

## Supportive information

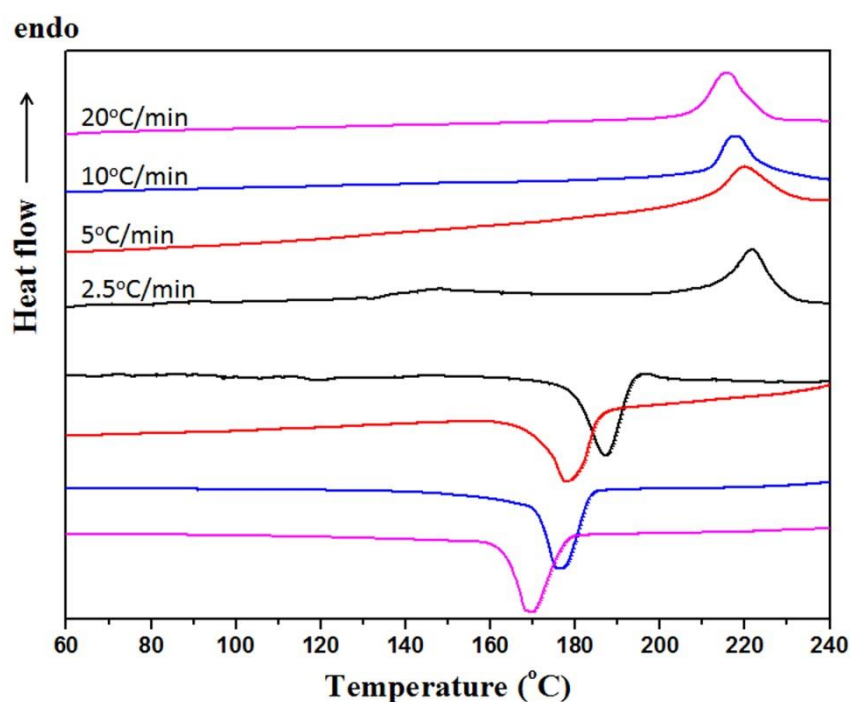


Figure 1. The impact of heating and cooling rates on the phase transition of pure P3HT sample. It is manifested that, with the increase of cooling rate, the occurrence of exothermic transition shifts to lower temperature, illustrating the kinetics of phase transition.

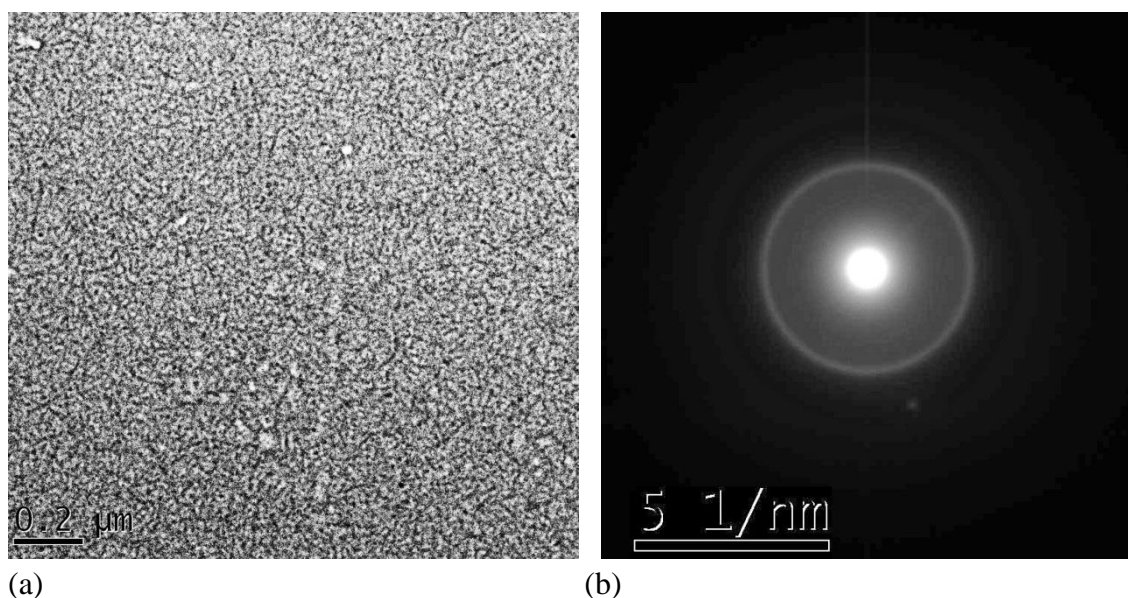


Figure 2. The electron micrograph of developed morphology (a) and corresponding diffraction pattern (b) of the pure P3HT thin film after being cooled from molten state. The diffraction ring is corresponding to the correlation of 0.38 nm, and therefore indicates the prevailing edge-on orientation of backbone organization relative to substrate.