



## ABSTRACT

The objective of this work was to evaluate the micrometric properties, water absorption capacity, and stimulus-induced swelling-deswelling (on-off switching), Stimuli included temperature, pH and saline. Quince hydrogel (quince hydrogel (QH)) was shown to have an extraordinary capacity to retain water. Quince hydrogel (QH) shows remarkable swelling in with the increase in temperature. While water and basic buffers (pH 7.2 and 8.0) favored hydrogel swelling, acidic buffers substantially promoted hydrogel deswelling (pH 2.2). Quince hydrogel (QH) de-swells when exposed to salt solutions (KCl and NaCl) and ethanol.