

# Supplementary Materials

## Dipicolinic acid-Tb<sup>3+</sup>/Eu<sup>3+</sup> lanthanide fluorescence sensor array for rapid and visual discrimination of botanical origin of honey

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**Table S1.** Final concentration of ten DPA-Tb<sup>3+</sup>/Eu<sup>3+</sup> complex sensors

Sensor number	EuCl <sub>3</sub> (μM)	TbCl <sub>3</sub> (μM)	DPA (μM)	Borate buffer (pH / mM)
Sensor#1	3.3	1.2	13	pH 7.4 / 50
Sensor#2	3.3	0.8	13	pH 7.4 / 50
Sensor#3	3.3	0.5	13	pH 7.4 / 50
Sensor#4	3.3	0.8	16	pH 7.4 / 50
Sensor#5	3.3	0.8	10	pH 7.4 / 50
Sensor#6	3.3	1.2	13	pH 8.4 / 50
Sensor#7	3.3	0.8	13	pH 8.4 / 50
Sensor#8	3.3	0.5	13	pH 8.4 / 50
Sensor#9	3.3	0.8	16	pH 8.4 / 50
Sensor#10	3.3	0.8	10	pH 8.4 / 50

**Table S2.** Simulated content of eighteen major constituents in honey

Constituent	Content in honey	Simulated content
Fructose	30-45% (w/w) <sup>[1]</sup>	40%
Glucose	24-40% (w/w) <sup>[1]</sup>	30%
Gluconic acid	649.0-6475.1 mg/kg <sup>[29]</sup>	1500 mg/kg
Succinic acid	17-187 mg/kg <sup>[30]</sup>	150 mg/kg
Citric acid	48-351 mg/kg <sup>[30]</sup>	150 mg/kg
p-Coumaric acid	1.5-11.8 mg/kg <sup>[31]</sup>	5 mg/kg
Caffeic acid	0.03-2.29 <sup>[32]</sup>	5 mg/kg
Vanillic acid	0.89-5.91 mg/kg <sup>[31]</sup>	5 mg/kg
Kaempferol	0.45-3.92 mg/kg <sup>[31]</sup>	5 mg/kg
Quercetin	0.61-2.43 mg/kg <sup>[31]</sup>	5 mg/kg
Vitamin C	2.2-2.5 mg/100g <sup>[1]</sup>	2.5 mg/100g
Vitamin B <sub>2</sub>	0.01-0.02 mg/100g <sup>[1]</sup>	0.02 mg/100g
Vitamin B <sub>6</sub>	0.01-0.32 mg/100g <sup>[1]</sup>	0.02 mg/100g
Proline	229-665 mg/kg <sup>[33]</sup>	400 mg/kg
Mg	0.7-13 mg/100g <sup>[1]</sup>	10 mg/100g
Zn	0.05-2 mg/100g <sup>[1]</sup>	1 mg/100g
Cu	0.02-0.6 mg/100g <sup>[1]</sup>	0.2 mg/100g
Mn	0.02-2 mg/100g <sup>[1]</sup>	1 mg/100g