water

MDPI

Supplementary Information:

Impact of Hydrogen Peroxide and Copper Sulfate on the Delayed Release of Microcystin

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Table S1. Dosing and residuals for hydrogen peroxide in the lab-cultured *Microcystis aeruginosa* (MA) in Colorado River water (CRW) and the USA bloom.

	Lab-Cultured MA		**USA Bloom**		**CA Bloom**	
H_2O_2:DOC	Initial dose (mg/L)	24-hour residual (mg/L)	Initial dose (mg/L)	24-hour residual (mg/L)	Initial dose (mg/L)	24-hour residual (mg/L)
0.1	0.25	<D.L.	0.94	<D.L.	0.6	ND
0.25	0.71	<D.L.	2.36	<D.L.	1.55	ND
0.4	1	0.01	3.77	<D.L.	2.5	ND
1.6	3.84	2.66	15.09	7.4	10.7	ND
4	9.71	8.63	37.73	22.9	26.4	ND

ND = not determined.

Table S2. Control experiments collected for the lab-cultured MA and USA bloom in the presence of only sodium thiosulfate or without any addition.

	Lab-Cultured MA with Sodium Thiosulfate		**Lab-Cultured MA with No Addition**	
Parameter	Pre-stagnation	Post-stagnation	Pre-stagnation	Post-stagnation
DOC (mg/L)	3.2	3.4	3.2	3.5
Chl-*a* (µg/L)	85.8	54.7	88.6	35.6
Extracellular MC (µg/L)	2.7	2.9	2	3
	USA Bloom with Sodium Thiosulfate		**USA Bloom with No Addition**	
Parameter	Pre-stagnation	Post-stagnation	Pre-stagnation	Post-stagnation
DOC (mg/L)	10.2	9.88	10.1	9
Chl-*a* (µg/L)	86.2	110	141	150
Extracellular MC (µg/L)	<0.5	<0.5	<0.5	<0.5

Note: Lab-cultured MA control samples were collected during a separate set of experiments and therefore values are different than those discussed in the main text.

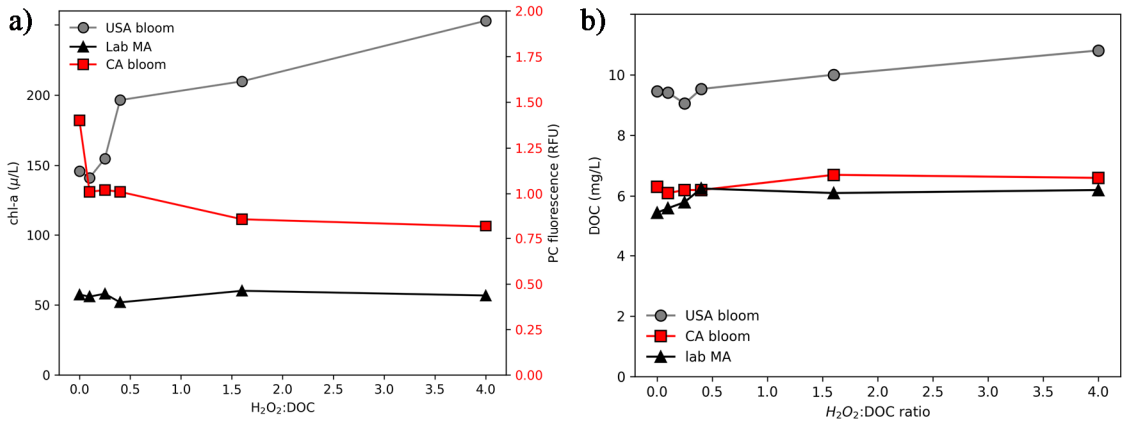


Figure S1. Impact of hydrogen peroxide on (**a**) the concentration of extracted chl-*a* (left axis) in the USA bloom and the lab-cultured MA in CRW and the PC fluorescence (right axis) in the CA bloom and (**b**) the level DOC in all three suspensions.

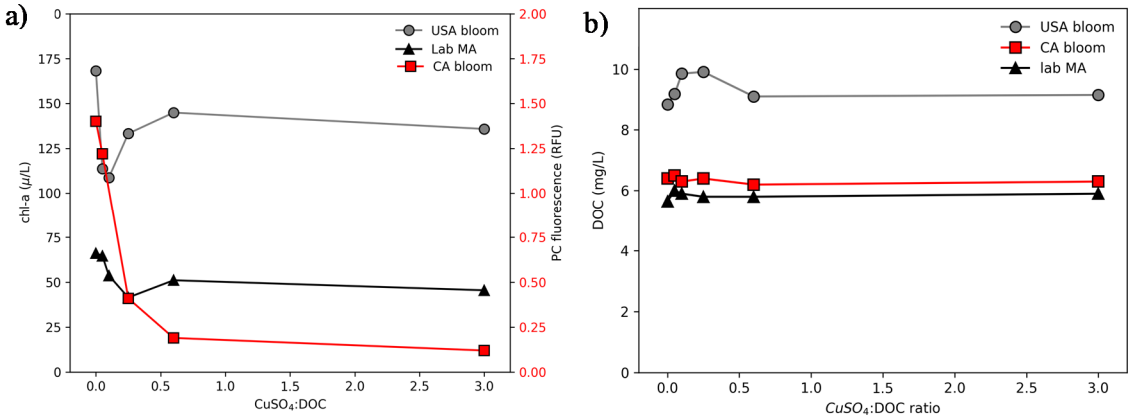
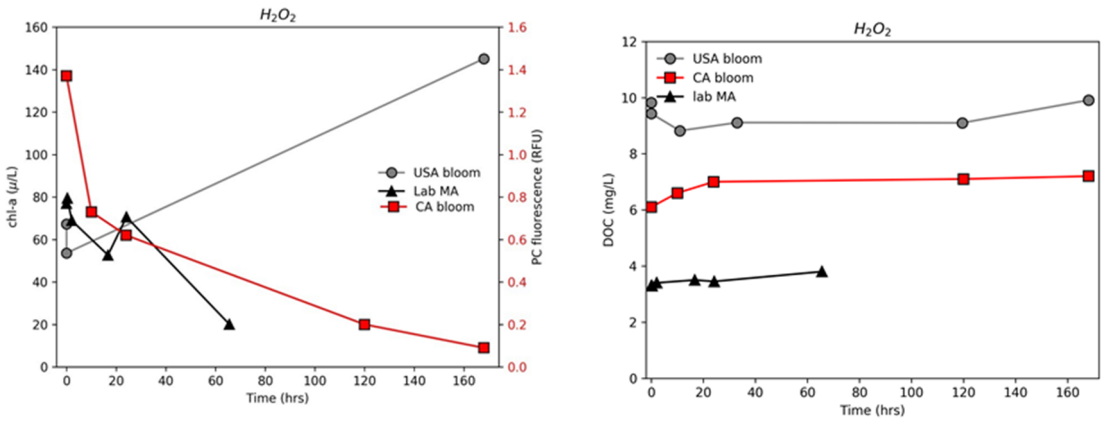
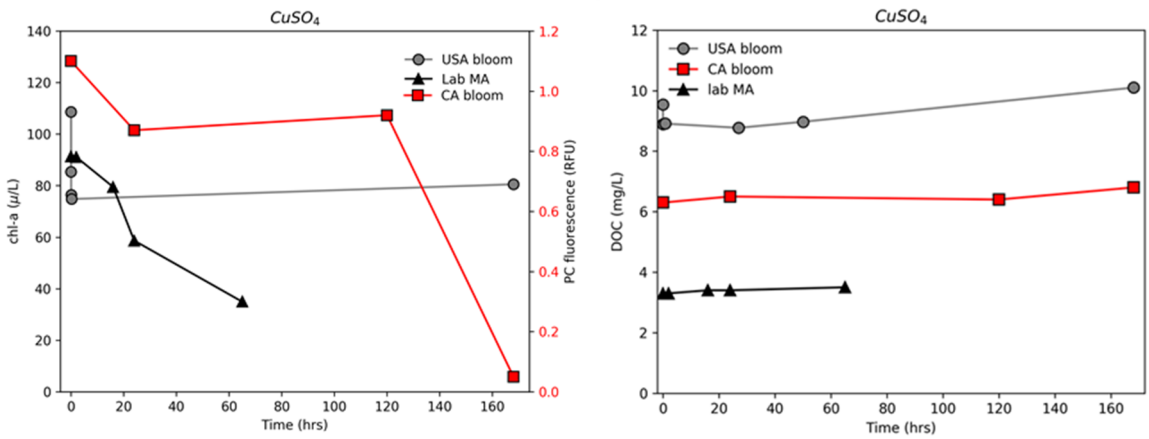


Figure S2. Impact of copper sulfate on (**a**) the concentration of extracted chl-*a* (left axis) in the USA bloom and the lab-cultured MA in CRW and the PC fluorescence (right axis) in the CA bloom and (**b**) the level DOC in all three suspensions.



(**a**) (**b**)

Figure S3. The impact of stagnation time after exposure to 0.4 H_2O_2:DOC on (**a**) the extracted chl-*a* (left axis) in the USA bloom and the lab-cultured MA and the PC fluorescence (right axis) in the CA bloom, and (**b**) the DOC.



(**a**) (**b**)

Figure S4. The impact of extended exposure to copper sulfate on (**a**) the concentration of extracted chl-*a* (left axis) in the USA bloom and the lab cultured MA and the PC fluorescence (right axis) in the CA bloom, and (**b**) the DOC.