

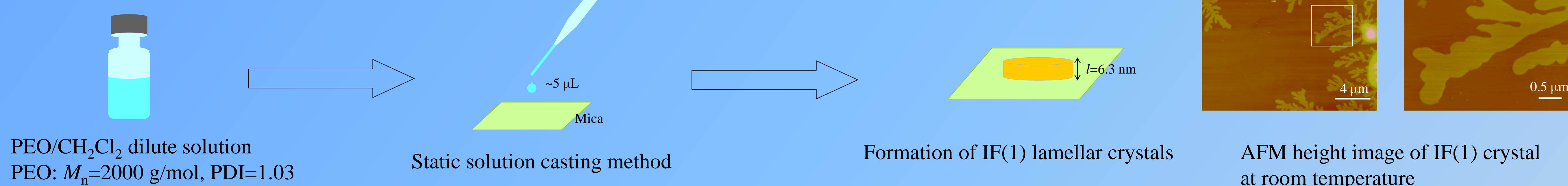


Isothermal Thickening of PEO Lamellar Crystals on Mica Surface

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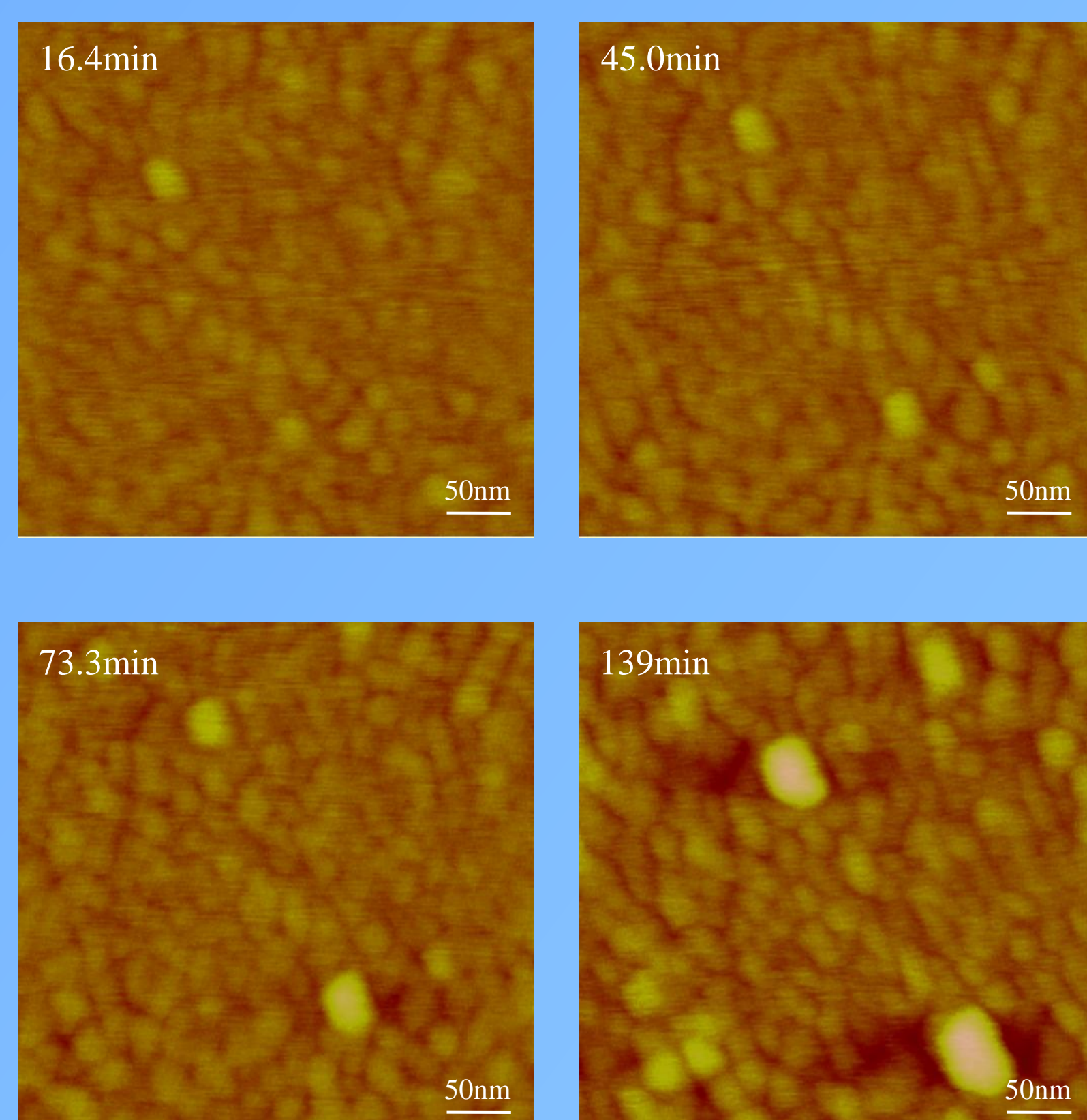
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Preparation of IF(1) crystals



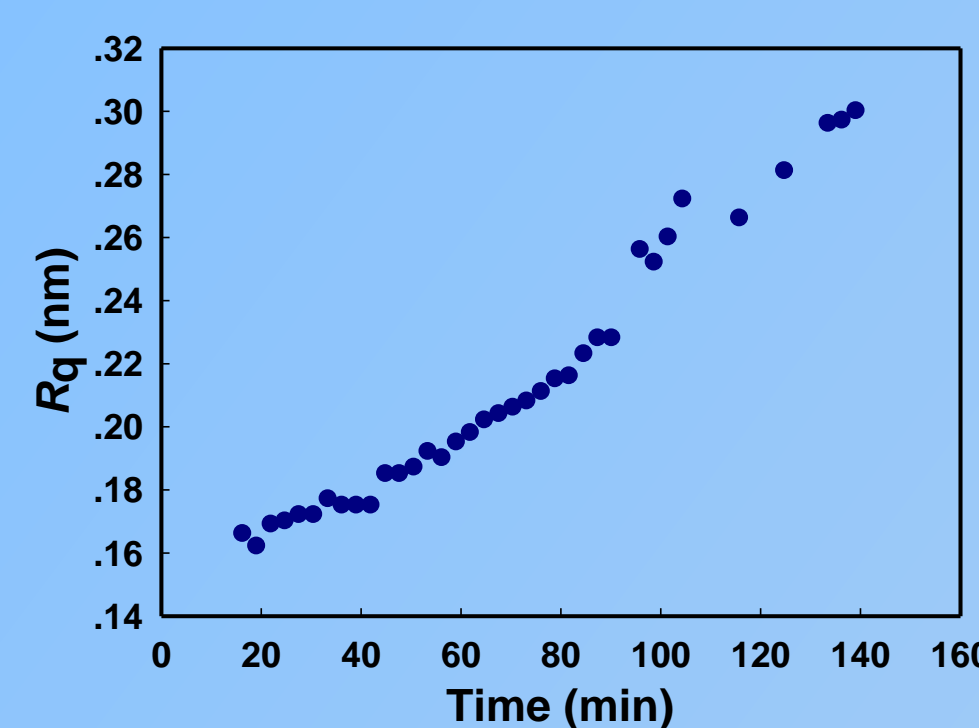
Thickening process

□ Surface roughness



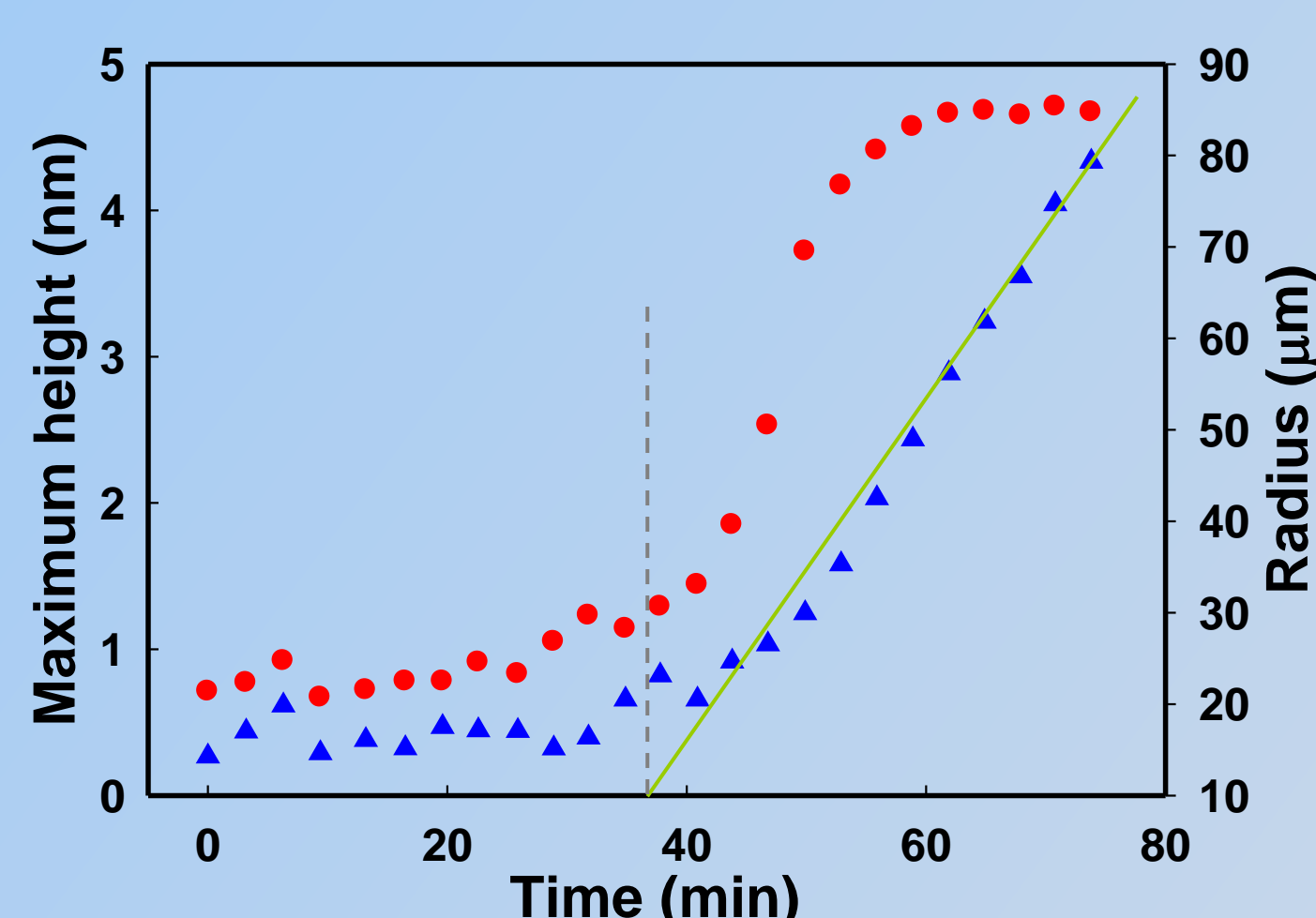
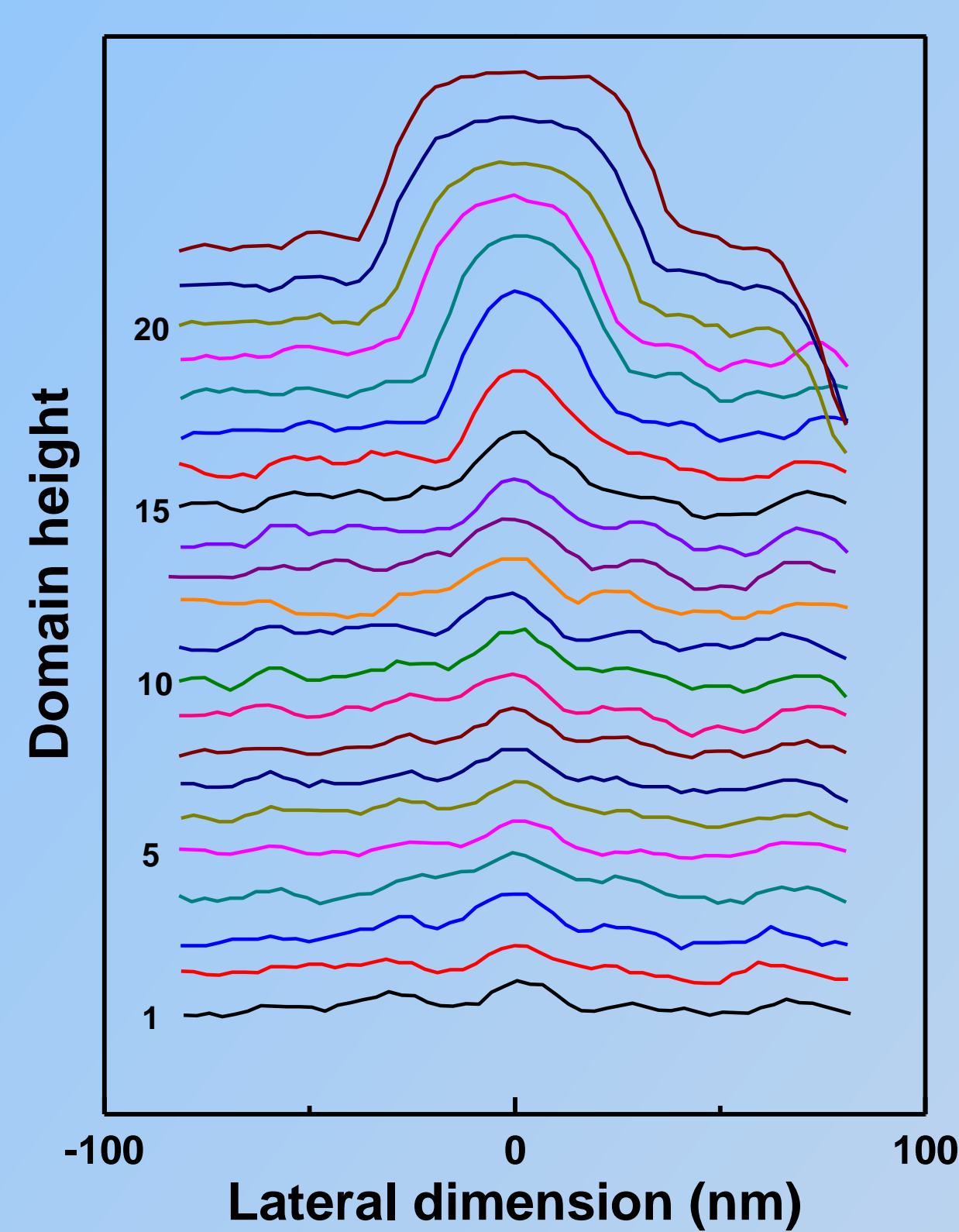
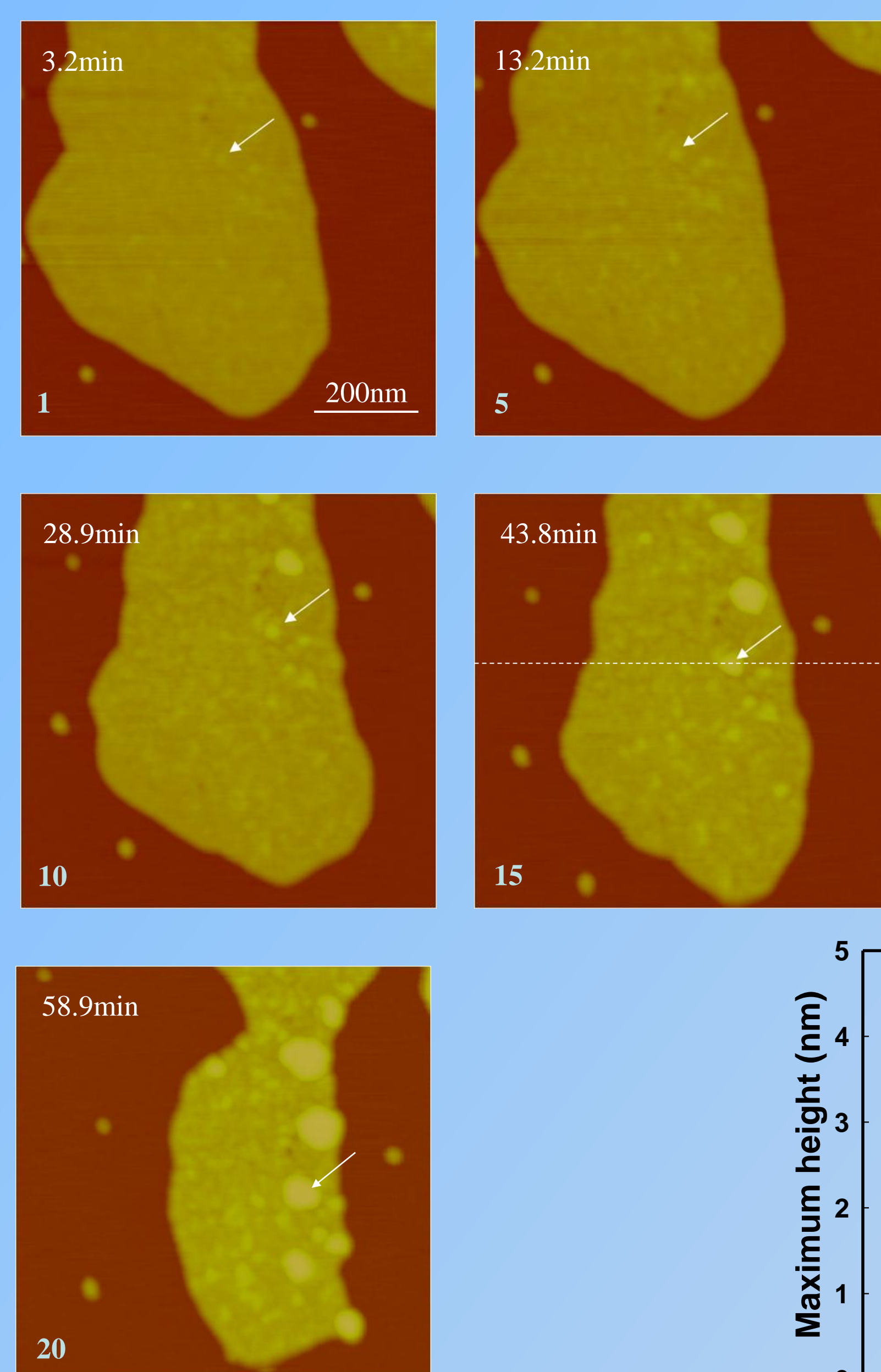
R_q : Root mean square average of height deviations taken from the mean data plane,

$$R_q = \sqrt{\frac{\sum Z_i^2}{N}}$$

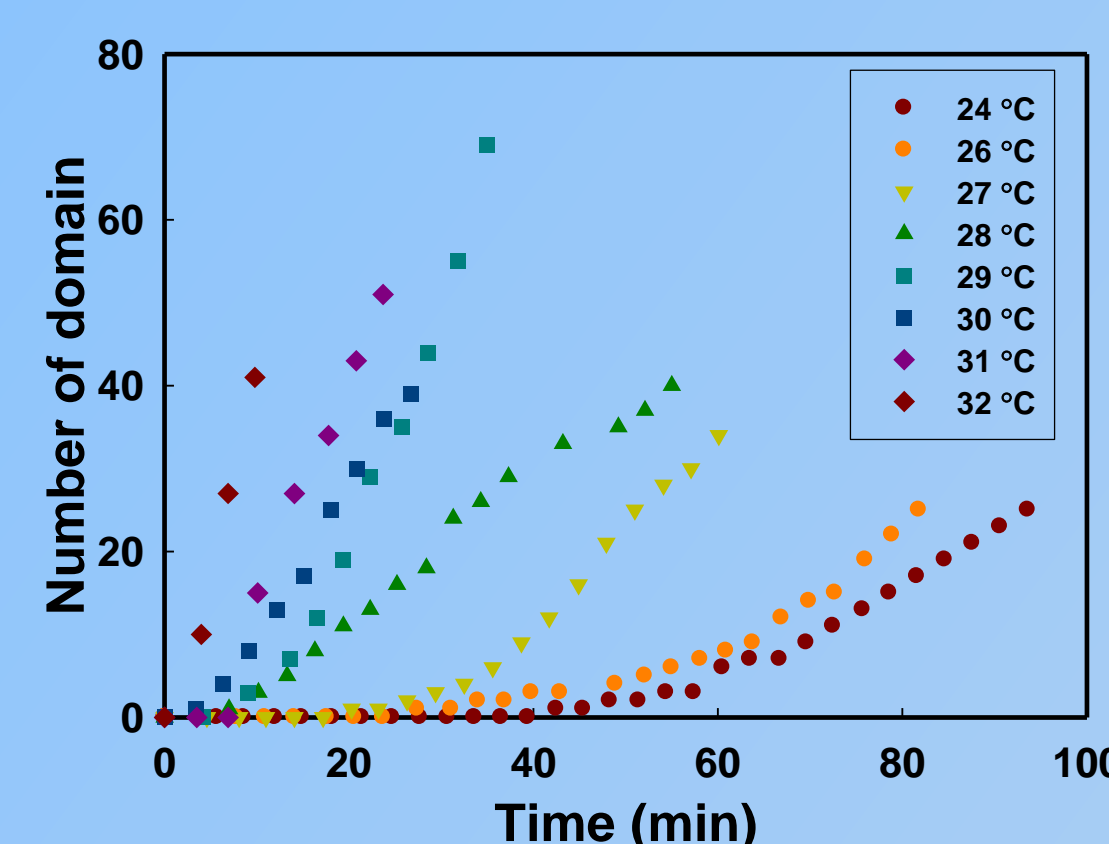


HPEO-2000 IF(1) crystal annealed at 26 °C

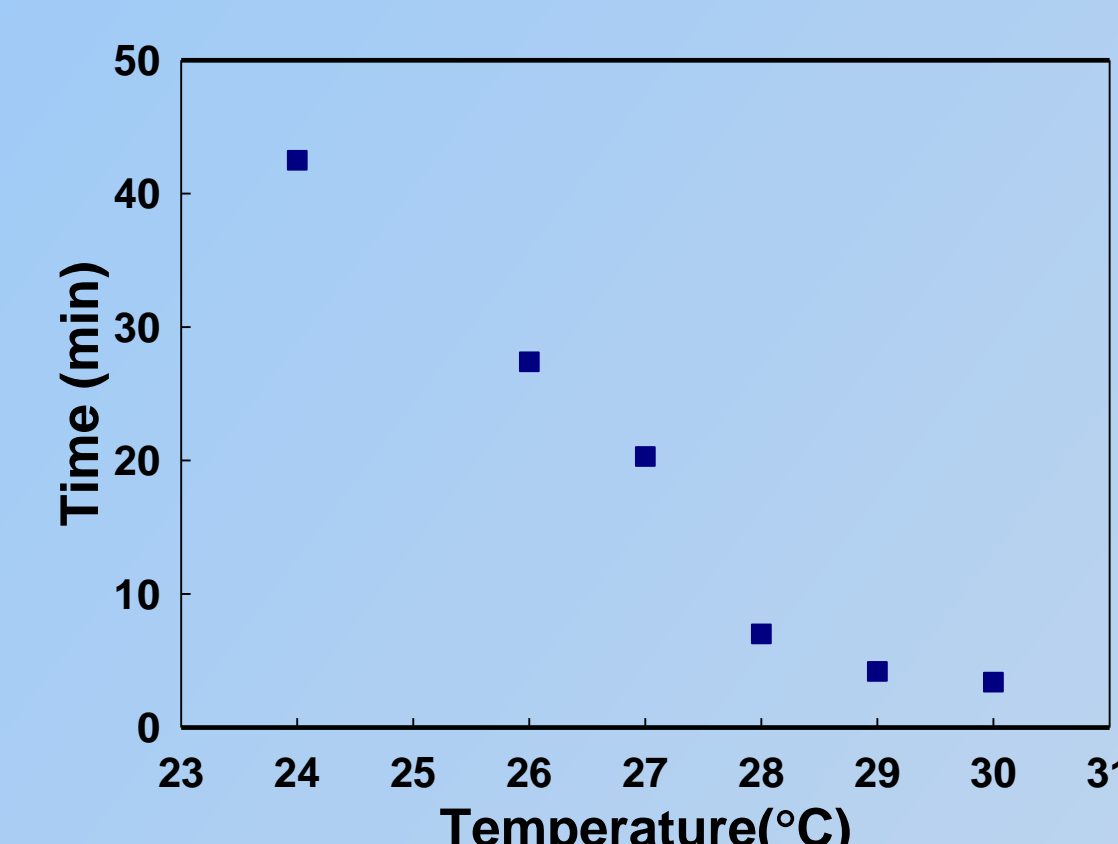
□ Domain evolution



□ Induction period



The number of thickening domains increase with time for HPEO-2000 IF(1) lamellar crystals annealed at various temperatures.



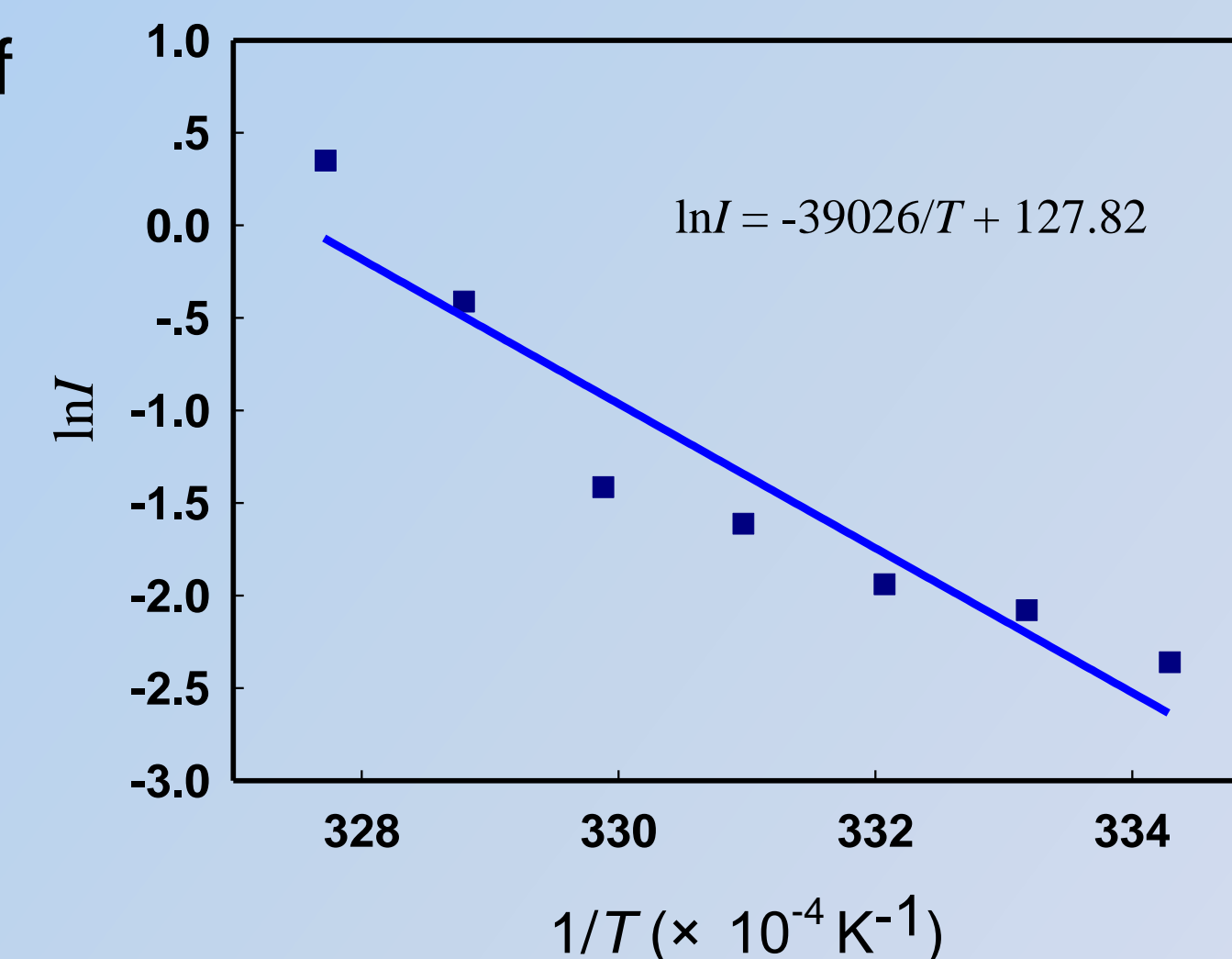
Induction period determined as time elapse for the first domain emerging out decreases sharply with increasing temperature.

□ Thickening kinetics

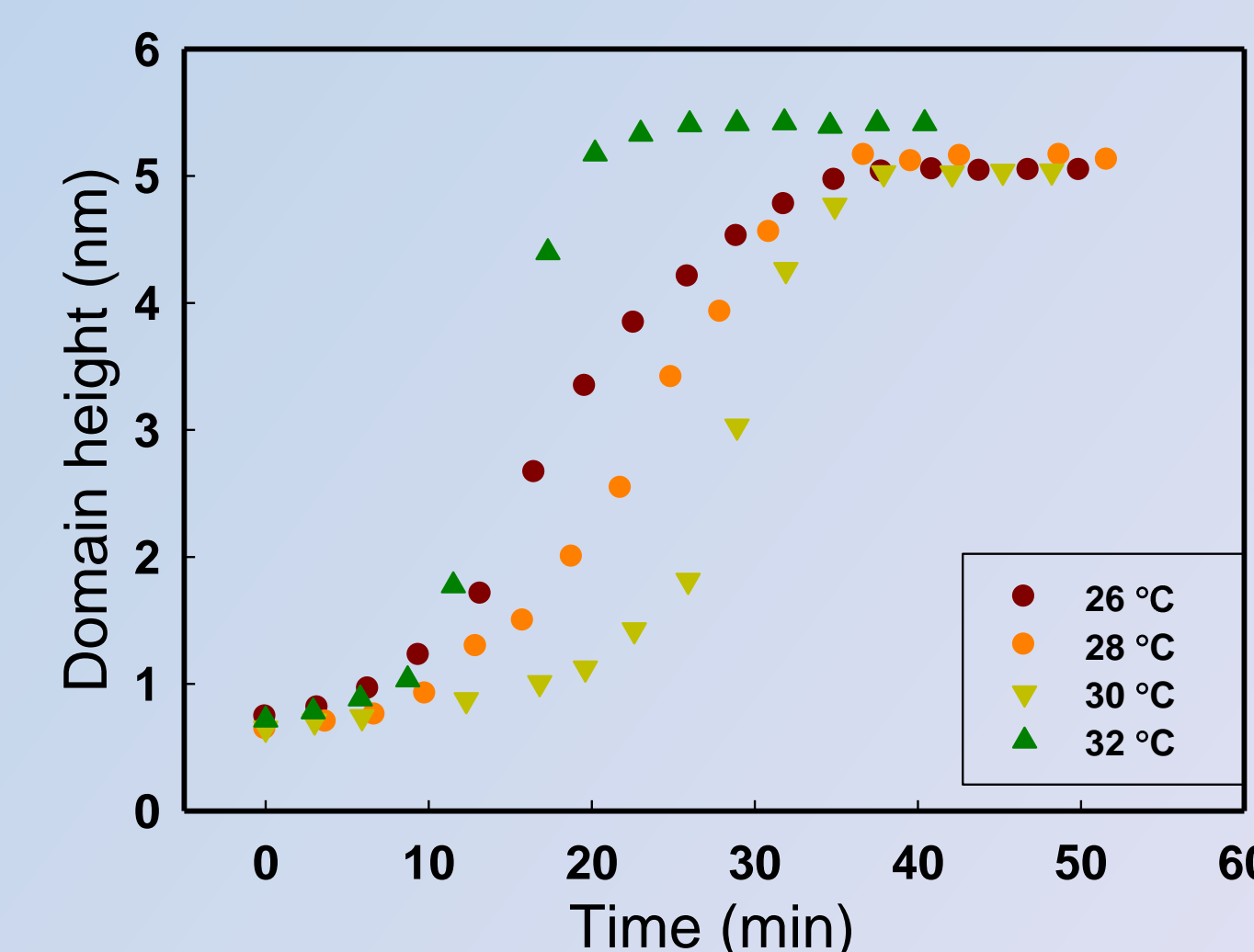
The activation energy of the thickening process.

$$\ln I = \ln I_0 - \left(\frac{E_a}{R} \right) \frac{1}{T}$$

$$E_a = 324 \text{ KJ/mol}$$



The relaxation of thickening domain height with different annealing temperatures.



The slope of the sharp increasing region of the sigmoidal curve in domain height relaxation.

