

Figure S1. Effects of melatonin on the light response curve of cotton seedlings during drought-induced senescence. CK denotes well-watered + 0 μM MT treatment; DS denotes drought stress + 0 μM MT treatment; MT+DS denotes drought stress + 100 μM MT treatment.

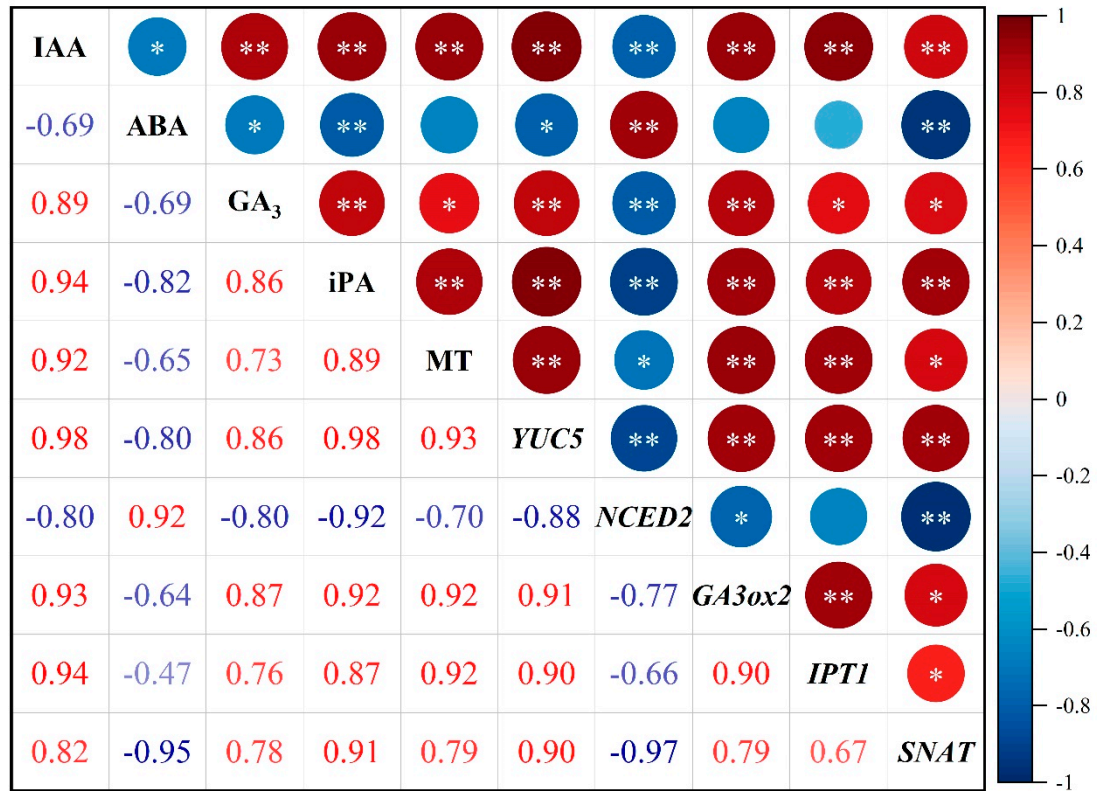


Figure S2. Pearson's correlation coefficient showing the relationship between endogenous hormone content and key genes of hormone synthesis. The significance level of correlations is indicated as * denoting $p < 0.05$ or ** denoting $p < 0.01$.

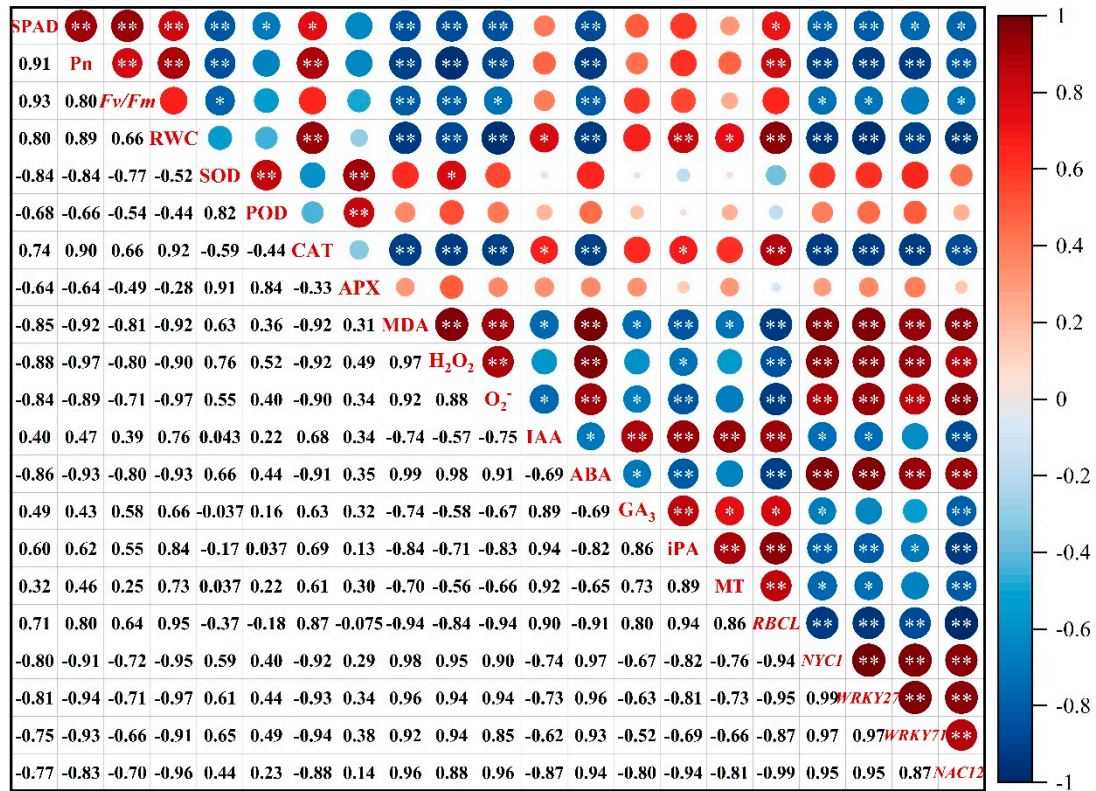


Figure S3. The Pearson correlation coefficients matrix and 95% confidential circle among the physiological indicators and senescence-related gene expression in cotton seedlings. The significance level of correlations is indicated as * denoting $p < 0.05$ or ** denoting $p < 0.01$. SPAD: spad value; Pn: net photosynthetic rate; Fv/Fm: maximum photochemical efficiency; RWC: relative water content; SOD: superoxide dismutase activity; POD: peroxidase activity; CAT: catalase activity; APX: ascorbate peroxidase activity; MDA: malonaldehyde contents; H₂O₂: H₂O₂ contents; O₂⁻: O₂⁻ contents; IAA: auxin contents; ABA: abscisic acid contents; GA₃: gibberellin acid contents; iPA: isopentenyladenine contents; MT: melatonin contents; *RBCL*: transcript levels of *GhRBCL*; *NYCI*: transcript levels of *GhNYCI*; *WRKY27*: transcript levels of *GhWRKY27*; *WRKY71*: transcript levels of *GhWRKY71*; *NAC12*: transcript levels of *GhNAC12*.

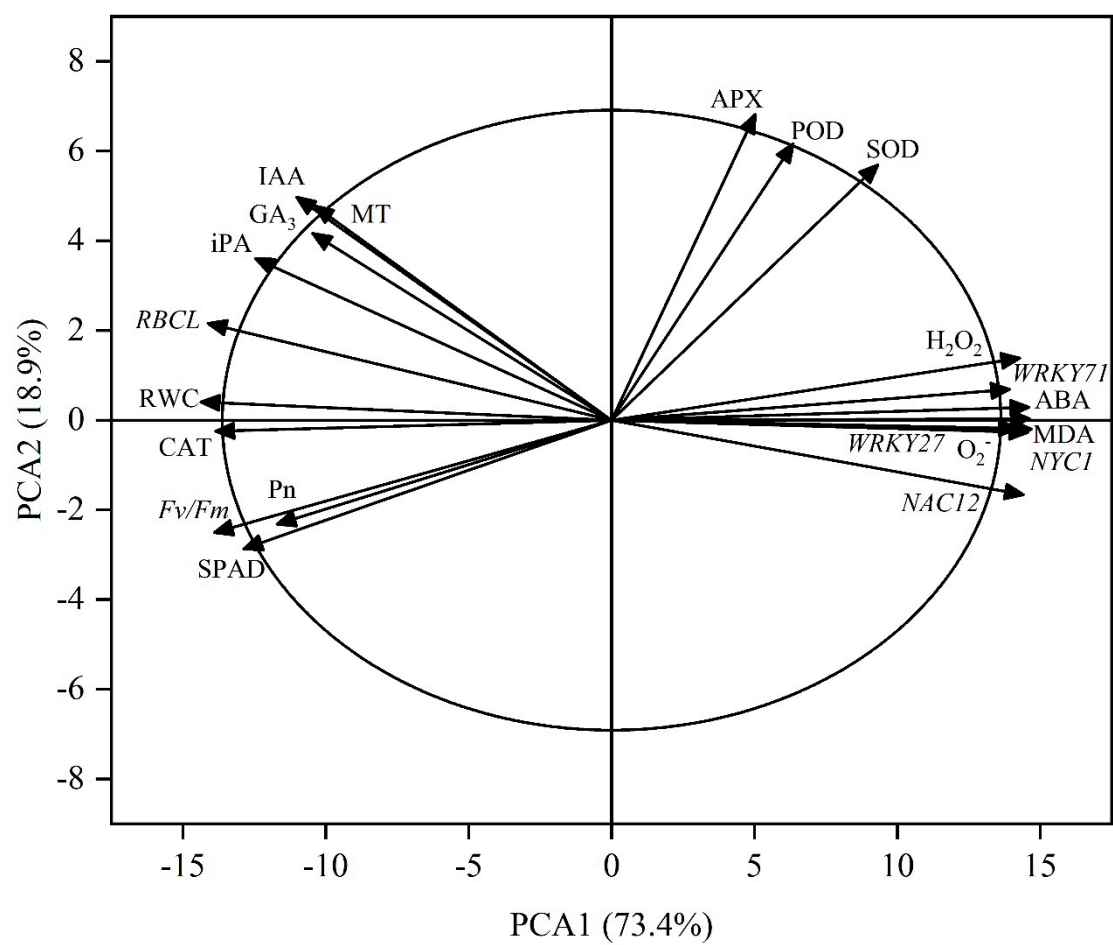


Figure S4. Principal component analysis (PCA) of the 21 representative leaf senescence traits (abbreviations are as expounded in Fig. S3).