

Supplementary Information

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Supplement: The effect of *Cladophora glomerata* exudates on the amino acid composition of *Cladophora fracta* and *Rhizoclonium* sp.

Supplementary Table S1: Post-hoc comparison for statistically significant amino acids in Anova analysis (AA) in *Cladophora fracta* biomass cultured in medium with exudates from *C. glomerata* in 3 series (g·100g⁻¹ of total proteins; bold - statistically significant, P<0.05).

Glutamic acid (Glu)				
	Control	25% exudate	50% exudate	100% exudate
Control		0.032052	0.054072	0.000276
25% exudate	0.032052		0.980860	0.002373
50% exudate	0.054072	0.980860		0.001617
100% exudate	0.000276	0.002373	0.001617	
Aspartic acid (Asp)				
	Control	25% exudate	50% exudate	100% exudate
Control		0.911420	0.234268	0.000231
25% exudate	0.911420		0.512569	0.000231
50% exudate	0.234268	0.512569		0.000231
100% exudate	0.000231	0.000231	0.000231	
Arginine (Arg)				
	Control	25% exudate	50% exudate	100% exudate
Control		0.197805	0.942722	0.399562
25% exudate	0.197805		0.091668	0.019617
50% exudate	0.942722	0.091668		0.694322
100% exudate	0.399562	0.019617	0.694322	
Valine (Val)				
	Control	25% exudate	50% exudate	100% exudate
Control		0.800617	0.998696	0.120733
25% exudate	0.800617		0.720801	0.033671
50% exudate	0.998696	0.720801		0.149074
100% exudate	0.120733	0.033671	0.149074	

Supplementary Table S1: Post-hoc comparison for statistically significant amino acids in Anova analysis (AA) in *Cladophora fracta* biomass cultured in medium with exudates from *C. glomerata* in 3 series (g·100g⁻¹ of total proteins; bold - statistically significant, P<0.05).

Glycine (Gly)				
	Control	25% exudate	50% exudate	100% exudate
Control		0.791154	0.877299	0.031814
25% exudate	0.791154		0.396250	0.009269
50% exudate	0.877299	0.396250		0.090140
100% exudate	0.031814	0.009269	0.090140	
Lysine (Lys)				
	Control	25% exudate	50% exudate	100% exudate
Control		0.636628	0.106362	0.000231
25% exudate	0.636628		0.503554	0.000231
50% exudate	0.106362	0.503554		0.000231
100% exudate	0.000231	0.000231	0.000231	
Proline (Pro)				
	Control	25% exudate	50% exudate	100% exudate
Control		0.061286	0.000231	0.000231
25% exudate	0.061286		0.000231	0.000231
50% exudate	0.000231	0.000231		0.000231
100% exudate	0.000231	0.000231	0.000231	
Isoleucine (Ile)				
	Control	25% exudate	50% exudate	100% exudate
Control		0.009679	0.989473	0.118230
25% exudate	0.009679		0.006608	0.000685
50% exudate	0.989473	0.006608		0.180239
100% exudate	0.118230	0.000685	0.180239	
Histidine (His)				
	Control	25% exudate	50% exudate	100% exudate
Control		0.503554	0.384146	0.027351
25% exudate	0.503554		0.994631	0.207600
50% exudate	0.384146	0.994631		0.285242
100% exudate	0.027351	0.207600	0.285242	
Cysteine (Cys)				
	Control	25% exudate	50% exudate	100% exudate
Control		0.272631	0.711869	0.168950
25% exudate	0.272631		0.806437	0.011173
50% exudate	0.711869	0.806437		0.037351
100% exudate	0.168950	0.011173	0.037351	

Supplementary Table S1: Post-hoc comparison for statistically significant amino acids in Anova analysis (AA) in *Cladophora fracta* biomass cultured in medium with exudates from *C. glomerata* in 3 series (g·100g⁻¹ of total proteins; bold - statistically significant, P<0.05).

Methionine (Met)				
	Control	25% exudate	50% exudate	100% exudate
Control		0.978975	0.003925	0.000775
25% exudate	0.978975		0.002556	0.000589
50% exudate	0.003925	0.002556		0.393012
100% exudate	0.000775	0.000589	0.393012	
Tryptophan (Trp)				
	Control	25% exudate	50% exudate	100% exudate
Control		0.002939	0.000231	0.000231
25% exudate	0.002939		0.000231	0.000231
50% exudate	0.000231	0.000231		0.000231
100% exudate	0.000231	0.000231	0.000231	

Supplementary Table S2: Post-hoc comparison for statistically significant amino acids in Anova analysis (AA) in *Cladophora glomerata* biomass cultured in medium with exudates from *C. fracta* (g·100g⁻¹ of total proteins; bold - statistically significant, p<0.05).

Glutamic acid (Glu)				
	Control	25% exudate	50% exudate	100% exudate
Control		0.015893	0.003548	0.000231
25% exudate	0.015893		0.636906	0.000231
50% exudate	0.003548	0.636906		0.000231
100% exudate	0.000231	0.000231	0.000231	
Aspartic acid (Asp)				
	Control	25% exudate	50% exudate	100% exudate
Control		0.244946	0.006032	0.000231
25% exudate	0.244946		0.095559	0.000231
50% exudate	0.006032	0.095559		0.000231
100% exudate	0.000231	0.000231	0.000231	
Leucine (Leu)				
	Control	25% exudate	50% exudate	100% exudate
Control		0.012642	0.000243	0.000231
25% exudate	0.012642		0.001453	0.000231
50% exudate	0.000243	0.001453		0.000231
100% exudate	0.000231	0.000231	0.000231	

Supplementary Table S2: Post-hoc comparison for statistically significant amino acids in Anova analysis (AA) in *Cladophora glomerata* biomass cultured in medium with exudates from *C. fracta* (g·100g⁻¹ of total proteins; bold - statistically significant, p<0.05).

Arginine (Arg)				
	Control	25% exudate	50% exudate	100% exudate
Control		0.021645	0.000636	0.000231
25% exudate	0.021645		0.043578	0.000231
50% exudate	0.000636	0.043578		0.000231
100% exudate	0.000231	0.000231	0.000231	
Alanine (Ala)				
	Control	25% exudate	50% exudate	100% exudate
Control		0.000264	0.000231	0.000231
25% exudate	0.000264		0.003335	0.000231
50% exudate	0.000231	0.003335		0.000231
100% exudate	0.000231	0.000231	0.000231	
Valine (Val)				
	Control	25% exudate	50% exudate	100% exudate
Control		0.285242	0.010413	0.000231
25% exudate	0.285242		0.149189	0.000231
50% exudate	0.010413	0.149189		0.000231
100% exudate	0.000231	0.000231	0.000231	
Glycine (Gly)				
	Control	25% exudate	50% exudate	100% exudate
Control		0.004433	0.000251	0.000231
25% exudate	0.004433		0.005691	0.000231
50% exudate	0.000251	0.005691		0.000231
100% exudate	0.000231	0.000231	0.000231	
Lysine (Lys)				
	Control	25% exudate	50% exudate	100% exudate
Control		0.035626	0.000231	0.000231
25% exudate	0.035626		0.000231	0.000231
50% exudate	0.000231	0.000231		0.000231
100% exudate	0.000231	0.000231	0.000231	
Proline (Pro)				
	Control	25% exudate	50% exudate	100% exudate
Control		0.106978	0.001933	0.000231
25% exudate	0.106978		0.053583	0.000231
50% exudate	0.001933	0.053583		0.000231
100% exudate	0.000231	0.000231	0.000231	

Supplementary Table S2: Post-hoc comparison for statistically significant amino acids in Anova analysis (AA) in *Cladophora glomerata* biomass cultured in medium with exudates from *C. fracta* (g·100g⁻¹ of total proteins; bold - statistically significant, p<0.05).

Serine (Ser)				
	Control	25% exudate	50% exudate	100% exudate
Control		0.819957	0.033938	0.000231
25% exudate	0.819957		0.115179	0.000231
50% exudate	0.033938	0.115179		0.000231
100% exudate	0.000231	0.000231	0.000231	
Threonine (Thr)				
	Control	25% exudate	50% exudate	100% exudate
Control		0.023389	0.000307	0.000231
25% exudate	0.023389		0.005305	0.000231
50% exudate	0.000307	0.005305		0.000231
100% exudate	0.000231	0.000231	0.000231	
Phenylalanine (Phe)				
	Control	25% exudate	50% exudate	100% exudate
Control		0.169305	0.003241	0.000231
25% exudate	0.169305		0.066602	0.000231
50% exudate	0.003241	0.066602		0.000231
100% exudate	0.000231	0.000231	0.000231	
Tyrosine (Tyr)				
	Control	25% exudate	50% exudate	100% exudate
Control		0.186328	0.000806	0.000231
25% exudate	0.186328		0.008486	0.000231
50% exudate	0.000806	0.008486		0.000231
100% exudate	0.000231	0.000231	0.000231	
Histidine (His)				
	Control	25% exudate	50% exudate	100% exudate
Control		0.153364	0.003199	0.000231
25% exudate	0.153364		0.072496	0.000231
50% exudate	0.003199	0.072496		0.000231
100% exudate	0.000231	0.000231	0.000231	
Cysteine (Cys)				
	Control	25% exudate	50% exudate	100% exudate
Control		0.530019	0.003972	0.000231
25% exudate	0.530019		0.023536	0.000231
50% exudate	0.003972	0.023536		0.000231
100% exudate	0.000231	0.000231	0.000231	

Supplementary Table S2: Post-hoc comparison for statistically significant amino acids in Anova analysis (AA) in *Cladophora glomerata* biomass cultured in medium with exudates from *C. fracta* (g·100g⁻¹ of total proteins; bold - statistically significant, p<0.05).

Methionine (Met)				
	Control	25% exudate	50% exudate	100% exudate
Control		0.154499	0.002427	0.000231
25% exudate	0.154499		0.050267	0.000240
50% exudate	0.002427	0.050267		0.000532
100% exudate	0.000231	0.000240	0.000532	
Tryptophan (Trp)				
	Control	25% exudate	50% exudate	100% exudate
Control		0.000231	0.000231	0.000231
25% exudate	0.000231		0.000231	0.000231
50% exudate	0.000231	0.000231		0.000231
100% exudate	0.000231	0.000231	0.000231	

Supplementary Table S3: Post-hoc comparison for statistically significant amino acids in Anova analysis (AA) in *Rhizoclonium* sp. biomass cultured in medium with exudates from *C. glomerata* (g·100g⁻¹ of total proteins; bold - statistically significant, p<0.05).

Glutamic acid (Glu)				
	Control	25% exudate	50% exudate	100% exudate
Control		0.000231	0.000231	0.000231
25% exudate	0.000231		0.509244	0.007119
50% exudate	0.000231	0.509244		0.048725
100% exudate	0.000231	0.007119	0.048725	
Aspartic acid (Asp)				
	Control	25% exudate	50% exudate	100% exudate
Control		0.000231	0.000231	0.000231
25% exudate	0.000231		0.203580	0.004375
50% exudate	0.000231	0.203580		0.079613
100% exudate	0.000231	0.004375	0.079613	
Leucine (Leu)				
	Control	25% exudate	50% exudate	100% exudate
Control		0.000231	0.000232	0.000840
25% exudate	0.000231		0.000266	0.000231
50% exudate	0.000232	0.000266		0.003337
100% exudate	0.000840	0.000231	0.003337	
Arginine (Arg)				
	Control	25% exudate	50% exudate	100% exudate
Control		0.097584	0.991157	0.793744
25% exudate	0.097584		0.065082	0.026815
50% exudate	0.991157	0.065082		0.917511
100% exudate	0.793744	0.026815	0.917511	

Continued **Supplementary Table S3:** Post-hoc comparison for statistically significant amino acids in Anova analysis (AA) in *Rhizoclonium* sp. biomass cultured in medium with exudates from *C. glomerata* (g·100g⁻¹ of total proteins; bold - statistically significant, p<0.05).

Alanine (Ala)				
	Control	25% exudate	50% exudate	100% exudate
Control		1.000000	0.202902	0.003208
25% exudate	1.000000		0.202902	0.003208
50% exudate	0.202902	0.202902		0.054479
100% exudate	0.003208	0.003208	0.054479	
Valine (Val)				
	Control	25% exudate	50% exudate	100% exudate
Control		0.202346	0.001241	0.000445
25% exudate	0.202346		0.015217	0.002686
50% exudate	0.001241	0.015217		0.516262
100% exudate	0.000445	0.002686	0.516262	
Glycine (Gly)				
	Control	25% exudate	50% exudate	100% exudate
Control		0.049440	0.000303	0.000231
25% exudate	0.049440		0.002683	0.000231
50% exudate	0.000303	0.002683		0.000234
100% exudate	0.000231	0.000231	0.000234	
Lysine (Lys)				
	Control	25% exudate	50% exudate	100% exudate
Control		0.311339	0.005968	0.000231
25% exudate	0.311339		0.072496	0.000231
50% exudate	0.005968	0.072496		0.000231
100% exudate	0.000231	0.000231	0.000231	
Proline (Pro)				
	Control	25% exudate	50% exudate	100% exudate
Control		0.000274	0.000231	0.000231
25% exudate	0.000274		0.000231	0.000231
50% exudate	0.000231	0.000231		0.000231
100% exudate	0.000231	0.000231	0.000231	
Serine (Ser)				
	Control	25% exudate	50% exudate	100% exudate
Control		0.356289	0.022154	0.001292
25% exudate	0.356289		0.253446	0.009113
50% exudate	0.022154	0.253446		0.146559
100% exudate	0.001292	0.009113	0.146559	
Threonine (Thr)				
	Control	25% exudate	50% exudate	100% exudate
Control		0.197805	0.001133	0.000249
25% exudate	0.197805		0.013574	0.000433
50% exudate	0.001133	0.013574		0.028601
100% exudate	0.000249	0.000433	0.028601	

Supplementary Table S3: Post-hoc comparison for statistically significant amino acids in Anova analysis (AA) in *Rhizoclonium* sp. biomass cultured in medium with exudates from *C. glomerata* (g·100g⁻¹ of total proteins; bold - statistically significant, p<0.05).

Phenylalanine (Phe)				
	Control	25% exudate	50% exudate	100% exudate
Control		0.000231	0.000231	0.000231
25% exudate	0.000231		0.000244	0.000258
50% exudate	0.000231	0.000244		0.903350
100% exudate	0.000231	0.000258	0.903350	
Isoleucine (Ile)				
	Control	25% exudate	50% exudate	100% exudate
Control		0.000231	0.000231	0.000231
25% exudate	0.000231		0.087860	0.000568
50% exudate	0.000231	0.087860		0.008930
100% exudate	0.000231	0.000568	0.008930	
Tyrosine (Tyr)				
	Control	25% exudate	50% exudate	100% exudate
Control		0.000231	0.000231	0.000231
25% exudate	0.000231		0.002668	0.000396
50% exudate	0.000231	0.002668		0.144294
100% exudate	0.000231	0.000396	0.144294	
Histidine (His)				
	Control	25% exudate	50% exudate	100% exudate
Control		0.000329	0.000240	0.000231
25% exudate	0.000329		0.225337	0.005045
50% exudate	0.000240	0.225337		0.084840
100% exudate	0.000231	0.005045	0.084840	
Cysteine (Cys)				
	Control	25% exudate	50% exudate	100% exudate
Control		0.047232	0.000792	0.000231
25% exudate	0.047232		0.030080	0.000239
50% exudate	0.000792	0.030080		0.000625
100% exudate	0.000231	0.000239	0.000625	
Methionine (Met)				
	Control	25% exudate	50% exudate	100% exudate
Control		0.430389	0.683509	0.023071
25% exudate	0.430389		0.097723	0.003139
50% exudate	0.683509	0.097723		0.111552
100% exudate	0.023071	0.003139	0.111552	
Tryptophan (Trp)				
	Control	25% exudate	50% exudate	100% exudate
Control		0.007376	0.000233	0.000231
25% exudate	0.007376		0.000613	0.000231
50% exudate	0.000233	0.000613		0.000231
100% exudate	0.000231	0.000231	0.000231	

Supplementary Table S4: Post-hoc comparison for statistically significant amino acids in Anova analysis (AA) in *Cladophora glomerata* biomass cultured in medium with exudates from *Rhizoclonium* sp. in 3 series (g·100g⁻¹ of total proteins; bold - statistically significant, P<0.05).

Glutamic acid (Glu)				
	Control	25% exudate	50% exudate	100% exudate
Control		0.013141	0.000411	0.000231
25% exudate	0.013141		0.025380	0.000231
50% exudate	0.000411	0.025380		0.000231
100% exudate	0.000231	0.000231	0.000231	
Aspartic acid (Asp)				
	Control	25% exudate	50% exudate	100% exudate
Control		0.045828	0.005359	0.000231
25% exudate	0.045828		0.414172	0.000231
50% exudate	0.005359	0.414172		0.000231
100% exudate	0.000231	0.000231	0.000231	
Leucine (Leu)				
	Control	25% exudate	50% exudate	100% exudate
Control		0.243393	0.014209	0.000231
25% exudate	0.243393		0.243393	0.000231
50% exudate	0.014209	0.243393		0.000231
100% exudate	0.000231	0.000231	0.000231	
Arginine (Arg)				
	Control	25% exudate	50% exudate	100% exudate
Control		0.043711	0.002287	0.000231
25% exudate	0.043711		0.163900	0.000231
50% exudate	0.002287	0.163900		0.000231
100% exudate	0.000231	0.000231	0.000231	
Alanine (Ala)				
	Control	25% exudate	50% exudate	100% exudate
Control		0.008492	0.000231	0.000231
25% exudate	0.008492		0.000231	0.000231
50% exudate	0.000231	0.000231		0.000231
100% exudate	0.000231	0.000231	0.000231	
Valine (Val)				
	Control	25% exudate	50% exudate	100% exudate
Control		0.171528	0.000231	0.000231
25% exudate	0.171528		0.000238	0.000231
50% exudate	0.000231	0.000238		0.171528
100% exudate	0.000231	0.000231	0.171528	

Supplementary Table S4: Post-hoc comparison for statistically significant amino acids in Anova analysis (AA) in *Cladophora glomerata* biomass cultured in medium with exudates from *Rhizoclonium* sp. in 3 series (g·100g⁻¹ of total proteins; bold - statistically significant, P<0.05).

Glycine (Gly)				
	Control	25% exudate	50% exudate	100% exudate
Control		0.000389	0.000231	0.000231
25% exudate	0.000389		0.000273	0.000231
50% exudate	0.000231	0.000273		0.000232
100% exudate	0.000231	0.000231	0.000232	
Lysine (Lys)				
	Control	25% exudate	50% exudate	100% exudate
Control		0.000692	0.000231	0.000231
25% exudate	0.000692		0.000231	0.000231
50% exudate	0.000231	0.000231		0.000231
100% exudate	0.000231	0.000231	0.000231	
Proline (Pro)				
	Control	25% exudate	50% exudate	100% exudate
Control		0.000234	0.000231	0.000231
25% exudate	0.000234		0.000231	0.000231
50% exudate	0.000231	0.000231		0.000231
100% exudate	0.000231	0.000231	0.000231	
Serine (Ser)				
	Control	25% exudate	50% exudate	100% exudate
Control		0.077922	0.000288	0.000231
25% exudate	0.077922		0.001550	0.000231
50% exudate	0.000288	0.001550		0.000231
100% exudate	0.000231	0.000231	0.000231	
Threonine (Thr)				
	Control	25% exudate	50% exudate	100% exudate
Control		0.046260	0.000272	0.000231
25% exudate	0.046260		0.001650	0.000239
50% exudate	0.000272	0.001650		0.006768
100% exudate	0.000231	0.000239	0.006768	
Phenylalanine (Phe)				
	Control	25% exudate	50% exudate	100% exudate
Control		0.242788	0.003454	0.000231
25% exudate	0.242788		0.049440	0.000231
50% exudate	0.003454	0.049440		0.000231
100% exudate	0.000231	0.000231	0.000231	

Continued Supplementary Table S4: Post-hoc comparison for statistically significant amino acids in Anova analysis (AA) in *Cladophora glomerata* biomass cultured in medium with exudates from *Rhizoclonium* sp. in 3 series (g·100g⁻¹ of total proteins; bold - statistically significant, P<0.05).

Isoleucine (Ile)				
	Control	25% exudate	50% exudate	100% exudate
Control		0.205367	0.000232	0.000231
25% exudate	0.205367		0.000245	0.000231
50% exudate	0.000232	0.000245		0.000231
100% exudate	0.000231	0.000231	0.000231	
Tyrosine (Tyr)				
	Control	25% exudate	50% exudate	100% exudate
Control		0.474098	0.005267	0.000231
25% exudate	0.474098		0.037924	0.000231
50% exudate	0.005267	0.037924		0.000231
100% exudate	0.000231	0.000231	0.000231	
Histidine (His)				
	Control	25% exudate	50% exudate	100% exudate
Control		0.104321	0.000292	0.000231
25% exudate	0.104321		0.001349	0.000231
50% exudate	0.000292	0.001349		0.000469
100% exudate	0.000231	0.000231	0.000469	
Cysteine (Cys)				
	Control	25% exudate	50% exudate	100% exudate
Control		0.071585	0.000231	0.000231
25% exudate	0.071585		0.000237	0.000231
50% exudate	0.000231	0.000237		0.009669
100% exudate	0.000231	0.000231	0.009669	
Methionine (Met)				
	Control	25% exudate	50% exudate	100% exudate
Control		0.005117	0.000231	0.000231
25% exudate	0.005117		0.000309	0.000231
50% exudate	0.000231	0.000309		0.000642
100% exudate	0.000231	0.000231	0.000642	
Tryptophan (Trp)				
	Control	25% exudate	50% exudate	100% exudate
Control		0.000231	0.000231	0.000231
25% exudate	0.000231		0.000231	0.000231
50% exudate	0.000231	0.000231		0.000231
100% exudate	0.000231	0.000231	0.000231	