Table S1. Eminol® composition

Polyphenol	**mg g^{-1}**
Gallic acid	**0.23**
Flavanols	**12.33**
Flavonols	**3.32**
Hydroxycinnamic acids	**11.35**
Anthocyanins	**23.25**
delphinidin 3-O-glucoside	1.23
cyanidin 3-O-glucoside	3.97
petundin 3-O-glucoside	2.74
peonidin 3-O-glucoside	5.48
malvidin 3-O-glucoside	9.29
vitisin B	0.02
vitisin A	0.07
methylpyranomalvidin 3-O-glucoside	0.04
peonidin 3-O-acetylglucoside	0.09
malvidin 3-O-acetylglucoside	0.05
delphinidin 3-O-coumaroylglucoside	0.03
cyanidin 3-O-coumaroylglucoside	0.04
petunidin 3-O-coumaroylglucoside	0.02
peonidin 3-O-coumaroylglucoside	0.06
malvidin 3-O-coumaroylglucoside	0.13
Proanthocyanidins (after depolymerization)	**48.69**

Table S2. Recipes of bakery products in % (w/w)

Bun			Bread stick			Biscuit		
Ingredients	**with AC**	**with AC+DHA**	**Ingredients**	**with AC**	**with AC+DHA**	**Ingredients**	**with AC**	**with AC+DHA**
Eminol®	1.34	1.34	**Eminol®**	1.6	1.6	**Eminol®**	1.48	1.60
Flour	57.46	53.86	**Flour**	56.35	50.81	**Eggs**	14.78	12.00
Improving agents	0.45	0.45	**Improving agents**	0.12	0.12	**Sugar**	13.67	14.81
Salt	1.08	1.08	**Sourdough powder**	0.29	0.29	**Sunflower oil**	6.46	7.00
Yeast	1.8	1.8	**Olive Oil**	6	6	**Wheat flour 120W**	55.59	57.63
Anise	0.6	0.6	**Dry yeast**	1.96	1.96	**Pusher**	0.27	0.29
Oregano	0.6	0.6	**Sugar**	0.29	0.29	**Anise flavor**	0.06	0.07
Powder glucose	0.75	0.75	**Salt**	1.06	1.06	**GLP-DHA**	-	6.60
Maltogenic α-amylase	0.01	0.01	**Sourdough**	0.29	0.29	**Water**	7.69	-
Calcium propionate	0.3	0.3	**Anise**	0.7	0.7			
Sorbic acid	0.2	0.2	**Water**	31.34	30.28			
Water	35.41	35.41	**GLP-DHA**	--	6.6			
GLP-DHA	-	3.6						

Table S3. Activities measured in the commercial enzymes used for *in vitro* digestion

Commercial enzyme	Determination	Units
Type VI-B α- amylase from porcine pancreas	α-amylase activity	1.78 ± 0.64 [a]
Pepsin form porcine gastric mucosa	pepsin activity	3035.7 ± 221.6 [b]
Pancreatin from porcine pancreas 8xUSP	α-amylase activity	90.93 ± 25.77 [a]
	trypsin activity	7.29 ± 0.67 [c]
	chymotrypsin activity	1.87 ± 0.18 [d]
	lipase activity	34.23 ± 8.16 [e]
Bile extract porcine	bile salts concentration	0.966 ± 0.005 [f]

[a] One unit liberates 1.0 mg of maltose from starch in 3 minutes at pH 6.9 and 20°C.
[b] One unit produces a ΔA_{280nm} of 0.001 per minute at pH 2.0 and 37°C, measured as TCA-soluble products.
[c] One unit hydrolyses 1 µmol of p-toluene-sulfonyl-L-arginine methyl ester (TAME) per minute at pH 8.1 and. 25°C.
[d] One unit hydrolyses 1.0 µmol of N-benzoyl-L-tyrosine ethyl ester (BTEE) per minute at pH 7.8 and 25°C.
[e] One unit releases 1 µmol of butyric acid per minute at pH 8.0 and 37°C
[f] mmol bile salts per gram of extract

Table S4. Risk microorganisms analyzed and limits of acceptability considered to establish the shelf life of the products

Microbiological Parameters	Technique	Reference methods	Limits of acceptability	Reference
Mesophilic aerobes	Plate counting	ISO 4833:2003	1.0 x 10^5 CFUs g^{-1}	R.D. 3484/2000, BOE 12/1/2001 Prepared foods with heat treatment Group B(1)
Molds and yeasts	Plate counting	PAM006[1]	5.0 x 10^2 CFUs g^{-1}	RD 2419/78 BOE 19/05/78 Pastries, cakes and confectionery (1)
Bacillus cereus	Plate counting	ISO 7932-2:05		
*E. coli**β-glucoronidase +	PCR real time (1 gram)	PAB020[2]	Not detected	R.D. 3484/2000, BOE 12/1/2001 Prepared foods with heat treatment Group B(1)
Listeria monocytogenes	PCR real time (25 grams)	PAB015[2]	1.0 x 10^2 CFUs g^{-1}	R CE 1441/2007,R CE 2073/2005
Salmonella	PCR real time (25 grams)	PAB018[2]	Not detected 25 g^{-1}	R.D. 3484/2000, BOE 12/1/2001 Prepared foods with heat treatment Group B(1)
			Not detected 30 g^{-1}	RD 2419/78 BOE 19/05/78 Pastries, cakes and confectionery (1)

NOTE: (1) Abrogated by RD 135/2010 BOE 25/02/2010, reason why they would not be accepted in this case as statutory limits, only as a reference.

[1]**PAM 006**: European Pharmacopoeia 6.7. Task 2.6.12. Microbiological examination of non-sterile products: Microbial enumeration tests.

[2]**PAB015, PAB020, PAB018 :**

- ISO 22174:2005. Microbiology of food and animal feeding stuffs - Polymerase chain reaction (PCR) for the detection of food-borne pathogens – General Requirements and Definitions
- ISO/FDIS 20838 Microbiology of food and animal feeding stuffs - Polymerase chain reaction (PCR) for the detection of food-borne pathogens – Requirements for amplification and detection for qualitative detection.

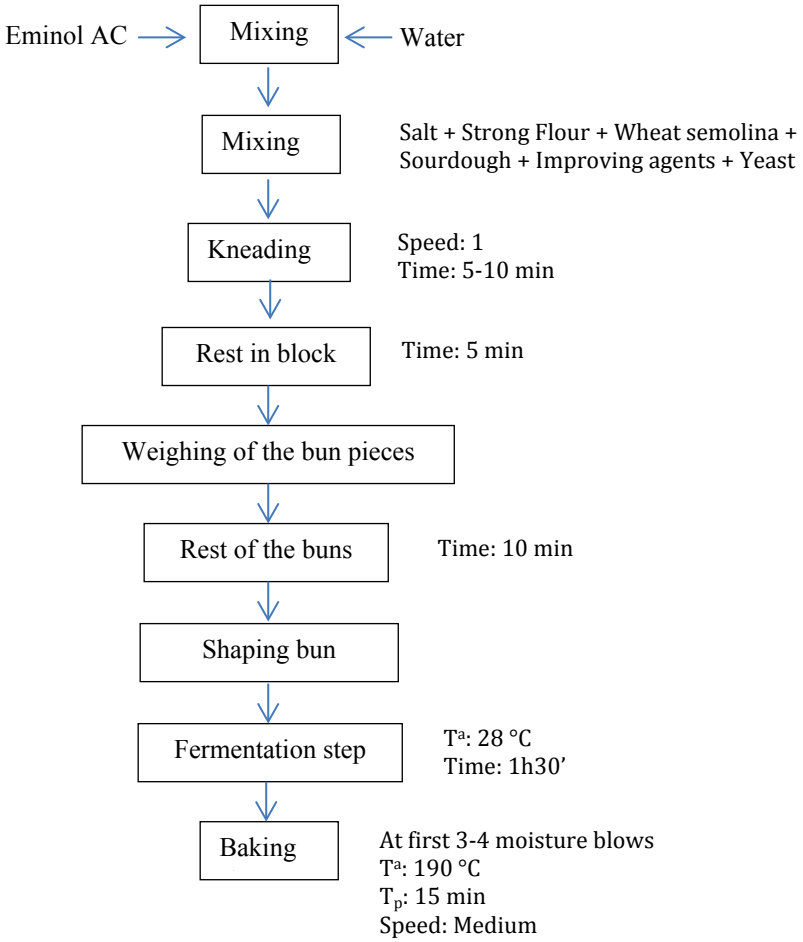


Fig. S1 Bun flowchart

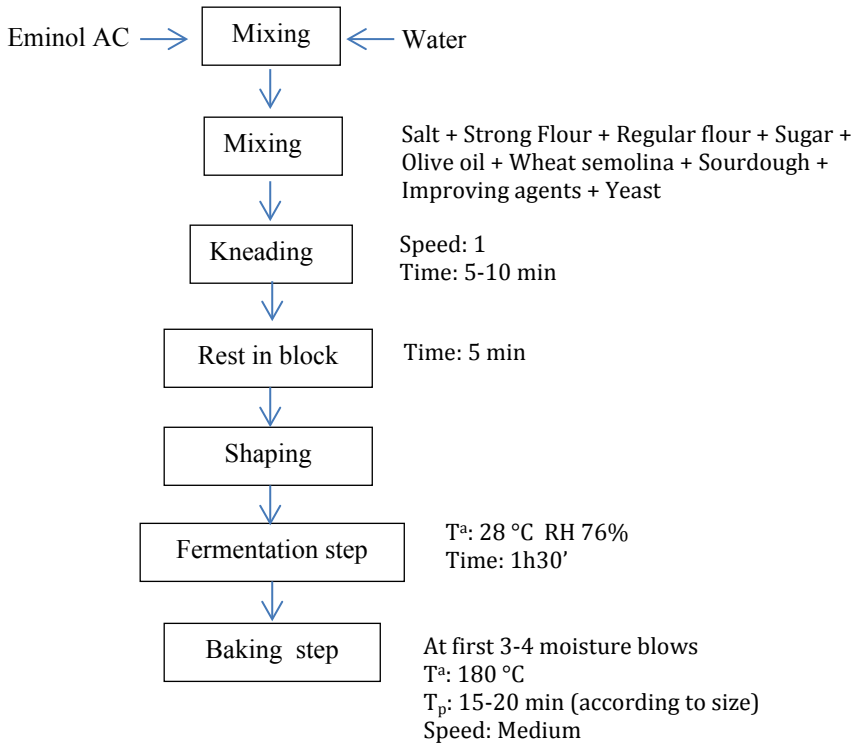


Fig. S2 Breadstick flowchart

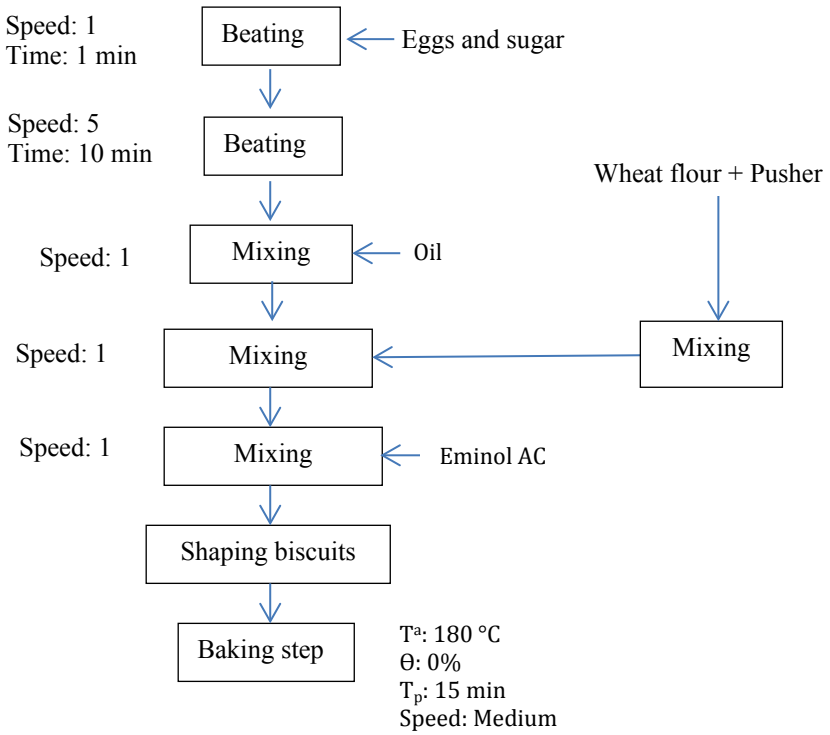
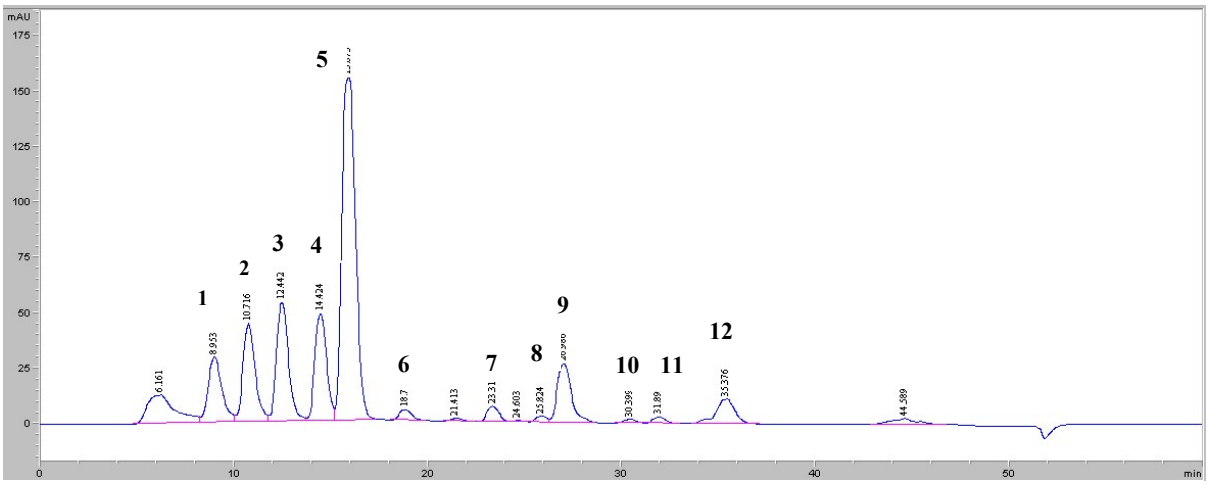
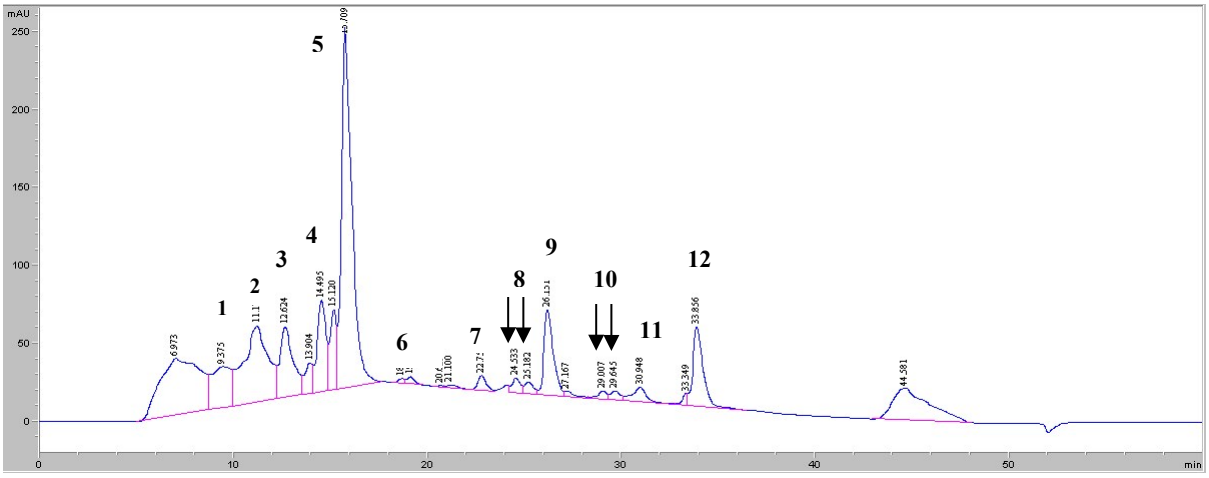


Fig. S3 Biscuit flowchart



A



B

Fig. S4 HPLC chromatograms of Eminol® (A) and bun (B)

Peak identification: 1; delphinidin 3-O-glucoside, 2; cyanidin 3-O-glucoside, 3; petunidin 3-O-glucoside, 4; peonidin 3-O-glucoside, 5; malvidin 3-O-glucoside, 6; methylpyranomalvidin 3-O-glucoside, 7; peonidin 3-O-acetylglucoside, 8; delphinidin 3-O-coumaroylglucoside, 9; malvidin 3-O-acetylglucoside, 10; petunidin 3-O-coumaroylglucoside, 11; peonidin 3-O- coumaroylglucoside, 12; malvidin 3- O-coumaroylglucoside