

ELECTRONIC SUPPLEMENTARY INFORMATION

Release study of Ketoprofen

Preparation of the hydrogels with ketoprofen

2 mg of gelator **1** and 0.5 mg of ketoprofen were dissolved in 0.5 mL of hot water in a screw capped vial. Then the mixture was kept during 1 minute under sonication and sudden cooling at 25 °C, yielding a translucent hydrogel.

Three drug loaded hydrogels were prepared and 1 mL of different solutions was added on top of the gel phase.

- a) 1 mL of a solution of 3-phenylpropanal (20 mM).
- b) 1 mL of a solution of acetaldehyde (20 mM).
- c) 1 mL of water.

After 30 minutes the system **a** turned into a solution (100 % release) and the systems **b** and **c** were not affected macroscopically. When the solutions of **b** and **c** were studied via UV measurements in function of the time during 30 minutes, in any case an increase of absorbance at 254 nm (characteristic absorption band of ketoprofen) was detected in the UV spectra. This result suggested that in the absence of aldehyde (system **c**) or in the presence of hydrophilic aldehyde (system **b**) there were not release of the ketoprofen (< 5 % of release).

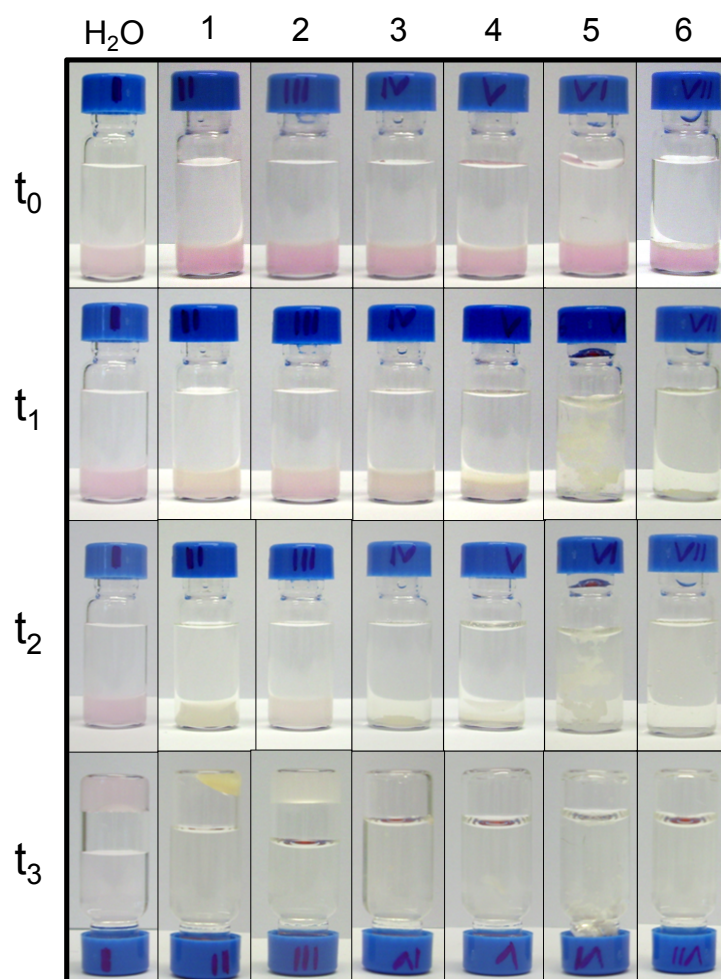


Figure S1. Macroscopic aspect of the gels upon addition of different aldehydes (20 mM) in the presence of Phenol Red: 1) acetaldehyde (AC), 2) propanal (PR), 3) Pentanal (PN), 4) Benzaldehyde (BZ), 5) Phenylacetaldehyde (PAC), 6) 3-Phenylpropanal (3PPR). $t_0 = 0$ h; $t_1 = 1$ h; $t_2 = 6$ h; $t_3 = 72$ h.

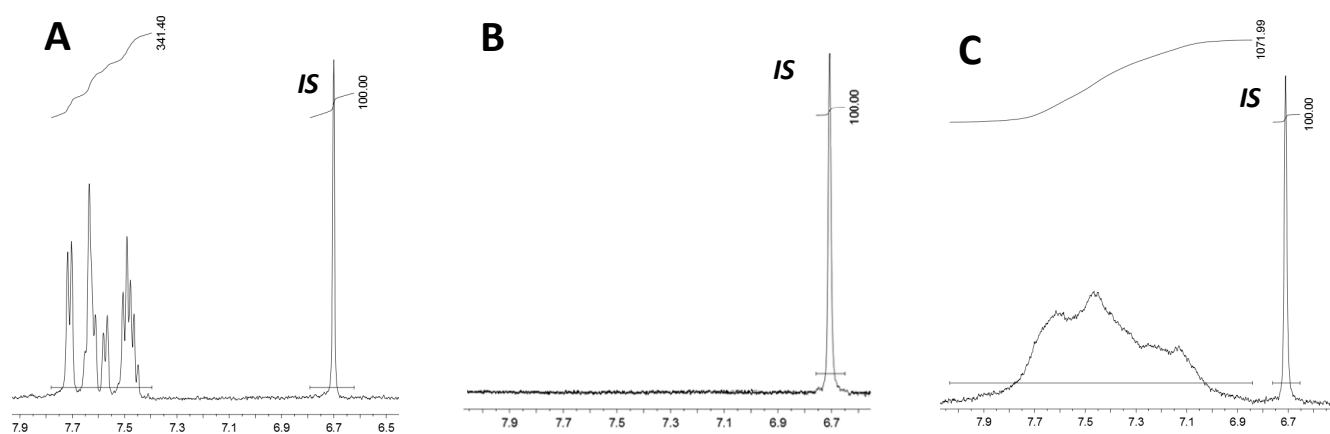


Figure S2 Aromatic region of ^1H NMR spectra of A) ketoprofen (1 mg/mL), B) hydrogel **1** and C) ketoprofen (1 mg/mL) + hydrogel **1**. Internal standard (IS) = hydroquinone.