



**Figure S1.** Relationship between area-based leaf N content ( $N_{\text{area}}$ ) and maximum carbon fixation rate ( $V_{\text{cmax}}$ ) (A) and maximum electron transfer rate ( $J_{\text{max}}$ ) (B) of *Alnus hirsuta*. Open symbols: ambient  $\text{CO}_2$ ; closed symbols: elevated  $\text{CO}_2$ ; circles: high N; triangles: low N. Results of the generalized linear mixed model ( $\chi^2$ -value and  $p$ -value) are indicated in the panel. The two N treatments (high N and low N) were analyzed together in this instance. This supplementary information is a new analysis of data from the experiment in Tobita et al. (2005) and Tobita et al. (2011).