

SUPPLEMENTARY TABLES

Table 1S: Structured models used to compare violacein release profiles from meshes.

Model Name	Equation
First Order model	$\log Q_t = \log Q_0 + \frac{k_i t}{2.303}$
Higuchi model	$Q_t = K_H \sqrt{t}$
Korsmeyer-Peppas	$\frac{Q_t}{Q_0} = K_k t^n$
Hixon and Crowell	$\sqrt[3]{Q_0} - \sqrt[3]{Q_t} = K_s t$
Baker-Lonsdale	$\frac{3}{2} \left\{ 1 - \left(1 - \left[\frac{Q_t}{Q_0} \right] \right)^{\frac{2}{3}} \right\} - \frac{Q_t}{Q_0} = K_b t$

Table 2S: Characterization of nanostructured lipid carriers by dynamic light scattering. Hydrodynamic diameters (D_H), polydispersity index (Pdl) and Z-potential (ζ) for NLC formulation with (NLC-Viol-Lip) and without Lip (NLC-Viol).

Samples	D_H (nm)	Pdl	ζ
NLC-Viol	154.3	0.241	-9.78
NLC-Viol-Lip	151.5	0.319	-8.08
p-value (n= 3)	0.7584	0.017	0.0342

Table 3S: Entrapment efficiency by direct and indirect method and drug cargo per mesh matrix

Samples	Entrapment efficiency (%)			Viol/Matrix ($\mu\text{mol/mg}$)
	Indirect	Direct	Average ($\pm \sigma$)	Direct
Mesh-Viol	97.2	90.3	93.8 (± 3.5)	4.67×10^{-4}
Mesh-Viol-Lip	95.8	88.8	92.3 (± 3.5)	4.59×10^{-4}

Note: σ , standard deviation.

Table 4S: Data obtained by ImageJ analysis on SEM images of meshes before and after drug release.

Samples	Average mesh gap area (μm^2)	Mesh gap area square root (μm)	Grey histogram standard deviation
Mesh before drug release	283,028 (n= 12)	532.0	35.45
Mesh-Viol after drug release	424,590 (n= 10)	651.6	40.13
Mesh-Viol-Lip after drug release	660,549 (n= 8)	812.7	48.25

Table 5S: Adjusted R^2 for models fitted to Viol release profiles in Mesh-Viol and Mesh-Viol-Lip

Model (pH= 7.4)	R^2_{adj}	
	Mesh-Viol	Mesh-Viol-Lip
First Order model	0.83	0.69
Higuchi model	0.94	0.29
Korsmeyer-Peppas	0.95	0.95
Hixon and Crowell	0.72	0.42
Baker-Lonsdale	0.95	0.89

SUPPLEMENTARY FIGURES

Figure 1S: Kinetic of Viol release from Mesh-Viol (●), and Mesh-Viol-Lip (○) at pH= 5.0 and 37°C. Peppas model fit of Mesh-Viol (—) (Adj r²=0.90), Mesh-Viol-Lip (---) (Adj r²=0.87).

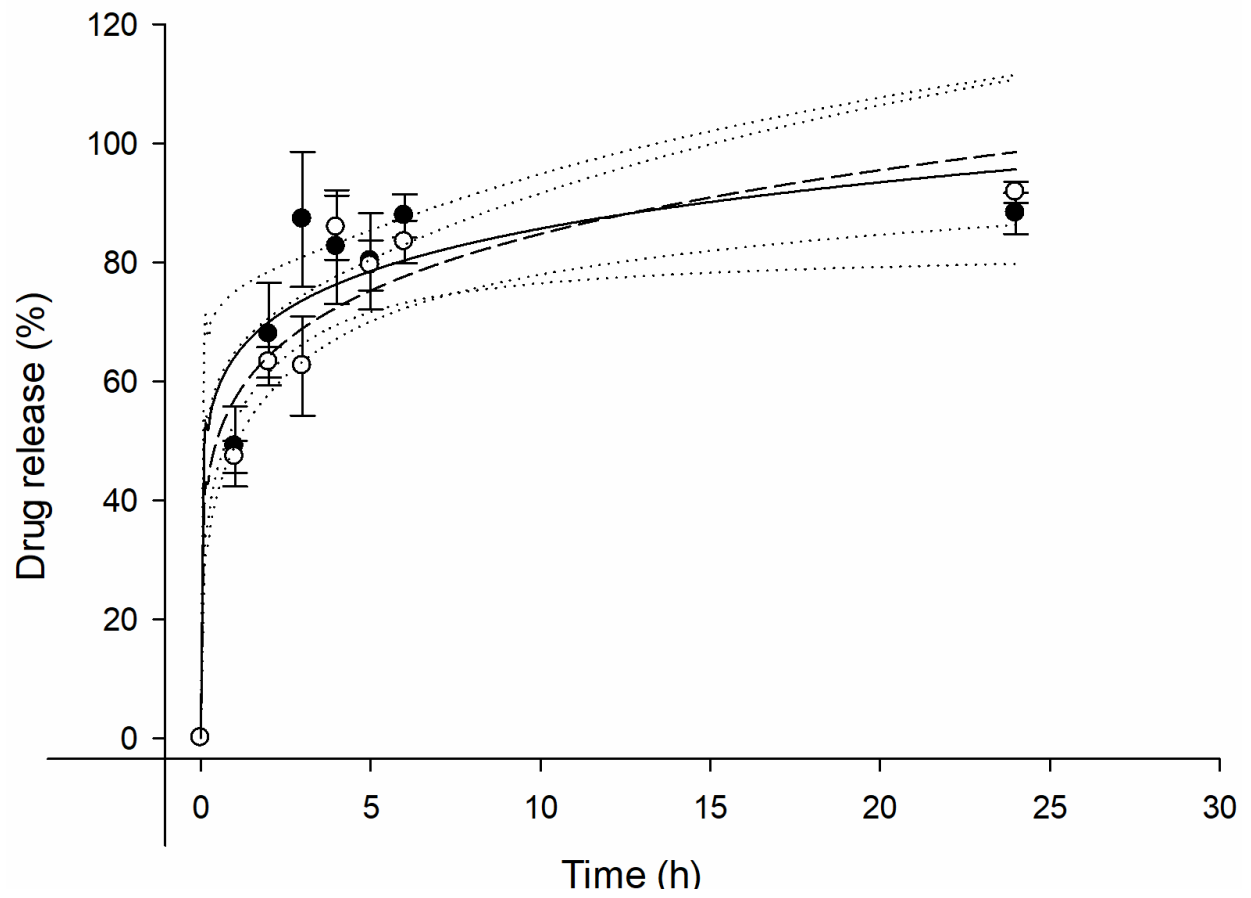


Figure 2S. Derivative of weight versus temperature for Mesh-Viol-Lip, Mesh-Viol, MM (myristyl myristate), Chi-MMW (medium molecular weight chitosan), HPMC (hydroxy propyl methyl cellulose) and P188 (Poloxamer P188). Mesh-Viol and Mesh-Viol-Lip were incubated in phosphate release buffer (pH= 7.4) for 24h before performing the analysis.

