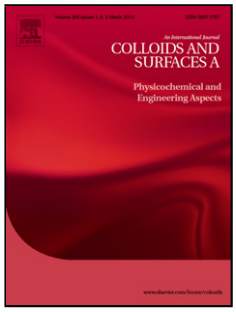
Accepted Manuscript



Title: Poly(lactic acid) Microparticles with Controllable Morphology by Hydroxyapatite Stabilized Pickering Emulsions: Effect of pH, Salt, and Amphiphilic Agents

Authors: Cho Yin Tham, Wen Shyang Chow

PII: S0927-7757(17)30819-1
DOI: http://dx.doi.org/10.1016/j.colsurfa.2017.09.011
Reference: COLSUA 21914

To appear in: *Colloids and Surfaces A: Physicochem. Eng. Aspects*

Received date: 5-6-2017
Revised date: 5-9-2017
Accepted date: 5-9-2017

Please cite this article as: Cho Yin Tham, Wen Shyang Chow, Poly(lactic acid) Microparticles with Controllable Morphology by Hydroxyapatite Stabilized Pickering Emulsions: Effect of pH, Salt, and Amphiphilic Agents, Colloids and Surfaces A: Physicochemical and Engineering Aspectshttp://dx.doi.org/10.1016/j.colsurfa.2017.09.011

Poly(lactic acid) Microparticles with Controllable Morphology by Hydroxyapatite Stabilized Pickering Emulsions: Effect of pH, Salt, and Amphiphilic Agents

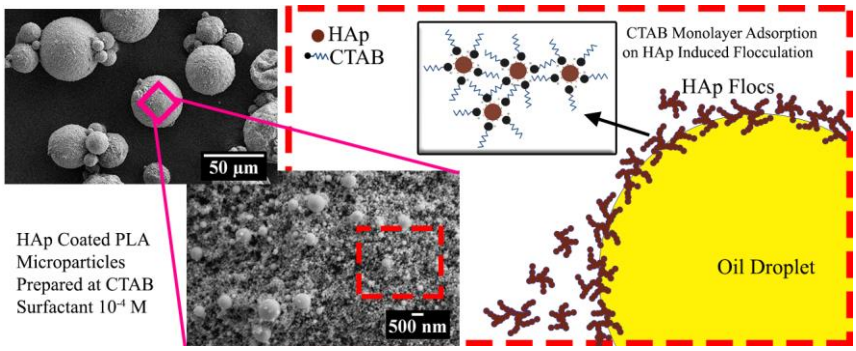
Cho Yin Tham, Wen Shyang Chow*

School of Materials and Mineral Resources Engineering, Engineering Campus,

Universiti Sains Malaysia, Nibong Tebal 14300 Penang, Malaysia

*Corresponding Author: shyang@usm.my

Graphical abstract



Abstract

Pickering emulsion and solvent removal technique was used to prepare poly(lactic acid) (PLA) microparticles. Hydroxyapatite nanoparticles (HAp) were used as an emulsion stabilizer and their assembly on interface intended to give additional functionality on PLA microparticles. This report aimed to control the structural morphology of PLA microparticles by changing the interfacial adsorption behavior of HAp with different approaches i.e., pH adjustment, salt concentration, propyl gallate (PG) amphiphile and cetylmethylammonium bromide (CTAB) surfactant. Zeta potential and particle size results demonstrated the changes