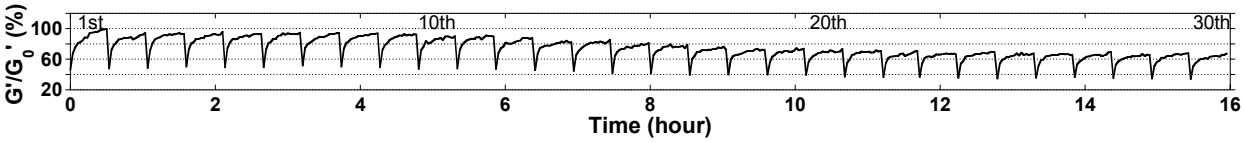

Figure S1. Repeated recovery of the hydrogel from shear-induced breakdowns. Thirty cycles of hydrogel recovery were shown here. G_0' denotes the value of the initial elastic modulus after 30 minutes of gelation. The gradual decrease of G′ is likely caused by water evaporation from the hydrogel sample inside the rheometer. [1] The sample volume in the rheometer decreased from 1.4 ml to 1.2 ml during the course of measurement, which lasted *ca*. 16 hours. Also, HPLC analysis of recuperated hydrogel samples after rheological measurements showed no sign of peptide degradation. As shown by fig. 3a, the initial gelation curve and the first recovery curve almost overlap. Similarly, if we overlay any two consecutive recovery curves in fig. 3d and S1, they are almost identical. Hence, the main conclusion of this work, that the hydrogel formed by KVW10:EVW10 pair can recover rapidly from shear-induced breakdowns, is not affected by the slow water evaporation from the rheometer.

Reference:

1) Schneider, J. P.; Pochan, D. J.; Ozbas, B.; Rajagopal, K.; Pakstis, L.; Kretsinger, J. *J. Am. Chem. Soc.* **2002,** 124, 15030-7.