

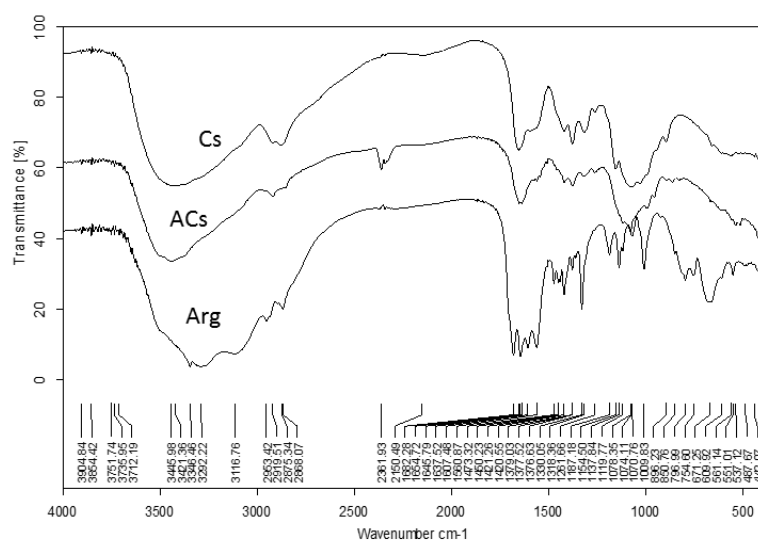
*Supplementary Materials*

# Therapy of organophosphate poisoning via intranasal administration of 2-PAM-loaded chitosomes

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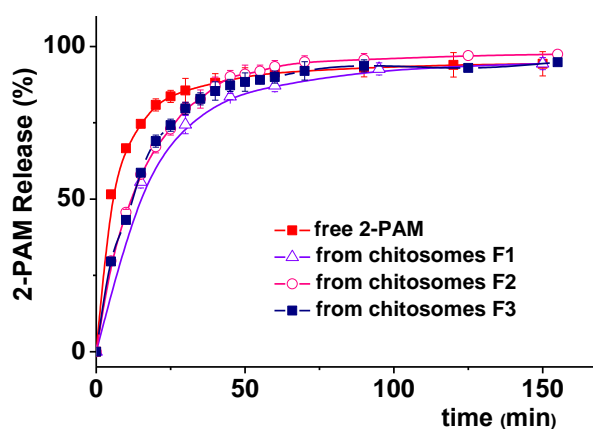
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**Figure S1.** FTIR spectra of arginine modified chitosan, plain chitosan and arginine.

**Table S1.** Physicochemical characteristics of liposomes and chitosomes with 2-PAM, at various concentration and type of Cs: encapsulation efficiency (EE, %), hydrodynamic diameter ( $D_h$ , nm); polydispersity index (PdI), zeta-potential of particles ( $\zeta$ , mV).

System	$C_{Cs}$ , %	EE (%)	$D_{lv}$ , nm	PdI	$\zeta$ , mV	$D_h$ , nm	PdI	$\zeta$ , mV
			1 day				1 month	
PC (10 mM)	-	40±1	104±1	0.06 ± 0.01	- 7.4±0.1		Not stable	
F1	0.1	67±1	134±1	0.06±0.21	9±1	134±1	0.13±0.01	16±1
F1	0.5	65±1	155±1	0.11±0.02	12±1	143±2	0.25±0.02	37±1
F2	0.1	59±3	113±1	0.07±0.01	6.2±0.1	116±1	0.07±0.02	11±1
F2	0.5	63±1	110±1	0.05±0.01	5.1±0.6	110±1	0.07±0.01	16±1
F3	0.1	58±3	116±3	0.07±0.01	3.5±0.1	115±1	0.09±0.01	19±1
F3	0.5	62±1	114±1	0.06±0.02	4.3±1.6	113±2	0.12±0.01	23±1



**Figure S2.** 2-PAM release curves in vitro from chitosomes, modified with various polymers; phosphate buffer (0.025 M), pH = 7.4, 37 °C.