

Figure S1. Calibration curve for UV-Visible spectrophotometric determination of BMT ($\lambda_{\text{max}} = 294 \text{ nm}$)

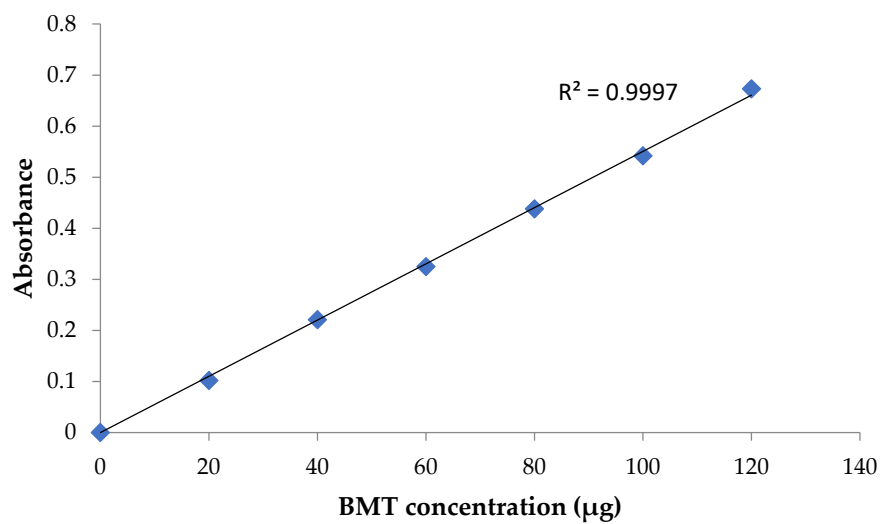


Figure S2: FTIR spectra of pure BMT, cholesterol, Span 60, and optimized BMT-loaded niosomes

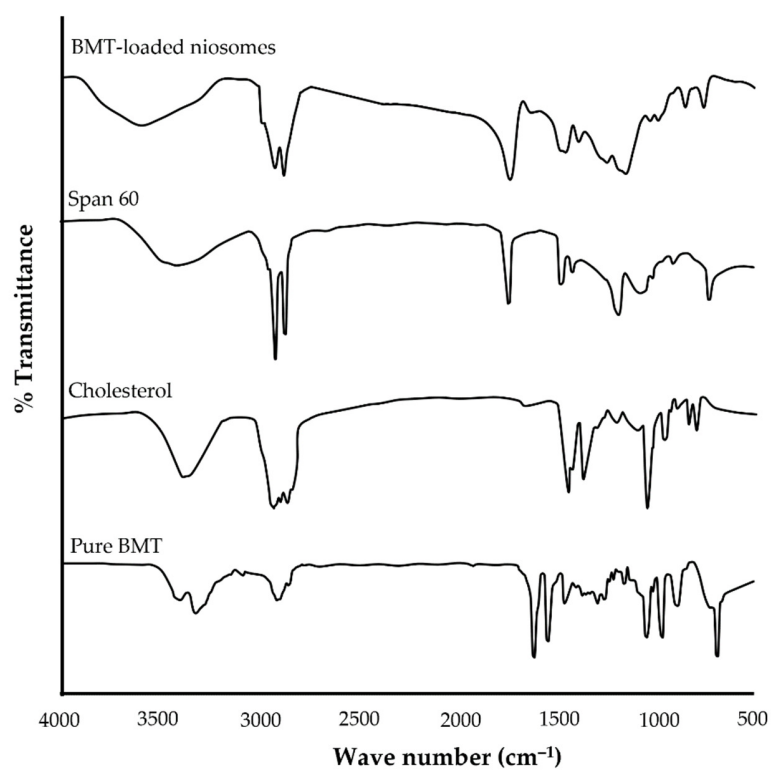


Table S1. Results of statistical analysis of all dependent variables

Source	Y ₁		Y ₂	
	F-Value	p-Value	F-Value	p-Value
Model	386.25	<0.0001	53.60	< 0.0001
X ₁ : Drug Concentration	429.84	<0.0001	96.01	<0.0001
X ₂ : Chol:SAA ratio	1487.56	<0.0001	76.04	<0.0001
Lack of Fit	5.91	0.0595	6.88	0.0373
R ² analysis				
R ²	0.9964		0.9745	
Adjusted R ²	0.9938		0.9564	
Predicted R ²	0.9780		0.9042	
Adequate precision	61.72		26.56	

Table S2. Stability study results of BMT-loaded niosomes stored at 4 °C for 90 days

Evaluation parameters	Day 0	Day 30	Day 90
Vesicle size (nm)	167.3 ± 9.1	174.7 ± 11.1	180.2 ± 8.7
Zeta potential (mV)	− 12.4 ± 1.9	− 12.1 ± 0.9	− 11.5 ± 1.2
Entrapment efficiency (%)	81.2 ± 1.2	79.4 ± 2.4	77.3 ± 3.9

Table S3. Kinetic analysis of the *in vitro* release data of BMT from different BMT formulations

Formula	Zero-order	First-order	Higuchi-diffusion	Korsmeyer-Peppas	n
			r ²		
Pure BMT	0.851	0.775	0.933	0.957	--
BMT-loaded niosomes	0.846	0.637	0.977	0.974	0.627
BMT-ISG	0.899	0.650	0.983	0.978	0.785