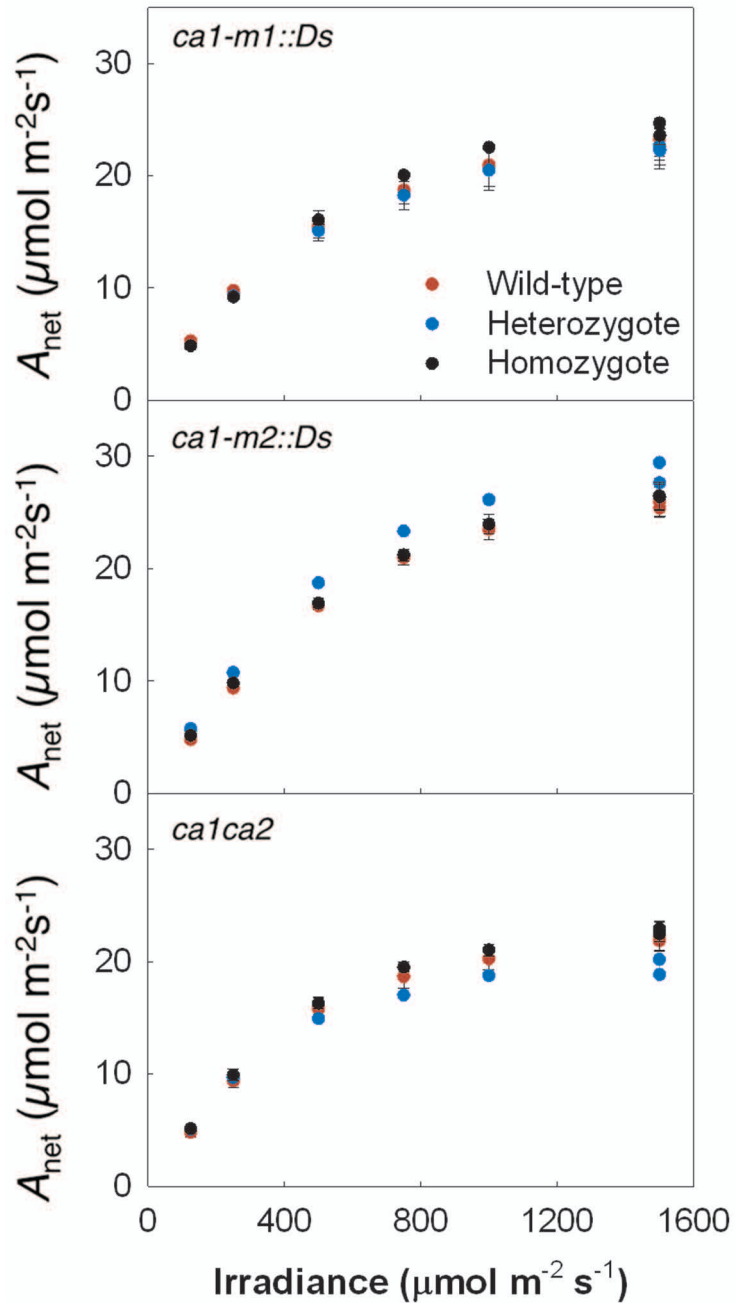
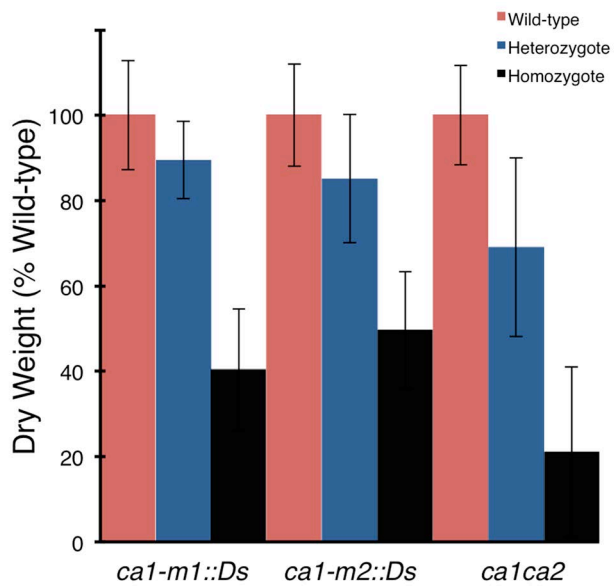


**Figure S1.** Expression profile of the tandemly duplicated CA genes in *Z. mays*. (a) eFP Browser expression profile of *Ca1*, (b) *Ca2*, and (c) *Ca3*.



**Figure S2.** Net rates of CO<sub>2</sub> assimilation in response to changes in PAR. *A-*PAR** curves for each of the CA mutant lines measured at a  $p\text{O}_2$  of 18.6 kPa, leaf temperature of 25 °C and 37.2 Pa of CO<sub>2</sub>.



**Figure S3.** Dry weight biomass of mutant plants grown at low CO<sub>2</sub>. The dry weight of above ground biomass for each CA mutant line plotted as a percentage of wild-type biomass.