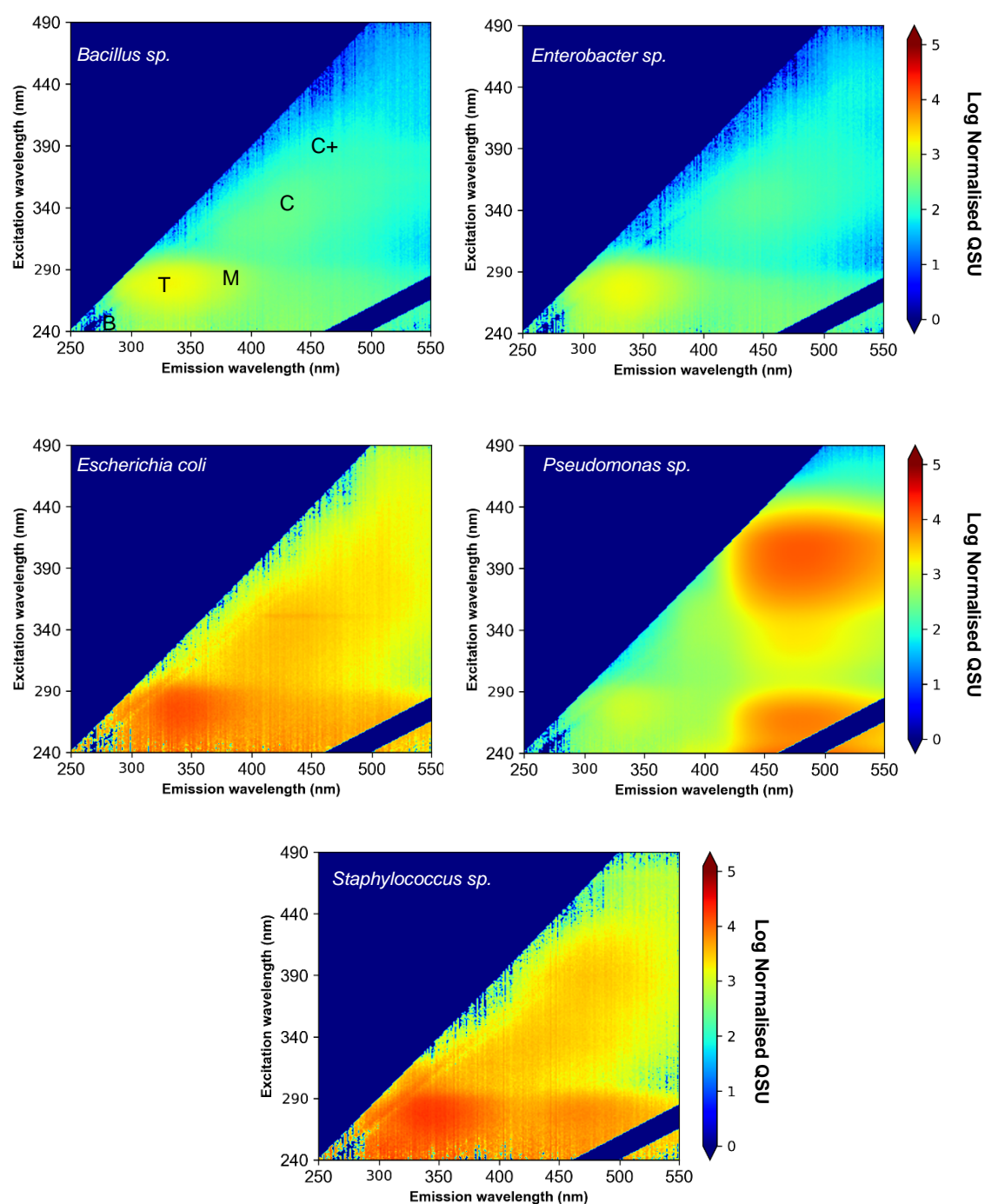


## Supplementary Material

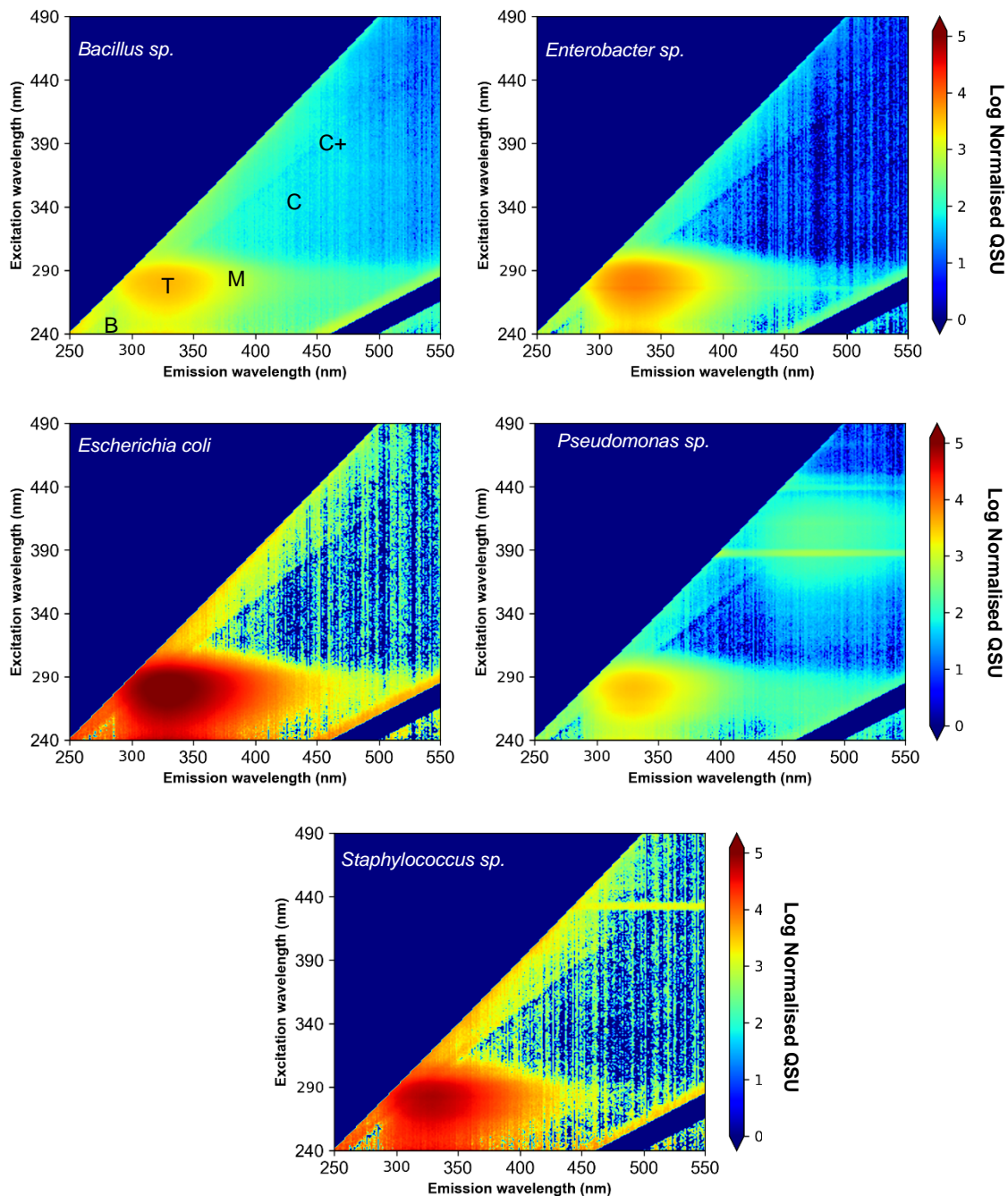
**Table S1.** Table of data for the physicochemical parameters for the environmental freshwater sample used to obtain both the environmental community and bacterial isolates. The freshwater sample was collected on 01/06/2017 at 13:55 BST. The table shows data collected via an *in situ* water quality sensor (Eureka Manta 2, RS Hydro, UK) and data from an accredited off-site laboratory (UK accredited laboratory, ISO 17025 (2005)).

	<b><u>Parameter</u></b>	<b><u>Unit</u></b>	<b><u>Value</u></b>
<b><u>In situ sensor data</u></b>	Temperature	(°C)	18.3
	pH		7.89
	Dissolved Oxygen	(mg/L)	6.61
	Conductivity	(µS/cm)	595.9
<b><u>UK accredited laboratory data</u></b>	pH		7.9
	Conductivity	(µS/cm @ 20°C)	537
	Turbidity	NTU	44
	Colour (spectrophotometer)		7
	Nitrate (calculated)	mg/L NO <sub>3</sub>	4.7
	Nitrite	mg/L NO <sub>2</sub>	0.149
	Orthophosphate	mg/L P	0.63
	Sulphate	mg/L	96
	Chloride	mg/L	43
	2 day plate count @ 37	cfu/mL	6700
	3 day plate count @ 22	cfu/mL	13400
	Total coliforms	cfu/100 mL	860
	<i>E. coli</i>	cfu/100 mL	270
	<i>Clostridium perfringens</i>	cfu/100 mL	340
	<i>Enterococci</i>	cfu/100 mL	120
	<i>P. aeruginosa</i>	cfu/100 mL	1000

**Figure S1.** Enumeration normalised excitation-emission matrices of the supernatant sample fraction of the 24-hour environmentally-sourced monoculture samples. Samples were incubated at 30°C. Colour bars are quinine sulphate units,  $\log_{10}$  QSU per cfu mL<sup>-1</sup>, where 1 QSU = 1  $\mu\text{g L}^{-1}$  quinine sulphate. Fluorescence peaks identified from the environmental isolate bacterial cultures are labelled and described in Table 1.



**Figure S2.** Enumeration normalised excitation-emission matrices of the resuspended cells sample fraction of the 24-hour environmentally-sourced monoculture samples. Samples were incubated at 30°C. Colour bars are quinine sulphate units,  $\log_{10}$  QSU per cfu mL<sup>-1</sup>, where 1 QSU = 1  $\mu\text{g L}^{-1}$  quinine sulphate. Fluorescence peaks identified from the environmental isolate bacterial cultures are labelled and described in Table 1.



**Figure S3.** Enumeration normalised excitation-emission matrices of the lysed cells sample fraction of the 24-hour environmentally-sourced monoculture samples. Samples were incubated at 30°C. Colour bars are quinine sulphate units,  $\log_{10}$ QSU per cfu mL<sup>-1</sup>, where 1 QSU = 1  $\mu$ g L<sup>-1</sup> quinine sulphate. Fluorescence peaks identified from the environmental isolate bacterial cultures are labelled and described in Table 1.

