

Dr. Duke's Phytochemical and Ethnobotanical Databases

Chemicals found in *Nicotiana tabacum*

| Activities Count | Chemical      | Plant Part | Low PPM  | High PPM | StdDev               | Reference Citation   |
|------------------|---------------|------------|----------|----------|----------------------|--|
| 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. |
| 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. |
| 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                | 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. |
| 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. |
| 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. |
| 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. |
| 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. |
| 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                | 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. |
| 21               | NICOTINE      | Leaf       | 20000.0  | 40000.0  | 1.4133293939027907   | --   |

| Activities Count | Chemical                    | Plant Part | Low PPM | High PPM | StdDev              | Reference Citation   |
|------------------|-----------------------------|------------|---------|----------|---------------------|--|
| 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.                             |
| 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.                             |
| 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.                             |
| 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                | 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                | LIPASE                      | 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.                             |
| 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                | 0-ETHYLANILINE              | Leaf       |         |          |                     | --   |
| 0                | SOLANESYL-PALMITATE         | 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-METHYLISOPROPYLAMINE  | 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                | PHOSPHATASE   | Leaf       |         |          |        | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| 6                | ANABASINE   | Leaf       |         |          |        | --   |
| 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                | XYLENOL   | Leaf       |         |          |        | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979. |
| 0                | NORNICOTINE   | Leaf       |         |          |        | --   |
| 0                | ISOBUTYL-AMINE  | 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                | RHAMNOSE  | Leaf       |         |          |        | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| 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                | EMULSIN   | 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   |
|------------------|-------------------------------|------------|---------|----------|--------|--|
| 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                | ISOVALERIANIC-ACID            | Flower     |         |          |        | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979. |
| 53               | BETA-CAROTENE                 | 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                | NICOTIANANINE                 | Leaf       |         |          |        | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979. |
| 0                | PROTEASE                      | Leaf       |         |          |        | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| 0                | MEGASTIGMA-4,6,8-TRIENE-3-ONE | Plant      |         |          |        | J.S. Glasby Dict.Pls Containing 2ndary Metabolite. 1991.   |
| 7                | CYCLOARTENOL                  | 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.Pls Containing 2ndary Metabolite. 1991.   |
| 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                | 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. |

| Activities Count | Chemical                          | Plant Part | Low PPM | High PPM | StdDev | Reference Citation   |
|------------------|-----------------------------------|------------|---------|----------|--------|--|
| 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. |
| 0                | (E)-5-ISOPROPYLNON-3-ENE-2,8-DIOL | Plant      |         |          |        | J.S. Glasby Dict.Plis Containing 2ndary Metabolite. 1991.  |
| 0                | N-METHYLISOBUTYLAMINE             | 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.                             |
| 1                | AMYLASE                           | Leaf       |         |          |        | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.                             |
| 0                | 2-PHENYLETHYL-AMINE               | Leaf       |         |          |        | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.                             |
| 2                | NONACOSANE                        | Leaf       |         |          |        | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.                             |
| 0                | ISOAMYL-AMINE                     | 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.                             |
| 0                | N,N-PROPYLISOPROPYLAMINE          | 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                | DRIMAN-8-OL  | 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                | T-BUTYLAMINE   | 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                | GALACTURONIC-ACID                                    | Leaf       |         |          |        | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| 0                | PROPYL-PHENOL  | Leaf       |         |          |        | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979. |
| 3                | MANNOSE  | Root       |         |          |        | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| 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. |
| 0                | 5-ISOPROPYLNONANE-2,8-DIOL                           | Plant      |         |          |        | J.S. Glasby Dict.Pls Containing 2ndary Metabolite. 1991.   |
| 0                | CAFFEYOYLSPERMIDINE                                  | Plant      |         |          |        | J.S. Glasby Dict.Pls Containing 2ndary Metabolite. 1991.   |
| 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. |

| Activities Count | Chemical  | Plant Part | Low PPM | High PPM | StdDev | Reference Citation   |
|------------------|---|------------|---------|----------|--------|--|
| 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                | (E)-5-ISOPROPYL-8-HYDROXYNON-6-EN-2-ONE                                     | Plant      |         |          |        | J.S. Glasby Dict.Pls Containing 2ndary Metabolite. 1991.   |
| 0                | SOLANASCONE   | Plant      |         |          |        | J.S. Glasby Dict.Pls Containing 2ndary Metabolite. 1991.   |
| 0                | N-METHYLISOAMYLAMINE  | Leaf       |         |          |        | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.                             |
| 0                | EXO-1-(1-METHYL-4-ISOPROPYL-7,8-DIOXABICYCLO-{3,2,1}-OCY-6-YL)-METHYLKETONE | Plant      |         |          |        | --   |
| 2                | PHENYLACETIC-ACID   | Leaf       |         |          |        | 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                | AMMONIA   | 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.                             |
| 2                | VIOLAXANTHIN  | 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.                             |

| 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. |
| 2                | MYOSMINE  | Leaf       |         |          |                   | --   |
| 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. |
| 0                | 18-METHYL-3-ISOPROPYLCYCLOPENTANE-1,2-DICARBOXYLIC-ACID | Plant      |         |          |                   | J.S. Glasby Dict.Pls Containing 2ndary Metabolite. 1991.   |
| 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. |
| 0                | NICOTELLINE   | Plant      |         |          |                   | J.S. Glasby Dict.Pls Containing 2ndary Metabolite. 1991.   |
| 1                | GALACTOSE   | Leaf       |         |          |                   | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| 6                | PROPIONIC-ACID  | Leaf       |         |          |                   | 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. |
| 23               | CITRIC-ACID   | Leaf       |         |          |                   | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| 0                | 5-ISOPROPYL-8-HYDROXYNONAN-2-ONE                        | Plant      |         |          |                   | J.S. Glasby Dict.Pls Containing 2ndary Metabolite. 1991.   |
| 0                | 3-PYRIDYLMETHYLKETONE                                   | 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                | O-ETHYLANILINE   | Leaf       |         |          |        | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979. |
| 0                | (E)-5-ISOPROPYL-8-HYDROXY-8-METHYLNON-6-EN-2-ONE                       | Plant      |         |          |        | J.S. Glasby Dict.Pls Containing 2ndary Metabolite. 1991.   |
| 0                | SOCRATINES   | Plant      |         |          |        | J.S. Glasby Dict.Pls Containing 2ndary Metabolite. 1991.   |
| 0                | N-METHYLETHYLAMINE   | Leaf       |         |          |        | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| 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.   |
| 2                | PHENYL-ACETALDEHYDE  | Leaf       |         |          |        | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979. |
| 0                | LEVANTENOLIDES   | Leaf       |         |          |        | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979. |
| 0                | CAFFEOYLPUTRESCINE   | Flower     |         |          |        | --   |
| 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                | 2-METHYL-5-ISOPROPYL-1-CYCLOPENTENE-1-CARBOXYLIC-ACID                  | Plant      |         |          |        | J.S. Glasby Dict.Pls Containing 2ndary Metabolite. 1991.   |
| 0                | TRITIACONTANE  | Leaf       |         |          |        | --   |
| 0                | NICOTYRINE   | Leaf       |         |          |        | --   |
| 0                | HEPTACOSANE  | 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   |
|------------------|--|------------|---------|----------|--------|--|
| 44               | QUERCITRIN   | Leaf       |         |          |        | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| 0                | METHYLGUIACOL  | Leaf       |         |          |        | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| 2                | DIMETHYL-AMINE   | Leaf       |         |          |        | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979. |
| 7                | SUCCINIC-ACID  | Leaf       |         |          |        | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| 2                | NEOXANTHIN   | Leaf       |         |          |        | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| 22               | GABA   | 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. |
| 1                | MALONIC-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.   |
| 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. |
| 0                | 15-NOR-8ALPHA-HYDROXY-12E-LABDEN-14-OL                       | Plant      |         |          |        | J.S. Glasby Dict.Pls Containing 2ndary Metabolite. 1991.   |

| 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. |
| 0                | 3-PYRIDYLETHYLKETONE                                    | Leaf       |         |          |                     | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| 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. |
| 0                | P-ALLYL-CATECHOL  | Leaf       |         |          |                     | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| 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. |
| 0                | N-CAFFEOYLPUTRESCINE                                    | Flower     |         |          |                     | --   |
| 0                | (E)-5-ISOPROPYL-6,7-EPOXY-8-HYDROXY-8-METHYLNONAN-2-ONE | 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. |
| 0                | N-METHYL-PYRROLINE                                      | Leaf       |         |          |                     | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| 76               | EUGENOL   | Leaf       |         |          |                     | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| 26               | PHENOL  | 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                | LEVANTANOLIDES          | Leaf       |         |          |        | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979. |
| 102              | CAFFEIC-ACID            | Leaf       |         |          |        | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| 0                | 2-METHOXYCATACHOL       | Leaf       |         |          |        | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979. |
| 1                | TRIMETHYLAMINE          | Leaf       |         |          |        | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979. |
| 0                | NICOTOINE               | 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. |
| 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. |
| 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                | DIMETHOXYPHENOL         | Leaf       |         |          |        | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979. |
| 12               | STIGMASTEROL            | 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                | NEOPHYTADIENE   | 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                | PRENYLNORSOLANODIONE  | Plant      |         |          |        | J.S. Glasby Dict.Pls Containing 2ndary Metabolite. 1991.   |
| 15               | MALIC-ACID  | Leaf       |         |          |        | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| 3                | CICHORIIN   | Leaf       |         |          |        | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| 4                | 4-VINYL-GUAIACOL  | Leaf       |         |          |        | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| 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. |
| 7                | ASTRAGALIN  | Leaf       |         |          |        | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979. |
| 0                | 3-OXO-ALPHA-IONOL   | Plant      |         |          |        | J.S. Glasby Dict.Pls Containing 2ndary Metabolite. 1991.   |
| 0                | ENDO-2-(1-METHYL-4-ISOPROPYL-7,8-DIOXABICYCLO-{3,2,1}-OCT-6-YL)-PROPEN-2-OL | Plant      |         |          |        | --   |
| 0                | OXYNICOTINE   | 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                | ISOPROPIONIC-ACID                           | Leaf       |         |          |        | 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. |
| 0                | (E)-3-ISOPROPYL-8-METHYLHEPTA-4,6-DIEN-1-OL | Plant      |         |          |        | J.S. Glasby Dict.Pls Containing 2ndary Metabolite. 1991.   |
| 3                | SCOPOLIN                                    | Leaf       |         |          |        | --   |
| 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                | ETHYL-PHENOL                                | Leaf       |         |          |        | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.                             |
| 0                | PEROXIDASE                                  | Leaf       |         |          |        | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.                             |
| 0                | LATHREINE                                   | Plant      |         |          |        | J.S. Glasby Dict.Pls Containing 2ndary Metabolite. 1991.   |
| 6                | BUTYRIC-ACID                                | Leaf       |         |          |        | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.                             |
| 6                | ACETOPHENONE                                | 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.                             |

| Activities Count | Chemical                     | Plant Part | Low PPM | High PPM | StdDev | Reference Citation   |
|------------------|------------------------------|------------|---------|----------|--------|--|
| 15               | TRIGONELLINE                 | Seed       |         |          |        | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979. |
| 0                | NICOTININE                   | Leaf       |         |          |        | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979. |
| 18               | GUAIACOL                     | Leaf       |         |          |        | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| 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. |
| 0                | METHYL-ETHYL-ACETIC-ACID     | Leaf       |         |          |        | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| 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                | NEOHEPTADIENE                | Leaf       |         |          |        | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| 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. |
| 0                | PLANTEOSE                    | Seed       |         |          |        | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979. |
| 0                | MALEIC-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   |
|------------------|---|------------|---------|----------|--------|--|
| 77               | CHLOROGENIC-ACID                              | 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                | 11-NOR-8-HYDROXY-9-DRIMENONE                  | Plant      |         |          |        | J.S. Glasby Dict.Pls Containing 2ndary Metabolite. 1991.   |
| 2                | ASPARAGINE                                    | Leaf       |         |          |        | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.                             |
| 0                | 3-ISOPROPENYL-5-METHYL-1,2-DIHYDRONAPHTHALENE | Plant      |         |          |        | J.S. Glasby Dict.Pls Containing 2ndary Metabolite. 1991.   |
| 2                | TRITRIACONTANE                                | Leaf       |         |          |        | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.                             |
| 9                | OXALIC-ACID                                   | Leaf       |         |          |        | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.                             |
| 0                | ISONORDRIMENONE                               | Leaf       |         |          |        | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.                             |
| 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. |
| 0                | (3S,6R,7S,9S)-MEGASTIGMADIENE-3,9-DIOL        | Plant      |         |          |        | J.S. Glasby Dict.Pls Containing 2ndary Metabolite. 1991.   |
| 44               | SCOPOLETIN                                    | 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-L-ANATABINE | Leaf       |         |          |        | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| 0                | ETHYL-AMINE          | Leaf       |         |          |        | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979. |
| 0                | PENTOSE              | Leaf       |         |          |        | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| 8                | LACTIC-ACID          | Leaf       |         |          |        | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| 14               | BETAINE              | 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. |
| 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                | TRANS-CROTONIC-ACID  | Leaf       |         |          |        | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| 11               | NICOTINIC-ACID       | Leaf       |         |          |        | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| 0                | GLYXYLIC-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   |
|------------------|---|------------|---------|----------|--------|--|
| 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. |
| 1                | METHYL-AMINE  | Leaf       |         |          |        | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| 0                | DICAFFEOYLSPERMIDINE  | Plant      |         |          |        | J.S. Glasby Dict.Pls Containing 2ndary Metabolite. 1991.   |
| 0                | NEO-BETA-CAROTENE   | Leaf       |         |          |        | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| 7                | FUMARIC-ACID  | Leaf       |         |          |        | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| 0                | PL  | Plant      |         |          |        | --   |
| 0                | M-HYDROXYACETOPHENONE   | 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. |
| 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. |
| 0                | 1-OXO-ALPHA-CYPERONE  | Plant      |         |          |        | J.S. Glasby Dict.Pls Containing 2ndary Metabolite. 1991.   |
| 1                | STACHYOSE   | Leaf       |         |          |        | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| 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                | (+)-NORNICOTINE   | Leaf       |         |          |        | --   |

| Activities Count | Chemical                               | Plant Part | Low PPM | High PPM | StdDev | Reference Citation   |
|------------------|--|------------|---------|----------|--------|--|
| 5                | ORNITHINE                              | Root       |         |          |        | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.                             |
| 0                | ISONICOTEINE                           | Leaf       |         |          |        | 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. |
| 0                | (3S,6R,7S,9R)-MEGASTIGMADIENE-3,9-DIOL | Plant      |         |          |        | J.S. Glasby Dict.Pls Containing 2ndary Metabolite. 1991.   |
| 5                | SALICYLALDEHYDE                        | Leaf       |         |          |        | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.                             |
| 0                | N-METHYL-L-ANABASINE                   | Leaf       |         |          |        | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.                             |
| 24               | ETHANOL                                | Leaf       |         |          |        | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.                             |
| 24               | PECTIN                                 | 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                | BETA-SITOSTEROL-GLUCOSIDE              | 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   |
|------------------|---------------------|------------|---------|----------|--------|--|
| 6                | ACETALDEHYDE        | 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. |
| 93               | TOCOPHEROL          | 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. |
| 176              | QUERCETIN           | Flower     |         |          |        | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979. |
| 0                | METHOXYPHENOL       | Leaf       |         |          |        | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979. |
| 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. |
| 8                | FRUCTOSE            | Root       |         |          |        | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| 10               | PIPERIDINE          | 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. |

| Activities Count | Chemical                     | Plant Part | Low PPM | High PPM | StdDev | Reference Citation   |
|------------------|------------------------------|------------|---------|----------|--------|--|
| 1                | CELLULOSE                    | Leaf       |         |          |        | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| 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. |
| 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                | SPIROXABOVALIDE              | Plant      |         |          |        | J.S. Glasby Dict.Pls Containing 2ndary Metabolite. 1991.   |
| 0                | NECOTELLINE                  | Leaf       |         |          |        | 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                | 3,5-DIMETHOXYPHENOL          | Leaf       |         |          |        | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979. |
| 8                | INOSITOL                     | Leaf       |         |          |        | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| 16               | ISOEUGENOL                   | Leaf       |         |          |        | 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                | (13E)-ACETOXY-13-LABDEN-8-OL | Plant      |         |          |        | J.S. Glasby Dict.Pls Containing 2ndary Metabolite. 1991.   |

| Activities Count | Chemical                        | Plant Part | Low PPM | High PPM | StdDev | Reference Citation   |
|------------------|---------------------------------|------------|---------|----------|--------|--|
| 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. |
| 0                | N-HEXYLAMINE                    | Leaf       |         |          |        | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979. |
| 30               | ESCULETIN                       | Leaf       |         |          |        | --   |
| 0                | PECTIC-ACID                     | 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. |
| 47               | BETA-SITOSTEROL                 | Leaf       |         |          |        | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| 0                | 6-MEGASTIGMA-4,7,9-TRIENE-3-ONE | Plant      |         |          |        | J.S. Glasby Dict.Plis Containing 2ndary Metabolite. 1991.  |
| 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                | TOBACCIC-ACIDS                  | Leaf       |         |          |        | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| 0                | NICOTIMINE                      | 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.Plis Containing 2ndary Metabolite. 1991.  |
| 1                | PYRROLIDINE                     | 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                | MELILOTIC-ACID               | Leaf       |         |          |        | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.                             |
| 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                | PHYTUBEROL                   | Plant      |         |          |        | J.S. Glasby Dict.Pls Containing 2ndary Metabolite. 1991.   |
| 0                | M-ANISIDINE                  | Leaf       |         |          |        | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.                             |
| 22               | 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.                             |
| 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. |
| 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.                             |
| 11               | SORBITOL                     | 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.                             |

| Activities Count | Chemical                              | Plant Part     | Low PPM | High PPM | StdDev               | Reference Citation   |
|------------------|---------------------------------------|----------------|---------|----------|----------------------|--|
| 13               | FORMIC-ACID                           | 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                | 3,4-DIMETHYLANILINE                   | 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           |         |          |                      | --   |
| 0                | O-TOLUIDINE                           | Leaf           |         |          |                      | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.                             |
| 2                | ISOBUTYRIC-ACID                       | 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. |
| 0                | (11E,13S)-LABDA-11,14-DIENE-8,13-DIOL | Plant          |         |          |                      | J.S. Glasby Dict.Plis Containing 2ndary Metabolite. 1991.  |
| 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                | N-HEPTYLAMINE                         | Leaf           |         |          |                      | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.                             |
| 5                | ERGOSTEROL                            | 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                | PECTASE                    | 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. |
| 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                | 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. |
| 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                | 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                | GIBBERELLINS               | Leaf       |         |          |        | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979. |
| 3                | PYRIDINE                   | Leaf       |         |          |        | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979. |
| 0                | MEGASTIGMA-5,8-DIENE-4-ONE | Plant      |         |          |        | J.S. Glasby Dict.Pls Containing 2ndary Metabolite. 1991.   |
| 0                | DEXTRIN                    | Leaf       |         |          |        | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| 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. |

| Activities Count | Chemical                              | Plant Part | Low PPM | High PPM | StdDev | Reference Citation   |
|------------------|---------------------------------------|------------|---------|----------|--------|--|
| 15               | LUTEIN                                | Leaf       |         |          |        | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.                             |
| 1                | CATALASE                              | Leaf       |         |          |        | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.                             |
| 0                | 4-HYDROXYCOUMARIC-ACID                | Leaf       |         |          |        | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.                             |
| 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. |
| 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                | SOLANOFURAN                           | 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                | FLAVOXANTHIN                          | Leaf       |         |          |        | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.                             |
| 0                | ANATALLINE                            | Root       |         |          |        | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.                             |
| 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.                             |

| 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                | NORSOLENESENE   | Plant      |         |          |        | J.S. Glasby Dict.Plis Containing 2ndary Metabolite. 1991.  |
| 1                | ISOBUTYRALDEHYDE  | Leaf       |         |          |        | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.                             |
| 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. |
| 0                | (11E,13R)-LABDA-11,14-DIENE-8,13-DIOL                                       | Plant      |         |          |        | J.S. Glasby Dict.Plis Containing 2ndary Metabolite. 1991.  |
| 0                | RIBOSE  | Leaf       |         |          |        | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.                             |
| 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                | END0-2-(1-METHYL-4-ISOPROPYL-7,8-DIOXABICYCLO-{3,2,1}-OCT-6-YL)-PROPEN-2-OL | Plant      |         |          |        | --   |
| 75               | KAEMPFEROL  | 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                | 2,3-DIPYRIDYL   | 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                | TEREPHTHALIC-ACID                 | Leaf       |         |          |        | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| 0                | NICOTIFLORIN                      | 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                | PURINES                           | Leaf       |         |          |        | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| 0                | MEGASTIGMA-5(13),7-DIENE-6,9-DIOL | Plant      |         |          |        | J.S. Glasby Dict.Pls Containing 2ndary Metabolite. 1991.   |
| 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. |