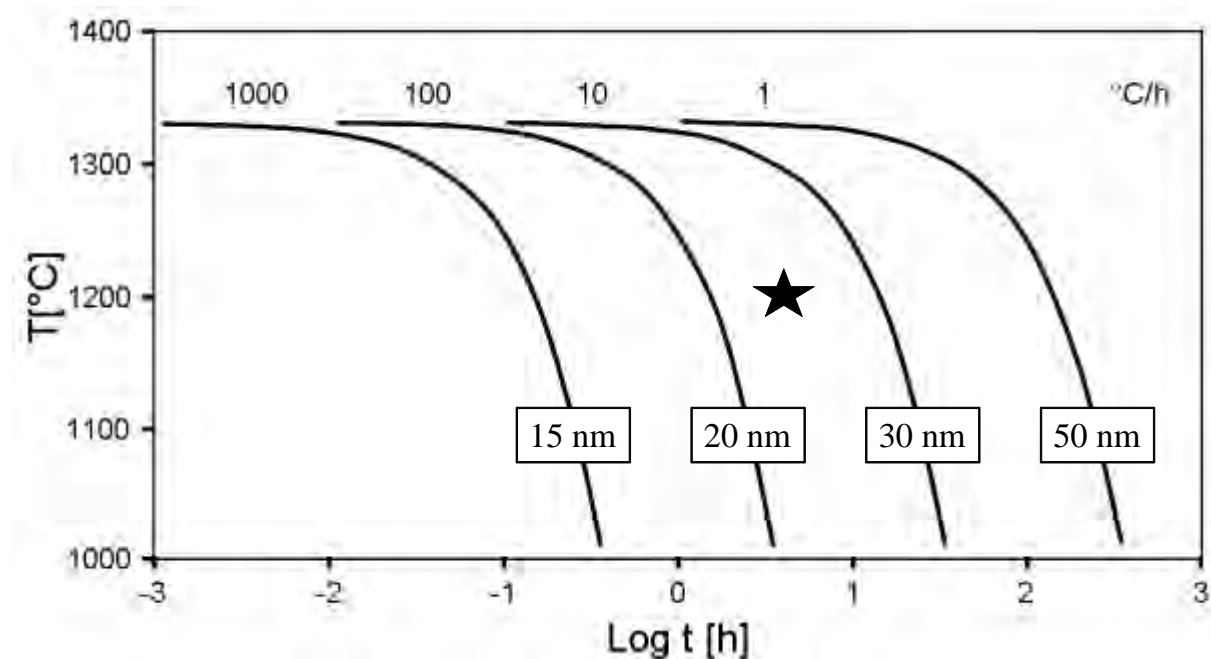


**Figure 4**



**Figure 4:** Time-temperature transformation (TTT) diagram showing the evolution of the (001) lamellae wavelength, adapted from Weinbruch et al. (1995), for diopside with a composition similar to that of the Stardust sample studied here. The curves correspond to cooling rates of 1000, 100, 10 and  $1^{\circ}\text{C/h}$  for a given lamellae wavelength (in nm). According to the phase diagram, the exsolution process must have started at  $1350^{\circ}\text{C}$ , and was almost completed at  $T = 1200^{\circ}\text{C}$  (considered here as the closure temperature). The measured Stardust lamellae wavelength of 25 nm corresponds to a cooling rate within the range  $10\text{-}100^{\circ}\text{C/h}$ .