

Supplementary materials

Table S1. CIELAB colour coordinates (L^* , a^* , b^* , Chromaticity - C^* , tint angle - h and total color variation - ΔE) in crude viscera oil (CVO) extracted from sea bream viscera (SBV) at different temperatures ($^{\circ}\text{C}$) and reaction time (min). Commercial Cod liver oil (CO) was used as control.

Sample		Parameters				
Temperature	Times	L^*	a^*	b^*	hue angle (h)	chroma (C^*)
40	10	70.12 ± 0.04^g	-3.49 ± 0.03^e	15.94 ± 0.06^c	102.35 ± 0.08^g	16.32 ± 0.06^c
	30	70.54 ± 0.01^h	-3.93 ± 0.03^d	14.27 ± 0.01^b	105.41 ± 0.09^n	14.80 ± 0.01^b
	60	69.96 ± 0.01^g	-4.14 ± 0.01^c	17.41 ± 0.02^e	103.36 ± 0.04^h	17.90 ± 0.01^e
60	10	69.27 ± 0.01^f	-4.10 ± 0.03^c	16.89 ± 0.03^d	103.64 ± 0.06^i	17.38 ± 0.03^d
	30	70.81 ± 0.05^h	-4.60 ± 0.03^b	16.88 ± 0.04^d	105.26 ± 0.09^m	17.50 ± 0.04^d
	60	70.61 ± 0.09^h	-5.06 ± 0.01^a	19.04 ± 0.01^f	104.88 ± 0.03^j	19.70 ± 0.01^f
80	10	65.42 ± 0.62^d	-1.99 ± 0.09^g	35.73 ± 0.56^h	93.19 ± 0.10^e	35.79 ± 0.56^h
	30	66.81 ± 0.05^e	-3.35 ± 0.33^f	32.09 ± 0.05^g	95.95 ± 0.06^f	32.26 ± 0.05^g
	60	61.26 ± 0.01^a	2.25 ± 0.01^m	46.24 ± 0.03^n	87.21 ± 0.01^a	46.29 ± 0.02^n
90	10	64.48 ± 0.01^c	-0.72 ± 0.01^h	38.09 ± 0.02^i	91.08 ± 0.02^d	38.10 ± 0.02^i
	30	64.29 ± 0.02^{bc}	0.04 ± 0.01^l	44.45 ± 0.01^l	89.95 ± 0.01^b	44.45 ± 0.01^l
	60	64.08 ± 0.05^b	-0.58 ± 0.02^i	45.39 ± 0.02^m	90.74 ± 0.03^c	45.39 ± 0.02^m
CO		87.86 ± 0.19^j	-3.32 ± 0.01^f	9.81 ± 0.01^a	108.69 ± 0.08^o	10.36 ± 0.01^a

Different superscript letters in the same column indicate significant differences (a, b, c...: $P < 0.05$). The data are reported as mean \pm standard deviation ($n=12$).



Figure S1. Crude viscera oils (CVO) extracted from sea bream viscera (SBV) at different temperatures. (40°C , 60°C and 80°C)

Table S2. CIELAB colour coordinates (L^* , a^* , b^* , Chromaticity - C^* , tint angle - h and total color variation - ΔE) in crude viscera oil (CVO) and refined viscera oil (RVO). Commercial Cod liver oil (CO) was used as control

Sample	Parameters				
	L^*	a^*	b^*	hue angle (h)	chroma (C^*)
CVO 60°C	85.50 ± 0.13^c	-4.15 ± 0.01^a	18.83 ± 0.03^c	102.44 ± 0.05^d	19.28 ± 0.03^c
RVO 60°C	86.68 ± 0.19^d	-3.68 ± 0.02^b	17.64 ± 0.03^b	101.79 ± 0.04^c	18.02 ± 0.03^b
CVO 80°C	80.83 ± 0.01^a	-1.10 ± 0.02^d	38.75 ± 0.02^e	91.63 ± 0.02^a	38.76 ± 0.02^e

RVO 80°C	82.48±0.94 ^b	-2.49±0.06 ^c	32.91±0.68 ^d	94.33±0.05 ^b	33.01±0.68 ^d
CO	87.86±0.19 ^e	3.26±0.03 ^e	10.49±0.02 ^a	107.25±0.15 ^e	10.98±0.03 ^a

Different superscript letters in the same column indicate significant differences (a, b, c...: P < 0.05). The data are reported as mean ± standard deviation (n=12).