

Dr. Duke's Phytochemical and Ethnobotanical Databases

Chemicals found in *Allium sativum* var. *sativum*

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Refernce Citation
1	(-)-N-(1'-DEOXY-1'-D-FRUCTOPYRANOSYL)-S-ALLYL-L-CYSTEINE-SULFOXIDE	Bulb				--
0	(E)-1,2-PROPENE-1-SULFINOTHIOCIC-ACID-S-METHYL-ESTER	Bulb				--
0	(E)-2-PROPENYL-1-PROPENYL-DISULFIDE	Bulb				--
0	(Z)-2-PROPENYL-1-PROPENYL-DISULFIDE	Bulb				--
0	1,2,3-TRI-THI-4-ENE	Essential Oil				--
0	1,2,3-TRI-THI-4-ENE	Bulb				--
0	1,2-(PROP-2-ENYL)-DISULFANE	Bulb				--
0	1,2-DIMERCAPTOCYCLOPENTANE	Bulb		2.4		--
0	1,2-EPITHIOPROPANE	Bulb	0.1	1.66		--
0	1,3-DITHIANE	Bulb	0.08	3.0		--
0	1-HEXANOL	Bulb		0.23		--
0	1-METHYL-1,2-(PROP-2-ENYL)-DISULFANE	Bulb				--
0	1-METHYL-2-(PROP-2-ENYL)-DISULFANE	Bulb				--
0	1-METHYL-3-(PROP-2-ENYL)-TRISULFANE	Bulb				--
0	1-PROPENYL-ALLYL-THIOSULFINATE	Bulb				--
0	2,3,4-TRITHIAPENTANE	Bulb				--
0	2,5-DIMETHYL-PYRAZINE	Bulb				--
0	2,5-DIMETHYL-TETRAHYDROTHIOPHENE	Bulb		0.6		--
0	2,5-DIMETHYLTHIOPHENE	Bulb		138.0		--
0	2,6-DIMETHYL-PYRAZINE	Bulb				--
0	2-METHYL-BENZALDEHYDE	Bulb		60.0		--
0	2-PROPEN-1-OL	Bulb	0.1	121.0		--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
1	2-PROPENE-1-SULFINOTHIOCIC-ACIDS-2-PROPENYL-ESTER	Bulb				--
0	2-PROPENYL-1-PROPENYL-DISULFIDE	Essential Oil				--
0	2-PROPENYL-L-CYSTEINE-SULFOXIDE	Bulb				--
0	2-PROPENYL-TETRASULFIDE	Essential Oil				--
0	2-VINYL-1,3-DITHIIN	Fruit Juice				Deruaz, D., et. al. 1994. Analytical Strategy by Coupling Headspace Gas Chromatography, Atomic Emission Spectrometric Detection and Mass Spectrometry Application to Sulfur Compounds from Garlic. J. Chromatogr., 677(2): 345-354.
0	2-VINYL-1,3-DITHIINE	Bulb				--
4	2-VINYL-4H-1,3-DITHIIN	Bulb	2.0	158.0		--
0	2-VINYL-4H-2,3-DITHIIN	Bulb				--
0	2-VINYL-DI-1,3-THIENE	Bulb				--
0	24-METHYLENE-CYCLOARTENOL	Plant				Stitt, Paul. Why George should eat broccoli.
0	3,5-DIETHYL-1,2,4-TRITHIOLANE	Bulb	0.15	43.0		--
0	3-ETHYL-2,5-DIMETHYL-PYRAZINE	Bulb				--
0	3-METHYL-2-CYCLOPENTENE-1-THIONE	Bulb	0.16	1.6		--
0	3-VINYL-1,2-DITHIACYCLOHEX-4-ENE	Bulb				--
0	3-VINYL-1,2-DITHIACYCLOHEX-5-ENE	Bulb				--
0	3-VINYL-1,2-DITHIIN	Fruit Juice				Deruaz, D., et. al. 1994. Analytical Strategy by Coupling Headspace Gas Chromatography, Atomic Emission Spectrometric Detection and Mass Spectrometry Application to Sulfur Compounds from Garlic. J. Chromatogr., 677(2): 345-354.
0	3-VINYL-1,2-DITHIINE	Bulb				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	3-VINYL-4H-1,2-DITHIIN	Bulb	0.34	178.0		--
0	4-METHYL-5-VINYLTIAZOLE	Bulb		0.75		--
0	5-BUTYL-CYSTEINE-SULFOXIDE	Bulb				--
6	ACETALDEHYDE	Bulb				Kim, S. M., Wu, C. M., Kobayashi, A., Kubota, K., Okumura, J. 1995. Volatile Compounds in Stir-Fried Garlic. J. Agric. Food Chem., 43(11): 2951-2955.
0	ACYL-ANTHOCYANIN	Leaf				--
28	ADENOSINE	Bulb	5.7	370.0		--
28	ADENOSINE	Tuber				--
46	AJOENE	Bulb				--
46	AJOENE	Bud				--
3	ALANINE	Bulb	6.15	7000.0	-1.0	--
67	ALLICIN	Bulb	1500.0	27800.0		--
21	ALLIIN	Bulb	5000.0	40000.0		--
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.
21	ALLIIN	Fruit Juice				--
21	ALLIIN	Leaf		76.5		--
21	ALLIIN	Tissue Culture				--
0	ALLIINASE	Bulb	3500.0	28500.0		--
0	ALLIN	Bulb		13000.0		--
0	ALLISATIN	Plant				--
2	ALLISTATIN-I	Bulb				--
2	ALLISTATIN-II	Bulb				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
25	ALLITHIAMIN	Bulb	0.0	3.0		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.
0	ALLIUM-FRUCTAN	Bulb				--
0	ALLIUM-FRUCTAN-K-1	Bulb				--
0	ALLIUM-FRUCTAN-K-2	Bulb				--
0	ALLIUM-FRUCTAN-K-3	Bulb				--
0	ALLIUM-FRUCTAN-K-4	Bulb				--
0	ALLIUM-FRUCTAN-K-5	Bulb				--
0	ALLIUM-FRUCTAN-K-6	Bulb				--
0	ALLIUM-FRUCTAN-K-7	Bulb				--
0	ALLIUM-FRUCTAN-K-8	Bulb				--
0	ALLIUM-LECTIN-AS-1	Bulb				--
0	ALLIUM-LECTIN-AS-2	Bulb				--
0	ALLIUM-SATIVUM-D-GALACTAN	Bulb				--
0	ALLIUM-SATIVUM-LECTIN-ASA-I	Bulb				--
0	ALLIUM-SATIVUM-LECTIN-ASA-III	Bulb				--
0	ALLIUM-SATIVUM-PROTEASE-INHIBITOR-AS-1	Bulb				--
6	ALLIXIN	Bulb				--
1	ALLYL-1-PROPENYL-THIOSULFINATE	Bulb				--
0	ALLYL-1-PROPENYLTETRASULFIDE	Bulb		99.0		--
0	ALLYL-1-PROPENYLTRISULFIDE	Bulb		119.0		--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	ALLYL-2-PROPENETHIOSULFINATE	Bulb	2000.0	11430.0		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.
5	ALLYL-ALCOHOL	Bulb				--
5	ALLYL-ALCOHOL	Essential Oil				Wealth of India.
0	ALLYL-ALLIIN	Bulb				--
0	ALLYL-COMPOUNDS	Bulb				--
1	ALLYL-DISULFIDE	Bulb				--
8	ALLYL-MERCAPTAN	Bulb				--
8	ALLYL-MERCAPTAN	Plant				--
2	ALLYL-METHYL-DISULFIDE	Essential Oil				--
2	ALLYL-METHYL-DISULFIDE	Bulb				--
2	ALLYL-METHYL-DISULFIDE	Fruit Juice				Deruaz, D., et. al. 1994. Analytical Strategy by Coupling Headspace Gas Chromatography, Atomic Emission Spectrometric Detection and Mass Spectrometry Application to Sulfur Compounds from Garlic. J. Chromatogr., 677(2): 345-354.
0	ALLYL-METHYL-THIOSULFINATE	Bulb				--
0	ALLYL-METHYL-THIOSULFINATES	Bulb	300.0	4285.0		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	ALLYL-METHYL-TRISULFIDE	Bulb				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
3	ALLYL-METHYL-TRISULFIDE	Fruit Juice				Deruaz, D., et. al. 1994. Analytical Strategy by Coupling Headspace Gas Chromatography, Atomic Emission Spectrometric Detection and Mass Spectrometry Application to Sulfur Compounds from Garlic. J. Chromatogr., 677(2): 345-354.
3	ALLYL-METHYL-TRISULFIDE	Essential Oil				--
0	ALLYL-PROPENYL-DISULFIDE	Fruit Juice				Deruaz, D., et. al. 1994. Analytical Strategy by Coupling Headspace Gas Chromatography, Atomic Emission Spectrometric Detection and Mass Spectrometry Application to Sulfur Compounds from Garlic. J. Chromatogr., 677(2): 345-354.
3	ALLYL-PROPYL-DISULFIDE	Bulb	36.0	216.0		--
0	ALLYL-TRANS-1-PROPENYL-DISULFIDE	Bulb				--
0	ALLYL-TRANS-1-PROPENYL-THIOSULFINATE	Bulb				--
0	ALLYL-TRANS-1-PROPENYL-THIOSULFINATES	Bulb	50.0	2855.0		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.
1	ALLYL-TRISULFIDE	Bulb				--
2	ALLYLMETHYLSULFIDE	Bulb				--
2	ALLYLMETHYLSULFIDE	Essential Oil				--
2	ALLYLMETHYLSULFIDE	Fruit Juice				Deruaz, D., et. al. 1994. Analytical Strategy by Coupling Headspace Gas Chromatography, Atomic Emission Spectrometric Detection and Mass Spectrometry Application to Sulfur Compounds from Garlic. J. Chromatogr., 677(2): 345-354.

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	ALPHA-AMINO-BUTYRIC-ACID	Bulb				--
15	ALPHA-LINOLENIC-ACID	Plant	60.0	720.0	-1.2394102447376205	Stitt, Paul. Why George should eat broccoli.
11	ALPHA-PHELLANDRENE	Bulb				Williamson, E. M. and Evans, F. J., Potter's New Cyclopaedia of Botanical Drugs and Preparations, Revised Ed., Saffron Walden, the C. W. Daniel Co., Ltd., Essex UK, 362 pp, 1988, reprint 1989.
0	ALPHA-PROSTAGLANDIN-F-1	Bulb				--
0	ALPHA-PROSTAGLANDIN-F-2	Bulb				--
32	ALPHA-TOCOPHEROL	Bulb	0.1	12.0	-1.0	--
5	ALUMINUM	Root	19.0	52.0	-0.28457925346062496	--
5	ALUMINUM	Bulb		52.0	-1.0	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
0	ANILINE	Bulb		10.0		--
101	APIGENIN	Bulb		693.0		--
0	ARABINOSE	Bulb				Wealth of India.
12	ARACHIDONIC-ACID	Bulb				--
14	ARGININE	Bulb	81.0	30316.0	1.0	--
112	ASCORBIC-ACID	Shoot	420.0	1883.0	-0.2799583750115791	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
112	ASCORBIC-ACID	Leaf	390.0	2868.0	-0.17780624278348023	--
112	ASCORBIC-ACID	Flower	440.0	3793.0	0.3329412309680728	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
112	ASCORBIC-ACID	Bulb	100.0	788.0		--
112	ASCORBIC-ACID	Root				--
0	ASH	Bulb	10000.0	395000.0	1.0	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
0	ASH	Root	12950.0	35000.0	-0.9297321702301228	--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	ASH	Shoot	7000.0	31000.0	-1.6573953704783664	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
0	ASH	Leaf	10000.0	74000.0	-0.7902317558058641	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
0	ASH	Flower	6000.0	52000.0	-0.3771772570194079	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
2	ASPARAGINE	Bulb	0.0	29000.0		--
3	ASPARTIC-ACID	Leaf				--
3	ASPARTIC-ACID	Bulb	0.1	11736.0	1.0	--
0	AUXIN	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.
53	BETA-CAROTENE	Shoot	2.0	9.0	-0.6835691781431281	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
53	BETA-CAROTENE	Root	0.1	0.2	-0.4351433725059564	--
53	BETA-CAROTENE	Leaf	9.0	68.0	-0.841802785465085	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
53	BETA-CAROTENE	Bulb	0.0	0.17	-1.0	--
53	BETA-CAROTENE	Flower	0.6	5.0	-0.5451960528647178	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
0	BETA-CHLOROGENIN	Bulb				Lachance, PA. Ed. 1997. Nutraceuticals: Designer Foods III. Garlic, Soy and Licorice. Food and Nutrition Press, Inc. Turnbull, Conn. 06611. 375pp.
3	BETA-PHELLANDRENE	Bulb				Williamson, E. M. and Evans, F. J., Potter's New Cyclopaedia of Botanical Drugs and Preparations, Revised Ed., Saffron Walden, the C. W. Daniel Co., Ltd., Essex UK, 362 pp, 1988, reprint 1989.
47	BETA-SITOSTEROL	Plant				--



Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
47	BETA-SITOSTEROL	Bulb	13.0	555.0	1.0	--
0	BETA-TOCOPHEROL	Bulb				Stitt, Paul. Why George should eat broccoli.
4	BIOTIN	Bulb		22.0		--
4	BORON	Bulb	3.0	10.0	-1.0	--
102	CAFFEIC-ACID	Bulb	10.0	20.0		--
28	CALCIUM	Root	315.0	850.0	-0.7176503152245389	--
28	CALCIUM	Shoot	120.0	538.0	-1.0364734470880839	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
28	CALCIUM	Leaf	580.0	4265.0	-0.9683517334872921	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
28	CALCIUM	Flower	250.0	2155.0	-1.0002454452549991	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
28	CALCIUM	Bulb	130.0	4947.0	1.1604999014541306	--
0	CALCIUM-FRUCTURONATE	Plant				--
4	CALCIUM-OXALATE	Bulb				--
2	CAMPESTEROL	Bulb	0.0	150.0	1.0	--
0	CARBOHYDRATES	Shoot	201000.0	901000.0	1.7601339567922876	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
0	CARBOHYDRATES	Leaf	95000.0	699000.0	0.693073056260634	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
0	CARBOHYDRATES	Flower	94000.0	810000.0	0.807807151549158	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
0	CARBOHYDRATES	Bulb	274000.0	851000.0	1.0	--
1	CELLULOSE	Bulb	6000.0	18000.0		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.

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	CHITINASE	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.
77	CHLOROGENIC-ACID	Plant				Stitt, Paul. Why George should eat broccoli.
21	CHLOROPHYLL	Bulb				--
1	CHOLESTEROL	Bulb	0.0	80.0		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.
20	CHOLINE	Bulb				--
24	CHROMIUM	Root	0.6	1.5	-0.26097057892644915	--
24	CHROMIUM	Bulb	0.1	1.5	-1.0	--
0	CIS-2-PROPENYL-1-PROPENYL-DISULFIDE	Essential Oil				--
0	CIS-AJOENE	Bulb		59.2		--
53	CITRAL	Bulb				Williamson, E. M. and Evans, F. J., Potter's New Cyclopaedia of Botanical Drugs and Preparations, Revised Ed., Saffron Walden, the C. W. Daniel Co., Ltd., Essex UK, 362 pp, 1988, reprint 1989.
5	CITRULLINE	Bulb				--
2	COBALT	Root	3.7	10.0	-0.3281581013365335	--
2	COBALT	Bulb	0.5	2.5	1.0	--
2	CONIFERIN	Plant				--
12	COPPER	Bulb	1.4	9.7	-1.2743861857286207	--
0	CYANIDIN-3-GLUCOSIDE	Bulb				Wealth of India.
0	CYCLIC-SULFUR-S8	Bulb		2455.0		--
3	CYCLOALLIIN	Bulb	500.0	4285.0		--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
13	CYSTEINE	Leaf				--
13	CYSTEINE	Bulb		0.0		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.
2	CYSTINE	Leaf				--
2	CYSTINE	Bulb	0.0	1560.0	-1.0	--
0	DEOXYALLIIN	Bulb				--
1	DESGALACTOTIGONIN	Root		400.0		--
0	DESOXYRIBONUCLEASE	Bulb				--
0	DI-1-PROPENYL-TRISULFIDE	Bulb		139.0		--
0	DI-PROP-2-ENYL-SULFANE	Bulb				--
0	DI-PROP-2-ENYL-TRISULFIDE	Essential Oil				--
26	DIALLYL-DISULFIDE	Bud				--
26	DIALLYL-DISULFIDE	Essential Oil				--
26	DIALLYL-DISULFIDE	Fruit Juice				Deruaz, D., et. al. 1994. Analytical Strategy by Coupling Headspace Gas Chromatography, Atomic Emission Spectrometric Detection and Mass Spectrometry Application to Sulfur Compounds from Garlic. J. Chromatogr., 677(2): 345-354.
26	DIALLYL-DISULFIDE	Bulb	16.0	634.0		--
1	DIALLYL-HEPTASULFIDE	Bulb				--
1	DIALLYL-HEXASULFIDE	Bulb				--
0	DIALLYL-MONOSULFIDE	Bulb				--
2	DIALLYL-PENTASULFIDE	Bulb				--
25	DIALLYL-SULFIDE	Essential Oil				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
25	DIALLYL-SULFIDE	Fruit Juice				Deruaz, D., et. al. 1994. Analytical Strategy by Coupling Headspace Gas Chromatography, Atomic Emission Spectrometric Detection and Mass Spectrometry Application to Sulfur Compounds from Garlic. J. Chromatogr., 677(2): 345-354.
25	DIALLYL-SULFIDE	Bulb	2.0	99.0		--
5	DIALLYL-TETRASULFIDE	Bulb		119.0		--
28	DIALLYL-TRISULFIDE	Essential Oil				--
28	DIALLYL-TRISULFIDE	Bulb		870.0		--
28	DIALLYL-TRISULFIDE	Bud				--
0	DIGALACTOSYL-DIGLYCERIDE	Bulb				--
0	DIMETHYL-AJOENE	Bulb				--
0	DIMETHYL-DIFURAN	Bulb	5.0	30.0		--
0	DIMETHYL-DISELENIDE	Bulb				Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
2	DIMETHYL-DISULFIDE	Bulb	0.6	2.5		--
2	DIMETHYL-DISULFIDE	Essential Oil				--
0	DIMETHYL-HEXASULFIDE	Bulb				--
0	DIMETHYL-PENTASULFIDE	Bulb				--
0	DIMETHYL-SELENIDE	Bulb				Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
2	DIMETHYL-SULFIDE	Bulb				--
2	DIMETHYL-SULFIDE	Essential Oil				--
1	DIMETHYL-THIOSULFINATE	Bulb				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	DIMETHYL-TRISULFIDE	Fruit Juice				Deruaz, D., et. al. 1994. Analytical Strategy by Coupling Headspace Gas Chromatography, Atomic Emission Spectrometric Detection and Mass Spectrometry Application to Sulfur Compounds from Garlic. J. Chromatogr., 677(2): 345-354.
0	DIMETHYL-TRISULFIDE	Bulb	0.8	19.0		--
0	DIMETHYL-TRISULFIDE	Essential Oil				--
0	DIMETHYLTETRASULFIDE	Bulb				--
0	DIPROP-2-ENYL-DISULFIDE	Essential Oil				--
0	DIPROPENYL-DISULFIDE	Fruit Juice				Deruaz, D., et. al. 1994. Analytical Strategy by Coupling Headspace Gas Chromatography, Atomic Emission Spectrometric Detection and Mass Spectrometry Application to Sulfur Compounds from Garlic. J. Chromatogr., 677(2): 345-354.
0	DIPROPYLSULFIDE	Bulb		178.0		--
0	DIPROPYLTETRASULFIDE	Bulb		20.0		--
0	DISULFIDES	Bulb				--
0	DIVINYL-ETHER-SYNTHASE	Bulb				--
21	EICOSAPENTAENOIC-ACID	Bulb				--
3	ENDOLYSIN	Leaf		1.7	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		0.096	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.

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	EO	Bulb	600.0	19800.0	1.158132207353964	--
0	EO	Root	370.0	4000.0	-0.46638185891244993	--
3	ERUBOSIDE-B	Bulb	0.5	13.0		--
0	ETHANOLAMINE	Bulb		0.4		--
0	ETHYL-2-PROPENESULFINATE	Bulb				--
0	F-CHLOROGENIN	Bulb	47.0	135.0		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.
0	F-GITONIN	Root		300.0		--
0	F-STIVOGENIN	Bulb	12.0	34.0		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.
0	F-TIGOGENIN	Bulb	5.0	15.0		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.
0	FAT	Shoot	3000.0	13000.0	-0.6338235673241969	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
0	FAT	Leaf	5000.0	37000.0	-0.3878173439561933	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
0	FAT	Flower	2000.0	17000.0	-0.6420122091855959	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
0	FAT	Root	3330.0	9000.0	-0.4628723877991655	--
0	FAT	Bulb	2000.0	12000.0	-1.0	--
61	FERULIC-ACID	Bulb	7.0	27.0	1.0	--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
15	FIBER	Shoot	17000.0	76000.0	-1.1365447435760112	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
15	FIBER	Leaf	18000.0	132000.0	-0.3652331579529285	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
15	FIBER	Flower	8000.0	69000.0	-0.7654204298509104	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
15	FIBER	Bulb	7000.0	45000.0	-1.0	--
0	FIBER(CRUDE)	Root		20000.0	-2.6996939373508893	--
0	FIBER(DIETARY)	Root		340000.0	-0.6381012427914107	--
0	FOLIACIN	Bulb		1.0		USDA's Ag Handbook 8 and sequelae)
0	FRUCTANS	Bulb	230000.0	715000.0		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.
0	FRUCTOSANS	Bulb				--
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	FRUCTOSE	Bulb		14000.0	-1.0	--
1	GALACTOSE	Bulb				Wealth of India.
0	GAMMA-GLUTAMYL-CYSTEINE	Bulb		0.0		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.

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	GAMMA-GLUTAMYL-METHIONINE	Bulb	20.0	345.0		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.
0	GAMMA-GLUTAMYL-PHENYLALANINE	Bulb				--
0	GAMMA-GLUTAMYL-S-ALLYL-MERCAPTOCYSTEINE	Bulb	10.0	85.0		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.
0	GAMMA-GLUTAMYL-S-ALLYLCYSTEINE	Bulb	2000.0	17145.0		--
0	GAMMA-GLUTAMYL-S-BETA-CARBOXY-BETA-METHYL-ETHYL-CYSTEINYL-GLYCINE	Bulb				--
0	GAMMA-GLUTAMYL-S-CIS-1-PROPENYLCYSTEINE	Bulb	60.0	430.0		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.
0	GAMMA-GLUTAMYL-S-METHYL-CYSTEINE	Bulb	100.0	1145.0		--
0	GAMMA-GLUTAMYL-S-METHYLCYSTEINE-SULFOXIDE	Bulb		0.0		--
0	GAMMA-GLUTAMYL-S-PROPYL-CYSTEINE	Bulb				--
0	GAMMA-GLUTAMYL-S-TRANS-1-PROPENYLCYSTEINE	Bulb	3000.0	25715.0		--
0	GAMMA-GLUTAMYL-S-TRANS-1-PROPENYLCYSTEINE-SULFOXIDE	Bulb		0.0		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.
0	GAMMA-L-GLUTAMYL-5-ALLYL-CYSTEINE	Bulb		736.0		--



Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	GAMMA-L-GLUTAMYL-CYSTEINES	Bulb	5000.0	45715.0		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.
0	GAMMA-L-GLUTAMYL-ISOLEUCINE	Bulb				--
0	GAMMA-L-GLUTAMYL-L-LEUCINE	Bulb				--
0	GAMMA-L-GLUTAMYL-L-PHENYLALANINE	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.
0	GAMMA-L-GLUTAMYL-L-VALINE	Plant				--
0	GAMMA-L-GLUTAMYL-METHIONINE	Bulb				--
0	GAMMA-L-GLUTAMYL-PHENYLALANINE	Bulb		63.2		--
0	GAMMA-L-GLUTAMYL-S-(2-CARBOXY-1-PROPYL)-CYSTEINEGLYCINE	Plant				J.S. Glasby Dict.Plis Containing 2ndary Metabolite. 1991.
0	GAMMA-L-GLUTAMYL-S-(TRANS-1-PROPENYL)-CYSTEINE	Bulb		224.0		--
0	GAMMA-L-GLUTAMYL-S-ALLYL-CYSTEINE	Bulb		0.0		--
0	GAMMA-L-GLUTAMYL-S-ALLYL-L-CYSTEINE	Bulb				--
0	GAMMA-L-GLUTAMYL-S-ALLYL-MERCAPTO-CYSTEINE	Bulb				--
0	GAMMA-L-GLUTAMYL-S-BETA-CARBOXY-BETA-METHYL-ETHYL-CYSTEINYL-GLYCINE	Bulb				--
0	GAMMA-L-GLUTAMYL-S-METHYL-L-CYSTEINE-SULFOXIDE	Bulb				--
0	GAMMA-L-GLUTAMYL-S-PROPYL-L-CYSTEINE	Bulb				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
35	GERANIOL	Bulb				Williamson, E. M. and Evans, F. J., Potter's New Cyclopaedia of Botanical Drugs and Preparations, Revised Ed., Saffron Walden, the C. W. Daniel Co., Ltd., Essex UK, 362 pp, 1988, reprint 1989.
0	GERMANIUM	Bulb	0.0	0.3		--
0	GIBBERELLIN-A-3	Bulb				--
0	GIBBERELLIN-A-7	Bulb				--
0	GITONIN	Root		300.0		--
0	GITONIN-F	Root		300.0		--
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	GLUCOSE	Bulb		12000.0	1.0	--
8	GLUTAMIC-ACID	Leaf				--
8	GLUTAMIC-ACID	Bulb	5.0	19320.0		--
5	GLUTAMINE	Bulb	0.0	2300.0		--
7	GLUTATHIONE	Bulb		0.0		--
0	GLYCEROL-SULFOQUINOVOSIDE	Bulb				--
12	GLYCINE	Bulb	2000.0	4800.0	-1.0	--
12	GLYCINE	Leaf				--
0	GUANOSINE	Bulb	200.0	400.0		--
0	GUANOSINE	Tuber				--
1	GUANYLATE-CYCLASE-INHIBITOR	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.

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	HEPTADECANONE	Bulb		20.0		--
0	HEXA-1,5-DIENYL-TRISULFIDE	Bulb				--
1	HEXADECANOL	Bulb		20.0		--
0	HEXOKINASE	Bulb				--
7	HISTIDINE	Bulb	2.4	8300.0	1.0	--
19	INULIN	Bulb				--
12	IODINE	Bulb	0.03	0.7		--
1	IONOL	Bulb		950.0		--
6	IRON	Shoot	17.0	76.0	-0.5665556726665807	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
6	IRON	Leaf	6.0	44.0	-0.8090496896645762	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
6	IRON	Flower	9.0	78.0	-0.5902911429622495	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
6	IRON	Bulb	8.0	129.0	0.6282374306688813	--
6	IRON	Root	1.0	3.0	-0.43729483357925597	--
0	ISOALLIIN	Bulb	200.0	3430.0		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.
0	ISOBUTYL-ISOTHIOCYANATE	Bulb	0.14	25.0		--
0	ISOERUBOSIDE-B	Bulb		5.0		--
3	ISOLEUCINE	Bulb	0.5	5208.0	1.0	--
3	ISOLEUCINE	Leaf				--
0	JASMONIC-ACID	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.

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
75	KAEMPFEROL	Plant				--
0	KILOCALORIES	Bulb	1170.0	3630.0	-1.0	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
0	KILOCALORIES	Shoot	760.0	3410.0	0.7789080868628033	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
0	KILOCALORIES	Leaf	440.0	3240.0	0.35771209837431645	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
0	KILOCALORIES	Flower	390.0	3366.0	0.6776340607836474	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
2	LEUCINE	Leaf				--
2	LEUCINE	Bulb	0.3	7392.0	1.0	--
13	LIGNIN	Epidermis		16000.0		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.
13	LIGNIN	Bulb		16000.0		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.
0	LINALOL	Bulb				--
53	LINALOOL	Bulb				Williamson, E. M. and Evans, F. J., Potter's New Cyclopaedia of Botanical Drugs and Preparations, Revised Ed., Saffron Walden, the C. W. Daniel Co., Ltd., Essex UK, 362 pp, 1988, reprint 1989.
27	LINOLEIC-ACID	Bulb	1200.0	7800.0		--
0	LINOLEIC-ACID-METHYL-ESTER	Bulb				--
0	LINOLENIC-ACID	Bulb				--
0	LINOLENIC-ACID	Plant				Stitt, Paul. Why George should eat broccoli.

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
4	LYSINE	Leaf				--
4	LYSINE	Bulb	10.0	6552.0	1.0	--
65	MAGNESIUM	Bulb	160.0	1210.0	0.6820084924988981	--
65	MAGNESIUM	Root	448.0	1210.0	-0.7191638867513974	--
0	MALTOTRIOSE	Bulb				--
14	MANGANESE	Bulb	1.6	15.3	-0.55952175946182	--
14	MANGANESE	Root	0.5	1.4	-0.5291560655019355	--
0	METHANE-SULFINOTHIOCIC-ACID-2-PROPENYL-ESTER	Bulb				--
0	METHIIN	Bulb	500.0	5715.0		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.
15	METHIONINE	Bulb	0.1	9900.0	1.0	--
15	METHIONINE	Leaf				--
0	METHYL-1-PROPENYL-DISULFIDE	Bulb		40.0		--
0	METHYL-1-PROPENYL-THIOSULFINATE	Bulb				--
0	METHYL-1-PROPENYL-TRISULFIDE	Bulb		60.0		--
1	METHYL-AJOENE	Bulb				--
0	METHYL-ALLIIN	Bulb				--
0	METHYL-ALLYL-DISULFIDE	Bulb	6.0	104.0		--
0	METHYL-ALLYL-HEXASULFIDE	Bulb				--
0	METHYL-ALLYL-PENTASULFIDE	Bulb				--
0	METHYL-ALLYL-SULFIDE	Bulb	0.5	40.0		--
0	METHYL-ALLYL-TETRASULFIDE	Bulb		40.0		--
0	METHYL-ALLYL-THIOSULFINATE	Bulb				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
1	METHYL-ALLYL-TRISULFIDE	Bulb		416.0		--
0	METHYL-CYSTEINE-SULFOXIDE	Tissue Culture				--
0	METHYL-DISULFIDE	Bulb				--
0	METHYL-DISULFIDE	Fruit Juice				Deruaz, D., et. al. 1994. Analytical Strategy by Coupling Headspace Gas Chromatography, Atomic Emission Spectrometric Detection and Mass Spectrometry Application to Sulfur Compounds from Garlic. J. Chromatogr., 677(2): 345-354.
0	METHYL-METHAN-THIOSULFINATE	Bulb	50.0	285.0		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.
0	METHYL-PROP-2-ENYL-TRISULFIDE	Essential Oil				--
0	METHYL-PROPENYL-TETRASULFIDE	Bulb		119.0		--
0	METHYL-PROPYL-DISULFIDE	Bulb	0.03	0.66		--
0	METHYL-TRANS-1-PROPENYL-DISULFIDE	Bulb				--
0	METHYL-TRANS-1-PROPENYL-THIOSULFINATE	Bulb	20.0	570.0		--
0	METHYL-TRANS-PROPENYL-DISULFIDE	Fruit Juice				Deruaz, D., et. al. 1994. Analytical Strategy by Coupling Headspace Gas Chromatography, Atomic Emission Spectrometric Detection and Mass Spectrometry Application to Sulfur Compounds from Garlic. J. Chromatogr., 677(2): 345-354.
0	METHYL-TRISULFIDE	Bulb				--
0	METHYLPROPYL-TRISULFIDE	Bulb		20.0		--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
2	MOLYBDENUM	Bulb	0.05	0.8	-1.0000000000000002	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.
0	MONOGALACTOSYL-DIGLYCERIDE	Bulb				--
3	MURAMIDASE	Bulb		0.096	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.
0	MURIDAMASE	Leaf		1.7		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.
34	MYRICETIN	Bulb		693.0		--
6	MYRISTIC-ACID	Bulb		614.0	1.0	--
0	MYROSINASE	Bulb				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
39	NIACIN	Shoot	5.0	22.0	-1.0720100032147943	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
39	NIACIN	Leaf	6.0	44.0	-0.6507613828513281	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
39	NIACIN	Root	3.0	7.4	-1.2415693146230473	--
39	NIACIN	Bulb	4.0	17.0	-1.0	--
39	NIACIN	Flower	4.0	34.0	-0.5956297814273982	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
3	NICKEL	Bulb	0.1	1.7	-0.9999999999999996	--
11	NICOTINIC-ACID	Bulb		4.8		--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	OCTADECANOL	Bulb		20.0		--
64	OLEANOLIC-ACID	Plant				Stitt, Paul. Why George should eat broccoli.
18	OLEIC-ACID	Bulb	60.0	1200.0	-1.0	--
18	OLEIC-ACID	Plant				--
5	ORNITHINE	Leaf				--
5	ORNITHINE	Bulb		2.0		--
0	OXOAMIDINE	Bulb				--
25	P-COUMARIC-ACID	Bulb	2.0	58.0		--
13	P-HYDROXY-BENZOIC-ACID	Bulb		13.0	-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.
13	P-HYDROXY-BENZOIC-ACID	Plant				Stitt, Paul. Why George should eat broccoli.
13	PALMITIC-ACID	Bulb	400.0	3600.0	1.0	--
11	PANTOTHENIC-ACID	Bulb	2.6	7.5	-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.
24	PECTIN	Fruit Essent. Oil		270000.0		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.
24	PECTIN	Bulb		3000.0		--
1	PENTADECANOIC-ACID	Bulb		20.0		--
0	PENTADECANOL	Bulb		20.0		--
0	PENTADECANONE	Bulb		60.0		--
0	PEROXIDASE	Bulb				--



Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	PHENOLICS	Bulb		40.0		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.
7	PHENYLALANINE	Bulb	0.44	4392.0	1.0	--
8	PHLOROGLUCINOL	Plant				Stitt, Paul. Why George should eat broccoli.
0	PHOSPHATIDIC-ACID	Bulb				--
2	PHOSPHATIDYL-CHOLINE	Bulb				--
0	PHOSPHATIDYL-ETHANOLAMINE	Bulb				--
0	PHOSPHATIDYL-INOSITOL	Bulb				--
0	PHOSPHATIDYL-SERINE	Bulb				--
4	PHOSPHORUS	Root	1650.0	4460.0	0.16556335586130524	--
4	PHOSPHORUS	Shoot	520.0	2332.0	-0.4790926300874732	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
4	PHOSPHORUS	Leaf	460.0	3382.0	-0.29243893688860645	--
4	PHOSPHORUS	Flower	460.0	3966.0	0.10782054497788832	--
4	PHOSPHORUS	Bulb	880.0	5220.0	1.0	--
9	PHYTIC-ACID	Plant				Stitt, Paul. Why George should eat broccoli.
9	PHYTIC-ACID	Bulb				--
0	PHYTIN	Bulb	790.0	2370.0		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.
2	PHYTOSTEROLS	Bulb	18.0	80.0	-1.0	--
0	POLYSACCHARIDES	Bulb				--
14	POTASSIUM	Shoot	2730.0	12242.0	-0.815300576130191	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
14	POTASSIUM	Root	4366.0	11800.0	-0.2913401510777741	--
14	POTASSIUM	Leaf	3260.0	23971.0	-0.28142082891204606	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
14	POTASSIUM	Bulb	3600.0	14830.0	-1.0	--
0	PROLINE	Bulb	1.3	5800.0	1.0	--
0	PROLINE	Leaf				--
0	PROP-2-ENYL-DISULFANE	Bulb				--
0	PROP-CIS-1-ENYL-ALLYL-DISULFIDE	Bulb				--
0	PROP-TRANS-1-ENYL-ALLYL-TRISULFIDE	Bulb				--
0	PROPENE	Bulb	0.01	6.0		--
0	PROPENETHIOL	Bulb	1.0	41.0		--
0	PROPENYL-METHYL-THIOSULFINATE	Bulb				--
0	PROPENYLALLIIN	Bulb				--
0	PROPYL-ALLYL-DISULFIDE	Bulb		99.0		--
0	PROPYL-ALLYL-TRISULFIDE	Bulb		119.0		--
0	PROSTAGLANDIN-A	Bulb				Pobozsny, K., Tetenyi, P., Hethelyi, I., Kocsar, L., Mann, V. 1979. Biologically Active Substances: Investigations into the Prostaglandin Content of Allium Species. I. Herba Hung, 18(2): 71-81.
2	PROSTAGLANDIN-A-1	Bulb				--
0	PROSTAGLANDIN-A-2	Bulb				--
0	PROSTAGLANDIN-B	Bulb				Pobozsny, K., Tetenyi, P., Hethelyi, I., Kocsar, L., Mann, V. 1979. Biologically Active Substances: Investigations into the Prostaglandin Content of Allium Species. I. Herba Hung, 18(2): 71-81.
0	PROSTAGLANDIN-B-1	Bulb				--
0	PROSTAGLANDIN-B-2	Bulb				--
2	PROSTAGLANDIN-E-1	Bulb				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
3	PROSTAGLANDIN-E-2	Bulb				--
0	PROSTAGLANDIN-F	Bulb				Pobozsny, K., Tetenyi, P., Hethelyi, I., Kocsar, L., Mann, V. 1979. Biologically Active Substances: Investigations into the Prostaglandin Content of Allium Species. I. Herba Hung, 18(2): 71-81.
0	PROSTAGLANDIN-F-1-ALPHA	Bulb				--
0	PROSTAGLANDIN-F-2-ALPHA	Bulb				--
0	PROTEIN	Leaf	26000.0	191000.0	-0.2079495086143212	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
0	PROTEIN	Flower	14000.0	121000.0	-0.2530541000634186	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
0	PROTEIN	Root	66230.0	179000.0	0.6803603762263631	--
0	PROTEIN	Bulb	35000.0	179000.0	1.0	--
0	PROTEIN	Shoot	12000.0	54000.0	-1.4095456506693607	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
0	PROTODEGALACTOTIGONIN	Root		200.0		--
0	PROTODEGALACTOTIGONIN	Bulb		10.0		--
0	PROTODESGALACTOTIGONIN	Bulb		10.0		--
0	PROTOERUBOSIDE-B	Bulb	100.0	285.0		--
0	PROTOISOERUBOSIDE-B	Bulb	4.2			--
0	PSEUDOSCORIDININE-A	Bulb				--
0	PSEUDOSCORIDININE-B	Bulb				--
176	QUERCETIN	Bulb	0.08	200.0	-1.0	--
2	QUERCETIN-3-O-BETA-D-GLUCOSIDE	Plant				Stitt, Paul. Why George should eat broccoli.

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
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	RAFFINOSE	Bulb				--
0	RHAMNOSE	Bulb				Wealth of India.
15	RIBOFLAVIN	Leaf	1.4	10.3	-0.1295804213689329	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
15	RIBOFLAVIN	Flower	0.6	5.2	-0.23690854372659376	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
15	RIBOFLAVIN	Root	0.6	1.6	-0.5415349954750799	--
15	RIBOFLAVIN	Bulb	0.5	3.0	-1.0	--
15	RIBOFLAVIN	Shoot	0.6	2.7	-1.5303223644744455	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
87	RUTIN	Plant				Stitt, Paul. Why George should eat broccoli.
0	S-(2-CARBOXY-PROPYL)-GLUTATHIONE	Bulb	90.0	255.0	1.0	--
0	S-1-PROPENYL-CYSTEINE	Bulb	0.0	20.0		--
0	S-ALLO-MERCAPTO-CYSTEINE	Bulb		2.0		--
0	S-ALLO-MERCAPTO-L-CYSTEINE	Bulb		2.0		--
0	S-ALLYL-CYSTEINE	Bulb	0.0	75.0		--
5	S-ALLYL-CYSTEINE-SULFOXIDE	Bulb				--
0	S-ALLYL-CYSTEINE-SULPHOXIDE	Shoot				--
0	S-ALLYL-CYSTEINE-SULPHOXIDE	Leaf				--
0	S-ALLYL-CYSTEINE-SULPHOXIDE	Bulb				--
0	S-ALLYL-CYSTEINE-SULPHOXIDE	Tissue Culture				--
24	S-ALLYL-L-CYSTEINE	Bulb		10.0		--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
11	S-ALLYLMERCAPTOCYSTEINE	Bulb	0.0	5.0		--
0	S-ETHYL-CYSTEINE-SULFOXIDE	Bulb				--
0	S-METHYL-CYSTEINE	Bulb				--
2	S-METHYL-CYSTEINE-SULFOXIDE	Bulb	500.0	5715.0		--
0	S-METHYL-CYSTEINE-SULPHOXIDE	Leaf				--
0	S-METHYL-CYSTEINE-SULPHOXIDE	Shoot				--
0	S-METHYL-CYSTEINE-SULPHOXIDE	Bulb				--
0	S-METHYL-CYSTEINE-SULPHOXIDE	Tissue Culture				--
2	S-METHYL-L-CYSTEINE-SULFOXIDE	Bulb				--
0	S-METHYL-METHIONINE	Leaf		65.0	-1.0	--
0	S-METHYL-METHIONINE	Bulb				--
0	S-N-BUTYL-CYSTEINE-SULFOXIDE	Bulb				--
0	S-N-METHYL-CYSTEINE	Bulb				--
0	S-PROPENYL-CYSTEINE	Bulb				--
0	S-PROPYL-CYSTEINE-SULFOXIDE	Bulb				--
0	S-PROPYL-CYSTEINE-SULPHOXIDE	Shoot				--
0	S-PROPYL-CYSTEINE-SULPHOXIDE	Bulb				--
0	S-PROPYL-CYSTEINE-SULPHOXIDE	Tissue Culture				--
0	S-PROPYL-CYSTEINE-SULPHOXIDE	Leaf				--
0	S-TRANS-L-PROPENYL-CYSTEINE-SULFOXIDE	Bulb	500.0	5715.0		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.
7	SALICYLATES	Bulb	1.0	4.0	-1.0	--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
34	SALICYLIC-ACID	Bulb		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.
0	SAPOGENINS	Bulb	140.0	400.0		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.
0	SAPONIN	Bulb				--
5	SAPONINS	Bulb	350.0	1200.0		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.
0	SATIVOSIDE-B-1	Bulb	30.0	85.0		--
0	SATIVOSIDE-C	Bulb		4.0		--
0	SATIVOSIDE-R-1	Root		500.0		--
0	SATIVOSIDE-R-2	Root		300.0		--
0	SCORDINE	Bulb		250.0		--
0	SCORDININ-A	Bulb		39000.0		--
0	SCORDININ-A-1	Bulb				--
0	SCORDININE-A	Bulb				--
0	SCORDININE-A-1	Bulb	66.7	30000.0		--
0	SCORDININE-A-2	Bulb	250.0	8000.0		--
0	SCORDININE-B	Bulb		800.0		--
0	SCORDININE-B-1	Bulb				--
0	SCORDININE-B-2	Bulb				--
0	SCORDININE-B-3	Bulb				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	SCORDININS	Bulb	30.0	85.0		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.
0	SCORDONIN-A	Bulb		39000.0		--
0	SCORODININ-A-1	Bulb	67.0	30000.0		--
0	SCORODININ-A-2	Bulb	250.0	8000.0		--
0	SCORODININ-B	Bulb		800.0		--
0	SCORODININE-A-3	Bulb		333.0		--
0	SCORODOSE	Bulb	470000.0	530000.0		--
60	SELENIUM	Root	0.6	1.6	-0.24863436856020282	--
60	SELENIUM	Bulb	0.1	1.6	1.0000000000000002	--
1	SERINE	Bulb	5.0	4560.0	1.0	--
4	SILICON	Bulb				Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
4	SILICON	Root				--
9	SINAPIC-ACID	Bulb		2.0		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.
9	SINAPIC-ACID	Plant		27.0	1.0	--
0	SINAPINIC-ACID	Bulb		2.0		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.
1	SODIUM	Leaf	40.0	294.0	-0.5950684790155282	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
1	SODIUM	Bulb	158.0	559.0	-0.5949158142450202	--
1	SODIUM	Root	104.0	280.0	-0.3824002869842817	--
1	STACHYOSE	Bulb				--
5	STARCH	Root	29600.0	80000.0	-0.9861330113268916	--
0	STEROLS	Bulb	18.0	50.0		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.
12	STIGMASTEROL	Plant				Stitt, Paul. Why George should eat broccoli.
7	SUCCINIC-ACID	Plant				Stitt, Paul. Why George should eat broccoli.
14	SUCROSE	Bulb		70000.0	-1.0	--
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.
0	SUGARS	Root	51800.0	140000.0	0.3495910254630421	--
0	SULFIDES	Bulb				--
0	SULFOLIPIDS	Bulb	0.0	29.0		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.
14	SULFUR	Bulb	2300.0	10570.0	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.
6	TAURINE	Plant				Stitt, Paul. Why George should eat broccoli.



Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
6	TAURINE	Bulb		0.2		--
0	TELLURIUM	Bulb	0.01	0.8		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.
0	TETRAHYDRO-2,5-DIMETHYLTHIOPHENE	Bulb		40.0		--
0	THIAMACORNINE	Bulb				--
0	THIAMAMIDINE	Bulb				--
31	THIAMIN	Shoot	1.4	6.3	-0.6401693937758542	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
31	THIAMIN	Leaf	1.1	8.1	-0.04265172097809442	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
31	THIAMIN	Flower	1.1	9.5	1.226854112674882	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
31	THIAMIN	Bulb	0.0	8.0	1.0	--
0	THIAMINE	Root	2.0	5.0	0.14827404670978508	--
0	THIOSULFINATES	Bulb	3500.0	11800.0		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.
4	THREONINE	Leaf				--
4	THREONINE	Bulb	2.0	10000.0	1.0	--
4	TIN	Bulb		6.0		Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
4	TIN	Root	2.2	6.0	-1.0659197099535618	--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	TOCOPHEROLS	Bulb	2.0	5.0		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.
0	TRANS-1-PROPENYL-ALLYL-THIOSULFINATE	Bulb				--
0	TRANS-1-PROPENYL-METHYL-DISULFIDE	Bulb		0.9		--
0	TRANS-1-PROPENYL-METHYL-THIOSULFINATE	Bulb				--
1	TRANS-AJOENE	Bulb		268.0		--
1	TRANS-CIS-AJOENE	Bulb				--
0	TRANS-S-(PROPENYL-1-YL)-CYSTEINE-DISULFIDE	Bulb				--
15	TRIGONELLINE	Bulb	100.0	890.0		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.
29	TRYPTOPHAN	Leaf				--
29	TRYPTOPHAN	Bulb	0.7	1584.0	-1.0	--
1	TYROSINASE	Bulb				--
8	TYROSINE	Leaf				--
8	TYROSINE	Bulb	0.6	6200.0	1.0	--
1	URANIUM	Bulb				--
3	VALINE	Leaf				--
3	VALINE	Bulb	0.8	6984.0	1.0	--
24	VANILLIC-ACID	Bulb		6.0	-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.

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	VIT-U	Plant				--
0	WATER	Leaf		864000.0	0.2811905966986211	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
0	WATER	Shoot		777000.0	-2.1655989517785237	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
0	WATER	Flower		884000.0	0.46844769491404276	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
0	WATER	Root		630000.0	-0.911393968519532	--
0	WATER	Bulb	585000.0	678000.0	-1.4116979121825834	--
1	XYLOGLUCAN	Bulb	1000.0	3000.0		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	XYLOSE	Root				Wealth of India.
77	ZINC	Bulb		15.3	-0.616532999263753	--
77	ZINC	Root				--