



Figure S2. Diurnal metabolite levels under low temperature conditions in *fum2.1*. Fumarate (A), sucrose (B), malate (C) and starch (D) levels were determined throughout a 24 h period in plants exposed to low temperature. Plants of *fum2.1* were grown under $100 \mu\text{mol m}^{-2} \text{s}^{-1}$ light, 8 h light/16 h dark, $500 \mu\text{L L}^{-1} \text{CO}_2$, 20 °C light/18 °C dark conditions for 8 w, then transferred to low temperature (4 °C) for a 24 h period. Fully expanded leaves were excised and flash-frozen from individual plants at 2 h intervals in the light, and 4 h intervals in the dark.