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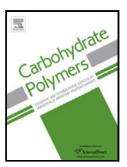
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ACCEPTED MANUSCRIPT

Preparation and characterization of antioxidant edible chitosan films incorporated with epigallocatechin gallate nanocapsules

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Highlights

- EGCG-loaded nanocapsules suspension (NCs) was successfully prepared.
- Antioxidant films based on chitosan hydrochloride and EGCG NCs were developed.
- The NCs incorporated films exhibited higher DPPH scavenging activity than control.
- The NCs incorporated films showed better mechanical properties than control .
- The obtained films can be used to protect foodstuffs against photooxidative damage.

Abstract: Antioxidant edible films based on chitosan hydrochloride (CHC) and epigallocatechin gallate (EGCG)-loaded nanocapsules (NCs) were developed. The CHC films incorporated with NCs were prepared by a casting method in three different proportions. The obtained films were characterized using the techniques including scanning electron microscopy, Fourier transform infrared spectroscopy and X-ray diffraction. Meanwhile, the mechanical and color properties, optical transmittance, EGCG release profile and antioxidant activity were also detected. The addition of NCs to CHC

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