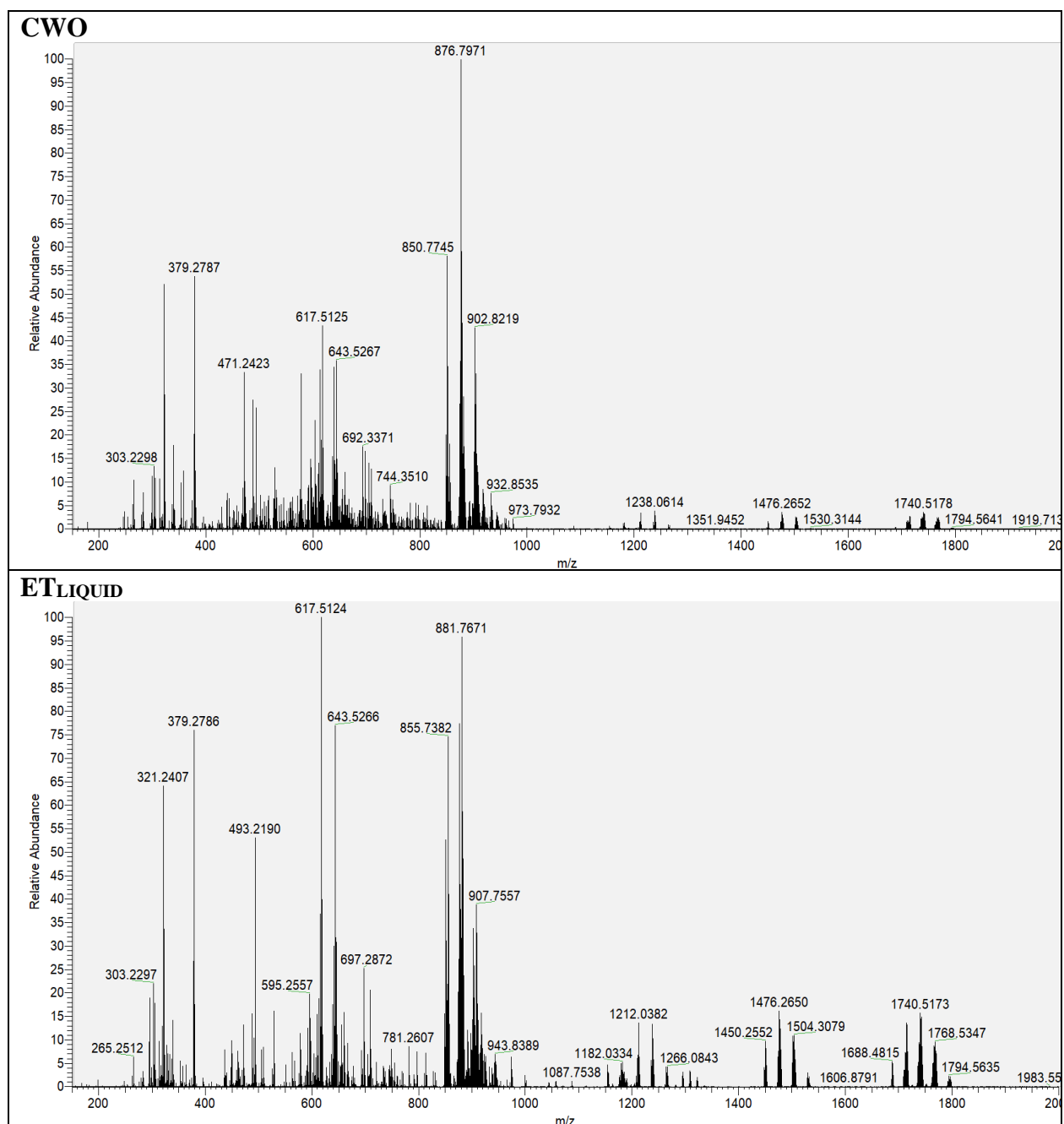
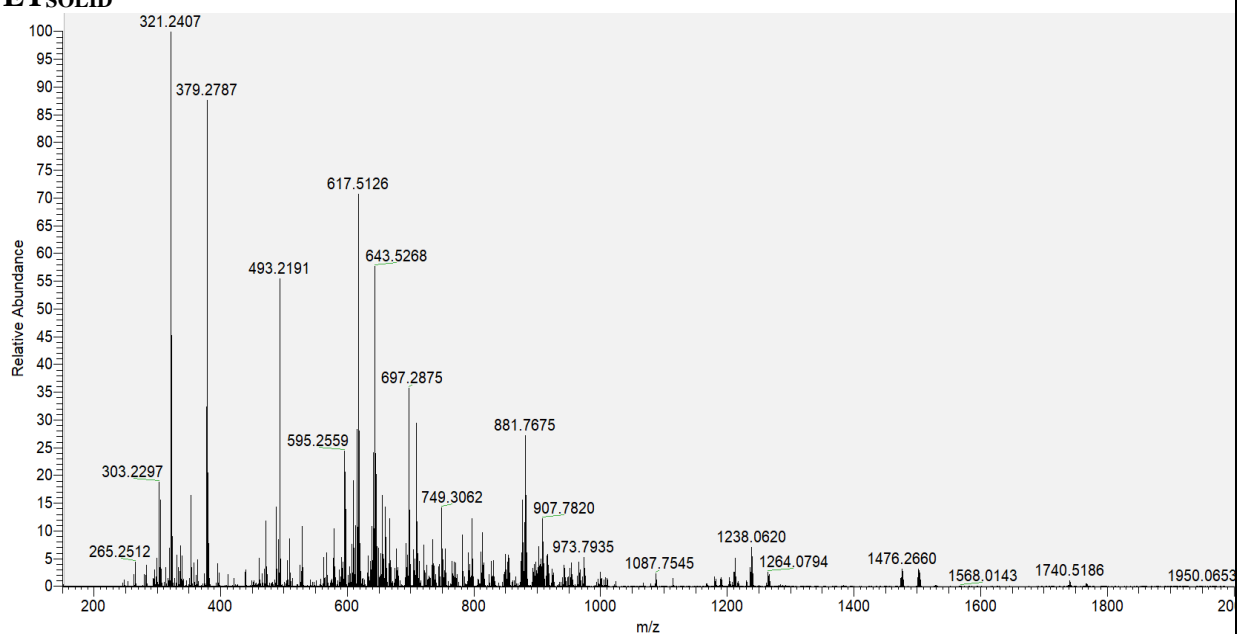


## Supporting Information

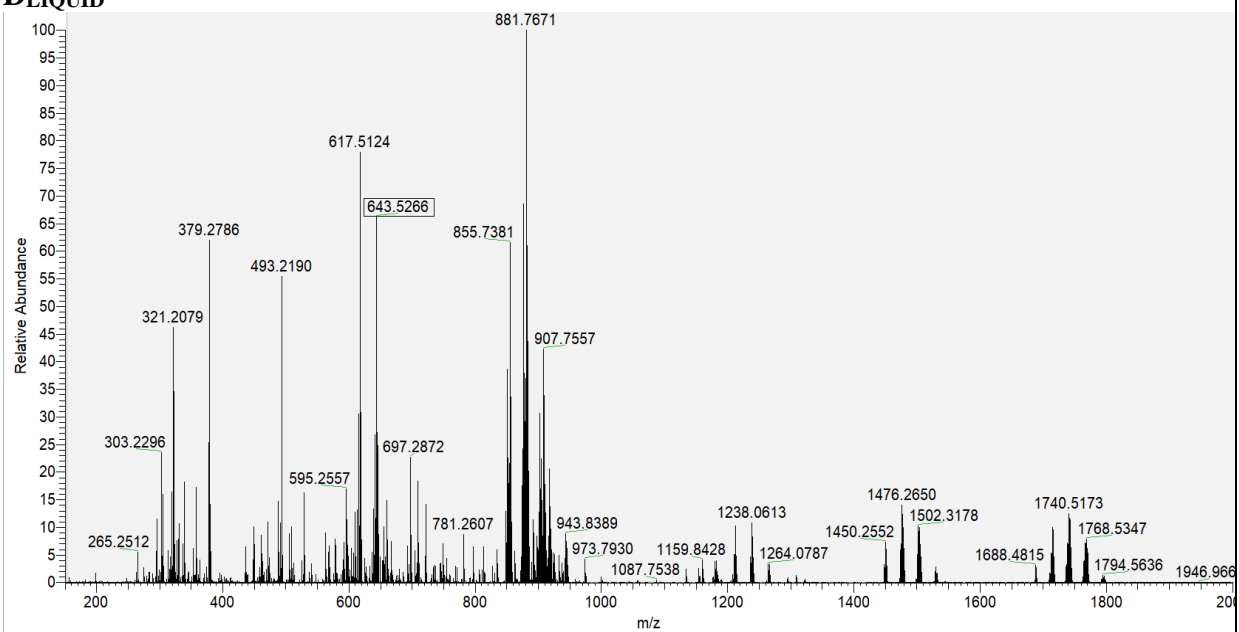
**Figure S1.** ESI-MS spectra of the Crabwood Oil (CWO) and its fractions.



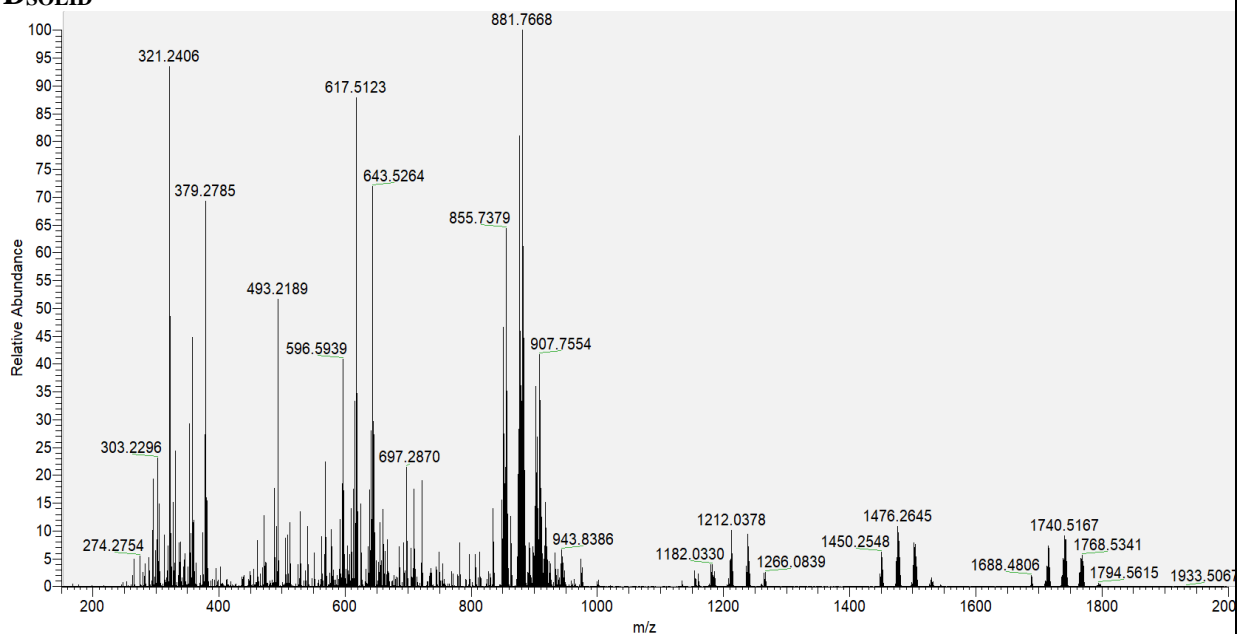
# ET SOLID



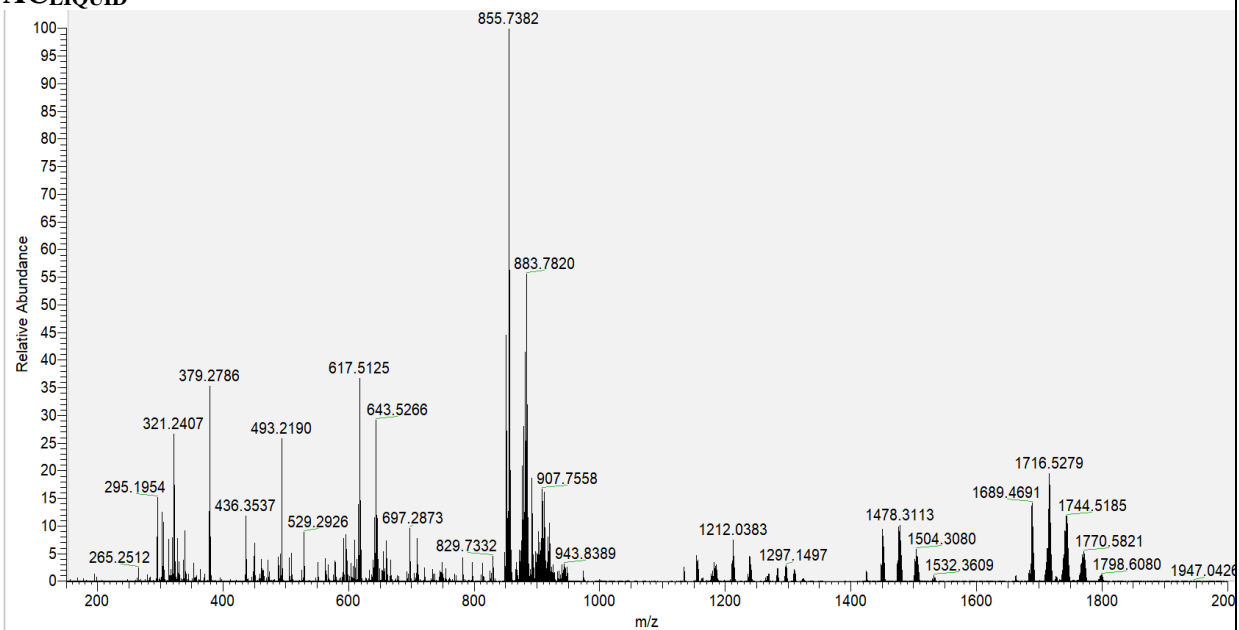
# DLIQUID



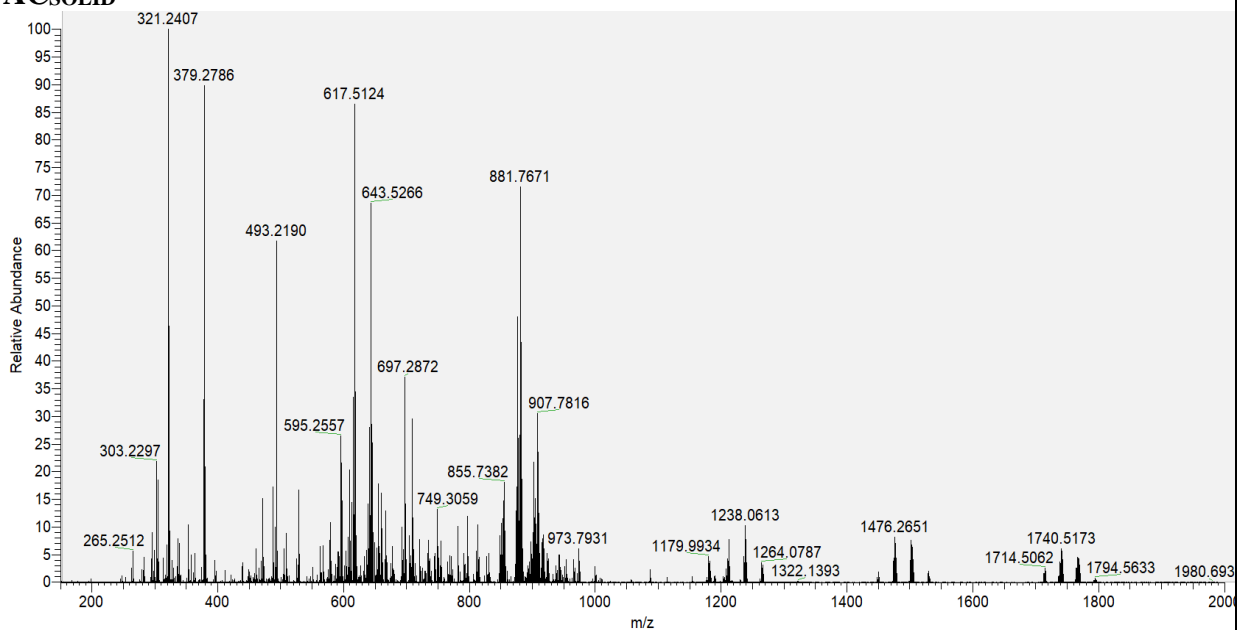
## DSOLID



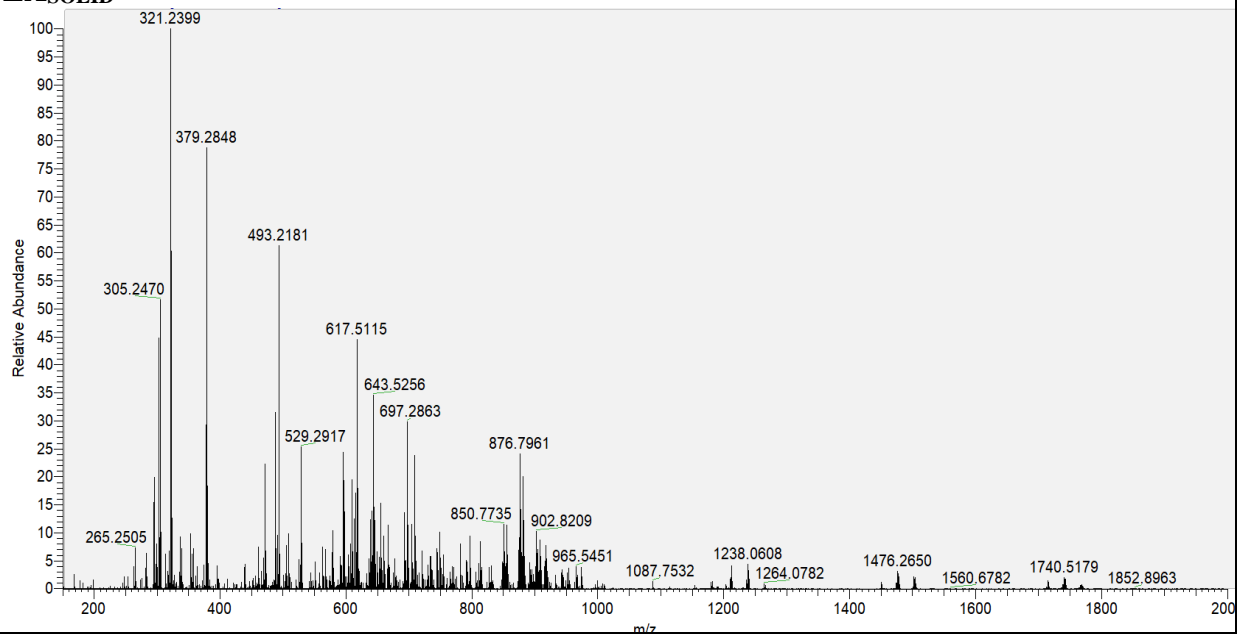
## ACLIQUID



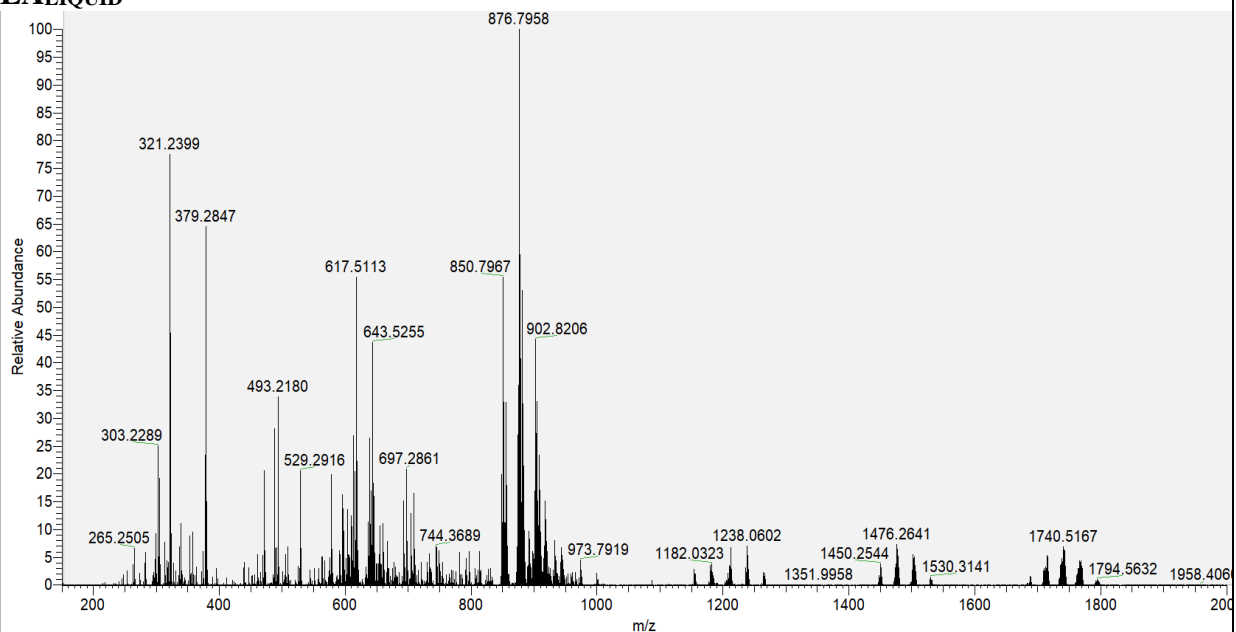
# ACSolid



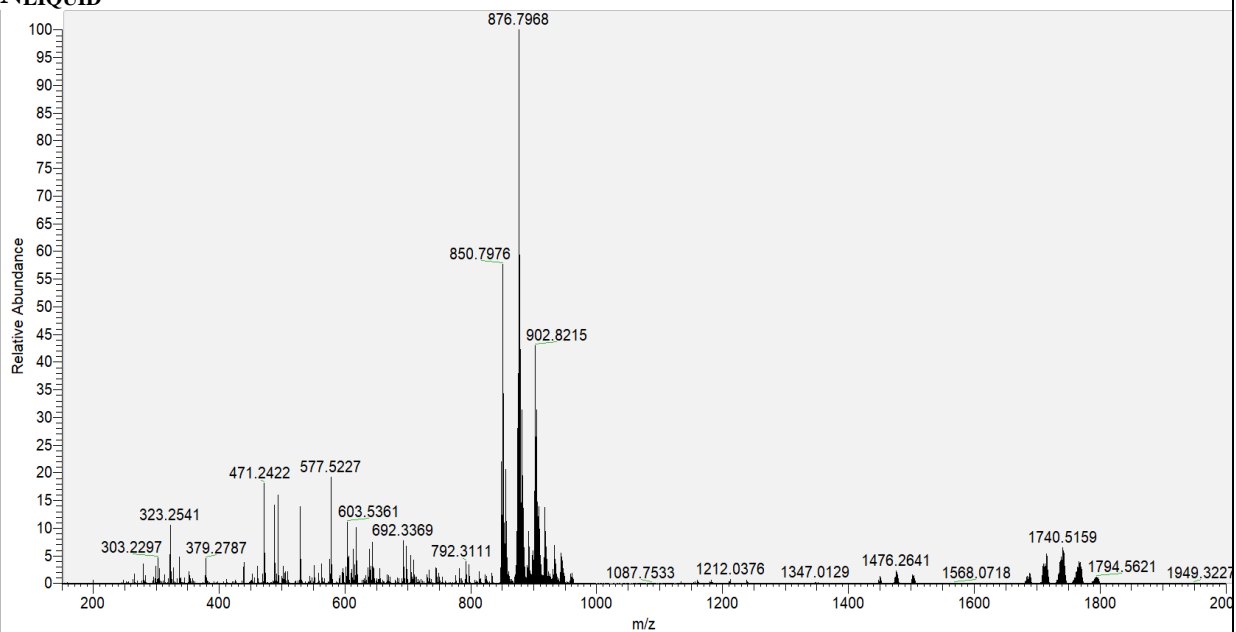
# EASolid

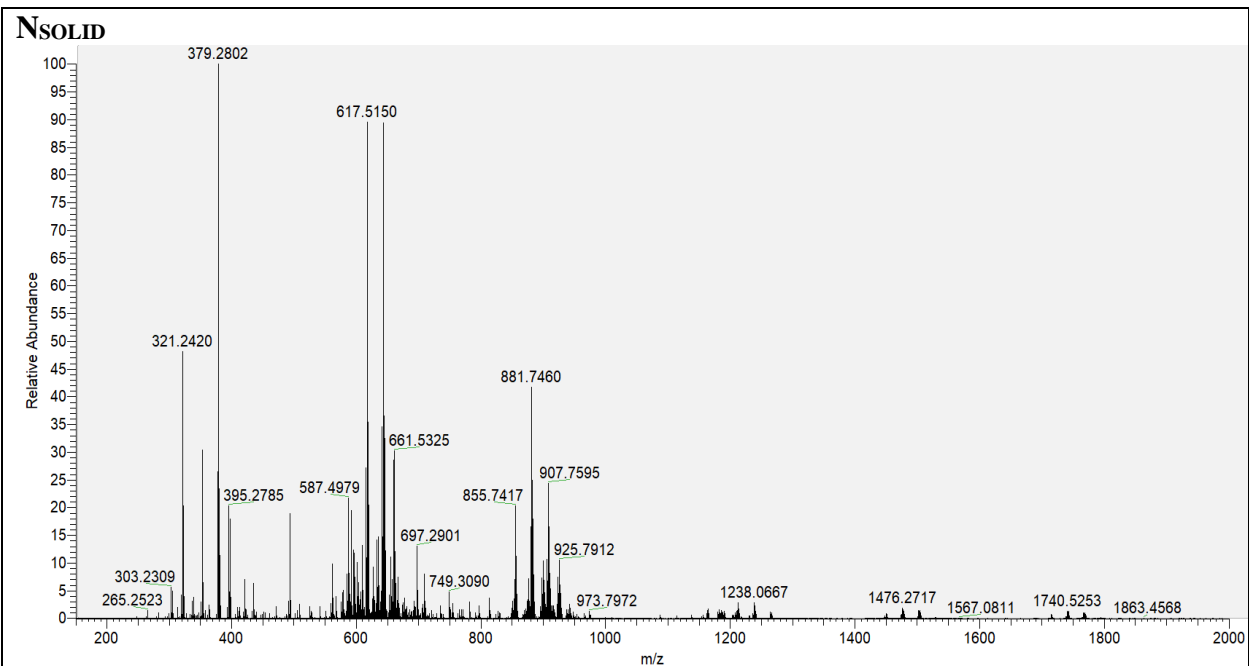


# EALIQUD

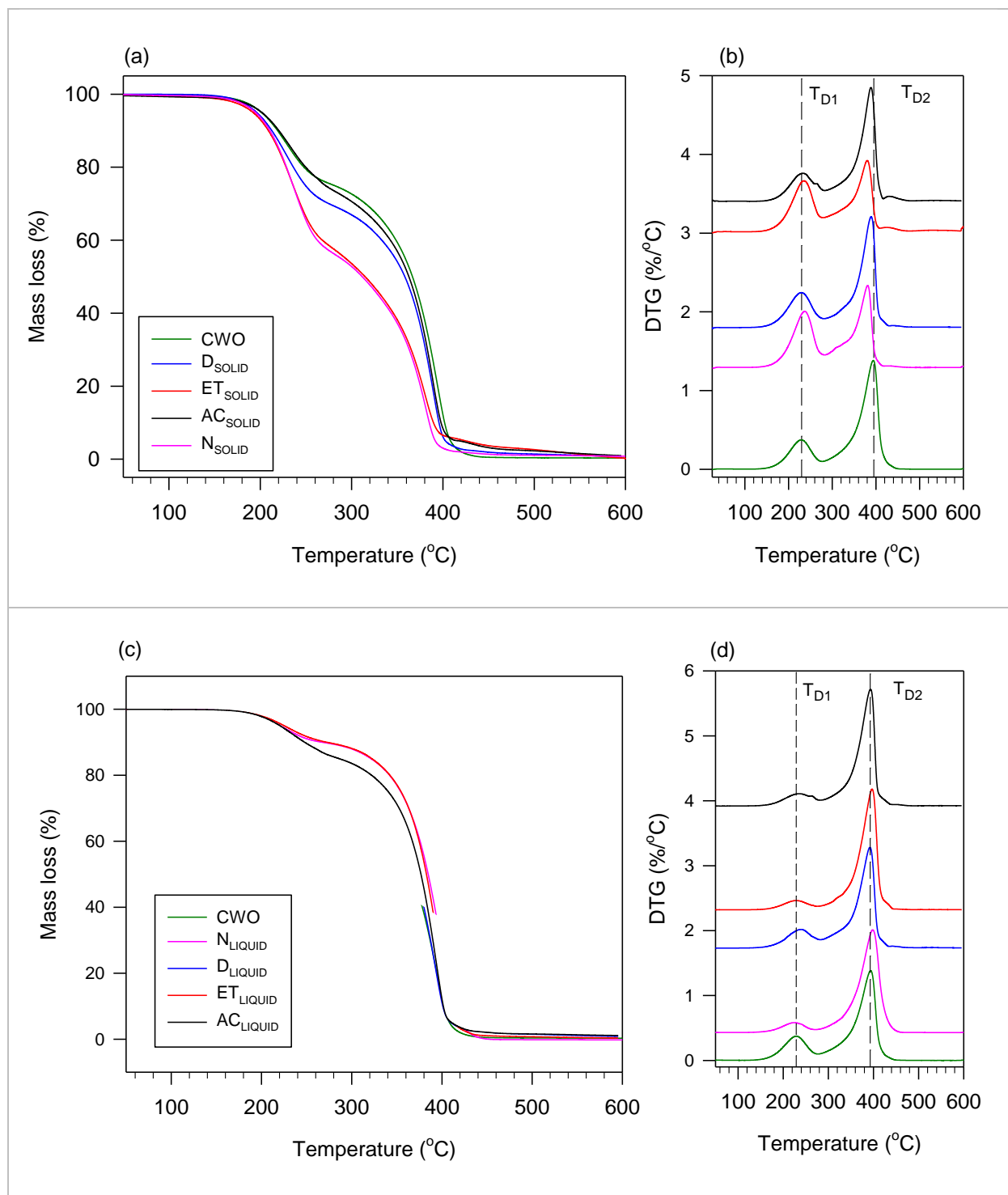


# NLIQUD





**Figure S2.** TGA and DTG stacks of CWO and its stearin and olein fractions.



**Table S1.** Relative abundance percentages of assigned lipids in CWO and its fractions (a) TAGs, (b) DAGs and (c) MAGs and (d) FFAs. The most predominant compound in each group is highlighted. ND: Not Detected, - Below the detection limit

a) Triacylglycerols (TAGs)

Compound	Relative abundance (%)										
<b>G1: SSS</b>	<b>CWO</b>	<b>DSOLID</b>	<b>DLIQUID</b>	<b>ETSOLID</b>	<b>ETLIQUID</b>	<b>ACSOLID</b>	<b>ACLIQUID</b>	<b>EALIQUID</b>	<b>EASOLID</b>	<b>NSOLID</b>	<b>NLIQUID</b>
SSS	0.2	0.4	0.4	0	0.4	0.2	1.1	0.5	0.2	0.6	0.8
PSS	1.9	2.1	1.6	0.2	2.0	0.6	3.8	1.9	1.1	0.5	2.1
PPS	3.0	3.7	2.8	0.2	3.4	1.1	6.7	3.3	3.5	2.6	3.3
PPP	0.0	0.7	0.0	0	0.1	0	1.5	0.2	0	0.2	0.2
<b>Total SSS</b>	<b>5.1</b>	<b>6.9</b>	<b>4.8</b>	<b>0.4</b>	<b>5.9</b>	<b>1.9</b>	<b>13.1</b>	<b>5.9</b>	<b>4.8</b>	<b>3.9</b>	<b>6.4</b>
<b>G2: SSU</b>	<b>CWO</b>	<b>DSOLID</b>	<b>DLIQUID</b>	<b>ETSOLID</b>	<b>ETLIQUID</b>	<b>ACSOLID</b>	<b>ACLIQUID</b>	<b>EALIQUID</b>	<b>EASOLID</b>	<b>NSOLID</b>	<b>NLIQUID</b>
PSO	9.3	12.4	10.9	6.6	12.1	7.7	18.4	9.9	7.9	10.9	9.5
PPO	13.8	4.8	15.6	6.2	18.8	7.9	33.0	15.2	15.7	12.3	14.4
SSL, SOO	7.1	11.4	8.6	9.7	8.2	10.3	4.8	7.9	8.0	10.1	6.9
PPL	4.4	6.1	5.5	6.8	5.5	6.4	4.2	5.2	6.2	4.3	5.0
PPLn	4.3	1.1	0.9	0.0	1.2	0.3	1.4	2.4	1.3	0	3.7
Total SSU	38.9	35.8	41.5	29.3	45.8	32.6	61.8	40.6	39.1	37.6	39.5
<b>G3: SUU</b>	<b>CWO</b>	<b>DSOLID</b>	<b>DLIQUID</b>	<b>ETSOLID</b>	<b>ETLIQUID</b>	<b>ACSOLID</b>	<b>ACLIQUID</b>	<b>EALIQUID</b>	<b>EASOLID</b>	<b>NSOLID</b>	<b>NLIQUID</b>
POO	21.5	28.2	25.4	32.8	24.1	31.2	13.7	24.5	27.6	25.3	21.9
PLO	5.1	9.4	9.4	13.9	8.0	11.6	3.7	6.2	8.1	10.1	6.1
PLL	9.1	2.5	2.0	2.1	2.2	2.3	0.8	5.2	3.4	0.5	7.8
LLS, OOL	6.0	3.8	3.5	3.8	3.2	4.1	1.5	4.3	4.0	4.4	5.1
Total SUU	41.7	43.9	40.3	62.6	37.5	49.2	19.7	40.2	43.1	40.3	40.9
<b>G4: UUU</b>	<b>CWO</b>	<b>DSOLID</b>	<b>DLIQUID</b>	<b>ETSOLID</b>	<b>ETLIQUID</b>	<b>ACSOLID</b>	<b>ACLIQUID</b>	<b>EALIQUID</b>	<b>EASOLID</b>	<b>NSOLID</b>	<b>NLIQUID</b>
OOO	9.0	11.4	10.6	14.9	9.4	13.4	4.8	9.9	10.7	14.5	9.0
OLL, OOLn	4.4	1.3	2.1	1.1	1.1	1.3	0.4	2.6	1.6	0	3.8
<b>Total UUU</b>	<b>13.4</b>	<b>12.7</b>	<b>12.7</b>	<b>16.0</b>	<b>10.5</b>	<b>14.7</b>	<b>5.2</b>	<b>12.5</b>	<b>12.3</b>	<b>14.5</b>	<b>12.8</b>
<b>Unclassified</b>	<b>CWO</b>	<b>DSOLID</b>	<b>DLIQUID</b>	<b>ETSOLID</b>	<b>ETLIQUID</b>	<b>ACSOLID</b>	<b>ACLIQUID</b>	<b>EALIQUID</b>	<b>EASOLID</b>	<b>NSOLID</b>	<b>NLIQUID</b>



TG1	0	0	0.1	0.1	0.4	0.4	0.1	0	0	0	0
TG2	0.8	0.7	0.7	1.6	0	1	0	0.7	0.8	3.9	0.5
Total	0.8	0.7	0.8	1.7	0.4	1.4	0.1	0.7	0.8	3.9	0.5

Abbreviations: S: saturated, U: Unsaturated; P, Palmitic acid; Po, palmitoleic acid; O, oleic acid; S, stearic acid; L, linoleic acid; Ln, linolenic acid. TG1= TG (16:1\_18:4 \_19:1), TG2= TAG (18:0/18:2/19:0)

b) Diacylglycerols (DAGs)

Elemental composition	Putative compound	<i>m/z</i> [M+Na] <sup>+</sup>	Relative abundance (%)										
			CWO	D <sub>SOLID</sub>	D <sub>LIQUID</sub>	ET <sub>SOLID</sub>	ET <sub>LIQUID</sub>	AC <sub>SOLID</sub>	AC <sub>LIQUID</sub>	EA <sub>SOLID</sub>	EA <sub>LIQUID</sub>	N <sub>SOLID</sub>	N <sub>LIQUID</sub>
C37H70O5	1-Oleoyl-2-palmitoylglycerol	617.5121	25.1	28.6	31.3	31.9	32.6	32.5	32.6	28.98	29.04	24.9	21.6
C39H72O5	1,3-Diolein	643.5277	20.8	23.4	26.6	26.0	25.1	25.8	25.9	22.8	23.2	24.9	15.8
C37H72O4	1-O-hexadecyl-2-(9Z-octadecenoyl)-sn-glycerol (DG (O-16:0/18:1))	603.5328	13.5	2.4	1.9	1.6	2.3	2.1	0.6	7.1	2.4	1.6	23.8
C37H68O5	1-hexadecanoyl-2-(9Z,12Z-octadecadienoyl)-sn-glycerol (DG (18:2/16:0))	615.4964	11.0	10.8	12.3	12.8	12.0	12.5	12.3	10.7	11.2	7.6	7.2
C39H68O5	1,3-dilinoleoyl-sn-glycerol-d5	644.5278	8.7	9.7	11.0	10.8	10.4	10.7	10.6	9.6	9.5	9.7	6.3
C39H70O5	1-(9Z-octadecenoyl)-2-(9Z,12Z-octadecadienoyl)-sn-glycerol (DG (18:1/18:2/0:0))	641.5121	0.0	9.0	0.0	0	0.0	0.0	0.0	8.2	8.8	9.6	0.0
C39H74O5	1-octadecanoyl-2-(9Z-octadecenoyl)-sn-glycerol (DG (18:0/18:1))	645.5434	6.9	8.9	10.0	9.1	10.0	9.5	10.1	3.0	8.0	9.0	5.8
C34H66O5	1-pentadecanoyl-2-hexadecanoyl-sn-glycerol (DG (15:0/16:0/0:0))	577.4808	5.1	1.1	1.0	0.7	1.6	1.2	1.2	2.1	1.7	0.4	9.5
C37H72O5	1-stearoyl-2-palmitoyl-sn-glycerol (DG (16:0/18:0))	619.5277	3.5	4.4	3.1	3.5	3.6	3.2	5.0	4.3	2.7	5.7	3.3

C36H68O5	1-(9Z-hexadecenoyl)-2-heptadecanoyl-sn-glycerol (DG(16:1/17:0/0:0))	603.4964	2.6	0.3	0.7	0.1	0.9	0.5	0.7	1.2	0.7	1.3	4.2
C37H70O6	1,2-Dipalmitoyl 3-acetyl glycerol	633.5070	1.2	1.0	1.2	2.2	0.3	1.8	0.0	1.7	1.8	4.0	1.1
C34H64O5	1-pentadecanoyl-2-(9Z-hexadecenoyl)-sn-glycerol (DG (15:0/16:1))	575.4651	0.9	0.1	0.1	0	0.2	0.1	0.1	0.28	0.25	0.2	1.0
C41H64O5	1-(6Z,9Z,12Z,15Z-octadecatetraenoyl)-2-(5Z,8Z,11Z,14Z-eicosatetraenoyl)-sn-glycerol (DG(18:4/20:4))	659.4651	0.7	0.1	0.8	1.2	0.8	0.0	0.9	0.1	0.8	1.3	0.3

c) Monoacylglycerols (MAGs).

Elemental composition	Putative compound	<i>m/z</i> [M+Na] <sup>+</sup>	Relative abundance (%)										
			CWO	D <sub>SOLID</sub>	D <sub>LIQUID</sub>	ET <sub>SOLID</sub>	ET <sub>LIQUID</sub>	AC <sub>SOLID</sub>	AC <sub>LIQUID</sub>	EA <sub>SOLID</sub>	EA <sub>LIQUID</sub>	NS <sub>SOLID</sub>	N <sub>LIQUID</sub>
C21H40O4	2-monoolein	379.2824	50.1	46.5	62.2	58.5	65.6	78.5	67.0	58.3	62.3	58.1	51.7
C21H38O4	rac-1-monolinoleoylglycerol	377.2668	19.2	18.7	26.0	21.7	23.2	6.3	24.2	21.2	23.2	15.4	17.1
C19H40O3	1-O-hexadecyl-sn-glycerol	339.2875	17.0	4.2	4.9	3.6	6.2	5.9	3.2	10.1	5.0	2.2	9.7
C19H38O4	2-Monopalmitin	353.2668	9.4	20.0	4.1	11.0	3.4	9.2	4.0	8.0	7.8	17.7	17.4
C21H42O4	1-Monostearin	381.2981	4.3	10.6	2.8	5.2	1.7	0.0	1.7	2.4	1.6	6.6	4.2

d) Free Fatty Acids (FFA).

Elemental composition	Putative compound	m/z [M+Na] <sup>+</sup>	Relative abundance (%)										
			CWO	D <sub>SOLID</sub>	D <sub>LIQUID</sub>	ET <sub>SOLID</sub>	ET <sub>LIQUID</sub>	AC <sub>SOLID</sub>	AC <sub>LIQUID</sub>	EA <sub>SOLID</sub>	EA <sub>LIQUID</sub>	NS <sub>SOLID</sub>	N <sub>LIQUID</sub>
C18H32O2	linoleic acid (L)	303.2300	11.2	11.3	22.5	9.9	12.1	11.2	16.6	14.4	16.5	7.1	17.3
C18H34O2	oleic acid (O)	305.2456	9.2	6.9	15.4	7.7	9.8	9.1	14.2	11.1	19.0	6.1	10.0
C18H34O3	10-keto stearic/ hydroxyoleic acids	321.2406	43.7	45.6	43.8	52.7	48.5	51.0	35.5	44.6	36.7	59.5	19.8
C16H32O5	11,12,15- trihydroxy palmitic acid	327.2147	ND	4.4	4.9	0.5	3.6	1.5	7.4	1.2	0.6	0.5	4.5
C18H30O2	Linolenic acid (Ln)	301.2143	0.1	4.2	0.6	0.2	0.1	0.1	0.7	0.3	2.3	0.1	3.0
C18H36O3	15-hydroxy stearic acid	323.2562	24.0	23.7	2.0	23.8	18.4	23.7	17.8	26.0	22.1	25.2	39.5
C19H38O3	3-Hydroxy-11- methyl-stearic acid	337.2719	3.9	1.3	ND	1.7	1.9	1.9	1.6	2.2	1.2	1.6	2.1
C22H44O2	Behenic acid (C22)	363.3239	5.1	0.1	ND	ND	ND	ND	ND	ND	ND	ND	ND
C16H30O2	Palmitoleic acid (C16:1)	277.2143	0.2	ND	ND	0.1	ND	ND	ND	ND	ND	ND	ND
C16H32O2 Hexadecanoic	Palmitic acid (C16)	279.2300	2.6	0.4	0	1.1	1.0	ND	ND	ND	0.1	ND	0.6
C17H34O2	Margaric acid (C17:0)	293.2456	ND	0.3	2.3	ND	ND	0.3	1.3	ND	0.0	ND	0.0
C18H36O2 Octadecanoic	Stearic acid (C18:0)	307.2613	ND	1.8	7.6	0.4	0.8	1.3	4.8	ND	1.2	ND	0.0
C20H38O2 9Z-eicosenoic	Gadoleic acid (C20:1)	333.2769	0.03	ND	0.1	1.8	3.8	ND	ND	0.2	0.2	ND	3.2
C20H40O2	Arachidic acid (C20:0)	335.2926	ND	ND	0.8	ND	ND	ND	ND	ND	0.1	ND	ND

**Table S2.** Relative abundance percentages of assigned unsaponifiable components in CWO and its fractions: (a) limonoids, (b) sterols, (c) other unsaponifiable components. The most predominant compound in each group is highlighted.

(a) Relative abundance percentages of assigned limonoids.

Elemental Composition	Putative compound	$m/z$ [M+Na] <sup>+</sup>	CWO	DSOLID	DLIQUID	ETSOLID	ETLIQUID	ACSOLID	ACLIQUID	EASOLID	EALIQUID	NSOLID	NLIQUID
C26H30O6	7-Deacetoxy-7-Oxogedunin	461.1940	3.9	5.3	5.4	3.0	4.9	3.3	5.5	3.9	4.8	4.6	1.4
C26H32O6	7-deactylgedunin	463.2097	0.5	0.7	0.5	0.3	0.3	0.3	0.4	0.5	0.6	0.5	0.2
C28H34O6	Deoxygedunin	489.2253	0.1	3.5	3.5	0.6	2.6	0.9	3.9	1.1	0.5	0.2	0.9
C28H34O7	Gedunin	505.2202	4.2	6.1	5.7	2.7	4.9	3.1	5.7	4.2	4.9	5.2	2.5
C30H36O9	6 $\alpha$ -acetoxygedunin	563.2257	4.1	6.1	5.7	3.1	4.7	3.5	5.5	4.3	4.5	8.5	2.9
C27H32O7	Andirobin	491.2046	5.9	6.4	6.9	5.1	6.7	5.4	6.7	4.8	5.5	4.3	5.3
C27H34O7	Methyl angolensate	493.2202	27.9	34.3	35.2	33.1	34.2	33.3	34.8	34.8	29.6	38.7	32.3
C27H34O8	Methyl 6-hydroxyangolensate	509.2151	6.2	4.9	6.4	5.2	5.4	4.8	6.9	5.6	6.1	5.2	4.5
C27H32O8	8beta-Hydroxycarapin, 3,8-Hemiacetal	507.1995	0.04	0.1	0.1	0.04	0.02	0.02	0.03	0	0.04	0	0.1
C31H42O11	Carapanolide A	613.2625	0.9	0.01	0.02	1	0.22	0.6	0.1	0.5	0.4	0.4	1.1
C32H42O11	Carapanolide B	625.2625	0.7	0.01	0.01	0.9	0.1	0.9	0.03	0.7	0.5	0.1	2
C39H48O13	Carapanolide K	747.2993	0.6	0	0	0.02	0	0.01	0	0	0.1	0.02	0
C33H38O13	Carapanolide L	665.2210	1.3	0.9	0.6	1.4	0.8	1.2	0.7	1.1	1	0.4	1.5
C36H40O15	Guianolide A	735.2265	0.4	0.03	0.04	0.5	0.08	0.3	0.04	0.2	0.1	0.1	0.3
C34H38O14	Guianolide B	693.2159	0.01	0	0	0.03	0.01	0.01	0	0	0	0	0
C34H44O12	11-Acetoxykhivorin	667.2730	6.8	5.1	4.8	7.3	6	6.9	5.3	6.5	6.9	4.1	0
C35H46O13	Trichilin A	697.2836	17.9	14.6	14.4	21.3	16.2	19.9	12.9	16.9	18.3	16.5	22.4
C28H34O5	Azadiradione	473.2304	2.8	2.4	2.9	1.3	1.4	1.6	2.4	1.5	2	3.9	0.2
C31H42O10	Asclepin	597.2676	14	8.4	6.6	12.3	9.5	11.7	7.9	11	12.1	6.8	19.6

Elemental Composition	Putative compound	$m/z$ [M+Na] <sup>+</sup>	CWO	D <sub>SOLID</sub>	D <sub>LIQUID</sub>	ET <sub>SOLID</sub>	ET <sub>LIQUID</sub>	AC <sub>SOLID</sub>	AC <sub>LIQUID</sub>	EA <sub>SOLID</sub>	EA <sub>LIQUID</sub>	NS <sub>SOLID</sub>	N <sub>LIQUID</sub>
C29H48O22	NCGC00381438-01	771.2522	1.8	1.2	1.4	0.9	1.7	2.5	1.3	2.2	2.1	0.6	2.8

(b) Relative abundance percentages of assigned sterols and phosphoglycerols (PG).

Elemental Composition	Compound	$m/z$ [M+Na] <sup>+</sup>	CWO	D <sub>SOLID</sub>	D <sub>LIQUID</sub>	ET <sub>SOLID</sub>	ET <sub>LIQUID</sub>	AC <sub>SOLID</sub>	AC <sub>LIQUID</sub>	EA <sub>SOLID</sub>	EA <sub>LIQUID</sub>	NS <sub>SOLID</sub>	N <sub>LIQUID</sub>
C33H51O13P	PI 24:6 (1-stearoyl-2-arachidonoyl-sn-glycero-3-phospho-(1'-myo-inositol))	709.2965	43.3	68	66	82.9	68.7	76.9	60.6	63.6	60.3	37.9	64.2
C27H46O5	Certonardosterol L	473.3243	12.4	0.1	0.4	0	0	0	0	0	0	0	0
C27H42O2	24-keto-25dehydrocholesterol	421.3082	1	0.9	0.4	2.2	1.1	1.9	0.7	1.6	1.8	0	29.4
C28H40O8	Ixocarpalactone A	527.2621	2.6	0.1	1.2	0.7	0.6	0.7	0.2	1.1	0.9	0.3	3.1
C29H46O7	2-deoxy-20-hydroxy-5alpha-ecdysone 3-acetate	529.3141	21.5	26	25.3	13.5	24	19.5	30.3	32.4	35.8	58.2	3
C30H52O6	6beta-acetoxy-24-methylcholestan-3beta,5alpha,22R,24-tetrol	531.3662	18.2	0.8	0.5	0	0.04	0.03	0.2	0	0	0	0.1
C28H48O9	Campesterol	551.3196	0.4	3.1	1.4	0.7	0.7	0.6	1.1	1.3	1.2	3.5	0
C29H48O	Stigmasterol	435.3603	0.6	0.9	4.7	0	4.9	0.4	6.9	0	0	0.1	0.3

(c) Relative abundance percentages of “*other unsaponifiable compounds*”.

Elemental Composition	Compound	$m/z$ [M+Na] <sup>+</sup>	CWO	D <sub>SOLID</sub>	D <sub>LIQUID</sub>	ET <sub>SOLID</sub>	ET <sub>LIQUID</sub>	AC <sub>SOLID</sub>	AC <sub>LIQUID</sub>	EA <sub>SOLID</sub>	EA <sub>LIQUID</sub>	N <sub>SOLID</sub>	N <sub>LIQUID</sub>
C42H46O14	(2R,3S)-2,3-trans-3-Acetoxy-5-[(2R,3S)-2,3-trans-3-acetoxy-3',4',7,8-tetramethoxyflavan-5-yl]-3',4',7,8-tetramethoxyflavan	797.2785	77.5	74.6	69.8	75.5	72.1	73.6	76.7	75.9	72.9	0	55
C35H60O7	alpha-Tocopherol-beta-D-mannoside	615.4237	1.5	9.3	2.1	2.3	3.7	2.4	1.4	0	0.7	0	10.9
C43H44N2O10	Milliamine C; 5-Anthraniloyl type moiety, 20-Ac-Ingenol diterpenoid	771.2894	21.0	16.1	28.1	22.2	24.2	24.0	21.9	24.1	26.4	100	34.2

**Table S3.** (a) Crystallization and (b) Melting data of **CWO** and its fractions (Temperature  $\pm 0.5$  °C, Enthalpy  $\Delta H \pm 2.5$  J/g).

a) Crystallization data.

Sample	$T_{ON}$	$T_{c1}$	$\Delta H_1$	$T_{c2}$	$\Delta H_2$	$T_{c3}$	$\Delta H_3$	$T_{OFF}$	$\Delta H_{tot}$
		Zone I ~ (40 to 3 °C)		Zone II ~ (3 to -35 °C)		Zone II ~ (-35 to -60 °C)			
CWO	15.6	11.4	12.8	-3.4	27.2	-47.4	12.3	-51.5	52.3
N <sub>SOLID</sub>	28.1	25.5	32.6	-6.3	24.7	-31.7	29.9	-51.7	87.2
N <sub>LIQUID</sub>	17.3	11.8	2.4	-0.8	43.4	-32.2	4.9	-49.9	50.7
D <sub>SOLID</sub>	27.6	26.0	29.6	-2.3	29.2	-45.8	12.6	-51.3	71.4

D <sub>LIQUID</sub>	5.3	--	0	-1.7	30.3	-45.1	11.7	-50.1	42
ET <sub>SOLID</sub>	25.5	23.5	25.2	-4.0	18.9	-26.1	32.3	-37.4	76.4
ET <sub>LIQUID</sub>	14.5	11.0	4.9	0.6	52.8	-50.4	7.3	-58.8	65
AC <sub>SOLID</sub>	18.4	16.3	16.9	-4.0	37	-45.1	19.6	-49.4	73.5
AC <sub>LIQUID</sub>	25.6	16.8	14.1	2.8	22.2	-44.6	6.7	-54.6	43
EA <sub>SOLID</sub>	18.4	17.0	14.4	-3.3	26.9	-46.9	10.9	-52.2	52.2
EA <sub>LIQUID</sub>	15.9	9.0	12.2	-4.4	23.9	-47.5	11.7	-51.5	47.8

**b) Melting data.**

Sample	$T_{ON}$	Temperature range										$T_{OFF}$	$\Delta H_{tot}$
		60°C to 25°C		25°C to 10°C		$\sum \Delta H_I$	10°C to -5°C		-5°C- to 60°C		$\sum \Delta H_{II}$		
		$T_{m1}$	$\Delta H_1$	$T_{m2}$	$\Delta H_2$		$T_{m3}$	$\Delta H_3$	$T_{m4}$	$\Delta H_4$			
CWO	-21.4	27.1	5.5	20.2	9.8	15.3	-0.4	24.7	-9.5	33.5	58.1	32.5	73.2
N <sub>SOLID</sub>	-22.5	31.2	33.3	0	0	33.3	8.6	7.9	-7.7	40.8	48.7	39.8	82
N <sub>LIQUID</sub>	-23.4	0	0	0	0	0	2.9	40.5	-10	8.6	49.1	10.0	49.6
D <sub>SOLID</sub>	-21.4	36.7	20.8	18.4	4.7	25.5	0.6	24.3	-8.8	32.9	57.2	41.3	82.70
D <sub>LIQUID</sub>	-20.4	0	0	0	3.6	3.6	1.7	20.1	-8.2	23.6	43.7	20.6	47.3
ET <sub>SOLID</sub>	-21.4	19.5	24.8	15.7	13.5	38.3	4.8	0	-11.2	40.0	40	25.1	78.2
ET <sub>LIQUID</sub>	-19.8	34.6	4.9	0	0	4.9	13.2	49.9	-11.2	15.2	65.1	39	70
AC <sub>SOLID</sub>	-23.2	23.4	14.7	0	6.3	21	10.8	1.5	-9.8	50.8	52.3	29.4	73.3

AC <sub>LIQUID</sub>	-19.8	28.6	2.9	0	54	56.9	10.5	0	-9.9	18.1	18.1	33.7	75
EA <sub>SOLID</sub>	-21.5	44.4	0.9	27.6	14.6	15.5	0.2	20.5	-9.2	30.9	51.4	49.2	67.1
EA <sub>LIQUID</sub>	-21.8	27.7	15.1	21	-	15.1	-0.6	54.4	-9.24	-	54.4	31.7	69.5

**Table S4.** (a) WAXD and (b) SAXD data.  $\chi$  (%): crystallinity **Typical Peaks for phase identification (Å)**

(a) WAXD	Form	Primary peaks (Å)		Secondary peaks (Å)			$\chi$ (%)
		(-110) (110)	200	020	100		
CWO	$\beta'$	4.14	3.73				5 $\pm$ 1
D <sub>SOLID</sub>	$\beta'$	4.12	3.72			4.33	19 $\pm$ 1
ET <sub>SOLID</sub>	$\beta'$	4.13	3.75			4.35	15 $\pm$ 1
AC <sub>SOLID</sub>	$\beta'$	4.12	3.72				5 $\pm$ 1

(b) SAXD (Å)	Form	001	002	003	004	Configuration
CWO	$\beta'$	38.1	--	12.4	--	DCL - C16 fork configuration
D <sub>SOLID</sub>	$\beta'$	38.8	--	12.8	--	DCL - C16 fork configuration
ET <sub>SOLID</sub>	$\beta'$	38.1	--	12.7	--	DCL - C16 fork configuration
AC <sub>SOLID</sub>	$\beta'$	38.2	--	12.6	--	DCL - C16 fork configuration



**Table S5.** DTG and TGA data for CWO and its fractions. (T  $\pm$ 2.5°C; Rm  $\pm$ 0.03%/°C)

Sample	TD1 (°C)	Rm1 (%/°C)	TD2 (°C)	Rm2 (%/°C)	TD3 (°C)	Rm3 (%/°C)	Ton (°C)	T @ 5% mass loss	Ash %
CWO	229.2	0.37	393.9	1.38	--	--	173.8	201.3	0.3
N <sub>SOLID</sub>	237.1	0.7	381.1	1.00	430.7	0.02	181.8	194.7	0.8
N <sub>LIQUID</sub>	224.9	0.15	398.3	1.58	--	--	169.7	200.7	0
D <sub>SOLID</sub>	229.0	0.4	389.1	1.41	438.6	0.02	169.8	195.9	0.8
D <sub>LIQUID</sub>	239.8	0.28	397.3	1.50	441.9	0.03	181.5	212.9	0.9
ET <sub>SOLID</sub>	234.5	0.65	380.0	0.91	431.3	0.10	177.1	192.0	0.3
ET <sub>LIQUID</sub>	226.6	0.10	396.9	1.80	431.3	0.06	172.7	225.2	0.4
AC <sub>SOLID</sub>	232.4 [265.9]	0.36 [0.23]	388.6	1.45	453.9	0.02	175.5	201.6	0.9
AC <sub>LIQUID</sub>	234.7 [262.8]	0.19 [0.16]	393.6	1.79	431.3	0.07	171.1	220.2	1.1
EA <sub>SOLID</sub>	232.4	0.30	382.5	1.60	425.0	0.10	170.5	204.4	1.2
EA <sub>LIQUID</sub>	224.8	0.30	386.5	1.30	432.9	0.05	164.1	194.9	0