

Cocoa butter and whey protein isolate based emulgels as delivery vehicles for probiotics



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Introduction

- Emulsion gels: Novel carrier delivery system
- Combined oral delivery of the drugs and the probiotics
- Cocoa butter and Whey Protein Isolate (WPI)
- Drug used: Cirpfloxacin hydrochloride
- Probiotics used: *Lactobacillus plantarum*

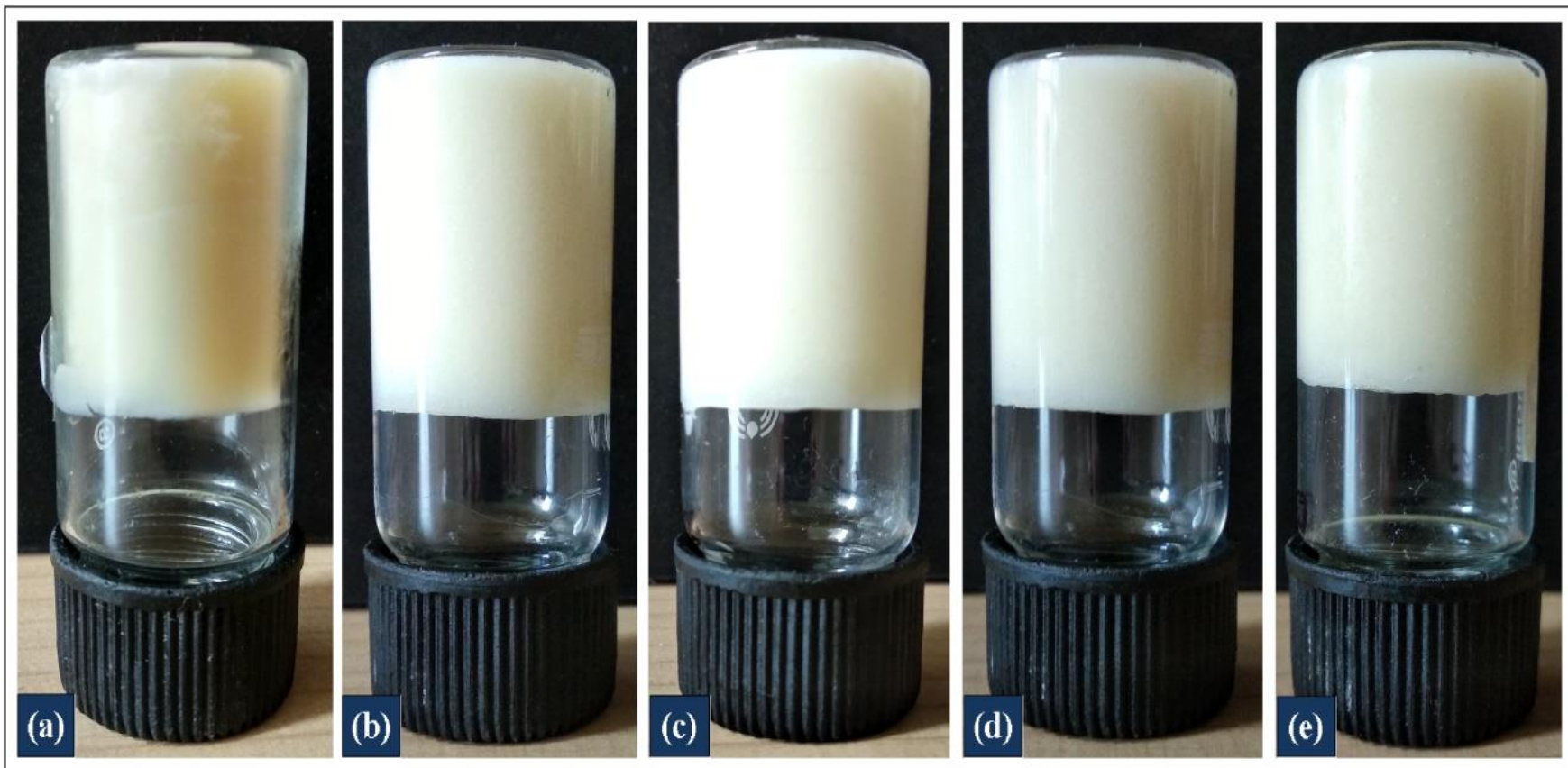


Figure 1. Pictographs of the prepared emulgels: (a) C1, (b) C2, (c) C3, (d) C4, and (e) C5.

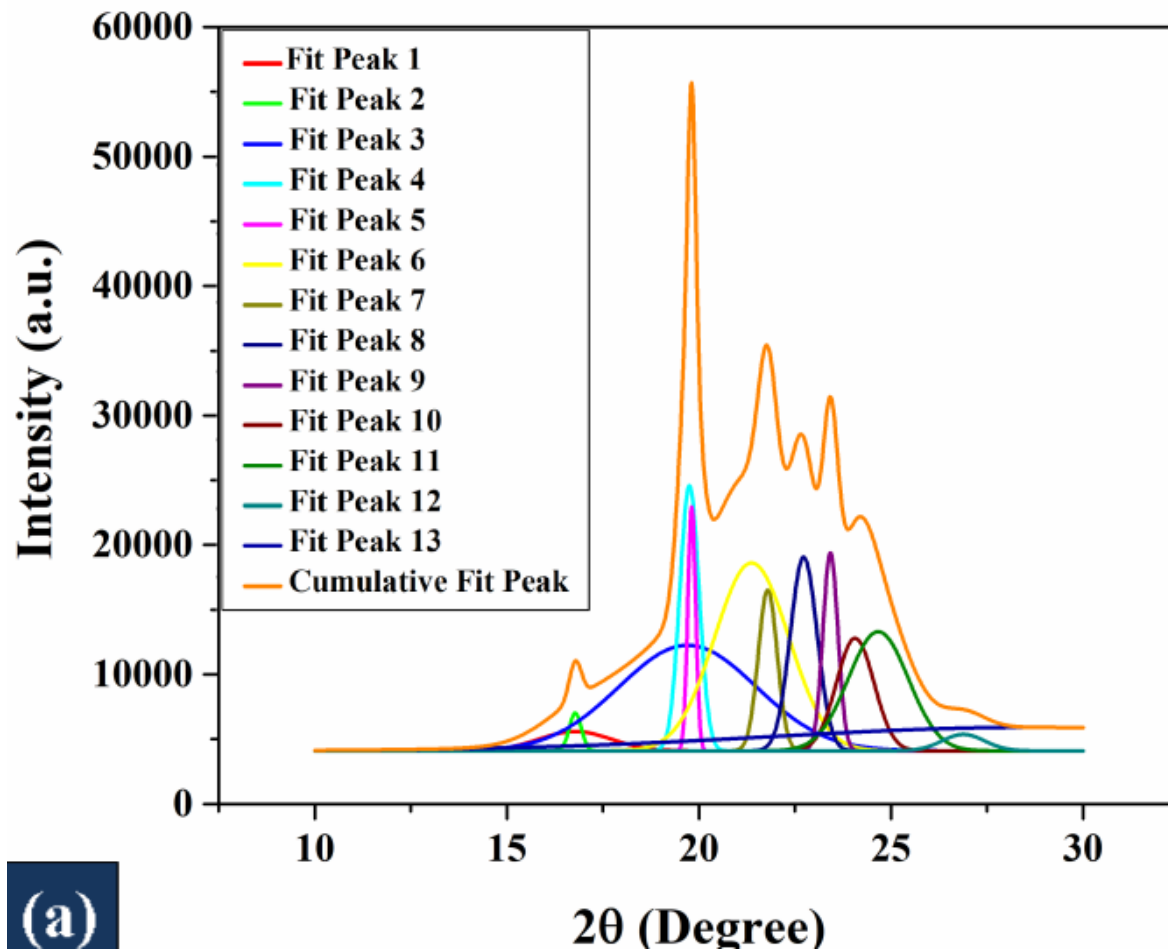


Figure 2. Deconvoluted XRD profiles of the samples.

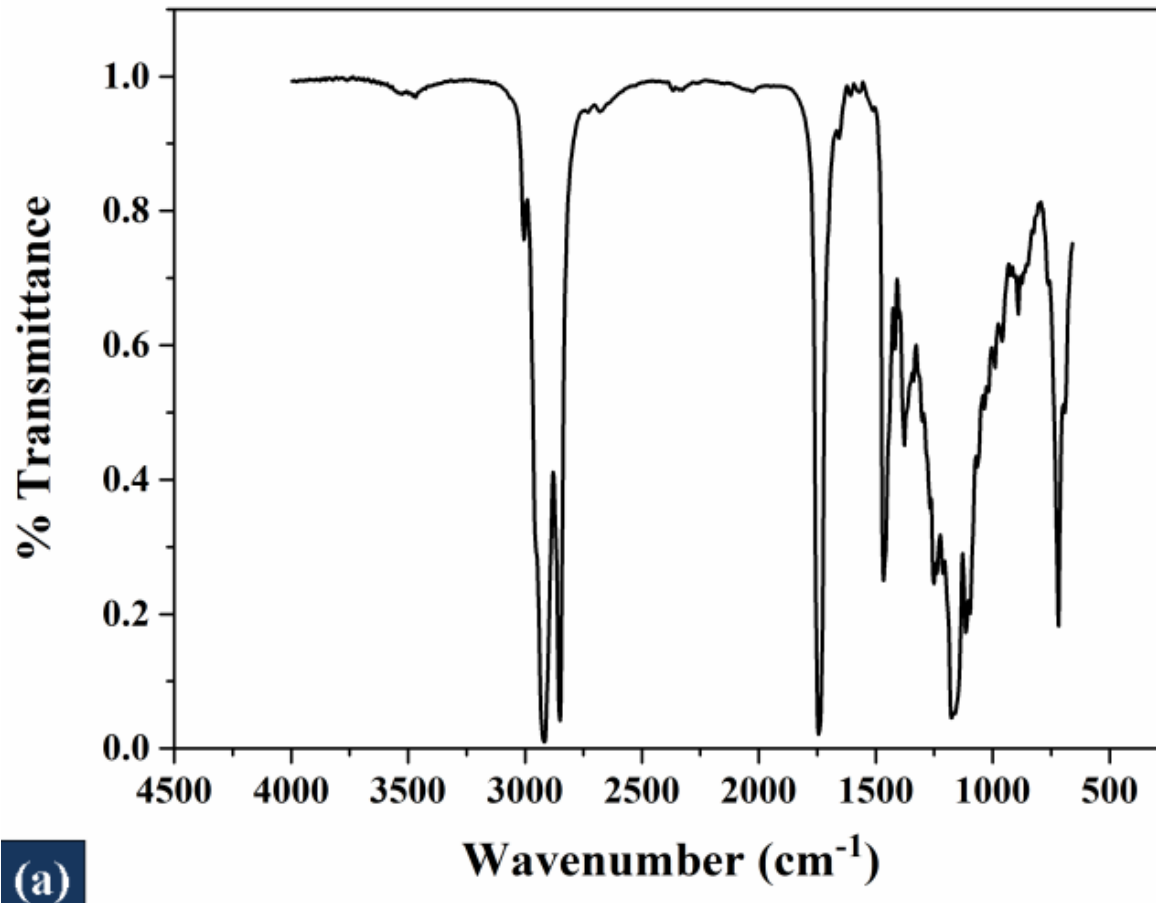
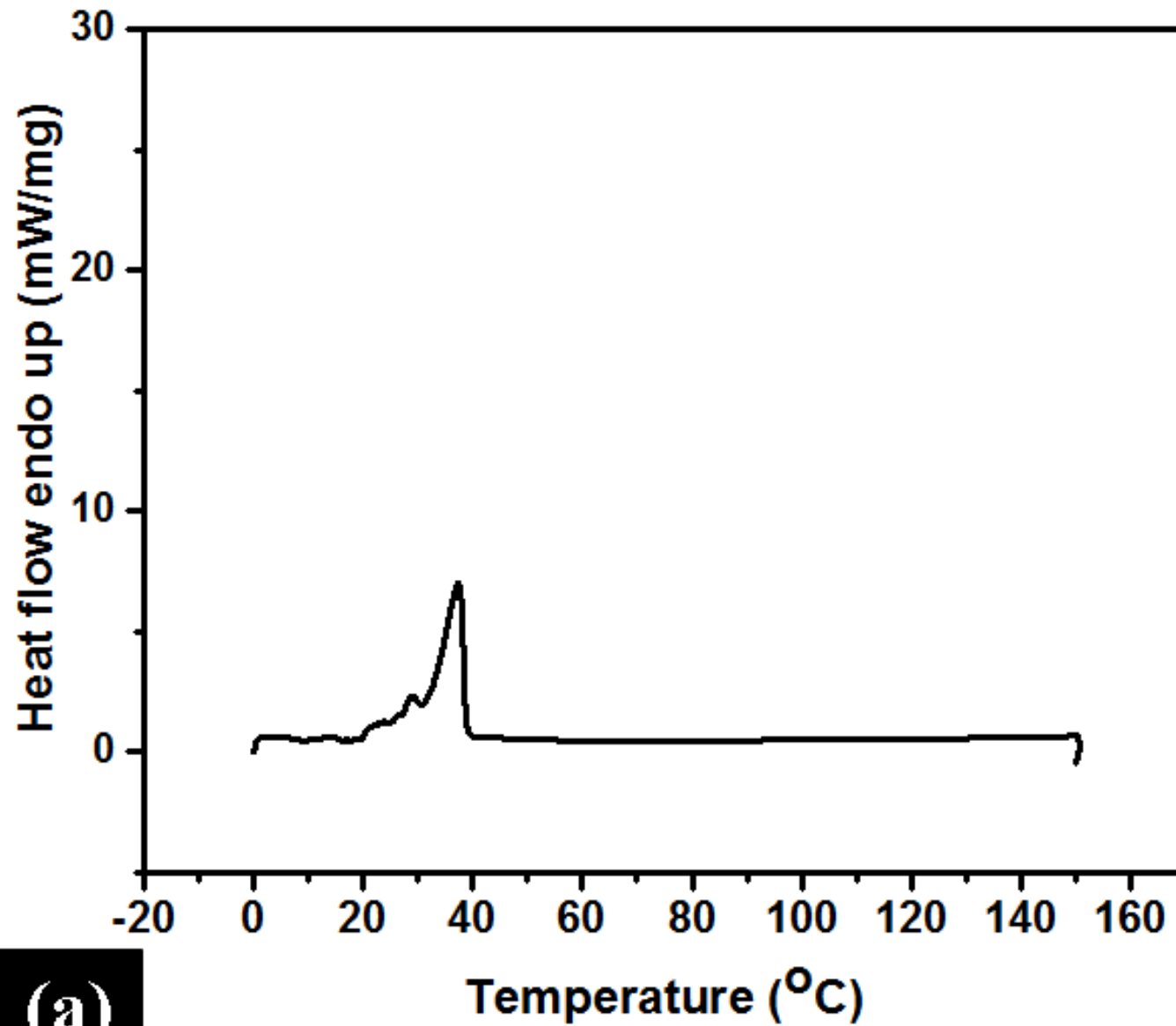


Figure 3: FTIR spectra of the samples: (a) C1, (b) C2, (c) C3, (d) C4, and (e) C5.



(a)

Figure 4: Thermal analysis of the samples.

Conclusion

- CB and WPI based emulgels were developed
- When the proportion of the CB was lower than 60%, the emulgels were destabilized
- Water-in-fat type of emulgels
- Form IV (β') and Form V (β) polymorphs of CB
- Viscoelastic nature of the emulgels
- Efficient carriers for antimicrobial drugs and probiotics

Acknowledgement

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Do your little bit of good where you are; it's those little bits of good put together that overwhelm the world.

-Desmond Mpilo Tutu

Thank You !!