
Nanoencapsulation of Polyphenols Extracted from Green Tea

<i>Salient features</i>	<ul style="list-style-type: none">➤ Nanoencapsulation of green tea catechins using lipid based delivery system.➤ Electrospaying technique for nanoencapsulation of catechins using biopolymers.➤ Ex-vivo dynamic small intestinal system to predict effective permeability of nanoencapsulated catechins.➤ Asia's first Engineered human oral, stomach and small intestinal dynamic digestive model system available for industry level testing for new food product development.
<i>Advantages</i>	<ul style="list-style-type: none">✓ The developed nanoencapsulation technique can be used for improving the stability and bioavailability of food bioactive compounds suitable for oral delivery.✓ The microencapsulated green tea catechins can be used as ingredient for functional food development.
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<i>Year</i>	2012-13
<i>Source of funding</i>	MoFPI
<i>More information</i>	<p>Status of commercialization / Patent / Publication</p> <p>Bhushani, J.A. and Anandharamakrishnan, C. 2014. Electrospinning and electrospaying techniques: Potential food based applications. Trends in Food Science & Technology, 38(1): 21-33.</p> <p>Pasrija, D., Ezhilarasi, P.N., Indrani, D. and Anandharamakrishnan, C. 2015. Microencapsulation of green tea polyphenols and its effect on incorporated bread quality. LWT-Food Science and Technology, 64(1): 289-296.</p> <p>Pasrija, D. and Anandharamakrishnan, C. 2015. Techniques for extraction of green tea polyphenols: a review. Food and Bioprocess Technology, 8(5): 935-950.</p>

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- Parthasarathi, S., Bhushani, J.A. and Anandharamakrishnan, C. 2018. Engineered small intestinal system as an alternative to in-situ intestinal permeability model. *J. Food Eng.* 222: 110–114.
- News Reports: Artificial small intestine to study the food and drug absorption, *The Hindu – Science*, 21st January 2018.

Status of Technology Transfer

Developments from this project are readily available for technology transfer.

Developments are readily available for food industries to take up.

Asia's first Engineered human oral, stomach and small intestinal dynamic digestive model system available for industry level testing for new food product development.

Technology available for functional bread development- Bread incorporated with microencapsulated green tea polyphenols.