Table S1. Descriptors used to characterize the BSY extracts

Descriptor	Definition	Anchor points
Yeast Smell	Sensation perceived by means of the olfactory organ in sniffing certain volatile substances characteristics of yeast.	1 = almost nothing 9 = a lot
Color perception	Sensation of hue, saturation and lightness induced by stimulation of the retina by light rays of various wavelengths.	1 = light yellow 9 = dark brown
Umami taste	Basic taste produced by dilute aqueous solutions of a certain kind of amino acid or nucleotide such as monosodium glutamate or disodium inosinate	1 = almost nothing 9 = a lot
Bitter Taste	Basic taste produced by dilute aqueous solutions of various substances such as quinine or caffeine	1 = almost nothing 9 = a lot
Pungency	Sharp sensation of the oral and nasal mucous membranes	1 = almost nothing 9 = a lot
Residual flavor	Olfactory and/or gustatory sensation that occurs after the elimination of the product.	1 = almost nothing 9 = a lot

Table S2. Statistical analysis and model coefficients of each response related with chemical composition of BSY extracts obtained by the experimental design

	Solids	Protein	DH	Glutamic acid	RNA	FG	BG
Model	L	NS	L	L	NS	NS	L
Model p-value	**0.0026**		**0.0009**	**0.0024**			**0.0030**
R-Squared	0.6543		0.8257	0.6603			0.6425
Adj R-Squared	0.6159		0.7822	0.6226			0.6028
Lack of fit (p-value)	**0.2302**		**0.4788**	**0.8482**			**0.4800**
Intercept	3.62		-24.07	5.33			3.46
Coef Temperature (T)			0.78				
Coef Time (t)	0.05		1.15	0.26			-0.04
Coef T*t							
Coef T^2							
Coef t^2							

L: lineal model; FAG: free amino groups; DH: protein degree of hydrolysis; FG: free glucose; BG: bound glucose; NS non- significant

Table S3. Responses related with bioactive compounds and antioxidant activity of BSY extracts obtained by the experimental design

	GABA	Taurine	PA	4HBA	CA	VA	FA
Model	L	L	I	NS	Q	NS	NS
Model p-value	0.0326	0.0003	0.0466		0.0004		
R-Squared	0.5750	0.8671	0.6581		0.9517		
Adj R-Squared	0.4688	0.8339	0.5116		0.9195		
Lack of fit (p-value)	0.2792	0.8522	0.4005		0.0613		
Intercept	10.27	-1.86	382.67		111.32		
Coef Temperature (T)	-0.16	0.11	-5.93		-1.65		
Coef Time (t)	0.16	0.43	-23.66		-7.89		
Coef T*t			0.55		0.09		
Coef T^2							
Coef t^2					0.11		

	HH peptides	LH peptides	IH peptides	ABTS	FRAP	DPPH	Copper-chelating
Model	NS	Q	Q	L	C	L	L
Model p-value		0.0007	0.0001	0.0009	0.035	0.0016	0.0140
R-Squared		0.9420	0.9949	0.7224	0.9641	0.8006	0.7069
Adj R-Squared		0.9034	0.9884	0.6915	0.8803	0.7508	0.6521
Lack of fit (p-value)		0.1831	0.9692	0.4944	0.5697	0.2418	0.2101
Intercept		97.99	-36.31	6.32	31.03	0.28	58.04
Coef Temperature (T)		-0.42	1.54		-1.51	4.64E-3	
Coef Time (t)		-1.73	3.15	-0.06	5.34	-4.29E-3	1.27
Coef T*t		0.02	-0.04		-0.05		
Coef T^2			-8.78E-3		0.04		
Coef t^2		0.02	-0.04		-0.28		
Coef T^2*t					-2.42E-3		
Coef T*t^2					7.28E-3		

L: lineal model; I: lineal with interaction model; Q: Quadratic model; C: cubic model; NS: non significate model; GABA: γ-aminobutyric acid; PA: protocatechuic acid; 4HBA: 4-hydroxybenzoic acid; CA: chlorogenic acid; VA: vanillic acid; FA: ferulic acid; HH: high hydrophobicity; LH: low hydrophobicity; IH: intermediate hydrophobicity. NS non- significant

Table S4. Responses related with sensorial analysis of BSY extracts obtained by the experimental design

	Yeast smell	Color perception	Umami taste	Bitter taste	Pungency	Residual flavor
Model	I	Q	L	Q	Q	Q
Model p-value	0.0003	0.0002	<0.0001	<0.0001	0.0025	0.0004
R-Squared	0.9219	0.9845	0.9481	0.9506	0.7772	0.9780
Adj R-Squared	0.8884	0.9691	0.9352	0.9294	0.7215	0.9560
Lack of fit (p-value)	0.4284	0.3734	0.2994	0.5768	0.1566	0.4121
Intercept	6.17	-0.84	3.59	-14.04	4.30	-5.65
Coef Temperature (T)	-1.16E-3	+0.20	-0.02	0.81		0.41
Coef Time (t)	0.21	--0.15	0.1	0.09	-0.46	-0.13
Coef T*t	-7.22E-3	+3.89E-3				-4.4E-3
Coef T^2		-2.23E-3		-9.8E-3		-3.9E-3
Coef t^2		2.48E-3			0.02	0.01

L: lineal model; I: lineal with interaction model; Q: Quadratic model.