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Supplementary Materials

Determination and Chemometrics-assisted Comparative Analysis of Active Components in Different Tissue of *Rana chensinensis*

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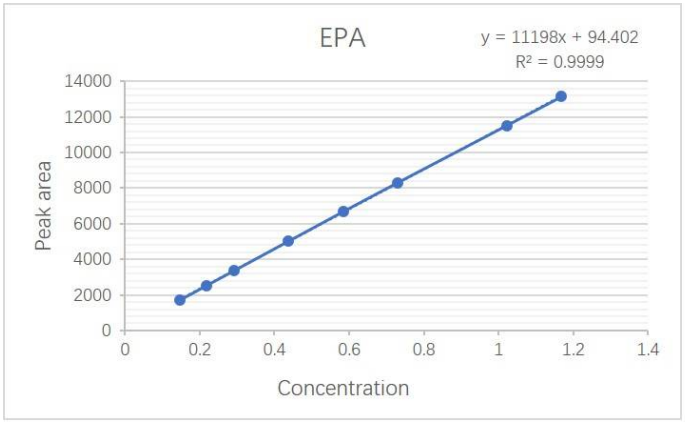
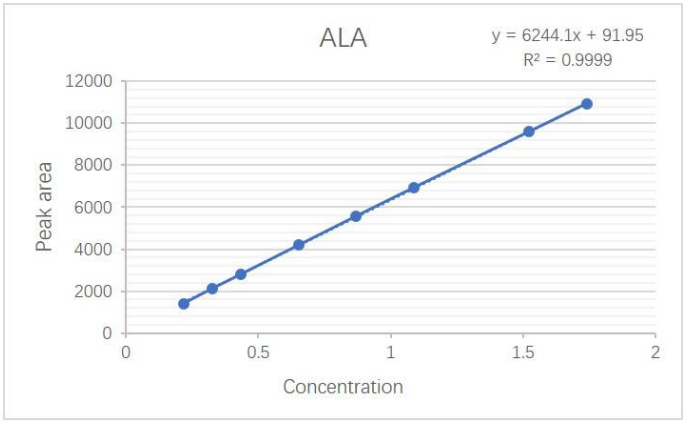
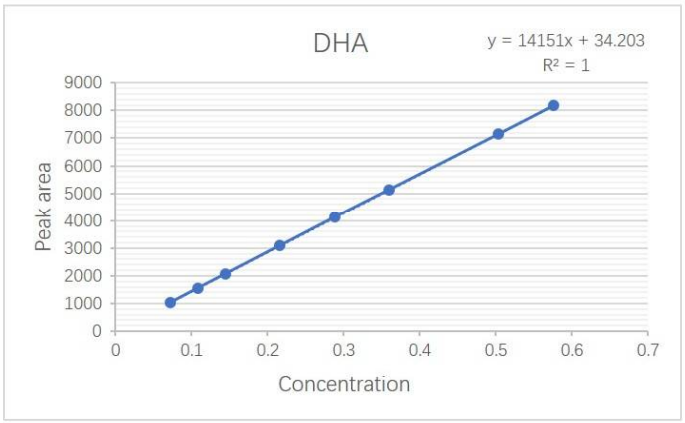
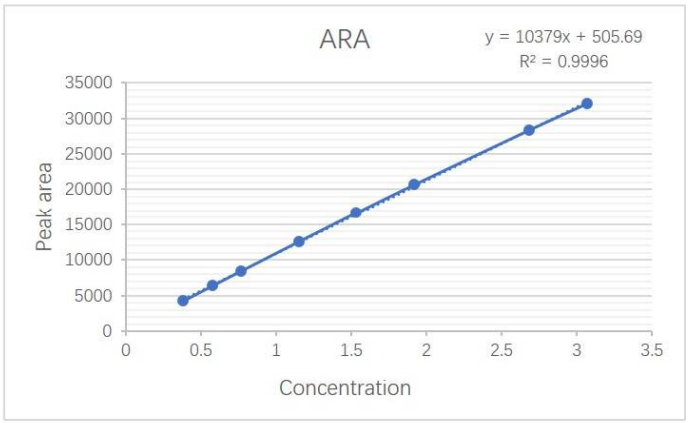
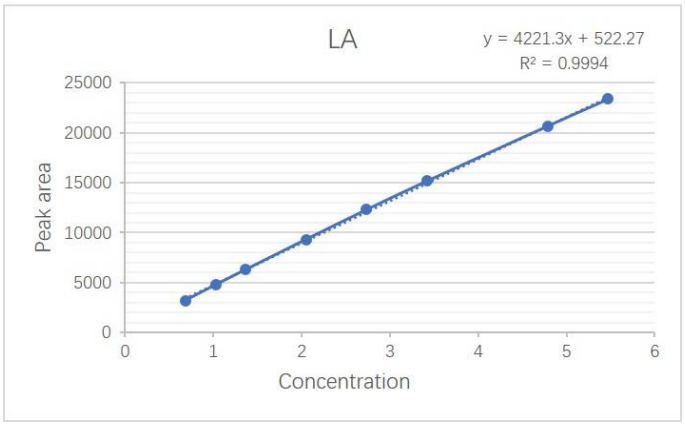
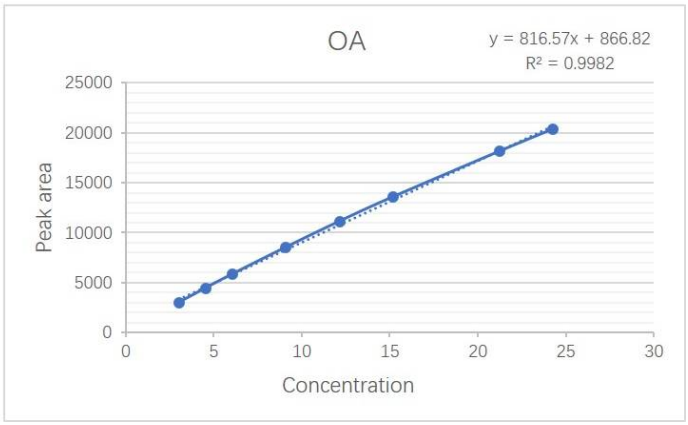












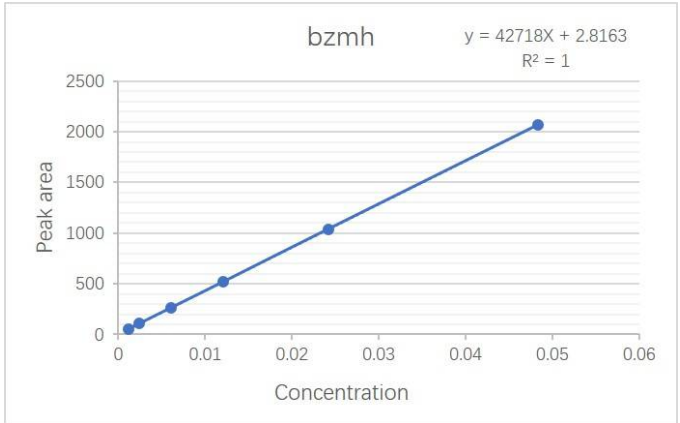


Figure S1. The standard curves of eicosapentaenoic acid (EPA), α-linolenic acid (ALA), docosahexaenoic acid (DHA), arachidonic acid (ARA), linoleic acid (LA), oleic acid (OA) and benzoyl-1-methyl hydantoin (bzmh).

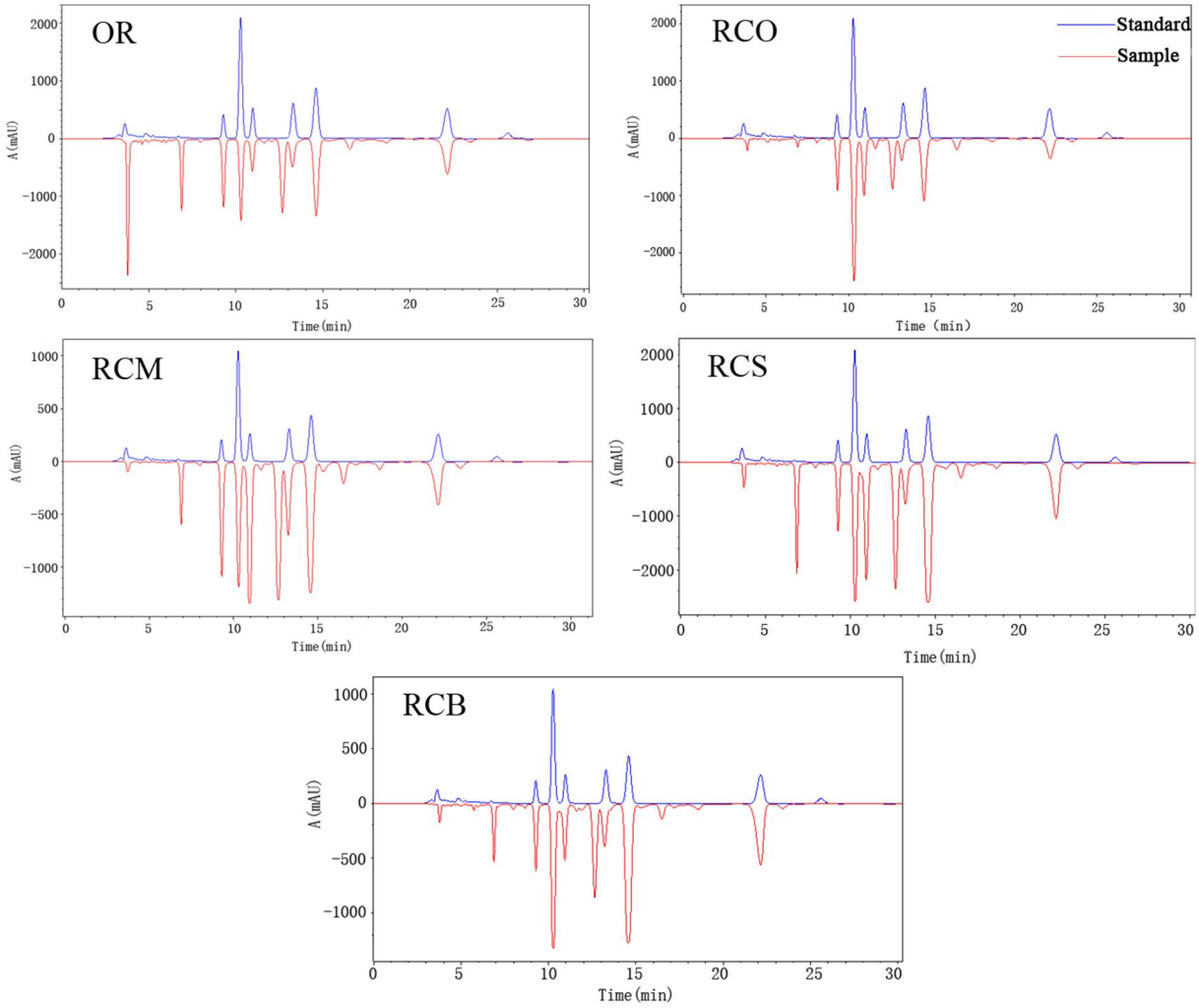
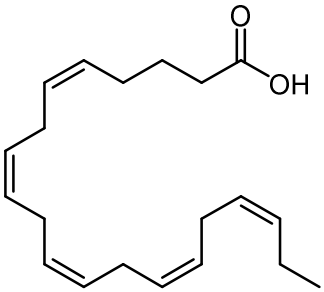
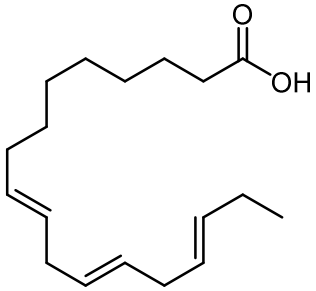
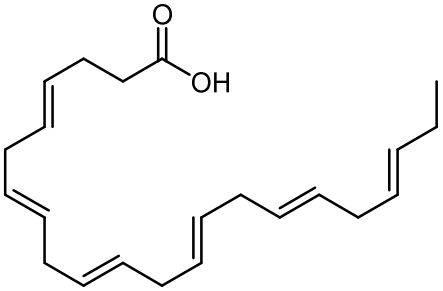
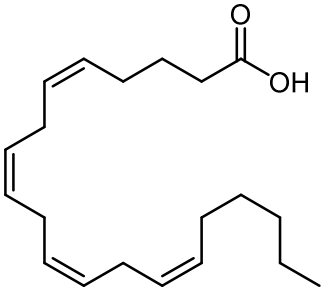
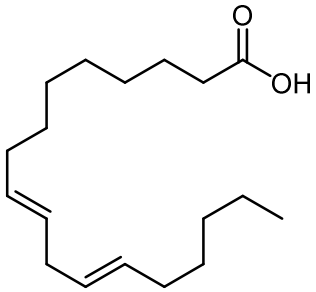


Figure S2. Comparison of HPLC chromatograms of mixed standards of six PUFAs to OR, RCO, RCM, and RCS. (OR, *Oviductus Ranae*; RCO, *Rana chensinensis* ovum; RCM, *Rana chensinensis* meat; RCS, *Rana chensinensis* skin; RCB, *Rana chensinen*sis bone.)

Table S1. The six kinds of polyunsaturated fatty acids (PUFAs).

PUFAs	molecular formula	molecular weight	structure
eicosapentaenoic acid (EPA)	$C_{20}H_{30}O_2$	302.45	
α-linolenic acid (ALA)	$C_{18}H_{30}O_2$	278.43	
docosahexaenoic acid (DHA)	$C_{22}H_{32}O_2$	328.49	
arachidonic acid (ARA)	$C_{20}H_{32}O_2$	304.46	
linoleic acid (LA)	$C_{18}H_{32}O_2$	280.44	

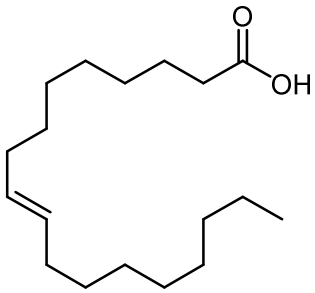
oleic acid (OA)	$C_{18}H_{34}O_2$	282.46	

Table S2. The methodological verification of HPLC analytical methods of PUFAs. [1, 2]

Parameter		EPA	ALA	DHA	ARA	LA	OA
Precision RSD	Retention Time	0.29%	0.35%	0.38%	0.48%	0.51%	0.65%
	Area	1.90%	2.16%	3.01%	2.90%	1.79%	1.91%
Repeata-bility RSD	Retention Time	1.37%	1.04%	0.57%	1.12%	1.03%	1.86%
	Area	0.73%	2.18%	3.62%	3.28%	0.73%	1.51%
Stability RSD	Retention Time	0.75%	0.86%	0.90%	1.08%	1.15%	1.35%
	Area	0.64%	0.74%	0.92%	0.85%	0.21%	0.25%
Accuracy	Recovery Rate	101.62%	99.00%	101.18%	100.20%	100.30%	104.14%
	RSD	1.60%	1.51%	1.62%	1.49%	1.33%	1.88%
		Concentration (μg/ml)					
LOD		0.07	1.17	0.20	4.76	10.23	79.75
LOQ		0.22	3.55	0.62	14.42	30.99	241.65

RSD, the relative standard deviation.

Table S3. The contents of six kinds of PUFAs in OR and their average contents in RCO, RCM, RCS, and RCB in the same *Rana chensinensis*.

Samples	EPA (μg/g)	ALA (μg/g)	DHA (μg/g)	ARA (μg/g)	LA (μg/g)	OA (μg/g)
S6-OR	225.83	542.64	476.66	337.15	1125.04	3689.21
S6-other parts	404.49	3104.62	557.05	783.55	3205.40	7250.64
S7-OR	201.97	113.19	419.26	393.20	539.99	1991.06
S7-other parts	414.58	1278.11	475.90	698.73	2944.95	7019.16
S8-OR	111.22	290.79	116.78	186.82	502.78	3573.89
S8-other parts	657.19	2766.08	574.80	948.90	4010.33	8769.26
S9-OR	42.82	139.38	30.93	111.14	392.40	2143.12
S9-other parts	580.52	3471.14	699.41	1221.11	4822.07	11036.88
S10-OR	181.06	423.00	433.85	236.41	969.03	2102.18
S10-other parts	590.87	3503.07	736.99	1032.46	4154.20	9965.67
S11-OR	207.32	498.06	115.18	404.83	1149.15	5014.37
S11-other parts	1300.44	3152.37	1078.19	2037.70	4905.07	12219.08
S12-OR	223.39	534.47	467.10	330.62	1104.73	3697.32
S12-other parts	407.91	2598.61	542.39	770.81	3041.34	6763.91
S13-OR	180.86	636.19	871.61	236.82	971.12	2112.26
S13-other parts	414.04	1233.62	527.70	746.71	3008.18	6835.51
S14-OR	44.40	138.86	31.46	123.05	390.97	2135.13
S14-other parts	559.33	3307.33	663.87	1132.69	4345.08	9053.96
S15-OR	115.37	301.15	121.18	196.38	524.04	3718.30
S15-other parts	657.27	2736.85	572.10	978.43	4065.38	9535.48
S16-OR	208.57	501.09	115.75	407.31	1155.34	5045.92
S16-other parts	766.31	3200.31	1363.92	1675.03	7964.45	29899.53

References

1. Guo, H.; Gan, Y.; Liu, M.; Wang, S.; Ni, S.; Zhou, Y.; Xiao, Y.; Wang, Z.; Wang, Y., Quality Evaluation of Oviductus Ranae Based on PUFAs Using HPLC Fingerprint Techniques Combined with Chemometric Methods. *Foods* **2019,** 8, (8), 322.
2. Wang, S.; Gan, Y.; Kan, H.; Mao, X.; Wang, Y., Exploitation of HPLC Analytical Method for Simultaneous Determination of Six Principal Unsaturated Fatty Acids in Oviductus Ranae Based on Quantitative Analysis of Multi-Components by Single-Marker (QAMS). *Molecules* **2021,** 26, (2), 1-9.