

Fabrication of Fluorescent Labeled
Bi-compartmental Particles via
the Micromolding Method

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Fluorescent labeled particles are materials widely used in the drug delivery system, self-assembly of particles, biosensors, and bioimaging. However, it is difficult to use it to study more complex particle systems using only single fluorescent labeled particles. Thus, there is an increasing demand for multi-fluorescent labeled multi-compartmental particles.

Herein, this study presents fabrication of bi-compartmental particles labeled by two kinds of fluorescence using the micromolding method. Compartmentalization of the fluorescence in bi-compartmental particles is verified by qualitative and quantitative analysis. Finally, by analyzing fluorescence intensity, we can confirm that fluorescence is stably expressed even after 4 weeks.

In conclusion, we fabricate bi-compartmental particles in which two kinds of fluorescence is completely compartmentalized and verify the fluorescence stability of these particles. We anticipate that these particle can be widely utilized in multi-step drug delivery system, analysis for 3 dimensional Brownian motion of particles, identification of complex self-assembled structures.