Immobilization of polymer vesicles using inkjet printing

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Inkjet printing has the potential to be used in wide range of application because of advantages such as high precision and reproducibility for the deposition of various materials on virtually any surfaces. In this study, the polymer vesicle was prepared and immobilized on the various substrates such as glass fiber, membrane by physical adsorption using commercial inkjet printer. For the polymer vesicle, we prepared polydiacetylene vesicles having a property of colorimetric transition from blue to red color by external stimuli. Vesicles were prepared using these polymers and printed on the substrates. It was shown that by combining these methods multifunctional chemical or biological sensors for specific detectable substances can be fabricated very easily with short time comparing other deposition techniques.