Table S1. Analysis of variance and regression coefficients of quadratic polynomial models with ultrasonic-assisted extraction on total soluble phenols and yield from extracts of *Annona muricata* leaves.

Source	Analysis of Variance				Regression Coefficients
	SS	DF	MS	F Value	
Total soluble phenols					B-coefficient
Mean/Intercept	-	-	-	-	440.39 *
X_{SA}	344.11	1	344.11	8.50 *	−8.11 *
X^2_{SA}	369.99	1	369.99	9.14 *	0.03 **
X_{PC}	863.35	1	863.35	21.33 *	−899.07 *
X^2_{PC}	2416.38	1	2416.38	59.69 *	434.81 *
X_{ET}	446.56	1	446.56	11.03 *	20.68 *
X^2_{ET}	2836.47	1	2836.47	70.07 *	−4.00 *
$X_{SA} \times {}^* X_{PC}$	199.12	1	199.12	4.92 *	21.53 *
$X_{SA} \times X^2_{PC}$	1937.01	1	1937.01	47.85 *	−9.98 *
$X^2_{SA} \times X_{PC}$	283.65	1	283.65	7.01 *	−0.06 *
$X_{SA} \times X_{ET}$	3254.52	1	3254.52	6.29 *	0.12 *
$X_{PC} \times X_{ET}$	380.40		380.40	9.40 *	9.38 *
Lack of Fit	34.56	1	34.56	0.85 **	
Pure Error	1295.39	32	40.48		
R-square	0.886				
R-Adjust	0.848				
Total SS	11668.15	44			
Yield					β-coefficient
Mean/Intercept	-	-	-	-	12.56 *
X_{SA}	0.09	1	0.09	2.34 **	−0.18 *
X^2_{SA}	0.32	1	0.32	8.14 *	1.44^{-4} **
X_{PC}	0.58	1	0.58	14.91 *	−28.38 *
X^2_{PC}	2.13	1	2.13	54.70 *	13.84 *
X_{ET}	0.43	1	0.43	11.03 *	1.06 *
X^2_{ET}	2.12	1	2.12	54.46 *	−0.11 *
$X_{SA} \times X_{PC}$	0.32	1	0.32	8.13 *	0.67 *
$X_{SA} \times X_{PC}^2$	1.89	1	1.89	48.52 *	−0.31 *
$X_{SA}^2 \times X_{PC}$	0.26	1	0.26	6.65 *	-1.73^{-3} *
$X_{SA} \times X_{ET}$	0.31	1	0.31	8.06 *	−0.02 **
$X^2_{SA} \times X_{ET}$	0.10	1	0.10	2.56 **	1.61^{-4} **
$X_{PC} \times X_{ET}$	0.30	1	0.30	7.80 *	0.27 *
Pure Error	1.25	32	0.04		
R-square	0.873				
R-Adjust	0.826				
Total SS	9.86	44			

XSA = Sonication amplitude; XPC = Pulse cycle (s); XET = Extraction time; SS = Sum of square; DF = Degree of freedom; MS = Means square. * Significant ($p < 0.05$); ** nonsignificant ($p > 0.05$).

Table S2. The predicted mathematical models for the extraction of soluble polyphenols (mg/100 mL) and yield from extracts of *Annona muricata* leaves after ultrasound-assisted extraction.

Response	Proposed Model	Equation
Total soluble phenols (mg/100 mL)	$440.39 - 8.11X_{SA} + 0.03X^2_{SA} - 899.07X_{PC} + 434.81X^2_{PC} + 20.68X_{ET} - 4.0X^2_{ET} + 21.53X_{SA} \times X_{PC} - 9.98 X_{SA} \times X^2_{PC} - 0.06X^2_{SA} \times X_{PC} + 0.12X_{SA} \times X_{ET} + 9.38X_{PC} \times X_{ET}$	(4)

| Yield (%) | $\begin{aligned} 12.56 &- 0.18X_{SA} + 1.44^{-4}X_{SA}^2 - 28.38X_{PC} + 13.84X_{PC}^2 + 1.06X_{ET} - 0.11X_{ET}^2 \\ &+ 0.67X_{SA} \times X_{PC} - 0.31\ X_{SA} \times X_{PC}^2 - 1.73^{-3}X_{SA}^2 \times X_{PC} \\ &- 0.02X_{SA} \times X_{ET} + 1.61^{-4}X_{SA}^2 \times X_{ET} + 0.27X_{PC} \times X_{ET} \end{aligned}$ | (5) |

X_{SA} = Sonication amplitude; X_{PC} = Pulse cycle (s); X_{ET} = Extraction time.