

Support information for:

## **Formation mechanism of anisotropic gelatin hydrogel by self-assembly on oriented template**

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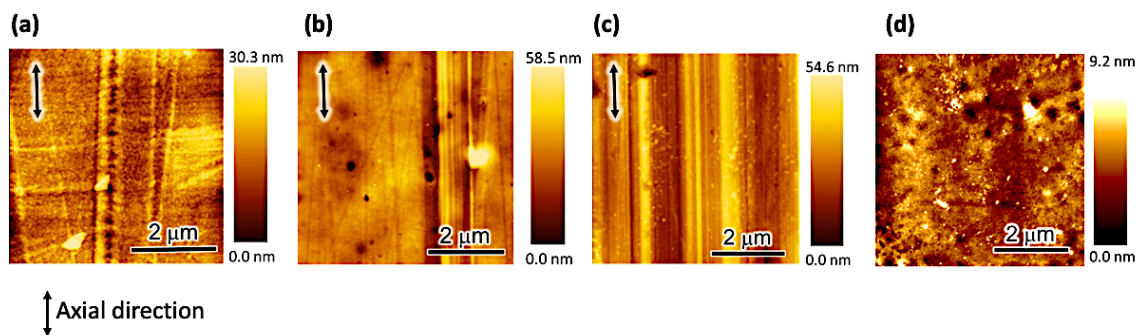
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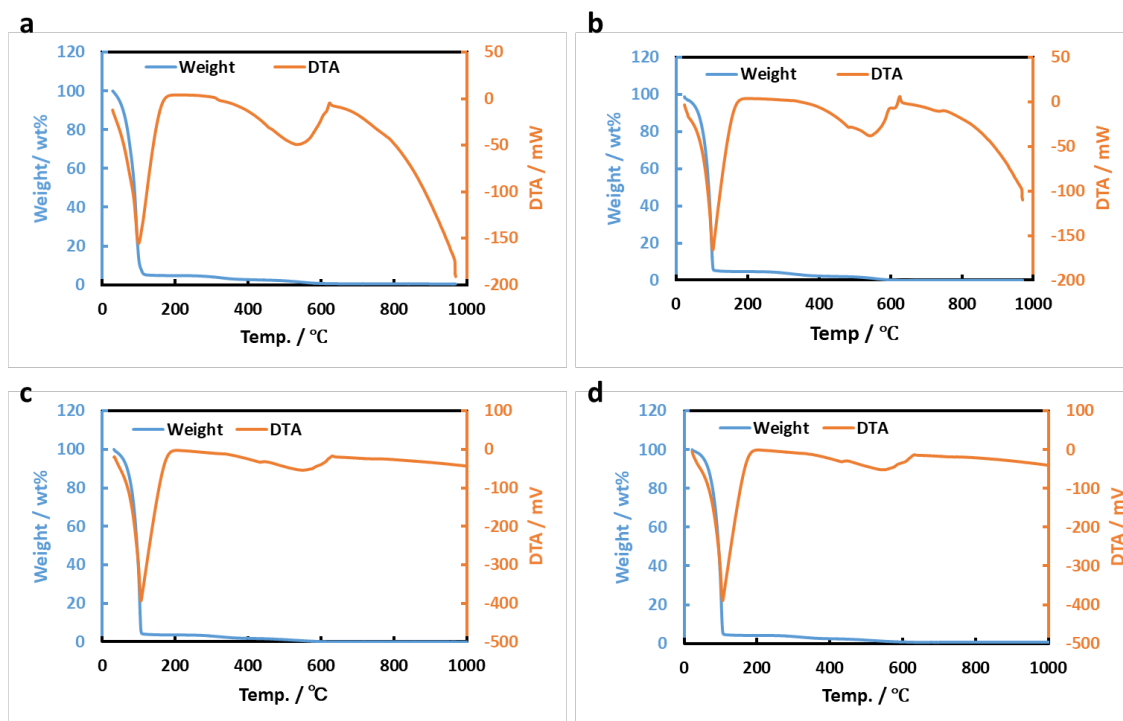
- 1. S1. AFM images of the oriented and non-oriented templates**
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**S1. AFM images of the oriented and non-oriented templates.**



**Figure S1.** Surface morphologies of oriented (a: PP, b: PVC, and c: Al sheet-coated substrates) and non-oriented (d: glass substrate) templates observed by AFM.

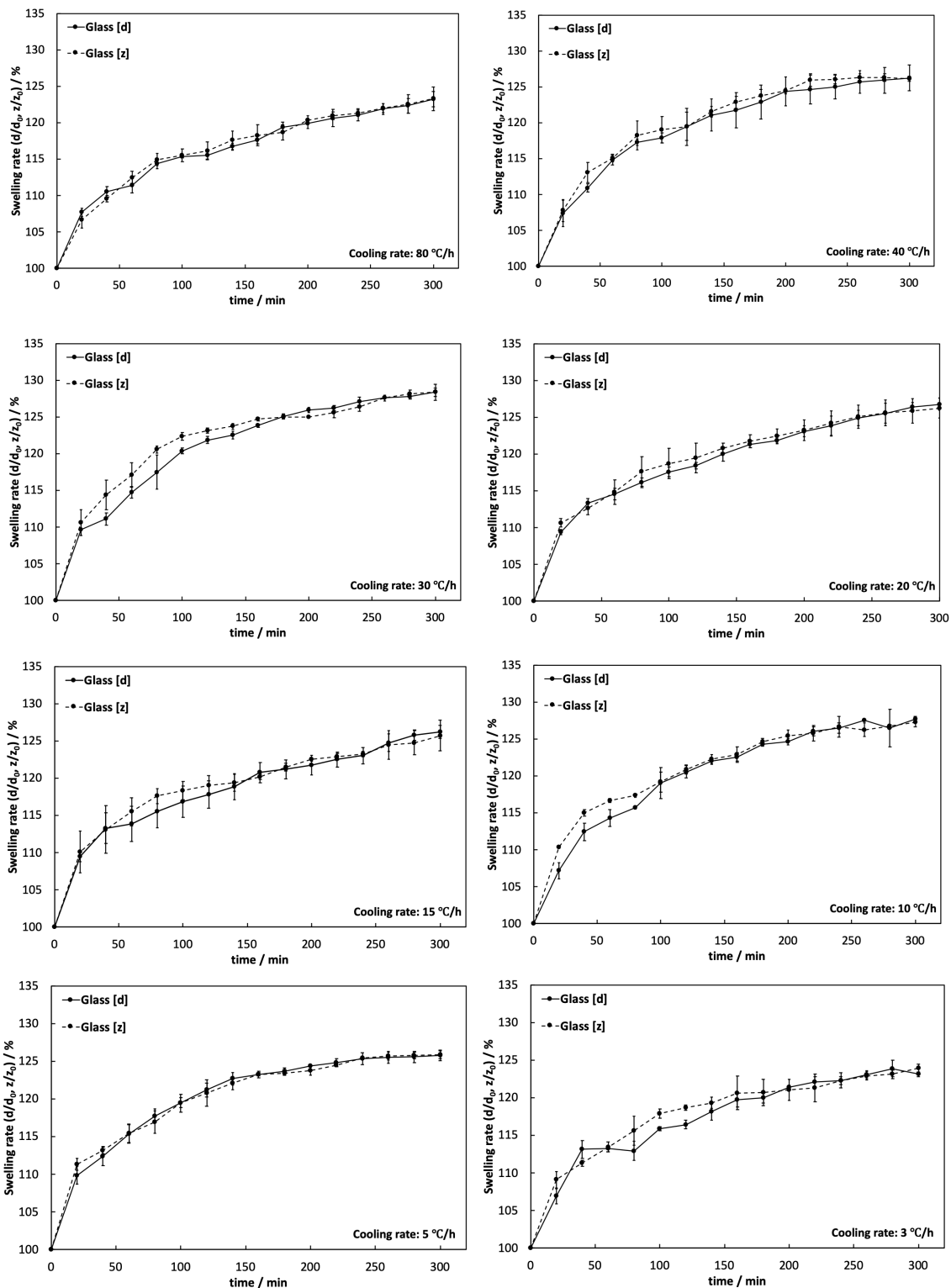
**S2. TG-DTA profiles of the prepared hydrogels.**

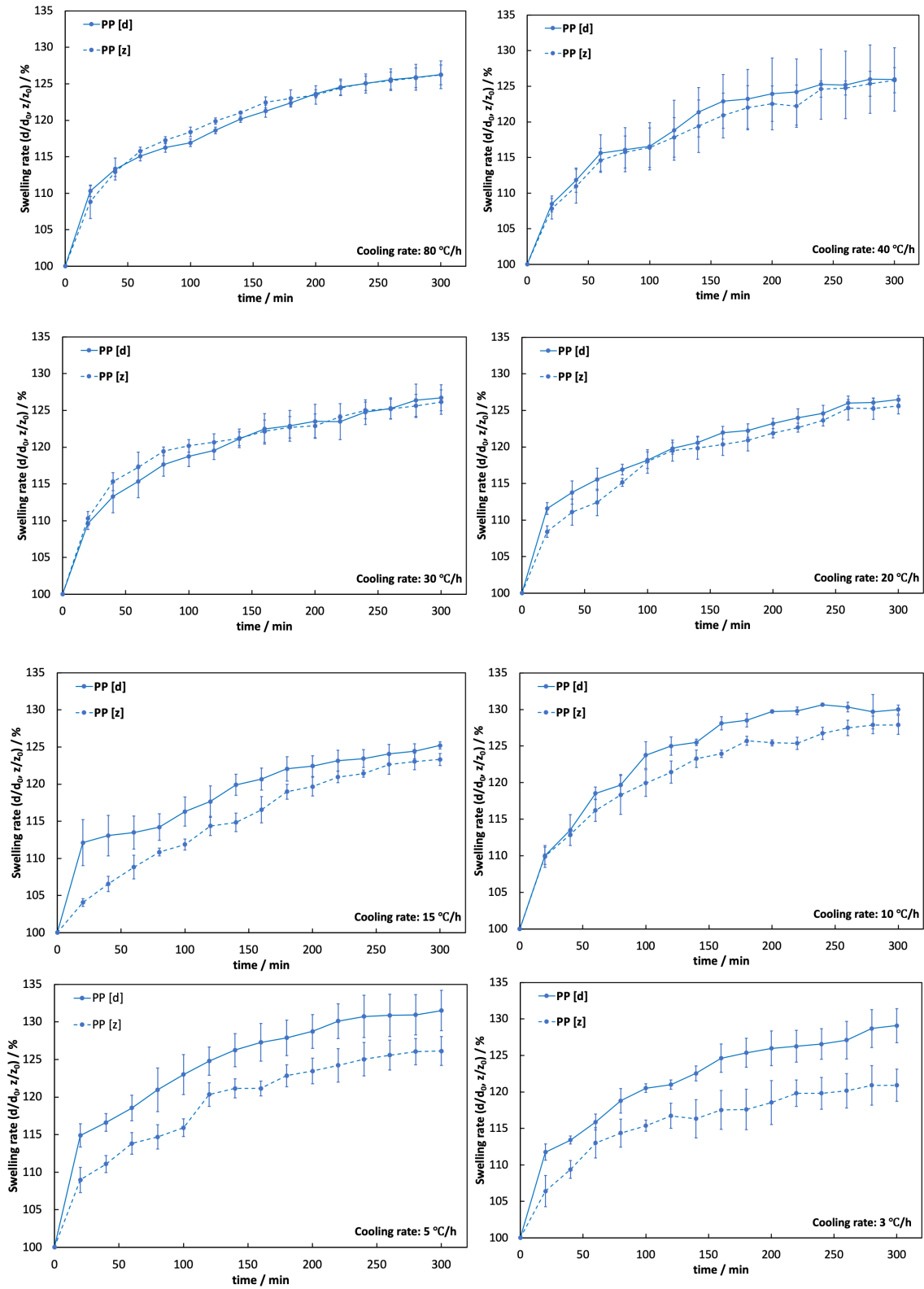


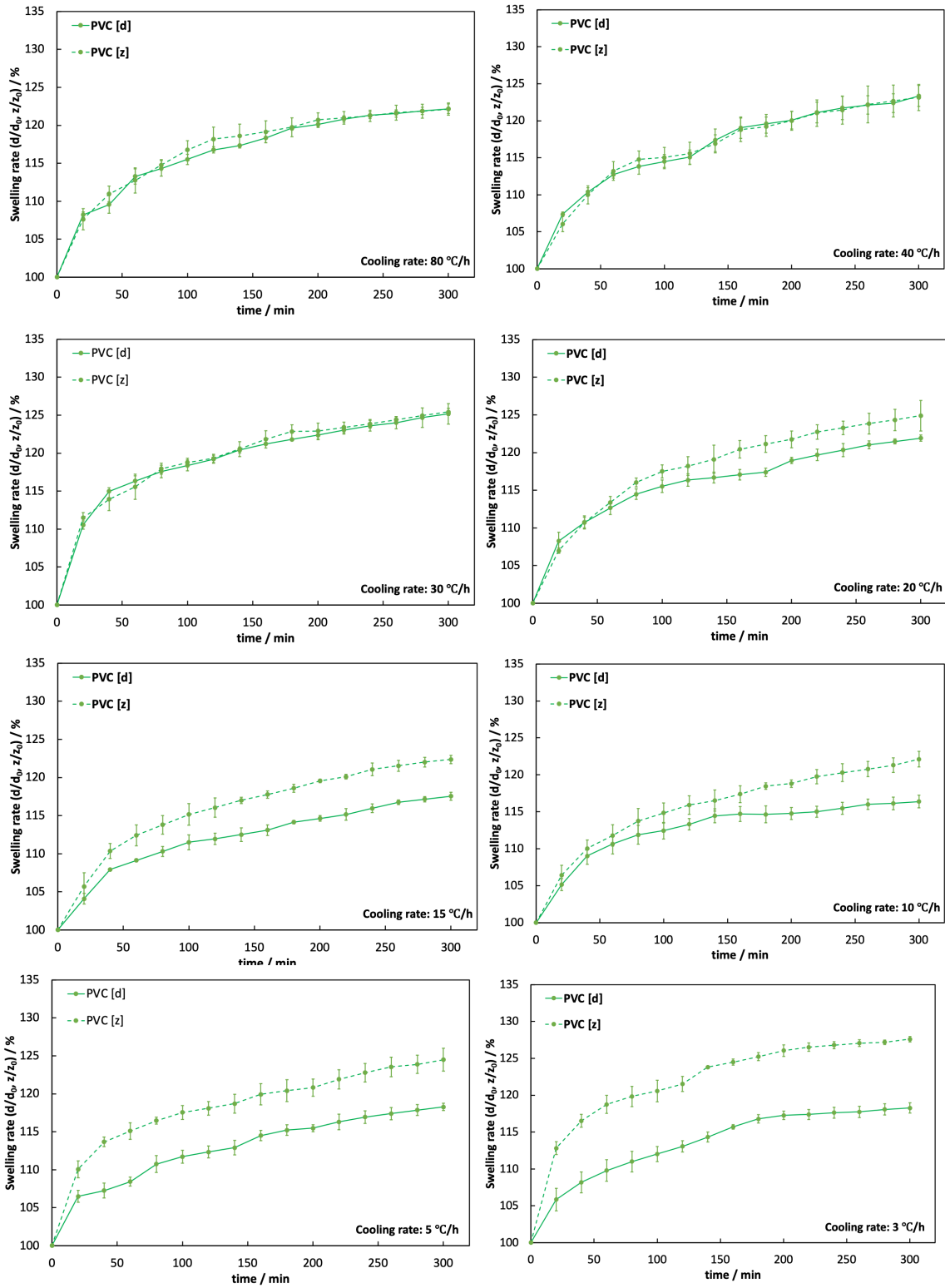
**Figure S2.** TG-DTA profiles of the gelatin hydrogels prepared in the (a) PP, (b) PVC, (c) Al, and (d) glass systems. The blue and orange lines represent the weight loss and DTA profiles, respectively.

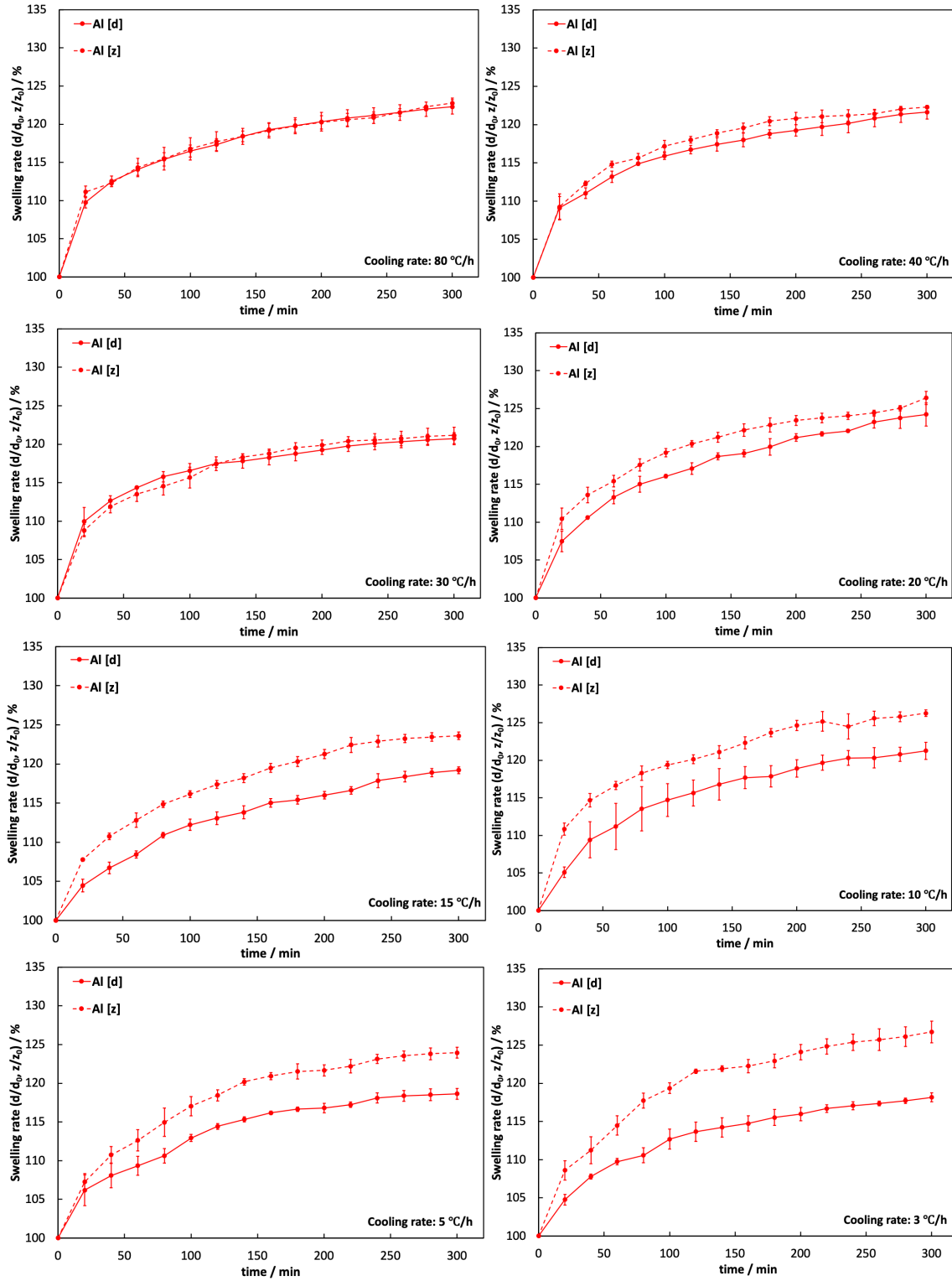
In each TG-DTA profile, a rapid weight loss and an endothermic peak were observed at 100 °C, which was attributed to the evaporation of water. A slight decrease in the weight and an endothermic peak were also observed at around 552 °C, which was attributed to gelatin degradation.

### S3. Swelling behavior of the prepared hydrogels at several cooling rates









**Figure S3.** Swelling rates of the hydrogels prepared at eight different cooling rates. Swelling tests were performed using the prepared hydrogels with a thickness of 5 mm. The black, blue, green, and red lines show the swelling behavior of the gelatin hydrogels prepared in the glass, PP, PVC, and Al systems, respectively.