Dr. Duke's Phytochemical and Ethnobotanical Databases

Chemicals found in Allium cepa

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Refernce Citation
176	QUERCETIN	Bulb	0.0	48100.0	1.0	--
112	ASCORBIC-ACID	Leaf	390.0	5000.0	0.020016189970703997	--
112	ASCORBIC-ACID	Bulb				--
102	CAFFEIC-ACID	Bulb				--
102	CAFFEIC-ACID	Root				Das, V. S. R., Rao, J. V. S. 1964. Phenolic Acids of Onion Plant. Curr. Sci., 33(15): 471-472.
102	CAFFEIC-ACID	Leaf				Das, V. S. R., Rao, J. V. S. 1964. Phenolic Acids of Onion Plant. Curr. Sci., 33(15): 471-472.
87	RUTIN	Bulb		14000.0		--
77	ZINC	Seed		34.0	-0.31604114389068755	--
77	ZINC	Bulb	2.0	53.0	1.4104984605249231	--
75	KAEMPFEROL	Bulb		2.0		--
67	ALLICIN	Bulb				--
65	MAGNESIUM	Bulb	76.0	1230.0	0.7319115529256467	--
64	OLEANOLIC-ACID	Bulb				--
61	FERULIC-ACID	Root				Das, V. S. R., Rao, J. V. S. 1964. Phenolic Acids of Onion Plant. Curr. Sci., 33(15): 471-472.
61	FERULIC-ACID	Leaf				Das, V. S. R., Rao, J. V. S. 1964. Phenolic Acids of Onion Plant. Curr. Sci., 33(15): 471-472.
61	FERULIC-ACID	Bulb		0.5	-1.0	--
60	SELENIUM	Bulb	0.001	0.003	-1.0000000000000002	--
53	BETA-CAROTENE	Leaf	12.0	158.0	-0.4498575995747604	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
53	BETA-CAROTENE	Flower		28.0	-0.18921282459251038	--
53	BETA-CAROTENE	Bulb	0.0	52.0	0.9999999999999998	--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Refernce Citation
47	BETA-SITOSTEROL	Seed				Kintia, P. K., Degtiaryova, L. P., Balashova, N. N., Shvets, S. A. 1987. Sterols and Steroidal Glycosides of Bulb Onion Seeds. Fecs. Int. Conf. Chem. Biotechol. Biol. Act. Nat. Prod., (Proc.) 3rd: 166-170.
47	BETA-SITOSTEROL	Seed Oil				Grujic-Injac, B., Basarevic-Dinic, L., Lajsic, S., Stefanovic, D. 1985. Chemical Analysis of Seed Oil of the Onion (Allium cepa). Hrana Ishrana, 25: 167-169 (Inst Ishr Vet Fak Belgrade, Yugoslavia)
47	BETA-SITOSTEROL	Bulb	120.0	510.0	-1.0	--
43	PROTOCATECHUIC-ACID	Bulb	4500.0	17540.0		--
43	PROTOCATECHUIC-ACID	Leaf				Das, V. S. R., Rao, J. V. S. 1964. Phenolic Acids of Onion Plant. Curr. Sci., 33(15): 471-472.
39	NIACIN	Leaf	7.0	90.0	-0.09123627617407809	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
39	NIACIN	Bulb	1.0	75.0	1.0	--
32	ALPHA-TOCOPHEROL	Seed Oil				Grujic-Injac, B., Basarevic-Dinic, L., Lajsic, S., Stefanovic, D. 1985. Chemical Analysis of Seed Oil of the Onion (Allium cepa). Hrana Ishrana, 25: 167-169 (Inst Ishr Vet Fak Belgrade, Yugoslavia)
32	ALPHA-TOCOPHEROL	Bulb	0.4	30.0	1.0	--
31	THIAMIN	Leaf	0.5	6.4	-0.39693808734805064	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
31	THIAMIN	Bulb	0.3	6.0	-1.0	--
30	ANTHOCYANINS	Bulb				Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
29	TRYPTOPHAN	Bulb	170.0	1853.0	1.0	USDA's Ag Handbook 8 and sequelae)

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Refernce Citation
28	CALCIUM	Leaf	420.0	5385.0	-0.8918247706535197	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
28	CALCIUM	Bulb	200.0	3008.0	0.11970003608893207	--
28	DIALLYL-TRISULFIDE	Essential Oil				Schultz, O. E., Mohrmann, H. L. 1965. Analysis of Constituents of Garlic Allium sativum. II. Gas Chromatography of Garlic Oil. Pharmazie, 20(7): 441-447.
28	ADENOSINE	Bulb				--
27	LINOLEIC-ACID	Seed Oil	575000.0	590600.0	0.7844920848789769	--
27	LINOLEIC-ACID	Seed	103500.0	106200.0	-0.00790147227328753	Wealth of India.
27	LINOLEIC-ACID	Bulb				Osman, S. A. 1980. Chemical and Biological Studies of Onion and Garlic in an Attempt to Isolate a Hypoclycaemic Extract. Abstr. 4th Asian Symp. Med. Plants Spices Bangkok, Thailand, September 15-19: 117.
26	DIALLYL-DISULFIDE	Essential Oil				Schultz, O. E., Mohrmann, H. L. 1965. Analysis of Constituents of Garlic Allium sativum. II. Gas Chromatography of Garlic Oil. Pharmazie, 20(7): 441-447.
25	DIALLYL-SULFIDE	Essential Oil				Schultz, O. E., Mohrmann, H. L. 1965. Analysis of Constituents of Garlic Allium sativum. II. Gas Chromatography of Garlic Oil. Pharmazie, 20(7): 441-447.
25	P-COUMARIC-ACID	Root				Das, V. S. R., Rao, J. V. S. 1964. Phenolic Acids of Onion Plant. Curr. Sci., 33(15): 471-472.
25	P-COUMARIC-ACID	Leaf				Das, V. S. R., Rao, J. V. S. 1964. Phenolic Acids of Onion Plant. Curr. Sci., 33(15): 471-472.
25	P-COUMARIC-ACID	Bulb				--
24	PECTIN	Bulb				Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Refernce Citation
24	CHROMIUM	Seed		4.8	0.016797185555398934	--
24	VANILLIC-ACID	Bulb		258.0	1.0	--
24	CHROMIUM	Bulb	0.057	4.0	1.0	--
24	ETHANOL	Bulb				--
23	CITRIC-ACID	Leaf				Soldatenkov, S. V., Mazurova, T. A., Ranteleev, A. N. 1960. Organic Acids of Onion and Spinach. Trudy Petergof Biol. Inst., Leningrad Gosudarst Univ Im AA Zhdanova, 18: 55-61.
23	CITRIC-ACID	Bulb				Soldatenkov, S. V., Mazurova, T. A., Ranteleev, A. N. 1960. Organic Acids of Onion and Spinach. Trudy Petergof Biol. Inst., Leningrad Gosudarst Univ Im AA Zhdanova, 18: 55-61.
23	MELATONIN	Bulb				Hattori, A., et. al. 1995. Identification of Melatonin in Plants and its Effects on Plasma Melatonin Levels and Binding to Melatonin Receptors in Vertebrates. Biochem. Mol. Biol. Int., 35(3): 627-634.
22	ISOQUERCITRIN	Bulb				Kiviranta, J., Huovinen, K., Hiltunen, R. 1986. Variation of Flavonoids in Allium cepa. Planta Medica, 6: 517-518.
22	CATECHOL	Bulb				Link, K. P., Walker, J. C. 1933. The Isolation of Catechol from Pigmented Onion Scales and its Significance in Relation to Disease Resistance in Onions. J. Biol. Chem., 100: 379-383.
21	ALLIIN	Bulb				--
21	ALLIIN	Essential Oil				Bekdairova, K. Z., Klyshev, L. K. 1982. Garlic Essential Oil and its Quantitative Analysis. Izv Akad Nauk Kaz Ssr Ser Biol, 1: 6-11.
20	CHOLINE	Bulb		830.0		Dakshinamurti, K. 1955. Choline Content of South Indian Foods. Curr. Sci., 24: 194-195.

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Refernce Citation
20	BENZYL-ISOTHIOCYANATE	Bulb				Dorsch, W., Adam, O., Weber, J., Ziegeltrum, T. 1985. Antiasthmatic Effects of Onion Extracts - Detection of Benzyl- and Other Isothiocyanates (Mustard Oils) as Antiasthmatic Compounds of Plant Origin. Eur. J. Pharmacol., 107(1): 17-24.
18	OLEIC-ACID	Seed		46800.0	-0.5943767329474172	Wealth of India.
18	OLEIC-ACID	Seed Oil	260000.0	292900.0	-0.1478289753657865	--
18	OLEIC-ACID	Bulb	230.0	2230.0	1.0	--
16	ACETIC-ACID	Bulb				Wilkens, W. F. 1964. Isolation and Identification of the Lachrymogenic Compound of Onion. Cornell Univ., Agr. Expt. Sta. Mem. No., 385: 31 pp.
16	P-CYMENE	Fruit Juice				Schmidt, N. E., et. al. 1996. Rapid Extraction Method of Quantitating the Lachrymatory Factor of Onion Using Gas Chromatography. J. Agric. Food Chem., 44(9): 2690-2693.
15	TRIGONELLINE	Seed		13.0	-0.46591212987573255	Evans, L. S., Tramontano, W. A. 1984. Trigonelline and Promotion of Cell Arrest in G2 of Various Legumes. Phytochemistry, 23(9): 1837-1840.
15	ALPHA-LINOLENIC-ACID	Bulb				Ustunes, L., Claeys, M., Laekeman, G., Herman, A.G., Vlietinck, A.J., Ozer, A. 1985. Isolation and Identification of Two Isomeric Trihydroxy Octadecenoic Acids with Prostaglandin E-Like Activity from Onion Bulbs(Allium cepa). Prostaglandins, 29(5):847-865
15	MALIC-ACID	Leaf				Soldatenkov, S. V., Mazurova, T. A., Ranteleev, A. N. 1960. Organic Acids of Onion and Spinach. Trudy Petergof Biol. Inst., Leningrad Gosudarst Univ Im AA Zhdanova, 18: 55-61.

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Refernce Citation
15	MALIC-ACID	Bulb				Soldatenkov, S. V., Mazurova, T. A., Ranteleev, A. N. 1960. Organic Acids of Onion and Spinach. Trudy Petergof Biol. Inst., Leningrad Gosudarst Univ Im AA Zhdanova, 18: 55-61.
15	FIBER	Leaf	11000.0	141000.0	-0.2539378373860592	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
15	FIBER	Bulb	4400.0	126000.0	1.0	--
15	LUTEIN	Bulb		0.02		Granado, F., Olmedilla, B., Blanco, I., Rojas-Hidalgo, E. 1992. Carotenoid Composition in Raw and Cooked Spanish Vegetables. J. Agr. Food Chem., 40(11): 2135-2140.
15	RIBOFLAVIN	Bulb	0.4	15.0	1.0	--
15	METHIONINE	Bulb	100.0	1090.0	-1.0	--
14	MANGANESE	Seed		19.4	-0.425040968734703	--
14	MANGANESE	Bulb	1.0	38.0	1.4045726642160135	--
14	SULFUR	Bulb	80.0	4075.0	-1.0	--
14	ARGININE	Bulb	1580.0	17222.0	-1.0	USDA's Ag Handbook 8 and sequelae)
14	SUCROSE	Leaf				Osman, S. A. 1980. Chemical and Biological Studies of Onion and Garlic in an Attempt to Isolate a Hypoclycaemic Extract. Abstr. 4th Asian Symp. Med. Plants Spices Bangkok, Thailand, September 15-19: 117.
14	SUCROSE	Bulb				Osman, S. A. 1980. Chemical and Biological Studies of Onion and Garlic in an Attempt to Isolate a Hypoclycaemic Extract. Abstr. 4th Asian Symp. Med. Plants Spices Bangkok, Thailand, September 15-19: 117.
14	POTASSIUM	Bulb	1514.0	22164.0	1.0	--
13	P-HYDROXY-BENZOIC-ACID	Bulb		107.0	1.0	--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Refernce Citation
13	PALMITIC-ACID	Seed Oil		73000.0	-0.723771059427567	--
13	PALMITIC-ACID	Bulb	240.0	2325.0	-1.0	--
13	CYSTEINE	Bulb				Ueda, Y., Taubuku, T., Miyajima, R. 1994. Composition of Sulfur-Containing Components in Onion and Their Flavor Characters. Biosci. Biotech. Biochem., 58(1): 108-110.
13	MUFA	Bulb	230.0	2230.0		USDA's Ag Handbook 8 and sequelae)
13	PALMITIC-ACID	Seed		13140.0	-0.4284802139449916	Wealth of India.
12	COPPER	Seed		18.2	0.3070837559561808	--
12	COPPER	Bulb	0.3	11.0	0.10619884881071792	--
12	GLYCINE	Bulb	490.0	5341.0	1.0	--
12	PYROCATECHOL	Bulb				Hermann, K. 1958. Flavonols and Phenols of the Onion (Allium cepa). Arch. Pharm. (Weinheim), 291: 238-247.
12	STIGMASTEROL	Seed				Kintia, P. K., Degtiaryova, L. P., Balashova, N. N., Shvets, S. A. 1987. Sterols and Steroidal Glycosides of Bulb Onion Seeds. Fecs. Int. Conf. Chem. Biotechol. Biol. Act. Nat. Prod., (Proc.) 3rd: 166-170.
12	STIGMASTEROL	Bulb		40.0		--
12	STIGMASTEROL	Seed Oil				Grujic-Injac, B., Basarevic-Dinic, L., Lajsic, S., Stefanovic, D. 1985. Chemical Analysis of Seed Oil of the Onion (Allium cepa). Hrana Ishrana, 25: 167-169 (Inst Ishr Vet Fak Belgrade, Yugoslavia)
11	ISORHAMNETIN	Bulb				Park, Y. K., Lee, C. Y. 1996. Identification of Isorhamnetin 4'-Glucoside in Onions. J. Agric. Food Chem., 44(1): 34-36.
11	LITHIUM	Bulb	0.152	0.324		--
11	PANTOTHENIC-ACID	Bulb	1.0	16.0	1.0	USDA's Ag Handbook 8 and sequelae)

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Refernce Citation
10	XYLITOL	Bulb				Counsell, J. N., Roberton, D. J. 1976. Xylitol-A Sweetener Which is Kind to the Teeth. Food Process Ind., 45(54): 24-26.
10	ALPHA-AMYRIN	Bulb				Smocziewiczowa, A., Nitschke, D. 1978. Study of Saponins and Sapogenins in Onions. Zesz Nauk Akad Ekon Poznaniu Ser, 1(73): 40-43.
9	SINAPIC-ACID	Root				Das, V. S. R., Rao, J. V. S. 1964. Phenolic Acids of Onion Plant. Curr. Sci., 33(15): 471-472.
9	SINAPIC-ACID	Bulb				Das, V. S. R., Rao, J. V. S. 1964. Phenolic Acids of Onion Plant. Curr. Sci., 33(15): 471-472.
9	SINAPIC-ACID	Leaf				Das, V. S. R., Rao, J. V. S. 1964. Phenolic Acids of Onion Plant. Curr. Sci., 33(15): 471-472.
9	OXALIC-ACID	Leaf				Gad, S. S., Esmat El-Zalaki, M., Hohamed, M. S., Mohasseb, S. Z. 1982. Oxalate Content of Some Leafy Vegetables and Dry Legumes Consumed Widely in Egypt. Food Chem., 8(3): 169-177. (Coll. Agric. Alexandria Univ. Ale.)
9	OXALIC-ACID	Bulb		10.0		--
8	GLUTAMIC-ACID	Bulb				Thomas, D. J., Parkin, K. L. 1994. Quantification of Alk(en)yl-L-Cysteine Sulfoxides and Related Amino Acids in Alliums by High-Performance Liquid Chromatography. J. Agr. Food Chem., 42(8): 1632-1638.
8	PHLOROGLUCINOL	Bulb		100.0		--
8	FRUCTOSE	Bulb				Osman, S. A. 1980. Chemical and Biological Studies of Onion and Garlic in an Attempt to Isolate a Hypoclycaemic Extract. Abstr. 4th Asian Symp. Med. Plants Spices Bangkok, Thailand, September 15-19: 117.

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Refernce Citation
8	FRUCTOSE	Leaf				Osman, S. A. 1980. Chemical and Biological Studies of Onion and Garlic in an Attempt to Isolate a Hypoclycaemic Extract. Abstr. 4th Asian Symp. Med. Plants Spices Bangkok, Thailand, September 15-19: 117.
8	STEARIC-ACID	Seed		6300.0	-0.4287014331879593	Wealth of India.
8	TYROSINE	Bulb	290.0	3161.0	-1.0	USDA's Ag Handbook 8 and sequelae)
8	STEARIC-ACID	Bulb	20.0	195.0		--
8	STEARIC-ACID	Seed Oil		35000.0	-0.6541098145281985	--
7	GLUCOSE	Leaf				Osman, S. A. 1980. Chemical and Biological Studies of Onion and Garlic in an Attempt to Isolate a Hypoclycaemic Extract. Abstr. 4th Asian Symp. Med. Plants Spices Bangkok, Thailand, September 15-19: 117.
7	PHENYLALANINE	Bulb	300.0	3270.0	-1.0	USDA's Ag Handbook 8 and sequelae)
7	GLUCOSE	Bulb				Osman, S. A. 1980. Chemical and Biological Studies of Onion and Garlic in an Attempt to Isolate a Hypoclycaemic Extract. Abstr. 4th Asian Symp. Med. Plants Spices Bangkok, Thailand, September 15-19: 117.
7	FUMARIC-ACID	Bulb				--
7	SUCCINIC-ACID	Leaf				Soldatenkov, S. V., Mazurova, T. A., Ranteleev, A. N. 1960. Organic Acids of Onion and Spinach. Trudy Petergof Biol. Inst., Leningrad Gosudarst Univ Im AA Zhdanova, 18: 55-61.
7	SUCCINIC-ACID	Bulb				Soldatenkov, S. V., Mazurova, T. A., Ranteleev, A. N. 1960. Organic Acids of Onion and Spinach. Trudy Petergof Biol. Inst., Leningrad Gosudarst Univ Im AA Zhdanova, 18: 55-61.

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Refernce Citation
7	SALICYLATES	Bulb	1.0	20.0	1.0	--
7	CYCLOARTENOL	Bulb				Itoh, T., Tamura, T., Mitsuhashi, T., Matsumoto, T. 1977. Sterols of Liliaceae. Phytochemistry, 16: 140-141.
7	GLUTATHIONE	Bulb				Ueda, Y., Taubuku, T., Miyajima, R. 1994. Composition of Sulfur-Containing Components in Onion and Their Flavor Characters. Biosci. Biotech. Biochem., 58(1): 108-110.
7	HISTIDINE	Bulb	190.0	2071.0	-1.0	USDA's Ag Handbook 8 and sequelae)
6	TARTARIC-ACID	Bulb				--
6	MYRISTIC-ACID	Seed Oil				Reddy, P. N., Azeemoddin, G., Rao, S. D. T. 1989. Processing and Analysis of Onionseed (Allium cepa) and its Fixed Oil. J. Amer. Oil Chem. Soc., 66(3): 365.
6	MYRISTIC-ACID	Bulb	10.0	100.0	-1.0	USDA's Ag Handbook 8 and sequelae)
6	IRON	Seed		235.0	0.3912510395242066	--
6	IRON	Leaf	34.0	436.0	0.18456741976079077	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
6	IRON	Bulb	2.0	135.0	0.7831452902858658	--
5	GLUTAMINE	Bulb				--
5	SAPONINS	Bulb				Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
5	ZEAXANTHIN	Bulb				Granado, F., Olmedilla, B., Blanco, I., Rojas-Hidalgo, E. 1992. Carotenoid Composition in Raw and Cooked Spanish Vegetables. J. Agr. Food Chem., 40(11): 2135-2140.
5	ALUMINUM	Bulb	0.3	385.0	1.0	--
5	24-METHYLENE-CYCLOARTANOL	Bulb				Itoh, T., Tamura, T., Mitsuhashi, T., Matsumoto, T. 1977. Sterols of Liliaceae. Phytochemistry, 16: 140-141.

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Refernce Citation
4	CIS-METHYLSULPHINOTHIOIC-ACID-S-1-PROPENYLESTER	Bulb				--
4	PHOSPHORUS	Leaf	310.0	5513.0	0.09963731108701822	--
4	GLYCOLIC-ACID	Bulb				Balansard, J., Arnoux, M. 1951. A Study of the Hepato-Renaldiuretics. III. The Active Principle of Onion Juice. Med. Trop. (Marseille), 11: 632-634.
4	CALCIUM-OXALATE	Bulb				Walter-Levy, L., Strauss, R. 1954. Inorganic Deposits in Plants. C. R. Acad. Sci., 239: 897-.
4	SPIRAEOSIDE	Epidermis				Ito, Y., Ono, M., Masuoka, C., Yahara, S., Nohara, T. 1995. Hyaluronidase Inhibitors of Onion (Allium cepa L.) Skin. Kyushu Tokai Daigaku Nogakubu Kiyo, 14: 43-48.
4	LYSINE	Bulb	560.0	6104.0	-1.0	USDA's Ag Handbook 8 and sequelae)
4	THREONINE	Bulb	280.0	3052.0	-1.0	USDA's Ag Handbook 8 and sequelae)
4	PHOSPHORUS	Bulb	275.0	4038.0	-1.0	--
4	N-PROPYLSULPHINOTHIOIC-ACID-S-N-PROPYLESTER	Bulb				--
4	TRANS-TRANS-5-ETHYL-4,6,7-TRITHIA-2,8-DECADIENE-4-S-OXIDE	Bulb				--
4	SILICON	Bulb	1.0	75.0		ACTA AGRIC SCAND SUPPL 22: 1980
4	TRANS-N-PROPYLSULPHINOTHIOIC-ACID-S-1-PROPENYLESTER	Bulb				--
4	PUFA	Bulb	620.0	6005.0		USDA's Ag Handbook 8 and sequelae)
4	TRANS-METHYLSULPHINOTHIOIC-ACID-S-1-PROPENYLESTER	Bulb				--
4	BORON	Bulb	1.0	45.0	1.0	--
4	TRANS-5-ETHYL-4,6,7-TRITHIA-2-DECENE-4-S-OXIDE	Bulb				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Refernce Citation
4	DIPROPYL-DISULFIDE	Bulb				--
4	CIS-N-PROPYLSULPHINOTHIOIC-ACID-S-1-PROPENYLESTER	Bulb				--
4	SPIRAEOSIDE	Bulb	10000.0	11300.0		--
3	DI-N-PROPYL-DISULFIDE	Bulb				Wilkens, W. F. 1962. The Isolation and Identification of the Lachrymogenic Compound of Onion. Diss. Abstr. Int. B, 22: 3978.
3	ASPARTIC-ACID	Bulb	640.0	6967.0	-1.0	USDA's Ag Handbook 8 and sequelae)
3	NICKEL	Seed	0.03	4.0	-0.14389814511946067	--
3	ALANINE	Bulb	330.0	8597.0	1.0	USDA's Ag Handbook 8 and sequelae)
3	SILVER	Bulb	0.038	0.054		--
3	NICKEL	Bulb	0.05	2.5	0.9999999999999996	--
3	MURAMIDASE	Leaf		0.3		LAWSON in Koch, H. P. and Lawson, L. D., eds. 1996. Garlic- The Science and therapeutic application of Allium sativum L. and related species. Williams & Wilkins, Baltimore. 329 pp.
3	MURAMIDASE	Bulb		0.033	-1.0	LAWSON in Koch, H. P. and Lawson, L. D., eds. 1996. Garlic- The Science and therapeutic application of Allium sativum L. and related species. Williams & Wilkins, Baltimore. 329 pp.
3	ABSCISSIC-ACID	Bulb				--
3	XYLOSE	Bulb				Sinha, A. 1959. Chemical Examination of Allium cepa. I. Glycosidic and Sugar Fractions. Indian J. Appl. Chem., 22: 89-91.
3	CADMIUM	Bulb	0.005	0.38		--
3	ISOLEUCINE	Bulb	420.0	4578.0	-1.0	USDA's Ag Handbook 8 and sequelae)

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Refernce Citation
3	ALLYL-PROPYL-DISULFIDE	Essential Oil				Wilcox, B. F., Joseph, P. K., Augusti, K. T. 1984. Effects of Allylpropyl Disulphide Isolated from Allium cepa Linn. on High-Fat Fed Rats. Indian J. Biochem. Biophys., 21(3): 214-216.
3	VALINE	Bulb	270.0	2943.0	-1.0	--
3	CYCLOEUCALENOL	Bulb				Itoh, T., Tamura, T., Mitsuhashi, T., Matsumoto, T. 1977. Sterols of Liliaceae. Phytochemistry, 16: 140-141.
3	ENDOLYSIN	Leaf		0.3	-1.0	LAWSON in Koch, H. P. and Lawson, L. D., eds. 1996. Garlic- The Science and therapeutic application of Allium sativum L. and related species. Williams & Wilkins, Baltimore. 329 pp.
3	ENDOLYSIN	Bulb		0.033	-1.0	LAWSON in Koch, H. P. and Lawson, L. D., eds. 1996. Garlic- The Science and therapeutic application of Allium sativum L. and related species. Williams & Wilkins, Baltimore. 329 pp.
3	CYCLOALLIIN	Bulb				--
3	ALLYL-PROPYL-DISULFIDE	Bulb				--
3	DIPHENYLAMINE	Plant		500.0		Karawy, M. S., Ehayyal, A. S. E., Farrag, N. M., Ayad, M. M. 1986. Screening of Diphenylamine as an Antihyperglycaemic Agent in Certain Edible Plant Organs. Acta. Pharm. Hung, 56: 55-58.
3	DIPHENYLAMINE	Bulb		23000.0		--
2	METHANOL	Bulb				--
2	DIMETHYL-SULFIDE	Essential Oil				Schultz, O. E., Mohrmann, H. L. 1965. Analysis of Constituents of Garlic Allium sativum. II. Gas Chromatography of Garlic Oil. Pharmazie, 20(7): 441-447.
2	QUERCETIN-3-O-BETA-D-GLUCOSIDE	Bulb	0.0	40.0		Abstract (See species file)

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Refernce Citation
2	DIMETHYL-DISULFIDE	Bulb				--
2	ASPARAGINE	Bulb				--
2	COBALT	Seed		2.5	-0.0975154003240051	--
2	ALLYLMETHYLSULFIDE	Bulb				Wealth of India.
2	COBALT	Bulb	0.001	0.2	-1.0000000000000002	--
2	ALLYL-METHYL-DISULFIDE	Bulb				Wealth of India.
2	CAMPESTEROL	Seed				Kintia, P. K., Degtiaryova, L. P., Balashova, N. N., Shvets, S. A. 1987. Sterols and Steroidal Glycosides of Bulb Onion Seeds. Fecs. Int. Conf. Chem. Biotechol. Biol. Act. Nat. Prod., (Proc.) 3rd: 166-170.
2	LEUCINE	Bulb	410.0	4469.0	-1.0	USDA's Ag Handbook 8 and sequelae)
2	ARSENIC	Bulb	0.002	0.076		--
2	5-OCTYL-CYCLOPENTA-1,3-DIONE	Bulb				--
2	CYSTINE	Bulb	210.0	2289.0	1.0	USDA's Ag Handbook 8 and sequelae)
2	METHANOL	Leaf				Burtsev, A. F., Pashchenko, T. W., Rik, G. R. 1974. Mass-Spectrometric Analysis of Volatile Phytonocide Substances of Cucumber and Common Onion Leaves. Fiziol Biokhim Kul't Rast, 6: 516-.
2	5-HEXYL-CYCLOPENTA-1,3-DIONE	Bulb				--
2	S-METHYL-CYSTEINE-SULFOXIDE	Bulb				Kumari, K., Augusti, K. T. 1995. Antidiabetic Effects of S-Methylcysteine Sulphoxide on Alloxan Diabetes. Planta Medica, 61(1): 72-74.
2	PROSTAGLANDIN-A-1	Bulb		1.0		--
2	PROPIONALDEHYDE	Bulb				Wilkens, W. F. 1964. Isolation and Identification of the Lachrymogenic Compound of Onion. Cornell Univ., Agr. Expt. Sta. Mem. No., 385: 31 pp.
2	MOLYBDENUM	Bulb	0.1	2.3	1.0000000000000002	--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Refernce Citation
2	DIMETHYL-DISULFIDE	Essential Oil				Jirovetz, L., Koch, H. P., Jager, W., Remberg, G. 1992. Investigations of German Onion Oil by GC-FID, GC-MS and GC-FTIR. Pharmazie, 47(6): 455-456.
2	QUERCETIN-3,4'-DIGLUCOSIDE	Bulb				--
2	PROSTAGLANDIN-E-1	Bulb				Ustunes, L., Claeys, M., Laekeman, G., Herman, A.G., Vlietinck, A.J., Ozer, A. 1985. Isolation and Identification of Two Isomeric Trihydroxy Octadecenoic Acids with Prostaglandin E-Like Activity from Onion Bulbs(Allium cepa). Prostaglandins, 29(5):847-865
2	PHYTOSTEROLS	Bulb	150.0	1455.0	1.0	--
2	CAMPESTEROL	Bulb	10.0	50.0	-1.0	--
2	PROPIONALDEHYDE	Leaf				Burtsev, A. F., Pashchenko, T. W., Rik, G. R. 1974. Mass-Spectrometric Analysis of Volatile Phytonocide Substances of Cucumber and Common Onion Leaves. Fiziol Biokhim Kul't Rast, 6: 516-.
1	PYRUVIC-ACID	Fruit Juice		1034.0		Morgan, E. J. 1946. Pyruvic Acid in the Juice of Onion (Allium cepa). Nature (London), 157: 512.
1	QUINIC-ACID	Bulb				--
1	SODIUM	Bulb	8.0	2052.0	1.4085638338778703	--
1	MERCURY	Bulb		0.001	-1.0	--
1	CHOLESTEROL	Seed				Kintia, P. K., Degtiaryova, L. P., Balashova, N. N., Shvets, S. A. 1987. Sterols and Steroidal Glycosides of Bulb Onion Seeds. Fecs. Int. Conf. Chem. Biotechol. Biol. Act. Nat. Prod., (Proc.) 3rd: 166-170.
1	PYRUVIC-ACID	Fruit		1034.0		--
1	SERINE	Bulb	350.0	3815.0	-1.0	USDA's Ag Handbook 8 and sequelae)

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Refernce Citation
1	N-PROPYL-MERCAPTAN	Bulb				Nishimura, H., Mizutani, J. 1975. Effect of Gamma-Irradiation on Development of Lachrymator of Onion. Agic. Biol. Chem., 39: 2245-.
1	ISORHAMNETIN-3-GLUCOSIDE	Bulb				--
1	RAFFINOSE	Leaf				Osman, S. A. 1980. Chemical and Biological Studies of Onion and Garlic in an Attempt to Isolate a Hypoclycaemic Extract. Abstr. 4th Asian Symp. Med. Plants Spices Bangkok, Thailand, September 15-19: 117.
1	ETHYLENE	Bulb				LAWSON in Koch, H. P. and Lawson, L. D., eds. 1996. Garlic- The Science and therapeutic application of Allium sativum L. and related species. Williams & Wilkins, Baltimore. 329 pp.
1	1-(METHYLSULFINYL)-PROPYL-METHYL-DISULFIDE	Bulb				--
1	PYRUVIC-ACID	Bulb				Malkki, Y., Nikkila, O. E., Aalto, M. 1978. The Composition and Aroma of Onions and Influencing Factors. J. Sci. Agr. Soc. Finland, 50: 103-.
1	CHOLESTEROL	Bulb				--
1	TULIPOSIDE-A	Root				Slob, A., Jekel, B., De Jong, B., Schlatmann, E. 1975. On the Occurrence of Tuliposides in the Liliiflorae. Phytochemistry, 14: 1997-2005.
1	RAFFINOSE	Bulb				Osman, S. A. 1980. Chemical and Biological Studies of Onion and Garlic in an Attempt to Isolate a Hypoclycaemic Extract. Abstr. 4th Asian Symp. Med. Plants Spices Bangkok, Thailand, September 15-19: 117.