Table S1. Results of a polit experiment to test the effect of elevated CO_2 (eCO_2) treatment versus ambient CO_2 (control) on fresh weight, dry weight, photosynthesis and respiration of *Trachyspermum ammi* sprouts. Data are represented by means ± standard deviations of at least 3 replicates. Different a, b, c letters within a row indicate a significant difference between means at $p<0.05$.

Parameters	Control-sprouts	eCO_2-sprouts
Fresh weight (g)	7.4±0.3a	9.4±1.0a
Dry weight (g)	1.0±0.5a	1.89±0.3b
Photosynthesis (µmol CO_2 m^{-2} S^{-1})	16.1±0.4a	20.1±0.8b
Respiration (µmol CO_2 m^{-2} S^{-1})	0.11±0.02a	0.13±0.01a

Table S2. Sum of Squares, Degrees of freedom (df), *F*-values, *P*-values, and mean squares generated from analysis of variance of seed, control sprouts and elevated CO_2 treated sprouts

	Sum of Squars	df	Mean Square	F value	P value
Fresh weight	1.815	1	1.815	1.558	0.28
Dry weight	1.297	1	1.297	32.434	0.005
Photosynthesis	21.66	1	21.66	27.075	0.007
Respiration	0.001	1	0.001	6	0.07
Antioxidant (FRAP)	421	2	210.726	76.604	<0.0001
Antioxidant (ORAC)	141594	2	70797.17	31.31	0.001
Antioxidant (TBARS)	333	2	166.69	48.787	<0.0001
Anti-cancer (HepG2)	661	2	330.501	14.829	0.005
Anti-cancer (Colo205)	1288	2	643.872	38.756	<0.0001
Anti-cancer (293)	785	2	392.537	8.774	0.017
Anti-Cancer (T24P)	1042	2	520.796	46.358	<0.0001
Anti-microbial (*S. saprophyticus*)	202	2	100.798	589.936	<0.0001
Anti-microbial (*S. epidermidis*)	446	2	222.956	53486.70	<0.0001
Anti-microbial (*E. faecalis*)	175	2	87.336	99.521	<0.0001
Anti-microbial (*S. salivarius*)	143	2	71.514	686.536	<0.0001
Anti-microbial (*E. coli*)	77	2	38.536	112.783	<0.0001
Anti-microbial (*S. typhimurium*)	17	2	8.48	481.797	<0.0001
Anti-microbial (*P. aeruginosa*)	290	2	145.119	866.37	<0.0001
Anti-microbial (*P.vulgaris*)	533	2	266.342	971.332	<0.0001
Anti-microbial (*E. aerogenes*)	227	2	113.542	150.056	<0.0001
Anti-microbial (*S. marcescens*)	0.02	2	0.01	0.062	0.94
Anti-microbial (*C. albicans)*	28	2	13.949	463.617	<0.0001
Anti-microbial (*C. glabrata*)	24	2	12.114	210.07	<0.0001
Anti-microbial (*A. flavus*)	370	2	184.831	197.294	<0.0001
Sugar (Glucose)	0.11	2	0.054	1.728	0.256
Sugar (Fructose)	0.04	2	0.018	4.242	0.071
Sugar (Sucrose)	0.76	2	0.381	105.279	<0.0001
Sugar (Soluble sugars)	9.28	2	4.641	607.092	<0.0001
Sugar (Starch)	432	2	215.905	451.895	<0.0001
Sugar (Total Carbohydrates)	763	2	381.25	222.519	<0.0001
Amino acids (Lysine)	2.07	2	1.034	232.75	<0.0001
Amino acids (Histidine)	0.17	2	0.084	76	<0.0001
Amino acids (Alanine)	97	2	48.61	137.575	<0.0001
Amino acids (Arginie)	5.04	2	2.52	378	<0.0001
Amino acids (Isoleucine)	0.03	2	0.015	17.123	0.003
Amino acids (Asparagine)	0.18	2	0.09	143.754	<0.0001
Amino acids (Ornithine)	0.05	2	0.027	271	<0.0001
Amino acids (Glycine	0.11	2	0.054	49	<0.0001
Amino acids (Phenylalanine)	0.08	2	0.041	12.25	0.008

Amino acids (Serine)	1.58	2	0.79	26.333	0.001
Amino acids (Proline)	0.02	2	0.01	0.3	0.751
Amino acids (Valine)	0.43	2	0.217	1502.846	<0.0001
Amino acids (Aspartate)	0.95	2	0.474	1705.72	<0.0001
Amino acids (Cystine)	1.13	2	0.567	1593.37	<0.0001
Amino acids (Leucine)	0.02	2	0.007	48.384	<0.0001
Amino acids (Methionine)	0.00	2	0	0.269	0.773
Amino acids (Threonine)	0.01	2	0.002	1.981	0.218
Amino acids (Tyrosine)	0.02	2	0.01	3.693	<0.0001
Amino acids (Glutamine)	598	2	299.19	88.344	<0.0001
Amino acids (Glutamic acid)	702	2	351	271.392	<0.0001
Organic acids (Oxalic acid)	0.02	2	0.01	0.097	0.909
Organic acids (Malic acid)	2.49	2	1.244	10.354	0.011
Organic acids (Isobutyric acid)	2.43	2	1.217	89.408	<0.0001
Organic acids (Fumaric acid)	0.01	2	0.003	0.123	0.886
Organic acids (Succinic acid)	6.11	2	3.053	25.034	0.001
Organic acids (Citric acid)	3.66	2	1.829	266.374	<0.0001
Essential oil (α-piene)	0.14	2	0.068	20.435	0.002
Essential oil (α-Thujene)	24	2	12	171.429	<0.0001
Essential oil (Sabiene)	0.26	2	0.13	0.382	0.698
Essential oil (B-myrceme)	72.26	2	36.13	84.023	<0.0001
Essential oil (D-Limonene)	0.26	2	0.13	6.5	0.031
Essential oil (α-terpinene)	386	2	192.76	128.793	<0.0001
Essential oil (Cymene)	90	2	44.89	14.997	0.005
Essential oil (α- terpinolene)	18.96	2	9.48	53.66	<0.0001
Essential oil (Thymol)	0.134	2	0.067	26.23	0.001
Essential oil (Carvacol)	0.041	2	0.021	9.941	0.012
Essential oil (alpha-thyjone)	0.034	2	0.017	4.031	0.078
Essential oil (Tricyclene)	0.000	2	0	0.031	0.97
Essential oil (beta-Phellandrene)	0.000	2	0	0.221	0.808
Essential oil (Humuline)	0.000	2	0	0.054	0.948
Phenolic (Gallic acid)	0.232	2	0.116	306.559	<0.0001
Phenolic acid (Caffeic acid)	0.058	2	0.029	291.444	<0.0001
Phenolic acid (p-Coumaric acid)	2.020	2	1.01	8.905	0.016
Phenolic acid (Chicoric acid)	0.513	2	0.257	11.393	0.009
Phenolic acid (Rosmarinic acid)	0.854	2	0.427	8.967	0.016
Phenolic acid (Protocatechuic acid)	0.698	2	0.349	5.411	0.045
Flavonoid (Quercetin)	0.02	2	0.007	40.476	<0.0001
Flavonoid (Naringenin)	0.01	2	0.006	19.342	0.002
Flavonoid (Kaempferol)	0.00	2	0	0.029	0.971
Flavonoid (Luteolin)	0.000	2	0	0.31	0.745
Flavonoid (Apigenin)	0.017	2	0.009	71.273	<0.0001
Flavonoid (Naringenin)	0.000	2	0	0	1

Flavonoid (Rutin)	0.000	2	0	0.509	0.625
Flavonoid (Chlorogenic acid)	0.000	2	0	0.299	0.752
Total phenols	266	2	133	395.05	<0.0001
Total Flavonoids	6.4	2	3.191	872.884	<0.0001

Table S2. Results of a polit experiment to test the effect of elevated CO_2 (eCO_2) treatment versus ambient CO_2 (control) on fresh weight, dry weight, photosynthesis and respiration of *Trachyspermum ammi* sprouts. Data are represented by means ± standard deviations of at least 3 replicates. Different a, b, c letters within a row indicate a significant difference between means at $p<0.05$.

Parameters	Control-sprouts	eCO_2-sprouts
Fresh weight (g)	7.4±0.3a	9.4±1.0a
Dry weight (g)	1.0±0.5a	1.89±0.3b
Photosynthesis (µmol CO_2 m^{-2} S^{-1})	16.1±0.4a	20.1±0.8b
Respiration (µmol CO_2 m^{-2} S^{-1})	0.11±0.02a	0.13±0.01a