

Dr. Duke's Phytochemical and Ethnobotanical Databases

Chemicals found in *Crocus sativus*

| Activities Count | Chemical | Plant Part | Low PPM | High PPM | StdDev | Reference Citation |
|------------------|---|-------------------|----------|----------|--------------------|--|
| 31 | THIAMIN | Silk Stigma Style | 0.7 | 4.0 | 1.0000000000000009 | -- |
| 0 | PROTEIN | Silk Stigma Style | 125700.0 | 135800.0 | 1.0 | Bisset, N.G., ed. 1994. Herbal Drugs and Phytopharmaceuticals. CRC Press. Boca Raton, FL. 566 pp. |
| 0 | FAT | Silk Stigma Style | 56300.0 | 134000.0 | 1.0 | -- |
| 0 | EO | Silk Stigma Style | 3700.0 | 13700.0 | 1.0 | -- |
| 14 | MANGANESE | Silk Stigma Style | | 284.0 | 1.0 | USDA's Ag Handbook 8 and sequelae) |
| 15 | RIBOFLAVIN | Silk Stigma Style | 56.0 | 138.0 | 1.0 | -- |
| 0 | ASH | Silk Stigma Style | 42700.0 | 133000.0 | 1.0 | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| 0 | WATER | Silk Stigma Style | 85000.0 | 156000.0 | -1.0 | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| 0 | CARBOHYDRATES | Silk Stigma Style | 436400.0 | 573000.0 | -1.0 | -- |
| 15 | FIBER | Silk Stigma Style | 43800.0 | 48800.0 | -1.0 | -- |
| 15 | METHIONINE | Bulb | | | | -- |
| 0 | CROCETIN-BETA-D-GLUCOSIDE-D-GENTIOBIOSIDE | Plant | | | | J.S. Glasby Dict.Pls Containing 2ndary Metabolite. 1991. |
| 0 | CROCUS-SATIVUS-LECTIN-II | Bulb | | | | -- |
| 0 | CAR-3-ENE | Silk Stigma Style | | | | -- |
| 0 | ALPHA-THUJENE | Silk Stigma Style | | | | -- |
| 34 | MYRICETIN | Flower | | | | Abstract (See species file) |
| 7 | HISTIDINE | Bulb | | | | -- |
| 0 | 3,5,5-TRIMETHYL-4-HYDROXY-1-CYCLOHEXANONE-2-ENE | Silk Stigma Style | | | | Leung, A.Y., Encyclopedia of Common Natural Ingredients Used in Food, Drugs, and Cosmetics, John Wiley & Sons, New York, 1980. |
| 0 | CROCETIN-MONO-(BETA-D-GENTIOBIOSYL)-ESTER | Silk Stigma Style | | | | -- |

| Activities Count | Chemical | Plant Part | Low PPM | High PPM | StdDev | Reference Citation |
|------------------|--|-------------------|---------|----------|--------|--|
| 60 | LIMONENE | Silk Stigma Style | | | | -- |
| 0 | 6-HYDROXY-3-FORMYL-2,4,4-TRIMETHYLCYCLOHEXA-2,5-DIEN-1-ONE | Silk Stigma Style | | | | -- |
| 28 | ALPHA-PINENE | Silk Stigma Style | | | | -- |
| 12 | PINENE | Silk Stigma Style | | | | Leung, A.Y., Encyclopedia of Common Natural Ingredients Used in Food, Drugs, and Cosmetics, John Wiley & Sons, New York, 1980. |
| 0 | MANGICROCIN | Silk Stigma Style | | 10800.0 | | -- |
| 0 | CROCETIN-BETA-D-GLUCOSIDE | Plant | | | | J.S. Glasby Dict.Pls Containing 2ndary Metabolite. 1991. |
| 0 | CROCUS-SATIVUS-LECTIN-I | Bulb | | | | -- |
| 0 | BUT-2-ENOIC-ACID-LACTONE | Silk Stigma Style | | | | -- |
| 4 | THREONINE | Bulb | | | | -- |
| 0 | METHYLCROCETIN | Silk Stigma Style | | | | Leung, A.Y., Encyclopedia of Common Natural Ingredients Used in Food, Drugs, and Cosmetics, John Wiley & Sons, New York, 1980. |
| 0 | HELICHRYSOSIDE | Flower | | | | -- |
| 0 | 2-PHENYLETHANOL | Silk Stigma Style | | | | Leung, A.Y., Encyclopedia of Common Natural Ingredients Used in Food, Drugs, and Cosmetics, John Wiley & Sons, New York, 1980. |
| 0 | CROCETIN-DI-(BETA-D-GLUCOSYL)-ESTER | Silk Stigma Style | | 8000.0 | | -- |
| 41 | CAMPHOR | Silk Stigma Style | | | | -- |
| 0 | 3,5,5-TRIMETHYLCYCLOHEXA-1,4-DIONE | Silk Stigma Style | | | | -- |
| 0 | TRANS-DIMETHYLCROCETIN | Silk Stigma Style | | | | Leung, A.Y., Encyclopedia of Common Natural Ingredients Used in Food, Drugs, and Cosmetics, John Wiley & Sons, New York, 1980. |
| 0 | PICROCROCIN | Essential Oil | | | | -- |
| 0 | PICROCROCIN | Silk Stigma Style | 20000.0 | 36000.0 | | -- |

| Activities Count | Chemical | Plant Part | Low PPM | High PPM | StdDev | Reference Citation |
|------------------|--|-------------------|---------|----------|--------|--|
| 6 | MALVIDIN | Flower | | | | -- |
| 0 | CROCETIN-BETA-D-GENTIOBIOSIDE | Plant | | | | J.S. Glasby Dict.Pls Containing 2ndary Metabolite. 1991. |
| 0 | CROCUS-SATIVUS-GLUCOSIDE | Pollen Or Spore | | | | -- |
| 0 | BORNEOL-ACETATE | Silk Stigma Style | | | | -- |
| 9 | TERPINOLENE | Silk Stigma Style | | | | -- |
| 12 | GLYCINE | Bulb | | | | -- |
| 0 | 2-BUTENOIC-ACID-LACTONE | Silk Stigma Style | | | | Leung, A.Y., Encyclopedia of Common Natural Ingredients Used in Food, Drugs, and Cosmetics, John Wiley & Sons, New York, 1980. |
| 0 | CROCETIN-DI-(2,3,4,8,9,10,12-HEPTA-O-ACETYL-BETA-D-GENTIOBIOSYL)-ESTER | Silk Stigma Style | | | | -- |
| 35 | BORNEOL | Silk Stigma Style | | | | -- |
| 0 | 3,5,5-TRIMETHYLCYCLOHEXA-1,4-DION-2-ENE | Silk Stigma Style | | | | -- |
| 0 | PICROCROCIN | Tissue Culture | | | | -- |
| 9 | DELPHINIDIN | Flower | | | | Abstract (See species file) |
| 0 | PHYTOFLUENE | Silk Stigma Style | | | | -- |
| 4 | LYSINE | Bulb | | | | -- |
| 10 | CROCETIN | Silk Stigma Style | | | | -- |
| 0 | TRANS-CROCIN | Silk Stigma Style | | | | -- |
| 7 | ASTRAGALIN | Flower | | | | -- |
| 11 | GAMMA-TERPINENE | Silk Stigma Style | | | | -- |
| 16 | LYCOPENE | Silk Stigma Style | | | | -- |
| 8 | GLUTAMIC-ACID | Bulb | | | | -- |
| 0 | CROCETIN-DI-(2,3,4,6-TETRA-O-ACETYL-BETA-D-GLUCOSYL)-ESTER | Silk Stigma Style | | | | -- |
| 7 | SALICYLATES | Silk Stigma Style | | 0.0 | | -- |

| Activities Count | Chemical | Plant Part | Low PPM | High PPM | StdDev | Reference Citation |
|------------------|---|-------------------|---------|----------|--------|--|
| 0 | 2-HYDROXY-3,5,5-TRIMETHYLCYCLOHEXA-1,4-DION-2-ENE | Silk Stigma Style | | | | -- |
| 0 | TETRAHYDROLYCOPENE | Silk Stigma Style | | | | -- |
| 0 | PICROCROCIN | Flower | | | | -- |
| 0 | CROCOSE | Silk Stigma Style | | | | Watt, J.M. and Breyer-Brandwijk, M.G. 1962. The Medicinal and Poisonous Plants of Southern and Eastern Africa. E. & S. Livingstone, Ltd. Edinburg & London. 1457 pp. |
| 0 | PHYTOENE | Silk Stigma Style | | | | -- |
| 0 | LINOLENIC-ACID | Silk Stigma Style | | | | -- |
| 12 | COPPER | Silk Stigma Style | | 3.0 | | USDA's Ag Handbook 8 and sequelae) |
| 0 | CIS-CROCIN | Silk Stigma Style | | | | -- |
| 3 | ASPARTIC-ACID | Bulb | | | | -- |
| 13 | ALPHA-TERPINENE | Silk Stigma Style | | | | -- |
| 7 | LAURIC-ACID | Silk Stigma Style | | | | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979. |
| 7 | GLUCOSE | Bulb | | | | -- |
| 0 | CROCETIN-(BETA-D-GENTIOBIOSYL)-(BETA-D-GLUCOSYL)-ESTER | Silk Stigma Style | | 61000.0 | | -- |
| 64 | OLEANOLIC-ACID | Silk Stigma Style | | | | Bisset, N.G., ed. 1994. Herbal Drugs and Phytopharmaceuticals. CRC Press. Boca Raton, FL. 566 pp. |
| 8 | STEARIC-ACID | Silk Stigma Style | | | | -- |
| 5 | BETA-PHENYLETHANOL | Silk Stigma Style | | | | -- |
| 0 | CROCIN-4 | Silk Stigma Style | | | | -- |
| 0 | 4-HYDROXY-2,6,6-TRIMETHYL-CYCLOHEX-1-ENE-CARBOXALDEHYDE | Silk Stigma Style | | | | -- |
| 3 | PETUNIDIN | Flower | | | | Abstract (See species file) |

| Activities Count | Chemical | Plant Part | Low PPM | High PPM | StdDev | Reference Citation |
|------------------|--|-------------------|----------|----------|--------|--|
| 27 | LINOLEIC-ACID | Silk Stigma Style | | | | -- |
| 0 | CIS-DIMETHYLCROCETIN | Silk Stigma Style | | | | Leung, A.Y., Encyclopedia of Common Natural Ingredients Used in Food, Drugs, and Cosmetics, John Wiley & Sons, New York, 1980. |
| 0 | ALPHA-CROCIN | Silk Stigma Style | | | | -- |
| 14 | ARGININE | Bulb | | | | -- |
| 23 | TERPINEN-4-OL | Silk Stigma Style | | 265000.0 | | -- |
| 75 | KAEMPFEROL | Flower | | | | -- |
| 35 | GERANIOL | Silk Stigma Style | | | | -- |
| 0 | CROCETIN-(2,3,4,8,9,10,12-HEPTA-O-ACETYL-BETA-D-GENTIOBIOSYL)-(2,3,4,6-TETRA-O-ACETYL-BETA-D-GLUCOSYL)-ESTER | Silk Stigma Style | | | | -- |
| 0 | TRANS-ZEAXANTHIN | Silk Stigma Style | | | | -- |
| 5 | STARCH | Silk Stigma Style | 119900.0 | 130300.0 | | Leung, A.Y., Encyclopedia of Common Natural Ingredients Used in Food, Drugs, and Cosmetics, John Wiley & Sons, New York, 1980. |
| 0 | 2-PHENETHANOL | Silk Stigma Style | | | | -- |
| 0 | CROCIN-3 | Silk Stigma Style | | | | -- |
| 7 | CYANIDIN | Flower | | | | -- |
| 0 | DIMETHYL-CROCETIN | Silk Stigma Style | | | | -- |
| 13 | PALMITIC-ACID | Silk Stigma Style | | | | -- |
| 0 | LINALOOL-ACETATE | Silk Stigma Style | | | | -- |
| 0 | CINEOLE | Silk Stigma Style | | | | Leung, A.Y., Encyclopedia of Common Natural Ingredients Used in Food, Drugs, and Cosmetics, John Wiley & Sons, New York, 1980. |
| 0 | 13-CIS-CROCIN | Silk Stigma Style | | 400.0 | | -- |
| 0 | 3,8-DIHYDROXY-1-METHYLANTHRAQUINONE-2-CARBOXYLIC-ACID | Tissue Culture | | 40.0 | | -- |
| 1 | SERINE | Bulb | | | | -- |

| Activities Count | Chemical | Plant Part | Low PPM | High PPM | StdDev | Reference Citation |
|------------------|---------------------------------------|-------------------|---------|----------|--------|--|
| 0 | ISOPHORONE | Silk Stigma Style | | | | -- |
| 8 | FRUCTOSE | Silk Stigma Style | | | | -- |
| 0 | GAMMA-CROCETIN | Silk Stigma Style | | | | -- |
| 0 | CIS-ZEAXANTHIN | Silk Stigma Style | | | | -- |
| 0 | SAFRANAL | Silk Stigma Style | | 405000.0 | | -- |
| 0 | OLEANOLIC-ACID-GLYCOSIDE | Bulb | | | | -- |
| 0 | CROCIN-2 | Silk Stigma Style | | | | -- |
| 0 | CROCUS-SATIVUS-STEROID-SAPONIN | Bulb | | | | -- |
| 0 | BETA-CROCETIN | Silk Stigma Style | | 300.0 | | -- |
| 0 | OXYSAFRANAL | Silk Stigma Style | | | | Leung, A.Y., Encyclopedia of Common Natural Ingredients Used in Food, Drugs, and Cosmetics, John Wiley & Sons, New York, 1980. |
| 2 | LEUCINE | Bulb | | | | -- |
| 4 | CROCIN | Tissue Culture | | | | -- |
| 7 | PHENYLALANINE | Bulb | | | | -- |
| 0 | SATIVOL | Essential Oil | | | | -- |
| 0 | HENTRIACONTANE | Silk Stigma Style | | | | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| 6 | FENCHONE | Silk Stigma Style | | | | -- |
| 0 | VITAMIN-B-2 | Silk Stigma Style | 56.4 | 136.0 | | -- |
| 3 | METHYL-NONYL-KETONE | Silk Stigma Style | | | | -- |
| 0 | CROCIN-1 | Silk Stigma Style | | 20000.0 | | -- |
| 0 | CROCUS-SATIVUS-OLEANOLIC-ACID-SAPONIN | Bulb | | | | -- |
| 0 | ALPHA-CROCETIN | Flower | | | | -- |
| 18 | OLEIC-ACID | Silk Stigma Style | | | | -- |
| 0 | KAEMPFEROL-3-O-BETA-D-SOPHOROSIDE | Petiole | | | | -- |

| Activities Count | Chemical | Plant Part | Low PPM | High PPM | StdDev | Reference Citation |
|------------------|---|-------------------|---------|----------|--------|--|
| 53 | BETA-CAROTENE | Silk Stigma Style | | | | -- |
| 4 | CROCIN | Flower | | | | -- |
| 5 | SABINENE | Silk Stigma Style | | | | -- |
| 0 | GENTIOBIOSE | Silk Stigma Style | | | | -- |
| 2 | CYSTINE | Bulb | | | | -- |
| 24 | VITAMIN-B-1 | Silk Stigma Style | 0.53 | 4.0 | | -- |
| 3 | ALANINE | Bulb | | | | -- |
| 176 | QUERCETIN | Flower | | | | Abstract (See species file) |
| 0 | NONAN-1-OL | Silk Stigma Style | | | | -- |
| 4 | CROCIN | Plant | | | | -- |
| 0 | CROCUS-SATIVUS-LECTIN-IV | Bulb | | | | -- |
| 0 | BETA-CITRONELLOL | Silk Stigma Style | | | | -- |
| 0 | NITROGEN | Silk Stigma Style | 22200.0 | 24300.0 | | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| 0 | KAEMPFEROL-3-O-BETA-D-GLUCOPYRANOSYL-(1,2)-BETA-D-GLUCOPYRANOSIDE | Flower | | | | -- |
| 4 | CROCIN | Silk Stigma Style | 6500.0 | 145000.0 | | -- |
| 0 | PROLINE | Bulb | | | | -- |
| 2 | GAMMA-CAROTENE | Silk Stigma Style | | | | -- |
| 16 | P-CYMENE | Silk Stigma Style | | | | -- |
| 3 | VALINE | Bulb | | | | -- |
| 5 | ZEAXANTHIN | Silk Stigma Style | | | | -- |
| 0 | PROTOCROCIN | Silk Stigma Style | | | | -- |
| 2 | BETA-MYRCENE | Silk Stigma Style | | | | -- |
| 0 | CROCETIN-DI-BETA-GLUCOSIDE | Plant | | | | J.S. Glasby Dict.Pls Containing 2ndary Metabolite. 1991. |

| Activities Count | Chemical | Plant Part | Low PPM | High PPM | StdDev | Reference Citation |
|------------------|--|-------------------|---------|----------|--------|--|
| 0 | CROCUS-SATIVUS-LECTIN-III | Bulb | | | | -- |
| 67 | 1,8-CINEOLE | Silk Stigma Style | | | | -- |
| 0 | TRICYCLENE | Silk Stigma Style | | | | -- |
| 1 | NAPHTHALENE | Silk Stigma Style | | | | -- |
| 0 | KAEMPFEROL-3-O-BETA-D-GLUCOPYRANOSYL-(1,2)-BETA-D-6-ACETYL-GLUCOPYRANOSIDE | Flower | | | | -- |
| 0 | ALPHA-CROCETIN | Silk Stigma Style | | 17500.0 | | -- |
| 0 | CROCETIN-MONO-(BETA-D-GLUCOSYL)-ESTER | Silk Stigma Style | | | | -- |
| 53 | LINALOOL | Silk Stigma Style | | | | -- |
| 0 | 4-HYDROXY-3,5,5-TRIMETHYLCYCLOHEXAN-1-ON-2-ENE | Silk Stigma Style | | | | -- |
| 8 | TYROSINE | Bulb | | | | -- |
| 3 | XANTHOPHYLL | Silk Stigma Style | | | | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| 13 | BETA-PINENE | Silk Stigma Style | | | | -- |