One Step Process of Forming Complex Coacervation During Spray Drying

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ABSTRACT

Researchers at the University of California, Davis have developed a formation of complex coacervate microparticles by spray drying.

FULL DESCRIPTION

Complex Coacervation is a process whereby the electrostatic association of oppositely charged macromolecules form an insoluble matrix. Conventional technology for forming complex coacervation microcapsules has been stagnant for decades as the complex multistep process remains an obstacle for industrial-scale production of microparticles.

Researchers at the University of California, Davis have developed methods and compositions of matter for the formation of complex coacervate microparticles by spray drying. The technology provides a one-step spray drying process to utilize polymers similar to those currently used in the conventional multistep processes without chemical crosslinking, enabling controlled release of a wide variety of potential substrates.

APPLICATIONS

- Formation of complex coacervation in one-step spray drying
- Microencapsulation of bioactive cargo for incorporation in functional foods, nutraceuticals, pharmaceuticals, cosmetics, agriculture and functional materials

FEATURES/BENEFITS

- Simplifies the process of complex coacervation by spray drying
- Does not need chemical crosslinking, thus eliminates the need for toxic chemicals
- Leads effective pH-controlled release barrier
- Enables high throughput microencapsulation of active compounds in complex coacervate matrices

PATENT STATUS

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