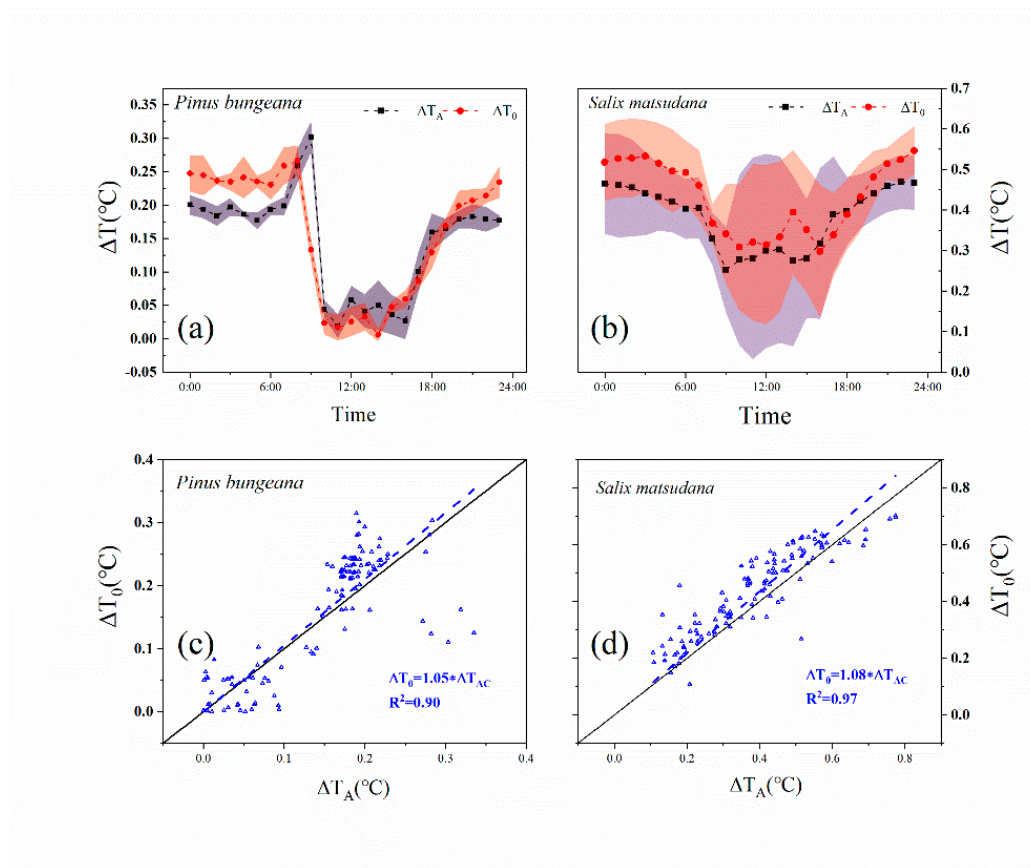


In order to determine whether 30 min was sufficient for the probe to complete cooling, a pre-test was conducted before the start of this study experiment. We set up two sets of probes on *Pinus burgeana* and *Salix matsudana* with 30/30 (30 min heating and 30 min cooling, test) and unheated(reference), to observation the actual temperature difference of reference probes (ΔT_0) and the temperature difference at the end of cooling stage of the test probes (ΔT_A).

The temperature difference at the end of the cooling stage of the test probe showed a similar diurnal dynamic to the actual temperature difference shown by the reference probe, which was higher at night than at day (Figure S1 (a) and (b)). The small natural temperature difference of *P. burgeana* may be related to the location of the sample plant in the forest and the location of *S. matsudana* at the forest edge. There has significant relationship between in two species($P<0.01$). The temperature difference after cooling stage still overestimates the actual temperature difference to some extent, but this overestimate is less than 10% (Figure S1 (c) and (d)). That is to say, the temperature difference after 30min cooling can represent the actual natural temperature difference to some extent.



Therefore, we designed the heating mode mentioned in this study.

Figure S1. The diurnal dynamic of ΔT_A (actual temperature difference of reference probes) and ΔT_0 (temperature difference at the end of cooling stage of the test probes) of *Pinus burgeana* (a) and *Salix matsudana* (b). Dots and shade represent mean values and standard deviations calculated from five days, respectively. The relationship between ΔT_A with ΔT_0 in *Pinus burgeana* (c) and *Salix matsudana* (d).