

Preparation of hydrogel beads encapsulating functional constituents for shower applications

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Shower filters are actively used for the purpose of removing residual chlorine and rust in tap water. Recently, the research to enable the elution of functional constituents such as aroma ingredients by further expanding the function of the shower filter is attracting attention. In this study, we developed mechanically tough hydrogel beads which can continuously elute functional constituents such as moisturizing oil and vitamin C. As the main component of the hydrogel beads, alginate, which is used as an additive for pharmaceuticals, cosmetics, and food, was chosen. As a result, the prepared beads were revealed to have high durability and the elution rate was appropriately controlled by using techniques such as photopolymerization, interfacial polymerization, and interpenetrating polymer network. This work was supported in part by the Technology development Program (S3086676) funded by the Ministry of SMEs and Startups and by the MEST (NRF-2019R1A2C1089286).