

**Table S1** Global comparison of pollution (antibiotics, heave metals, and nutrients) concentrations of water samples

Pollution types	Pollutions	Sampling locations				
		Guangdong costal	Po River	Rivers of Madrid downstream	River Tyne	Surface waters
		China	Italy	Spain	United Kingdom	Germany
Antibiotics (ng/L)	Sulfadiazine	3.145	-	-	-	-
	Sulfadimethylpyrimidine	15.700	-	-	-	-
	Sulfamethoxazole	8.545	-	-	-	0.480
	Norfloxacin	68.520	-	10.000	-	-
	Ofloxacin	6.930	-	-	-	-
	Tetracycline	6.030	-	-	-	n.d.
	Anhydroerythromycin	21.705	-	-	-	-
	Enrofloxacin	4.700	-	-	-	-
	Roxithromycin	2.725	-	-	-	0.560
	Ciprofloxacin	8.029	-	3.000	-	-
	Erythromycin	529.5	2.950	320.500	37.000	1.700
	Trimethoprim	-	-	424.000	11.500	0.200
	Clarithromycin	-	-	235.000	-	0.260
	Chloramphenicol	-	-	-	-	0.060
		<b>References</b>	[1-3]	[4]	[5]	[6]
		Guangdong costal	Sydney Harbour	Klang Strait,	Tsurumi River	
		China	Australia	Malaysia	Japan	
Heavy metals (µg/L)	Cr	33.000	-	4.504	-	-
	Ni	4.000	0.860	2.363	-	-

	Cu	11.000	1.680	2.508	-	
	Mn	68.000	20.000	-	-	
	Zn	48.000	6.470	50.833	-	
	Cd	288.000	0.040	0.493	5.000	
	Pb	28.000	-	3.819	7.000	
	Hg	326.000	-	0.024	-	
	Fe	889.000	-	-	-	
	As	378.000	-	25.348	6.000	
	Co	-	-	-	50.000	
	Sr	-	-	-	208.000	
	<b>References</b>	[8]	[9]	[10]	[11]	
		Guangdong costal	Tokyo Bay	Kaneohe Bay	Alfacs Bay	Paranaguá Bay
		China	Japan	Hawaii	NW Mediterranean	Brazil
Nutrients	DIN	1.898	0.700	0.024	0.560 <sub>max</sub>	0.153
(mg/L)	DIP	0.266	0.030	0.007	0.047 <sub>max</sub>	0.014
	<b>References</b>	[12]	[13]	[14]	[15]	[16]

Note: -, not analyzed; n.d., not detected; DIN, including NO<sub>2</sub><sup>-</sup>-N、NO<sub>3</sub><sup>-</sup>-N and NH<sub>4</sub><sup>+</sup>-N; DIP, including PO<sub>4</sub><sup>3-</sup>-P; all the concentrations have been shown as the average concentrations, except the nutrients concentration in Alfacs Bay, NW Mediterranean.

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