

# C BETA-EUDESMOL

## Chemid

BETAEUDESMOL

\*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<br>PPM | High<br>PPM | StdDev             | Reference  |
|-----------------------|---------------------------|------------|-------------|--------------------|--|
| Anethum graveolens    | Essential Oil             | --         | --          | --                 | --   |
| Angelica archangelica | Root                      | 1          | 21          | 1                  | --   |
| Angelica archangelica | Root<br>Essent. Oil       | --         | --          | --                 | --   |
| Apium graveolens      | Seed                      | 76         | 225         | --                 | --   |
| Aralia cordata        | Root                      | 2          | 2           | -1                 | --   |
| Arctium lappa         | Leaf                      | --         | --          | --                 | --   |
| Artemisia pallens     | Plant                     | 26         | 116         | 0.8495019754356027 | --   |
| Atractylodes lancea   | Rhizome                   | --         | --          | --                 | --   |
| Commiphora myrrha     | Resin,<br>Exudate,<br>Sap | --         | --          | --                 | Gruenwald, J. et al. 1998. PDR for Herbal Medicine. 1st ed. Medical Economics Co., Montvale, NJ. 1244 pp. (abbreviated as PHR or Physicians Herbal Reference in my mind) |

| Plant                  | Part | Low<br>PPM | High<br>PPM | StdDev               | Reference  |
|------------------------|------|------------|-------------|----------------------|--|
| Elsholtzia polystachya | Leaf | 1.8        | 1.8         | -0.6145525201650573  | Mathela,C.S., Melkani,A.B., Bisht,J.C., Pant,A.K., Bestmann,H.J., Erler,J., Kobold,U., Rauscher,J. and Vostrowsky,O. 1992. Chemical Varieties of Essential Oils from Elsholtzia polystachya from Two Different Locations in India. <i>Planta Medica</i> 58: 376-379.   |
| Elsholtzia polystachya | Leaf | --         | 1.8         | -0.6145525201650573  | Mathela,C.S., Melkani,A.B., Bisht,J.C., Pant,A.K., Bestmann,H.J., Erler,J., Kobold,U., Rauscher,J. and Vostrowsky,O. 1992. Chemical Varieties of Essential Oils from Elsholtzia polystachya from Two Different Locations in India. <i>Planta Medica</i> 58: 376-379.   |
| Eucalyptus angulosa    | Leaf | --         | 150         | -0.17986044547786054 | Bignell,C.M.,Dunlop,P.J.,Brophy,J.J.,and Jackson, J.F.1994.Volatile Leaf Oils of Some South-western and Southern Australian Species of the Genus Eucalyptus.Part I.Subgenus <i>Sympyomyrtus</i> ,Section Dumaria,Series Incrassatae.Flavour and Fragrance J.9(3):113-7 |
| Eucalyptus behriana    | Leaf | 1305       | 1305        | 3.2079219179749887   | 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 <i>Sympyomyrtus</i> , Section Adnataria. Flavour and Fragrance J. 10(6):359-364 |
| Eucalyptus brassiana   | Leaf | --         | 0           | -0.6198321809912176  | Singh, A. K., Gupta, K. C., & Brophy, J. J. 1991. Chemical Constituents of the Leaf Essential Oil of Eucalyptus brassiana S. T. Blake. <i>Journal of Essential Oil Res.</i> 3: 45-7.   |
| Eucalyptus bridgesiana | Leaf | --         | 19          | -0.5641024278261924  | Singh, A. K., Gupta, K. C., & Brophy, J. J. 1991. Volatile Constituents of the Essential Oil of Eucalyptus bridgesiana Growing in India. <i>Journal of Essential Oil Res.</i> 3: 449-450.  |
| Eucalyptus ceratocorys | Leaf | --         | 520         | 0.9054031687884203   | Bignell,C.M.,Dunlop,P.J.,Brophy,J.J.,and Jackson, J.F.1994.Volatile Leaf Oils of Some South-western and Southern Australian Species of the Genus Eucalyptus.Part I.Subgenus <i>Sympyomyrtus</i> ,Section Dumaria,Series Incrassatae.Flavour and Fragrance J.9(3):113-7 |
| Eucalyptus cuprea      | Leaf | 650        | 650         | 1.28671200623333     | 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 <i>Sympyomyrtus</i> , Section Adnataria. Flavour and Fragrance J. 10(6):359-364 |

| Plant                     | Part                | Low<br>PPM | High<br>PPM | StdDev              | Reference  |
|---------------------------|---------------------|------------|-------------|---------------------|--|
| Eucalyptus desquamata     | Leaf                | 0          | 15          | -0.5758350074398819 | 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 Sympyomyrtus, Section Adnataria. Flavour and Fragrance J. 10(6):359-364 |
| Eucalyptus dolichorhyncha | Leaf                | --         | 360         | 0.4360999842408394  | Bignell,C.M.,Dunlop,P.J.,Brophy,J.J.,and Jackson, J.F.1994.Volatile Leaf Oils of Some South-western and Southern Australian Species of the Genus Eucalyptus.Part I.Subgenus Sympyomyrtus,Section Dumaria,Series Incrassatae.Flavour and Fragrance J.9(3):113-7 |
| Eucalyptus erythrandra    | Leaf                | --         | 325         | 0.3334399126210561  | Bignell,C.M.,Dunlop,P.J.,Brophy,J.J.,and Jackson, J.F.1994.Volatile Leaf Oils of Some South-western and Southern Australian Species of the Genus Eucalyptus.Part I.Subgenus Sympyomyrtus,Section Dumaria,Series Incrassatae.Flavour and Fragrance J.9(3):113-7 |
| Eucalyptus fasiculosa     | Leaf                | 8          | 8           | -0.5963670217638386 | 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 Sympyomyrtus, Section Adnataria. Flavour and Fragrance J. 10(6):359-364 |
| Eucalyptus forrestiana    | Leaf                | --         | 555         | 1.0080632404082037  | Bignell,C.M.,Dunlop,P.J.,Brophy,J.J.,and Jackson, J.F.1994.Volatile Leaf Oils of Some South-western and Southern Australian Species of the Genus Eucalyptus.Part I.Subgenus Sympyomyrtus,Section Dumaria,Series Incrassatae.Flavour and Fragrance J.9(3):113-7 |
| Eucalyptus globulus       | Plant               | --         | --          |                     | J.S. Glasby Dict.Pls Containing 2ndary Metabolite. 1991.   |
| Eucalyptus globulus       | Leaf<br>Essent. Oil | --         | 13000       | 1                   | --   |
| Eucalyptus incrassata     | Leaf                | --         | 455         | 0.7147487500659656  | Bignell,C.M.,Dunlop,P.J.,Brophy,J.J.,and Jackson, J.F.1994.Volatile Leaf Oils of Some South-western and Southern Australian Species of the Genus Eucalyptus.Part I.Subgenus Sympyomyrtus,Section Dumaria,Series Incrassatae.Flavour and Fragrance J.9(3):113-7 |

| Plant                   | Part | Low<br>PPM | High<br>PPM | StdDev              | Reference  |
|-------------------------|------|------------|-------------|---------------------|--|
| Eucalyptus intertexta   | Leaf | 5.5        | 5.5         | -0.6036998840223945 | 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 Sympyomyrtus, Section Adnataria. Flavour and Fragrance J. 10(6):359-364 |
| Eucalyptus lansdowneana | Leaf | 2.4        | 2.4         | -0.612792633223004  | 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 Sympyomyrtus, Section Adnataria. Flavour and Fragrance J. 10(6):359-364 |
| Eucalyptus largisparsa  | Leaf | 25         | 25          | -0.5465035584056581 | 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 Sympyomyrtus, Section Adnataria. Flavour and Fragrance J. 10(6):359-364 |
| Eucalyptus leucoxylon   | Leaf | 435        | 435         | 0.656085851997518   | 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 Sympyomyrtus, Section Adnataria. Flavour and Fragrance J. 10(6):359-364 |
| Eucalyptus melanophloia | Leaf | 10         | 10          | -0.5905007319569938 | 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 Sympyomyrtus, Section Adnataria. Flavour and Fragrance J. 10(6):359-364 |
| Eucalyptus nova-anglica | Leaf | 20         | 35          | -0.5171721093714343 | Brophy, J. L., Lassak, E. V., & Boland, D. J. 1992. The Leaf Essential Oils of Eucalyptus nova-anglica. Deane & Maiden. Journal of Essential Oil Res. 4: 29-32.  |
| Eucalyptus ochrophloia  | Leaf | 9          | 9           | -0.5934338768604163 | 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 Sympyomyrtus, Section Adnataria. Flavour and Fragrance J. 10(6):359-364 |

| Plant                 | Part  | Low<br>PPM | High<br>PPM | StdDev               | Reference  |
|-----------------------|-------|------------|-------------|----------------------|--|
| Eucalyptus odorata    | Leaf  | 75         | 75          | -0.39984631323453906 | 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 Sympyomyrtus, Section Adnataria. Flavour and Fragrance J. 10(6):359-364 |
| Eucalyptus populnea   | Leaf  | 5          | 5           | -0.6051664564741057  | 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 Sympyomyrtus, Section Adnataria. Flavour and Fragrance J. 10(6):359-364 |
| Eucalyptus porosa     | Leaf  | 25         | 25          | -0.5465035584056581  | 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 Sympyomyrtus, Section Adnataria. Flavour and Fragrance J. 10(6):359-364 |
| Eucalyptus sp         | Plant | --         | --          |                      | Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.   |
| Eucalyptus sparsa     | Leaf  | 75         | 75          | -0.39984631323453906 | 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 Sympyomyrtus, Section Adnataria. Flavour and Fragrance J. 10(6):359-364 |
| Eucalyptus stoatei    | Leaf  | --         | 1205        | 2.9146074276327507   | Bignell,C.M.,Dunlop,P.J.,Brophy,J.J.,and Jackson, J.F.1994.Volatile Leaf Oils of Some South-western and Southern Australian Species of the Genus Eucalyptus.Part I.Subgenus Sympyomyrtus,Section Dumaria,Series Incrassatae.Flavour and Fragrance J.9(3):113-7 |
| Eucalyptus tetraptera | Leaf  | --         | 35          | -0.5171721093714343  | Bignell,C.M.,Dunlop,P.J.,Brophy,J.J.,and Jackson, J.F.1994.Volatile Leaf Oils of Some South-western and Southern Australian Species of the Genus Eucalyptus.Part I.Subgenus Sympyomyrtus,Section Dumaria,Series Incrassatae.Flavour and Fragrance J.9(3):113-7 |

| Plant                       | Part                | Low<br>PPM | High<br>PPM | StdDev              | Reference  |
|-----------------------------|---------------------|------------|-------------|---------------------|--|
| <i>Eucalyptus viridis</i>   | Leaf                | 2          | 2           | -0.6139658911843728 | 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>Sympyomyrtus</i> , Section <i>Adnataria</i> . Flavour and Fragrance J. 10(6):359-364 |
| <i>Ferula gummosa</i>       | Plant               | --         | --          |                     | --   |
| <i>Ginkgo biloba</i>        | Wood                | --         | --          |                     | Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of <i>Glycyrrhiza-glabra</i> . Nippon Gogeikagaku Kaishi 61(9): 1119-1122.   |
| <i>Ginkgo biloba</i>        | Heart<br>Wood       | --         | --          |                     | Jim Duke's personal files.   |
| <i>Humulus lupulus</i>      | Fruit               | 60         | 60          |                     | --   |
| <i>Hypericum perforatum</i> | Plant               | 2          | 32          | -1.4039137909830484 | --   |
| <i>Juglans regia</i>        | Leaf                | 12         | 30          | -0.5318378338885462 | Williamson, E. M. and Evans, F. J., Potter's New Cyclopaedia of Botanical Drugs and Preparations, Revised Ed., Saffron Walden, the C. W. Daniel Co., Ltd., Essex UK, 362 pp, 1988, reprint 1989.   |
| <i>Juniperus virginiana</i> | Leaf                | --         | --          |                     | --   |
| <i>Laurus nobilis</i>       | Leaf                | --         | --          |                     | Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.   |
| <i>Laurus nobilis</i>       | Leaf<br>Essent. Oil | --         | --          |                     | --   |
| <i>Magnolia denudata</i>    | Bark                | --         | --          |                     | --   |
| <i>Magnolia denudata</i>    | Bulb                | --         | --          |                     | --   |
| <i>Magnolia denudata</i>    | Flower              | --         | --          |                     | --   |
| <i>Magnolia denudata</i>    | Leaf                | --         | --          |                     | --   |

| Plant                  | Part                 | Low<br>PPM | High<br>PPM | StdDev              | Reference  |
|------------------------|----------------------|------------|-------------|---------------------|--|
| Magnolia denudata      | Twig                 | --         | --          |                     | --   |
| Magnolia officinalis   | Essential Oil        | --         | --          |                     | --   |
| Mentha aquatica        | Shoot                | 24         | 24          | 1.3163041116635639  | Umemoto, K., Arai, T., Nii, H. and Furukawa, K. 1993. A New Chemotype of <i>Mentha aquatica</i> Containing Sesquiterpene Alcohols as Major Components. <i>Nippon Nogeikagaku Kaishi</i> 67(10): 1417-1419. |
| Mentha aquatica        | Shoot                | --         | 24          | 1.3163041116635639  | Umemoto, K., Arai, T., Nii, H. and Furukawa, K. 1993. A New Chemotype of <i>Mentha aquatica</i> Containing Sesquiterpene Alcohols as Major Components. <i>Nippon Nogeikagaku Kaishi</i> 67(10): 1417-1419. |
| Mentha aquatica        | Shoot                | --         | 27          | 1.6248128878347115  | Umemoto, K., Arai, T., Nii, H. and Furukawa, K. 1993. A New Chemotype of <i>Mentha aquatica</i> Containing Sesquiterpene Alcohols as Major Components. <i>Nippon Nogeikagaku Kaishi</i> 67(10): 1417-1419. |
| Mentha aquatica        | Shoot                | --         | 13          | 0.18510526570268904 | Umemoto, K., Arai, T., Nii, H. and Furukawa, K. 1993. A New Chemotype of <i>Mentha aquatica</i> Containing Sesquiterpene Alcohols as Major Components. <i>Nippon Nogeikagaku Kaishi</i> 67(10): 1417-1419. |
| Mentha aquatica        | Shoot                | --         | 8           | -0.3290760279158904 | Umemoto, K., Arai, T., Nii, H. and Furukawa, K. 1993. A New Chemotype of <i>Mentha aquatica</i> Containing Sesquiterpene Alcohols as Major Components. <i>Nippon Nogeikagaku Kaishi</i> 67(10): 1417-1419. |
| Nardostachys jatamansi | Root                 | --         | --          |                     | --   |
| Ocimum basilicum       | Shoot<br>Essent. Oil | --         | 3000        | -1                  | --   |
| Origanum sipyleum      | Shoot                | 5          | 5           | -0.6375848040870382 | Baser, K.H.C., Ozek, T., Kurkcuoglu, M. and Tumen, G. 1992. Composition of the Essential Oil of <i>Origanum sipyleum</i> of Turkish Origin. <i>J. Ess. Oil Res.</i> 4: 139-142.                            |
| Origanum sipyleum      | Shoot                | --         | 6           | -0.5347485453633224 | Baser, K.H.C., Ozek, T., Kurkcuoglu, M. and Tumen, G. 1992. Composition of the Essential Oil of <i>Origanum sipyleum</i> of Turkish Origin. <i>J. Ess. Oil Res.</i> 4: 139-142.                            |

| Plant                             | Part                 | Low<br>PPM | High<br>PPM | StdDev              | Reference   |
|-----------------------------------|----------------------|------------|-------------|---------------------|---|
| <i>Origanum sipyleum</i>          | Shoot                | --         | 5           | -0.6375848040870382 | Baser, K.H.C., Ozek, T., Kurkcuoglu, M. and Tumen, G. 1992. Composition of the Essential Oil of <i>Origanum sipyleum</i> of Turkish Origin. <i>J. Ess. Oil Res.</i> 4: 139-142.   |
| <i>Origanum sipyleum</i>          | Shoot                | --         | --          |                     | Baser, K.H.C., Ozek, T., Kurkcuoglu, M. and Tumen, G. 1992. Composition of the Essential Oil of <i>Origanum sipyleum</i> of Turkish Origin. <i>J. Ess. Oil Res.</i> 4: 139-142.   |
| <i>Origanum vulgare</i>           | Shoot<br>Essent. Oil | --         | 8600        | 1                   | --  |
| <i>Panax ginseng</i>              | Plant                | --         | --          |                     | --  |
| <i>Panax ginseng</i>              | Root<br>Essent. Oil  | --         | --          |                     | --  |
| <i>Pterocarpus marsupium</i>      | Root                 | --         | --          |                     | --  |
| <i>Pterocarpus santalinus</i>     | Wood                 | --         | --          |                     | --  |
| <i>Rheum palmatum</i>             | Rhizome              | --         | 0.5         | -1                  | --  |
| <i>Rhododendron dauricum</i>      | Plant                | --         | --          |                     | --  |
| <i>Salvia canariensis</i>         | Leaf                 | 0.1        | 0.1         | -0.6195388665008753 | Casnigueral,S., Iglesias,J., Vila,R., Virgili,A. and Ibanez,C.1994. The Essential Oil from Leaves of <i>Salvia canariensis</i> L. <i>Flav. &amp; Frag. J.</i> 9:201-204. S. Canigueral, Facultat de Farmacia, Universitat de Barcelona, Ave.Diagonal 643,E-08028, Barcelone Spain |
| <i>Scutellaria baicalensis</i>    | Root<br>Essent. Oil  | --         | --          |                     | --  |
| <i>Sideritis germanicolpitana</i> | Plant                | 75         | 105         | 0.554411815547446   | <i>J. Essential Oil</i> , 4: 533.   |
| <i>Tagetes minuta</i>             | Leaf<br>Essent. Oil  | --         | 10000       | -1                  | Zygadlo, J. S., Guzman, C. A., Gross, N. R. 1994. Antifungal Properties of the Leaf Oils of <i>Tagetes Minuta</i> L. and <i>T. filifolia</i> Lag. <i>J. Essent. Oil Res.</i> 6 6: 617-621. Cat Quim Org Fac Cien Exact Univ Nacion Cordoba Cordoba 5000 Argentina.                |

| Plant                      | Part                   | Low<br>PPM | High<br>PPM | StdDev<br>PPM       | Reference  |
|----------------------------|------------------------|------------|-------------|---------------------|--|
| <i>Teucrium polium</i>     | Plant                  | --         | --          |                     | Rizk, A.F.M., The Phytochemistry of the Flora of Qatar, Scientific and Applied Research Centre, University of Qatar, Kingprint, Richmond, UK, 1986.                |
| <i>Thuja occidentalis</i>  | Wood                   | --         | --          |                     | --   |
| <i>Thymus funkii</i>       | Shoot                  | 0          | 0           | -1.1517660977056177 | Vila, R., et al. 1995. Composition and study of the variability of the essential oil of <i>Thymus funkii</i> Cousson. <i>Flav. &amp; Fragr. J.</i> 10(6): 379-383. |
| <i>Thymus funkii</i>       | Shoot                  | --         | 0           | -1.1517660977056177 | Vila, R., et al. 1995. Composition and study of the variability of the essential oil of <i>Thymus funkii</i> Cousson. <i>Flav. &amp; Fragr. J.</i> 10(6): 379-383. |
| <i>Zingiber officinale</i> | Rhizome                | 7          | 465         | 1                   | --   |
| <i>Zingiber officinale</i> | Rhizome<br>Essent. Oil | --         | 9300        |                     | --   |