

**Supplementary table 6.** Estimates of genetic parameters of pigment content

Parameters	An ( $\text{mg}\cdot\text{g}^{-1}$ )	Ca ( $\text{g}\cdot\text{ml}^{-1}$ )	An/Ca
m	1.05	23.6	0.15
$d_a$	0.34	10.08	0.08
$d_b$	0.32	6.89	0.07
$h_a$	-0.47	-14.18	-0.11
$h_b$	-0.21	-3.53	-0.04
$h_a/d_a$	-1.38	-1.41	-1.38
$h_b/d_b$	-0.66	-0.51	-0.57
$\sigma^2_{\text{mg}}$	0.15	81.33	0.01
$h^2_{\text{mg}} (\%)$	70.44	86.03	90.91
$\sigma^2_p$	0.21	94.54	0.01

Note: m, population mean square variance;  $d_a$ , the first major-gene additive effect;  $d_b$ , the first major-gene additive effect;  $h_a$ , the second major-gene dominant effect;  $h_b$ , the second major-gene dominant effect;  $\sigma^2_{\text{mg}}$ , major-gene variance;  $h^2_{\text{mg}}$ , major-gene heritability;  $\sigma^2_p$ , phenotypic variance.