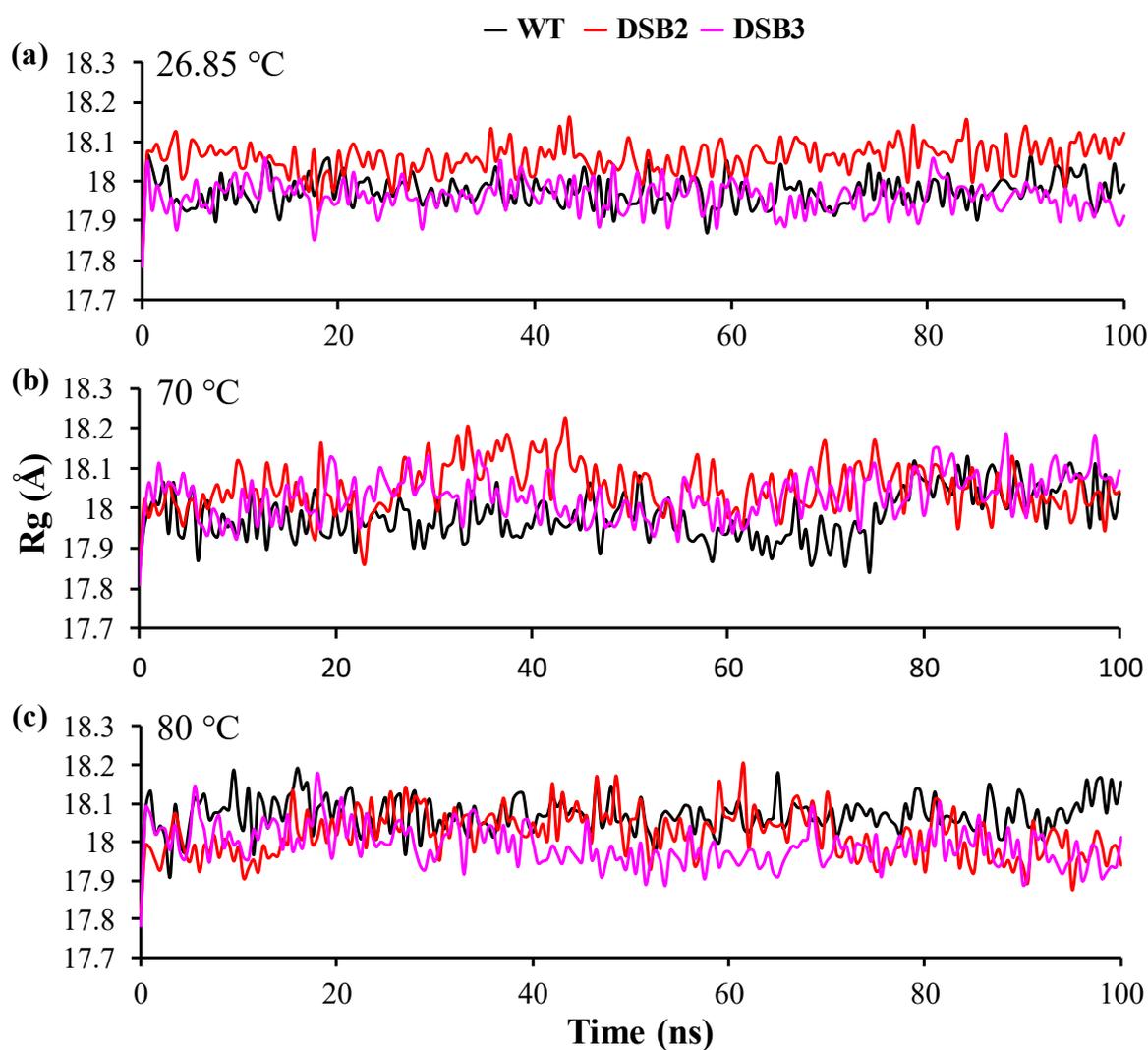
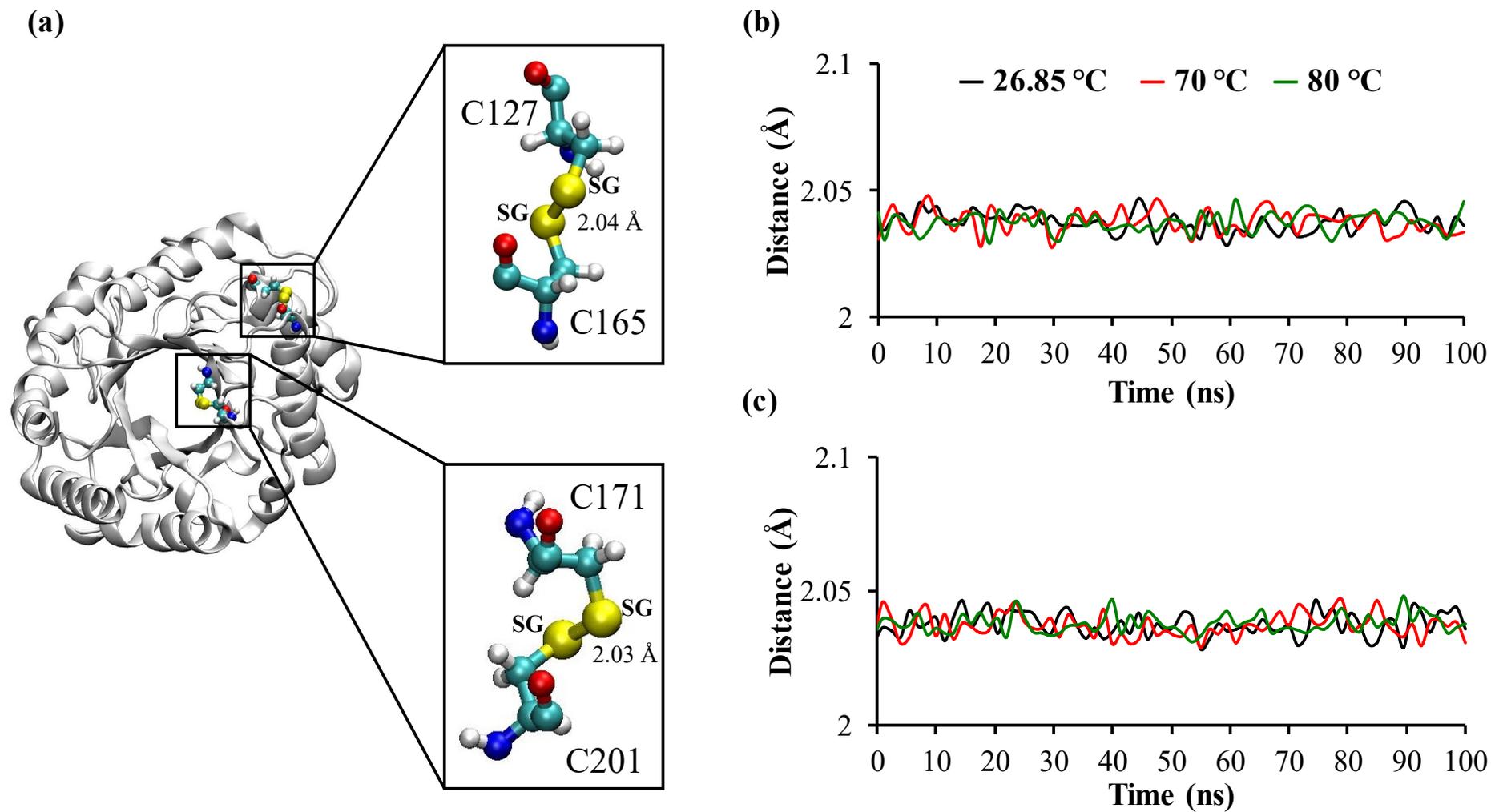


## Supplementary Materials



**Figure 1.** Structural stability of endoglucanase based on R<sub>g</sub>. (a) and (b) At 26.85 °C and 70 °C, R<sub>g</sub> of protein indicated that variants and EGLII-wt have similar structural stability. (c) At 80 °C, R<sub>g</sub> of EGLII-wt showed instability whereas structures remain stable in the both variants.



**Figure 2.** Distance stability of DSBs in variants. **(a)** The -S-S- distance (2.04 Å) in the variants DSB2 and DSB3 before simulations. **(b)** and **(c)** 100 ns simulations showed that the -S-S- distance remains stable within 2.15 Å for variants DSB2 and DSB3, respectively.