# Preparation and evaluation of performance of high functional biodegradable biomaterial for acetaminophen recognition

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In this study, high functional biodegradable films for acetaminophen recognition are prepared by using chitosan, polyvinyl alcohol (PVA), and acetaminophen imprinted nano-sized copolymer particles (ATP-INSP) ATP-INSP are synthesized by the method of emulsion polymerization. The morphology of ATP-INSP and prepared high functional biodegradable films was observed by the scanning electron microscope (SEM). The mechanical properties such as tensile strength (TS) and elongation at break (%E) were also investigated. To evaluate the binding characteristics of high functional biodegradable films with/without the addition of ATP-INSP, the adsorption-desorption properties of the prepared films is investigated by equilibrium binding experiment, measuring the adsorbed amounts for ATP and their structural analogue, and the selectivity factor ( ). The results of the evaluation analysis indicate that the prepared high functional biodegradable films have high separation abilities and selectivity.