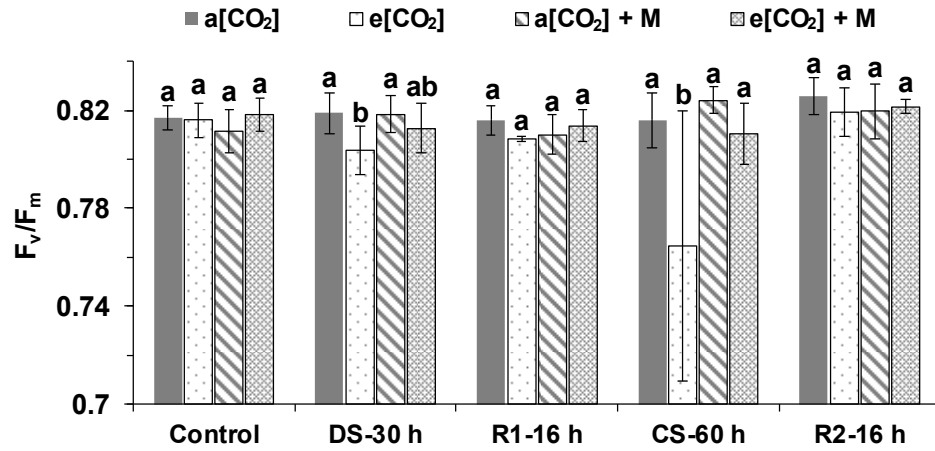
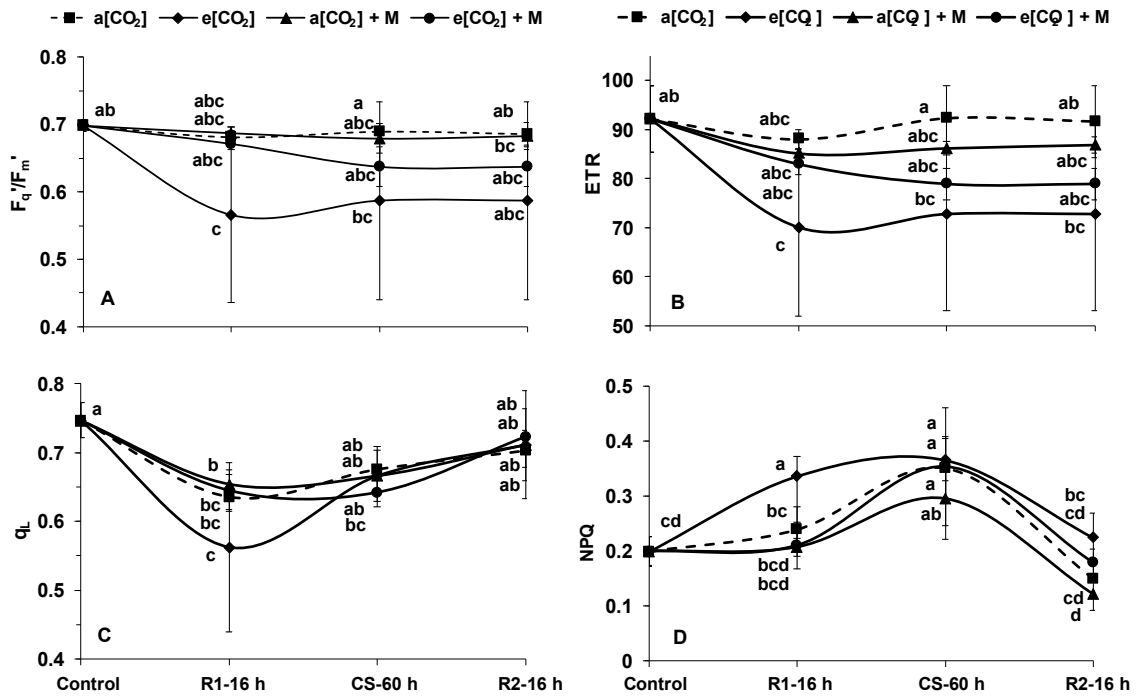


Supplementary Materials:



**Supplementary Figure S1.** The  $F_v/F_m$  in the first fully expanded leaves of tomato during different treatments. “a[CO<sub>2</sub>]” and “a[CO<sub>2</sub>] + M” indicates 400 ppm CO<sub>2</sub> concentration without and with melatonin application. “e[CO<sub>2</sub>]” and “e[CO<sub>2</sub>] + M” indicates 800 ppm CO<sub>2</sub> concentration without and with melatonin application. “Control”, 25/20 °C + irrigation; “DS-30 h”, 25/20 °C + no irrigation for 30 h; “CS-60 h”, 12/12 °C + irrigation for 60 h; “R1-16 h” and “R2-16 h”, 25/20 °C + irrigation for 16 h. The data represent average values ± SD ( $n = 4$ ). Different small letters showed significant differences ( $p < 0.05$ ).



**Supplementary Figure S2.** Chlorophyll fluorescence measured under a PPFD of 300  $\mu\text{mol m}^{-2} \text{s}^{-1}$  at room temperature in tomato plants during different treatments. Different sub-graphs indicated (A) quantum efficiency of PSII ( $F_q'/F_m'$ ), (B) electron transport rate (ETR), (C) fraction of open PSII centers ( $q_L$ ) and (D) non-photochemical quenching (NPQ). "a[CO<sub>2</sub>]" and "a[CO<sub>2</sub>] + M" indicates 400 ppm CO<sub>2</sub> concentration without and with melatonin application. "e[CO<sub>2</sub>]" and "e[CO<sub>2</sub>] + M" indicates 800 ppm CO<sub>2</sub> concentration without and with melatonin application. "Control", 25/20 °C + irrigation; "R1-16 h", 25/20 °C + irrigation for 16 h after 30 h of drought stress; "CS", 12/12 °C + irrigation; "R2-16 h", 25/20 °C + irrigation for 16 h after CS. The data represent average values  $\pm$  SD ( $n = 3$ ). Different small letters showed significant differences ( $p < 0.05$ ).