Supplementary information

The steps of CO_2 response curve measurement

1 Set the chamber conditions

Light: The photosynthetic photon flux density (PPFD) was applied with saturating irradiance (1500 μmol·m^{-2}·s^{-1})

Flow: Fixed at 300 μmol s^{-1}.

CO_2: Constant reference CO_2 at about 400 μmol mol^{-1}.

2 Clamp onto the leaf

3 Set the temperature

Temperature was set at 25 °C.

4 Open a log file

5 Match the IRGAs

6 Launch the "A-Ci Curve" Autoprogram

Press **5** then **f1**. Pick "A-CiCurve" from the list, enter the desired value:

The CO_2 concentration gradient for the A/Ci curves was 400, 300, 200, 100, 0, 400, 400, 600, 800, 1000, 1500, 1800, 2000 μmol·mol^{-1}

Minimum wait time was 60 s and maximum wait time was 120 s.

Match before each recording.

The experiment will then start automatically.

7 After the measurements.

Once the curve is done, set the CO_2 back to 400 μmol mol^{-1}, take the leaf out of the chamber and measure the next plant. Close the data file after all the measurements.