**Table 1. Raman scattering intensities of water and K2CO3 aqueous solutions directly measured from the Raman spectra.**

**CO32- H2O CO32-/H2O**

***c*(mol/L) *c*(CO32-)/*c*(H2O) a *I*Height *I*Area(cm-1) *I*Height *I*Area(cm-1) *R*. *I*.(Height) *R*. *I*.(Area)**

0.00(0) b 0.000(0) 9988 430 5620

0.50(2) 0.009(1) 2458 28648 12317 5396990 0.20 0.01

1.00(3) 0.019(1) 3934 48243 9464 4279416 0.42 0.01

1.50(5) 0.028(2) 6294 73107 10141 4396376 0.62 0.02

2.00(6) 0.038(3) 10092 123735 11624 5265940 0.87 0.02

2.50(8) 0.049(4) 9785 129988 9280 4081311 1.05 0.03

3.00(9) 0.061(5) 12339 160994 9570 4270404 1.29 0.04

3.50(11) 0.073(6) 8562 117285 5480 2391649 1.56 0.05

4.00(12) 0.087(7) 11160 150606 6144 2761501 1.82 0.05

4.50(14) 0.100(8) 9236 125869 4615 1968210 2.00 0.06

5.00(15) 0.117(10) 16580 234654 7752 3403077 2.14 0.07

5.50(17) 0.131(12) 26696 375411 10730 4745671 2.49 0.08

a Thisrefers to the relative concentration of the CO32- ion (mol/L) to the H2O (mol/L) calculated according to the measured density.

b Number in parentheses is one standard deviation in the rightmost digit. The concentration errors of the K2CO3aqueous solutions are assumed as 3%.