Supporting Information:

Text S1. Analysis of pore size of hydrogels.

Pores of all sizes are found on the surface and within the hydrogel structure. GelMA hydrogel features large pores with an average size of approx. 40.83 μm and the pore size distribution appear to be uneven. The space between large pores was filled with small pores. In comparison, uniform pore distribution results were observed for the GelMA/KC hydrogels, of which 10% GelMA/1% KC (24.56 μm) group and 10% GelMA/0.5% KC (17.77 μm) group are somewhat larger than in the case of 8% GelMA/1% KC (16.99 μm) group and 8% GelMA/0.5% KC (13.40 μm) group. This may be suggestive of crucial roles in changing the porosity of hybrid hydrogels.

Text S2. Detailed analysis of swelling ratio and equilibrium water content of the samples.

The swelling ratio and equilibrium water content of all the samples studied is above 90%. Because of the layered structure of KC hydrogel and the large pore size of GelMA hydrogel, swelling ratio and equilibrium water content are apparently lower than that of GelMA/KC hydrogel. That means the introduction of double networks increases swelling ratio and equilibrium water content in all the groups regardless of their formula. Among them, results in 8% GelMA/1% KC group tends to be the highest, because the two groups show the minimum pore diameter and the most compact microstructure.

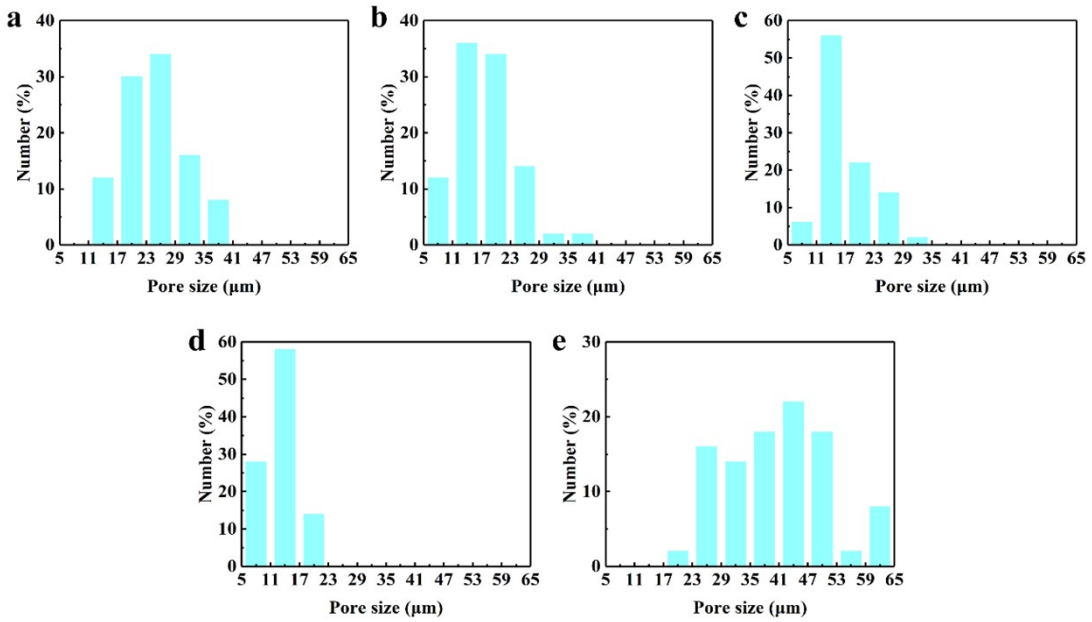

Figure S1. Pore size distribution for (a) 10% GelMA/1% KC, (b) 10% GelMA/0.5% KC, (c) 8% GelMA/1% KC, (d) 8% GelMA/0.5% KC, (e) 10% GelMA.

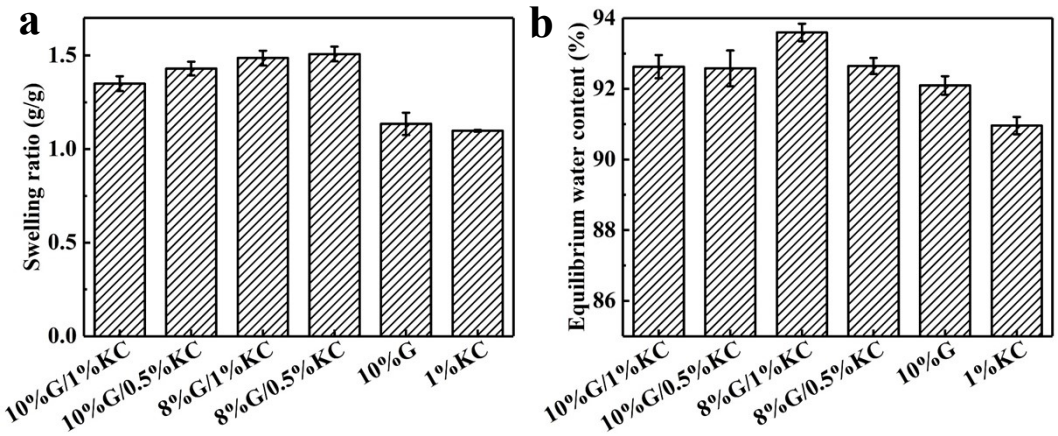

Figure S2. (a) Swelling ratio, (b) equilibrium water content of different hydrogels for 24 h.