

Supplementary Table S3

Polar lipid composition of the lipid extracts of *Chlorococcum amblystomatis* identified by HILIC-ESI-MS and HILIC-ESI-MS/MS in positive ion mode, as $[M+H]^+$ and $[M+NH_4]^+$ ions, and in negative ion mode, as $[M-H]^-$. When the fatty acyl chain combination was not possible to assign the lines were filled with "-".

Lipid species (C:N)	Calculated m/z	Fatty acyl chains (C:N)	Lipid species (C:N)	Calculated m/z	Fatty acyl chains (C:N)
PC identified as $[M+H]^+$			LPC identified as $[M+H]^+$		
PC(28:1)	676,4917	-	LPC(14:0)	468,309	-
PC(30:3)	700,4917	-	LPC(16:0)	496,3403	-
PC(30:1)	704,523	16:1-14:0	LPC(16:1)	494,3247	16:1
PC(30:0)	706,5387	-	LPC(16:2)	492,309	-
PC(32:1)	732,5543	16:0-16:1	LPC(18:1)	522,356	18:1
PC(32:2)	730,5387	16:1-16:1	LPC(18:2)	520,3403	18:2
PC(32:3)	728,523	16:1-16:2	LPC(18:3)	518,3247	-
PC(32:4)	726,5074	-	LPC(18:4)	516,309	-
PC(32:5)	724,4917	-	LPC(20:3)	546,356	-
PC(34:1)	760,5856	16:0-18:1	LPC(20:4)	544,3403	-
		16:1-18:0	LPC(20:5)	542,3247	-
PC(34:2)	758,57	16:1-18:1			
		16:0-18:2			
PC(34:3)	756,5543	16:1-18:2			
PC(34:4)	754,5387	16:1-18:3			
		16:2-18:2			
PC(34:5)	752,523	-			
PC(34:6)	750,5074	-			
PC(34:7)	748,4917	-			
PC(36:2)	786,6013	-			
PC(36:3)	784,5856	18:1-18:2			
PC(36:4)	782,57	18:2-18:2			
		16:0-20:4			
PC(36:5)	780,5543	18:2-18:3			
		16:0-20:5			
		16:1-20:4			
PC(36:6)	778,5387	16:1-20:5			
PC(36:7)	776,523	-			
PC(38:5)	808,5856	18:1-20:4			
PC(38:6)	806,57	18:2-20:4			
		18:1-20:5			
PC(38:7)	804,5543	18:2-20:5			
PC(38:8)	802,5387	-			
PC(38:9)	800,523	-			
PC(40:10)	826,5387	-			
PC(40:5)	836,6169	-			
PC(40:7)	832,5856	-			
PC(40:8)	830,57	-			
PC(40:9)	828,5543	-			

Lipid species (C:N)	Calculated m/z	Fatty acyl chains (C:N)
PE identified as $[M+H]^+$ - polar head as neutral loss		
PE(30:1)	662,4761	14:0-16:1
PE(30:3)	658,4448	-
PE(32:1)	690,5074	-
PE(32:2)	688,4917	16:1-16:1
PE(32:4)	684,4604	16:0-16:4
PE(34:1)	718,5387	16:0-18:1
PE(34:2)	716,523	16:1-18:1
		16:0-18:2
PE(34:3)	714,5074	-
PE(34:4)	712,4917	16:0-18:4
PE(34:5)	710,4761	16:1-18:4
PE(36:2)	744,5543	18:1-18:1
PE(36:5)	738,5074	18:1-18:4
PE(36:6)	736,4917	-

Lipid species (C:N)	Calculated m/z	Fatty acyl chains (C:N)
LPE identified as [M+H] ⁺ - polar head as neutral loss		
LPE(14:0)	426,2621	-
LPE(16:0)	454,2934	16:0
LPE(16:1)	452,2777	-
LPE(16:4)	446,2308	-
LPE(18:1)	480,309	18:1
LPE(18:2)	478,2934	-
LPE(18:3)	476,2777	-
LPE(18:4)	474,2621	18:4
LPE(20:5)	500,2777	-

Lipid species (C:N)	Calculated m/z	Fatty acyl chains (C:N)
PG identified as [M-H] ⁻		
PG(30:0)	693,4707	14:0-16:0
PG(30:1)	691,455	-
PG(32:0)	721,502	-
PG(32:1)	719,4863	16:1-16:0 14:0-18:1
PG(32:2)	717,4707	16:1-16:1
PG(34:1)	747,5176	16:0-18:1
PG(34:2)	745,502	-
PG(34:3)	743,4867	16:0-18:3
PG(34:4)	741,4707	16:0-18:4 16:1-18:3
PG(34:5)	739,455	14:0-20:5 16:2-18:3
PG(36:2)	773,5333	18:1-18:1
PG(36:5)	767,4864	16:0-20:5
PG(36:6)	765,4707	16:1-20:5
PG(38:5)	795,5176	-
PG(32:2-OH)	733,4656	(16:0-OH)-16:2
PG(34:1-OH)	763,5125	(18:0-OH)-16:1
PG(34:2-OH)	761,4969	(18:0-OH)-16:2
PG(34:3-OH)	759,4812	(18:3-OH)-16:0 (18:2-OH)-16:1 (18:1-OH)-16:2 (18:0-OH)-16:3
PG(34:4-OH)	757,4656	(18:4-OH)-16:0 (18:3-OH)-16:1 (18:2-OH)-16:2
PG(34:5-OH)	755,4499	(18:3-OH)-16:2 (18:4-OH)-16:1
PG(36:5-OH)	783,4812	(16:0-OH)-20:5 (20:5-OH)-16:0
PG(36:6-OH)	781,4656	(20:5-OH)-16:1

Lipid species (C:N)	Calculated m/z	Fatty acyl chains (C:N)
PI identified as [M-H] ⁻		
PI(32:1)	807,5024	16:0-16:1
PI(34:1)	835,5318	16:0-18:1
PI(32:1)	807,5024	16:0-16:1

Lipid species (C:N)	Calculated m/z	Fatty acyl chains (C:N)
MGTS identified as [M+H] ⁺		
MGTS(14:0)	446,3482	14:0
MGTS(14:1)	444,3325	14:1
MGTS(16:0)	474,3795	16:0
MGTS(16:1)	472,3638	16:1
MGTS(16:2)	470,3482	16:2
MGTS(16:3)	468,3325	-
MGTS(16:4)	466,3169	16:4
MGTS(18:0)	502,4108	18:0
MGTS(18:1)	500,3951	18:1
MGTS(18:2)	498,3795	-
MGTS(18:3)	496,3638	-
MGTS(18:4)	494,3482	18:4
MGTS(18:5)	492,3325	-
MGTS(20:0)	530,4421	20:0
MGTS(20:4)	522,3795	-
MGTS(20:5)	520,3638	20:5

Lipid species (C:N)	Calculated m/z	Fatty acyl chains (C:N)	Lipid species (C:N)	Calculated m/z	Fatty acyl chains (C:N)
DGTS identified as [M+H] ⁺			DGTS identified as [M+H] ⁺		
DGTS(28:1)	654,5309	-	DGTS(34:3)	734,5935	16:2-18:1
DGTS(30:0)	684,5778	16:0-14:0			16:1-18:2
DGTS(30:1)	682,5622	16:1-16:0			20:3-14:0
DGTS(30:2)	680,5465	16:2-14:0	DGTS(34:4)	732,5778	18:4-16:0
DGTS(30:3)	678,5309	-			18:3-16:1
DGTS(30:4)	676,5152	16:4-16:0	DGTS(34:5)	730,5622	18:4-16:1
DGTS(30:5)	674,4996	16:4-14:1			18:1-16:4
DGTS(32:0)	712,6091	16:0-16:0			18:2-16:3
DGTS(32:1)	710,5935	16:1-16:0	DGTS(34:5-OH)	746,5571	(16:4-OH)-18:1
DGTS(32:2)	708,5778	16:0-16:2			(16:1-OH)-18:4
		16:1-16:1			(16:0-OH)-18:5
DGTS(32:3)	706,5622	16:3-16:0	DGTS(34:6)	728,5465	-
DGTS(32:4)	704,5465	14:0-18:4	DGTS(34:7)	726,5309	16:4-18:3
		16:4-16:0			16:3-18:4
		16:3-16:1	DGTS(34:7-OH)	742,5258	(16:4-OH)-18:3
DGTS(32:5)	702,5309	-			(16:3-OH)-18:4
DGTS(32:6)	700,5152	16:4-16:2	DGTS(34:8)	724,5152	16:4-18:4
		16:3-16:3	DGTS(36:10)	748,5152	18:5-18:5
DGTS(32:7)	698,4996	16:4-16:3	DGTS(36:4)	760,6091	16:0-20:4
DGTS(32:8)	696,4839	16:4-16:4			18:3-18:1
DGTS(34:1)	738,6248	16:0-18:1			18:2-18:2
DGTS(34:2)	736,6091	16:1-18:1			20:3-16:1
		18:2-16:0			20:2-16:2
		20:2-14:0			20:1-16:3
					20:0-16:4
			DGTS(36:5)	758,5935	18:4-18:1
					20:5-16:0
					20:4-16:1
					20:3-16:2
					20:2-16:3
					20:1-16:4
					16:1-20:4
			DGTS(36:6)	756,5778	16:1-20:5
					20:3-16:3
					18:2-18:4
					18:3-18:3
			DGTS(36:7)	754,5622	18:4-18:3
			DGTS(36:8)	752,5465	18:4-18:4
			DGTS(36:9)	750,5309	18:5-18:4
			DGTS(38:10)	776,5465	20:5-18:5
			DGTS(38:7)	782,5935	20:5-18:2
			DGTS(38:8)	780,5778	20:5-18:3
			DGTS(40:10)	804,5778	20:5-20:5
			DGTS(40:9)	806,5935	20:4-20:5

Lipid species (C:N)	Calculated m/z	Fatty acyl chains (C:N)
SQDG identified as [M-H] ⁻		
SQDG(28:0)	737,451	-
SQDG(30:0)	765,4823	16:0-14:0
SQDG(30:1)	763,4666	16:1-14:0
SQDG(32:0)	793,5136	-
SQDG(32:1)	791,4979	16:0-16:1
SQDG(32:2)	789,4823	16:1-16:1
		16:0-16:2
SQDG(32:3)	787,4666	16:1-16:2
		16:0-16:3
		18:1-14:1
SQDG(32:4)	785,451	16:0-16:4
		16:1-16:3
		16:2-16:2
SQDG(34:0)	821,5449	16:0-18:0
SQDG(34:1)	819,5292	16:0-18:1
SQDG(34:3)	815,4979	16:0-18:3
		18:1-16:2
SQDG(34:4)	813,4823	16:0-18:4
		16:1-18:3
		16:2-18:2
		18:1-16:3
		20:4-14:0
SQDG(36:0)	849,5762	16:0-20:0
SQDG(36:3)	843,5292	-
SQDG(36:4)	841,5136	16:0-20:4
SQDG(36:5)	839,4979	-
SQDG(36:6)	837,4823	16:1-20:5
		20:4-16:2
		18:2-18:4
		18:3-18:3
SQDG(36:7)	835,4666	18:3-18:4
		20:4-16:3
		20:5-16:2
SQDG(34:3-OH)	831,4928	-
SQDG(34:4-OH)	829,4772	-

Lipid species (C:N)	Calculated m/z	Fatty acyl chains (C:N)
MGDG identified as [M+NH ₄] ⁺		
MGDG(30:0)	720,5625	-
MGDG(30:1)	718,5464	16:1-14:0
MGDG(32:0)	748,5939	16:0-16:0
MGDG(32:1)	746,5777	16:1-16:0
MGDG(32:2)	744,5626	16:1-16:1
		14:0-18:2
		16:0-16:2
MGDG(32:3)	742,5464	-
MGDG(32:4)	740,5307	-
MGDG(32:5)	738,5156	-
MGDG(32:6)	736,4994	-
MGDG(32:7)	734,4843	-
MGDG(32:8)	732,4687	16:4-16:4
MGDG(34:1)	774,609	-
MGDG(34:2)	772,5933	18:2-16:0
MGDG(34:3)	770,5782	18:3-16:0
		18:2-16:1
MGDG(34:4)	768,5626	16:2-18:2
		16:1-18:3
		16:0-18:4
		16:3-18:1
		16:4-18:0
MGDG(34:5)	766,5469	-
MGDG(34:7)	762,5156	16:4-18:3
		18:4-16:3
MGDG(34:8)	760,5	-
MGDG(36:3)	798,6095	-
MGDG(36:4)	796,5933	-
MGDG(36:5)	794,5782	18:3-18:2
		18:1-18:4
		20:5-16:0
		16:4-20:2
		16:1-20:4
MGDG(36:6)	792,5625	18:3-18:3
		16:1-20:5
		16:4-20:2
MGDG(36:7)	790,5469	-
MGDG(36:8)	788,5313	-
MGDG(38:6)	820,5939	18:1-20:5
		18:2-20:4
		18:3-20:3
MGDG(38:7)	818,5782	20:5-18:2
		18:3-20:4
MGDG(38:8)	816,5626	-
MGDG(40:10)	840,5626	20:5-20:5
MGDG(40:8)	844,5939	20:4-20:4
MGDG(40:7)	846,6095	-

Lipid species (C:N)	Calculated m/z	Fatty acyl chains (C:N)
DGDG identified as [M+NH4]⁺		
DGDG(30:0)	882,6154	-
DGDG(30:1)	880,5997	16:1-14:0
DGDG(32:1)	908,631	16:0-16:1
DGDG(32:2)	906,6154	16:0-16:2
		16:1-16:1
DGDG(32:3)	904,5997	18:3-14:0
		16:0-16:3
		16:1-16:2
DGDG(32:4)	902,5841	18:3-14:1
		16:0-16:4
		14:0-18:4
DGDG(32:5)	900,5684	16:1-16:4
DGDG(32:6)	898,5528	-
DGDG(34:1)	936,6623	18:1-16:0
DGDG(34:2)	934,6467	18:1-16:1
		18:2-16:0
DGDG(34:3)	932,631	16:0-18:3
		18:1-16:2
DGDG(34:4)	930,6154	18:1-16:3
		18:2-16:2
		18:3-16:1
		18:4-16:0
		14:0-20:4
DGDG(34:5)	928,5997	18:3-16:2
		18:2-16:3
		18:1-16:4
		16:1-18:4
		14:0-20:5
DGDG(34:6)	926,5841	-
DGDG(34:7)	924,5684	18:3-16:4
		18:4-16:3
DGDG(34:8)	922,5528	-
DGDG(36:2)	962,678	-
DGDG(36:3)	960,6623	18:3-18:0
		18:1-18:2
DGDG(36:4)	958,6467	-
DGDG(36:5)	956,631	20:5-16:0
		18:1-18:4
		20:1-16:4
DGDG(36:6)	954,6154	18:3-18:3
		20:5-16:1
		18:4-18:2
DGDG(36:7)	952,5997	18:3-18:4
DGDG(36:8)	950,5841	18:4-18:4
DGDG(38:6)	982,6467	-
DGDG(38:7)	980,631	18:2-20:5
DGDG(40:10)	1002,6154	20:5-20:5
DGDG(40:9)	1004,631	-

Lipid species (C:N)	Calculated m/z	Fatty acyl chains (C:N)
MGMG identified as [M+NH4]⁺		
MGMG(14:0)	482,3329	14:0
MGMG(16:0)	510,3642	16:0
MGMG(16:1)	508,3486	16:1
MGMG(16:3)	504,3173	**
MGMG(16:4)	502,3016	16:4
MGMG(16:4-OH)	518,2965	16:4-OH
MGMG(18:1)	536,3799	18:1
MGMG(18:3)	532,3486	18:3
MGMG(18:4)	530,3329	-
MGMG(20:4)	558,3642	-
MGMG(20:5)	556,3486	-

Lipid species (C:N)	Calculated m/z	Fatty acyl chains (C:N)
DGMG identified as [M+NH4]⁺		
DGMG(14:0)	644,3857	-
DGMG(16:0)	672,417	16:0
DGMG(16:1)	670,4014	16:1
DGMG(16:2)	668,3857	-
DGMG(16:3)	666,3701	-
DGMG(16:4)	664,3544	-
DGMG(18:1)	698,4327	18:1
DGMG(18:2)	696,417	-
DGMG(18:3)	694,4014	18:3
DGMG(18:4)	692,3857	-
DGMG(20:5)	718,4014	-
DGMG(14:0)	644,3857	-

Lipid species (C:N)	Calculated m/z	Fatty acyl chains (C:N)
SQMG identified as [M-H]⁻		
SQMG(16:0)	555,2839	-

Lipid species (C:N)	Calculated m/z	Fatty acyl chains (C:N)
PI-Cer identified as [M-H]⁻		
PI-Cer(d18:1/14:0)	750,4921	-

Abbreviations:

PC, phosphatidylcholine;

PE, phosphatidylethanolamine;

PG, phosphatidylglycerol;

PI, phosphatidylinositol;

LPC, lysophosphatidylcholine;

LPE, lysophosphatidylethanolamine;

LPG, lysophosphatidylglycerol;

MGTS, monoacylglyceryl 3-O-4'-(N,N,N-trimethyl) homoserine;

DGTS, diacylglyceryl 3-O-4'-(N,N,N-trimethyl) homoserine;

SQDG, sulfoquinovosyldiacylglycerol;

MGDG, monogalactosyldiacylglycerol;

DGDG, digalactosyldiacylglycerol;

MGMG, monogalactosylmonoacylglycerol;

DGMG, digalactosylmonoacylglycerol;

SQMG, sulfoquinovosylmonoacylglycerol;

PI-Cer, inositolphosphoceramide.