

**Table 2.** Ribulose 1,5-bisphosphate carboxylase/oxygenase kinetic parameters

Species	$K_c$ ( $\mu\text{M}$ )	$K_c$ ( $\mu\text{bar}$ )	$K_o$ ( $\mu\text{M}$ )	$K_o$ (mbar)	$V_{\text{omax}}/V_{\text{cmax}}$	$S_{\text{clo}}$	$k_{\text{catc}}$	$k_{\text{cato}}$	Reference
<i>T. aestivum</i>	$9.7 \pm 0.3$	$291 \pm 10$	$244 \pm 20$	$194 \pm 16$	$0.22 \pm 0.02$	$114 \pm 4^{\text{b}}$ ( $3022 \pm 106^{\text{c}}$ )	$3.8 \pm 0.1$	$0.83 \pm 0.09$	This report
	$11.2 \pm 0.8$	$335 \pm 24$	$383 \pm 38$	$304 \pm 30$	$0.29 \pm 0.07$	$120 \pm 38$			Makino <i>et al.</i> (1988)
						$107 \pm 3$ $90 \pm 1$			Parry <i>et al.</i> (1989) Kane <i>et al.</i> (1994)
<i>Z. mays</i>	$16.2 \pm 1.7$	$485 \pm 50$	$183 \pm 19$	$146 \pm 15$	$0.11 \pm 0.01$	$108 \pm 6$ ( $2862 \pm 160$ )	$4.7 \pm 0.3$	$0.49 \pm 0.11$	This report
	$21.2 \pm 4.1$	$635 \pm 123$	$157 \pm 3$	$125 \pm 2^{\text{a}}$		$75 \pm 1$ $92 \pm 7$	$4.1 \pm 0.1$		Kubien <i>et al.</i> (2008)
	33	988	550	437					Parry <i>et al.</i> (1987)
	28	838	610	484					Badger & Andrews (1974)
	34	1018	810	$643^{\text{a}}$	0.3	78 $79 \pm 1$			Badger & Andrews (1974) Jordan & Ogren (1981) Kane <i>et al.</i> (1994)

The kinetic parameters for *T. aestivum* and *Z. mays* determined with the membrane inlet mass spectrometer system and from previous publications. Current measurements were made at 25 °C and pH of 7.95.

<sup>a</sup>Measured as  $K_i(\text{O}_2)$ .

<sup>b</sup> $S_{\text{clo}}$  solution concentration.

<sup>c</sup> $S_{\text{clo}}$  as gas phase mole fraction.

To convert  $K_c$  and  $K_o$  values from concentration to partial pressures, solubilities for  $\text{CO}_2$  of  $0.0334 \text{ mol (L bar)}^{-1}$  and for  $\text{O}_2$  of  $0.00126 \text{ mol (L bar)}^{-1}$  were used (von Caemmerer 2000).