Dr. Duke's Phytochemical and Ethnobotanical Database

Chemicals Found in Allium cepa

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
1	1-(METHYLSULFINYL)-PROPYL-METHYL-DISULFIDE	Bulb	--	--		
5	24-METHYLENE-CYCLOARTANOL	Bulb	--	--		Itoh, T., Tamura, T., Mitsuhashi, T., Matsumoto, T. 1977. Sterols of Liliaceae. Phytochemistry, 16: 140-141.
2	5-HEXYL-CYCLOPENTA-1,3-DIONE	Bulb	--	--		
2	5-OCTYL-CYCLOPENTA-1,3-DIONE	Bulb	--	--		
3	ABSCISSIC-ACID	Bulb	--	--		
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.
28	ADENOSINE	Bulb	--	--		
3	ALANINE	Bulb	330	8597	1	USDA's Ag Handbook 8 and sequelae)
67	ALLICIN	Bulb	--	--		
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.

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
2	ALLYL-METHYL-DISULFIDE	Bulb	--	--		Wealth of India.
3	ALLYL-PROPYL-DISULFIDE	Bulb	--	--		
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.
2	ALLYLMETHYLSULFIDE	Bulb	--	--		Wealth of India.
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.
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
32	ALPHA-TOCOPHEROL	Bulb	0.4	30	1	

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
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)
5	ALUMINUM	Bulb	0.3	385	1	
30	ANTHOCYANINS	Bulb	--	--		Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
14	ARGININE	Bulb	1580	17222	-1	USDA's Ag Handbook 8 and sequelae)
2	ARSENIC	Bulb	0.002	0.076		
112	ASCORBIC-ACID	Bulb	60	2703		
112	ASCORBIC-ACID	Leaf	390	5000	0.020016189970703997	
2	ASPARAGINE	Bulb	--	--		
3	ASPARTIC-ACID	Bulb	640	6967	-1	USDA's Ag Handbook 8 and sequelae)

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference 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.
53	BETA-CAROTENE	Bulb	--	52	0.9999999999999998	
53	BETA-CAROTENE	Flower	28	28	-0.18921282459251038	
53	BETA-CAROTENE	Leaf	12	158	-0.4498575995747604	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
47	BETA-SITOSTEROL	Bulb	120	510	-1	
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	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.

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
4	BORON	Bulb	1	45	1	
3	CADMIUM	Bulb	0.005	0.38		
102	CAFFEIC-ACID	Bulb	--	--		
102	CAFFEIC-ACID	Leaf	--	--		Das, V. S. R., Rao, J. V. S. 1964. Phenolic Acids of Onion Plant. Curr. Sci., 33(15): 471-472.
102	CAFFEIC-ACID	Root	--	--		Das, V. S. R., Rao, J. V. S. 1964. Phenolic Acids of Onion Plant. Curr. Sci., 33(15): 471-472.
28	CALCIUM	Bulb	200	3008	0.11970003608893207	
28	CALCIUM	Leaf	420	5385	-0.8918247706535197	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
4	CALCIUM-OXALATE	Bulb	--	--		Walter-Levy, L., Strauss, R. 1954. Inorganic Deposits in Plants. C. R. Acad. Sci., 239: 897-.
2	CAMPESTEROL	Bulb	10	50	-1	
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.

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
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.
1	CHOLESTEROL	Bulb	--	--		
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.
20	CHOLINE	Bulb	830	830		Dakshinamurti, K. 1955. Choline Content of South Indian Foods. Curr. Sci., 24: 194-195.
24	CHROMIUM	Bulb	0.057	4	1	
24	CHROMIUM	Seed	4.8	4.8	0.016797185555398934	
4	CIS-METHYLSULPHINOTHIOIC-ACID-S-1-PROPENYLESTER	Bulb	--	--		
4	CIS-N-PROPYLSULPHINOTHIOIC-ACID-S-1-PROPENYLESTER	Bulb	--	--		
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.

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
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.
2	COBALT	Bulb	0.001	0.2	-1.0000000000000002	
2	COBALT	Seed	2.5	2.5	-0.0975154003240051	
12	COPPER	Bulb	0.3	11	0.10619884881071792	
12	COPPER	Seed	18.2	18.2	0.3070837559561808	
3	CYCLOALLIIN	Bulb	--	--		
7	CYCLOARTENOL	Bulb	--	--		Itoh, T., Tamura, T., Mitsuhashi, T., Matsumoto, T. 1977. Sterols of Liliaceae. Phytochemistry, 16: 140-141.
3	CYCLOEUCALENOL	Bulb	--	--		Itoh, T., Tamura, T., Mitsuhashi, T., Matsumoto, T. 1977. Sterols of Liliaceae. Phytochemistry, 16: 140-141.
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.

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
2	CYSTINE	Bulb	210	2289	1	USDA's Ag Handbook 8 and sequelae)
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.
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.
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.
2	DIMETHYL-DISULFIDE	Bulb	--	--		
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.

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
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.
3	DIPHENYLAMINE	Bulb	14	11000		
3	DIPHENYLAMINE	Plant	--	500		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.
4	DIPROPYL-DISULFIDE	Bulb	--	--		
3	ENDOLYSIN	Bulb	--	0.033	-1	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	Leaf	--	0.3	-1	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.
24	ETHANOL	Bulb	--	--		

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
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.
61	FERULIC-ACID	Bulb	--	0.5	-1	
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	Root	--	--		Das, V. S. R., Rao, J. V. S. 1964. Phenolic Acids of Onion Plant. Curr. Sci., 33(15): 471-472.
15	FIBER	Bulb	4400	126000	1	
15	FIBER	Leaf	11000	141000	-0.2539378373860592	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
8	FRUCTOSE	Bulb	65600	162600		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.

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference 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.
7	FUMARIC-ACID	Bulb	--	--		
7	GLUCOSE	Bulb	102000	158600		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	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.
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.

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
5	GLUTAMINE	Bulb	--	--		
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.
12	GLYCINE	Bulb	490	5341	1	
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.
7	HISTIDINE	Bulb	190	2071	-1	USDA's Ag Handbook 8 and sequelae)
6	IRON	Bulb	2	135	0.7831452902858658	
6	IRON	Leaf	34	436	0.18456741976079077	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
6	IRON	Seed	235	235	0.3912510395242066	
3	ISOLEUCINE	Bulb	420	4578	-1	USDA's Ag Handbook 8 and sequelae)
22	ISOQUERCITRIN	Bulb	--	--		Kiviranta, J., Huovinen, K., Hiltunen, R. 1986. Variation of Flavonoids in Allium cepa. Planta Medica, 6: 517-518.

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
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.
1	ISORHAMNETIN-3-GLUCOSIDE	Bulb	--	--		
75	KAEMPFEROL	Bulb	--	2		
2	LEUCINE	Bulb	410	4469	-1	USDA's Ag Handbook 8 and sequelae)
27	LINOLEIC-ACID	Seed Oil	575000	590600	0.7844920848789769	
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.
27	LINOLEIC-ACID	Seed	103500	106200	-0.00790147227328753	Wealth of India.
11	LITHIUM	Bulb	0.152	0.324		
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.
4	LYSINE	Bulb	560	6104	-1	USDA's Ag Handbook 8 and sequelae)

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
65	MAGNESIUM	Bulb	76	1230	0.7319115529256467	
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	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.
14	MANGANESE	Bulb	1	38	1.4045726642160135	
14	MANGANESE	Seed	19.4	19.4	-0.425040968734703	
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.
1	MERCURY	Bulb	--	0.001	-1	
2	METHANOL	Bulb	--	--		

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
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-.
15	METHIONINE	Bulb	100	1090	-1	
2	MOLYBDENUM	Bulb	0.1	2.3	1.0000000000000002	
13	MUFA	Bulb	230	2230		USDA's Ag Handbook 8 and sequelae)
3	MURAMIDASE	Bulb	--	0.033	-1	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	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.
6	MYRISTIC-ACID	Bulb	10	100	-1	USDA's Ag Handbook 8 and sequelae)

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
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.
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-.
4	N-PROPYLSULPHINOTHIOIC-ACID-S-N-PROPYLESTER	Bulb	--	--		
39	NIACIN	Bulb	1	75	1	
39	NIACIN	Leaf	7	90	-0.09123627617407809	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
3	NICKEL	Bulb	0.05	2.5	0.9999999999999996	
3	NICKEL	Seed	0.03	4	-0.14389814511946067	
64	OLEANOLIC-ACID	Bulb	--	--		
18	OLEIC-ACID	Bulb	230	2230	1	
18	OLEIC-ACID	Seed Oil	260000	292900	-0.1478289753657865	
18	OLEIC-ACID	Seed	--	46800	-0.5943767329474172	Wealth of India.
9	OXALIC-ACID	Bulb	10	10		

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
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.)
25	P-COUMARIC-ACID	Bulb	--	--		
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	Root	--	--		Das, V. S. R., Rao, J. V. S. 1964. Phenolic Acids of Onion Plant. Curr. Sci., 33(15): 471-472.
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.
13	P-HYDROXY-BENZOIC-ACID	Bulb	107	107	1	
13	PALMITIC-ACID	Bulb	240	2325	-1	
13	PALMITIC-ACID	Seed Oil	--	73000	-0.723771059427567	
13	PALMITIC-ACID	Seed	--	13140	-0.4284802139449916	Wealth of India.
11	PANTOTHENIC-ACID	Bulb	1	16	1	USDA's Ag Handbook 8 and sequelae)

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
24	PECTIN	Bulb	--	--		Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
7	PHENYLALANINE	Bulb	300	3270	-1	USDA's Ag Handbook 8 and sequelae)
8	PHLOROGLUCINOL	Bulb	100	100		
4	PHOSPHORUS	Bulb	275	4038	-1	
4	PHOSPHORUS	Leaf	310	5513	0.09963731108701822	
2	PHYTOSTEROLS	Bulb	150	1455	1	
14	POTASSIUM	Bulb	1514	22164	1	
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	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-.
2	PROSTAGLANDIN-A-1	Bulb	1	1		

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
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
43	PROTOCATECHUIC-ACID	Bulb	4500	17540		
43	PROTOCATECHUIC-ACID	Leaf	--	--		Das, V. S. R., Rao, J. V. S. 1964. Phenolic Acids of Onion Plant. Curr. Sci., 33(15): 471-472.
4	PUFA	Bulb	620	6005		USDA's Ag Handbook 8 and sequelae)
12	PYROCATECHOL	Bulb	--	--		Hermann, K. 1958. Flavonols and Phenols of the Onion (Allium cepa). Arch. Pharm. (Weinheim), 291: 238-247.
1	PYRUVIC-ACID	Fruit	--	1034		
1	PYRUVIC-ACID	Fruit Juice	1034	1034		Morgan, E. J. 1946. Pyruvic Acid in the Juice of Onion (Allium cepa). Nature (London), 157: 512.
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-.

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
176	QUERCETIN	Bulb	--	48100	1	
2	QUERCETIN-3,4'-DIGLUCOSIDE	Bulb	--	--		
2	QUERCETIN-3-O-BETA-D-GLUCOSIDE	Bulb	--	40		Abstract (See species file)
1	QUINIC-ACID	Bulb	--	--		
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.
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.
15	RIBOFLAVIN	Bulb	0.4	15	1	
87	RUTIN	Bulb	--	14000		
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.
7	SALICYLATES	Bulb	1	20	1	

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
5	SAPONINS	Bulb	--	--		Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
60	SELENIUM	Bulb	0.001	0.003	-1.0000000000000002	
1	SERINE	Bulb	350	3815	-1	USDA's Ag Handbook 8 and sequelae)
4	SILICON	Bulb	1	75		ACTA AGRIC SCAND SUPPL 22: 1980
3	SILVER	Bulb	0.038	0.054		
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	SINAPIC-ACID	Root	--	--		Das, V. S. R., Rao, J. V. S. 1964. Phenolic Acids of Onion Plant. Curr. Sci., 33(15): 471-472.
1	SODIUM	Bulb	8	2052	1.4085638338778703	
4	SPIRAEOSIDE	Bulb	10000	11300		

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
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.
8	STEARIC-ACID	Bulb	20	195		
8	STEARIC-ACID	Seed Oil	--	35000	-0.6541098145281985	
8	STEARIC-ACID	Seed	--	6300	-0.4287014331879593	Wealth of India.
12	STIGMASTEROL	Bulb	--	40		
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)
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.

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
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.
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.
14	SUCROSE	Bulb	82600	145900		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	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	SULFUR	Bulb	80	4075	-1	

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
6	TARTARIC-ACID	Bulb	--	--		
31	THIAMIN	Bulb	0.3	6	-1	
31	THIAMIN	Leaf	0.5	6.4	-0.39693808734805064	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
4	THREONINE	Bulb	280	3052	-1	USDA's Ag Handbook 8 and sequelae)
4	TRANS-5-ETHYL-4,6,7-TRITHIA-2-DECENE-4-S-OXIDE	Bulb	--	--		
4	TRANS-METHYLSULPHINOTHIOIC-ACID-S-1-PROPENYLESTER	Bulb	--	--		
4	TRANS-N-PROPYLSULPHINOTHIOIC-ACID-S-1-PROPENYLESTER	Bulb	--	--		
4	TRANS-TRANS-5-ETHYL-4,6,7-TRITHIA-2,8-DECADIENE-4-S-OXIDE	Bulb	--	--		
15	TRIGONELLINE	Seed	13	13	-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.
29	TRYPTOPHAN	Bulb	170	1853	1	USDA's Ag Handbook 8 and sequelae)
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.
8	TYROSINE	Bulb	290	3161	-1	USDA's Ag Handbook 8 and sequelae)

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
3	VALINE	Bulb	270	2943	-1	
24	VANILLIC-ACID	Bulb	258	258	1	
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.
3	XYLOSE	Bulb	--	--		Sinha, A. 1959. Chemical Examination of Allium cepa. I. Glycosidic and Sugar Fractions. Indian J. Appl. Chem., 22: 89-91.
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.
77	ZINC	Bulb	2	53	1.4104984605249231	
77	ZINC	Seed	34	34	-0.31604114389068755	