SUPPORTING INFORMATION

Synthesis of high payload nanohydrogels for the encapsulation of hydrophilic molecules via inverse miniemulsion polymerization: caffeine as a case study

Fiora Artusio[1], Ada Ferri[1], Valeria Gigante[1],

Daniele Massella[1], Italo Mazzarino[1], Marco Sangermano[1], Antonello Barresi[1],

Roberto Pisano[1]*

[1] Department of Applied Science and Technology, Politecnico di Torino, corso Duca degli Abruzzi 24, 10129 Torino, Italy

*Corresponding author, e-mail: roberto.pisano@polito.it, Tel. +39 011 0904679

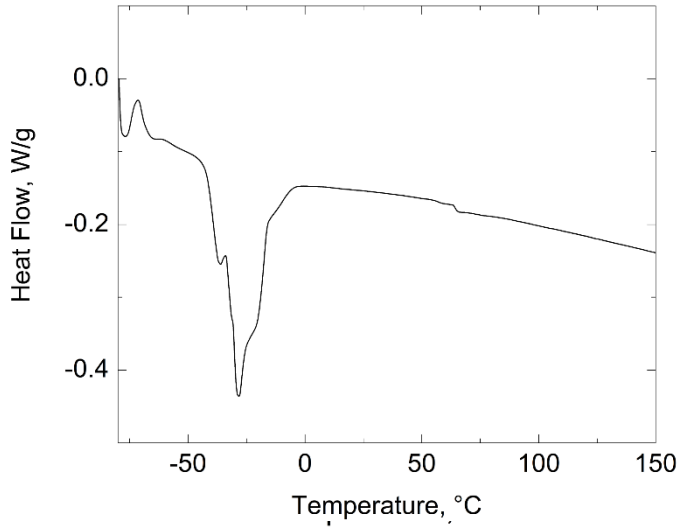

Figure S1. DSC of pristine sunflower oil. The endothermic peaks between -40 °C and 0 °C are related to the melting of the oil.

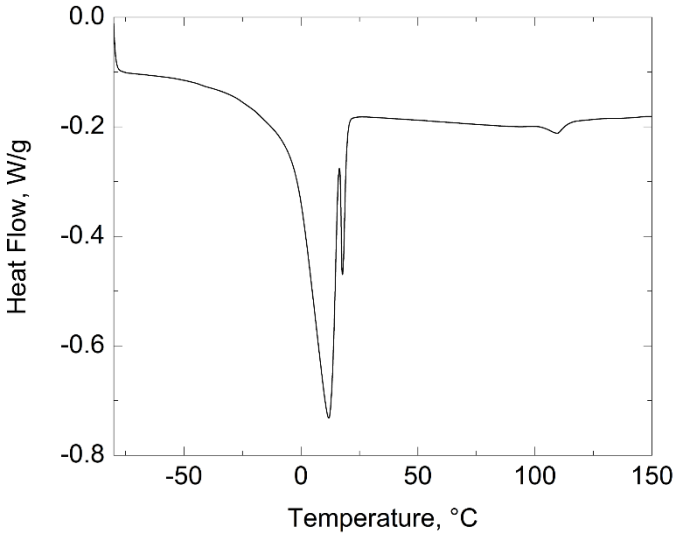

Figure S2. DSC of pristine PEGDA. The monomer melting peak is located between 12 and 17 °C.

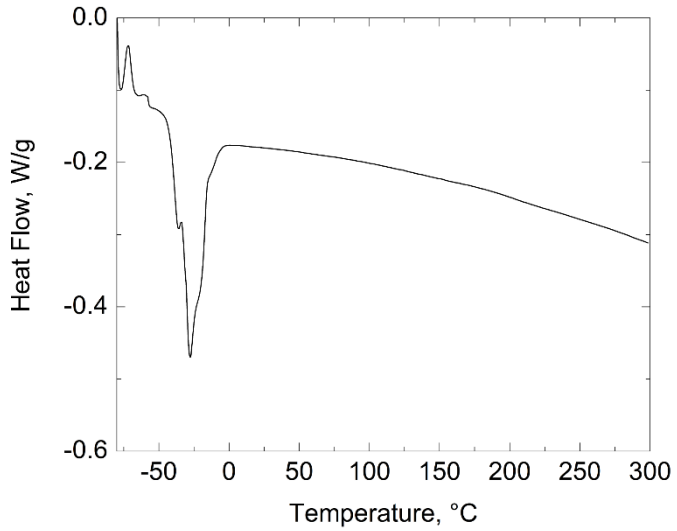

Figure S3. DSC of the polymeric residue loaded with caffeine. The monomer melting peak is absent, suggesting that the presence of the active principle did not alter the effective crosslinking of the material.

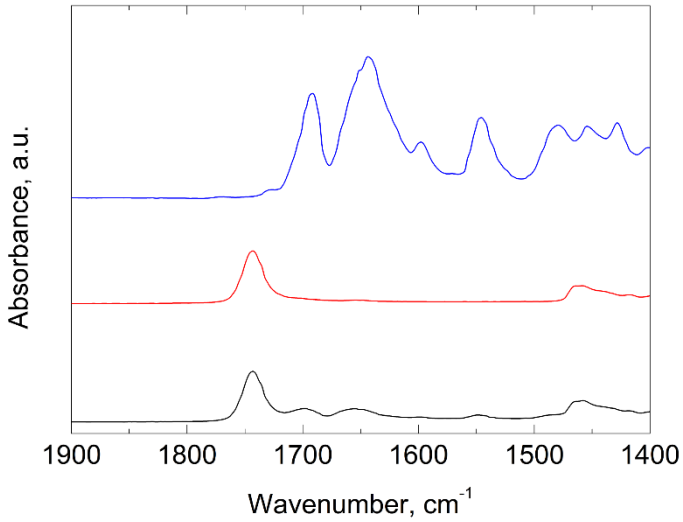

Figure S4. FTIR-ATR spectra of caffeine (blue curve), sunflower oil (red curve) and sunflower oil containing traces of caffeine (black curve).

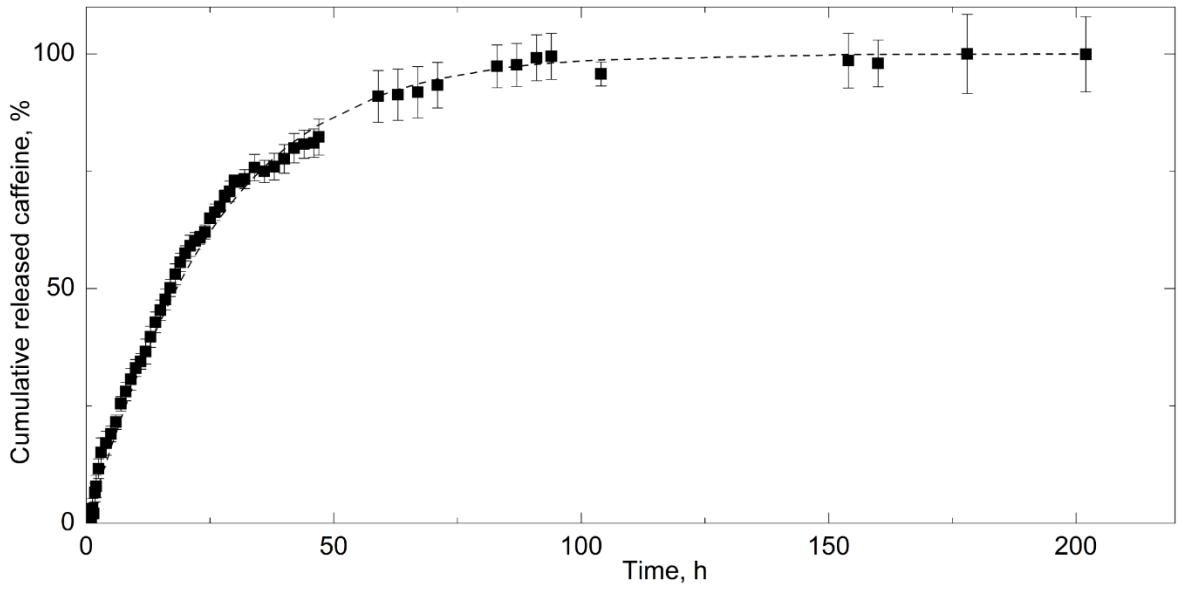

Figure S5. Fitting of the experimental data (■) concerning the release of caffeine from the nanohydrogel suspension with the Weibull model (dashed line).