

Table S1. Proximate composition of control soy flour (CSF), defatted soy flour treated with SC-CO₂ (DSF), and egg yolk (EY).

Table S2. pH of mayonnaises prepared with control soy flour (CSF), defatted soy flour treated with SC-CO₂ (DSF), and egg yolk (EY).

Table S3. Particle size diameter (μm) of mayonnaises prepared with control soy flour (CSF), defatted soy flour treated with SC-CO₂ (DSF), and egg yolk (EY).

Table S4. Particle size analysis of mayonnaise with different emulsifiers at different concentrations.

Table S1

Proximate composition (%)	CSF	DSF	EY
Moisture	7.41±0.65 ^c	3.30±0.08 ^a	3.48±0.24 ^b
Ash	5.41±0.29 ^b	6.26±0.14 ^c	3.94±0.21 ^a
Protein	38.66±0.66 ^b	48.93±0.82 ^c	36.20±0.74 ^a
Fat	18.95±0.95 ^b	0.51±0.37 ^a	54.27±0.56 ^c
Carbohydrate	29.50±1.03 ^b	41.00±0.15 ^a	2.11±0.64 ^c

CSF: control soy flour; DSF: defatted soybean flour treated with SC-CO₂; EY: egg yolk.

All values are mean ± SD (n=3); Means with different superscripts letters within the same column are significantly different ($p < 0.05$) using Duncan's test.

Table S2

pH	% Addition of Emulsifier				
	0.5	1	1.5	2	3
CSF	3.83±0.01 ^{bA5)}	3.99±0.02 ^{bB}	4.11±0.01 ^{bC}	4.20±0.01 ^{bD}	4.34±0.00 ^{bE}
DSF	3.61±0.02 ^{aA}	3.80±0.01 ^{aB}	3.92±0.00 ^{aC}	4.03±0.01 ^{aD}	4.16±0.02 ^{aE}
EY	4.17±0.01 ^{cA}	4.31±0.01 ^{cB}	4.42±0.00 ^{cC}	4.58±0.01 ^{cD}	4.67±0.01 ^{cE}

CSF: control soy flour; DSF: defatted soybean flour treated with SC-CO₂; EY: egg yolk.

All values are mean ± SD (n=3). Different letters (a–e for the samples at different emulsifiers within the same column, A–E for the samples at different additive levels within the same row) indicate significant differences ($p < 0.05$) by Duncan's test.

Table S3

Particle size diameter (μm)	% addition of emulsifier				
	0.5	1	1.5	2	3
CSF	53.35 \pm 0.12 ^{cE}	45.85 \pm 0.25 ^{cD}	42.46 \pm 0.30 ^{cC}	39.38 \pm 0.32 ^{cB}	33.01 \pm 0.22 ^{cA}
DSF	35.84 \pm 0.1 ^{bE}	32.90 \pm 0.04 ^{bD}	28.64 \pm 0.05 ^{bC}	24.24 \pm 0.20 ^{bB}	12.02 \pm 0.26 ^{bA}
EY	28.98 \pm 0.03 ^{aE}	27.70 \pm 0.12 ^{aD}	23.33 \pm 0.21 ^{aC}	15.96 \pm 0.08 ^{aB}	8.3 \pm 0.16 ^{aA}

CSF: control soy flour; DSF: defatted soy flour treated with SC-CO₂; EY: egg yolk.

Different letters (a-e for the samples at different emulsifiers within the same column, A-E for the samples at different additive levels within the same row) indicate significant differences ($p < 0.05$) by Duncan's test.

Table S4. Particle size analysis of mayonnaise with different emulsifiers at different concentrations.

d_{4,3}	Different addition of emulsifier (%)				
	0.5	1	1.5	2	3
CSF	53.35±0.12 ^{cE1)}	45.85±0.25 ^{cD}	42.46±0.30 ^{cC}	39.38±0.32 ^{cB}	33.01±0.22 ^{cA}
DSF-SC	35.84±0.1 ^{bE}	32.90±0.04 ^{bD}	28.64±0.05 ^{bC}	24.24±0.20 ^{bB}	12.02±0.26 ^{bA}
EY	28.98±0.03 ^{aE}	27.70±0.12 ^{aD}	23.33±0.21 ^{aC}	15.96±0.08 ^{aB}	8.3±0.16 ^{aA}

¹⁾Lowercase letters (a-c) indicate significant differences between different emulsifiers within the same column, while uppercase letters (A-E) indicate significant differences between different additive levels within the same row. Different letters denote significant differences among samples ($p < 0.05$)