

Transdermal Delivery of 2-PAM as a Tool to Increase the Effectiveness of Traditional Treatment of Organophosphate Poisoning

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Table S1. Physicochemical properties of transfersomes, modified by C_nPB at different molar ratio of components.

System	Molar ratio	D _h , nm	PdI	ζ, mV
			12 months	
PC	-		Unstable	
PC/Tw20	1/0.2	187±1	0.426±0.028	-14±1
PC/Tw20/C ₁₄ PB	1/0.2/0.02	150±2	0.222±0.004	17±1
PC/Tw20/C ₁₄ PB	1/0.2/0.025	133±2	0.203±0.012	20±1
PC/Tw20/C ₁₄ PB	1/0.2/0.04	120±2	0.054±0.016	40±1
PC/Tw20/C ₁₂ PB	1/0.2/0.025	133±2	0.213±0.004	18±2
PC/Tw20/C ₁₆ PB	1/0.2/0.025	123±1	0.131±0.006	29±1

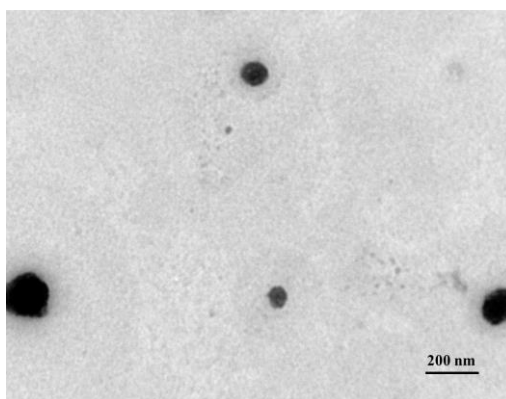


Figure S1. Micrograph obtained on a transmission electron microscope for PC/Tw20.

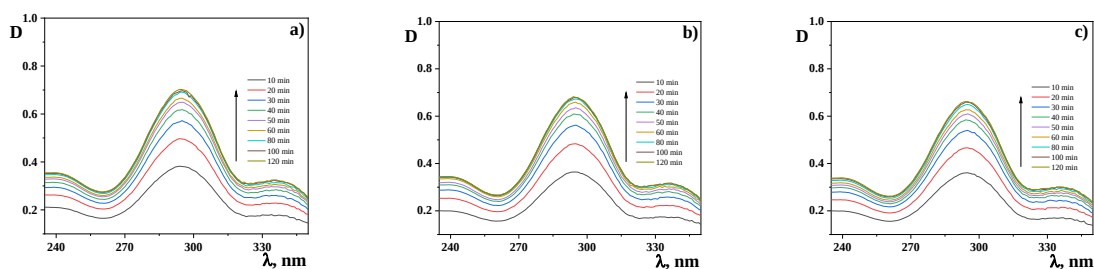


Figure S2. The absorption spectra of 2-PAM at different time intervals of release by dialysis for PC/Tw20/C₁₄PB at different molar ratio of components: a) 1/0.2/0.02; b) 1/0.2/0.025; c) 1/0.2/0.04, phosphate buffer (0.025 M), pH=7.4, 37°C; the arrow indicates the direction of dialysis duration increasing.

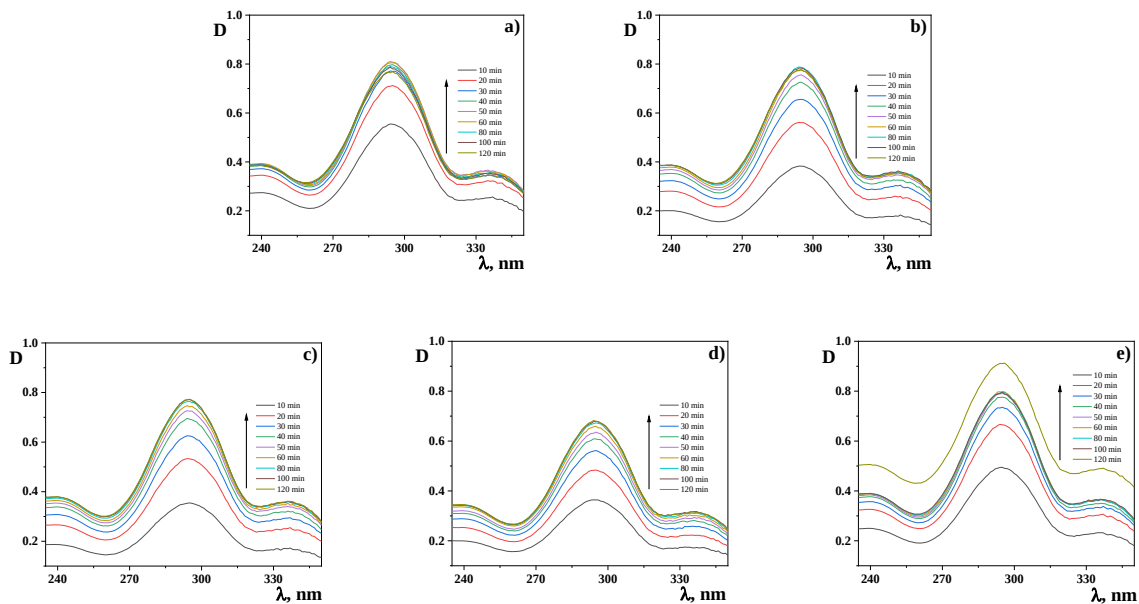


Figure S3. The absorption spectra of 2-PAM at different time intervals of release by dialysis for: a) PC; b) PC/Tw20; c) PC/Tw20/C₁₂PB 1/0.2/0.025; d) PC/Tw20/C₁₄PB 1/0.2/0.025; e) PC/Tw20/C₁₆PB 1/0.2/0.025, phosphate buffer (0.025 M), pH=7.4, 37°C; the arrow indicates the direction of dialysis duration increasing.

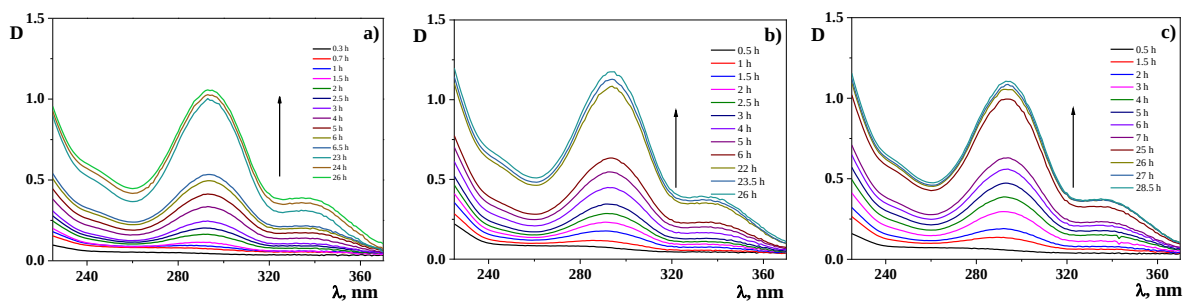


Figure S4. The absorption spectra of 2-PAM at different time intervals of release on Franz cells for aqueous form of vesicles *ex vivo*: a) PC; b) PC; b) PC/Tw20; c) PC/Tw20/C₁₄PB at molar ratio of components 1/0.2/0.025, phosphate buffer (0.025 M), pH=7.4, 34°C; the arrow indicates the direction of dialysis duration increasing.

Table S2. Hemolytic activity of transfersomes, loaded with 2-PAM at molar ratio of components 1/0.2/0.025.

Tested compounds	Hemolysis, %				
	Concentration of PC, mM				
	5.0	2.5	1.25	0.63	0.31
PC	16.6	9.9	4.6	2.2	0.0
PC/Tw20	15.8	8.2	3.7	1.7	0.0
PC/Tw20/C ₁₂ PB	20.0	7.9	3.8	1.4	0.0
PC/Tw20/C ₁₄ PB	15.9	7.0	3.8	1.8	0.0
PC/Tw20/C ₁₆ PB	18.7	7.2	5.5	2.2	0.0

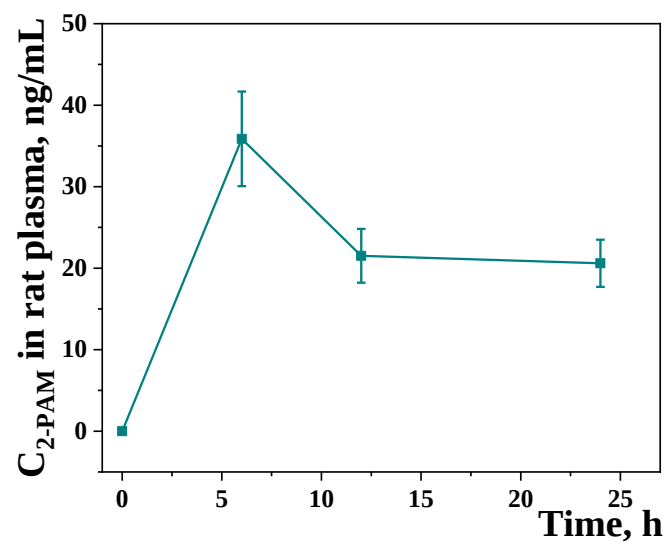


Figure S5. Plasma concentration of 2-PAM after transdermal administration of 2-PAM via PC/Tw20 transfersomes determined by HPLC-ESI-MS. Data are presented as the mean $\pm$ standard deviation for 5 rats.

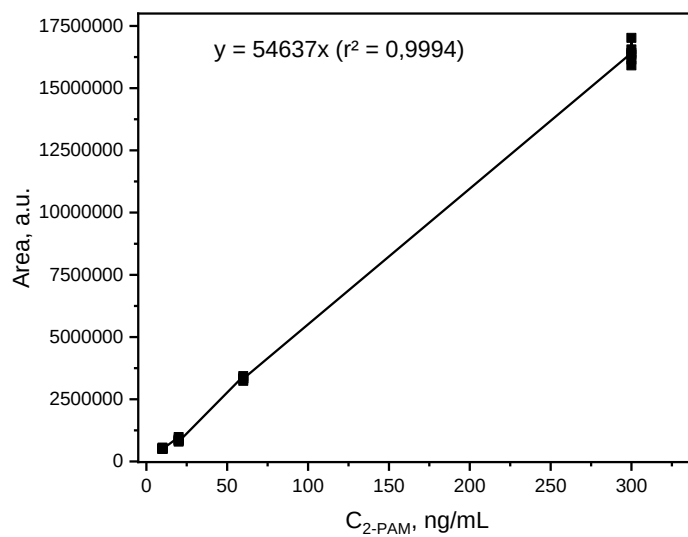


Figure S6. Calibration curve of 2-PAM in rat plasma.