

Dr. Duke's Phytochemical and Ethnobotanical Databases

Chemicals found in *Nicotiana tabacum*

| Activities Count | Chemical            | Plant Part | Low PPM  | High PPM | StdDev              | Reference Citation   |
|------------------|---------------------|------------|----------|----------|---------------------|--|
| 3                | XYLOSE              | Root       |          |          |                     | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.                             |
| 0                | XYLENOL             | Leaf       |          |          |                     | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.                             |
| 0                | WATER               | Leaf       | 800000.0 | 900000.0 | 0.46079394661662293 | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.                             |
| 2                | VIOLAXANTHIN        | Leaf       |          |          |                     | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.                             |
| 4                | TRYPTAMINE          | Plant      |          |          |                     | Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp. |
| 2                | TRITRIACONTANE      | Leaf       |          |          |                     | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.                             |
| 0                | TRITIACONTANE       | Leaf       |          |          |                     | --   |
| 1                | TRIMETHYLAMINE      | Leaf       |          |          |                     | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.                             |
| 15               | TRIGONELLINE        | Seed       |          |          |                     | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.                             |
| 0                | TRANS-CROTONIC-ACID | Leaf       |          |          |                     | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.                             |

| Activities Count | Chemical               | Plant Part | Low PPM | High PPM | StdDev              | Reference Citation   |
|------------------|------------------------|------------|---------|----------|---------------------|--|
| 93               | TOCOPHEROL             | Leaf       |         |          |                     | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| 0                | TOBACCIC-ACIDS         | Leaf       |         |          |                     | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| 0                | TETRAHYDRO-BETA-IONONE | Leaf       |         |          |                     | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979. |
| 0                | TEREPHTHALIC-ACID      | Leaf       |         |          |                     | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| 0                | TANNINS                | Leaf       | 30000.0 | 60000.0  | -0.4431630959000918 | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979. |
| 0                | T-BUTYLAMINE           | Leaf       |         |          |                     | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979. |
| 14               | SUCROSE                | Leaf       |         | 70000.0  | 1.929045642140917   | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| 7                | SUCCINIC-ACID          | Leaf       |         |          |                     | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| 12               | STIGMASTEROL           | Leaf       |         |          |                     | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| 5                | STARCH                 | Leaf       | 10000.0 | 20000.0  | -0.4200011928212534 | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |

| Activities Count | Chemical            | Plant Part | Low PPM | High PPM | StdDev | Reference Citation   |
|------------------|---------------------|------------|---------|----------|--------|--|
| 1                | STACHYOSE           | Leaf       |         |          |        | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.                             |
| 0                | SPIROXABOVALIDE     | Plant      |         |          |        | J.S. Glasby Dict.Pls Containing 2ndary Metabolite. 1991.   |
| 1                | SPERMIDINE          | Plant      |         |          |        | Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp. |
| 11               | SORBITOL            | Leaf       |         |          |        | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.                             |
| 3                | SOLAVETIVONE        | Leaf       |         |          |        | Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp. |
| 0                | SOLANOFURAN         | Leaf       |         |          |        | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.                             |
| 0                | SOLANESYL-PALMITATE | Leaf       |         |          |        | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.                             |
| 0                | SOLANESOL           | Leaf       | 3000.0  | 4000.0   |        | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.                             |
| 0                | SOLANASCONE         | Plant      |         |          |        | J.S. Glasby Dict.Pls Containing 2ndary Metabolite. 1991.   |
| 0                | SOCRATINES          | Plant      |         |          |        | J.S. Glasby Dict.Pls Containing 2ndary Metabolite. 1991.   |
| 14               | SHIKIMIC-ACID       | Leaf       |         |          |        | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.                             |

| Activities Count | Chemical          | Plant Part | Low PPM | High PPM | StdDev               | Reference Citation   |
|------------------|-------------------|------------|---------|----------|----------------------|--|
| 3                | SCOPOLIN          | Leaf       |         |          |                      | --   |
| 44               | SCOPOLETIN        | Leaf       |         |          |                      | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.                             |
| 5                | SALICYLALDEHYDE   | Leaf       |         |          |                      | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.                             |
| 0                | RUTIN-7-GLUCOSIDE | Leaf       |         |          |                      | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.                             |
| 87               | RUTIN             | Leaf       |         | 10000.0  | -0.38372262807139457 | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.                             |
| 0                | RUBISCO           | Leaf       |         |          |                      | Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp. |
| 6                | RISHITIN          | Leaf       |         |          |                      | Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp. |
| 0                | RIBOSE            | Leaf       |         |          |                      | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.                             |
| 0                | RHAMNOSE          | Leaf       |         |          |                      | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.                             |
| 1                | RAFFINOSE         | Leaf       |         |          |                      | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.                             |

| Activities Count | Chemical                     | Plant Part | Low PPM | High PPM | StdDev | Reference Citation   |
|------------------|------------------------------|------------|---------|----------|--------|--|
| 1                | QUINIC-ACID                  | Leaf       |         |          |        | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| 44               | QUERCITRIN                   | Leaf       |         |          |        | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| 0                | QUERCETIN-3-DIGLUCOSIDE      | Flower     |         |          |        | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979. |
| 1                | QUERCETIN-3,3'-DIMETHYLETHER | Flower     |         |          |        | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979. |
| 2                | QUERCETIN-3'-METHYLETHER     | Flower     |         |          |        | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979. |
| 176              | QUERCETIN                    | Flower     |         |          |        | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979. |
| 1                | PYRROLIDINE                  | Leaf       |         |          |        | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| 3                | PYRIDINE                     | Leaf       |         |          |        | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979. |
| 0                | PURINES                      | Leaf       |         |          |        | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| 0                | PROTEASE                     | Leaf       |         |          |        | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |

| Activities Count | Chemical                | Plant Part | Low PPM | High PPM | StdDev             | Reference Citation   |
|------------------|-------------------------|------------|---------|----------|--------------------|--|
| 0                | PROPYL-PHENOL           | Leaf       |         |          |                    | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979. |
| 6                | PROPIONIC-ACID          | Leaf       |         |          |                    | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| 0                | PROP-2-ENYLMALONIC-ACID | Leaf       |         |          |                    | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979. |
| 0                | PRENYLNORSOLANODIONE    | Plant      |         |          |                    | J.S. Glasby Dict.Pls Containing 2ndary Metabolite. 1991.   |
| 0                | PLANTEOSE               | Seed       |         |          |                    | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979. |
| 0                | PL                      | Plant      |         |          |                    | --   |
| 10               | PIPERIDINE              | Leaf       |         |          |                    | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| 0                | PHYTUBEROL              | Plant      |         |          |                    | J.S. Glasby Dict.Pls Containing 2ndary Metabolite. 1991.   |
| 2                | PHYTOSTEROLS            | Leaf       | 1000.0  | 5000.0   | 0.8822465864092441 | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| 0                | PHOSPHATASE             | Leaf       |         |          |                    | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| 0                | PHENYLCROTONIC-ACID     | Leaf       |         |          |                    | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979. |
| 2                | PHENYLACETIC-ACID       | Leaf       |         |          |                    | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979. |

| Activities Count | Chemical            | Plant Part | Low PPM | High PPM | StdDev            | Reference Citation   |
|------------------|---------------------|------------|---------|----------|-------------------|--|
| 2                | PHENYL-ACETALDEHYDE | Leaf       |         |          |                   | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979. |
| 26               | PHENOL              | Leaf       |         |          |                   | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| 0                | PEROXIDASE          | Leaf       |         |          |                   | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| 0                | PENTOSE             | Leaf       |         |          |                   | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| 24               | PECTIN              | Leaf       |         |          |                   | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| 0                | PECTIC-ACID         | Leaf       |         |          |                   | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| 0                | PECTASE             | Leaf       |         |          |                   | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| 13               | PALMITIC-ACID       | Seed       | 57500.0 | 140000.0 | 2.189053211185921 | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979. |
| 25               | P-COUMARIC-ACID     | Flower     |         |          |                   | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979. |
| 0                | P-ALLYL-CATECHOL    | Leaf       |         |          |                   | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |

| Activities Count | Chemical       | Plant Part | Low PPM | High PPM | StdDev               | Reference Citation   |
|------------------|----------------|------------|---------|----------|----------------------|--|
| 0                | OXYNICOTINE    | Leaf       |         |          |                      | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| 9                | OXALIC-ACID    | Leaf       |         |          |                      | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| 5                | ORNITHINE      | Root       |         |          |                      | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| 18               | OLEIC-ACID     | Seed       | 62500.0 | 122500.0 | 0.027921714072142736 | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979. |
| 0                | O-TOLUIDINE    | Leaf       |         |          |                      | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979. |
| 0                | O-ETHYLANILINE | Leaf       |         |          |                      | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979. |
| 0                | NORSOLENESENE  | Plant      |         |          |                      | J.S. Glasby Dict.Pls Containing 2ndary Metabolite. 1991.   |
| 0                | NORNICOTINE    | Leaf       |         |          |                      | --   |
| 2                | NONACOSANE     | Leaf       |         |          |                      | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| 0                | NITROGEN       | Leaf       | 20000.0 | 40000.0  | -0.18861202628009283 | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| 0                | NICOTYRINE     | Leaf       |         |          |                      | --   |
| 0                | NICOTOINE      | Leaf       |         |          |                      | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |



| Activities Count | Chemical                 | Plant Part | Low PPM | High PPM | StdDev             | Reference Citation   |
|------------------|--------------------------|------------|---------|----------|--------------------|--|
| 0                | NICOTININE               | Leaf       |         |          |                    | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979. |
| 11               | NICOTINIC-ACID           | Leaf       |         |          |                    | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| 21               | NICOTINE                 | Leaf       | 20000.0 | 40000.0  | 1.4133293939027907 | --   |
| 0                | NICOTIMINE               | Leaf       |         |          |                    | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| 0                | NICOTIFLORIN-7-GLUCOSIDE | Leaf       |         |          |                    | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979. |
| 0                | NICOTIFLORIN             | Leaf       |         |          |                    | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979. |
| 0                | NICOTIANANINE            | Leaf       |         |          |                    | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979. |
| 1                | NICOTIANAMINE            | Leaf       |         |          |                    | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979. |
| 0                | NICOTELLINE              | Plant      |         |          |                    | J.S. Glasby Dict.Pls Containing 2ndary Metabolite. 1991.   |
| 2                | NEOXANTHIN               | Leaf       |         |          |                    | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| 0                | NEOPHYTADIENE            | Leaf       |         |          |                    | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |

| Activities Count | Chemical               | Plant Part | Low PPM | High PPM | StdDev | Reference Citation   |
|------------------|------------------------|------------|---------|----------|--------|--|
| 0                | NEOHEPTADIENE          | Leaf       |         |          |        | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| 0                | NEO-BETA-CAROTENE      | Leaf       |         |          |        | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| 0                | NECOTELLINE            | Leaf       |         |          |        | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| 0                | N-PROPYL-AMINE         | Leaf       |         |          |        | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979. |
| 0                | N-OCTYLAMINE           | Leaf       |         |          |        | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979. |
| 0                | N-METHYLISOPROPYLAMINE | Leaf       |         |          |        | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| 0                | N-METHYLISOBUTYLAMINE  | Leaf       |         |          |        | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| 0                | N-METHYLISOAMYLAMINE   | Leaf       |         |          |        | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| 0                | N-METHYLETHYLAMINE     | Leaf       |         |          |        | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| 0                | N-METHYL-PYRROLINE     | Leaf       |         |          |        | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |

| Activities Count | Chemical                 | Plant Part | Low PPM | High PPM | StdDev | Reference Citation   |
|------------------|--------------------------|------------|---------|----------|--------|--|
| 0                | N-METHYL-N-BUTYLAMINE    | Leaf       |         |          |        | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| 0                | N-METHYL-L-ANATABINE     | Leaf       |         |          |        | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| 0                | N-METHYL-L-ANABASINE     | Leaf       |         |          |        | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| 0                | N-HEXYLAMINE             | Leaf       |         |          |        | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979. |
| 0                | N-HEPTYLAMINE            | Leaf       |         |          |        | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979. |
| 0                | N-CAFFEOYLPUTRESCINE     | Flower     |         |          |        | --   |
| 0                | N-BUTYL-AMINE            | Leaf       |         |          |        | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979. |
| 0                | N-AMYLAMINE              | Leaf       |         |          |        | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979. |
| 0                | N,N-PROPYLISOPROPYLAMINE | Leaf       |         |          |        | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| 2                | MYOSMINE                 | Leaf       |         |          |        | --   |
| 0                | METHYLGUAIACOL           | Leaf       |         |          |        | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |

| Activities Count | Chemical                          | Plant Part | Low PPM | High PPM | StdDev | Reference Citation   |
|------------------|-----------------------------------|------------|---------|----------|--------|--|
| 2                | METHYL-PHENYLACETATE              | Leaf       |         |          |        | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979. |
| 0                | METHYL-ETHYL-ACETIC-ACID          | Leaf       |         |          |        | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| 1                | METHYL-AMINE                      | Leaf       |         |          |        | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| 0                | METHOXYPHENOL                     | Leaf       |         |          |        | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979. |
| 1                | MELILOTIC-ACID                    | Leaf       |         |          |        | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| 0                | MEGASTIGMA-5,8-DIENE-4-ONE        | Plant      |         |          |        | J.S. Glasby Dict.Pls Containing 2ndary Metabolite. 1991.   |
| 0                | MEGASTIGMA-5(13),7-DIENE-6,9-DIOL | Plant      |         |          |        | J.S. Glasby Dict.Pls Containing 2ndary Metabolite. 1991.   |
| 0                | MEGASTIGMA-4,6,8-TRIENE-3-ONE     | Plant      |         |          |        | J.S. Glasby Dict.Pls Containing 2ndary Metabolite. 1991.   |
| 3                | MANNOSE                           | Root       |         |          |        | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| 2                | MALTOSE                           | Leaf       |         |          |        | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| 1                | MALONIC-ACID                      | Leaf       |         |          |        | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |

| Activities Count | Chemical              | Plant Part | Low PPM | High PPM | StdDev               | Reference Citation   |
|------------------|-----------------------|------------|---------|----------|----------------------|--|
| 15               | MALIC-ACID            | Leaf       |         |          |                      | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| 0                | MALEIC-ACID           | Leaf       |         |          |                      | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| 0                | M-HYDROXYACETOPHENONE | Leaf       |         |          |                      | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| 8                | M-CRESOL              | Leaf       |         |          |                      | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| 0                | M-ANISIDINE           | Leaf       |         |          |                      | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979. |
| 15               | LUTEIN                | Leaf       |         |          |                      | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| 0                | LIPASE                | Leaf       |         |          |                      | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| 27               | LINOLEIC-ACID         | Seed       | 50000.0 | 70000.0  | -0.31806666615059304 | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979. |
| 13               | LIGNIN                | Leaf       |         |          |                      | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| 0                | LEVANTENOLIDES        | Leaf       |         |          |                      | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979. |

| Activities Count | Chemical               | Plant Part | Low PPM | High PPM | StdDev              | Reference Citation   |
|------------------|------------------------|------------|---------|----------|---------------------|--|
| 0                | LEVANTANOLIDES         | Leaf       |         |          |                     | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.                             |
| 0                | LATHREINE              | Plant      |         |          |                     | J.S. Glasby Dict.Plis Containing 2ndary Metabolite. 1991.  |
| 8                | LACTIC-ACID            | Leaf       |         |          |                     | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.                             |
| 0                | L-ANATABINE            | Leaf       |         |          |                     | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.                             |
| 0                | KETONE-ALDEHYDE-MUTASE | Leaf       |         |          |                     | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.                             |
| 0                | KAEMPFEROL-GLUCOSIDE   | Leaf       |         |          |                     | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.                             |
| 75               | KAEMPFEROL             | Leaf       |         |          |                     | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.                             |
| 0                | ISOVALERIANIC-ACID     | Flower     |         |          |                     | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.                             |
| 0                | ISOVALEIC-ACID         | Plant      |         |          |                     | Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp. |
| 22               | ISOQUERCITRIN          | Leaf       |         | 25.0     | -0.4419059183588981 | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.                             |

| Activities Count | Chemical          | Plant Part | Low PPM | High PPM | StdDev | Reference Citation   |
|------------------|-------------------|------------|---------|----------|--------|--|
| 0                | ISOPROPIONIC-ACID | Leaf       |         |          |        | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979. |
| 0                | ISONORDRIMENONE   | Leaf       |         |          |        | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979. |
| 0                | ISONICOTEINE      | Leaf       |         |          |        | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979. |
| 16               | ISOEUGENOL        | Leaf       |         |          |        | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| 2                | ISOBUTYRIC-ACID   | Leaf       |         |          |        | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| 1                | ISOBUTYRALDEHYDE  | Leaf       |         |          |        | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979. |
| 0                | ISOBUTYL-AMINE    | Leaf       |         |          |        | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979. |
| 0                | ISOAMYL-AMINE     | Leaf       |         |          |        | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| 0                | INVERTASE         | Leaf       |         |          |        | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| 8                | INOSITOL          | Leaf       |         |          |        | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |

| Activities Count | Chemical                   | Plant Part | Low PPM | High PPM | StdDev | Reference Citation   |
|------------------|----------------------------|------------|---------|----------|--------|--|
| 0                | HEPTACOSANE                | Leaf       |         |          |        | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| 0                | HENTRIACONTANE             | Leaf       |         |          |        | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| 18               | GUAIACOL                   | Leaf       |         |          |        | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| 0                | GLYXOYLIC-ACID             | Leaf       |         |          |        | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| 0                | GLYCOLASE                  | Leaf       |         |          |        | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| 2                | GLUTINOSONE                | Plant      |         |          |        | J.S. Glasby Dict.Pls Containing 2ndary Metabolite. 1991.   |
| 0                | GIBBERELLINS               | Leaf       |         |          |        | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979. |
| 0                | GAMMA-SITOSTEROL-GLUCOSIDE | Leaf       |         |          |        | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| 0                | GAMMA-SITOSTEROL           | Leaf       | 100.0   | 200.0    |        | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| 0                | GALACTURONIC-ACID          | Leaf       |         |          |        | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| 1                | GALACTOSE                  | Leaf       |         |          |        | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |



| Activities Count | Chemical  | Plant Part | Low PPM  | High PPM | StdDev              | Reference Citation   |
|------------------|---|------------|----------|----------|---------------------|--|
| 22               | GABA  | Leaf       |          |          |                     | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| 0                | FURFUROL  | Leaf       |          |          |                     | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979. |
| 0                | FURAN-BETA-CARBONIC-ACID  | Leaf       |          |          |                     | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979. |
| 7                | FUMARIC-ACID  | Leaf       |          |          |                     | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| 8                | FRUCTOSE  | Root       |          |          |                     | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| 13               | FORMIC-ACID   | Leaf       |          |          |                     | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| 0                | FLAVOXANTHIN  | Leaf       |          |          |                     | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| 61               | FERULIC-ACID  | Flower     |          |          |                     | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979. |
| 0                | FAT   | Seed       | 250000.0 | 350000.0 | 0.44568382272451457 | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979. |
| 0                | EXO-1-(1-METHYL-4-ISOPROPYL-7,8-DIOXABICYCLO-{3,2,1}-OCY-6-YL)-METHYLKETONE | Plant      |          |          |                     | --   |

| Activities Count | Chemical  | Plant Part | Low PPM | High PPM | StdDev | Reference Citation   |
|------------------|---|------------|---------|----------|--------|--|
| 0                | EXO-1-(1-METHYL-4-ISOPROPYL-7,8-DIOXABICYCLO-{3,2,1}-OCT-6-YL)-ETHANOL      | Plant      |         |          |        | J.S. Glasby Dict.Pls Containing 2ndary Metabolite. 1991.   |
| 76               | EUGENOL   | Leaf       |         |          |        | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| 0                | ETHYL-PHENOL  | Leaf       |         |          |        | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979. |
| 0                | ETHYL-AMINE   | Leaf       |         |          |        | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979. |
| 24               | ETHANOL   | Leaf       |         |          |        | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979. |
| 30               | ESCULETIN   | Leaf       |         |          |        | --   |
| 5                | ERGOSTEROL  | Leaf       |         |          |        | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| 0                | ENDO-2-(1-METHYL-4-ISOPROPYL-7,8-DIOXABICYCLO-{3,2,1}-OCT-6-YL)-PROPEN-2-OL | Plant      |         |          |        | --   |
| 0                | ENDO-2-(1-METHYL-4-ISOPROPYL-7,8-DIOXABICYCLO-{3,2,1}-OCT-6-YL)-PROPEN-2-OL | Plant      |         |          |        | --   |
| 0                | EMULSIN   | Leaf       |         |          |        | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| 0                | DRIMAN-8-OL   | Leaf       |         |          |        | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979. |

| Activities Count | Chemical                   | Plant Part | Low PPM | High PPM | StdDev | Reference Citation   |
|------------------|----------------------------|------------|---------|----------|--------|--|
| 0                | DRIMAN-8,11-DIOL           | Leaf       |         |          |        | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979. |
| 2                | DIMETHYL-AMINE             | Leaf       |         |          |        | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979. |
| 0                | DIMETHOXYPHENOL            | Leaf       |         |          |        | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979. |
| 2                | DIETHYL-AMINE              | Leaf       |         |          |        | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979. |
| 0                | DICAFFEYOYLSPERMIDINE      | Plant      |         |          |        | J.S. Glasby Dict.Pls Containing 2ndary Metabolite. 1991.   |
| 0                | DI-N-PROPYL-AMINE          | Leaf       |         |          |        | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979. |
| 0                | DI-N-BUTYLAMINE            | Leaf       |         |          |        | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979. |
| 0                | DEXTRIN                    | Leaf       |         |          |        | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| 0                | D-GLYCERIC-ACID            | Leaf       | 5000.0  | 15000.0  |        | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| 7                | CYCLOARTENOL               | Leaf       |         |          |        | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979. |
| 0                | CYANIDIN-3-RHAMNOGLUCOSIDE | Flower     |         |          |        | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979. |

| Activities Count | Chemical   | Plant Part | Low PPM  | High PPM | StdDev            | Reference Citation   |
|------------------|--|------------|----------|----------|-------------------|--|
| 23               | CITRIC-ACID  | Leaf       |          |          |                   | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.                             |
| 0                | CIS-2-ISOPROPENYL-8-METHYL-1,2,3,4-TETRAHYDRO-1-NAPHTHALENOL | Plant      |          |          |                   | J.S. Glasby Dict.Pls Containing 2ndary Metabolite. 1991.   |
| 3                | CICHORIIN  | Leaf       |          |          |                   | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.                             |
| 77               | CHLOROGENIC-ACID   | Leaf       |          |          |                   | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.                             |
| 0                | CETYL-ALCOHOL  | Flower     |          |          |                   | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.                             |
| 1                | CELLULOSE  | Leaf       |          |          |                   | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.                             |
| 22               | CATECHOL   | Leaf       |          |          |                   | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.                             |
| 1                | CATALASE   | Leaf       |          |          |                   | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.                             |
| 0                | CARBOHYDRATES  | Leaf       | 250000.0 | 500000.0 | -0.88949734732397 | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.                             |
| 3                | CAPSIDIOL  | Leaf       |          |          |                   | Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp. |

| Activities Count | Chemical                   | Plant Part | Low PPM | High PPM | StdDev | Reference Citation   |
|------------------|----------------------------|------------|---------|----------|--------|--|
| 5                | CAPRYLIC-ACID              | Flower     |         |          |        | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979. |
| 0                | CAFFEYOYLSPERMIDINE        | Plant      |         |          |        | J.S. Glasby Dict.Pls Containing 2ndary Metabolite. 1991.   |
| 0                | CAFFEYOYLPUTRESCINE        | Flower     |         |          |        | --   |
| 102              | CAFFEIC-ACID               | Leaf       |         |          |        | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| 6                | BUTYRIC-ACID               | Leaf       |         |          |        | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979. |
| 14               | BETAINE                    | Leaf       |         |          |        | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979. |
| 0                | BETA-SITOSTEROL-GLUCOSIDE  | Leaf       |         |          |        | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| 47               | BETA-SITOSTEROL            | Leaf       |         |          |        | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| 0                | BETA-METHYL-VALERIC-ACID   | Leaf       |         |          |        | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| 0                | BETA-INDOLEACETIC-ACID     | Leaf       |         |          |        | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979. |
| 0                | BETA-CARYOPHYLLENE-EPOXIDE | Leaf       |         |          |        | --   |
| 53               | BETA-CAROTENE              | Leaf       |         |          |        | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |

| Activities Count | Chemical     | Plant Part | Low PPM  | High PPM | StdDev             | Reference Citation   |
|------------------|--------------|------------|----------|----------|--------------------|--|
| 20               | BENZOIC-ACID | Leaf       |          |          |                    | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.                             |
| 7                | ASTRAGALIN   | Leaf       |          |          |                    | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.                             |
| 2                | ASPARAGINE   | Leaf       |          |          |                    | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.                             |
| 0                | ASH          | Leaf       | 120000.0 | 250000.0 | 2.3106721759278104 | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.                             |
| 0                | ARABINOSE    | Leaf       |          |          |                    | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.                             |
| 0                | ANILINE      | Leaf       |          |          |                    | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.                             |
| 0                | ANATALLINE   | Root       |          |          |                    | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.                             |
| 0                | ANATABINE    | Root       |          |          |                    | Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp. |
| 6                | ANABASINE    | Leaf       |          |          |                    | --   |
| 1                | AMYLASE      | Leaf       |          |          |                    | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.                             |

| Activities Count | Chemical                        | Plant Part     | Low PPM | High PPM | StdDev            | Reference Citation   |
|------------------|---------------------------------|----------------|---------|----------|-------------------|--|
| 0                | AMMONIA                         | Leaf           |         |          |                   | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.                             |
| 0                | ALPHA-KETO-GLUTARIC-ACID        | Leaf           |         |          |                   | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.                             |
| 0                | ALKALOIDS                       | Leaf           | 40000.0 | 60000.0  | 3.422113890831041 | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.                             |
| 32               | AESCULETIN                      | Leaf           |         |          |                   | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.                             |
| 0                | ACETOSYRINGONE                  | Tissue Culture |         |          |                   | Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp. |
| 6                | ACETOPHENONE                    | Leaf           |         |          |                   | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.                             |
| 16               | ACETIC-ACID                     | Leaf           |         |          |                   | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.                             |
| 6                | ACETALDEHYDE                    | Leaf           |         |          |                   | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.                             |
| 0                | 6-MEGASTIGMA-4,7,9-TRIENE-3-ONE | Plant          |         |          |                   | J.S. Glasby Dict.Pls Containing 2ndary Metabolite. 1991.   |
| 0                | 6-HYDROXYKYNURENIC-ACID         | Plant          |         |          |                   | Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp. |

| Activities Count | Chemical                         | Plant Part | Low PPM | High PPM | StdDev | Reference Citation   |
|------------------|----------------------------------|------------|---------|----------|--------|--|
| 0                | 5-METHYL-FURFUROL                | Leaf       |         |          |        | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979. |
| 0                | 5-METHYL-3-HEXEN-2-ONE           | Leaf       |         |          |        | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979. |
| 0                | 5-METHYL-2,3'-BIPYRIDINE         | Plant      |         |          |        | J.S. Glasby Dict.Plis Containing 2ndary Metabolite. 1991.  |
| 0                | 5-ISOPROPYLNONANE-2,8-DIOL       | Plant      |         |          |        | J.S. Glasby Dict.Plis Containing 2ndary Metabolite. 1991.  |
| 0                | 5-ISOPROPYL-8-HYDROXYNONAN-2-ONE | Plant      |         |          |        | J.S. Glasby Dict.Plis Containing 2ndary Metabolite. 1991.  |
| 0                | 5-ISOPROPYL-3-HEPTEN-2-ONE       | Leaf       |         |          |        | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979. |
| 4                | 4-VINYL-GUAIACOL                 | Leaf       |         |          |        | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| 0                | 4-PROPYLGUAIACOL                 | Leaf       |         |          |        | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| 0                | 4-METHYL-PENTAN-2-ONE            | Leaf       |         |          |        | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979. |
| 2                | 4-METHYL-CATECHOL                | Leaf       |         |          |        | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979. |
| 0                | 4-METHYL-2,6-DIMETHOXYPHENOL     | Leaf       |         |          |        | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979. |



| Activities Count | Chemical  | Plant Part | Low PPM | High PPM | StdDev | Reference Citation   |
|------------------|---|------------|---------|----------|--------|--|
| 0                | 4-HYDROXYCOUMARIC-ACID  | Leaf       |         |          |        | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| 0                | 4-ETHYL-2,3-DIMETHOXYPHENOL                                   | Leaf       |         |          |        | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979. |
| 0                | 4-ACETYL-5-METHYLFURAN  | Leaf       |         |          |        | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979. |
| 0                | 4-(2',2',6'TRIMETHYL-6'-VINYL-CYCLOHEXYL)-2-BUTANONE          | Leaf       |         |          |        | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979. |
| 0                | 3-PYRIDYLMETHYLKETONE   | Leaf       |         |          |        | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| 0                | 3-PYRIDYLETHYLKETONE  | Leaf       |         |          |        | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| 0                | 3-OXO-ALPHA-IONOL   | Plant      |         |          |        | J.S. Glasby Dict.Pls Containing 2ndary Metabolite. 1991.   |
| 0                | 3-ISOPROPENYL-5-METHYL-1,2-DIHYDRONAPHTHALENE                 | Plant      |         |          |        | J.S. Glasby Dict.Pls Containing 2ndary Metabolite. 1991.   |
| 0                | 3,7,13-TRIMETHYL-10-ISOPROPYL-2,6,11,13-TETRADECATETRAEN-1-AL | Plant      |         |          |        | J.S. Glasby Dict.Pls Containing 2ndary Metabolite. 1991.   |
| 0                | 3,5-DIMETHOXYPHENOL   | Leaf       |         |          |        | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979. |
| 0                | 3,4-DIMETHYLANILINE   | Leaf       |         |          |        | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979. |

| Activities Count | Chemical  | Plant Part | Low PPM | High PPM | StdDev | Reference Citation   |
|------------------|---|------------|---------|----------|--------|--|
| 0                | 3,4,5-TRIMETHYLPHENOL   | Leaf       |         |          |        | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979. |
| 0                | 3,3,5-TRIMETHYL-8-ISOPROPYL-4,9-DIOXABICYCLO-(3,3,1)-NONAN-2-OL | Plant      |         |          |        | J.S. Glasby Dict.Pls Containing 2ndary Metabolite. 1991.   |
| 0                | 2-PHENYLETHYL-AMINE   | Leaf       |         |          |        | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| 2                | 2-NONANONE  | Leaf       |         |          |        | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979. |
| 0                | 2-METHYL-5-ISOPROPYL-1-CYCLOPENTENE-1-CARBOXYLIC-ACID           | Plant      |         |          |        | J.S. Glasby Dict.Pls Containing 2ndary Metabolite. 1991.   |
| 0                | 2-METHOXYCATACHOL   | Leaf       |         |          |        | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979. |
| 0                | 2-FUROIC-ACID?  | Leaf       |         |          |        | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| 0                | 2-DECANONE  | Leaf       |         |          |        | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979. |
| 0                | 2,6-DIMETHYLANILINE   | Leaf       |         |          |        | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979. |
| 0                | 2,5-DIMETHYLANILINE   | Leaf       |         |          |        | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979. |
| 0                | 2,4,6-TRIMETHYLANILINE  | Leaf       |         |          |        | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979. |

| Activities Count | Chemical  | Plant Part | Low PPM | High PPM | StdDev | Reference Citation   |
|------------------|---|------------|---------|----------|--------|--|
| 0                | 2,3-DIPYRIDYL   | Leaf       |         |          |        | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| 0                | 2,3-DIMETHYLANILINE                                     | Leaf       |         |          |        | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979. |
| 0                | 2,3-DIMETHOXYPHENOL                                     | Leaf       |         |          |        | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979. |
| 0                | 18-METHYL-3-ISOPROPYLCYCLOPENTANE-1,2-DICARBOXYLIC-ACID | Plant      |         |          |        | J.S. Glasby Dict.Pls Containing 2ndary Metabolite. 1991.   |
| 0                | 15-NOR-8ALPHA-HYDROXY-12E-LABDEN-14-OL                  | Plant      |         |          |        | J.S. Glasby Dict.Pls Containing 2ndary Metabolite. 1991.   |
| 0                | 12-HYDROXY-13-EPIMANOYLOSIDE                            | Leaf       |         |          |        | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979. |
| 0                | 11-NOR-8-HYDROXY-9-DRIMENONE                            | Plant      |         |          |        | J.S. Glasby Dict.Pls Containing 2ndary Metabolite. 1991.   |
| 0                | 1-OXO-ALPHA-CYPERONE                                    | Plant      |         |          |        | J.S. Glasby Dict.Pls Containing 2ndary Metabolite. 1991.   |
| 67               | 1,8-CINEOLE   | Leaf       |         |          |        | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979. |
| 0                | 1,2,5,6-TETRAHYDROPURIDINE                              | Leaf       |         |          |        | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979. |
| 0                | 1,2(BETA-PYRIDYL)PIPERIDINE-ANABASINE                   | Leaf       |         |          |        | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| 0                | 0-ETHYLANILINE  | Leaf       |         |          |        | --   |

| Activities Count | Chemical  | Plant Part | Low PPM | High PPM | StdDev | Reference Citation   |
|------------------|---|------------|---------|----------|--------|--|
| 0                | (E)-5-ISOPROPYLNON-3-ENE-2,8-DIOL                       | Plant      |         |          |        | J.S. Glasby Dict.Pls Containing 2ndary Metabolite. 1991.   |
| 0                | (E)-5-ISOPROPYL-8-HYDROXYNON-6-EN-2-ONE                 | Plant      |         |          |        | J.S. Glasby Dict.Pls Containing 2ndary Metabolite. 1991.   |
| 0                | (E)-5-ISOPROPYL-8-HYDROXY-8-METHYLNON-6-EN-2-ONE        | Plant      |         |          |        | J.S. Glasby Dict.Pls Containing 2ndary Metabolite. 1991.   |
| 0                | (E)-5-ISOPROPYL-6,7-EPOXY-8-HYDROXY-8-METHYLNONAN-2-ONE | Plant      |         |          |        | J.S. Glasby Dict.Pls Containing 2ndary Metabolite. 1991.   |
| 0                | (E)-3-ISOPROPYL-8-METHYLHEPTA-4,6-DIEN-1-OL             | Plant      |         |          |        | J.S. Glasby Dict.Pls Containing 2ndary Metabolite. 1991.   |
| 0                | (3S,6R,73,9S)-MEGASTIGMADIENE-3,9-DIOL                  | Plant      |         |          |        | J.S. Glasby Dict.Pls Containing 2ndary Metabolite. 1991.   |
| 0                | (3S,6R,73,9R)-MEGASTIGMADIENE-3,9-DIOL                  | Plant      |         |          |        | J.S. Glasby Dict.Pls Containing 2ndary Metabolite. 1991.   |
| 0                | (13E)-ACETOXY-13-LABDEN-8-OL                            | Plant      |         |          |        | J.S. Glasby Dict.Pls Containing 2ndary Metabolite. 1991.   |
| 0                | (11E,13S)-LABDA-11,14-DIENE-8,13-DIOL                   | Plant      |         |          |        | J.S. Glasby Dict.Pls Containing 2ndary Metabolite. 1991.   |
| 0                | (11E,13R)-LABDA-11,14-DIENE-8,13-DIOL                   | Plant      |         |          |        | J.S. Glasby Dict.Pls Containing 2ndary Metabolite. 1991.   |
| 0                | (-)-BETA-CARYOPHYLLENE-EPOXIDE                          | Leaf       |         |          |        | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979. |
| 6                | (-)-ANABASINE   | Leaf       |         |          |        | --   |
| 0                | (+)-SOLANONE  | Plant      |         |          |        | J.S. Glasby Dict.Pls Containing 2ndary Metabolite. 1991.   |
| 0                | (+)-NORNICOTINE   | Leaf       |         |          |        | --   |