

Dr. Duke's Phytochemical and Ethnobotanical Databases

Chemicals found in *Foeniculum vulgare*

| Activities Count | Chemical | Plant Part | Low PPM | High PPM | StdDev | Reference Citation |
|------------------|------------------------|------------------|---------|----------|----------------------|--|
| 0 | (+)-ALPHA-PHELLANDRENE | Essential Oil | | | | Jim Duke's personal files. |
| 0 | (+)-ALPHA-PINENE | Plant | | | | Jim Duke's personal files. |
| 0 | (+)-FENCHONE | Sprout Seedling | | | | Jim Duke's personal files. |
| 0 | (+)-FENCHONE | Seed Essent. Oil | | 17000.0 | | Jim Duke's personal files. |
| 0 | (+)-FENCHONE | Essential Oil | 1000.0 | 8000.0 | | Jim Duke's personal files. |
| 0 | (+)-PINENE | Seed | | | | Jim Duke's personal files. |
| 67 | 1,8-CINEOLE | Fruit | 1.0 | 300.0 | -0.40613926796726973 | -- |
| 67 | 1,8-CINEOLE | Essential Oil | 1000.0 | 12000.0 | -0.7454761258822148 | Jim Duke's personal files. |
| 67 | 1,8-CINEOLE | Seed | 1.0 | 300.0 | -0.6651114639489161 | Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980. |
| 67 | 1,8-CINEOLE | Plant | | | | Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980. |
| 0 | 3-CARENE | Fruit | 120.0 | 720.0 | | -- |
| 0 | 3-CARENE | Seed | 120.0 | 720.0 | | Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980. |
| 10 | 5-METHOXY-PSORALEN | Seed | 0.0 | 5.0 | -1.0 | -- |
| 10 | 5-METHOXY-PSORALEN | Fruit | 0.0 | 5.0 | -0.9284766908852594 | -- |
| 21 | 8-METHOXY-PSORALEN | Seed | 0.0 | 1.0 | | -- |
| 21 | 8-METHOXY-PSORALEN | Fruit | 0.0 | 1.0 | -0.7071067811865476 | -- |
| 0 | ABSCISIC-ACID | Seed | | 0.4 | 1.5552539549579851 | Jim Duke's personal files. |
| 19 | ACETYL-CHOLINE | Seed | | | | Jim Duke's personal files. |
| 3 | ALANINE | Fruit | 7890.0 | 8655.0 | 1.9445066148830974 | -- |
| 3 | ALANINE | Seed | 7890.0 | 8655.0 | -0.319130052209883 | USDA's Ag Handbook 8 and sequelae) |
| 0 | ALPHA-FENCHOL-ACETATE | Essential Oil | | 1000.0 | | Jim Duke's personal files. |
| 2 | ALPHA-HUMULENE | Essential Oil | | 1600.0 | -0.46667330599314866 | Jim Duke's personal files. |

| Activities Count | Chemical | Plant Part | Low PPM | High PPM | StdDev | Reference Citation |
|------------------|--------------------|------------------|---------|----------|----------------------|--|
| 11 | ALPHA-PHELLANDRENE | Plant | | 135.0 | -0.22866981982545245 | Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980. |
| 11 | ALPHA-PHELLANDRENE | Fruit | 44.0 | 6600.0 | 2.750681954647649 | -- |
| 11 | ALPHA-PHELLANDRENE | Essential Oil | 1000.0 | 198000.0 | 3.2393816351437663 | Jim Duke's personal files. |
| 11 | ALPHA-PHELLANDRENE | Seed | 44.0 | 6600.0 | 1.2462875979297328 | -- |
| 28 | ALPHA-PINENE | Seed | 200.0 | 8820.0 | 0.4596721797617065 | -- |
| 28 | ALPHA-PINENE | Plant | | 480.0 | -0.14178526385258663 | Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980. |
| 28 | ALPHA-PINENE | Fruit | 200.0 | 8820.0 | 1.5839460662821494 | -- |
| 28 | ALPHA-PINENE | Root Essent. Oil | | 10000.0 | -1.125610777414806 | Jim Duke's personal files. |
| 28 | ALPHA-PINENE | Seed Essent. Oil | 4700.0 | 12000.0 | -0.6591241432020921 | Jim Duke's personal files. |
| 28 | ALPHA-PINENE | Essential Oil | 5800.0 | 56000.0 | -0.06729940749020763 | Jim Duke's personal files. |
| 13 | ALPHA-TERPINENE | Plant | | 135.0 | -0.29814890364726054 | Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980. |
| 13 | ALPHA-TERPINENE | Fruit | | 1.0 | -0.4549438642997257 | -- |
| 13 | ALPHA-TERPINENE | Seed Essent. Oil | | | | Jim Duke's personal files. |
| 13 | ALPHA-TERPINENE | Seed | | 1.0 | -0.5149092933818734 | Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980. |
| 23 | ALPHA-TERPINEOL | Fruit | 1.0 | 6.0 | -0.4035732631708641 | -- |
| 23 | ALPHA-TERPINEOL | Seed | 1.0 | 6.0 | -0.5015144276309003 | Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980. |
| 0 | ALPHA-THUJENE | Seed | | | | Leung, A.Y., Encyclopedia of Common Natural Ingredients Used in Food, Drugs, and Cosmetics, John Wiley & Sons, New York, 1980. |
| 0 | ALPHA-THUJENE | Fruit | | | | -- |
| 5 | ALUMINUM | Seed | 6.0 | 56.0 | -0.27043448268101034 | -- |
| 36 | ANETHOLE | Essential Oil | | 692000.0 | 0.8232345301786242 | Jim Duke's personal files. |

| Activities Count | Chemical | Plant Part | Low PPM | High PPM | StdDev | Reference Citation |
|------------------|---------------|------------------|---------|----------|----------------------|--|
| 36 | ANETHOLE | Seed Essent. Oil | | 680000.0 | -1.0 | Jim Duke's personal files. |
| 36 | ANETHOLE | Seed | 64800.0 | 800000.0 | | -- |
| 36 | ANETHOLE | Plant | | | | Jim Duke's personal files. |
| 7 | ANISALDEHYDE | Essential Oil | | 8200.0 | -1.0 | Jim Duke's personal files. |
| 7 | ANISALDEHYDE | Plant | | | | Jim Duke's personal files. |
| 7 | ANISALDEHYDE | Fruit | 1.0 | 1080.0 | 1.0463766295035322 | -- |
| 7 | ANISALDEHYDE | Seed Essent. Oil | | | | Jim Duke's personal files. |
| 7 | ANISALDEHYDE | Seed | 1.0 | 1080.0 | -0.44014032874035824 | -- |
| 6 | ANISIC-ACID | Seed | | | | Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980. |
| 6 | ANISIC-ACID | Essential Oil | | | | Jim Duke's personal files. |
| 6 | ANISIC-ACID | Fruit | | | | -- |
| 0 | ANISIC-KETONE | Seed | | | | Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980. |
| 0 | ANISIC-KETONE | Fruit | | | | -- |
| 0 | ANISKETONE | Seed Essent. Oil | | | | Jim Duke's personal files. |
| 0 | ANOL | Seed | | | | Jim Duke's personal files. |
| 20 | APIOLE | Seed | | | | Leung, A.Y., Encyclopedia of Common Natural Ingredients Used in Food, Drugs, and Cosmetics, John Wiley & Sons, New York, 1980. |
| 20 | APIOLE | Fruit | | | | -- |
| 14 | ARGININE | Fruit | 6800.0 | 7460.0 | 0.8402864857624274 | -- |
| 14 | ARGININE | Seed | 6800.0 | 7460.0 | -0.7274809495477411 | USDA's Ag Handbook 8 and sequelae) |
| 112 | ASCORBIC-ACID | Leaf | | 123600.0 | 11.024584916352621 | Jim Duke's personal files. |
| 112 | ASCORBIC-ACID | Plant | 340.0 | 3148.0 | 0.1453360330642024 | CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses |
| 112 | ASCORBIC-ACID | Fruit | | | | -- |
| 112 | ASCORBIC-ACID | Seed | | 0.0 | -0.33845664486186666 | -- |

| Activities Count | Chemical | Plant Part | Low PPM | High PPM | StdDev | Reference Citation |
|------------------|----------------------|------------------|---------|----------|----------------------|---|
| 0 | ASH | Seed | 9720.0 | 90000.0 | 1.266866356182442 | -- |
| 0 | ASH | Plant | 17000.0 | 170000.0 | 0.8850058734331543 | CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses |
| 0 | ASH | Fruit | 79600.0 | 93026.0 | 0.9416128327059095 | -- |
| 3 | ASPARTIC-ACID | Seed | 18333.0 | 20111.0 | -0.2199834936411372 | USDA's Ag Handbook 8 and sequelae) |
| 3 | ASPARTIC-ACID | Fruit | 18333.0 | 20111.0 | 1.3075116786258043 | -- |
| 7 | AVICULARIN | Leaf | | | | Chemical Constituents of Oriental Herbs (3 diff. books) |
| 20 | BENZOIC-ACID | Fruit | | | | -- |
| 20 | BENZOIC-ACID | Seed | | | | Rizk, A.F.M., The Phytochemistry of the Flora of Qatar, Scientific and Applied Research Centre, University of Qatar, Kingprint, Richmond, UK, 1986. |
| 26 | BERGAPTEN | Fruit | | | | -- |
| 26 | BERGAPTEN | Seed | | | | -- |
| 53 | BETA-CAROTENE | Plant | 21.0 | 241.0 | 0.5780500695797443 | CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses |
| 53 | BETA-CAROTENE | Fruit | 0.0 | 1.0 | -0.14886764714786266 | -- |
| 53 | BETA-CAROTENE | Seed | 0.1 | 0.9 | -0.37305024284617794 | -- |
| 0 | BETA-CARYOPHYLLENE | Essential Oil | | 200.0 | -0.688222365160617 | Jim Duke's personal files. |
| 0 | BETA-FENCHOL-ACETATE | Sprout Seedling | | | | Jim Duke's personal files. |
| 0 | BETA-FENCHOL-ACETATE | Root Essent. Oil | | 10000.0 | | Jim Duke's personal files. |
| 0 | BETA-FENCHOL-ACETATE | Essential Oil | 1000.0 | 6000.0 | | Jim Duke's personal files. |
| 2 | BETA-MYRCENE | Essential Oil | 6000.0 | 19000.0 | -0.6772625042414543 | Jim Duke's personal files. |
| 3 | BETA-PHELLANDRENE | Fruit | 170.0 | 1020.0 | -0.2964383777885277 | -- |
| 3 | BETA-PHELLANDRENE | Seed | 170.0 | 1020.0 | -0.5763158151879731 | -- |
| 13 | BETA-PINENE | Plant | | 10.0 | -0.4246892675926054 | Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980. |
| 13 | BETA-PINENE | Fruit | 1.0 | 780.0 | -0.2728538846475927 | -- |

| Activities Count | Chemical | Plant Part | Low PPM | High PPM | StdDev | Reference Citation |
|------------------|-----------------|------------------|----------|----------|----------------------|---|
| 13 | BETA-PINENE | Essential Oil | 1000.0 | 6000.0 | -0.59715968549511 | Jim Duke's personal files. |
| 13 | BETA-PINENE | Seed | 1.0 | 780.0 | -0.5970164609802312 | Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980. |
| 47 | BETA-SITOSTEROL | Seed | 310.0 | 340.0 | -0.500504798134645 | -- |
| 47 | BETA-SITOSTEROL | Fruit | | | | -- |
| 4 | BORON | Leaf | 1.0 | 36.0 | -0.6879983749552611 | Betting on Boron, Unpublished draft by J. A. Duke on file at USDA, draft and papers relating to boron percentages. Includes Internat. Z. Vit. Ern. Forschung 43:1973 (boron). |
| 102 | CAFFEIC-ACID | Fruit | | | | -- |
| 102 | CAFFEIC-ACID | Seed | 0.5 | 225.0 | -0.5557561102389081 | -- |
| 28 | CALCIUM | Seed | 1415.0 | 13100.0 | 1.644396386071165 | -- |
| 28 | CALCIUM | Leaf | 1000.0 | 10556.0 | -0.5385025163558079 | CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses |
| 28 | CALCIUM | Fruit | 880.0 | 13941.0 | 2.327152272645294 | -- |
| 2 | CAMPESTEROL | Leaf | 10.0 | 12.0 | -0.8376904877051847 | Spiller, G. A. 1996 (Spiller, G. A. Ed. 1996. CRC Handbook of Lipids in Human Nutrition. CRC Press. Boca Raton, FL. 233 pp.) |
| 9 | CAMPHENE | Fruit | 10.0 | 540.0 | -0.12787441384193868 | -- |
| 9 | CAMPHENE | Seed Essent. Oil | | | | Jim Duke's personal files. |
| 9 | CAMPHENE | Seed | 10.0 | 540.0 | 0.27723987642684456 | Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980. |
| 41 | CAMPHOR | Fruit | 10.0 | 180.0 | -0.5522109010125488 | -- |
| 41 | CAMPHOR | Seed | 10.0 | 180.0 | | Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980. |
| 0 | CARBOHYDRATES | Plant | 51000.0 | 519000.0 | -0.9876885438727339 | USDA's Ag Handbook 8 and sequelae) |
| 0 | CARBOHYDRATES | Fruit | 522900.0 | 577680.0 | -1.097318825380449 | -- |
| 0 | CARBOHYDRATES | Seed | 61884.0 | 573000.0 | 0.19711133216329232 | -- |

| Activities Count | Chemical | Plant Part | Low PPM | High PPM | StdDev | Reference Citation |
|------------------|------------------|------------------|---------|----------|---------------------|---|
| 19 | CARVONE | Seed Essent. Oil | | | | Jim Duke's personal files. |
| 0 | CERYL-ALCOHOL | Fruit | | | | -- |
| 0 | CERYL-ALCOHOL | Seed | | | | Rizk, A.F.M., The Phytochemistry of the Flora of Qatar, Scientific and Applied Research Centre, University of Qatar, Kingprint, Richmond, UK, 1986. |
| 77 | CHLOROGENIC-ACID | Leaf | | | | Jim Duke's personal files. |
| 20 | CHOLINE | Seed | | | | -- |
| 24 | CHROMIUM | Fruit | 4.0 | 5.0 | 0.19465740124831715 | -- |
| 24 | CHROMIUM | Seed | 0.1 | 0.5 | -0.6096692757199391 | -- |
| 18 | CINNAMIC-ACID | Fruit | | | | -- |
| 18 | CINNAMIC-ACID | Seed | | | | Rizk, A.F.M., The Phytochemistry of the Flora of Qatar, Scientific and Applied Research Centre, University of Qatar, Kingprint, Richmond, UK, 1986. |
| 1 | CIS-ANETHOLE | Seed Essent. Oil | | 3000.0 | | Jim Duke's personal files. |
| 1 | CIS-ANETHOLE | Seed | 10.0 | 300.0 | 1.0 | -- |
| 1 | CIS-ANETHOLE | Plant | | 50.0 | | Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980. |
| 1 | CIS-ANETHOLE | Fruit | 10.0 | 300.0 | 1.3131983079178733 | -- |
| 0 | CIS-MIYABENOL-C | Seed | | 7.3 | | Jim Duke's personal files. |
| 3 | CIS-OCIMENE | Fruit | 40.0 | 600.0 | 1.0 | -- |
| 3 | CIS-OCIMENE | Seed | 40.0 | 600.0 | 1.0 | Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980. |
| 53 | CITRAL | Seed Essent. Oil | | | | Jim Duke's personal files. |
| 23 | CITRIC-ACID | Seed | | | | Rizk, A.F.M., The Phytochemistry of the Flora of Qatar, Scientific and Applied Research Centre, University of Qatar, Kingprint, Richmond, UK, 1986. |
| 23 | CITRIC-ACID | Fruit | | | | -- |

| Activities Count | Chemical | Plant Part | Low PPM | High PPM | StdDev | Reference Citation |
|------------------|----------------------|------------------|----------|----------|----------------------|--|
| 20 | CITRONELLAL | Seed Essent. Oil | | | | Jim Duke's personal files. |
| 15 | CITRONELLOL | Essential Oil | | 2800.0 | -0.7695280515456301 | Jim Duke's personal files. |
| 2 | COBALT | Fruit | 1.0 | 31.0 | 3.2177218230588163 | -- |
| 2 | COBALT | Seed | 0.3 | 3.1 | -0.07149253835510355 | -- |
| 0 | COLUMBIANETIN | Seed | | | | -- |
| 0 | COLUMBIANETIN | Fruit | | | | -- |
| 12 | COPPER | Seed | 8.0 | 24.0 | 0.8331720560940928 | -- |
| 12 | COPPER | Fruit | 8.0 | 24.0 | 0.8702146359429493 | -- |
| 23 | CYNARIN | Plant | | | | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979. |
| 3 | CYNAROSIDE | Leaf | | | | Jim Duke's personal files. |
| 2 | CYSTINE | Seed | 2220.0 | 2435.0 | -0.4973855760906737 | USDA's Ag Handbook 8 and sequelae) |
| 2 | CYSTINE | Fruit | 2220.0 | 2435.0 | 1.4642955293372149 | -- |
| 19 | D-LIMONENE | Seed | | | | Chemical Constituents of Oriental Herbs (3 diff. books) |
| 19 | D-LIMONENE | Fruit | | | | -- |
| 0 | DI-P-METHOXYSTILBENE | Plant | | | | -- |
| 1 | DIANETHOLE | Fruit | | | | -- |
| 1 | DIANETHOLE | Seed | | | | -- |
| 6 | DILLAPIOL | Sprout Seedling | | | | Jim Duke's personal files. |
| 6 | DILLAPIOL | Root Essent. Oil | 873000.0 | 900000.0 | | -- |
| 7 | DIPENTENE | Plant | | | | Jim Duke's personal files. |
| 7 | DIPENTENE | Essential Oil | | | | -- |
| 0 | EO | Plant | | 10000.0 | 0.019853678703787233 | -- |
| 0 | EO | Seed | 2160.0 | 60000.0 | 0.2080144173931528 | -- |
| 0 | EO | Fruit | 10000.0 | 80000.0 | 0.7349990182993845 | -- |
| 0 | EO | Root | 5000.0 | 7000.0 | -0.3250740058070961 | -- |

| Activities Count | Chemical | Plant Part | Low PPM | High PPM | StdDev | Reference Citation |
|------------------|-----------------|------------------|----------|----------|------------------------|--|
| 0 | EO | Tissue Culture | | | | Jim Duke's personal files. |
| 12 | ESTRAGOLE | Fruit | | 64000.0 | | -- |
| 12 | ESTRAGOLE | Seed | | 64000.0 | | -- |
| 12 | ESTRAGOLE | Sprout Seedling | | | | Jim Duke's personal files. |
| 12 | ESTRAGOLE | Essential Oil | 27000.0 | 56000.0 | -1.6209367750785804 | Jim Duke's personal files. |
| 12 | ESTRAGOLE | Seed Essent. Oil | 30000.0 | 344000.0 | -0.0026770331739982742 | Jim Duke's personal files. |
| 76 | EUGENOL | Sprout Seedling | | | | Jim Duke's personal files. |
| 76 | EUGENOL | Root Essent. Oil | | 2000.0 | | Jim Duke's personal files. |
| 0 | FAT | Plant | 4000.0 | 46000.0 | -0.08387794298838314 | CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses |
| 0 | FAT | Fruit | 120000.0 | 280000.0 | 1.4973653878998299 | -- |
| 0 | FAT | Seed | 17604.0 | 163000.0 | -0.5393120670243041 | -- |
| 0 | FENCHOL | Seed Essent. Oil | | | | Jim Duke's personal files. |
| 0 | FENCHOL-ACETATE | Essential Oil | | | | Jim Duke's personal files. |
| 6 | FENCHONE | Fruit | 10.0 | 24000.0 | 1.0 | -- |
| 6 | FENCHONE | Essential Oil | | 87000.0 | 1.414209779318724 | Jim Duke's personal files. |
| 6 | FENCHONE | Seed | 10800.0 | 150000.0 | | -- |
| 6 | FENCHONE | Plant | | 30.0 | -0.4714639178202843 | -- |
| 6 | FENCHONE | Seed Essent. Oil | 7000.0 | 130000.0 | | Jim Duke's personal files. |
| 1 | FENCHYL-ALCOHOL | Seed Essent. Oil | | | | Guenther, E., The Essential Oils, 6 volumes, D. van Nostrand, New York, 1948-1952. |
| 0 | FENICULIN | Plant | | | | Jim Duke's personal files. |
| 61 | FERULIC-ACID | Fruit | | | | -- |
| 61 | FERULIC-ACID | Seed | | 0.5 | -0.432099551506119 | -- |
| 15 | FIBER | Plant | 5000.0 | 50000.0 | -1.2776208647764995 | CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses |
| 15 | FIBER | Fruit | 144250.0 | 183338.0 | 0.39313906146550276 | -- |
| 15 | FIBER | Seed | 144250.0 | 183338.0 | 0.383431557508564 | USDA's Ag Handbook 8 and sequelae) |

| Activities Count | Chemical | Plant Part | Low PPM | High PPM | StdDev | Reference Citation |
|------------------|-------------------|------------------|---------|----------|---------------------|---|
| 0 | FIBER(CRUDE) | Seed | | 172000.0 | 0.7922139817488655 | -- |
| 0 | FOENICULIN | Seed | | | | Jim Duke's personal files. |
| 0 | FOENICULOSIDE-I | Seed | | 11.0 | | Jim Duke's personal files. |
| 0 | FOENICULOSIDE-II | Seed | | 4.8 | | Jim Duke's personal files. |
| 0 | FOENICULOSIDE-III | Seed | | 10.8 | | Jim Duke's personal files. |
| 0 | FOENICULOSIDE-IV | Seed | | 2.6 | | Jim Duke's personal files. |
| 7 | FUMARIC-ACID | Seed | | | | Rizk, A.F.M., The Phytochemistry of the Flora of Qatar, Scientific and Applied Research Centre, University of Qatar, Kingprint, Richmond, UK, 1986. |
| 7 | FUMARIC-ACID | Fruit | | | | -- |
| 11 | GAMMA-TERPINENE | Seed Essent. Oil | 8600.0 | 20000.0 | -0.7369923687775176 | Jim Duke's personal files. |
| 11 | GAMMA-TERPINENE | Essential Oil | 4000.0 | 20000.0 | -0.5490245545179435 | Jim Duke's personal files. |
| 11 | GAMMA-TERPINENE | Plant | | 135.0 | -0.4790579592036166 | Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980. |
| 11 | GAMMA-TERPINENE | Seed | 1.0 | 342.0 | -0.7669910019794676 | Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980. |
| 11 | GAMMA-TERPINENE | Fruit | 1.0 | 342.0 | -0.5883888191919472 | -- |
| 1 | GAMMA-TOCOTRIENOL | Seed | | | | Leung, A.Y., Encyclopedia of Common Natural Ingredients Used in Food, Drugs, and Cosmetics, John Wiley & Sons, New York, 1980. |
| 1 | GAMMA-TOCOTRIENOL | Fruit | | | | -- |
| 1 | GAMMA-TOCOTRIENOL | Seed Essent. Oil | | | | Jim Duke's personal files. |
| 8 | GENTISIC-ACID | Fruit | | | | -- |
| 8 | GENTISIC-ACID | Seed | | | | Rizk, A.F.M., The Phytochemistry of the Flora of Qatar, Scientific and Applied Research Centre, University of Qatar, Kingprint, Richmond, UK, 1986. |
| 35 | GERANIOL | Essential Oil | | 800.0 | -0.668591700316715 | Jim Duke's personal files. |

| Activities Count | Chemical | Plant Part | Low PPM | High PPM | StdDev | Reference Citation |
|------------------|----------------|------------|---------|----------|----------------------|--|
| 8 | GLUTAMIC-ACID | Seed | 29560.0 | 32427.0 | -0.3917935541930723 | USDA's Ag Handbook 8 and sequelae) |
| 8 | GLUTAMIC-ACID | Fruit | 29560.0 | 32427.0 | 1.4933376958685471 | -- |
| 12 | GLYCINE | Seed | 11070.0 | 12144.0 | 0.17231519127274303 | USDA's Ag Handbook 8 and sequelae) |
| 12 | GLYCINE | Fruit | 11070.0 | 12144.0 | 3.303370959829359 | -- |
| 4 | GLYCOLIC-ACID | Root | | | | Jim Duke's personal files. |
| 4 | GLYCOLIC-ACID | Plant | | | | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979. |
| 0 | GLYCOLLIC-ACID | Plant | | | | -- |
| 3 | GUAJAJVERIN | Leaf | | | | Jim Duke's personal files. |
| 7 | HISTIDINE | Seed | 3310.0 | 3631.0 | -0.6627803830950515 | USDA's Ag Handbook 8 and sequelae) |
| 7 | HISTIDINE | Fruit | 3310.0 | 3631.0 | 1.3450216208449925 | -- |
| 25 | IMPERATORIN | Seed | 0.0 | 3.0 | -1.3131147658526303 | -- |
| 25 | IMPERATORIN | Fruit | 0.0 | 3.0 | -0.8005752891381775 | -- |
| 12 | IODINE | Fruit | | 0.002 | -0.2907266057481542 | -- |
| 12 | IODINE | Seed | | 0.002 | -0.27823946197176685 | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| 6 | IRON | Plant | 27.0 | 270.0 | -0.4203412293571348 | CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses |
| 6 | IRON | Fruit | 100.0 | 240.0 | 0.42452713247789287 | -- |
| 6 | IRON | Seed | 2.3 | 21.0 | -0.603058522837475 | -- |
| 3 | ISOLEUCINE | Seed | 6950.0 | 7624.0 | -0.36590437300282797 | USDA's Ag Handbook 8 and sequelae) |
| 3 | ISOLEUCINE | Fruit | 6950.0 | 7624.0 | 1.1972338397397289 | -- |
| 15 | ISOPIMPINELLIN | Fruit | 0.0 | 1.0 | -1.0 | -- |
| 15 | ISOPIMPINELLIN | Seed | 0.0 | 1.0 | -1.0 | -- |
| 22 | ISOQUERCITRIN | Fruit | | | | -- |
| 22 | ISOQUERCITRIN | Seed | | | | -- |

| Activities Count | Chemical | Plant Part | Low PPM | High PPM | StdDev | Reference Citation |
|------------------|-----------------------------------|--------------------|---------|----------|----------------------|--|
| 0 | JASMONIC-ACID | Leaf | | | | Jim Duke's personal files. |
| 1 | JUGLANIN | Seed | | | | Jim Duke's personal files. |
| 75 | KAEMPFEROL | Leaf | | | | Jim Duke's personal files. |
| 75 | KAEMPFEROL | Plant | | | | -- |
| 0 | KAEMPFEROL-3-ARABINOSIDE | Leaf | | | | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979. |
| 0 | KAEMPFEROL-3-GLUCURONIDE | Leaf | | | | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979. |
| 0 | KAEMPFEROL-3-O-BETA-D-GLUCURONIDE | Seed | | | | Jim Duke's personal files. |
| 2 | L-LIMONENE | Seed | | | | Chemical Constituents of Oriental Herbs (3 diff. books) |
| 2 | L-LIMONENE | Fruit | | | | -- |
| 60 | LIMONENE | Seed Essent. Oil | 25000.0 | 131000.0 | -0.32366490888438976 | Jim Duke's personal files. |
| 60 | LIMONENE | Plant | | 1800.0 | 0.6204526743517518 | Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980. |
| 60 | LIMONENE | Essential Oil | 2000.0 | 324400.0 | 1.130140030291175 | Jim Duke's personal files. |
| 60 | LIMONENE | Fruit | 200.0 | 9420.0 | 0.600782817019324 | -- |
| 60 | LIMONENE | Flower Essent. Oil | | 342000.0 | 0.6678980920638107 | Jim Duke's personal files. |
| 60 | LIMONENE | Leaf Essent. Oil | | 578000.0 | 1.8767495127018285 | Jim Duke's personal files. |
| 60 | LIMONENE | Seed | 200.0 | 9420.0 | -0.08909624755589692 | Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980. |
| 0 | LINALOL | Plant | | 60.0 | -0.4186507004417492 | -- |
| 0 | LINALOL | Fruit | 1.0 | 2050.0 | -0.2877778362349853 | -- |
| 53 | LINALOOL | Seed | 1.0 | 2050.0 | 2.215474427602798 | -- |
| 53 | LINALOOL | Seed Essent. Oil | 700.0 | 6300.0 | -0.5344365220233508 | Jim Duke's personal files. |

| Activities Count | Chemical | Plant Part | Low PPM | High PPM | StdDev | Reference Citation |
|------------------|-----------------|------------------|---------|----------|----------------------|---|
| 53 | LINALOOL | Plant | | 60.0 | -0.6562008063960006 | Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980. |
| 27 | LINOLEIC-ACID | Seed | 14000.0 | 18539.0 | -0.7589896231152344 | -- |
| 27 | LINOLEIC-ACID | Fruit | 14000.0 | 18539.0 | -0.09384270346818631 | -- |
| 27 | LINOLEIC-ACID | Seed Essent. Oil | | | | Jim Duke's personal files. |
| 65 | MAGNESIUM | Fruit | 1730.0 | 5012.0 | 1.334655300955044 | -- |
| 65 | MAGNESIUM | Seed | 394.0 | 3650.0 | 0.2781047354124289 | -- |
| 15 | MALIC-ACID | Fruit | | | | -- |
| 15 | MALIC-ACID | Seed | | | | Rizk, A.F.M., The Phytochemistry of the Flora of Qatar, Scientific and Applied Research Centre, University of Qatar, Kingprint, Richmond, UK, 1986. |
| 14 | MANGANESE | Fruit | 24.0 | 721.0 | 4.350642455796347 | -- |
| 14 | MANGANESE | Seed | 0.5 | 4.3 | -0.6131379157442186 | -- |
| 0 | MARMESIN | Fruit | | | | -- |
| 0 | MARMESIN | Seed | | | | Rizk, A.F.M., The Phytochemistry of the Flora of Qatar, Scientific and Applied Research Centre, University of Qatar, Kingprint, Richmond, UK, 1986. |
| 15 | METHIONINE | Seed | 3010.0 | 3302.0 | -0.2615237796716863 | USDA's Ag Handbook 8 and sequelae) |
| 15 | METHIONINE | Fruit | 3010.0 | 3302.0 | 2.8858333444863127 | -- |
| 6 | METHYL-CHAVICOL | Seed | 70.0 | 4018.0 | 1.3554066861814988 | -- |
| 6 | METHYL-CHAVICOL | Plant | | 390.0 | -0.93714502895036 | Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980. |
| 6 | METHYL-CHAVICOL | Fruit | 70.0 | 4018.0 | 0.6633046920243453 | -- |
| 0 | MIYABENOL-C | Seed | | 5.3 | | Jim Duke's personal files. |
| 22 | MYRCENE | Seed | 100.0 | 2700.0 | 0.4794007154806766 | Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980. |
| 22 | MYRCENE | Fruit | 100.0 | 2700.0 | 0.037059751293639 | -- |

| Activities Count | Chemical | Plant Part | Low PPM | High PPM | StdDev | Reference Citation |
|------------------|--------------------------|------------------|---------|----------|----------------------|---|
| 31 | MYRISTICIN | Root Essent. Oil | | 28000.0 | -1.0 | Jim Duke's personal files. |
| 31 | MYRISTICIN | Seed | | | | Leung, A.Y., Encyclopedia of Common Natural Ingredients Used in Food, Drugs, and Cosmetics, John Wiley & Sons, New York, 1980. |
| 31 | MYRISTICIN | Fruit | | | | -- |
| 0 | N-DOCOSYL-ARACHIDATE | Plant | | | | -- |
| 0 | N-EICOSYL-ARACHIDATE | Plant | | | | -- |
| 0 | N-HEXACOSYL-ARACHIDATE | Plant | | | | -- |
| 0 | N-OCTACOSYL-ARACHIDATE | Plant | | | | -- |
| 0 | N-TETRACOSYL-ARACHIDATE | Plant | | | | Chemical Constituents of Oriental Herbs (3 diff. books) |
| 0 | N-TRIACONTYL-ARACHIDATE | Plant | | | | Chemical Constituents of Oriental Herbs (3 diff. books) |
| 39 | NIACIN | Seed | 7.0 | 66.0 | 0.6918955829316046 | -- |
| 39 | NIACIN | Plant | 7.0 | 65.0 | -0.16418216541690328 | CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses |
| 39 | NIACIN | Fruit | 60.0 | 66.0 | 0.07087702530436615 | -- |
| 3 | NICKEL | Seed | | 1.0 | -0.7177137482456848 | -- |
| 3 | NICKEL | Fruit | | 1.0 | -0.47534056850391404 | -- |
| 4 | O-COUMARIC-ACID | Fruit | | | | -- |
| 4 | O-COUMARIC-ACID | Seed | | | | Rizk, A.F.M., The Phytochemistry of the Flora of Qatar, Scientific and Applied Research Centre, University of Qatar, Kingprint, Richmond, UK, 1986. |
| 0 | OCTADEC-5,6-DIENOIC-ACID | Seed Oil | | | | Jim Duke's personal files. |
| 0 | OCTAN-1-AL | Seed Essent. Oil | | | | Jim Duke's personal files. |
| 18 | OLEIC-ACID | Fruit | 22000.0 | 108712.0 | 0.3571346393773097 | -- |
| 18 | OLEIC-ACID | Seed Oil | | | | Jim Duke's personal files. |
| 18 | OLEIC-ACID | Seed | 22000.0 | 108712.0 | -0.08542374150917421 | -- |
| 18 | OLEIC-ACID | Seed Essent. Oil | | | | Jim Duke's personal files. |

| Activities Count | Chemical | Plant Part | Low PPM | High PPM | StdDev | Reference Citation |
|------------------|------------------------|------------------|---------|----------|----------------------|---|
| 0 | OSTHENOL | Fruit | | | | -- |
| 0 | OSTHENOL | Seed | | | | -- |
| 11 | P-ANISALDEHYDE | Seed Essent. Oil | | 12000.0 | | Jim Duke's personal files. |
| 11 | P-ANISALDEHYDE | Sprout Seedling | | | | Jim Duke's personal files. |
| 0 | P-ANISIC-ACID | Seed Essent. Oil | | | | Jim Duke's personal files. |
| 25 | P-COUMARIC-ACID | Fruit | | 93.0 | -0.26017644798103073 | -- |
| 25 | P-COUMARIC-ACID | Seed | 60.0 | 93.0 | -0.2671918382565138 | -- |
| 16 | P-CYMENE | Fruit | 20.0 | 480.0 | -0.516224768738665 | -- |
| 16 | P-CYMENE | Root Essent. Oil | | 30000.0 | 1.352273744408973 | Jim Duke's personal files. |
| 16 | P-CYMENE | Essential Oil | 1000.0 | 10000.0 | -0.5508326583251186 | Jim Duke's personal files. |
| 16 | P-CYMENE | Seed | 20.0 | 480.0 | -0.6103332707761631 | -- |
| 13 | P-HYDROXY-BENZOIC-ACID | Seed | | | | Rizk, A.F.M., The Phytochemistry of the Flora of Qatar, Scientific and Applied Research Centre, University of Qatar, Kingprint, Richmond, UK, 1986. |
| 13 | P-HYDROXY-BENZOIC-ACID | Fruit | | | | -- |
| 1 | P-HYDROXYCINNAMIC-ACID | Seed | | | | Rizk, A.F.M., The Phytochemistry of the Flora of Qatar, Scientific and Applied Research Centre, University of Qatar, Kingprint, Richmond, UK, 1986. |
| 1 | P-HYDROXYCINNAMIC-ACID | Fruit | | | | -- |
| 13 | PALMITIC-ACID | Seed | 4000.0 | 6000.0 | -0.5758015812430738 | -- |
| 13 | PALMITIC-ACID | Fruit | 4000.0 | 6000.0 | -0.27212829921817 | -- |
| 24 | PECTIN | Fruit | | | | -- |
| 24 | PECTIN | Seed | | | | -- |
| 0 | PETROSELINIC-ACID | Seed | 72000.0 | 729000.0 | 0.8060405598458391 | -- |
| 0 | PETROSELINIC-ACID | Seed Oil | | | | Jim Duke's personal files. |
| 0 | PETROSELINIC-ACID | Seed Essent. Oil | | | | Jim Duke's personal files. |
| 0 | PETROSELINIC-ACID | Fruit | 72000.0 | 168000.0 | 1.0733558224504218 | -- |

| Activities Count | Chemical | Plant Part | Low PPM | High PPM | StdDev | Reference Citation |
|------------------|---------------------|------------|----------|----------|----------------------|---|
| 4 | PHELLANDRENE | Seed | | | | Jim Duke's personal files. |
| 7 | PHENYLALANINE | Fruit | 6470.0 | 7098.0 | 1.3082354371643177 | -- |
| 7 | PHENYLALANINE | Seed | 6470.0 | 7098.0 | -0.530505038469516 | USDA's Ag Handbook 8 and sequelae) |
| 4 | PHOSPHORUS | Plant | 510.0 | 5100.0 | 0.7262564980964331 | CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses |
| 4 | PHOSPHORUS | Fruit | 4449.0 | 5960.0 | 0.8334636036258397 | -- |
| 4 | PHOSPHORUS | Seed | 644.0 | 5960.0 | 0.1603118216279992 | -- |
| 0 | PHOTOANTHOLE | Fruit | | | | -- |
| 0 | PHOTOANTHOLE | Seed | | | | -- |
| 2 | PHYTOSTEROLS | Seed | 660.0 | 700.0 | -0.45867257389593497 | Spiller, G. A. 1996 (Spiller, G. A. Ed. 1996. CRC Handbook of Lipids in Human Nutrition. CRC Press. Boca Raton, FL. 233 pp.) |
| 14 | POTASSIUM | Fruit | 14800.0 | 19400.0 | 0.13124999091608544 | -- |
| 14 | POTASSIUM | Seed | 1415.0 | 13100.0 | 0.04660522400984079 | -- |
| 14 | POTASSIUM | Plant | 3380.0 | 39700.0 | 1.2485235247081685 | CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses |
| 0 | PROLINE | Seed | 9000.0 | 9873.0 | -0.28739245676620806 | USDA's Ag Handbook 8 and sequelae) |
| 0 | PROLINE | Fruit | 9000.0 | 9873.0 | 1.6103706188646485 | -- |
| 0 | PROTEIN | Seed | 18684.0 | 173000.0 | -0.5408125055753134 | -- |
| 0 | PROTEIN | Plant | 28000.0 | 280000.0 | 0.8730500245101087 | CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses |
| 0 | PROTEIN | Fruit | 148735.0 | 200000.0 | 1.2132114250920008 | -- |
| 43 | PROTocatechuic-acid | Fruit | | | | -- |
| 43 | PROTocatechuic-acid | Seed | | | | Rizk, A.F.M., The Phytochemistry of the Flora of Qatar, Scientific and Applied Research Centre, University of Qatar, Kingprint, Richmond, UK, 1986. |
| 31 | PSORALEN | Fruit | 0.0 | 1.0 | -0.46529171484494836 | -- |
| 31 | PSORALEN | Seed | 0.0 | 1.0 | -0.7282128817782354 | -- |

| Activities Count | Chemical | Plant Part | Low PPM | High PPM | StdDev | Reference Citation |
|------------------|----------------------------------|------------|---------|----------|----------------------|---|
| 176 | QUERCETIN | Fruit | | | | -- |
| 176 | QUERCETIN | Leaf | | | | Jim Duke's personal files. |
| 176 | QUERCETIN | Seed | | | | -- |
| 0 | QUERCETIN-3-ARABINOSIDE | Plant | | | | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979. |
| 0 | QUERCETIN-3-GLUCURONIDE | Plant | | | | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979. |
| 0 | QUERCETIN-3-GLUCURONIDE | Seed | | | | Jim Duke's personal files. |
| 0 | QUERCETIN-3-L-ARABINOSIDE | Plant | | | | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979. |
| 2 | QUERCETIN-3-O-BETA-D-GLUCURONIDE | Seed | | | | Jim Duke's personal files. |
| 1 | QUINIC-ACID | Fruit | | | | -- |
| 1 | QUINIC-ACID | Seed | | | | Rizk, A.F.M., The Phytochemistry of the Flora of Qatar, Scientific and Applied Research Centre, University of Qatar, Kingprint, Richmond, UK, 1986. |
| 15 | RIBOFLAVIN | Plant | 1.0 | 14.0 | 0.18036366581905444 | CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses |
| 15 | RIBOFLAVIN | Fruit | | 4.0 | -0.21615825716438572 | -- |
| 15 | RIBOFLAVIN | Seed | 0.4 | 3.8 | 0.10569504126605948 | -- |
| 87 | RUTIN | Seed | | | | -- |
| 87 | RUTIN | Fruit | | | | -- |
| 5 | SABINENE | Fruit | 1.0 | 60.0 | -0.5167574947017265 | -- |
| 5 | SABINENE | Seed | 1.0 | 60.0 | -0.43864204594661615 | Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980. |
| 7 | SALICYLATES | Leaf | 1.0 | 8.0 | -0.5596066238228579 | -- |

| Activities Count | Chemical | Plant Part | Low PPM | High PPM | StdDev | Reference Citation |
|------------------|---------------|------------------|---------|----------|-----------------------|---|
| 22 | SCOPARONE | Seed | | | | -- |
| 22 | SCOPARONE | Fruit | | | | -- |
| 44 | SCOPOLETIN | Fruit | | | | -- |
| 44 | SCOPOLETIN | Seed | | | | Rizk, A.F.M., The Phytochemistry of the Flora of Qatar, Scientific and Applied Research Centre, University of Qatar, Kingprint, Richmond, UK, 1986. |
| 60 | SELENIUM | Fruit | | | | -- |
| 60 | SELENIUM | Seed | 17.3 | 160.0 | 1.3208106994473363 | -- |
| 1 | SERINE | Fruit | 9000.0 | 9873.0 | 2.199512375864446 | -- |
| 1 | SERINE | Seed | 9000.0 | 9873.0 | -0.13440595836417363 | USDA's Ag Handbook 8 and sequelae) |
| 3 | SESELIN | Fruit | | | | -- |
| 3 | SESELIN | Seed | | | | -- |
| 14 | SHIKIMIC-ACID | Fruit | | | | -- |
| 14 | SHIKIMIC-ACID | Seed | | | | Rizk, A.F.M., The Phytochemistry of the Flora of Qatar, Scientific and Applied Research Centre, University of Qatar, Kingprint, Richmond, UK, 1986. |
| 4 | SILICON | Fruit | | 4.2 | -0.5947972331519853 | -- |
| 4 | SILICON | Seed | 0.1 | 0.4 | -1.1552848675407315 | -- |
| 9 | SINAPIC-ACID | Seed | | | | Rizk, A.F.M., The Phytochemistry of the Flora of Qatar, Scientific and Applied Research Centre, University of Qatar, Kingprint, Richmond, UK, 1986. |
| 9 | SINAPIC-ACID | Fruit | | | | -- |
| 1 | SODIUM | Seed | 77.0 | 710.0 | 0.41135046004481307 | -- |
| 1 | SODIUM | Fruit | 50.0 | 1980.0 | 0.0038103898489627655 | -- |
| 12 | STIGMASTEROL | Seed Essent. Oil | | | | Jim Duke's personal files. |
| 12 | STIGMASTEROL | Seed | 310.0 | 340.0 | -0.09822580413074648 | -- |
| 12 | STIGMASTEROL | Root | | | | -- |

| Activities Count | Chemical | Plant Part | Low PPM | High PPM | StdDev | Reference Citation |
|------------------|------------------------|---------------|---------|----------|----------------------|---|
| 12 | STIGMASTEROL | Fruit | | | | -- |
| 0 | STIGMASTEROL-PALMITATE | Root | | | | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979. |
| 0 | SUGAR | Fruit | 40000.0 | 50000.0 | -0.9359874157129808 | -- |
| 0 | SUGAR | Seed | 40000.0 | 50000.0 | -0.33796445974687406 | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979. |
| 6 | SYRINGIC-ACID | Seed | | | | Rizk, A.F.M., The Phytochemistry of the Flora of Qatar, Scientific and Applied Research Centre, University of Qatar, Kingprint, Richmond, UK, 1986. |
| 6 | SYRINGIC-ACID | Fruit | | | | -- |
| 6 | TARTARIC-ACID | Fruit | | | | -- |
| 6 | TARTARIC-ACID | Seed | | | | Rizk, A.F.M., The Phytochemistry of the Flora of Qatar, Scientific and Applied Research Centre, University of Qatar, Kingprint, Richmond, UK, 1986. |
| 23 | TERPINEN-4-OL | Seed | 10.0 | 60.0 | -0.6599500470035373 | Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980. |
| 23 | TERPINEN-4-OL | Essential Oil | | 10300.0 | -0.5170627044699472 | Jim Duke's personal files. |
| 23 | TERPINEN-4-OL | Fruit | 10.0 | 60.0 | -0.34926054813300195 | -- |
| 9 | TERPINOLENE | Plant | | 230.0 | 1.2922580043892404 | Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980. |
| 9 | TERPINOLENE | Fruit | 10.0 | 60.0 | -0.35801549981087066 | -- |
| 9 | TERPINOLENE | Seed | 10.0 | 60.0 | -0.7380970940113153 | Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980. |
| 31 | THIAMIN | Plant | 1.0 | 11.0 | 0.2889933580456471 | CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses |
| 31 | THIAMIN | Fruit | 4.0 | 5.0 | -0.0425885992841977 | -- |

| Activities Count | Chemical | Plant Part | Low PPM | High PPM | StdDev | Reference Citation |
|------------------|------------------|--------------------|----------|----------|----------------------|--|
| 31 | THIAMIN | Seed | 4.0 | 5.0 | -0.37795068225120004 | USDA's Ag Handbook 8 and sequelae) |
| 0 | THIAMINE | Seed | 0.5 | 4.4 | -0.11137916580378542 | -- |
| 4 | THREONINE | Seed | 6020.0 | 6604.0 | -0.3430246934000643 | USDA's Ag Handbook 8 and sequelae) |
| 4 | THREONINE | Fruit | 6020.0 | 6604.0 | 1.4907979518720285 | -- |
| 4 | TIN | Fruit | | 11.0 | -0.33401181010128006 | -- |
| 4 | TIN | Seed | 1.2 | 11.0 | 0.9847908586683503 | -- |
| 93 | TOCOPHEROL | Fruit | | | | -- |
| 93 | TOCOPHEROL | Seed | | | | Leung, A.Y., Encyclopedia of Common Natural Ingredients Used in Food, Drugs, and Cosmetics, John Wiley & Sons, New York, 1980. |
| 0 | TRANS-1,8-TERPIN | Fruit | | | | -- |
| 0 | TRANS-1,8-TERPIN | Seed | | | | Leung, A.Y., Encyclopedia of Common Natural Ingredients Used in Food, Drugs, and Cosmetics, John Wiley & Sons, New York, 1980. |
| 8 | TRANS-ANETHOLE | Plant | | 5550.0 | -0.1598028882578851 | Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980. |
| 8 | TRANS-ANETHOLE | Seed Essent. Oil | 500000.0 | 865200.0 | 1.0 | Jim Duke's personal files. |
| 8 | TRANS-ANETHOLE | Fruit | 3030.0 | 72980.0 | 0.7818985845577789 | -- |
| 8 | TRANS-ANETHOLE | Seed | 3030.0 | 77400.0 | 0.18238584132492566 | -- |
| 8 | TRANS-ANETHOLE | Essential Oil | | 610800.0 | 0.7087163226799531 | Jim Duke's personal files. |
| 8 | TRANS-ANETHOLE | Sprout Seedling | | | | Jim Duke's personal files. |
| 8 | TRANS-ANETHOLE | Root Essent. Oil | | 16000.0 | | Jim Duke's personal files. |
| 8 | TRANS-ANETHOLE | Flower Essent. Oil | | 412000.0 | | Jim Duke's personal files. |
| 8 | TRANS-ANETHOLE | Leaf Essent. Oil | | 218000.0 | -1.6963873654111667 | Jim Duke's personal files. |
| 0 | TRANS-OCIMENE | Seed | 20.0 | 330.0 | | Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980. |
| 0 | TRANS-OCIMENE | Fruit | 20.0 | 330.0 | 1.0 | -- |

| Activities Count | Chemical | Plant Part | Low PPM | High PPM | StdDev | Reference Citation |
|------------------|---------------|------------|---------|----------|----------------------|--|
| 15 | TRIGONELLINE | Seed | | | | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| 15 | TRIGONELLINE | Fruit | | | | -- |
| 29 | TRYPTOPHAN | Seed | 2530.0 | 2775.0 | -0.18760010196396537 | USDA's Ag Handbook 8 and sequelae) |
| 29 | TRYPTOPHAN | Fruit | 2530.0 | 2775.0 | 2.701008319987656 | -- |
| 8 | TYROSINE | Fruit | 4100.0 | 4498.0 | 0.8615975461758414 | -- |
| 8 | TYROSINE | Seed | 4100.0 | 4498.0 | -0.7512922058241537 | USDA's Ag Handbook 8 and sequelae) |
| 22 | UMBELLIFERONE | Seed | | | | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979. |
| 22 | UMBELLIFERONE | Root | | | | -- |
| 22 | UMBELLIFERONE | Fruit | | | | -- |
| 0 | UREASE | Stem | | | | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979. |
| 0 | UREASE | Root | | | | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979. |
| 0 | UREASE | Leaf | | | | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979. |
| 3 | VALINE | Fruit | 9150.0 | 10037.0 | 1.1521333776932061 | -- |
| 3 | VALINE | Seed | 9150.0 | 10037.0 | -0.24318346785439937 | USDA's Ag Handbook 8 and sequelae) |
| 24 | VANILLIC-ACID | Seed | | 0.5 | -1.527998169978836 | -- |
| 24 | VANILLIC-ACID | Fruit | | | | -- |
| 28 | VANILLIN | Seed | | | | -- |
| 28 | VANILLIN | Fruit | | | | -- |

| Activities Count | Chemical | Plant Part | Low PPM | High PPM | StdDev | Refernce Citation |
|------------------|-------------|------------|----------|----------|---------------------|---|
| 0 | WATER | Plant | 842000.0 | 900000.0 | 0.5525516819984236 | CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses |
| 0 | WATER | Fruit | 80670.0 | 104796.0 | -2.8948726139752163 | -- |
| 0 | WATER | Seed | | 892000.0 | 2.5495527002090523 | -- |
| 43 | XANTHOTOXIN | Seed | | | | -- |
| 43 | XANTHOTOXIN | Fruit | | | | -- |
| 77 | ZINC | Fruit | 7.1 | 33.0 | 0.08118530753097328 | -- |
| 77 | ZINC | Seed | 0.1 | 0.7 | -1.261434748798753 | -- |