

Table S1. Full data of each honey sample tested in this study

Honey No.	Reference number	Geographical location	Organoleptic	Moisture %	pH	Free Acidity (meq/kg)	Electrical conductivity (mS/cm)	Colour (mm Pfund)	HMF (mg/kg)	Diacetase activity (DN)	Fructose (%)	Glucose (%)	Fructose + Glucose (%)	Fructose / Glucose	HDE / P	PG/10g	H ₂ O ₂ (μM)	Total protein content (μg/g)	TPC (mgGAE/kg)	DPH (RSA%)	FRAP (mmol Fe+2/kg)
1	8	Corinthia	3	16.5	4.7	22	0.95	67	1.79	22.94	30.9	26.6	57.5	1.16	17.30	27129	2430	445.70	380.14	42.43	3.26
2	13	Corinthia	3	15.7	4.8	23	1.00	76	0.37	34.68	31.4	27.5	58.9	1.14	11.29	39636	2467	527.34	296.40	44.44	1.87
3	20	Evia	3	15.5	4.8	26	0.91	93	0.59	25.26	32.1	27.6	59.7	1.16	3.07	55244	4703	655.65	422.07	53.51	2.52
4	26	Evia	3	15.6	4.8	23	0.94	60	0.29	19.98	31.8	29.2	61	1.09	1.23	93471	3118	540.71	387.23	55.15	4.73
5	30	Evia	3	15.5	4.8	22	0.93	64	0.78	16.52	32.2	29.4	61.6	1.10	1.24	53024	2737	463.66	523.18	56.21	3.04
6	50	Rhodes	2	18	4	26	1.22	88	1.12	14.28	29.3	23.9	53.2	1.22	37.31	10260	2285	515.89	411.76	54.79	4.45
7	64	Rhodes	3	16.2	4.5	29	1.27	95	4.42	9.34	32.6	29.3	61.9	1.11	3.29	27283	2664	664.09	510.94	62.64	4.29
8	65	Evia	2	15.5	4.8	29	1.18	116	0.22	19.74	39.2	30.5	69.8	1.28	2.68	32949	4459	628.70	693.32	62.17	9.43
9	74	Thassos	2	15.9	5	24	1.30	115	0.00	26.51	30.6	27.7	58.3	1.10	3.16	74234	3499	572.05	431.05	55.31	4.75
10	79	Evia	2	16.2	4.9	26	1.06	116	0.89	17.91	31.45	27.02	58.5	1.16	10.73	9150	3892	412.93	633.21	62.37	9.16
11	82	Chania	1	14.5	4.6	26	1.00	93	3.29	8.19	34.5	22.3	56.8	1.55	0.13	223195	3220	465.29	382.16	64.69	4.13
12	83	Chania	3	14	5	18	1.26	99	1.04	6.95	32.9	20.1	53	1.64	9.00	11838	2903	368.30	277.07	53.15	3.05
13	88	Thassos	3	16	4.7	24	1.17	87	0.00	33.43	29.5	24.1	53.6	1.22	0.16	232443	2952	722.94	340.14	55.12	3.71
14	91	Thassos	2	17	4.7	24	1.30	104	1.27	18.57	32.5	31.8	64.3	1.02	1.20	55490	1911	486.12	340.36	48.19	3.56
15	93	Thassos	3	16	4.8	24	1.19	103	0.15	26.46	32.3	25.9	58.2	1.25	3.10	33758	3290	611.67	424.42	67.14	5.73
16	95	Chalkidiki	3	14.9	4.9	30	1.14	118	0.44	36.11	25.9	20.6	46.4	1.26	11.28	23148	4049	652.80	488.78	70.21	4.81
17	96	Thassos	3	15.5	4.6	28	1.06	100	0.44	27.86	35.5	29.5	65.1	1.20	1.16	90009	3847	632.94	641.94	65.38	6.88
18	99	Thassos	3	16.5	4.8	24	1.03	90	0.00	24.65	33.9	27.9	61.8	1.22	1.69	30123	5620	563.61	362.29	65.23	5.73
19	100	Chalkidiki	3	15.6	4.8	28	0.99	99	1.57	37.29	29.5	22.7	52.2	1.30	83.78	36500	3908	726.56	376.47	50.84	4.77
20	101	Thassos	3	16.4	4.9	22	1.09	95	1.42	20.68	31.8	25.5	57.3	1.25	1.26	59683	3559	606.18	363.21	60.24	4.96
21	105	Thassos	3	18.2	4.5	24	1.13	83	2.43	17.46	34.9	33.2	68.1	1.05	0.40	56230	2394	538.79	329.31	62.79	4.12
22	109	Evia	2	16.5	5	24	1.36	78	0.00	7.71	32.9	31.8	64.7	1.03	0.99	22566	3316	301.47	450.68	65.70	4.27
23	111	Evia	1	17.5	4.9	18	0.98	67	0.00	8.96	31.8	25.5	57.3	1.25	4.55	15902	3064	310.79	327.16	50.95	3.94
24	112	Thassos	3	16	4.7	26	1.17	90	0.00	26.59	30.2	21.4	51.7	1.41	0.77	88195	4945	695.04	558.04	72.45	5.63
25	116	Thassos	3	16.3	4.9	22	1.00	89	4.15	17.41	31.5	24.2	55.7	1.30	0.39	95166	2482	502.18	618.56	79.33	6.30
26	136	Chalkidiki	3	18.1	4.7	38	1.09	96	0.00	23.57	26.3	20.7	47.0	1.27	2.01	60889	2246	475.55	580.19	65.08	5.33
27	151	Chania	3	15.6	4.6	38	1.23	101	0.46	15.44	31.3	14.4	45.7	2.17	8.93	4994	4252	827.53	637.28	77.49	8.23
Mean			2.63	16.1	4.7	25.5	1.11	91.9	1.00	20.90	31.81	25.94	57.75	1.26	8.23	57871	3341	552.39	451.38	60.11	4.91
SD			0.63	1.0	0.20	4.6	0.13	15.9	1.25	8.71	2.64	4.30	6.15	0.23	16.98	55867	921	127.78	120.38	9.21	1.85
Min			1	14.0	4.0	18	0.91	60	0	6.95	25.9	14.4	45.7	1.02	0.13	4994	1911	301.47	277.07	42.43	1.87
Max			3	18.2	5.0	38	1.36	118	4.42	37.29	39.2	33.2	69.8	2.17	83.78	232443	5620	827.53	693.32	79.33	9.43

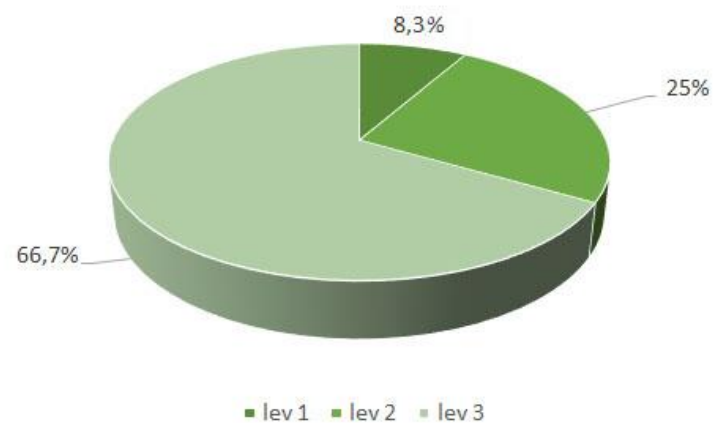


Figure S1. Sensory three-point scale evaluation of pine honey samples.

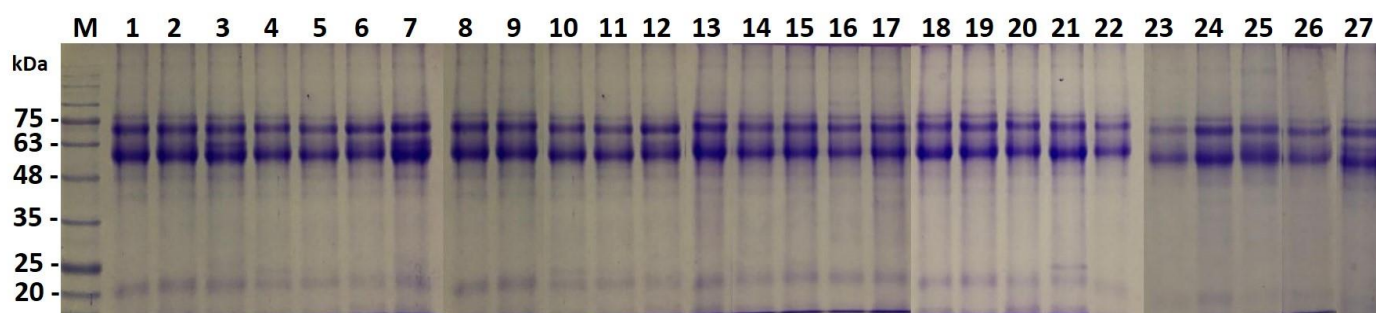
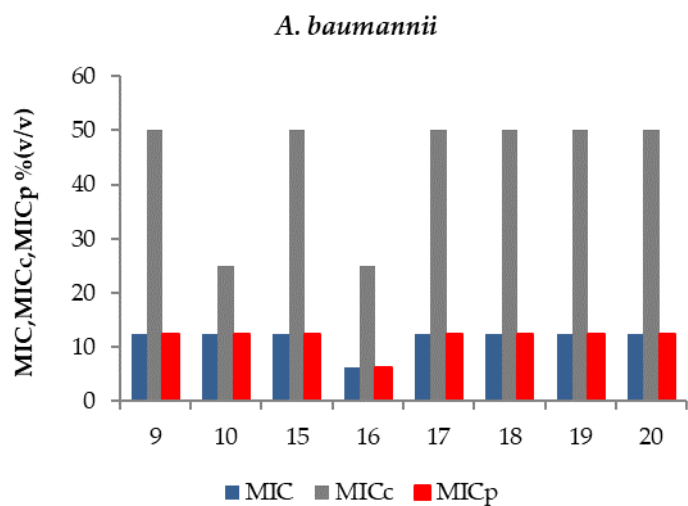
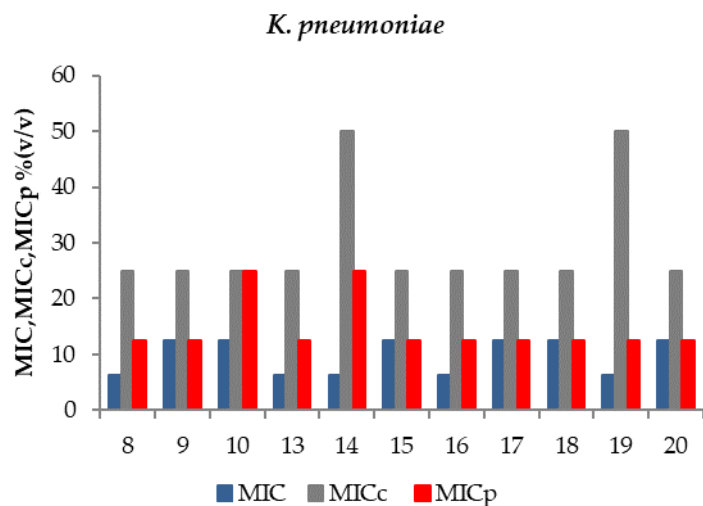


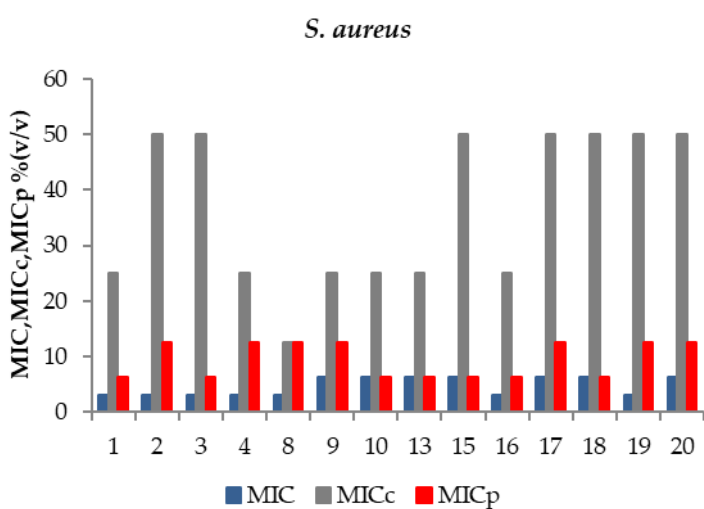
Figure S2. Protein profile of pine honeydew honey samples (n=27) from Greece. A 15 μ l of diluted honey samples (50% w/w in distilled water) were separated by 12% SDS-PAGE gels and protein content assessed after gel staining with Coomassie Brilliant Blue R-250. M, protein pre-stained marker.



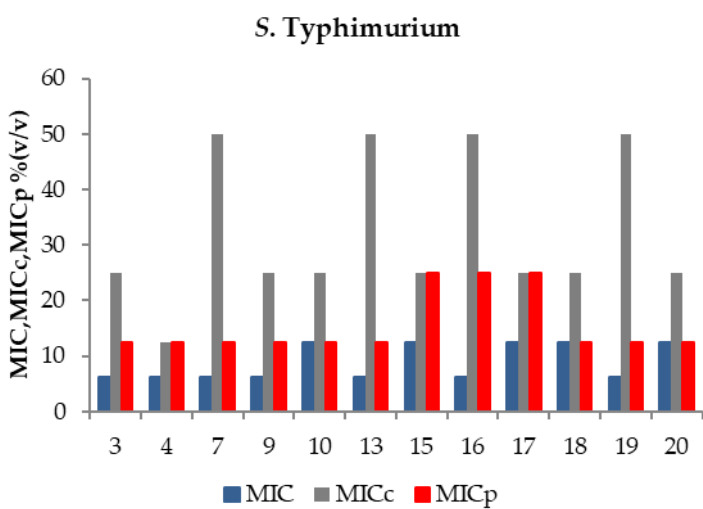
(a)



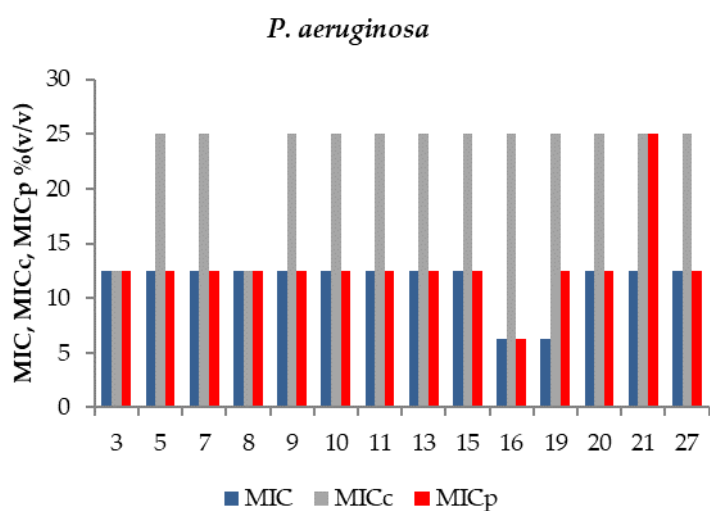
(b)



(c)



(d)



(e)

Figure S3. MIC values after proteinase K (MICp) and bovine catalase (MICc) treatment of honey samples tested against *A. baumannii* (a), *K. pneumoniae* (b), *S. aureus* (c), *S. typhimurium* (d) and *P. aeruginosa* (e). MIC values are expressed as %v/v).

Table S2. Correlation coefficient (r, first value) and significance (second value) of physicochemical parameters of pine honey calculated by Spearman's correlation analysis.

	Moisture (%)	pH	Free Acidity (meq/kg)	Electrical Conductivity (mS/cm)	Colour (mm Pfund)	HMF (mg/kg)	Diastase (DN)	Fructose (%)	Glucose (%)	Fru + Glu (%)	Fru / Glu	HDE / P	PG / 10gr	H ₂ O ₂ (μM)	Protein (μg/g)	TPC (mg GAE/kg)	DPPH (RSA%)	FRAP (nmol Fe ²⁺ /kg)
Moisture	1.000	-0.182	-0.167	0.158	-0.295	-0.039	-0.169	-0.144	0.210	0.108	-0.338	-0.056	-0.102	-0.471*	-0.306	-0.202	-0.049	0.011
	-	0.364	0.404	0.432	0.136	0.845	0.398	0.473	0.293	0.591	0.085	0.782	0.612	0.013	0.120	0.312	0.809	0.955
pH	-0.182	1.000	-0.447*	-0.027	0.126	-0.298	0.013	-0.047	-0.033	-0.044	0.013	0.146	-0.163	0.282	-0.329	-0.085	-0.047	0.018
	0.364	-	0.019	0.893	0.533	0.131	0.947	0.817	0.871	0.828	0.948	0.467	0.418	0.155	0.094	0.673	0.816	0.930
Free Acidity	-0.167	-0.447*	1.000	0.268	0.577**	-0.051	0.241	-0.159	-0.168	-0.149	0.250	0.118	-0.088	0.346	0.556**	0.592**	0.410*	0.493**
	0.404	0.019	-	0.177	0.002	0.802	0.225	0.428	0.403	0.458	0.209	0.558	0.662	0.077	0.003	0.001	0.034	0.009
Electrical Conductivity	0.158	-0.027	0.268	1.000	0.482*	-0.147	-0.204	0.058	0.017	0.003	-0.022	-0.021	-0.240	-0.062	0.113	0.112	0.255	0.204
	0.432	0.893	0.177	-	0.011	0.465	0.308	0.773	0.931	0.989	0.914	0.917	0.228	0.757	0.573	0.579	0.199	0.308
Colour	-0.295	0.126	0.577**	0.482*	1.000	0.009	0.224	-0.005	-0.175	-0.129	0.313	0.225	-0.173	0.381*	0.339	0.399*	0.271	0.547**
	0.136	0.533	0.002	0.011	-	0.963	0.262	0.979	0.381	0.521	0.111	0.259	0.388	0.050	0.084	0.039	0.172	0.003
HMF	-0.039	-0.298	-0.051	-0.147	0.009	1.000	-0.323	0.168	0.008	0.033	0.017	0.088	-0.026	-0.349	-0.063	-0.075	-0.149	-0.164
	0.845	0.131	0.802	0.465	0.963	-	0.100	0.402	0.967	0.872	0.933	0.662	0.896	0.074	0.757	0.710	0.459	0.415
Diastase	-0.169	0.013	0.241	-0.204	0.224	-0.323	1.000	-0.425*	-0.077	-0.134	0.006	0.128	0.357	0.320	0.590**	0.013	-0.047	0.145
	0.398	0.947	0.225	0.308	0.262	0.100	-	0.027	0.702	0.505	0.975	0.526	0.068	0.104	0.001	0.949	0.816	0.471
Fructose	-0.144	-0.047	-0.159	0.058	-0.005	0.168	-0.425*	1.000	0.621**	0.754**	-0.204	-0.422*	0.045	0.082	-0.209	-0.035	0.105	-0.008
	0.473	0.817	0.428	0.773	0.979	0.402	0.027	-	0.001	0.000	0.308	0.028	0.823	0.682	0.296	0.861	0.601	0.967
Glucose	0.210	-0.033	-0.168	0.017	-0.175	0.008	-0.077	0.621**	1.000	0.973**	-0.817**	-0.297	0.119	-0.116	-0.164	0.013	-0.147	-0.135
	0.293	0.871	0.403	0.931	0.381	0.967	0.702	0.001	-	0.000	0.000	0.132	0.555	0.563	0.414	0.947	0.465	0.501
Fru + Glu	0.108	-0.044	-0.149	0.003	-0.129	0.033	-0.134	0.754**	0.973**	1.000	-0.717**	-0.298	0.087	-0.053	-0.177	0.010	-0.124	-0.105
	0.591	0.828	0.458	0.989	0.521	0.872	0.505	0.000	0.000	-	0.000	0.131	0.667	0.792	0.378	0.960	0.538	0.601
Fru / Glu	-0.338	0.013	0.250	-0.022	0.313	0.017	0.006	-0.204	-0.817**	-0.717**	1.000	0.113	-0.064	0.346	0.251	0.176	0.326	0.412*
	0.085	0.948	0.209	0.914	0.111	0.933	0.975	0.308	0.000	0.000	-	0.573	0.753	0.077	0.206	0.379	0.097	0.033
HDE / P	-0.056	0.146	0.118	-0.021	0.225	0.088	0.128	-0.422*	-0.297	-0.298	0.113	1.000	-0.728**	0.027	0.015	-0.087	-0.417*	-0.049
	0.782	0.467	0.558	0.917	0.259	0.662	0.526	0.028	0.132	0.131	0.573	-	0.000	0.892	0.940	0.667	0.030	0.806
PG /10gr	-0.102	-0.163	-0.088	-0.240	-0.173	-0.026	0.357	0.045	0.119	0.087	-0.064	-0.728**	1.000	-0.102	0.219	-0.012	0.101	-0.040
	0.612	0.418	0.662	0.228	0.388	0.896	0.068	0.823	0.555	0.667	0.753	0.000	-	0.613	0.273	0.952	0.617	0.844
H ₂ O ₂	-0.471*	0.282	0.346	-0.062	0.381*	-0.349	0.320	0.082	-0.116	-0.053	0.346	0.027	-0.102	1.000	0.501**	0.341	0.374	0.497
	0.013	0.155	0.077	0.757	0.050	0.074	0.104	0.682	0.563	0.792	0.077	0.892	0.613	-	0.008	0.081	0.055	0.008

Protein	-0.306 0.120	-0.329 0.094	0.556** 0.003	0.113 0.573	0.339 0.084	-0.063 0.757	0.590** 0.001	-0.209 0.296	-0.164 0.414	-0.177 0.378	0.251 0.206	0.015 0.940	0.219 0.273	0.501** 0.008	1.000 -	0.235 0.238	0.242 0.223	0.329 0.093
TPC	-0.202 0.312	-0.085 0.673	0.592** 0.001	0.112 0.579	0.399 0.039	-0.075 0.710	0.013 0.949	-0.035 0.861	0.013 0.947	0.010 0.960	0.176 0.379	-0.087 0.667	-0.012 0.952	0.341 0.081	0.235 0.238	1.000 -	0.637** 0.000	0.684** 0.000
DPPH	-0.049 0.809	-0.047 0.816	0.410* 0.034	0.255 0.199	0.271 0.172	-0.149 0.459	-0.047 0.816	0.105 0.601	-0.147 0.465	-0.124 0.538	0.326 0.097	-0.417* 0.030	0.101 0.617	0.374 0.055	0.242 0.223	0.637** 0.000	1.000 -	0.684** 0.000
FRAP	0.011 0.955	0.018 0.930	0.493** 0.009	0.204 0.308	0.547** 0.003	-0.164 0.415	0.145 0.471	-0.008 0.967	-0.135 0.501	-0.105 0.601	0.412* 0.033	-0.049 0.806	-0.040 0.844	0.497** 0.008	0.329 0.093	0.684** 0.000	0.684** 0.000	1.000 -

*Correlation is statistically significant at the 0.05 level

**Correlation is statistically significant at the 0.01 level