



Supplementary Material

# Simultaneous Pre-concentration and HPLC-MS/MS Quantification of Phycotoxins and Cyanotoxins in Inland and Coastal Waters

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**Table S1.** List of target microcystin (MC) variants.

Microcystin	X	Z
MC-LR	Leucine	Arginine
MC-LW	Leucine	Tryptophan
MC-RR	Arginine	Arginine
MC-YR	Tyrosine	Arginine

**Table S2.** Physical-chemical parameters of the water samples.

	Tap water	Mergozzo Lake Water	Garda Lake Water	Staffora River	Ligurian Sea Water
<i>pH</i>	7.7	7.8	7.1	7.9	8.1
Conductivity at 20 °C ( $\mu\text{S cm}^{-1}$ )	270	59	278	293	$5 \times 10^4$
<i>Cl</i> <sup>-</sup> ( $\text{mg L}^{-1}$ )	5.0	2.2	13.3	3.9	19000
<i>NO</i> <sub>3</sub> <sup>-</sup> ( $\text{mg L}^{-1}$ )	0.6	3.0	9	1.6	< 0.05
<i>SO</i> <sub>4</sub> <sup>2-</sup> ( $\text{mg L}^{-1}$ )	5.0	6.0	14.3	12.9	2650
<i>Ca</i> <sup>2+</sup> ( $\text{mg L}^{-1}$ )	36.1	7.0	39	54	400
<i>Mg</i> <sup>2+</sup> ( $\text{mg L}^{-1}$ )	8.1	1.6	7.2	7.8	1260
<i>Na</i> <sup>+</sup> ( $\text{mg L}^{-1}$ )	12.5	2.7	9.5	5.4	10600

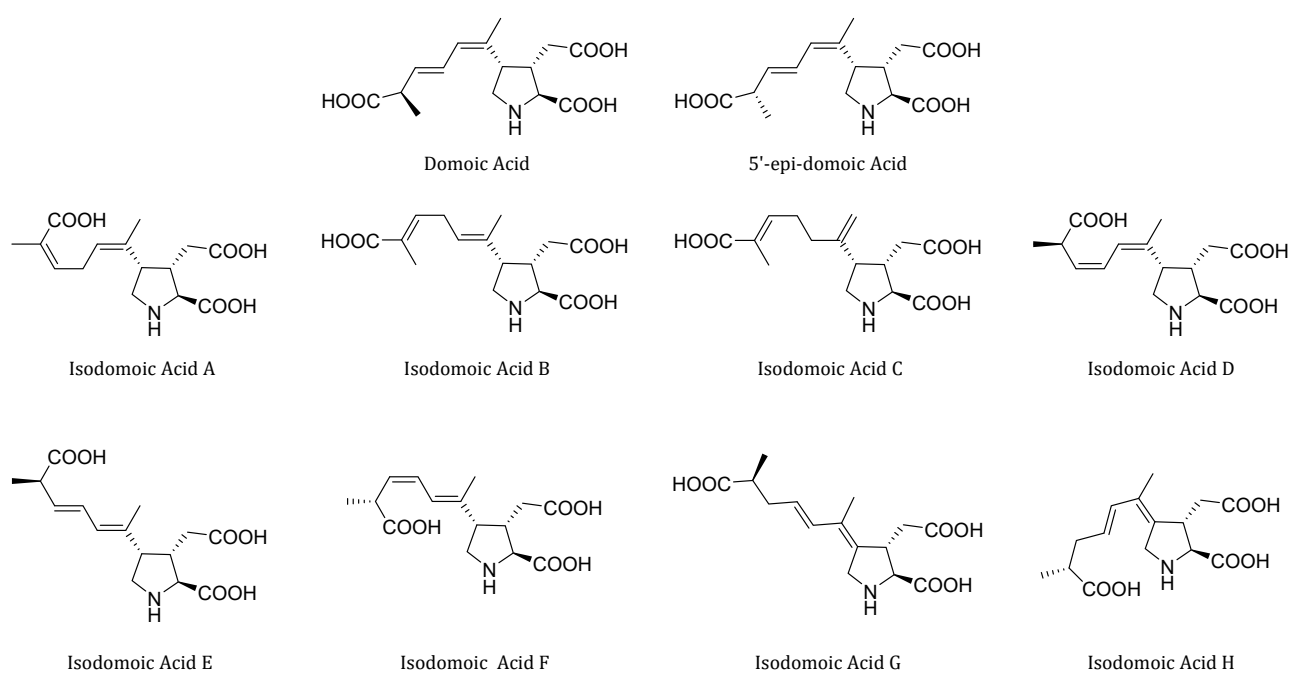
**Table S3.** Mean recoveries (%) in tap water (500 mL, EF=200) at different concentration levels (400 and 100 ng L<sup>-1</sup>).

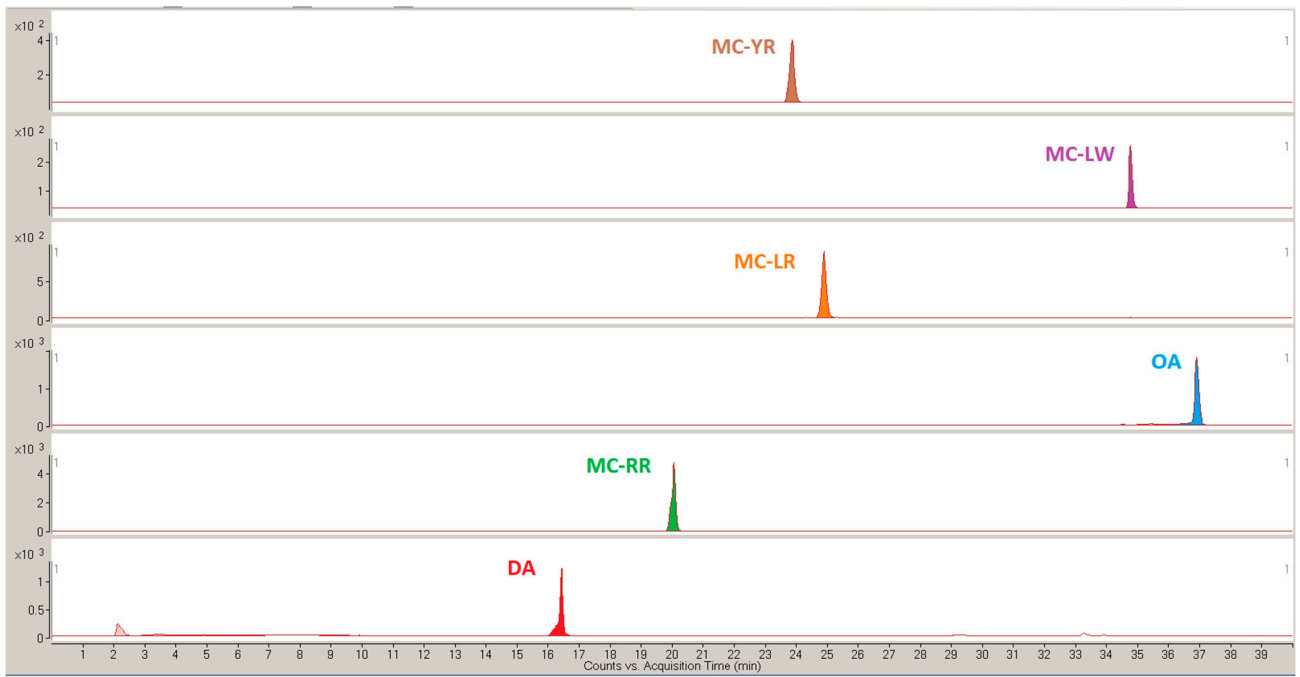
	Mean Recoveries (%)	
	400 ng L <sup>-1</sup>	100 ng L <sup>-1</sup>
DA	80	74
MC-RR	101	106
MC-YR	119	91
MC-LR	116	95

MC-LW	76	70
OA	95	120
RSD < 10%, <i>n</i> = 3.		

**Table S4.** Matrix effect (ME) (%) in environmental matrices for each analyte.

	Lake Water	River Water	Sea Water
DA	203	116	452
MC-RR	88	77	180
MC-YR	108	65	418
MC-LR	113	63	212
MC-LW	114	61	476
OA	98	63	142

**Figure S1.** Chemical Structure of domoic acid (DA) and its isomers.



**Figure S2.** A typical Multiple Reaction Mode (MRM) chromatogram of a standard solution ( $200 \mu\text{g L}^{-1}$ ).