Electronic Supplementary Material (ESI) for Nanoscale Advances.

Supplementary Information for

Bioinspired Photo-crosslinkable Self-assembling Peptide with pH-Switchable "On–Off" Luminescence

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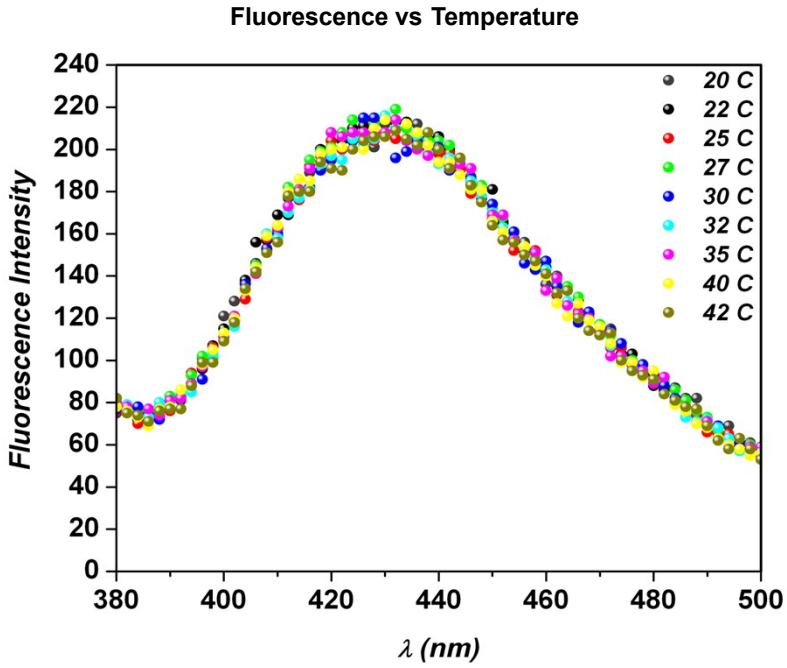

Figure S1. Temperature-dependent fluorescence intensity of peptide moiety after photo-cross-linking. No fluorescent decay was observed in the range of 20–42°C

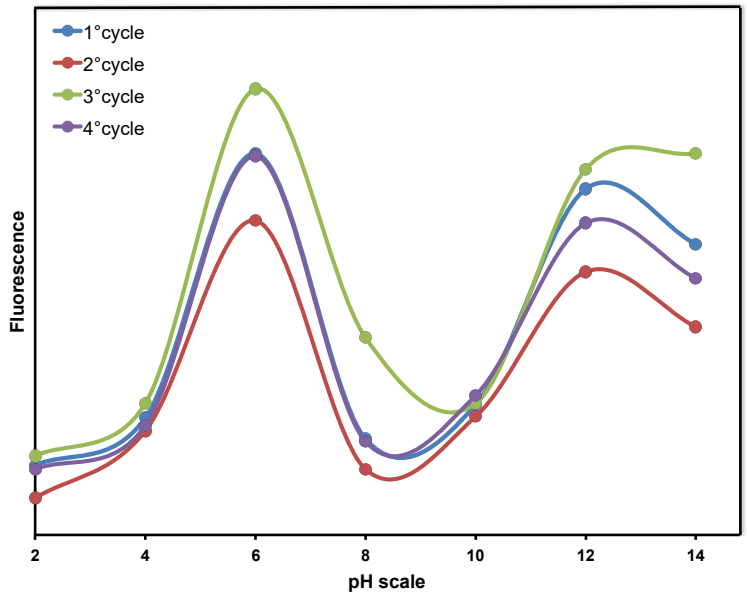

Figure S2. Reversibility of "on−off" luminescence of photo-cross-linked 33Y SAP subjected to multiple cycles of pH shifts.

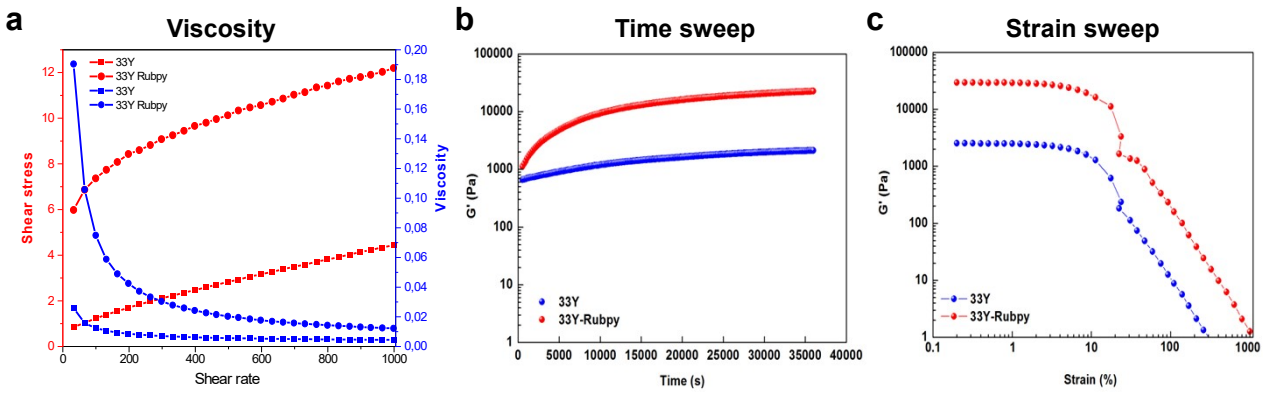

Figure S3. Mechanical properties of 33Y and 33Y photo-cross-linked peptides. (a) Viscosity measurements at increasing shear rate of both peptides, showing non-Newtonian shear-thinning behavior with a decrease of viscosity as the shear-rate increase. (b) Kinetics of self-assembling and photo-cross-linking of peptide solutions monitored via a 10 h time-sweep test. For both peptides, G' trends showed typical hydrogel-like profiles, suggesting that the ruthenium photo-cross-linking does not hamper the assembly of LDLK12 backbone. (c) Strain failure tests within the linear viscoelasticity region, showing that breakage occurred for both peptides at ∼12% of strain.

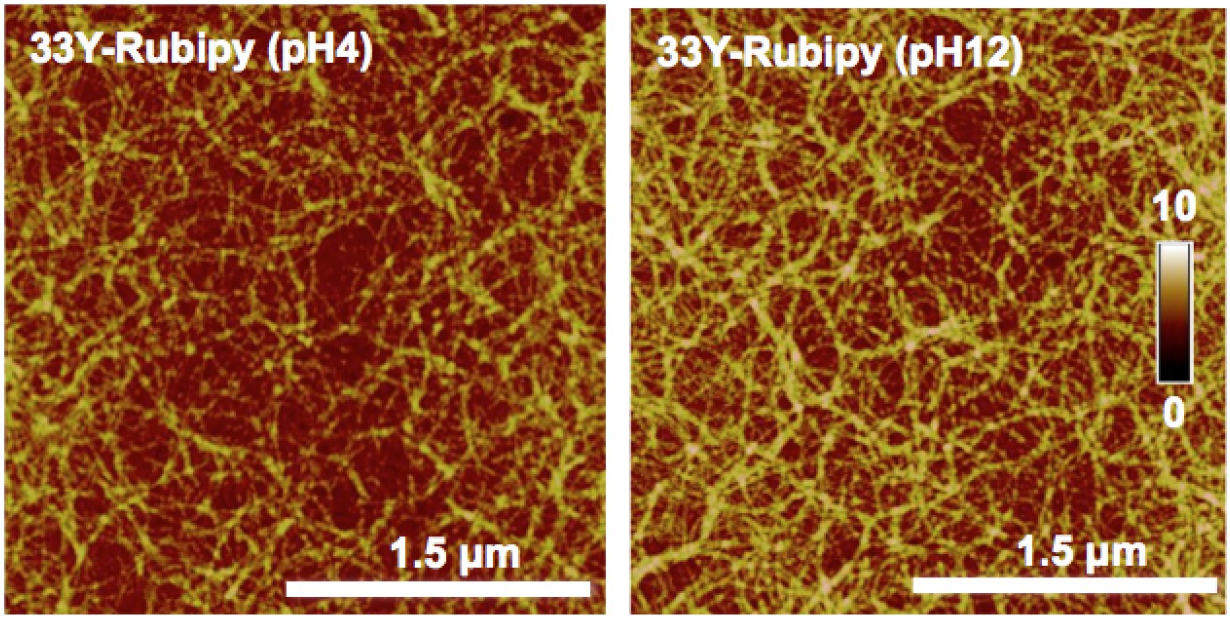

Figure S4. AFM images of 33Y photo-cross-linked peptides at pH4 and pH12. The nanofibrous structure of the photo-cross-linked SAP is preserved.