

Table S1. Physicochemical properties of the prepared solvents.

Standard	Run	ρ (g/cm ³)	η (Pas)	pH
14	1	1.040	0.0688	2.6
16	2	1.032	0.0031	1.83
4	3	1.014	0.0027	2.25
3	4	1.033	0.0145	2.68
11	5	1.045	0.0144	2.16
7	6	1.038	0.0603	3.13
6	7	1.032	0.0864	3.26
12	8	1.045	0.0144	2.16
2	9	1.038	0.0517	3.15
10	10	1.045	0.0144	2.16
13	11	1.035	0.1146	2.35
5	12	1.014	0.0027	2.25
9	13	1.020	0.0999	2.32
15	14	1.046	0.0984	2.5
8	15	1.020	0.0999	2.32
1	16	1.011	0.0835	2.31

Table S2. Relationship between the concentration of the target compounds and the HM/SR.

Content	Technique	Solvent	Equation	R^2
Total phenol	MSAE	A	$y = 20.470x + 1.100$	0.9964
	UAE	A	$y = 7.500x + 1.241$	0.9335
	MSAE	B	$y = 28.250x + 0.058$	0.9825
	UAE	B	$y = 11.190x + 0.755$	0.9920
Oleuropein	MSAE	A	$y = 3.871x + 0.344$	0.9990
	UAE	A	$y = 0.969x + 0.392$	0.9163
	MSAE	B	$y = 7.779x + 0.034$	0.9919
	UAE	B	$y = 6.247x - 0.013$	0.9976
Verbascoside	MSAE	A	$y = 1.041x - 0.008$	0.9953
	UAE	A	$y = 0.296x + 0.068$	0.9864
	MSAE	B	$y = 0.922x + 0.022$	0.9997
	UAE	B	$y = 1.319x - 0.013$	0.9937

MSAE = magnetic stirrer assisted extraction; UAE = ultrasound assisted extraction; Solvent A: 10% polypropylene glycol, 89% water, 1% lactic acid); Solvent B (28.6% polypropylene glycol, 63.6% water, 7.8% lactic acid). y = Concentration of the target compound (mg/mL), x = Herbal material/solvent ratio (g herbal material/10 g solvent).

Table S3. Relationship between yield (%) of the target compounds and the HM/SR.

Yield	Technique	Solvent	Equation	R ²
Total phenol	MSAE	A	$y = 18.570 \times x^2 - 32.670 \times x + 20.420$	0.9528
	UAE	A	$y = 9.449 \times x^2 - 15.370 \times x + 8.498$	0.9987
	MSAE	B	$y = -5.640 \times x^2 - 5.408 \times x + 16.875$	0.9366
	UAE	B	$y = 4.907 \times x^2 - 13.120 \times x + 10.690$	0.9928
Oleuropein	MSAE	A	$y = 7.394 \times x^2 - 10.810 \times x + 5.194$	0.9754
	UAE	A	$y = -5.351 \times x^2 - 7.009 \times x + 2.610$	0.9554
	MSAE	B	$y = 2.934 \times x^2 - 6.511 \times x + 5.887$	0.9668
	UAE	B	$y = 3.238 \times x^2 - 5.971 \times x + 4.540$	0.9464
Verbascoside	MSAE	A	$y = 0.103 \times x^2 - 0.513 \times x + 0.631$	0.9141
	UAE	A	$y = 1.031 \times x^2 - 1.350 \times x + 0.530$	0.9241
	MSAE	B	$y = 0.501 \times x^2 - 1.004 \times x + 0.794$	0.9800
	UAE	B	$y = 0.795 \times x^2 - 1.337 \times x + 0.949$	0.9564

MSAE = magnetic stirrer assisted extraction; UAE = ultrasound assisted extraction; Solvent A: 10% polypropylene glycol, 89% water, 1% lactic acid); Solvent B (28.6% polypropylene glycol, 63.6% water, 7.8% lactic acid). y = yield of the target compound (%), x = Herbal material/solvent ratio (g herbal material/10 g solvent).

Table S4. Relationship between the extraction parameters and the extended herbal extract/solvent ratio (HM/SR) (1.0-1.6 g/10 g solvent) in magnetic stirrer assisted extraction using the solvent B.

Extraction parameter	Value of extraction parameter	HM/SR (g/10 g solvent)	Equation*	R ² *
Total phenol content (mg/mL)	27.90	1.0	$y = 25.090 \times x + 1.219$	0.9912
	31.40	1.2		
	35.07	1.4		
	40.71	1.6		
Oleuropein content (mg/mL)	7.57	1.0	$y = 7.737 \times x + 0.057$	0.9967
	9.77	1.2		
	10.92	1.4		
	12.22	1.6		
Verbascoside content (mg/mL)	0.93	1.0	$y = 0.956 \times x + 0.009$	0.9982
	1.20	1.2		
	1.35	1.4		
	1.53	1.6		

*Includes the HM/RS values of 0.2-0.8. Extended weight of the herbal material (g) extracted by 10 g of the solvent –MSAE = magnetic stirrer assisted extraction; - UAE = ultrasound assisted extraction; Solvent A: 10% polypropylene glycol, 89% water, 1% lactic acid; Solvent B (28.6% polypropylene glycol, 63.6% water, 7.8% lactic acid). y = Concentration of the target compound (mg/mL), x = Herbal material/solvent ratio (g herbal material/10 g solvent).

Table S5. Volume of the prepared extracts.

Extraction technique	Solvent	HM/SR (g/10 g solvent)	V extract (mL)
MSAE	A	0.1	6.04
		0.2	5.27
		0.4	4.39
		0.6	3.54
		0.8	2.74
UAE	A	0.1	5.25
		0.2	3.57
		0.4	3.20
		0.6	3.02
		0.8	2.49
MSAE	B	0.1	6.34
		0.2	5.47
		0.4	4.98
		0.6	4.01
		0.8	3.19
		1.0	2.47
		1.2	1.85
		1.4	1.55
UAE	B	1.6	1.26
		0.1	5.94
		0.2	5.24
		0.4	4.50
		0.6	3.72
		0.8	2.77

MSAE = magnetic stirrer assisted extraction; UAE = ultrasound assisted extraction; Solvent A: 10% polypropylene glycol, 89% water, 1% lactic acid); Solvent B (28.6% polypropylene glycol, 63.6% water, 7.8% lactic acid).