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(54) **Title:** ENCAPSULATION OF LIVE MICROORGANISMS FOR GASTROINTESTINAL-TARGETED DELIVERY

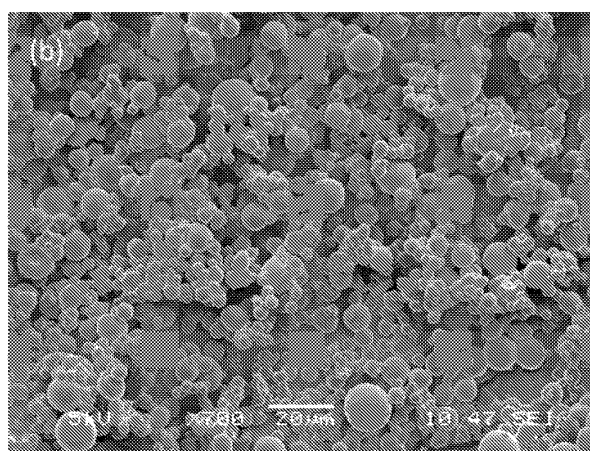


FIG. 1

(57) **Abstract:** The present invention relates to a method of forming polymeric microparticles housing live microorganisms, the method using the steps of (a) providing a microbial solution comprising a crosslinkable polymeric material compatible with live microorganisms; a protective agent; a microbial population; and water; and a crosslinking agent solution comprising a crosslinking agent and water; and (b) subjecting the microbial and crosslinking agent solutions to spray-drying using a co-axial nozzle configured to spray at least three fluids independently, thereby producing microparticles of a crosslinked polymeric material housing live microorganisms where the microbial solution and crosslinking agent solution are each sprayed through one of the innermost two channels of the co-axial nozzle and an atomizing gas is sprayed through the outermost channel. In a specific embodiment, the polymeric material is alginate, and the microbial population is selected from one or more of probiotic bacteria and/or a live biotherapeutic.

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