

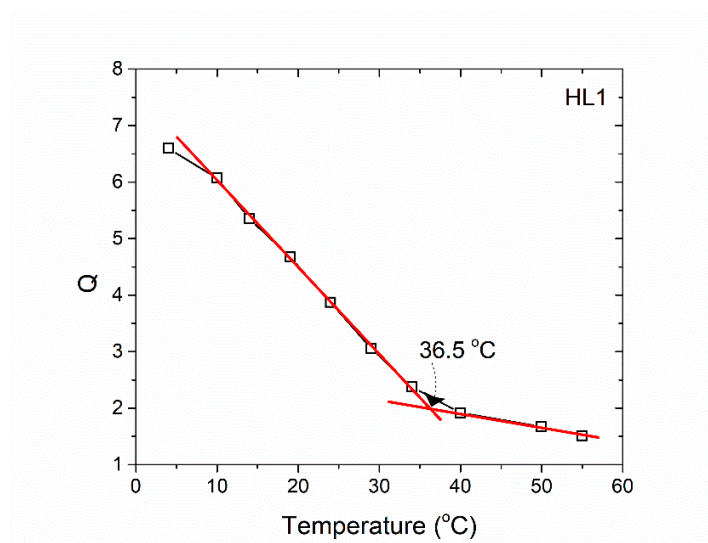
## Supplementary material

# Poly(*N*-Vinylcaprolactam)–Gold Nanorods–5 Fluorouracil Hydrogels: In the Quest of a Material for Topical Therapies against Melanoma Skin Cancer

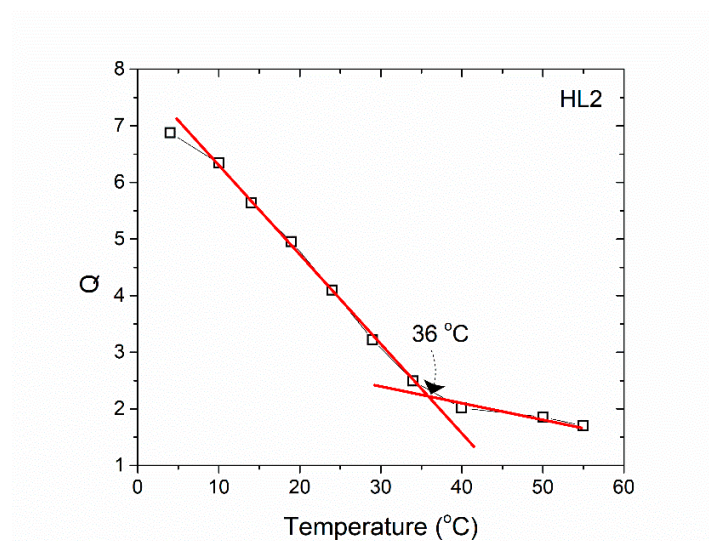
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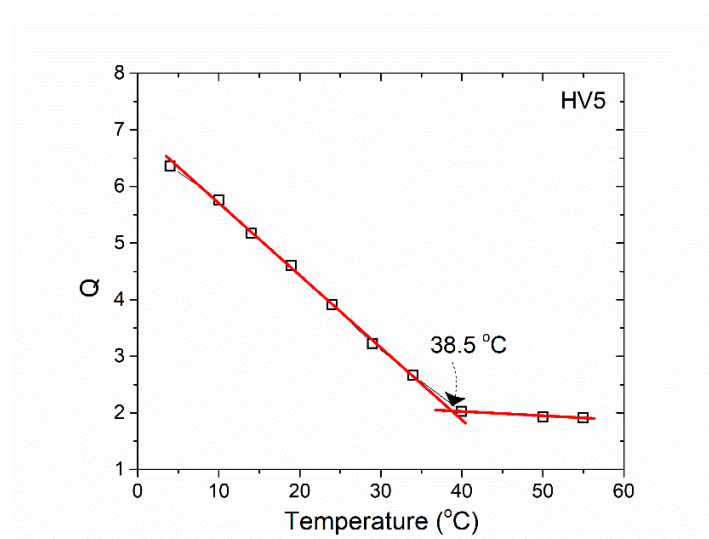
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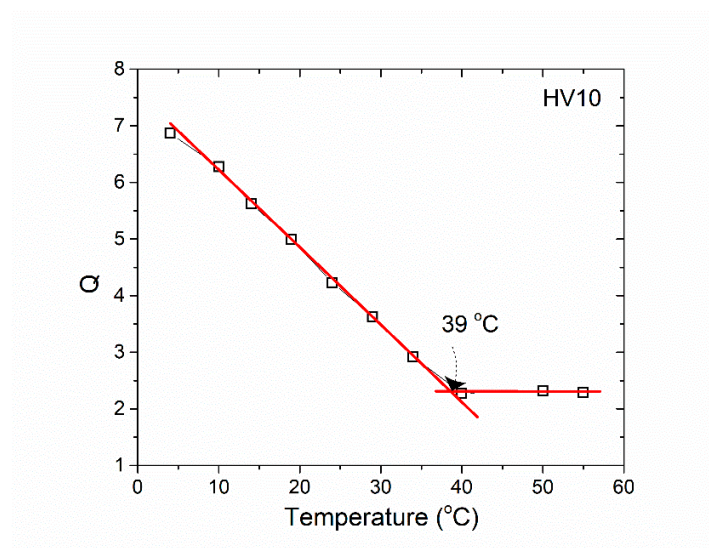
**Figure S1.** Equilibrium swelling degree (Q) as function of temperature of HG-NVCL-L1.



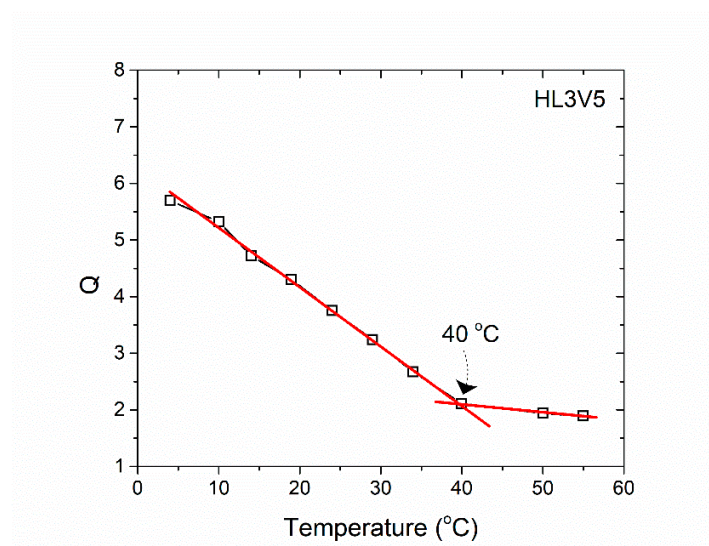
**Figure S2.** Equilibrium swelling degree ( $Q$ ) as function of temperature of HG-NVCL-L2.



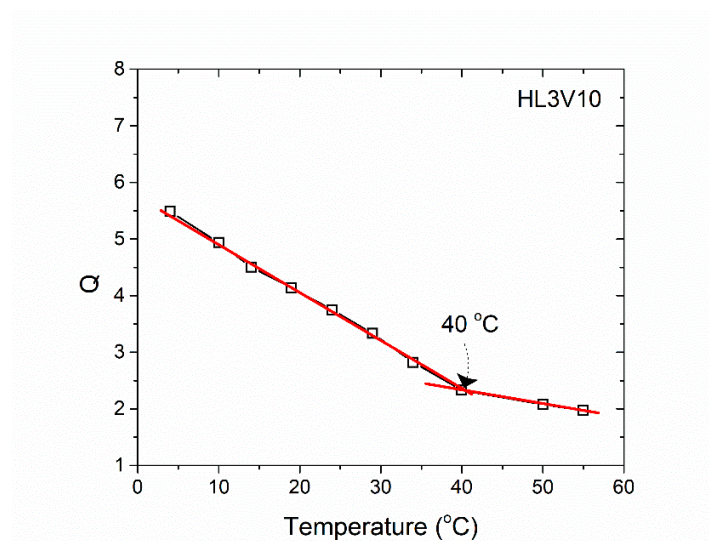
**Figure S3.** Equilibrium swelling degree ( $Q$ ) as function of temperature of HG-NVCL-VP5.



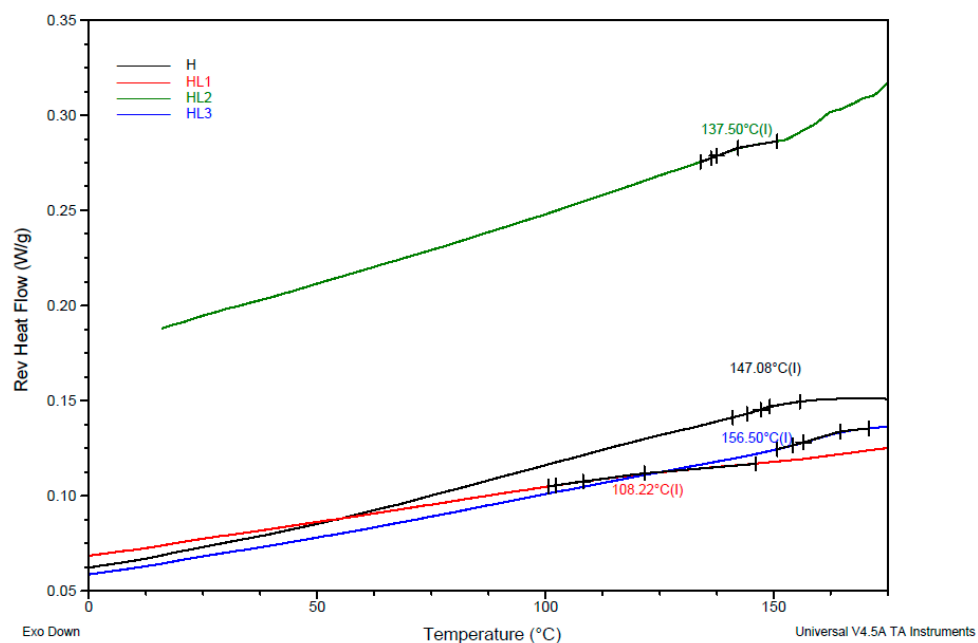
**Figure S4.** Equilibrium swelling degree ( $Q$ ) as function of temperature of HG-NVCL-VP10.



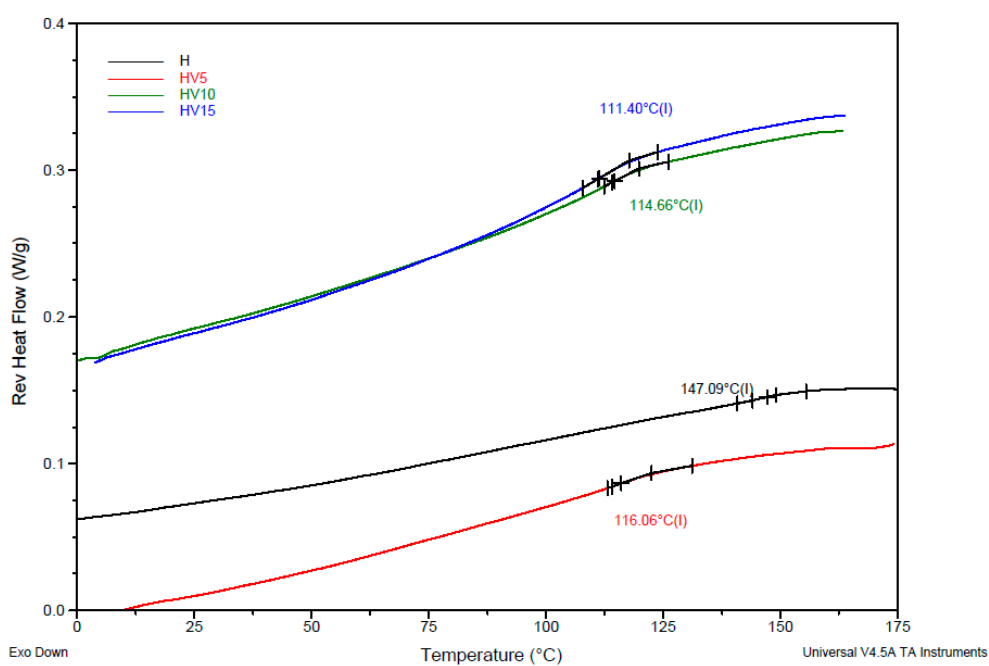
**Figure S5.** Equilibrium swelling degree ( $Q$ ) as function of temperature of HG-NVCL-L3-VP5.



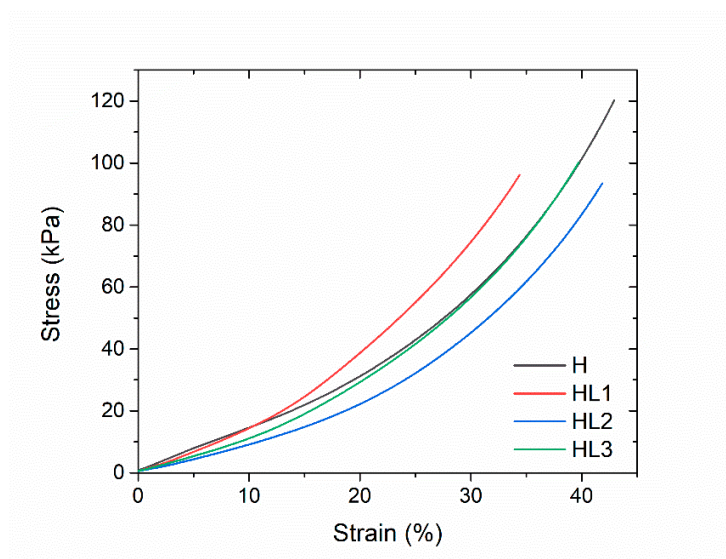
**Figure S6.** Equilibrium swelling degree ( $Q$ ) as function of temperature of HG-NVCL-L3-VP10.



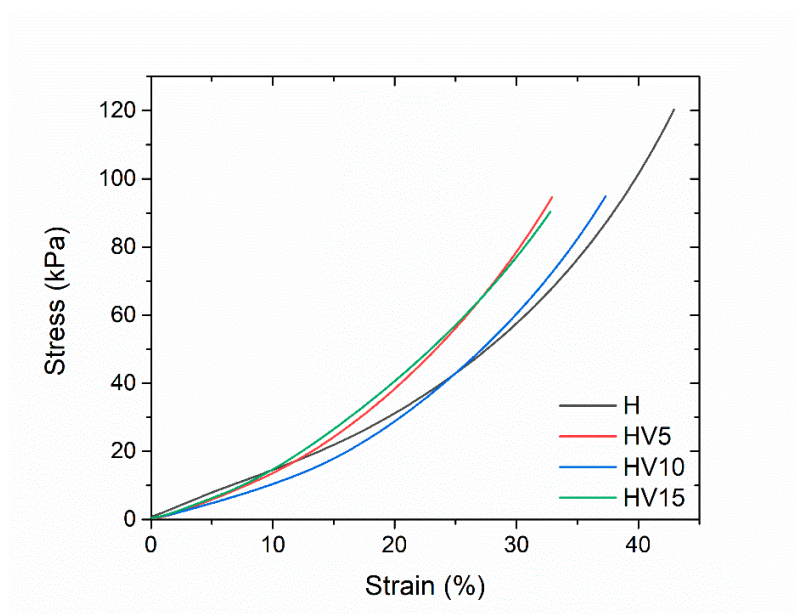
**Figure S7.** DSC thermograms of NVCL-based hydrogels copolymerized with LAMA.



**Figure S8.** DSC thermograms of NVCL-based hydrogels copolymerized with NVP.

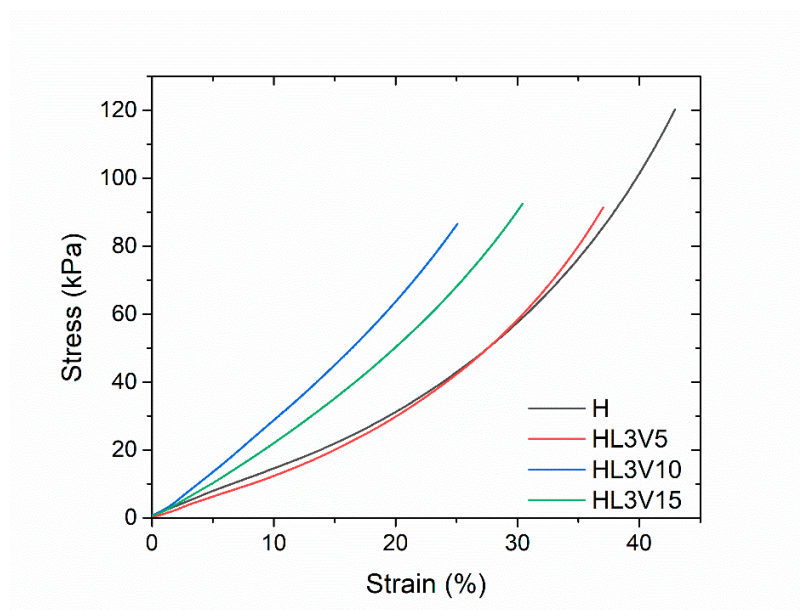


**Figure S9.** Stress-strain compression curves under submersion in water at 37 °C, for NVCL-hydrogels with LAMA.

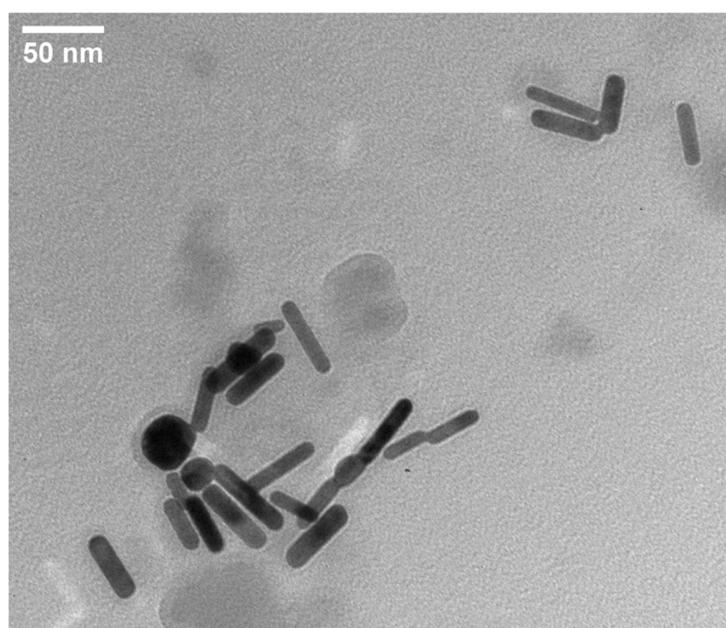


**Figure S10.** Stress-strain compression curves under submersion in water at 37 °C, for NVCL-hydrogels with NVP.

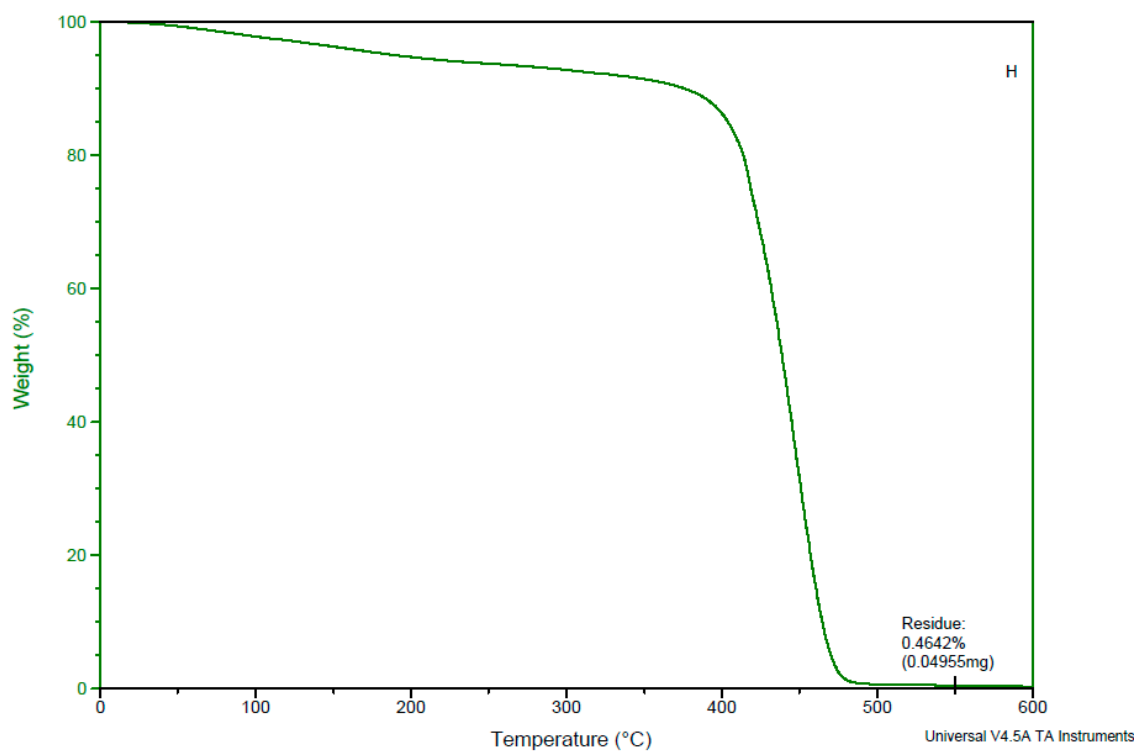




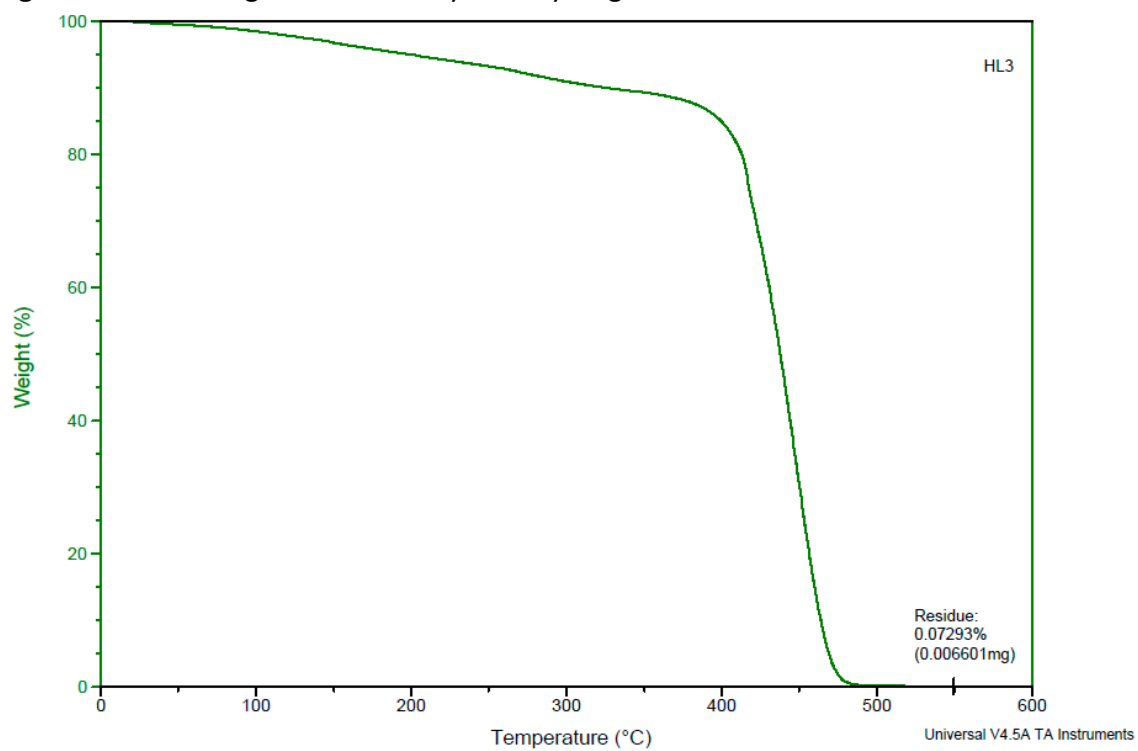
**Figure S11.** Stress-strain compression curves under submersion in water at 37 °C, for NVCL-hydrogels with LAMA and NVP.



**Figure S12.** TEM micrograph of colloidal gold nanorods of aspect ratio of 4.2.

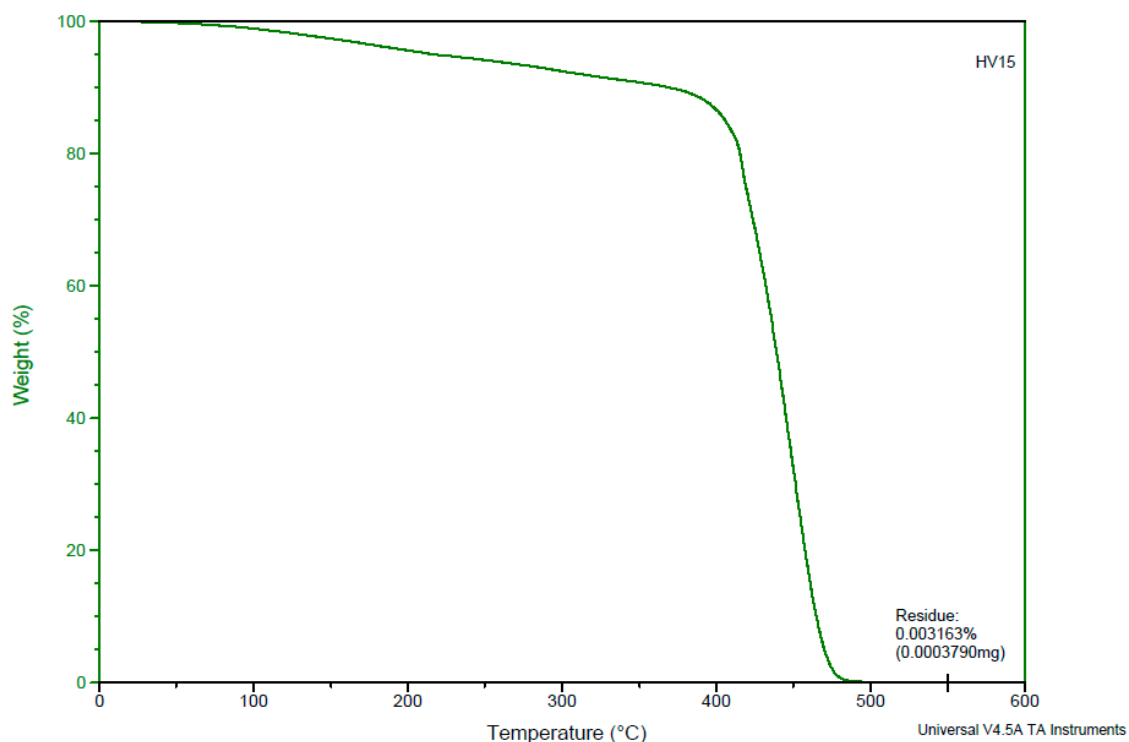


**Figure S13.** Thermogravimetric analysis of hydrogel H.

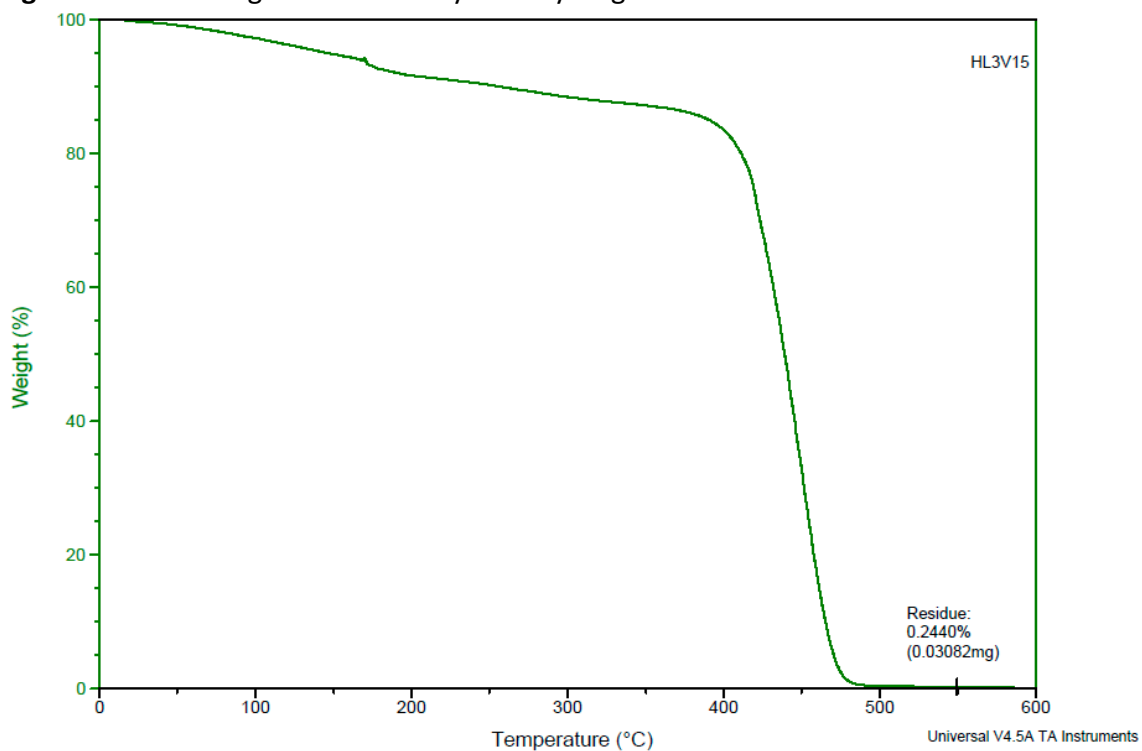


**Figure S14.** Thermogravimetric analysis of hydrogel HL3.

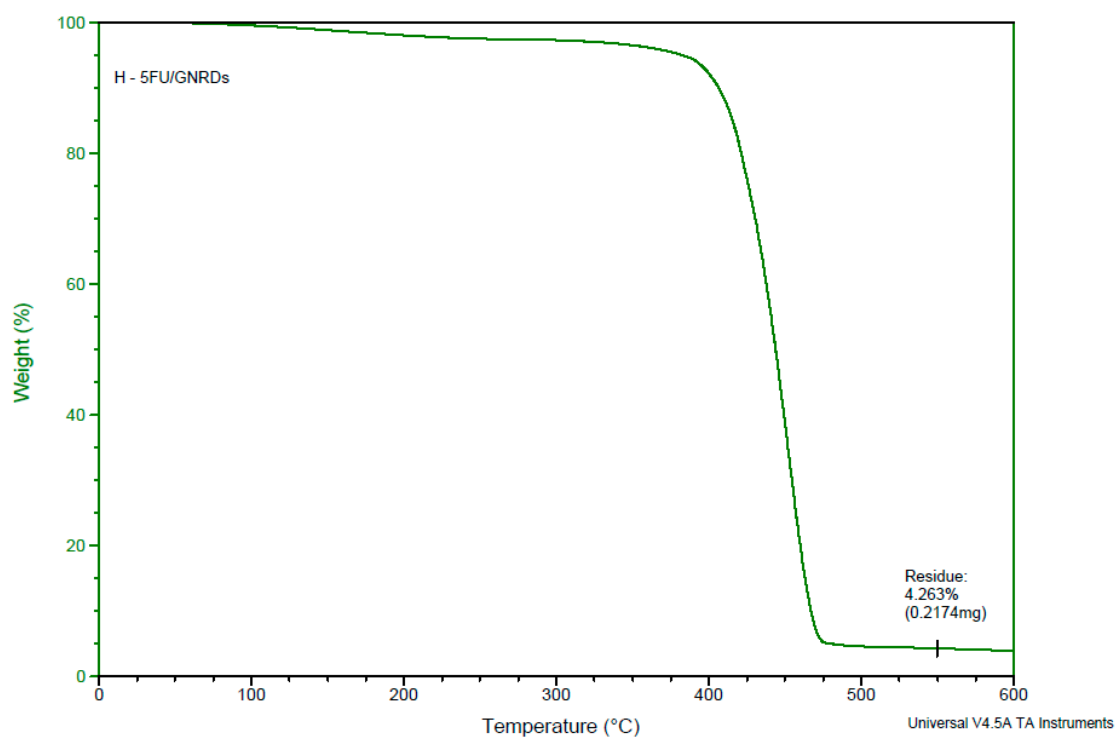




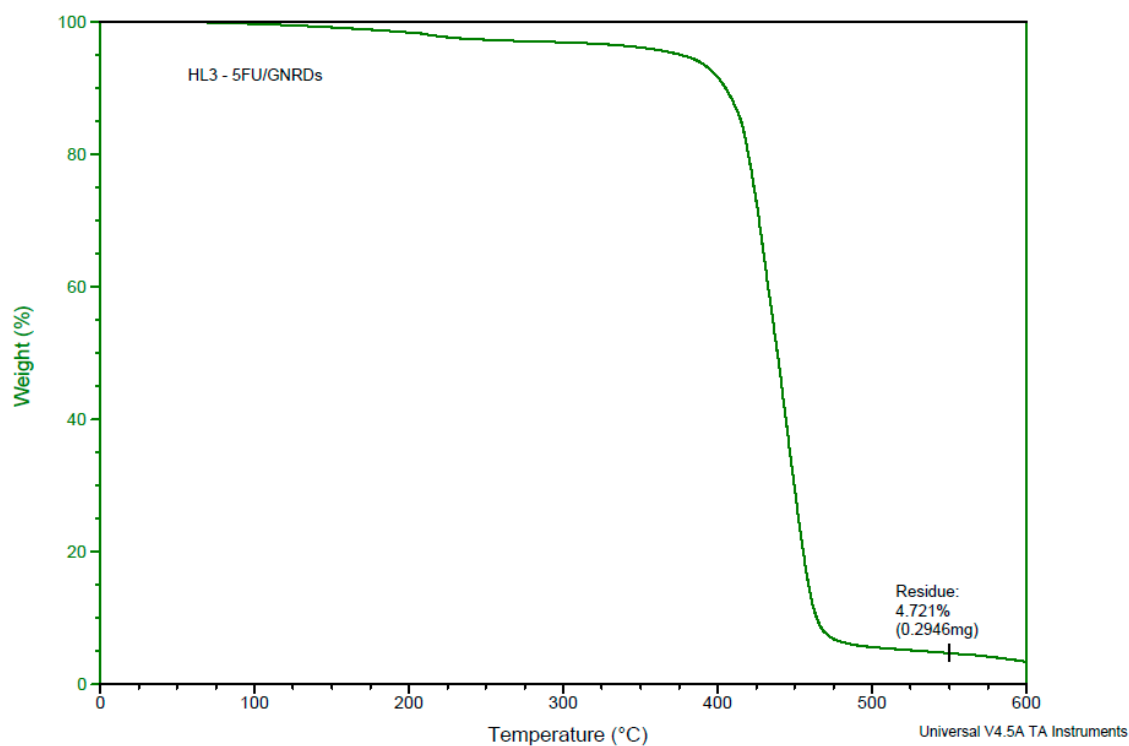
**Figure S15.** Thermogravimetric analysis of hydrogel HV15.



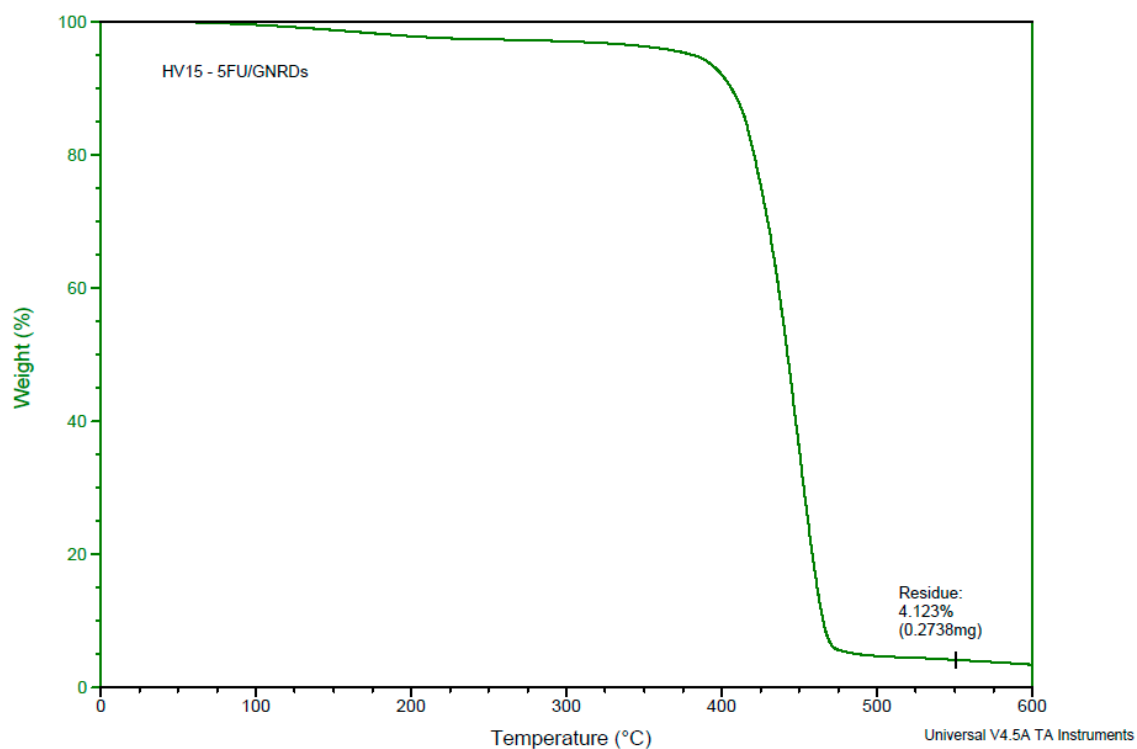
**Figure S16.** Thermogravimetric analysis of hydrogel HL3V15.



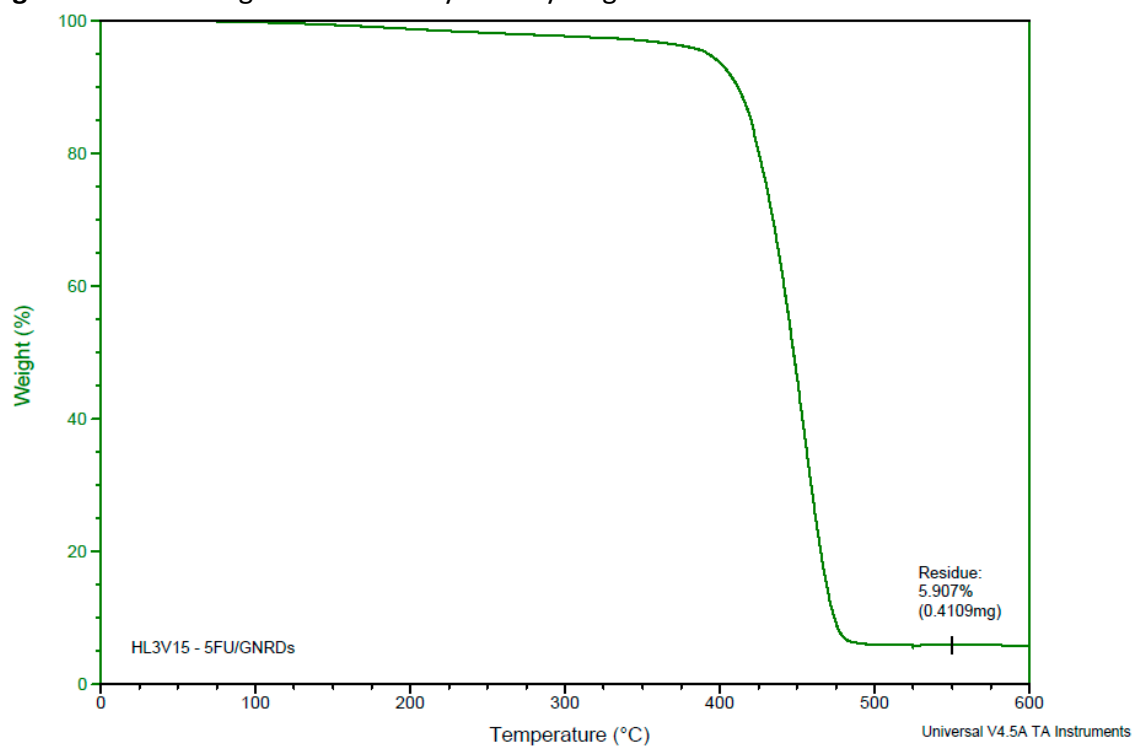
**Figure S17.** Thermogravimetric analysis of hydrogel H loaded with 5FU and GNRDs.



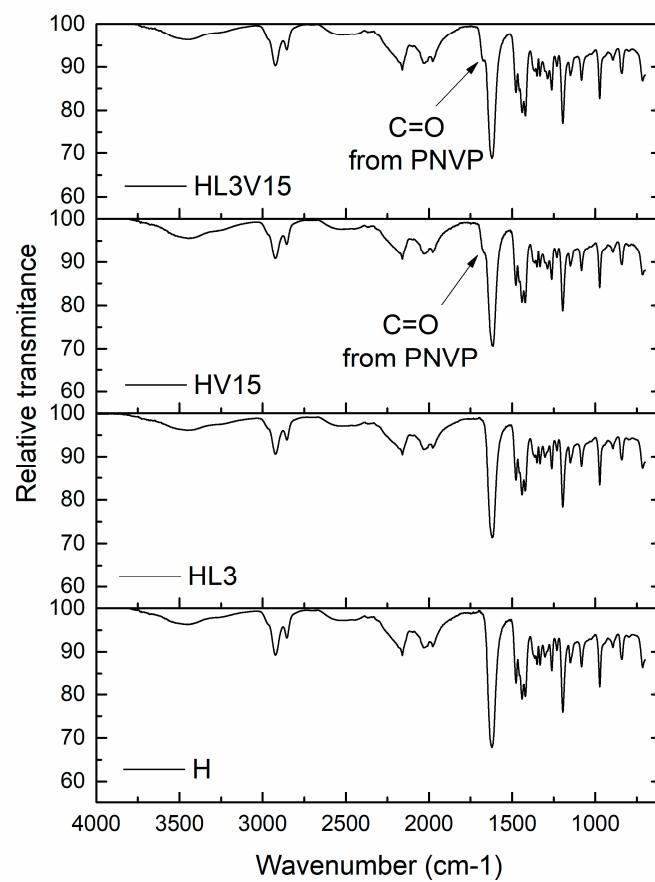
**Figure S18.** Thermogravimetric analysis of hydrogel HL3 loaded with 5FU and GNRDs.



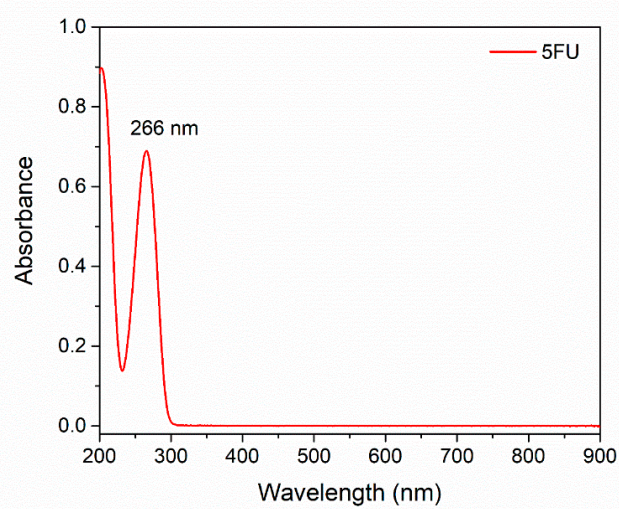
**Figure S19.** Thermogravimetric analysis of hydrogel HV15 loaded with 5FU and GNRDs.



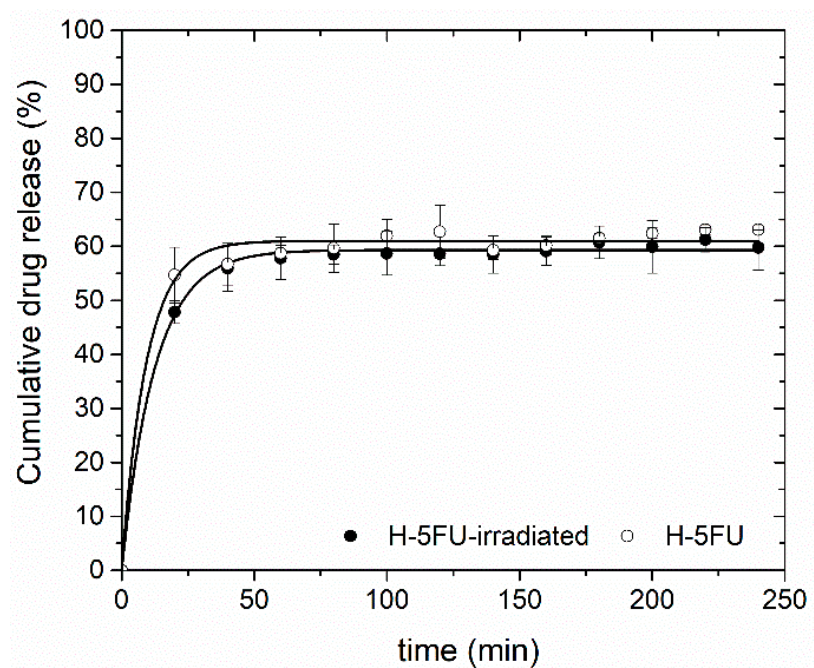
**Figure S20.** Thermogravimetric analysis of hydrogel HL3V15 loaded with 5FU and GNRDs.



**Figure S21.** FT-IR spectrum for hydrogels: H, HL3, HV15 and HL3V15.



**Figure S22.** UV-Vis spectrum of 5FU.



**Figure S23.** Cumulative 5FU release form PNVCL hydrogel (H), containing only 5FU, with and without NIR irradiation.