



Fig. S3. De-epoxidation state (AZ/VAZ ratio) in needles of *Cryptomeria japonica* from five provenances (Prv) grown in two common gardens (CG) located in Miyagi (NrK) and Kumamoto (Ksm), sampled at (a, c) noon and (b, d) night in (a, b) summer and (c, d) winter. Values represent means \pm SE from 3-5 trees. Provenance abbreviations are listed in Table 1. Significant effect of Prv and CG are indicated as * $P < 0.05$, ** $P < 0.01$, *** $P < 0.001$, ns not significant. V: violaxanthin; A: antheraxanthin, Z: zeaxanthin.