



Figure S1: The normal plot (A-D) of obtained from two-level factorial experiment showing the significance of the primary and interaction effects, Factor A, extraction time; Factor B, ultrasonic temperature; Factor C, ultrasonic power (P); Factor D, liquid-solid ratio (L/S); Factor E, water content in DES (WC).

Table S1. FFD design and predicted results for the optimization of TPC, TFC, ABTS•+ and FRAP.

Factors						Experimental value			
						-1	+1		
Extraction time						20	60		
Extraction temperature						20	50		
Ultrasonic power						200	400		
Liquid to solid ratio (L/S)						10	30		
Water content in Pro-Gly						20	40		
Run.	X ₁	X ₂	X ₃	X ₄	X ₅	TPC	TFC	ABTS	FRAP
1	20	20	200	10	40	20.32	28.50	166.29	131.01
2	60	50	200	10	40	47.09	68.33	329.63	270.64
3	60	50	200	30	20	53.34	64.61	448.86	338.80
4	60	20	400	30	20	24.48	27.11	218.96	163.13
5	20	50	400	30	20	49.40	65.86	414.73	334.47
6	60	20	200	10	20	10.80	8.91	104.28	62.71
7	60	50	400	10	20	51.12	65.45	313.41	136.58
8	20	20	400	10	20	9.90	10.29	86.15	55.90
9	20	20	400	30	40	38.74	53.36	309.12	253.13
10	20	50	200	10	20	32.34	36.29	211.52	98.99
11	20	50	400	10	40	56.30	74.41	354.43	308.12
12	60	50	400	30	40	64.43	87.70	501.46	353.13
13	20	50	200	30	40	61.09	79.61	448.80	389.467
14	60	20	400	10	40	29.99	41.74	206.94	177.27
15	20	20	200	30	20	13.11	12.99	149.98	84.80
16	60	20	200	30	40	48.95	70.61	378.67	366.58