

Supplimentaiial meterial

The below tables are the outcome of the significance test of *S. alpinus* during the one-way test of the carbon source and nitrogen source

Table S1 significance tests of MS-10 for carbon source

carbon source	Repeat group number	Mean Difference(I-J)	Standard Error	Significance	95% confidence interval	
					Lower limit	Upper limit
CK	2	-2.16	0.22765	0	-2.6403	-1.6797
	3	-2.12667	0.25453	0	-2.6637	-1.5897
	4	-2.89333	0.22765	0	-3.3736	-2.413
	5	-5.01667	0.22765	0	-5.497	-4.5364
	6	-2.34667	0.22765	0	-2.827	-1.8664
	7	-1.49167	0.25453	0	-2.0287	-0.9547
	8	-1.97333	0.22765	0	-2.4536	-1.493
	9	-2.43667	0.25453	0	-2.9737	-1.8997
	10	-4	0.22765	0	-4.4803	-3.5197
maltose	1	2.16	0.22765	0	1.6797	2.6403
	3	0.03333	0.25453	0.897	-0.5037	0.5703
	4	-0.73333	0.22765	0.005	-1.2136	-0.253
	5	-2.85667	0.22765	0	-3.337	-2.3764
	6	-0.18667	0.22765	0.424	-0.667	0.2936
	7	0.66833	0.25453	0.018	0.1313	1.2053
	8	0.18667	0.22765	0.424	-0.2936	0.667
	9	-0.27667	0.25453	0.292	-0.8137	0.2603
	10	-1.84	0.22765	0	-2.3203	-1.3597
sucrose	1	2.12667	0.25453	0	1.5897	2.6637
	2	-0.03333	0.25453	0.897	-0.5703	0.5037
	4	-0.76667	0.25453	0.008	-1.3037	-0.2297
	5	-2.89	0.25453	0	-3.427	-2.353
	6	-0.22	0.25453	0.399	-0.757	0.317
	7	0.635	0.27882	0.036	0.0467	1.2233
	8	0.15333	0.25453	0.555	-0.3837	0.6903
	9	-0.31	0.27882	0.282	-0.8983	0.2783
	10	-1.87333	0.25453	0	-2.4103	-1.3363
glucose	1	2.89333	0.22765	0	2.413	3.3736
	2	0.73333	0.22765	0.005	0.253	1.2136
	3	0.76667	0.25453	0.008	0.2297	1.3037
	5	-2.12333	0.22765	0	-2.6036	-1.643
	6	0.54667	0.22765	0.028	0.0664	1.027
	7	1.40167	0.25453	0	0.8647	1.9387
	8	0.92	0.22765	0.001	0.4397	1.4003

fructose	9	0.45667	0.25453	0.091	-0.0803	0.9937
	10	-1.10667	0.22765	0	-1.587	-0.6264
	1	5.01667	0.22765	0	4.5364	5.497
	2	2.85667	0.22765	0	2.3764	3.337
	3	2.89	0.25453	0	2.353	3.427
	4	2.12333	0.22765	0	1.643	2.6036
	6	2.67	0.22765	0	2.1897	3.1503
	7	3.525	0.25453	0	2.988	4.062
	8	3.04333	0.22765	0	2.563	3.5236
	9	2.58	0.25453	0	2.043	3.117
xylose	10	1.01667	0.22765	0	0.5364	1.497
	1	2.34667	0.22765	0	1.8664	2.827
	2	0.18667	0.22765	0.424	-0.2936	0.667
	3	0.22	0.25453	0.399	-0.317	0.757
	4	-0.54667	0.22765	0.028	-1.027	-0.0664
	5	-2.67	0.22765	0	-3.1503	-2.1897
	7	0.855	0.25453	0.004	0.318	1.392
	8	0.37333	0.22765	0.119	-0.107	0.8536
	9	-0.09	0.25453	0.728	-0.627	0.447
	10	-1.65333	0.22765	0	-2.1336	-1.173
Mannitol	1	1.49167	0.25453	0	0.9547	2.0287
	2	-0.66833	0.25453	0.018	-1.2053	-0.1313
	3	-0.635	0.27882	0.036	-1.2233	-0.0467
	4	-1.40167	0.25453	0	-1.9387	-0.8647
	5	-3.525	0.25453	0	-4.062	-2.988
	6	-0.855	0.25453	0.004	-1.392	-0.318
	8	-0.48167	0.25453	0.076	-1.0187	0.0553
	9	-0.945	0.27882	0.003	-1.5333	-0.3567
	10	-2.50833	0.25453	0	-3.0453	-1.9713
Mannose	1	1.97333	0.22765	0	1.493	2.4536
	2	-0.18667	0.22765	0.424	-0.667	0.2936
	3	-0.15333	0.25453	0.555	-0.6903	0.3837
	4	-0.92	0.22765	0.001	-1.4003	-0.4397
	5	-3.04333	0.22765	0	-3.5236	-2.563
	6	-0.37333	0.22765	0.119	-0.8536	0.107
	7	0.48167	0.25453	0.076	-0.0553	1.0187
	9	-0.46333	0.25453	0.086	-1.0003	0.0737
	10	-2.02667	0.22765	0	-2.507	-1.5464
lactose	1	2.43667	0.25453	0	1.8997	2.9737
	2	0.27667	0.25453	0.292	-0.2603	0.8137
	3	0.31	0.27882	0.282	-0.2783	0.8983
	4	-0.45667	0.25453	0.091	-0.9937	0.0803
	5	-2.58	0.25453	0	-3.117	-2.043
	6	0.09	0.25453	0.728	-0.447	0.627

galactose	7	0.945	0.27882	0.003	0.3567	1.5333
	8	0.46333	0.25453	0.086	-0.0737	1.0003
	10	-1.56333	0.25453	0	-2.1003	-1.0263
	1	4	0.22765	0	3.5197	4.4803
	2	1.84	0.22765	0	1.3597	2.3203
	3	1.87333	0.25453	0	1.3363	2.4103
	4	1.10667	0.22765	0	0.6264	1.587
	5	-1.01667	0.22765	0	-1.497	-0.5364
	6	1.65333	0.22765	0	1.173	2.1336
	7	2.50833	0.25453	0	1.9713	3.0453
	8	2.02667	0.22765	0	1.5464	2.507
	9	1.56333	0.25453	0	1.0263	2.1003

Table S2 significance tests of MS-10 for nitrogen source

Nitrogen source	Repeat group number	Mean Difference(I-J)	Standard Error	Significance	95% confidence interval	
					Lower limit	Upper limit
CK	2	-2.88	0.19325	0	-3.2919	-2.4681
	3	-0.74667	0.19325	0.002	-1.1586	-0.3348
	4	0.00667	0.19325	0.973	-0.4052	0.4186
	5	0.5	0.19325	0.021	0.0881	0.9119
	6	0.64667	0.19325	0.004	0.2348	1.0586
	7	1.18667	0.19325	0	0.7748	1.5986
	8	-1.86333	0.21606	0	-2.3239	-1.4028
Yeast extract	1	2.88	0.19325	0	2.4681	3.2919
	3	2.13333	0.19325	0	1.7214	2.5452
	4	2.88667	0.19325	0	2.4748	3.2986
	5	3.38	0.19325	0	2.9681	3.7919
	6	3.52667	0.19325	0	3.1148	3.9386
	7	4.06667	0.19325	0	3.6548	4.4786
	8	1.01667	0.21606	0	0.5561	1.4772
Peptone	1	0.74667	0.19325	0.002	0.3348	1.1586
	2	-2.13333	0.19325	0	-2.5452	-1.7214
	4	0.75333	0.19325	0.001	0.3414	1.1652
	5	1.24667	0.19325	0	0.8348	1.6586
	6	1.39333	0.19325	0	0.9814	1.8052
	7	1.93333	0.19325	0	1.5214	2.3452
	8	-1.11667	0.21606	0	-1.5772	-0.6561
Ammonium tartrate	1	-0.00667	0.19325	0.973	-0.4186	0.4052
	2	-2.88667	0.19325	0	-3.2986	-2.4748

Ammonium sulfate	3	-0.75333	0.19325	0.001	-1.1652	-0.3414
	5	0.49333	0.19325	0.022	0.0814	0.9052
	6	0.64	0.19325	0.005	0.2281	1.0519
	7	1.18	0.19325	0	0.7681	1.5919
	8	-1.87	0.21606	0	-2.3305	-1.4095
	1	-0.5	0.19325	0.021	-0.9119	-0.0881
	2	-3.38	0.19325	0	-3.7919	-2.9681
	3	-1.24667	0.19325	0	-1.6586	-0.8348
Ammonium nitrate	4	-0.49333	0.19325	0.022	-0.9052	-0.0814
	6	0.14667	0.19325	0.46	-0.2652	0.5586
	7	0.68667	0.19325	0.003	0.2748	1.0986
	8	-2.36333	0.21606	0	-2.8239	-1.9028
	1	-0.64667	0.19325	0.004	-1.0586	-0.2348
	2	-3.52667	0.19325	0	-3.9386	-3.1148
	3	-1.39333	0.19325	0	-1.8052	-0.9814
	4	-0.64	0.19325	0.005	-1.0519	-0.2281
Urea	5	-0.14667	0.19325	0.46	-0.5586	0.2652
	7	0.54	0.19325	0.014	0.1281	0.9519
	8	-2.51	0.21606	0	-2.9705	-2.0495
	1	-1.18667	0.19325	0	-1.5986	-0.7748
	2	-4.06667	0.19325	0	-4.4786	-3.6548
	3	-1.93333	0.19325	0	-2.3452	-1.5214
	4	-1.18	0.19325	0	-1.5919	-0.7681
	5	-0.68667	0.19325	0.003	-1.0986	-0.2748
beef extract	6	-0.54	0.19325	0.014	-0.9519	-0.1281
	8	-3.05	0.21606	0	-3.5105	-2.5895
	1	1.86333	0.21606	0	1.4028	2.3239
	2	-1.01667	0.21606	0	-1.4772	-0.5561
	3	1.11667	0.21606	0	0.6561	1.5772
	4	1.87	0.21606	0	1.4095	2.3305
	5	2.36333	0.21606	0	1.9028	2.8239
	6	2.51	0.21606	0	2.0495	2.9705
	7	3.05	0.21606	0	2.5895	3.5105

Table S3 significance tests of MS- 11 for carbon source

carbon source	Repeat group number	Mean Difference(I-J)	Standard Error	Significance	95% confidence interval	
					Lower limit	Upper limit
CK	2	-2.33667	0.37695	0	-3.1401	-1.5332
	3	-1.71	0.33716	0	-2.4286	-0.9914

maltose	4	-2.57167	0.37695	0	-3.3751	-1.7682
	5	-4.9	0.33716	0	-5.6186	-4.1814
	6	-2.66667	0.33716	0	-3.3853	-1.948
	7	-0.75667	0.37695	0.063	-1.5601	0.0468
	8	-1.49667	0.33716	0	-2.2153	-0.778
	9	-1.64667	0.37695	0.001	-2.4501	-0.8432
	10	-2.85167	0.37695	0	-3.6551	-2.0482
	1	2.33667	0.37695	0	1.5332	3.1401
	3	0.62667	0.37695	0.117	-0.1768	1.4301
	4	-0.235	0.41293	0.578	-1.1151	0.6451
sucrose	5	-2.56333	0.37695	0	-3.3668	-1.7599
	6	-0.33	0.37695	0.395	-1.1335	0.4735
	7	1.58	0.41293	0.002	0.6999	2.4601
	8	0.84	0.37695	0.042	0.0365	1.6435
	9	0.69	0.41293	0.115	-0.1901	1.5701
	10	-0.515	0.41293	0.231	-1.3951	0.3651
	1	1.71	0.33716	0	0.9914	2.4286
	2	-0.62667	0.37695	0.117	-1.4301	0.1768
	4	-0.86167	0.37695	0.037	-1.6651	-0.0582
	5	-3.19	0.33716	0	-3.9086	-2.4714
glucose	6	-0.95667	0.33716	0.012	-1.6753	-0.238
	7	0.95333	0.37695	0.023	0.1499	1.7568
	8	0.21333	0.33716	0.536	-0.5053	0.932
	9	0.06333	0.37695	0.869	-0.7401	0.8668
	10	-1.14167	0.37695	0.008	-1.9451	-0.3382
	1	2.57167	0.37695	0	1.7682	3.3751
	2	0.235	0.41293	0.578	-0.6451	1.1151
	3	0.86167	0.37695	0.037	0.0582	1.6651
	5	-2.32833	0.37695	0	-3.1318	-1.5249
	6	-0.095	0.37695	0.804	-0.8985	0.7085
fructose	7	1.815	0.41293	0.001	0.9349	2.6951
	8	1.075	0.37695	0.012	0.2715	1.8785
	9	0.925	0.41293	0.041	0.0449	1.8051
	10	-0.28	0.41293	0.508	-1.1601	0.6001
	1	4.9	0.33716	0	4.1814	5.6186
	2	2.56333	0.37695	0	1.7599	3.3668
	3	3.19	0.33716	0	2.4714	3.9086
	4	2.32833	0.37695	0	1.5249	3.1318
	6	2.23333	0.33716	0	1.5147	2.952
	7	4.14333	0.37695	0	3.3399	4.9468
xylose	8	3.40333	0.33716	0	2.6847	4.122
	9	3.25333	0.37695	0	2.4499	4.0568
	10	2.04833	0.37695	0	1.2449	2.8518
	1	2.66667	0.33716	0	1.948	3.3853

Mannitol	2	0.33	0.37695	0.395	-0.4735	1.1335
	3	0.95667	0.33716	0.012	0.238	1.6753
	4	0.095	0.37695	0.804	-0.7085	0.8985
	5	-2.23333	0.33716	0	-2.952	-1.5147
	7	1.91	0.37695	0	1.1065	2.7135
	8	1.17	0.33716	0.003	0.4514	1.8886
	9	1.02	0.37695	0.016	0.2165	1.8235
	10	-0.185	0.37695	0.631	-0.9885	0.6185
	1	0.75667	0.37695	0.063	-0.0468	1.5601
	2	-1.58	0.41293	0.002	-2.4601	-0.6999
Mannose	3	-0.95333	0.37695	0.023	-1.7568	-0.1499
	4	-1.815	0.41293	0.001	-2.6951	-0.9349
	5	-4.14333	0.37695	0	-4.9468	-3.3399
	6	-1.91	0.37695	0	-2.7135	-1.1065
	8	-0.74	0.37695	0.068	-1.5435	0.0635
	9	-0.89	0.41293	0.048	-1.7701	-0.0099
	10	-2.095	0.41293	0	-2.9751	-1.2149
	1	1.49667	0.33716	0	0.778	2.2153
	2	-0.84	0.37695	0.042	-1.6435	-0.0365
	3	-0.21333	0.33716	0.536	-0.932	0.5053
lactose	4	-1.075	0.37695	0.012	-1.8785	-0.2715
	5	-3.40333	0.33716	0	-4.122	-2.6847
	6	-1.17	0.33716	0.003	-1.8886	-0.4514
	7	0.74	0.37695	0.068	-0.0635	1.5435
	9	-0.15	0.37695	0.696	-0.9535	0.6535
	10	-1.355	0.37695	0.003	-2.1585	-0.5515
	1	1.64667	0.37695	0.001	0.8432	2.4501
	2	-0.69	0.41293	0.115	-1.5701	0.1901
	3	-0.06333	0.37695	0.869	-0.8668	0.7401
	4	-0.925	0.41293	0.041	-1.8051	-0.0449
galactose	5	-3.25333	0.37695	0	-4.0568	-2.4499
	6	-1.02	0.37695	0.016	-1.8235	-0.2165
	7	0.89	0.41293	0.048	0.0099	1.7701
	8	0.15	0.37695	0.696	-0.6535	0.9535
	10	-1.205	0.41293	0.011	-2.0851	-0.3249
	1	2.85167	0.37695	0	2.0482	3.6551
	2	0.515	0.41293	0.231	-0.3651	1.3951
	3	1.14167	0.37695	0.008	0.3382	1.9451
	4	0.28	0.41293	0.508	-0.6001	1.1601
	5	-2.04833	0.37695	0	-2.8518	-1.2449
	6	0.185	0.37695	0.631	-0.6185	0.9885
	7	2.095	0.41293	0	1.2149	2.9751
	8	1.355	0.37695	0.003	0.5515	2.1585
	9	1.205	0.41293	0.011	0.3249	2.0851

Table S4 significance tests of MS-11 for nitrogen source

Nitrogen source	Repeat group number	Mean Difference(I-J)	Standard Error	Significance	95% confidence interval	
					Lower limit	Upper limit
CK	2	-3.19667	0.15848	0	-3.5326	-2.8607
	3	-1.79667	0.15848	0	-2.1326	-1.4607
	4	-0.05667	0.15848	0.725	-0.3926	0.2793
	5	0.53333	0.15848	0.004	0.1974	0.8693
	6	0.8	0.15848	0	0.464	1.136
	7	0.9	0.15848	0	0.564	1.236
	8	-2.01667	0.15848	0	-2.3526	-1.6807
Yeast extract	1	3.19667	0.15848	0	2.8607	3.5326
	3	1.4	0.15848	0	1.064	1.736
	4	3.14	0.15848	0	2.804	3.476
	5	3.73	0.15848	0	3.394	4.066
	6	3.99667	0.15848	0	3.6607	4.3326
	7	4.09667	0.15848	0	3.7607	4.4326
	8	1.18	0.15848	0	0.844	1.516
Peptone	1	1.79667	0.15848	0	1.4607	2.1326
	2	-1.4	0.15848	0	-1.736	-1.064
	4	1.74	0.15848	0	1.404	2.076
	5	2.33	0.15848	0	1.994	2.666
	6	2.59667	0.15848	0	2.2607	2.9326
	7	2.69667	0.15848	0	2.3607	3.0326
	8	-0.22	0.15848	0.184	-0.556	0.116
Ammonium tartrate	1	0.05667	0.15848	0.725	-0.2793	0.3926
	2	-3.14	0.15848	0	-3.476	-2.804
	3	-1.74	0.15848	0	-2.076	-1.404
	5	0.59	0.15848	0.002	0.254	0.926
	6	0.85667	0.15848	0	0.5207	1.1926
	7	0.95667	0.15848	0	0.6207	1.2926
	8	-1.96	0.15848	0	-2.296	-1.624
Ammonium sulfate	1	-0.53333	0.15848	0.004	-0.8693	-0.1974
	2	-3.73	0.15848	0	-4.066	-3.394
	3	-2.33	0.15848	0	-2.666	-1.994
	4	-0.59	0.15848	0.002	-0.926	-0.254
	6	0.26667	0.15848	0.112	-0.0693	0.6026
	7	0.36667	0.15848	0.034	0.0307	0.7026

Ammonium nitrate	8	-2.55	0.15848	0	-2.886	-2.214
	1	-0.8	0.15848	0	-1.136	-0.464
	2	-3.99667	0.15848	0	-4.3326	-3.6607
	3	-2.59667	0.15848	0	-2.9326	-2.2607
	4	-0.85667	0.15848	0	-1.1926	-0.5207
	5	-0.26667	0.15848	0.112	-0.6026	0.0693
	7	0.1	0.15848	0.537	-0.236	0.436
	8	-2.81667	0.15848	0	-3.1526	-2.4807
Urea	1	-0.9	0.15848	0	-1.236	-0.564
	2	-4.09667	0.15848	0	-4.4326	-3.7607
	3	-2.69667	0.15848	0	-3.0326	-2.3607
	4	-0.95667	0.15848	0	-1.2926	-0.6207
	5	-0.36667	0.15848	0.034	-0.7026	-0.0307
	6	-0.1	0.15848	0.537	-0.436	0.236
	8	-2.91667	0.15848	0	-3.2526	-2.5807
	1	2.01667	0.15848	0	1.6807	2.3526
beef extract	2	-1.18	0.15848	0	-1.516	-0.844
	3	0.22	0.15848	0.184	-0.116	0.556
	4	1.96	0.15848	0	1.624	2.296
	5	2.55	0.15848	0	2.214	2.886
	6	2.81667	0.15848	0	2.4807	3.1526
	7	2.91667	0.15848	0	2.5807	3.2526

Table S5 significance tests of MS-12 for carbon source

carbon source	Repeat group number	Mean Difference(I-J)	Standard Error	Significance	95% confidence interval	
					Lower limit	Upper limit
CK	2	-1.40833	0.49063	0.012	-2.4541	-0.3626
	3	-1.105	0.49063	0.04	-2.1508	-0.0592
	4	-2.21	0.53746	0.001	-3.3556	-1.0644
	5	-3.47833	0.49063	0	-4.5241	-2.4326
	6	-2.41167	0.49063	0	-3.4574	-1.3659
	7	-0.695	0.53746	0.216	-1.8406	0.4506
	8	-1.645	0.49063	0.004	-2.6908	-0.5992
	9	-1.58	0.53746	0.01	-2.7256	-0.4344
	10	-2.905	0.53746	0	-4.0506	-1.7594
	1	1.40833	0.49063	0.012	0.3626	2.4541
maltose	3	0.30333	0.43883	0.5	-0.632	1.2387
	4	-0.80167	0.49063	0.123	-1.8474	0.2441
	5	-2.07	0.43883	0	-3.0054	-1.1346
	6	-1.00333	0.43883	0.037	-1.9387	-0.068

sucrose	7	0.71333	0.49063	0.167	-0.3324	1.7591
	8	-0.23667	0.43883	0.598	-1.172	0.6987
	9	-0.17167	0.49063	0.731	-1.2174	0.8741
	10	-1.49667	0.49063	0.008	-2.5424	-0.4509
	1	1.105	0.49063	0.04	0.0592	2.1508
	2	-0.30333	0.43883	0.5	-1.2387	0.632
	4	-1.105	0.49063	0.04	-2.1508	-0.0592
	5	-2.37333	0.43883	0	-3.3087	-1.438
	6	-1.30667	0.43883	0.009	-2.242	-0.3713
	7	0.41	0.49063	0.416	-0.6358	1.4558
glucose	8	-0.54	0.43883	0.237	-1.4754	0.3954
	9	-0.475	0.49063	0.348	-1.5208	0.5708
	10	-1.8	0.49063	0.002	-2.8458	-0.7542
	1	2.21	0.53746	0.001	1.0644	3.3556
	2	0.80167	0.49063	0.123	-0.2441	1.8474
	3	1.105	0.49063	0.04	0.0592	2.1508
	5	-1.26833	0.49063	0.021	-2.3141	-0.2226
	6	-0.20167	0.49063	0.687	-1.2474	0.8441
	7	1.515	0.53746	0.013	0.3694	2.6606
	8	0.565	0.49063	0.268	-0.4808	1.6108
fructose	9	0.63	0.53746	0.259	-0.5156	1.7756
	10	-0.695	0.53746	0.216	-1.8406	0.4506
	1	3.47833	0.49063	0	2.4326	4.5241
	2	2.07	0.43883	0	1.1346	3.0054
	3	2.37333	0.43883	0	1.438	3.3087
	4	1.26833	0.49063	0.021	0.2226	2.3141
	6	1.06667	0.43883	0.028	0.1313	2.002
	7	2.78333	0.49063	0	1.7376	3.8291
	8	1.83333	0.43883	0.001	0.898	2.7687
	9	1.89833	0.49063	0.002	0.8526	2.9441
xylose	10	0.57333	0.49063	0.261	-0.4724	1.6191
	1	2.41167	0.49063	0	1.3659	3.4574
	2	1.00333	0.43883	0.037	0.068	1.9387
	3	1.30667	0.43883	0.009	0.3713	2.242
	4	0.20167	0.49063	0.687	-0.8441	1.2474
	5	-1.06667	0.43883	0.028	-2.002	-0.1313
	7	1.71667	0.49063	0.003	0.6709	2.7624
	8	0.76667	0.43883	0.101	-0.1687	1.702
	9	0.83167	0.49063	0.111	-0.2141	1.8774
	10	-0.49333	0.49063	0.331	-1.5391	0.5524
Mannitol	1	0.695	0.53746	0.216	-0.4506	1.8406
	2	-0.71333	0.49063	0.167	-1.7591	0.3324
	3	-0.41	0.49063	0.416	-1.4558	0.6358
	4	-1.515	0.53746	0.013	-2.6606	-0.3694

Mannose	5	-2.78333	0.49063	0	-3.8291	-1.7376
	6	-1.71667	0.49063	0.003	-2.7624	-0.6709
	8	-0.95	0.49063	0.072	-1.9958	0.0958
	9	-0.885	0.53746	0.12	-2.0306	0.2606
	10	-2.21	0.53746	0.001	-3.3556	-1.0644
	1	1.645	0.49063	0.004	0.5992	2.6908
	2	0.23667	0.43883	0.598	-0.6987	1.172
	3	0.54	0.43883	0.237	-0.3954	1.4754
	4	-0.565	0.49063	0.268	-1.6108	0.4808
	5	-1.83333	0.43883	0.001	-2.7687	-0.898
lactose	6	-0.76667	0.43883	0.101	-1.702	0.1687
	7	0.95	0.49063	0.072	-0.0958	1.9958
	9	0.065	0.49063	0.896	-0.9808	1.1108
	10	-1.26	0.49063	0.021	-2.3058	-0.2142
	1	1.58	0.53746	0.01	0.4344	2.7256
	2	0.17167	0.49063	0.731	-0.8741	1.2174
	3	0.475	0.49063	0.348	-0.5708	1.5208
	4	-0.63	0.53746	0.259	-1.7756	0.5156
	5	-1.89833	0.49063	0.002	-2.9441	-0.8526
	6	-0.83167	0.49063	0.111	-1.8774	0.2141
galactose	7	0.885	0.53746	0.12	-0.2606	2.0306
	8	-0.065	0.49063	0.896	-1.1108	0.9808
	10	-1.325	0.53746	0.026	-2.4706	-0.1794
	1	2.905	0.53746	0	1.7594	4.0506
	2	1.49667	0.49063	0.008	0.4509	2.5424
	3	1.8	0.49063	0.002	0.7542	2.8458
	4	0.695	0.53746	0.216	-0.4506	1.8406
	5	-0.57333	0.49063	0.261	-1.6191	0.4724
	6	0.49333	0.49063	0.331	-0.5524	1.5391
	7	2.21	0.53746	0.001	1.0644	3.3556
	8	1.26	0.49063	0.021	0.2142	2.3058
	9	1.325	0.53746	0.026	0.1794	2.4706

Table S6 significance tests of MS-12 for nitrogen source

Nitrogen source	Repeat group number	Mean Difference(I-J)	Standard Error	Significance	95% confidence interval	
					Lower limit	Upper limit
CK	2	-3.03667	0.16422	0	-3.3848	-2.6885
	3	-1.8	0.16422	0	-2.1481	-1.4519
	4	0.14667	0.16422	0.385	-0.2015	0.4948
	5	0.14	0.16422	0.407	-0.2081	0.4881
	6	0.38333	0.16422	0.033	0.0352	0.7315

Yeast extract	7	0.68333	0.16422	0.001	0.3352	1.0315
	8	-1.95	0.16422	0	-2.2981	-1.6019
	1	3.03667	0.16422	0	2.6885	3.3848
	3	1.23667	0.16422	0	0.8885	1.5848
	4	3.18333	0.16422	0	2.8352	3.5315
	5	3.17667	0.16422	0	2.8285	3.5248
	6	3.42	0.16422	0	3.0719	3.7681
	7	3.72	0.16422	0	3.3719	4.0681
Peptone	8	1.08667	0.16422	0	0.7385	1.4348
	1	1.8	0.16422	0	1.4519	2.1481
	2	-1.23667	0.16422	0	-1.5848	-0.8885
	4	1.94667	0.16422	0	1.5985	2.2948
	5	1.94	0.16422	0	1.5919	2.2881
	6	2.18333	0.16422	0	1.8352	2.5315
	7	2.48333	0.16422	0	2.1352	2.8315
	8	-0.15	0.16422	0.375	-0.4981	0.1981
Ammonium tartrate	1	-0.14667	0.16422	0.385	-0.4948	0.2015
	2	-3.18333	0.16422	0	-3.5315	-2.8352
	3	-1.94667	0.16422	0	-2.2948	-1.5985
	5	-0.00667	0.16422	0.968	-0.3548	0.3415
	6	0.23667	0.16422	0.169	-0.1115	0.5848
	7	0.53667	0.16422	0.005	0.1885	0.8848
	8	-2.09667	0.16422	0	-2.4448	-1.7485
Ammonium sulfate	1	-0.14	0.16422	0.407	-0.4881	0.2081
	2	-3.17667	0.16422	0	-3.5248	-2.8285
	3	-1.94	0.16422	0	-2.2881	-1.5919
	4	0.00667	0.16422	0.968	-0.3415	0.3548
	6	0.24333	0.16422	0.158	-0.1048	0.5915
	7	0.54333	0.16422	0.004	0.1952	0.8915
	8	-2.09	0.16422	0	-2.4381	-1.7419
Ammonium nitrate	1	-0.38333	0.16422	0.033	-0.7315	-0.0352
	2	-3.42	0.16422	0	-3.7681	-3.0719
	3	-2.18333	0.16422	0	-2.5315	-1.8352
	4	-0.23667	0.16422	0.169	-0.5848	0.1115
	5	-0.24333	0.16422	0.158	-0.5915	0.1048
	7	0.3	0.16422	0.086	-0.0481	0.6481
	8	-2.33333	0.16422	0	-2.6815	-1.9852
Urea	1	-0.68333	0.16422	0.001	-1.0315	-0.3352
	2	-3.72	0.16422	0	-4.0681	-3.3719
	3	-2.48333	0.16422	0	-2.8315	-2.1352

beef extract	4	-0.53667	0.16422	0.005	-0.8848	-0.1885
	5	-0.54333	0.16422	0.004	-0.8915	-0.1952
	6	-0.3	0.16422	0.086	-0.6481	0.0481
	8	-2.63333	0.16422	0	-2.9815	-2.2852
	1	1.95	0.16422	0	1.6019	2.2981
	2	-1.08667	0.16422	0	-1.4348	-0.7385
	3	0.15	0.16422	0.375	-0.1981	0.4981
	4	2.09667	0.16422	0	1.7485	2.4448
	5	2.09	0.16422	0	1.7419	2.4381
	6	2.33333	0.16422	0	1.9852	2.6815
	7	2.63333	0.16422	0	2.2852	2.9815

Table S7 significance tests of MS-13 for carbon source

carbon source	Repeat group number	Mean Difference(I-J)	Standard Error	Significance	95% confidence interval	
					Lower limit	Upper limit
CK	2	-2.41667	0.25796	0	-2.9586	-1.8747
	3	-1.58	0.25796	0	-2.1219	-1.0381
	4	-2.32	0.25796	0	-2.8619	-1.7781
	5	-4.34667	0.25796	0	-4.8886	-3.8047
	6	-2.80333	0.25796	0	-3.3453	-2.2614
	7	-1.875	0.28841	0	-2.4809	-1.2691
	8	-2.405	0.28841	0	-3.0109	-1.7991
	9	-2.34667	0.25796	0	-2.8886	-1.8047
	10	-2.99333	0.25796	0	-3.5353	-2.4514
	1	2.41667	0.25796	0	1.8747	2.9586
maltose	3	0.83667	0.25796	0.005	0.2947	1.3786
	4	0.09667	0.25796	0.712	-0.4453	0.6386
	5	-1.93	0.25796	0	-2.4719	-1.3881
	6	-0.38667	0.25796	0.151	-0.9286	0.1553
	7	0.54167	0.28841	0.077	-0.0642	1.1476
	8	0.01167	0.28841	0.968	-0.5942	0.6176
	9	0.07	0.25796	0.789	-0.4719	0.6119
	10	-0.57667	0.25796	0.038	-1.1186	-0.0347
	1	1.58	0.25796	0	1.0381	2.1219
	2	-0.83667	0.25796	0.005	-1.3786	-0.2947
sucrose	4	-0.74	0.25796	0.01	-1.2819	-0.1981
	5	-2.76667	0.25796	0	-3.3086	-2.2247
	6	-1.22333	0.25796	0	-1.7653	-0.6814
	7	-0.295	0.28841	0.32	-0.9009	0.3109
	8	-0.825	0.28841	0.01	-1.4309	-0.2191
	9	-0.76667	0.25796	0.008	-1.3086	-0.2247

glucose	10	-1.41333	0.25796	0	-1.9553	-0.8714
	1	2.32	0.25796	0	1.7781	2.8619
	2	-0.09667	0.25796	0.712	-0.6386	0.4453
	3	0.74	0.25796	0.01	0.1981	1.2819
	5	-2.02667	0.25796	0	-2.5686	-1.4847
	6	-0.48333	0.25796	0.077	-1.0253	0.0586
	7	0.445	0.28841	0.14	-0.1609	1.0509
	8	-0.085	0.28841	0.772	-0.6909	0.5209
	9	-0.02667	0.25796	0.919	-0.5686	0.5153
	10	-0.67333	0.25796	0.018	-1.2153	-0.1314
fructose	1	4.34667	0.25796	0	3.8047	4.8886
	2	1.93	0.25796	0	1.3881	2.4719
	3	2.76667	0.25796	0	2.2247	3.3086
	4	2.02667	0.25796	0	1.4847	2.5686
	6	1.54333	0.25796	0	1.0014	2.0853
	7	2.47167	0.28841	0	1.8658	3.0776
	8	1.94167	0.28841	0	1.3358	2.5476
	9	2	0.25796	0	1.4581	2.5419
	10	1.35333	0.25796	0	0.8114	1.8953
	1	2.80333	0.25796	0	2.2614	3.3453
xylose	2	0.38667	0.25796	0.151	-0.1553	0.9286
	3	1.22333	0.25796	0	0.6814	1.7653
	4	0.48333	0.25796	0.077	-0.0586	1.0253
	5	-1.54333	0.25796	0	-2.0853	-1.0014
	7	0.92833	0.28841	0.005	0.3224	1.5342
	8	0.39833	0.28841	0.184	-0.2076	1.0042
	9	0.45667	0.25796	0.094	-0.0853	0.9986
	10	-0.19	0.25796	0.471	-0.7319	0.3519
	1	1.875	0.28841	0	1.2691	2.4809
	2	-0.54167	0.28841	0.077	-1.1476	0.0642
Mannitol	3	0.295	0.28841	0.32	-0.3109	0.9009
	4	-0.445	0.28841	0.14	-1.0509	0.1609
	5	-2.47167	0.28841	0	-3.0776	-1.8658
	6	-0.92833	0.28841	0.005	-1.5342	-0.3224
	8	-0.53	0.31593	0.111	-1.1937	0.1337
	9	-0.47167	0.28841	0.119	-1.0776	0.1342
	10	-1.11833	0.28841	0.001	-1.7242	-0.5124
	1	2.405	0.28841	0	1.7991	3.0109
	2	-0.01167	0.28841	0.968	-0.6176	0.5942
	3	0.825	0.28841	0.01	0.2191	1.4309
Mannose	4	0.085	0.28841	0.772	-0.5209	0.6909
	5	-1.94167	0.28841	0	-2.5476	-1.3358
	6	-0.39833	0.28841	0.184	-1.0042	0.2076
	7	0.53	0.31593	0.111	-0.1337	1.1937

lactose	9	0.05833	0.28841	0.842	-0.5476	0.6642
	10	-0.58833	0.28841	0.056	-1.1942	0.0176
	1	2.34667	0.25796	0	1.8047	2.8886
	2	-0.07	0.25796	0.789	-0.6119	0.4719
	3	0.76667	0.25796	0.008	0.2247	1.3086
	4	0.02667	0.25796	0.919	-0.5153	0.5686
	5	-2	0.25796	0	-2.5419	-1.4581
	6	-0.45667	0.25796	0.094	-0.9986	0.0853
	7	0.47167	0.28841	0.119	-0.1342	1.0776
	8	-0.05833	0.28841	0.842	-0.6642	0.5476
galactose	10	-0.64667	0.25796	0.022	-1.1886	-0.1047
	1	2.99333	0.25796	0	2.4514	3.5353
	2	0.57667	0.25796	0.038	0.0347	1.1186
	3	1.41333	0.25796	0	0.8714	1.9553
	4	0.67333	0.25796	0.018	0.1314	1.2153
	5	-1.35333	0.25796	0	-1.8953	-0.8114
	6	0.19	0.25796	0.471	-0.3519	0.7319
	7	1.11833	0.28841	0.001	0.5124	1.7242
	8	0.58833	0.28841	0.056	-0.0176	1.1942
	9	0.64667	0.25796	0.022	0.1047	1.1886

Table S8 significance tests of MS-13 for nitrogen source

Nitrogen source	Repeat group number	Mean Difference(I-J)	Standard Error	Significance	95% confidence interval	
					Lower limit	Upper limit
CK	2	-3.35	0.17574	0	-3.7226	-2.9774
	3	-2.22667	0.17574	0	-2.5992	-1.8541
	4	-0.44333	0.17574	0.023	-0.8159	-0.0708
	5	0.07667	0.17574	0.668	-0.2959	0.4492
	6	0.49667	0.17574	0.012	0.1241	0.8692
	7	0.71667	0.17574	0.001	0.3441	1.0892
	8	-2.58	0.17574	0	-2.9526	-2.2074
Yeast extract	1	3.35	0.17574	0	2.9774	3.7226
	3	1.12333	0.17574	0	0.7508	1.4959
	4	2.90667	0.17574	0	2.5341	3.2792
	5	3.42667	0.17574	0	3.0541	3.7992
	6	3.84667	0.17574	0	3.4741	4.2192
	7	4.06667	0.17574	0	3.6941	4.4392
	8	0.77	0.17574	0	0.3974	1.1426
Peptone	1	2.22667	0.17574	0	1.8541	2.5992

	2	-1.12333	0.17574	0	-1.4959	-0.7508
	4	1.78333	0.17574	0	1.4108	2.1559
	5	2.30333	0.17574	0	1.9308	2.6759
	6	2.72333	0.17574	0	2.3508	3.0959
	7	2.94333	0.17574	0	2.5708	3.3159
	8	-0.35333	0.17574	0.062	-0.7259	0.0192
	1	0.44333	0.17574	0.023	0.0708	0.8159
	2	-2.90667	0.17574	0	-3.2792	-2.5341
Ammonium tartrate	3	-1.78333	0.17574	0	-2.1559	-1.4108
	5	0.52	0.17574	0.009	0.1474	0.8926
	6	0.94	0.17574	0	0.5674	1.3126
	7	1.16	0.17574	0	0.7874	1.5326
	8	-2.13667	0.17574	0	-2.5092	-1.7641
	1	-0.07667	0.17574	0.668	-0.4492	0.2959
	2	-3.42667	0.17574	0	-3.7992	-3.0541
	3	-2.30333	0.17574	0	-2.6759	-1.9308
Ammonium sulfate	4	-0.52	0.17574	0.009	-0.8926	-0.1474
	6	0.42	0.17574	0.03	0.0474	0.7926
	7	0.64	0.17574	0.002	0.2674	1.0126
	8	-2.65667	0.17574	0	-3.0292	-2.2841
	1	-0.49667	0.17574	0.012	-0.8692	-0.1241
	2	-3.84667	0.17574	0	-4.2192	-3.4741
	3	-2.72333	0.17574	0	-3.0959	-2.3508
	4	-0.94	0.17574	0	-1.3126	-0.5674
Ammonium nitrate	5	-0.42	0.17574	0.03	-0.7926	-0.0474
	7	0.22	0.17574	0.229	-0.1526	0.5926
	8	-3.07667	0.17574	0	-3.4492	-2.7041
	1	-0.71667	0.17574	0.001	-1.0892	-0.3441
	2	-4.06667	0.17574	0	-4.4392	-3.6941
	3	-2.94333	0.17574	0	-3.3159	-2.5708
	4	-1.16	0.17574	0	-1.5326	-0.7874
	5	-0.64	0.17574	0.002	-1.0126	-0.2674
Urea	6	-0.22	0.17574	0.229	-0.5926	0.1526
	8	-3.29667	0.17574	0	-3.6692	-2.9241
	1	2.58	0.17574	0	2.2074	2.9526
	2	-0.77	0.17574	0	-1.1426	-0.3974
	3	0.35333	0.17574	0.062	-0.0192	0.7259
	4	2.13667	0.17574	0	1.7641	2.5092
	5	2.65667	0.17574	0	2.2841	3.0292
	6	3.07667	0.17574	0	2.7041	3.4492
beef extract	7	3.29667	0.17574	0	2.9241	3.6692

Table S9 significance tests of MS-10 for carbon source addition amount

Carbon source	Repeat group number	Mean Difference(I-J)	Standard Error	Significance	95% confidence interval	
					Lower limit	Upper limit
10	2	-0.4	0.21807	0.097	-0.8859	0.0859
	3	-1.2	0.21807	0	-1.6859	-0.7141
	4	-0.66667	0.21807	0.012	-1.1526	-0.1808
	5	-0.43333	0.21807	0.075	-0.9192	0.0526
15	1	0.4	0.21807	0.097	-0.0859	0.8859
	3	-0.8	0.21807	0.004	-1.2859	-0.3141
	4	-0.26667	0.21807	0.249	-0.7526	0.2192
	5	-0.03333	0.21807	0.882	-0.5192	0.4526
20	1	1.2	0.21807	0	0.7141	1.6859
	2	0.8	0.21807	0.004	0.3141	1.2859
	4	0.53333	0.21807	0.035	0.0474	1.0192
	5	0.76667	0.21807	0.006	0.2808	1.2526
25	1	0.66667	0.21807	0.012	0.1808	1.1526
	2	0.26667	0.21807	0.249	-0.2192	0.7526
	3	-0.53333	0.21807	0.035	-1.0192	-0.0474
	5	0.23333	0.21807	0.31	-0.2526	0.7192
30	1	0.43333	0.21807	0.075	-0.0526	0.9192
	2	0.03333	0.21807	0.882	-0.4526	0.5192
	3	-0.76667	0.21807	0.006	-1.2526	-0.2808
	4	-0.23333	0.21807	0.31	-0.7192	0.2526

Table S10 significance tests of MS-11 for carbon source addition amount

Carbon source	Repeat group number	Mean Difference(I-J)	Standard Error	Significance	95% confidence interval	
					Lower limit	Upper limit
10	2	-0.83333	0.21807	0.003	-1.3192	-0.3474
	3	-1.7	0.21807	0	-2.1859	-1.2141
	4	-1.13333	0.21807	0	-1.6192	-0.6474
	5	-0.8	0.21807	0.004	-1.2859	-0.3141
15	1	0.83333	0.21807	0.003	0.3474	1.3192
	3	-0.86667	0.21807	0.003	-1.3526	-0.3808
	4	-0.3	0.21807	0.199	-0.7859	0.1859
	5	0.03333	0.21807	0.882	-0.4526	0.5192
20	1	1.7	0.21807	0	1.2141	2.1859
	2	0.86667	0.21807	0.003	0.3808	1.3526

	4	0.56667	0.21807	0.027	0.0808	1.0526
	5	0.9	0.21807	0.002	0.4141	1.3859
25	1	1.13333	0.21807	0	0.6474	1.6192
	2	0.3	0.21807	0.199	-0.1859	0.7859
	3	-0.56667	0.21807	0.027	-1.0526	-0.0808
	5	0.33333	0.21807	0.157	-0.1526	0.8192
30	1	0.8	0.21807	0.004	0.3141	1.2859
	2	-0.03333	0.21807	0.882	-0.5192	0.4526
	3	-0.9	0.21807	0.002	-1.3859	-0.4141
	4	-0.33333	0.21807	0.157	-0.8192	0.1526

Table S11 significance tests of MS- 12 for carbon source addition amount

Carbon source	Repeat group number	Mean Difference(I-J)	Standard Error	Significance	95% confidence interval	
					Lower limit	Upper limit
10	2	-0.76667	0.22211	0.006	-1.2616	-0.2718
	3	-1.43333	0.22211	0	-1.9282	-0.9384
	4	-0.73333	0.22211	0.008	-1.2282	-0.2384
	5	-0.5	0.22211	0.048	-0.9949	-0.0051
15	1	0.76667	0.22211	0.006	0.2718	1.2616
	3	-0.66667	0.22211	0.013	-1.1616	-0.1718
	4	0.03333	0.22211	0.884	-0.4616	0.5282
	5	0.26667	0.22211	0.258	-0.2282	0.7616
20	1	1.43333	0.22211	0	0.9384	1.9282
	2	0.66667	0.22211	0.013	0.1718	1.1616
	4	0.7	0.22211	0.01	0.2051	1.1949
	5	0.93333	0.22211	0.002	0.4384	1.4282
25	1	0.73333	0.22211	0.008	0.2384	1.2282
	2	-0.03333	0.22211	0.884	-0.5282	0.4616
	3	-0.7	0.22211	0.01	-1.1949	-0.2051
	5	0.23333	0.22211	0.318	-0.2616	0.7282
30	1	0.5	0.22211	0.048	0.0051	0.9949
	2	-0.26667	0.22211	0.258	-0.7616	0.2282
	3	-0.93333	0.22211	0.002	-1.4282	-0.4384
	4	-0.23333	0.22211	0.318	-0.7282	0.2616

Table S12 significance tests of MS- 13 for carbon source addition amount

Carbon source	Repeat group number	Mean Difference(I-J)	Standard Error	Significance	95% confidence interval	
					Lower limit	Upper limit

10	2	-0.76667	0.17764	0.002	-1.1625	-0.3709
	3	-1.46667	0.17764	0	-1.8625	-1.0709
	4	-1.2	0.17764	0	-1.5958	-0.8042
	5	-0.8	0.17764	0.001	-1.1958	-0.4042
15	1	0.76667	0.17764	0.002	0.3709	1.1625
	3	-0.7	0.17764	0.003	-1.0958	-0.3042
	4	-0.43333	0.17764	0.035	-0.8291	-0.0375
	5	-0.03333	0.17764	0.855	-0.4291	0.3625
20	1	1.46667	0.17764	0	1.0709	1.8625
	2	0.7	0.17764	0.003	0.3042	1.0958
	4	0.26667	0.17764	0.164	-0.1291	0.6625
	5	0.66667	0.17764	0.004	0.2709	1.0625
25	1	1.2	0.17764	0	0.8042	1.5958
	2	0.43333	0.17764	0.035	0.0375	0.8291
	3	-0.26667	0.17764	0.164	-0.6625	0.1291
	5	0.4	0.17764	0.048	0.0042	0.7958
30	1	0.8	0.17764	0.001	0.4042	1.1958
	2	0.03333	0.17764	0.855	-0.3625	0.4291
	3	-0.66667	0.17764	0.004	-1.0625	-0.2709
	4	-0.4	0.17764	0.048	-0.7958	-0.0042

Table S13 significance tests of MS-10 for nitrogen source addition amount

Nitrogen source	Repeat group number	Mean Difference(I-J)	Standard Error	Significance	95% confidence interval	
					Lower limit	Upper limit
2.5	2	-0.63333	0.2087	0.013	-1.0983	-0.1683
	3	-1.3	0.2087	0	-1.765	-0.835
	4	-0.73333	0.2087	0.006	-1.1983	-0.2683
	5	-0.2	0.2087	0.36	-0.665	0.265
5	1	0.63333	0.2087	0.013	0.1683	1.0983
	3	-0.66667	0.2087	0.01	-1.1317	-0.2017
	4	-0.1	0.2087	0.642	-0.565	0.365
	5	0.43333	0.2087	0.065	-0.0317	0.8983
7.5	1	1.3	0.2087	0	0.835	1.765
	2	0.66667	0.2087	0.01	0.2017	1.1317
	4	0.56667	0.2087	0.022	0.1017	1.0317
	5	1.1	0.2087	0	0.635	1.565
10	1	0.73333	0.2087	0.006	0.2683	1.1983
	2	0.1	0.2087	0.642	-0.365	0.565
	3	-0.56667	0.2087	0.022	-1.0317	-0.1017
	5	0.53333	0.2087	0.029	0.0683	0.9983
15	1	0.2	0.2087	0.36	-0.265	0.665

	2	-0.43333	0.2087	0.065	-0.8983	0.0317
	3	-1.1	0.2087	0	-1.565	-0.635
	4	-0.53333	0.2087	0.029	-0.9983	-0.0683

Table S14 significance tests of MS- 11 for nitrogen source addition amount

Carbon source	Repeat group number	Mean Difference(I-J)	Standard Error	Significance	95% confidence interval	
					Lower limit	Upper limit
2.5	2	-1.06667	0.21858	0.001	-1.5611	-0.5722
	3	-1.71667	0.24438	0	-2.2695	-1.1638
	4	-1.13333	0.21858	0.001	-1.6278	-0.6389
	5	-0.73333	0.21858	0.008	-1.2278	-0.2389
5	1	1.06667	0.21858	0.001	0.5722	1.5611
	3	-0.65	0.24438	0.026	-1.2028	-0.0972
	4	-0.06667	0.21858	0.767	-0.5611	0.4278
	5	0.33333	0.21858	0.162	-0.1611	0.8278
7.5	1	1.71667	0.24438	0	1.1638	2.2695
	2	0.65	0.24438	0.026	0.0972	1.2028
	4	0.58333	0.24438	0.041	0.0305	1.1362
	5	0.98333	0.24438	0.003	0.4305	1.5362
10	1	1.13333	0.21858	0.001	0.6389	1.6278
	2	0.06667	0.21858	0.767	-0.4278	0.5611
	3	-0.58333	0.24438	0.041	-1.1362	-0.0305
	5	0.4	0.21858	0.1	-0.0945	0.8945
15	1	0.73333	0.21858	0.008	0.2389	1.2278
	2	-0.33333	0.21858	0.162	-0.8278	0.1611
	3	-0.98333	0.24438	0.003	-1.5362	-0.4305
	4	-0.4	0.21858	0.1	-0.8945	0.0945

Table S15 significance tests of MS- 12 for nitrogen source addition amount

Carbon source	Repeat group number	Mean Difference(I-J)	Standard Error	Significance	95% confidence interval	
					Lower limit	Upper limit
2.5	2	-0.53333	0.20548	0.027	-0.9912	-0.0755
	3	-1.23333	0.20548	0	-1.6912	-0.7755
	4	-0.83333	0.20548	0.002	-1.2912	-0.3755
	5	-0.33333	0.20548	0.136	-0.7912	0.1245
5	1	0.53333	0.20548	0.027	0.0755	0.9912
	3	-0.7	0.20548	0.007	-1.1578	-0.2422
	4	-0.3	0.20548	0.175	-0.7578	0.1578

	5	0.2	0.20548	0.353	-0.2578	0.6578
7.5	1	1.23333	0.20548	0	0.7755	1.6912
	2	0.7	0.20548	0.007	0.2422	1.1578
	4	0.4	0.20548	0.08	-0.0578	0.8578
	5	0.9	0.20548	0.001	0.4422	1.3578
10	1	0.83333	0.20548	0.002	0.3755	1.2912
	2	0.3	0.20548	0.175	-0.1578	0.7578
	3	-0.4	0.20548	0.08	-0.8578	0.0578
	5	0.5	0.20548	0.035	0.0422	0.9578
15	1	0.33333	0.20548	0.136	-0.1245	0.7912
	2	-0.2	0.20548	0.353	-0.6578	0.2578
	3	-0.9	0.20548	0.001	-1.3578	-0.4422
	4	-0.5	0.20548	0.035	-0.9578	-0.0422

Table S16 significance tests of MS-13 for nitrogen source addition amount

Carbon source	Repeat group number	Mean Difference(I-J)	Standard Error	Significance	95% confidence interval	
					Lower limit	Upper limit
2.5	2	-0.76667	0.19437	0.003	-1.1997	-0.3336
	3	-1.36667	0.19437	0	-1.7997	-0.9336
	4	-0.76667	0.19437	0.003	-1.1997	-0.3336
	5	-0.06667	0.19437	0.739	-0.4997	0.3664
5	1	0.76667	0.19437	0.003	0.3336	1.1997
	3	-0.6	0.19437	0.012	-1.0331	-0.1669
	4	0	0.19437	1	-0.4331	0.4331
	5	0.7	0.19437	0.005	0.2669	1.1331
7.5	1	1.36667	0.19437	0	0.9336	1.7997
	2	0.6	0.19437	0.012	0.1669	1.0331
	4	0.6	0.19437	0.012	0.1669	1.0331
	5	1.3	0.19437	0	0.8669	1.7331
10	1	0.76667	0.19437	0.003	0.3336	1.1997
	2	0	0.19437	1	-0.4331	0.4331
	3	-0.6	0.19437	0.012	-1.0331	-0.1669
	5	0.7	0.19437	0.005	0.2669	1.1331
15	1	0.06667	0.19437	0.739	-0.3664	0.4997
	2	-0.7	0.19437	0.005	-1.1331	-0.2669
	3	-1.3	0.19437	0	-1.7331	-0.8669
	4	-0.7	0.19437	0.005	-1.1331	-0.2669

Table S17 significance tests of MS-10 for dandelion addition amount

Dandelion	Repeat group number	Mean Difference(I-J)	Standard Error	Significance	95% confidence interval	
					Lower limit	Upper limit
0	2	-0.13333	0.19626	0.51	-0.561	0.2943
	3	-0.56667	0.19626	0.014	-0.9943	-0.139
	4	-0.96667	0.19626	0	-1.3943	-0.539
	5	-0.56667	0.19626	0.014	-0.9943	-0.139
	6	0.03333	0.19626	0.868	-0.3943	0.461
0.05	1	0.13333	0.19626	0.51	-0.2943	0.561
	3	-0.43333	0.19626	0.047	-0.861	-0.0057
	4	-0.83333	0.19626	0.001	-1.261	-0.4057
	5	-0.43333	0.19626	0.047	-0.861	-0.0057
	6	0.16667	0.19626	0.412	-0.261	0.5943
0.075	1	0.56667	0.19626	0.014	0.139	0.9943
	2	0.43333	0.19626	0.047	0.0057	0.861
	4	-0.4	0.19626	0.064	-0.8276	0.0276
	5	0	0.19626	1	-0.4276	0.4276
	6	0.6	0.19626	0.01	0.1724	1.0276
0.1	1	0.96667	0.19626	0	0.539	1.3943
	2	0.83333	0.19626	0.001	0.4057	1.261
	3	0.4	0.19626	0.064	-0.0276	0.8276
	5	0.4	0.19626	0.064	-0.0276	0.8276
	6	1	0.19626	0	0.5724	1.4276
0.125	1	0.56667	0.19626	0.014	0.139	0.9943
	2	0.43333	0.19626	0.047	0.0057	0.861
	3	0	0.19626	1	-0.4276	0.4276
	4	-0.4	0.19626	0.064	-0.8276	0.0276
	6	0.6	0.19626	0.01	0.1724	1.0276
0.15	1	-0.03333	0.19626	0.868	-0.461	0.3943
	2	-0.16667	0.19626	0.412	-0.5943	0.261
	3	-0.6	0.19626	0.01	-1.0276	-0.1724
	4	-1	0.19626	0	-1.4276	-0.5724
	5	-0.6	0.19626	0.01	-1.0276	-0.1724

Table S18 significance tests of MS-11 for dandelion addition amount

Dandelion	Repeat group number	Mean Difference(I-J)	Standard Error	Significance	95% confidence interval	
					Lower limit	Upper limit
0	2	-0.33333	0.17427	0.08	-0.713	0.0464
	3	-0.66667	0.17427	0.002	-1.0464	-0.287

0.05	4	-1.13333	0.17427	0	-1.513	-0.7536
	5	-0.66667	0.17427	0.002	-1.0464	-0.287
	6	-0.26667	0.17427	0.152	-0.6464	0.113
	1	0.33333	0.17427	0.08	-0.0464	0.713
	3	-0.33333	0.17427	0.08	-0.713	0.0464
0.075	4	-0.8	0.17427	0.001	-1.1797	-0.4203
	5	-0.33333	0.17427	0.08	-0.713	0.0464
	6	0.06667	0.17427	0.709	-0.313	0.4464
	1	0.66667	0.17427	0.002	0.287	1.0464
	2	0.33333	0.17427	0.08	-0.0464	0.713
0.1	4	-0.46667	0.17427	0.02	-0.8464	-0.087
	5	0	0.17427	1	-0.3797	0.3797
	6	0.4	0.17427	0.041	0.0203	0.7797
	1	1.13333	0.17427	0	0.7536	1.513
	2	0.8	0.17427	0.001	0.4203	1.1797
0.125	3	0.46667	0.17427	0.02	0.087	0.8464
	5	0.46667	0.17427	0.02	0.087	0.8464
	6	0.86667	0.17427	0	0.487	1.2464
	1	0.66667	0.17427	0.002	0.287	1.0464
	2	0.33333	0.17427	0.08	-0.0464	0.713
0.15	3	0	0.17427	1	-0.3797	0.3797
	4	-0.46667	0.17427	0.02	-0.8464	-0.087
	6	0.4	0.17427	0.041	0.0203	0.7797
	1	0.26667	0.17427	0.152	-0.113	0.6464
	2	-0.06667	0.17427	0.709	-0.4464	0.313
	3	-0.4	0.17427	0.041	-0.7797	-0.0203
	4	-0.86667	0.17427	0	-1.2464	-0.487
	5	-0.4	0.17427	0.041	-0.7797	-0.0203

Table S19 significance tests of MS-12 for dandelion addition amount

Dandelion	Repeat group number	Mean Difference(I-J)	Standard Error	Significance	95% confidence interval	
					Lower limit	Upper limit
0	2	-0.16667	0.18659	0.389	-0.5732	0.2399
	3	-0.6	0.18659	0.007	-1.0065	-0.1935
	4	-1.1	0.18659	0	-1.5065	-0.6935
	5	-0.76667	0.18659	0.001	-1.1732	-0.3601
	6	-0.4	0.18659	0.053	-0.8065	0.0065
0.05	1	0.16667	0.18659	0.389	-0.2399	0.5732
	3	-0.43333	0.18659	0.039	-0.8399	-0.0268
	4	-0.93333	0.18659	0	-1.3399	-0.5268
	5	-0.6	0.18659	0.007	-1.0065	-0.1935

0.075	6	-0.23333	0.18659	0.235	-0.6399	0.1732
	1	0.6	0.18659	0.007	0.1935	1.0065
	2	0.43333	0.18659	0.039	0.0268	0.8399
	4	-0.5	0.18659	0.02	-0.9065	-0.0935
	5	-0.16667	0.18659	0.389	-0.5732	0.2399
0.1	6	0.2	0.18659	0.305	-0.2065	0.6065
	1	1.1	0.18659	0	0.6935	1.5065
	2	0.93333	0.18659	0	0.5268	1.3399
	3	0.5	0.18659	0.02	0.0935	0.9065
	5	0.33333	0.18659	0.099	-0.0732	0.7399
0.125	6	0.7	0.18659	0.003	0.2935	1.1065
	1	0.76667	0.18659	0.001	0.3601	1.1732
	2	0.6	0.18659	0.007	0.1935	1.0065
	3	0.16667	0.18659	0.389	-0.2399	0.5732
	4	-0.33333	0.18659	0.099	-0.7399	0.0732
0.15	6	0.36667	0.18659	0.073	-0.0399	0.7732
	1	0.4	0.18659	0.053	-0.0065	0.8065
	2	0.23333	0.18659	0.235	-0.1732	0.6399
	3	-0.2	0.18659	0.305	-0.6065	0.2065
	4	-0.7	0.18659	0.003	-1.1065	-0.2935
	5	-0.36667	0.18659	0.073	-0.7732	0.0399

Table S20 significance tests of MS-13 for dandelion addition amount

Dandelion	Repeat group number	Mean Difference(I-J)	Standard Error	Significance	95% confidence interval	
					Lower limit	Upper limit
0	2	-0.1	0.24114	0.686	-0.6254	0.4254
	3	-0.63333	0.24114	0.022	-1.1587	-0.1079
	4	-1.16667	0.24114	0	-1.6921	-0.6413
	5	-0.4	0.24114	0.123	-0.9254	0.1254
	6	-0.03333	0.24114	0.892	-0.5587	0.4921
0.05	1	0.1	0.24114	0.686	-0.4254	0.6254
	3	-0.53333	0.24114	0.047	-1.0587	-0.0079
	4	-1.06667	0.24114	0.001	-1.5921	-0.5413
	5	-0.3	0.24114	0.237	-0.8254	0.2254
	6	0.06667	0.24114	0.787	-0.4587	0.5921
0.075	1	0.63333	0.24114	0.022	0.1079	1.1587
	2	0.53333	0.24114	0.047	0.0079	1.0587
	4	-0.53333	0.24114	0.047	-1.0587	-0.0079
	5	0.23333	0.24114	0.352	-0.2921	0.7587
	6	0.6	0.24114	0.029	0.0746	1.1254
0.1	1	1.16667	0.24114	0	0.6413	1.6921

0.125	2	1.06667	0.24114	0.001	0.5413	1.5921
	3	0.53333	0.24114	0.047	0.0079	1.0587
	5	0.76667	0.24114	0.008	0.2413	1.2921
	6	1.13333	0.24114	0.001	0.6079	1.6587
	1	0.4	0.24114	0.123	-0.1254	0.9254
	2	0.3	0.24114	0.237	-0.2254	0.8254
0.15	3	-0.23333	0.24114	0.352	-0.7587	0.2921
	4	-0.76667	0.24114	0.008	-1.2921	-0.2413
	6	0.36667	0.24114	0.154	-0.1587	0.8921
	1	0.03333	0.24114	0.892	-0.4921	0.5587
	2	-0.06667	0.24114	0.787	-0.5921	0.4587
	3	-0.6	0.24114	0.029	-1.1254	-0.0746
	4	-1.13333	0.24114	0.001	-1.6587	-0.6079
	5	-0.36667	0.24114	0.154	-0.8921	0.1587
