

Table S1. Biomass production ( $\text{g L}^{-1}$ ), maximum specific growth rate ( $\text{d}^{-1}$  or  $\text{h}^{-1}$ ), productivities ( $\text{g L}^{-1} \text{d}^{-1}$  or  $\text{g m}^{-2} \text{d}^{-1}$ ) and bioremediation expressed as removal of COD, N and P in the cultivation of microalgae on raw wastewater.

Type of water	Conditions	Microalgae/Microalgae in symbiosis	Biomass production	Unit	Maximum specific growth rate	Time Unit	Productivities	Unit	Bioremediation removal %			Reference
									COD	N	P	
Raw wastewater	7d autotrophic batch	<i>Chlorella sorokiniana</i>	0.169	$\text{g L}^{-1}$					95	62	95	Kotoula et al., (2020)
Raw wastewater	7d Mixotrophic batch	<i>Chlorella sorokiniana</i>	0.184	$\text{g L}^{-1}$					89	76	93	
Synthetic raw wastewater (SRW)	96h Mixotrophic batch	<i>Chlorella vulgaris</i> - <i>Rhizobium sp</i>	$0.85 \pm 0.01$	$\text{g L}^{-1}$	$0.114 \pm 0.007$ (A); $0.079 \pm 0.001$ (B) b	$\text{h}^{-1}$				$55.9 \pm 0.4$	100	Ferro et al., (2019)
Synthetic raw wastewater (SRW)	96h Eterotrophic batch	<i>Chlorella vulgaris</i> - <i>Rhizobium sp</i>	$0.19 \pm 0.01$	$\text{g L}^{-1}$	$0.020 \pm 0.003$ (A); $0.027 \pm 0.004$ (B)	$\text{h}^{-1}$				$58.8 \pm 3.1$	100	
Raw wastewater	13d 25 °C, continuous light	<i>Chlorella vulgaris</i>	1.15	$\text{g L}^{-1}$						98	100	Ferro et al., (2018)
Raw wastewater	13d 25 °C, continuous light	<i>Scenedesmus sp</i>	1.24	$\text{g L}^{-1}$						96	100	
Raw wastewater	13d 25 °C, continuous light	<i>Desmodesmus sp</i>	0.87	$\text{g L}^{-1}$						97	100	
Raw wastewater	13d 25 °C, continuous light	<i>Senedesmus. obliquus</i>	1.36	$\text{g L}^{-1}$						95	100	
Raw wastewater	untreated batch	<i>Chlorella protothecoides</i>			$0.76 \pm 0.07$	$\text{d}^{-1}$			$61.5 \pm 1.3$	$52.0 \pm 1.3$	100	Sforza E. et al., (2018)
Raw wastewater	sterilized batch	<i>Chlorella protothecoides</i>			$0.78 \pm 0.08$	$\text{d}^{-1}$			$55.5 \pm 1.3$	$63.6 \pm 10$	100	
Raw wastewater	sterilized batch	<i>Chlorella protothecoides</i> + <i>bacteria</i>			$0.76 \pm 0.09$	$\text{d}^{-1}$			$57.4 \pm 1.3$	$46.7 \pm 8.6$	100	
Raw wastewater	sterilized batch CO2: air 5% v: v	<i>Chlorella protothecoides</i>			$0.96 \pm 0.09$	$\text{d}^{-1}$			$52.9 \pm 1.3$	$86.2 \pm 0.67$	100	

Raw wastewater	10d batch (L20-low nutrient load constant the light intensity)	<i>Chlorella/Scenedesmus/Cyanobacteria</i>	0.211±0.018	g L <sup>-1</sup>			0.0396±0.0014	g L <sup>-1</sup> d <sup>-1</sup>			100	Iasimone et al., (2018)
Raw wastewater	10d batch (M20-medium nutrient load constant the light intensity)	<i>Chlorella/Scenedesmus/Cyanobacteria</i>	0.187±0.013	g L <sup>-1</sup>			0.0280±0.0018	g L <sup>-1</sup> d <sup>-1</sup>			100	
Raw wastewater	10d batch (H20-high nutrient load constant the light intensity)	<i>Chlorella/Scenedesmus/Cyanobacteria</i>	0.159±0.021	g L <sup>-1</sup>			0.0185±0.0007	g L <sup>-1</sup> d <sup>-1</sup>			100	
Raw wastewater	10d batch (L20-low nutrient load varying the light intensity)	<i>Chlorella/Scenedesmus/Cyanobacteria</i>	0.211±0.018	g L <sup>-1</sup>			0.0396±0.0014	g L <sup>-1</sup> d <sup>-1</sup>			100	
Raw wastewater	10d batch (L50-low nutrient load varying the light intensity)	<i>Chlorella/Scenedesmus/Cyanobacteria</i>	0.219±0.019	g L <sup>-1</sup>			0.0504±0.0016	g L <sup>-1</sup> d <sup>-1</sup>			100	
Raw wastewater	10d batch (L100-low nutrient load varying the light intensity)	<i>Chlorella/Scenedesmus/Cyanobacteria</i>	0.227±0.016	g L <sup>-1</sup>			0.0587±0.0023	g L <sup>-1</sup> d <sup>-1</sup>			100	
Raw wastewater	206d HRAP-noPT	<i>Chlorella&gt;Stigeoclonium</i>					20 ± 7	g VSS m <sup>-2</sup> d <sup>-1</sup>	65±23	48±16	25 ± 52	Arashiro L.T. et al., (2019)
Raw wastewater	14d batch	<i>Chlorella/Scenedesmus combined with yeast Lipomyces starkeyi</i>					0.031	g m <sup>-2</sup> d <sup>-1</sup>		100	100	Iasimone et al., (2018)