

Does rheology affect storage modulus in a gel-like state?

One can see the correlation between the rheology of typical yielding materials (presented by the flow curves) and the frequency independence of the storage modulus in the gel-like state (at low stresses) . Figure 5.

What is the storage modulus of cross-linked gels?

The storage modulus of cross-linked gels were determined via a DHR-1 rheometer (TA Instrument, USA), equipped with a parallel plate geometry (40 mm diameter and 1 mm gap) at 25 °C.

Do Gelma hydrogels change storage modulus?

GelMA hydrogels created from materials with low DS exhibited the greatest difference in storage modulus (G') across the temperature sweep. For Low GelMA hydrogels photocured after incubation at 4 °C and 37 °C, the change in storage modulus (G') was 21% and 81%, respectively. A similar trend was exhibited for both the Mid and High GelMA hydrogels.

What is the storage modulus of Gelma?

Several publications report storage moduli greater than 5000 Pa, primarily in GelMA with concentrations greater than 10 wt%. 18,20,51,86 Limited cell invasion was observed in piscine GelMA with low DS polymerized at 4 °C with the lowest storage modulus (G') of 294 Pa.

What is storage modulus?

The storage modulus is a measure for the portion of the deformation energy introduced through the motor movement and elastically stored in the sample, which gathers information on the inner structure of three-dimensional network in gel system.

Which DS gel has the lowest storage modulus?

Piscine GelMA had the lowest storage moduli for all degrees of substitution, with non-significant differences in storage moduli for high and mid degrees of substitution, and the lowest storage modulus (G') of all the samples for the low DS gels.

Direct preparation of the gel sample in the rheometer cell avoided any pre-shear of the gel structure during the filling of the rheometer. The storage modulus of the gel grew ...

Download scientific diagram | Storage modulus (G') and loss modulus (G'') of gel samples prepared with different concentrations of silica nanoparticles. from publication: Study on a ...

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