

**Dr. Duke's Phytochemical and Ethnobotanical Database**

**Chemicals Found in Quercus rubra**

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
5	2,6-DIMETHOXYBENZOQUINONE	Wood	--	--		
5	ALUMINUM	Seed	8.2	8.2	-0.3500007749269229	
5	ALUMINUM	Stem	30	660	-0.3311507500780245	
2	ARSENIC	Seed	0.02	0.02	-0.6237689826185465	
4	BORON	Stem	3	66	2.4617967237496194	
4	BORON	Seed	18	18	-0.2898953572647384	
3	CADMIUM	Seed	0.02	0.02	-0.33871058338433535	
28	CALCIUM	Seed	947	947	-0.5875986556340728	
28	CALCIUM	Stem	5200	23760	0.5437599205156565	
43	CATECHIN	Wood	--	--		
7	CHLORINE	Seed	49	49	-0.6386429592384999	
24	CHROMIUM	Seed	0.9	0.9	-0.551393325833861	
24	CHROMIUM	Stem	0.06	3.3	-0.3101429812537715	
2	COBALT	Seed	0.2	0.2	-0.19726970453812753	
2	COBALT	Stem	--	3.3	-0.5668397420733609	
12	COPPER	Seed	7	7	-0.7088108925859931	
12	COPPER	Stem	1.2	13.2	-0.6064282801014491	
51	ELLAGIC-ACID	Wood	--	--		

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
62	GALLIC-ACID	Wood	--	--		
3	GOLD	Seed	0.001	0.001	-0.5388159060803251	
2	HAMAMELITANNIN	Bark	--	--		
12	IODINE	Stem	2	5	-1.2909944487358058	
12	IODINE	Seed	0.1	0.1	-0.2691124755165415	
6	IRON	Seed	81	81	-0.32428014086691004	
6	IRON	Stem	12	343	-0.37137100272857254	
11	LITHIUM	Stem	0.092	3.96	0.10349512666709601	
65	MAGNESIUM	Seed	500	500	-0.9664396109765873	
65	MAGNESIUM	Stem	200	8580	1.6087888303854219	
14	MANGANESE	Stem	70	3300	1.6357964507094915	
14	MANGANESE	Seed	3.9	3.9	-0.618120616327252	
2	MOLYBDENUM	Seed	0.6	0.6	-0.7372019026845721	
2	MOLYBDENUM	Stem	--	4.62	0.938729385735831	
3	NICKEL	Stem	0.16	9.9	0.21264370322995296	
3	NICKEL	Seed	0.4	0.4	-0.8324768688709296	
4	P-HYDROXYBENZALDEHYDE	Wood	--	--		
4	PHOSPHORUS	Stem	112	1254	-0.934489184005142	
14	POTASSIUM	Seed	8485	8485	-0.35925403781064147	

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14	POTASSIUM	Stem	600	9240	-0.6377454332098993	
44	SCOPOLETIN	Wood	--	--		
60	SELENIUM	Seed	0.02	0.02	-0.2635767939811563	
4	SILICON	Seed	20	20	-1.1245004466460784	
4	SILICON	Stem	68	2442	1.4027991248043037	
3	SILVER	Stem	--	1.32	1.9874829913284495	
2	SINAPALDEHYDE	Wood	--	--		
1	SODIUM	Seed	6	6	-0.7061918999211194	
1	SODIUM	Stem	12	396	-0.2052121121459006	
14	SULFUR	Seed	1160	1160	-0.7776524267415517	
4	SYRINGALDEHYDE	Wood	--	--		
1	SYRINGARESINOL	Wood	--	--		
35	TANNIN	Bark	160000	160000	0.1654595775872751	
4	TIN	Seed	0.4	0.4	-0.6073769844173956	
1	URANIUM	Seed	0.03	0.03	-0.7071067811865477	
16	VANADIUM	Seed	0.02	0.02	-0.571891524157244	
16	VANADIUM	Stem	0.1	1.32	-0.5939948859794381	
28	VANILLIN	Wood	--	--		
77	ZINC	Seed	17	17	-0.798674515765676	

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
77	ZINC	Stem	4	138	0.32156678962823204	