

2016-07-14

## Cyclo Medium

According to Wright (1964) and Morgan and Kalff (1979)  
Modified by MZCH

### Composition of Cyclo Medium

	stock solutions (1 L)		volume of stock for 1 L nutrient solution [mL]	final concentration [mmol/L]
	[mmol/L]	[g/L]		
<b>Ca(NO<sub>3</sub>)<sub>2</sub>·4H<sub>2</sub>O</b>	29	6.848	<b>10</b>	0.29
<b>NaHCO<sub>3</sub><sup>a)</sup></b>	120	10.08	<b>10 (5<sup>a</sup>)</b>	1.2 (0.6 <sup>a</sup> )
<b>NaCl<sup>a)</sup></b>	80	4.68	<b>10</b>	0.8
<b>MgSO<sub>4</sub>·7H<sub>2</sub>O<sup>a)</sup></b>	11	2.711	<b>10 (5<sup>a</sup>)</b>	0.11 (0.55 <sup>a</sup> )
<b>K<sub>2</sub>HPO<sub>4</sub></b>	30	5.22	<b>1</b>	0.03
<b>Na<sub>2</sub>SiO<sub>3</sub>·9H<sub>2</sub>O</b>	180	51.155	<b>1</b>	0.18
<b>micronutrient solution<sup>1</sup></b>			<b>1</b>	
<b>vitamin solution<sup>2</sup></b>			<b>1</b>	
<b>ddH<sub>2</sub>O<sup>3</sup></b>			<b>956</b>	

Adjust pH to 7.2<sup>a)</sup> (originally pH 8.0 before autoclaving)

<sup>a)</sup>modified by MZCH

	Originalrezept / mmol/L	MZCH / mmol/L
NaCl	keine Zugabe	0.8
NaHCO <sup>3</sup>	1.2	0.6
MgSO <sup>4</sup> 7H <sub>2</sub> O	0.11	0.55

<sup>1</sup>micronutrient solution stock (1000x, 1 L):

	stock [mmol/L]	stock [g/L]
<b>FeCl<sub>3</sub>·6H<sub>2</sub>O</b>	14.8	<b>4</b>
<b>CuSO<sub>4</sub>·5H<sub>2</sub>O</b>	0.1	<b>0.0249</b>
<b>Na<sub>2</sub>MoO<sub>4</sub>·2H<sub>2</sub>O</b>	0.08	<b>0.019</b>
<b>ZnCl<sub>2</sub></b>	0.18	<b>0.024</b>
<b>MnCl<sub>2</sub>·4H<sub>2</sub>O</b>	1.6	<b>0.316</b>
<b>CoCl<sub>2</sub>·6H<sub>2</sub>O</b>	0.15	<b>0.03568</b>
<b>H<sub>3</sub>BO<sub>3</sub></b>	7.9	<b>0.488</b>
<b>Na<sub>2</sub>EDTA·2H<sub>2</sub>O (Titrplex®III)</b>	5	<b>1.86</b>
<b>ddH<sub>2</sub>O<sup>3</sup>, ad 1 L</b>		

<sup>2</sup>vitamin solution stock (1000x, 1 L):

	stock [mmol/L]	stock [g/L]
<b>thiamine HCl (B1)</b>	0.59	<b>0.199</b>
<b>biotin (H)</b>	0.004	<b>0.00098</b>
<b>cyanocobalamin (B12)</b>	0.0007	<b>0.00095</b>
<b>ddH<sub>2</sub>O<sup>3</sup>, ad 1 L</b>		

Add vitamin solution to the autoclaved and cooled-down medium via sterile filtration.

<sup>3</sup>ddH<sub>2</sub>O double distilled water

## References

1. Morgan, K.C.; Kalff, J. (1979) Effect of light and temperature interactions on growth of *Cryptomonas erosa* (Cryptophyceae). *J. Phycol.* **15**, 127-134.
2. Wright, R.T. (1964) Dynamics of a phytoplankton community in an ice covered lake. *Limn. Oceanogr.* **9**, 163-178.