



Figure S1. The changes of Chl and Chl fluorescence parameters upon overexpressing HCAR in BCG. (a) Chl *a* and *b* contents, (b) Chl *a/b* ratios, (c) HMChl *a* contents and (d) Fv/Fm ratios of BCG and HCAR/BCG plants. Values represent the mean of three replicate samples \pm SD. Asterisks indicate significant difference compared to BCG (Student's *t*-test, ** $p < 0.01$).



Figure S2. The non-programmed cell death (non-PCD) symptoms of BCG and PhCAO were alleviated by overexpressing HCAR. Plants were grown under long-day conditions for 7 weeks. Red arrows indicate the non-PCD symptoms of old leaves.