

Table S1 Fatty acids composition analysis of Antarctic krill oil (>1 %)

Name	Content
C14:0	6.12±0.81 %
C16:0	21.01±1.34 %
C16:1(cis,n-7)	6.74±0.25 %
C17:1(cis,n-10)	1.10±0.05 %
C18:0	1.53±0.08 %
C18:1(cis,n-9)	11.31±0.65 %
C18:2(cis,n-6)	2.05±0.09 %
C18:3(cis,n-3)	2.97±0.06 %
C20:5(EPA)	22.78±0.55 %
C22:6(DHA)	13.71±0.26 %
ΣSFA	28.66 % (estimated values)
ΣMUFA	19.15 % (estimated values)
ΣPUFA	41.51 % (estimated values)
EPA+DHA	36.49 % (estimated values)

Table S2 The main functional ingredients of Antarctic krill oil

Name	Content
Phospholipid	52.97±2.50 g/100g
Astaxanthin	8.21±0.81 mg/kg
Totaxin	4.25±0.50 mg/100g
Vitamin A	2.17±0.02 mg/100g
Cholesterol	7.19±0.55 mg/g

Table S3 Effects of different emulsifiers on the properties of the emulsion

	Turbidity	Stability (%)	particle size (nm)	ζ-potential (mV)
Tween-80	0.56 ± 0.02	75.16 ± 7.00	145.10 ± 10.10	-40.60 ± 3.00
Lecithin	0.45 ± 0.05	42.37 ± 4.00	378.60 ± 15.30	-68.20 ± 6.00
Span-20	0.64 ± 0.03	69.19 ± 6.00	184.20 ± 13.00	-35.10 ± 4.00

Table S4 Effects of different oil concentrations on the properties of the emulsion

	Turbidity	Stability (%)	particle size (nm)	ζ-potential (mV)
0.25%	0.16 ± 0.01	56.75 ± 5.00	1865.10 ± 75.30	-10.20 ± 0.50
0.50%	0.31 ± 0.03	63.21 ± 6.00	792.40 ± 20.30	-20.60 ± 0.90
1.00%	0.76 ± 0.05	76.92 ± 6.00	184.20 ± 13.00	-26.10 ± 1.20
2.50%	1.07 ± 0.09	60.19 ± 6.00	1025.30 ± 30.60	-28.30 ± 0.90
5.00%	2.13 ± 0.10	41.76 ± 4.00	2008.60 ± 75.60	-30.20 ± 2.10

Table S5 Effects of different ratio of emulsifier to oil on the properties of the emulsion

	Turbidity	Stability (%)	particle size (nm)	ζ-potential (mV)
1:10	0.83 ± 0.05	36.79 ± 5.00	253.20 ± 9.60	-16.40 ± 1.20

1:5	0.59 ± 0.03	70.56 ± 6.00	210.30 ± 3.50	-33.50 ± 1.50
1:1	0.75 ± 0.05	68.34 ± 5.00	146.50 ± 4.00	-30.50 ± 0.80
5:1	0.83 ± 0.03	50.12 ± 5.00	798.40 ± 15.60	-25.30 ± 0.60
10:1	1.05 ± 0.04	32.18 ± 3.00	1532.80 ± 23.10	-22.60 ± 0.90