

Supporting Information

**Hydrogen Bonding-based Strongly Adhesive
Coacervate Hydrogels Synthesized Using Poly(N-
vinylpyrrolidone) and Tannic Acid**

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Supporting figures

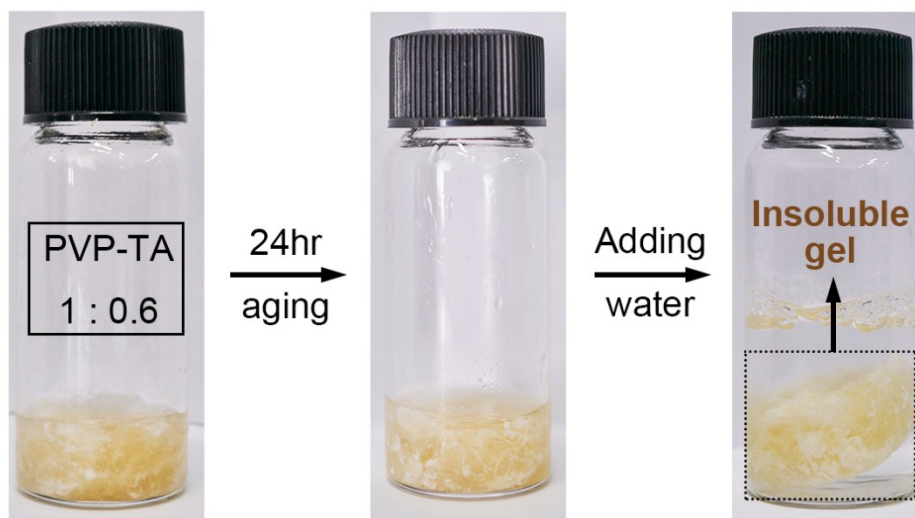


Figure S1. Images for redissolution testing of 24 h-aged h-PVP-TA coacervate hydrogel in water.

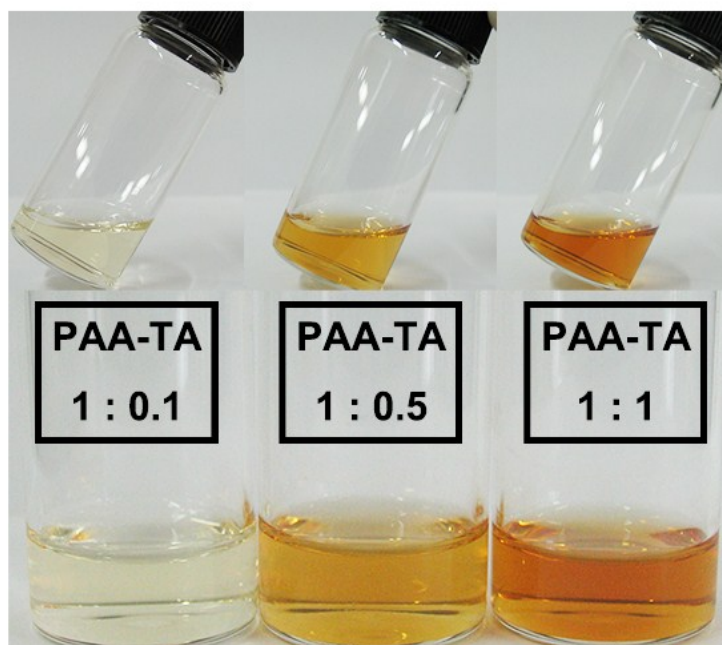


Figure S2. Images of the complexed sol of PAA-TA according to the concentration variations of TA.

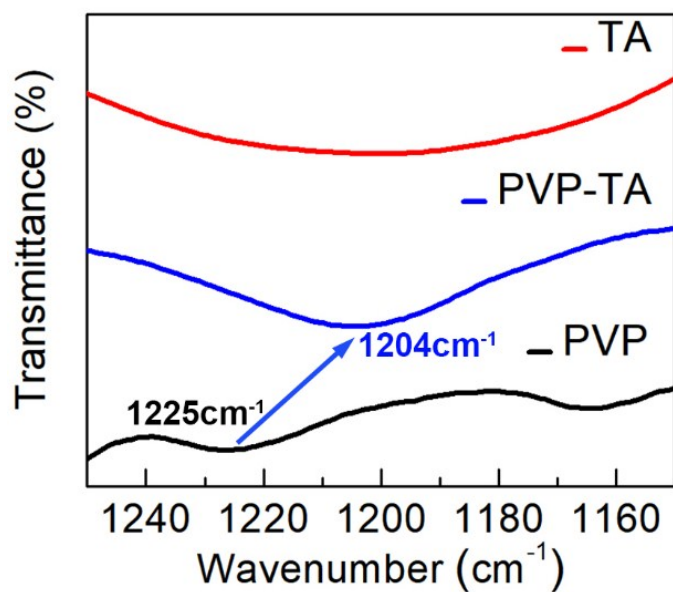


Figure S3. Magnified FTIR data of TA, PVP, and PVP-TA cocervate hydrogel (wavenumber range of 1,150 ~ 1,250 cm^{-1}).

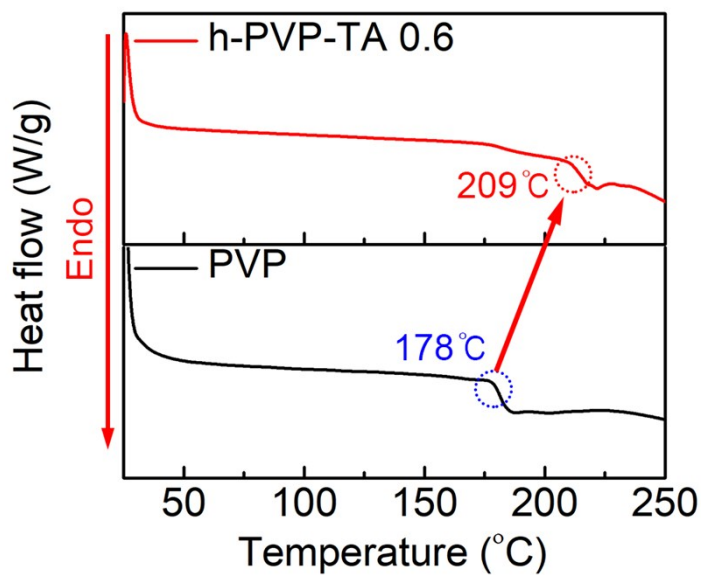


Figure S4. DSC plots for pure PVP and h-PVP-TA complexes.

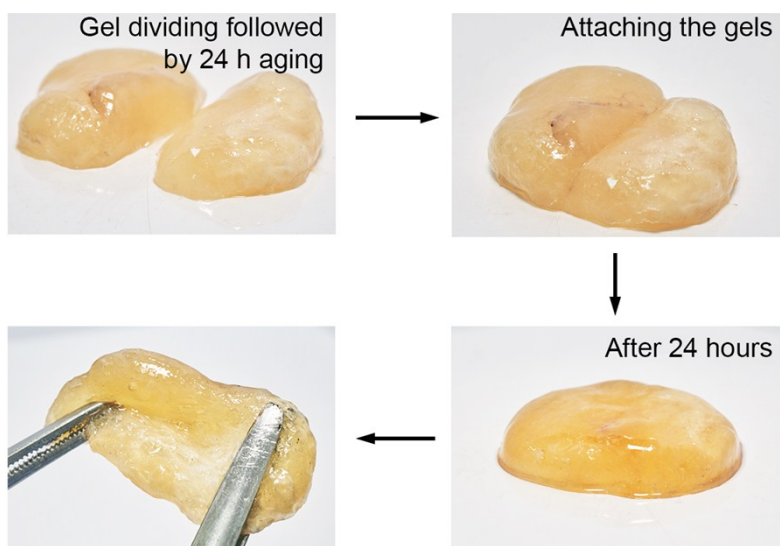


Figure S5. Stepwise photographs of showing self-healing process of h-PVP-TA coacervate hydrogel after 24 h resting.

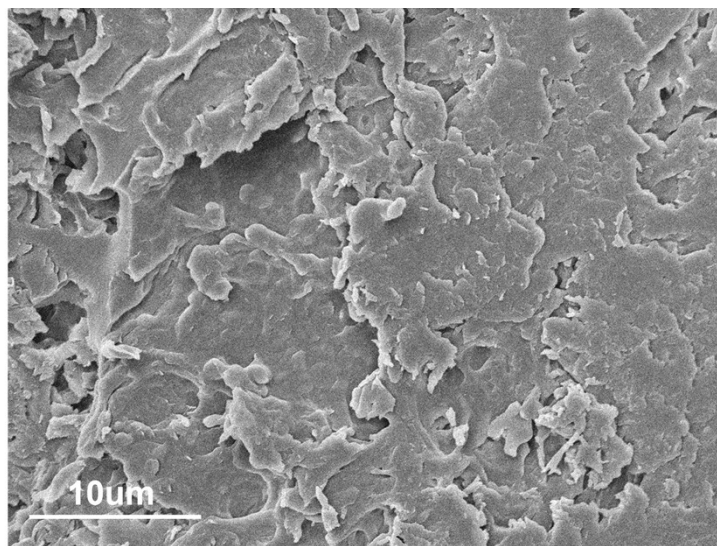


Figure S6. SEM image of freeze-dried l-PVP-TA coacervate.

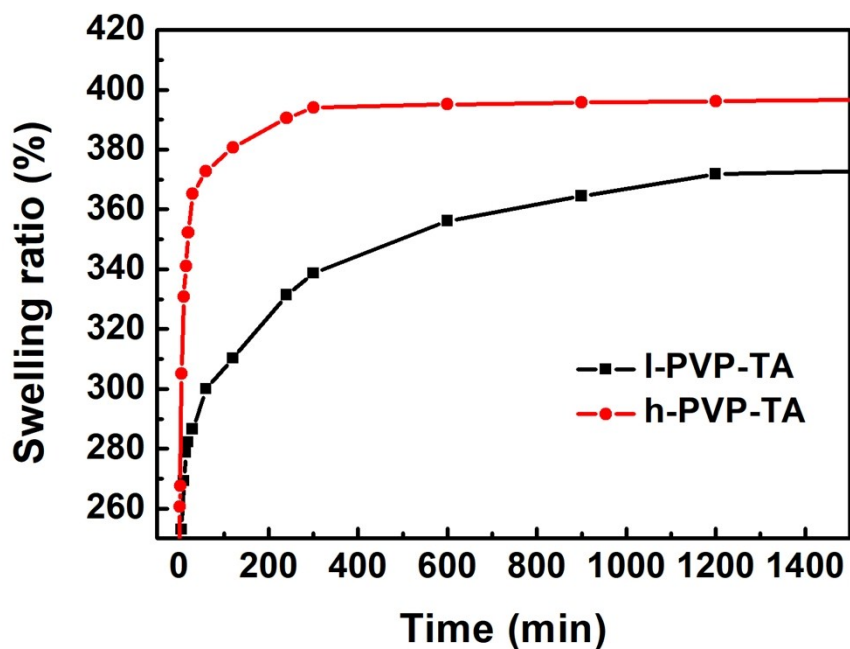


Figure S7. Comparison of swelling ratio between l-PVP-TA and h-PVP-TA hydrogels.

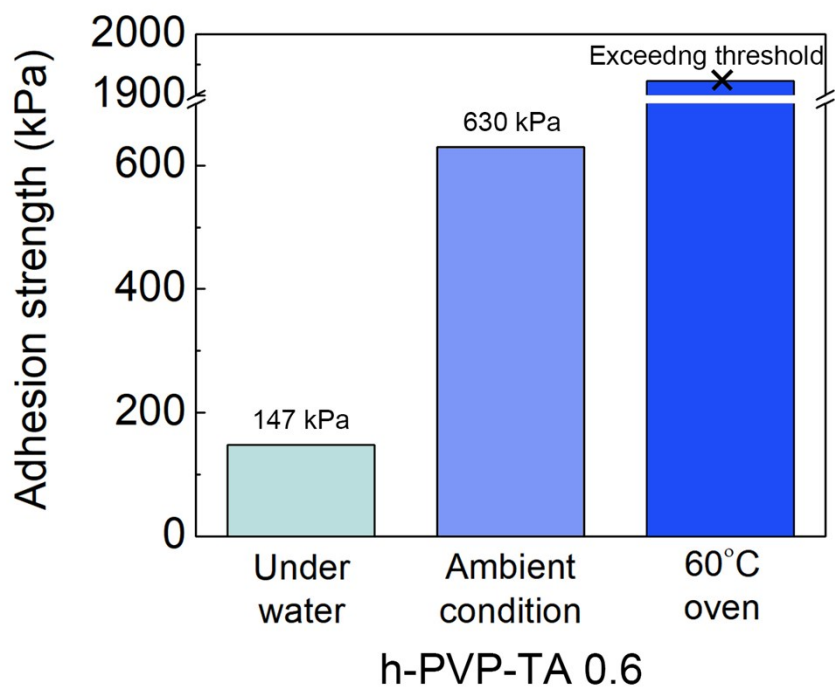


Figure S8. Measurements of adhesion strength of h-PVP-TA on glass substrates with 2 h aging under various conditions.

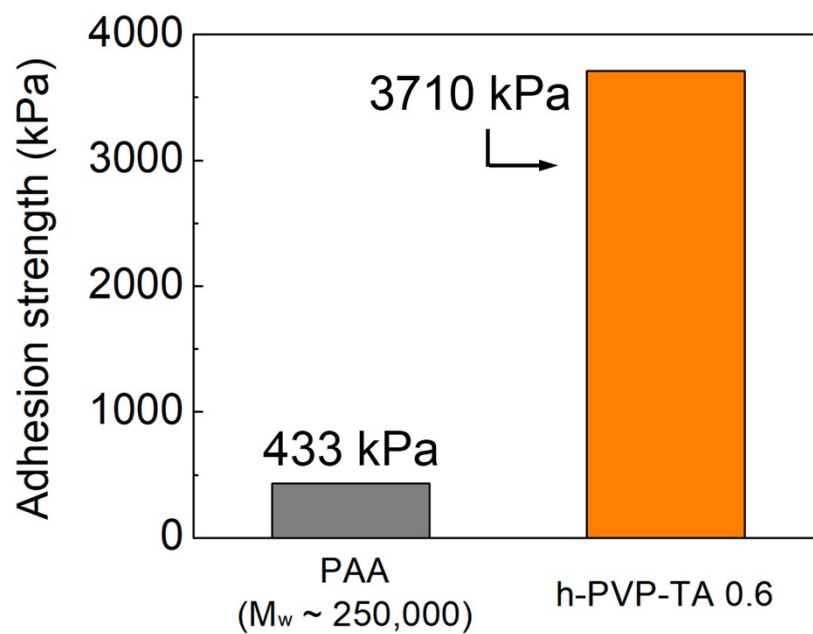


Figure S9. Measurements of adhesion strength of PAA and h-PVP-TA binders with 12 h aging on glass substrates.

Adhesives	Adhesion test	Adherend	Sample preparation condition	Adhesive strength	References
Deacetylated chitosan, dopamine	lap shear	glass	Room temperature (RT), 24 h	0.4 MPa	Yamada <i>et al.</i> ¹
CPD-5	lap shear	Gelatin coated glass	37°C, 24 h	~1 MPa	Zeng <i>et al.</i> ²
PVP-catechol	lap shear	glass	RT, 24 h	1.1 MPa	Mu <i>et al.</i> ³
CHT/HA-DN	lap shear	glass	40°C, overnight	2.34 MPa	Neto <i>et al.</i> ⁴
P(10H-1C-1A)	lap shear	glass	RT, 24 h	0.34 MPa	Nishida <i>et al.</i> ⁵
p(SCD)	lap shear	glass	RT, 30 min after UV irradiation	0.87 MPa	Xu <i>et al.</i> ⁶
EGAMA-DOPA	lap shear	glass	RT, 24 h	0.32 MPa	Xue <i>et al.</i> ⁷
[CHT/HA-C/CHT/BG] ₅ -CHT/HA-C	lap shear	glass	37°C, overnight	2.09 MPa	Rego <i>et al.</i> ⁸
ACC/PAA hydrogel	lap shear	glass	30°C, 24 h	~1 MPa	Li <i>et al.</i> ⁹
PVP-TA coacervate hydrogel	lap shear	glass	RT, 12 h	~3.71 MPa	This work

Table S1. List of adhesive performances of biocompatible polymer-based adhesives.

References

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