

Figure S1. 13C-NMR spectrum of KCl-insoluble carrageenan from *C. armatus*

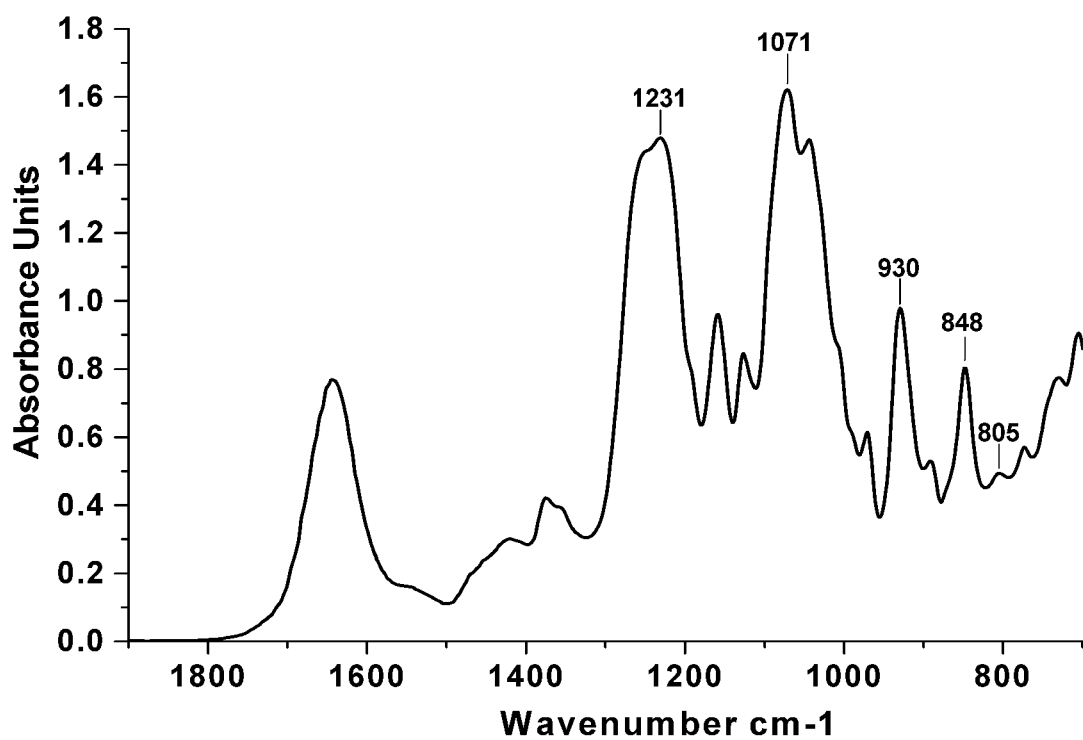


Figure S2. IR-spectrum of KCl-insoluble carrageenan from *C. armatus*. Bands 930 and 848 cm^{-1} – κ -carrabiose; bands 930, 848 and 805 cm^{-1} – ι -carrabiose

Table S1. Sizes and ζ -potential of liposomes before and after lyophilization.

Sample	PDI	Z-average, nm	Hydrodynamic diameter	ζ -potential, mV
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			d, nm	Contents, %	
Liposomes-EchA-100	0.132±0.15	140.8±1.0	159.3±5.8	100	-24.4±2.7
Liposomes EchA -100 after lyophilization	0.305±0.005	167.2±1.9	153.7±10.1	100	-22.2±1.5
Liposomes-EchA-400	0.219±0.023	334.5±1.4	419.5±12.0	100	-15.6±0.2
Liposomes EchA -400 after lyophilization	0.251±0.008	308.0±2.3	370.3±11.3	100	-18.7±0.5