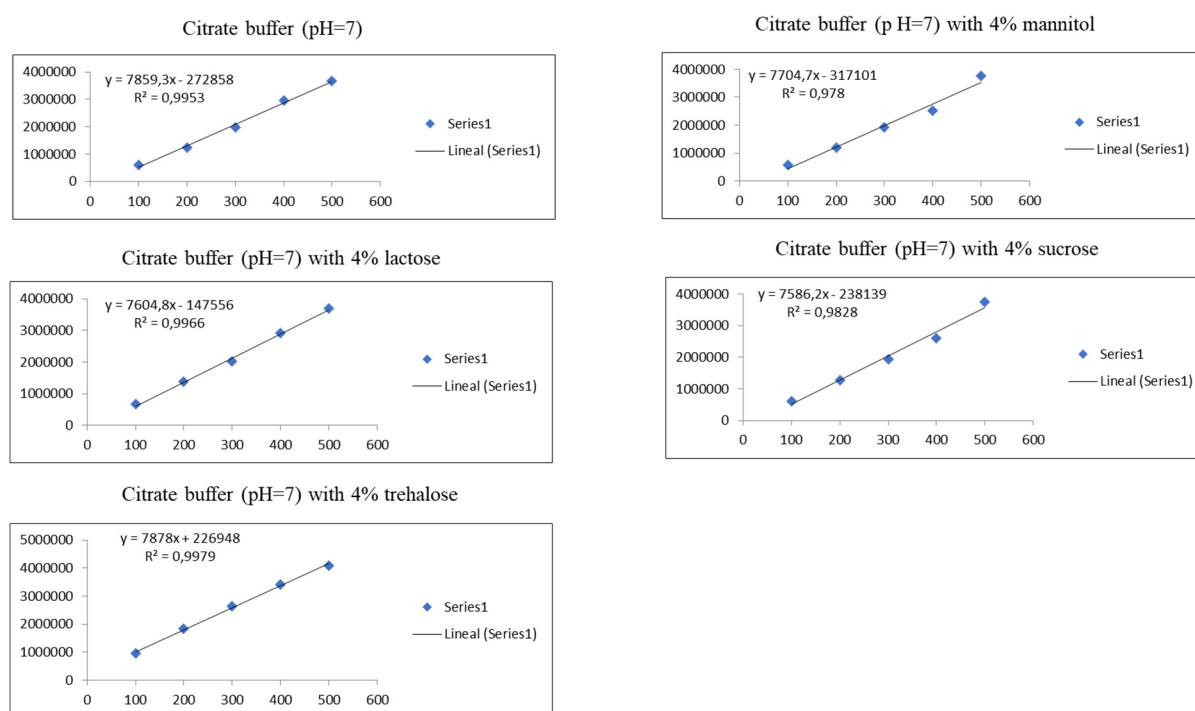
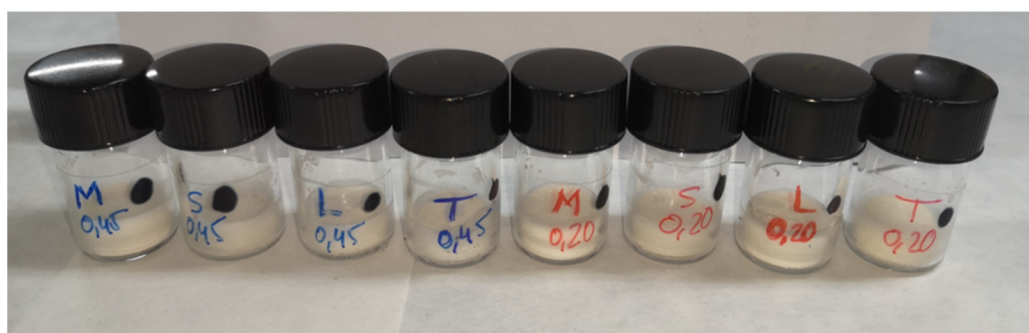


# Supplementary Materials: Lyoprotective Effects of Mannitol and Lactose Compared to Sucrose and Trehalose: Sildenafil Citrate Liposomes as a Case Study

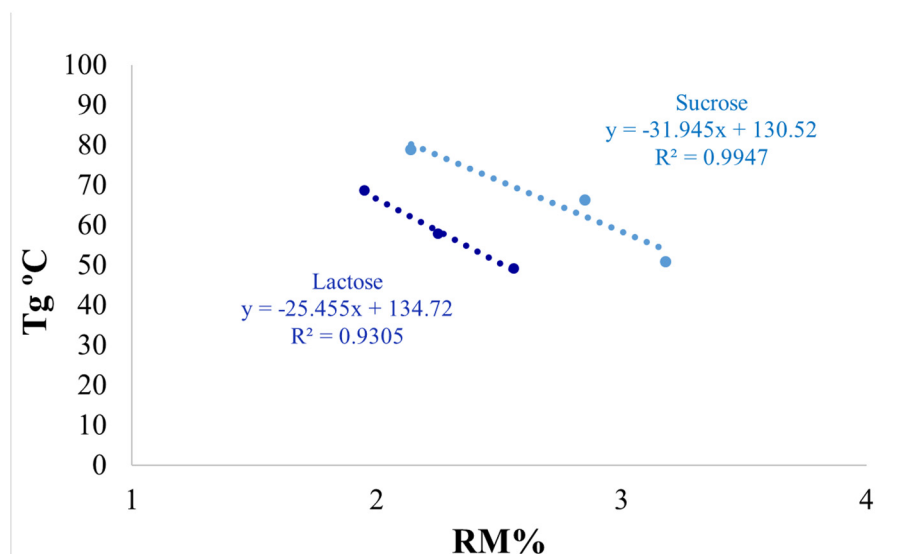
María José de Jesús Valle, Andreia Alves, Paula Coutinho, Maximiano Prata Ribeiro, Cristina Maderuelo and Amparo Sánchez Navarro



**Figure S1.** Linear relationship between chromatographic peak area (y) and drug concentration (x) for sildenafil citrate standard samples with and without additive. ( $p = 0.4060$  for the slope comparison).



**Figure S2.** Aspect of cakes obtained after liophylisation of small and large liposomes with mannitol (M), lactose (L), sucrose (S) or trehalose (T).



**Figure S3.** Linear relationship between remaining moisture (RM) and the onset of the peak associated to Tg.

**Table S1.** Thermal analysis of lyophilised samples with different additive.

Additive	Residual moisture (%)	Onset (°C)	Endset (°C)	T <sup>a</sup> peak (°C)	Integral (mJ)	dH (J/g)
<b>Mannitol</b>	3.01	63.50	75.60	71.04	63.75	-12.88
<b>Mannitol</b>	2.57	65.20	76.82	72.04	-63.15	-12.53
<b>Mannitol</b>	2.56	58.73	74.44	70.19	-46.32	-11.41
<b>Lactose</b>	3.18	50.92	67.49	59.22	-7.52	-1.53
<b>Lactose</b>	2.85	66.35	110.95	77.85	-54.08	-11.58
<b>Lactose</b>	2.14	78.92	106.29	87.87	-44.05	-8.57
<b>Sucrose</b>	2.56	49.14	57.03	53.38	-2.03	-0.46
<b>Sucrose</b>	2.25	57.82	67.52	62.37	-3.82	-0.85
<b>Sucrose</b>	1.95	68.64	84.15	75.55	-14.09	-2.76
<b>Threalose</b>	2.53	88.67	105.17	97.90	-7.58	-1.43
<b>Threalose</b>	2.35	54.12	85.98	75.10	-11.06	-2.19
<b>Threalose</b>	2.07	45.82	90.90	62.60	-28.87	-6.40