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Environmental stress stability of pectin-stabilized resveratrol liposomes with different degree of esterification

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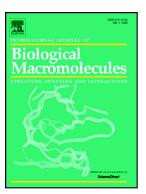
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stability pectin-stabilized **Environmental** stress of

resveratrol liposomes with different degree of esterification

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Abstract: Based on the hydrogen bonding ability of polysaccharides and phospholipids and steric

hindrance, nanoliposomes (LPs), pectin-coated resveratrol liposomes (LMP-LPs and HMP-LPs) with

different esterification degrees (DE=30%, 70%) were prepared. The entrapment efficiency was 78 ±

5%. The addition of pectin with different degree of esterification (DE=0%, 30%, 70%) increased the

particle size of liposomes from 102 nm to 122 nm and 140 nm and negative charge change from -13.63

mV to -20.96 mV and -30.11mV respectively. This is mainly due to the adsorption of pectin on the

liposome surface. Some environmental factors such as pH, ionic strength and temperature have a

significant effect on the appearance, particle size and leakage rate of liposomes. Experiments have

shown that the leakage rate of low-methoxy pectin-coated liposomes resveratrol is lower, and this work

provides useful information on the use of low-methoxy pectin for controling food release.

Keywords: Liposomes; Low methoxy pectin; High methoxy pectin; resveratrol.

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