研 究 論 文

ポリ乳酸表面における微小繊維の加工条件とその濡れ性

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Processing conditions of microfibers on surface of poly (lactic acid) and their wettability

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Technology controlling of material surface wettability is important for imparting functionality to the material, and is thought to lead to the development of useful devices in the medical and environmental fields. Devices using Poly (lactic acid) (PLA) are sustainable, because PLA is derived from renewable resources like corn starch. Therefore, by examining the conditions processing the super water-repellent surface of PLA, the development of devices with low environmental impact can be expected. The purpose of this study was to clarify the relationship between the PLA microstructure and the processing conditions necessary to produce its super water-repellent surface. Therefore, the relationship between the processing conditions and the contact angle of water droplets on the processed PLA surface was evaluated. As a result, it was found that the conditions for fabricating the super water-repellent surface due to the pinning effect were clarified.

Keywords : Poly (lactc acid), surface wettability, super water-repellent surface, pinning effect.