

### Biodegradable polymer vesicles for Drug Delivery Carrier

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Polymer vesicles are self-assembled from synthetic polymers and are now being engineered to perform carrying, targeting, and releasing ingredients (drugs, enzymes, and dyes). Compared to lipid-based vesicles (liposomes), polymer vesicles have potential for more improved mechanical properties and more advanced chemical functionalization and physiological application. In this study, polymer vesicles was designed by grafting together a copolymer using methoxy poly(ethylene glycol)(MPEG), poly(D,L-lactide)(PLA), poly( $\beta$ -amino ester)(PAE). Properties of polymer vesicles have been evaluated by various means.