## Accepted Manuscript

Title: Release of yerba mate antioxidants from corn starch-alginate capsules as affected by structure

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PII: S0144-8617(13)00810-2

DOI: http://dx.doi.org/doi:10.1016/j.carbpol.2013.08.026

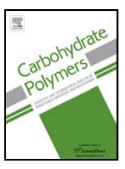
Reference: CARP 8016

To appear in:

Received date: 3-5-2013 Revised date: 11-7-2013 Accepted date: 13-8-2013

Please cite this article as: Córdoba, A. L., Deladino, L., & Martino, M., Release of yerba mate antioxidants from corn starch-alginate capsules as affected by structure, *Carbohydrate Polymers* (2013), http://dx.doi.org/10.1016/j.carbpol.2013.08.026

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## ACCEPTED MANUSCRIPT

1	Release of yerba mate antioxidants from corn starch-alginate capsules as
2	affected by structure
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8	
9	Abstract
10	Encapsulation of yerba mate (Ilex paraguariensis) extract in a proper matrix enhances the
11	possible applications of this natural antioxidant in food systems. To start, calcium alginate
12	capsules were used as carriers of yerba mate extract and a filler material (corn starch at 2
13	%) was added to the alginate matrix to improve the structural properties and to modulate
14	the release of the active compounds. Next, kinetics and swelling mechanisms involved in
15	the release of yerba mate polyphenols in simulated digestive fluids were analyzed. A lower
16	rate of release was obtained with calcium alginate-starch capsules as compared to control
17	ones, which was attributed to the lower porosity of filled capsules. The release profiles of
18	both systems were satisfactorily fitted with semi-empirical models, which indicated that a
19	combined mechanism of polymer-chain relaxation and diffusion was taking place.
20	
21	Keywords
22	Natural antioxidants; Porosity; Encapsulation; Calcium alginate; Starch; Controlled release.
23	

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