemosa	Bark	--	--		Jim Duke's personal files.
Sarracenia flava	Root	--	--		--
Sarracenia flava	Shoot	--	--		--
Saussurea lappa	Root Essent. Oil	--	--		Jim Duke's personal files.
Saussurea lappa	Root	--	--		--
Schleichera oleosa	Bark	--	--		Jim Duke's personal files.
Scirpus fluviatilis	Rhizome	4380	4380		Jim Duke's personal files.
Scirpus tuberosus	Root	--	--		Jim Duke's personal files.
Senecio alpinus	Flower	--	--		Jim Duke's personal files.

<b>Plant</b>	<b>Part</b>	<b>Low PPM</b>	<b>High PPM</b>	<b>StdDev</b>	<b>Reference</b>
Shorea affinis	Wood	190	190	-0.6464956182780449	Jim Duke's personal files.
Shorea congestiflora	Wood	--	--		Jim Duke's personal files.
Shorea dyerii	Wood	20	20	-1.2022280206645857	Jim Duke's personal files.
Shorea magistophylla	Bark	10	10	-0.41010913430650026	Jim Duke's personal files.
Shorea oblongifolia	Wood	--	--		Jim Duke's personal files.
Shorea ovalifolia	Wood	--	--		Jim Duke's personal files.
Shorea stipularvis	Bark	20	20	-0.4086012116890177	Jim Duke's personal files.
Shorea trapezifolia	Wood	--	--		Jim Duke's personal files.
Shorea zeylanica	Wood	--	--		Jim Duke's personal files.
Simaba obovata	Shoot	--	--		Jim Duke's personal files.
Sophora japonica	Flower	--	--		--
Sorbus americana	Bark	--	--		Jim Duke's personal files.
Sorbus americana	Leaf	--	--		Jim Duke's personal files.
Stemonoporus affinis	Wood	--	--		Jim Duke's personal files.
Stemonoporus canaliculatus	Wood	--	--		Jim Duke's personal files.
Stemonoporus cordifolius	Wood	--	--		Jim Duke's personal files.
Stemonoporus oblongifolius	Wood	--	--		Jim Duke's personal files.
Stemonoporus petiolaris	Wood	--	--		Jim Duke's personal files.
Stemonoporus reticulatus	Wood	--	--		Jim Duke's personal files.

<b>Plant</b>	<b>Part</b>	<b>Low PPM</b>	<b>High PPM</b>	<b>StdDev</b>	<b>Reference</b>
Sterculia urens	Bark	50	50	-0.4040774438365699	Jim Duke's personal files.
Streblus asper	Shoot	1000	1000	2.3469278171174754	Jim Duke's personal files.
Strobilanthes cusia	Plant	35	35	-0.6066451644936146	Jim Duke's personal files.
Strobilanthes cusia	Root	--	--		Jim Duke's personal files.
Suaeda maritima	Leaf	--	--		Jim Duke's personal files.
Symplocos racemosa	Stem Bark	--	--		Jim Duke's personal files.
Tectona grandis	Stem Bark	--	--		Jim Duke's personal files.
Tetracera akara	Leaf	450	450	-0.28310554460058146	Jim Duke's personal files.
Tetracera indica	Leaf	100	100	-0.4412263072163864	Jim Duke's personal files.
Tetracera sarmentosa	Leaf	700	700	-0.17016214273214936	Jim Duke's personal files.
Tetracera scandens	Leaf	300	300	-0.3508715857216407	Jim Duke's personal files.
Thevetia peruviana	Plant	--	--		J.S. Glasby Dict.Pls Containing 2ndary Metabolite. 1991.
Thymelaea hirsuta	Leaf	--	--		Jim Duke's personal files.
Tricholepis glaberrima	Plant	--	--		Jim Duke's personal files.
Tricholepis glaberrima	Shoot	--	--		Jim Duke's personal files.
Tsuga canadensis	Bark	--	--		Jim Duke's personal files.
Tsuga canadensis	Leaf	--	--		Jim Duke's personal files.
Tsuga canadensis	Twig	--	--		Jim Duke's personal files.
Vatica affinis	Wood	470	470	0.26882833859390454	Jim Duke's personal files.

Plant	Part	Low PPM	High PPM	StdDev	Reference
Viburnum cassinoides	Bark	--	--		Jim Duke's personal files.
Vicia faba	Root	--	--		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
Viscum album	Shoot	--	--		Jim Duke's personal files.
Viscum articulatum	Plant	--	--		Jim Duke's personal files.
Wisteria floribunda	Bark	--	--		Jim Duke's personal files.
Wisteria floribunda	Wood	--	--		Jim Duke's personal files.
Woodfordia floribunda	Leaf	40	40	-0.46833272366481005	Jim Duke's personal files.
Zataria multiflora	Shoot	--	--		Jim Duke's personal files.
Zizyphus jujuba	Bark	--	--		Jim Duke's personal files.
Zizyphus jujuba	Stem Bark	--	--		Jim Duke's personal files.
Zizyphus jujuba	Seed	--	--		Jim Duke's personal files.
Zizyphus mauritiana	Stem	--	--		Jim Duke's personal files.
Zizyphus nummularia	Stem Bark	90	90	-0.33347936757801355	Jim Duke's personal files.
Zizyphus oenoplia	Stem Bark	64	64	-0.3438804290897796	Jim Duke's personal files.
Zizyphus rugosa	Bark	--	--		Jim Duke's personal files.
Zizyphus rugosa	Stem Bark	50	50	-0.3494810006730383	Jim Duke's personal files.
Zizyphus trinervia	Stem Bark	57	57	-0.34668071488140895	Jim Duke's personal files.
Zizyphus xylopyra	Stem Bark	70	70	-0.3414801841255259	Jim Duke's personal files.