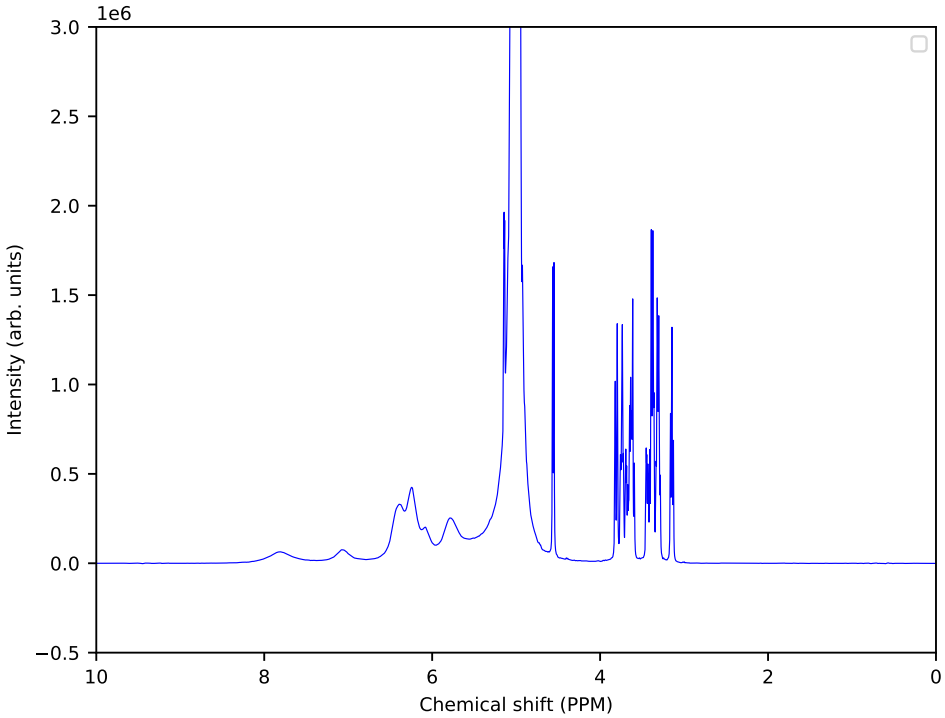

Figure 1: Full proton experimental spectrum of 1M glucose in 1xPBS, pH=7.00, temperature = 270 K at magnetic field of 11.7 T

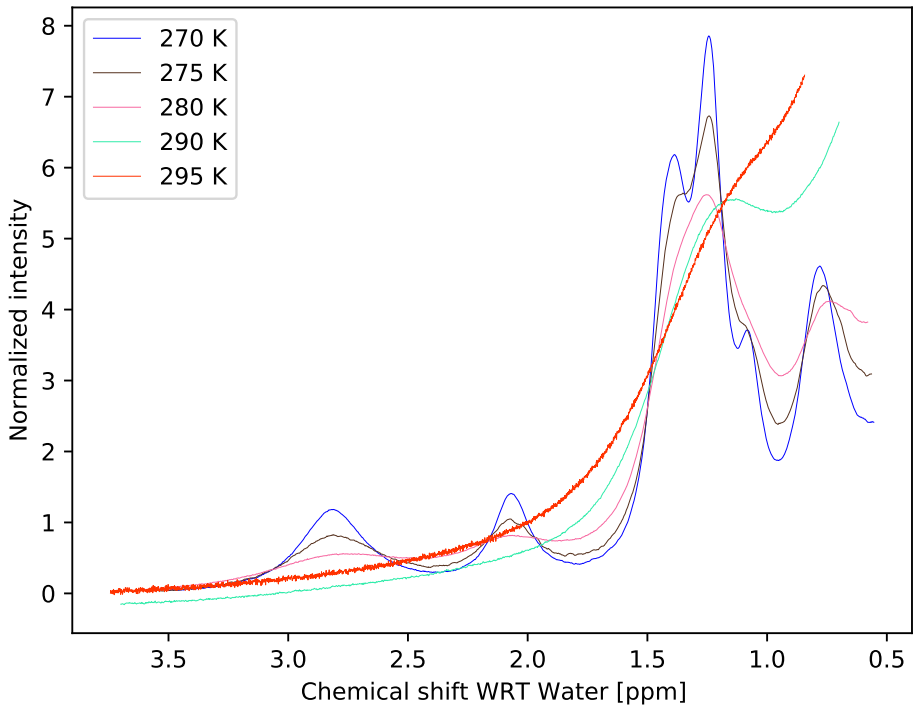

Figure 2: Set of experimental spectra in -OH region of 1M glucose in 1xPBS, pH=7.00, at magnetic field of 11.7 T. At this pH, the spectra loose quickly resolution with increasing temperature.

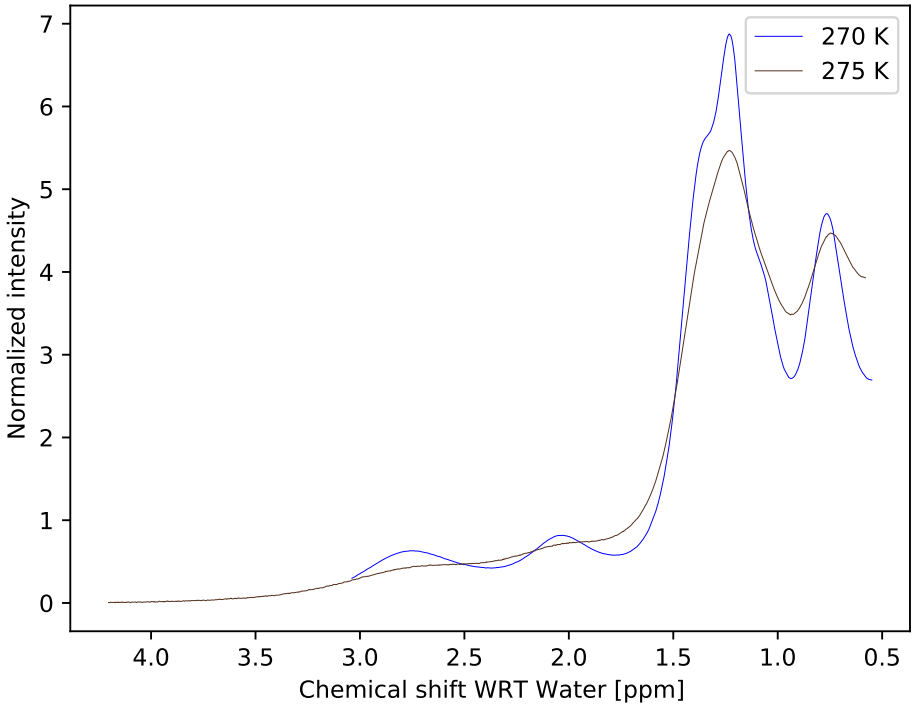

Figure 3: Experimental spectra in -OH region of 1M glucose in 1xPBS, pH=7.38, at magnetic field of 11.7 T. In this pH, already at T=275 K, the resolution is very poor.

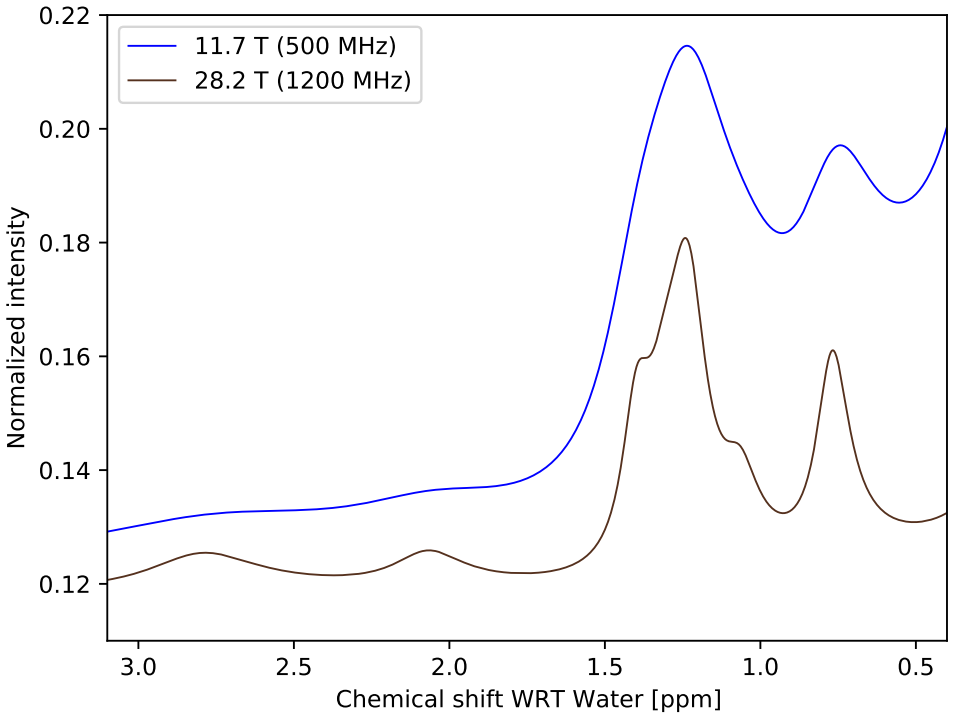

Figure 4: Simulated spectra in -OH region of 1M glucose in 1xPBS, at 275 K (calibrated temperature $\cong$ 273.5 K), pH=7.38, at magnetic fields of 11.7 T and 28.2 T. The ultra high field gives good separation of glucose OH signals as well as their separation from the water signal.

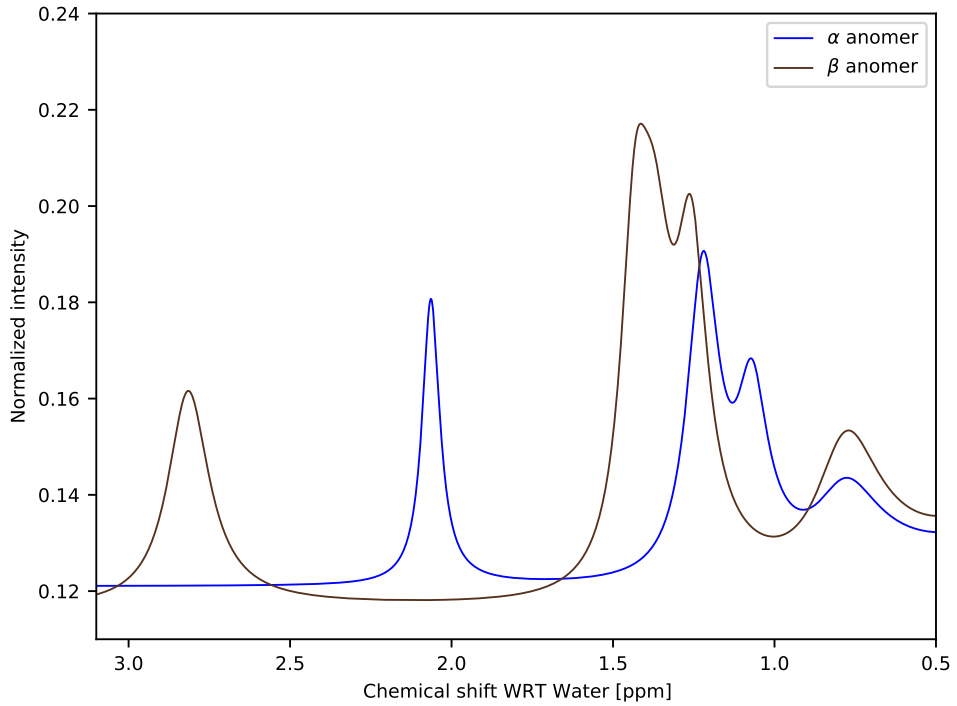

Figure 5: Hypothetical simulated spectra in -OH region of separate α and β anomers of 1M glucose in 1xPBS, at pH=6.21, temperature = 270 K at magnetic field of 11.7 T

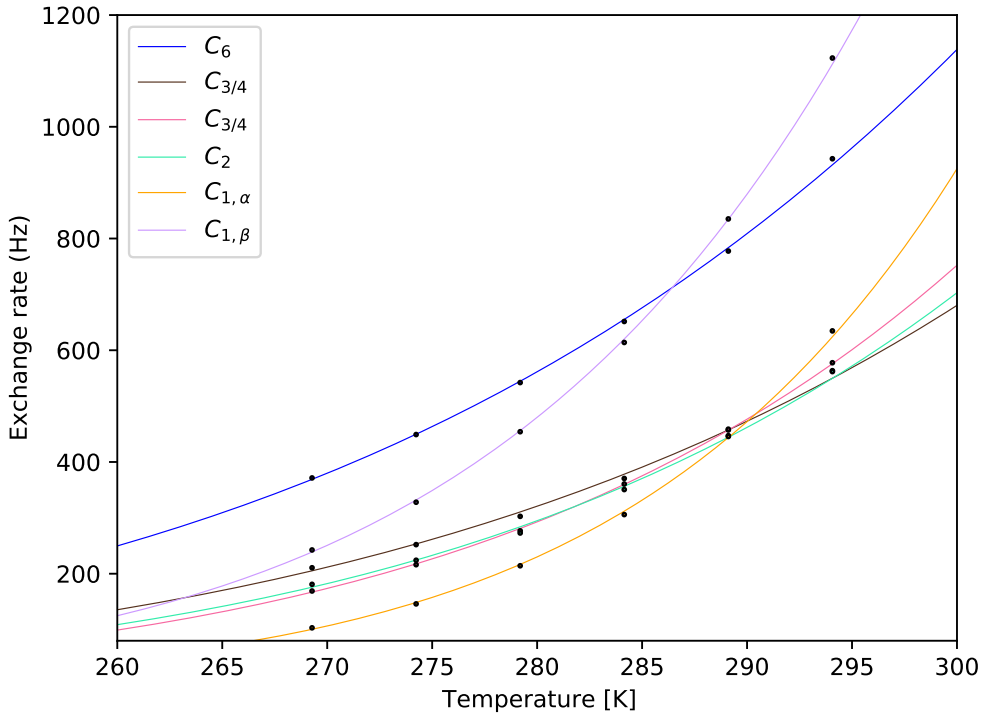

Figure 6: Fits of the temperature series for sample of pH=6.21. Exchange rate obtained by MCMC fit for each site are shown at calibrated temperatures, zoomed around the data points.

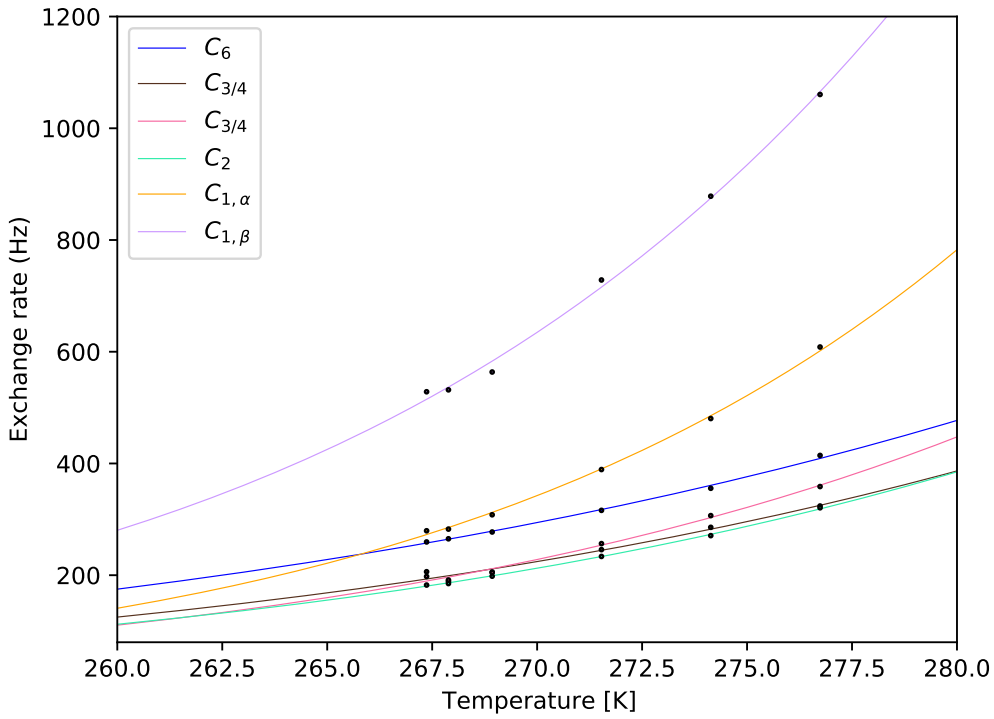

Figure 7: Fits of the temperature series for sample of pH=7.00. Exchange rate obtained by MCMC fit for each site are shown at calibrated temperatures, zoomed around the data points. Note that the lowest-temperature points are systematically out of trend. Removing these points may be considered after rigorous justification.

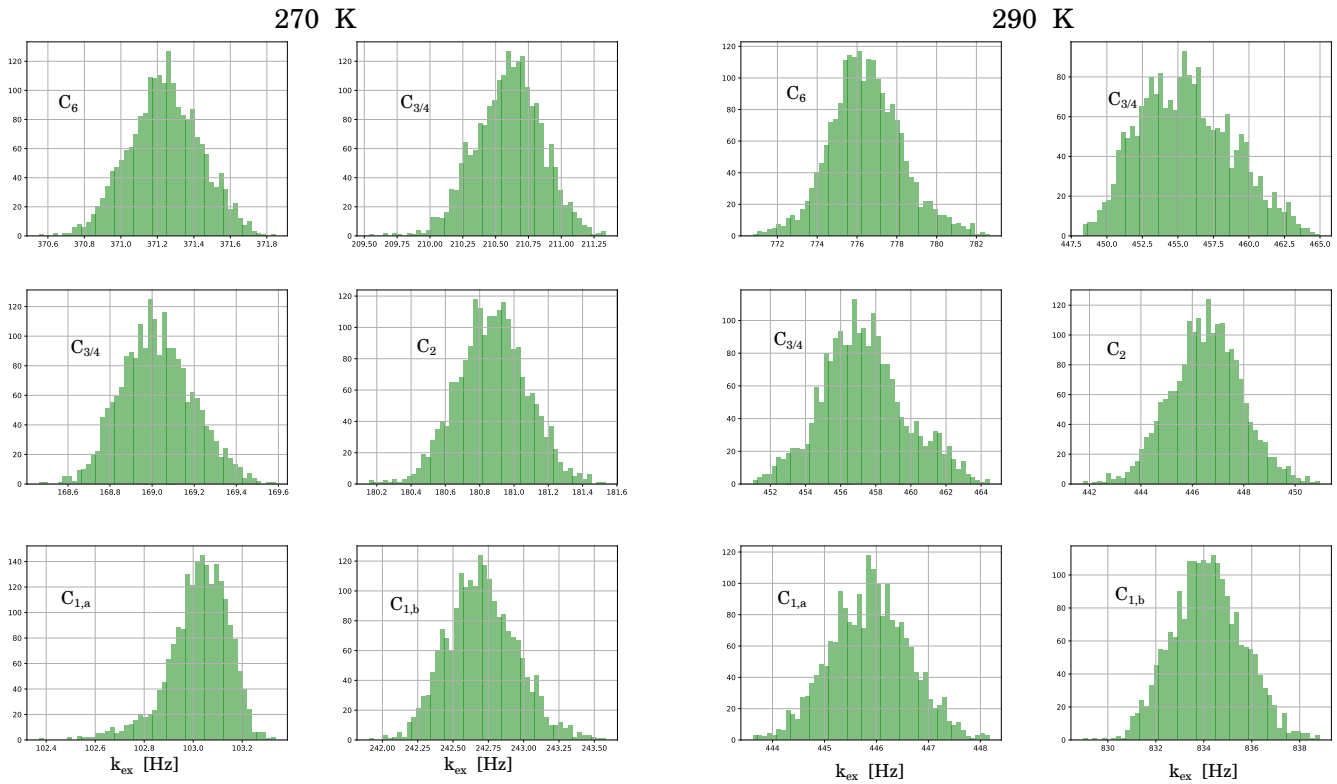

Figure 8: Examples of histograms of exchange rates obtained in MCMC simulations, for sample of pH=6.21, at 270 K and 290 K. The distributions are approximately symmetric.

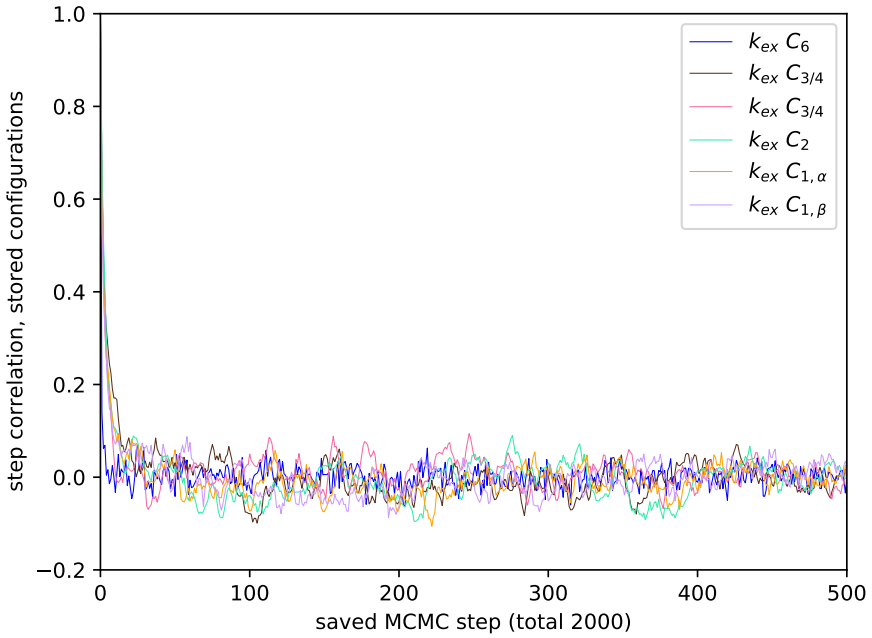

Figure 9: Examples correlation functions of saved steps obtained in MCMC simulations, for sample of pH=6.21, at 270 K. One can see that the correlation time is short on the scale of MCMC simulation, therefore the space is probably sampled well.

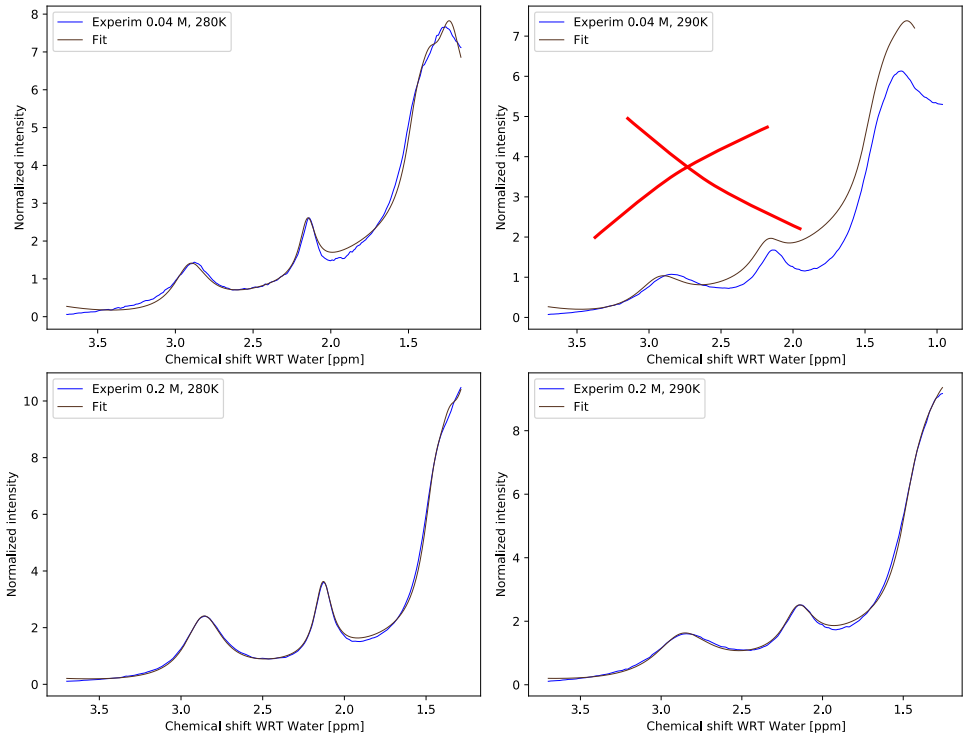

Figure 10: Spectra at low concentration of glucose, pH = 6.21, clearly the fitting for spectrum of 0.04 M glucose at 290 K has to be discarted.

Table 1: Exchange rates extrapolated to 310 K, 1M glucose at pH=6.21, using restricted model, with partial assignment.

T(K)	C_6	$C_{3/4}$	$C_{3/4}$	C_2	$C_{1,\alpha}$	$C_{1,\beta}$
260.0	249.7 ± 0.8	135.5 ± 1.8	99.1 ± 0.9	108.8 ± 0.5	46.46 ± 0.17	124.8 ± 0.4
260.25	252.5 ± 0.8	137.1 ± 1.8	100.5 ± 0.9	110.2 ± 0.5	47.47 ± 0.17	127.1 ± 0.4
260.5	255.2 ± 0.8	138.7 ± 1.8	102.0 ± 0.9	111.7 ± 0.5	48.50 ± 0.17	129.4 ± 0.4
260.75	258.0 ± 0.8	140.3 ± 1.8	103.5 ± 0.9	113.2 ± 0.5	49.55 ± 0.17	131.7 ± 0.4
261.0	260.8 ± 0.8	141.9 ± 1.8	105.0 ± 0.9	114.7 ± 0.5	50.62 ± 0.18	134.1 ± 0.4
261.25	263.6 ± 0.8	143.5 ± 1.7	106.5 ± 0.9	116.3 ± 0.5	51.71 ± 0.18	136.6 ± 0.4
261.5	266.5 ± 0.8	145.2 ± 1.7	108.1 ± 0.9	117.8 ± 0.5	52.82 ± 0.18	139.0 ± 0.4
261.75	269.3 ± 0.8	146.8 ± 1.7	109.6 ± 0.9	119.4 ± 0.5	53.95 ± 0.18	141.5 ± 0.4
262.0	272.2 ± 0.8	148.5 ± 1.7	111.2 ± 0.9	121.0 ± 0.5	55.11 ± 0.18	144.1 ± 0.4
262.25	275.2 ± 0.8	150.2 ± 1.7	112.8 ± 0.9	122.6 ± 0.5	56.29 ± 0.18	146.7 ± 0.4
262.5	278.1 ± 0.8	151.9 ± 1.7	114.5 ± 0.9	124.2 ± 0.5	57.49 ± 0.18	149.3 ± 0.4
262.75	281.1 ± 0.8	153.7 ± 1.7	116.1 ± 0.9	125.8 ± 0.5	58.71 ± 0.19	152.0 ± 0.4
263.0	284.1 ± 0.8	155.4 ± 1.7	117.8 ± 0.9	127.5 ± 0.5	59.96 ± 0.19	154.7 ± 0.4
263.25	287.1 ± 0.8	157.2 ± 1.6	119.4 ± 0.9	129.2 ± 0.5	61.24 ± 0.19	157.4 ± 0.4
263.5	290.2 ± 0.8	159.0 ± 1.6	121.2 ± 0.9	130.9 ± 0.5	62.53 ± 0.19	160.2 ± 0.4
263.75	293.3 ± 0.7	160.8 ± 1.6	122.9 ± 0.9	132.6 ± 0.5	63.85 ± 0.19	163.1 ± 0.4
264.0	296.4 ± 0.7	162.6 ± 1.6	124.6 ± 0.8	134.3 ± 0.5	65.20 ± 0.19	166.0 ± 0.4
264.25	299.6 ± 0.7	164.4 ± 1.6	126.4 ± 0.8	136.1 ± 0.5	66.58 ± 0.19	168.9 ± 0.4
264.5	302.7 ± 0.7	166.3 ± 1.6	128.2 ± 0.8	137.9 ± 0.5	67.98 ± 0.20	171.9 ± 0.4
264.75	305.9 ± 0.7	168.1 ± 1.5	130.0 ± 0.8	139.7 ± 0.5	69.40 ± 0.20	174.9 ± 0.4
265.0	309.1 ± 0.7	170.0 ± 1.5	131.8 ± 0.8	141.5 ± 0.5	70.86 ± 0.20	178.0 ± 0.4
265.25	312.4 ± 0.7	171.9 ± 1.5	133.7 ± 0.8	143.3 ± 0.5	72.34 ± 0.20	181.1 ± 0.4
265.5	315.7 ± 0.7	173.9 ± 1.5	135.6 ± 0.8	145.2 ± 0.5	73.85 ± 0.20	184.3 ± 0.4
265.75	319.0 ± 0.7	175.8 ± 1.5	137.5 ± 0.8	147.0 ± 0.5	75.39 ± 0.20	187.6 ± 0.4
266.0	322.3 ± 0.7	177.8 ± 1.4	139.4 ± 0.8	148.9 ± 0.5	76.95 ± 0.20	190.8 ± 0.4
266.25	325.7 ± 0.7	179.7 ± 1.4	141.4 ± 0.8	150.9 ± 0.5	78.55 ± 0.21	194.2 ± 0.4
266.5	329.1 ± 0.6	181.7 ± 1.4	143.4 ± 0.8	152.8 ± 0.5	80.18 ± 0.21	197.5 ± 0.4
266.75	332.5 ± 0.6	183.8 ± 1.4	145.4 ± 0.8	154.8 ± 0.5	81.84 ± 0.21	201.0 ± 0.4
267.0	336.0 ± 0.6	185.8 ± 1.4	147.4 ± 0.7	156.7 ± 0.5	83.53 ± 0.21	204.5 ± 0.4
267.25	339.5 ± 0.6	187.8 ± 1.3	149.4 ± 0.7	158.7 ± 0.5	85.25 ± 0.21	208.0 ± 0.4
267.5	343.0 ± 0.6	189.9 ± 1.3	151.5 ± 0.7	160.8 ± 0.5	87.00 ± 0.21	211.6 ± 0.4
267.75	346.5 ± 0.6	192.0 ± 1.3	153.6 ± 0.7	162.8 ± 0.5	88.78 ± 0.21	215.2 ± 0.4
268.0	350.1 ± 0.6	194.1 ± 1.3	155.7 ± 0.7	164.9 ± 0.5	90.60 ± 0.21	219.0 ± 0.4
268.25	353.7 ± 0.6	196.2 ± 1.2	157.9 ± 0.7	167.0 ± 0.5	92.46 ± 0.21	222.7 ± 0.4
268.5	357.4 ± 0.6	198.4 ± 1.2	160.0 ± 0.7	169.1 ± 0.5	94.34 ± 0.21	226.5 ± 0.4
268.75	361.0 ± 0.6	200.5 ± 1.2	162.2 ± 0.7	171.2 ± 0.4	96.27 ± 0.22	230.4 ± 0.4
269.0	364.7 ± 0.5	202.7 ± 1.2	164.5 ± 0.7	173.4 ± 0.4	98.22 ± 0.22	234.4 ± 0.4
269.25	368.4 ± 0.5	204.9 ± 1.1	166.7 ± 0.6	175.6 ± 0.4	100.22 ± 0.22	238.4 ± 0.4
269.5	372.2 ± 0.5	207.2 ± 1.1	169.0 ± 0.6	177.8 ± 0.4	102.25 ± 0.22	242.4 ± 0.4
269.75	376.0 ± 0.5	209.4 ± 1.1	171.3 ± 0.6	180.0 ± 0.4	104.32 ± 0.22	246.5 ± 0.4
270.0	379.8 ± 0.5	211.7 ± 1.0	173.6 ± 0.6	182.3 ± 0.4	106.42 ± 0.22	250.7 ± 0.4
270.25	383.7 ± 0.5	214.0 ± 1.0	176.0 ± 0.6	184.6 ± 0.4	108.57 ± 0.22	255.0 ± 0.4
270.5	387.6 ± 0.5	216.3 ± 1.0	178.4 ± 0.6	186.9 ± 0.4	110.75 ± 0.22	259.3 ± 0.4
270.75	391.5 ± 0.5	218.6 ± 1.0	180.8 ± 0.6	189.2 ± 0.4	112.98 ± 0.22	263.7 ± 0.4
271.0	395.5 ± 0.4	221.0 ± 0.9	183.3 ± 0.5	191.6 ± 0.4	115.24 ± 0.22	268.1 ± 0.4
271.25	399.4 ± 0.4	223.3 ± 0.9	185.7 ± 0.5	193.9 ± 0.4	117.55 ± 0.22	272.6 ± 0.4
271.5	403.5 ± 0.4	225.7 ± 0.9	188.2 ± 0.5	196.3 ± 0.4	119.89 ± 0.22	277.2 ± 0.4
271.75	407.5 ± 0.4	228.1 ± 0.8	190.8 ± 0.5	198.8 ± 0.4	122.28 ± 0.23	281.8 ± 0.4
272.0	411.6 ± 0.4	230.6 ± 0.8	193.3 ± 0.5	201.2 ± 0.4	124.72 ± 0.23	286.5 ± 0.4
272.25	415.7 ± 0.4	233.0 ± 0.8	195.9 ± 0.5	203.7 ± 0.4	127.19 ± 0.23	291.3 ± 0.4
272.5	419.9 ± 0.4	235.5 ± 0.7	198.6 ± 0.5	206.2 ± 0.4	129.71 ± 0.23	296.2 ± 0.4
272.75	424.1 ± 0.4	238.0 ± 0.7	201.2 ± 0.4	208.8 ± 0.4	132.28 ± 0.23	301.1 ± 0.4
273.0	428.3 ± 0.4	240.5 ± 0.7	203.9 ± 0.4	211.3 ± 0.4	134.89 ± 0.23	306.1 ± 0.4
273.25	432.5 ± 0.4	243.1 ± 0.7	206.6 ± 0.4	213.9 ± 0.4	137.55 ± 0.23	311.2 ± 0.4
273.5	436.84 ± 0.35	245.6 ± 0.6	209.3 ± 0.4	216.5 ± 0.4	140.26 ± 0.23	316.3 ± 0.4
273.75	441.17 ± 0.34	248.2 ± 0.6	212.1 ± 0.4	219.2 ± 0.4	143.02 ± 0.23	321.6 ± 0.4
274.0	445.53 ± 0.34	250.8 ± 0.6	214.9 ± 0.4	221.8 ± 0.4	145.82 ± 0.23	326.9 ± 0.4
274.25	449.93 ± 0.33	253.5 ± 0.6	217.8 ± 0.4	224.5 ± 0.4	148.68 ± 0.23	332.2 ± 0.4
274.5	454.36 ± 0.33	256.1 ± 0.6	220.6 ± 0.4	227.3 ± 0.4	151.58 ± 0.23	337.7 ± 0.4
274.75	458.83 ± 0.33	258.8 ± 0.6	223.6 ± 0.4	230.0 ± 0.4	154.54 ± 0.23	343.2 ± 0.4
275.0	463.34 ± 0.33	261.5 ± 0.6	226.5 ± 0.4	232.8 ± 0.4	157.55 ± 0.24	348.9 ± 0.4
275.25	467.88 ± 0.33	264.2 ± 0.6	229.5 ± 0.4	235.6 ± 0.4	160.61 ± 0.24	354.6 ± 0.4
275.5	472.46 ± 0.34	267.0 ± 0.6	232.5 ± 0.4	238.4 ± 0.4	163.73 ± 0.24	360.3 ± 0.4
275.75	477.08 ± 0.34	269.8 ± 0.6	235.5 ± 0.4	241.3 ± 0.4	166.90 ± 0.24	366.2 ± 0.4
276.0	481.73 ± 0.35	272.6 ± 0.6	238.6 ± 0.4	244.2 ± 0.4	170.12 ± 0.24	372.2 ± 0.4
276.25	486.4 ± 0.4	275.4 ± 0.6	241.7 ± 0.4	247.1 ± 0.4	173.41 ± 0.24	378.2 ± 0.4
276.5	491.1 ± 0.4	278.2 ± 0.6	244.8 ± 0.4	250.1 ± 0.4	176.75 ± 0.24	384.3 ± 0.4
276.75	495.9 ± 0.4	281.1 ± 0.7	248.0 ± 0.4	253.1 ± 0.4	180.15 ± 0.25	390.5 ± 0.4
277.0	500.7 ± 0.4	284.0 ± 0.7	251.2 ± 0.5	256.1 ± 0.4	183.61 ± 0.25	396.8 ± 0.4
277.25	505.6 ± 0.4	286.9 ± 0.7	254.5 ± 0.5	259.2 ± 0.4	187.12 ± 0.25	403.2 ± 0.4
277.5	510.4 ± 0.4	289.9 ± 0.8	257.8 ± 0.5	262.2 ± 0.4	190.70 ± 0.25	409.7 ± 0.4
277.75	515.4 ± 0.4	292.9 ± 0.8	261.1 ± 0.5	265.4 ± 0.4	194.34 ± 0.25	416.3 ± 0.4
278.0	520.3 ± 0.5	295.9 ± 0.9	264.5 ± 0.6	268.5 ± 0.4	198.05 ± 0.26	423.0 ± 0.4
278.25	525.3 ± 0.5	298.9 ± 0.9	267.9 ± 0.6	271.7 ± 0.4	201.82 ± 0.26	429.7 ± 0.4
278.5	530.3 ± 0.5	301.9 ± 1.0	271.3 ± 0.6	274.9 ± 0.4	205.65 ± 0.26	436.6 ± 0.4
278.75	535.4 ± 0.5	305.0 ± 1.0	274.8 ± 0.7	278.1 ± 0.5	209.55 ± 0.27	443.6 ± 0.5
279.0	540.5 ± 0.6	308.1 ± 1.1	278.3 ± 0.7	281.4 ± 0.5	213.51 ± 0.27	450.6 ± 0.5
279.25	545.7 ± 0.6	311.2 ± 1.1	281.8 ± 0.7	284.7 ± 0.5	217.55 ± 0.28	457.8 ± 0.5
279.5	550.9 ± 0.6	314.4 ± 1.2	285.4 ± 0.8	288.0 ± 0.5	221.65 ± 0.28	465.0 ± 0.5
279.75	556.1 ± 0.6	317.6 ± 1.3	289.1 ± 0.8	291.4 ± 0.5	225.82 ± 0.28	472.4 ± 0.5
280.0	561.4 ± 0.7	320.8 ± 1.3	292.7 ± 0.9	294.8 ± 0.5	230.06 ± 0.29	479.9 ± 0.5
280.25	566.7 ± 0.7	324.0 ± 1.4	296.4 ± 0.9	298.2 ± 0.5	234.38 ± 0.30	487.4 ± 0.5
280.5	572.1 ± 0.7	327.3 ± 1.5	300.2 ± 1.0	301.7 ± 0.6	238.77 ± 0.30	495.1 ± 0.6
280.75	577.5 ± 0.7	330.5 ± 1.5	304.0 ± 1.0	305.2 ± 0.6	243.23 ± 0.31	502.9 ± 0.6
281.0	582.9 ± 0.8	333.9 ± 1.6	307.8 ± 1.1	308.8 ± 0.6	247.77 ± 0.31	510.8 ± 0.6
281.25	588.4 ± 0.8	337.2 ± 1.7	311.7 ± 1.1	312.3 ± 0.6	252.39 ± 0.32	518.8 ± 0.6
281.5	593.9 ± 0.8	340.6 ± 1.8	315.6 ± 1.2	316.0 ± 0.6	257.08 ± 0.33	526.9 ± 0.6
281.75	599.5 ± 0.9	344.0 ± 1.9	319.6 ± 1.2	319.6 ± 0.6	261.85 ± 0.34	535.1 ± 0.7
282.0	605.1 ± 0.9	347.4 ± 1.9	323.6 ± 1.3	323.3 ± 0.7	266.70 ± 0.35	543.5 ± 0.7
282.25	610.8 ± 0.9	350.9 ± 2.0	327.6 ± 1.3	327.0 ± 0.7	271.64 ± 0.35	551.9 ± 0.7
282.5	616.5 ± 1.0	354.3 ± 2.1	331.7 ± 1.4	330.8 ± 0.7	276.7 ± 0.4	560.5 ± 0.7
282.75	622.2 ± 1.0	357.8 ± 2.2	335.8 ± 1.4	334.6 ± 0.7	281.8 ± 0.4	569.2 ± 0.8
283.0	628.0 ± 1.0	361.4 ± 2.3	340.0 ± 1.5	338.4 ± 0.8	286.9 ± 0.4	578.0 ± 0.8
283.25	633.8 ± 1.1	365.0 ± 2.4	344.2 ± 1.5	342.2 ± 0.8	292.2 ± 0.4	586.9 ± 0.8
283.5	639.7 ± 1.1	368.5 ± 2.4	348.5 ± 1.6	346.1 ± 0.8	297.6 ± 0.4	596.0 ± 0.9
283.75	645.6 ± 1.2	372.2 ± 2.5	352.8 ± 1.7	350.1 ± 0.8	303.0 ± 0.4	605.2 ± 0.9
284.0	651.6 ± 1.2	375.8 ± 2.6	357.2 ± 1.7	354.1 ± 0.9	308.6 ± 0.4	614.5 ± 0.9
284.25	657.6 ± 1.2	379.5 ± 2.7	361.6 ± 1.8	358.1 ± 0.9	314.2 ± 0.4	623.9 ± 1.0
284.5	663.6 ± 1.3	383.2 ± 2.8	366.0 ± 1.9	362.1 ± 0.9	319.9 ± 0.5	633.4 ± 1.0
284.75	669.7 ± 1.3	387.0 ± 2.9	370.5 ± 1.9	366.2 ± 0.9	325.7 ± 0.5	643.1 ± 1.0
285.0	675.9 ± 1.4	390.8 ± 3.0	375.1 ± 2.0	370.4 ± 1.0	331.6 ± 0.5	652.9 ± 1.1

Table 2: CONT: Exchange rates extrapolated to 310 K, 1M glucose at pH=6.21, using restricted model, with partial assignment.

T(K)	C_6	$C_{3/4}$	$C_{3/4}$	C_2	$C_{1,\alpha}$	$C_{1,\beta}$
285.25	682.0 ± 1.4	394.6 ± 3.1	379.7 ± 2.1	374.5 ± 1.0	337.6 ± 0.5	662.9 ± 1.1
285.5	688.3 ± 1.4	398.4 ± 3.2	384.3 ± 2.2	378.8 ± 1.0	343.7 ± 0.5	673.0 ± 1.1
285.75	694.6 ± 1.5	402.3 ± 3.3	389.0 ± 2.2	383.0 ± 1.1	349.9 ± 0.5	683.2 ± 1.2
286.0	700.9 ± 1.5	406.2 ± 3.4	393.7 ± 2.3	387.3 ± 1.1	356.3 ± 0.6	693.6 ± 1.2
286.25	707.3 ± 1.6	410.1 ± 3.5	398.5 ± 2.4	391.6 ± 1.1	362.7 ± 0.6	704.1 ± 1.3
286.5	713.7 ± 1.6	414 ± 4	403.4 ± 2.5	396.0 ± 1.2	369.2 ± 0.6	714.7 ± 1.3
286.75	720.2 ± 1.7	418 ± 4	408.3 ± 2.5	400.4 ± 1.2	375.8 ± 0.6	725.5 ± 1.3
287.0	726.7 ± 1.7	422 ± 4	413.2 ± 2.6	404.9 ± 1.2	382.5 ± 0.6	736.4 ± 1.4
287.25	733.2 ± 1.8	426 ± 4	418.2 ± 2.7	409.4 ± 1.3	389.4 ± 0.7	747.5 ± 1.4
287.5	739.8 ± 1.8	430 ± 4	423.2 ± 2.8	414.0 ± 1.3	396.3 ± 0.7	758.7 ± 1.5
287.75	746.5 ± 1.9	434 ± 4	428.3 ± 2.9	418.5 ± 1.3	403.4 ± 0.7	770.0 ± 1.5
288.0	753.2 ± 1.9	438 ± 4	433.5 ± 3.0	423.2 ± 1.4	410.5 ± 0.7	781.6 ± 1.6
288.25	760.0 ± 2.0	443 ± 4	438.7 ± 3.1	427.8 ± 1.4	417.8 ± 0.7	793.2 ± 1.6
288.5	766.8 ± 2.0	447 ± 5	443.9 ± 3.2	432.6 ± 1.4	425.2 ± 0.8	805.1 ± 1.7
288.75	773.6 ± 2.1	451 ± 5	449.2 ± 3.2	437.3 ± 1.5	432.7 ± 0.8	817.0 ± 1.7
289.0	780.6 ± 2.1	455 ± 5	454.6 ± 3.3	442.1 ± 1.5	440.4 ± 0.8	829.2 ± 1.8
289.25	787.5 ± 2.2	460 ± 5	460.0 ± 3.4	447.0 ± 1.6	448.1 ± 0.8	841.5 ± 1.8
289.5	794.5 ± 2.2	464 ± 5	465.5 ± 3.5	451.9 ± 1.6	456.0 ± 0.9	853.9 ± 1.9
289.75	801.6 ± 2.3	469 ± 5	471 ± 4	456.8 ± 1.6	464.0 ± 0.9	866.5 ± 2.0
290.0	808.7 ± 2.3	473 ± 5	477 ± 4	461.8 ± 1.7	472.2 ± 0.9	879.3 ± 2.0
290.25	815.9 ± 2.4	477 ± 5	482 ± 4	466.8 ± 1.7	480.4 ± 1.0	892.3 ± 2.1
290.5	823.1 ± 2.5	482 ± 6	488 ± 4	471.9 ± 1.8	488.8 ± 1.0	905.4 ± 2.1
290.75	830.3 ± 2.5	486 ± 6	494 ± 4	477.0 ± 1.8	497.4 ± 1.0	918.7 ± 2.2
291.0	837.7 ± 2.6	491 ± 6	500 ± 4	482.2 ± 1.9	506.0 ± 1.1	932.1 ± 2.3
291.25	845.0 ± 2.6	496 ± 6	505 ± 4	487.4 ± 1.9	514.8 ± 1.1	945.8 ± 2.3
291.5	852.5 ± 2.7	500 ± 6	511 ± 4	492.7 ± 2.0	523.8 ± 1.1	959.6 ± 2.4
291.75	859.9 ± 2.8	505 ± 6	517 ± 4	498.0 ± 2.0	532.9 ± 1.2	973.6 ± 2.5
292.0	867.5 ± 2.8	510 ± 6	523 ± 5	503.4 ± 2.1	542.1 ± 1.2	987.8 ± 2.5
292.25	875.0 ± 2.9	514 ± 7	530 ± 5	508.8 ± 2.1	551.4 ± 1.2	1002.1 ± 2.6
292.5	882.7 ± 2.9	519 ± 7	536 ± 5	514.3 ± 2.2	560.9 ± 1.3	1016.7 ± 2.7
292.75	890.4 ± 3.0	524 ± 7	542 ± 5	519.8 ± 2.2	570.6 ± 1.3	1031.4 ± 2.8
293.0	898.1 ± 3.1	529 ± 7	548 ± 5	525.3 ± 2.3	580.4 ± 1.3	1046.3 ± 2.8
293.25	905.9 ± 3.1	534 ± 7	555 ± 5	531.0 ± 2.3	590.4 ± 1.4	1061.4 ± 2.9
293.5	913.8 ± 3.2	539 ± 7	561 ± 5	536.6 ± 2.4	600.5 ± 1.4	1076.7 ± 3.0
293.75	921.7 ± 3.3	543 ± 8	568 ± 5	542.3 ± 2.4	610.7 ± 1.5	1092.2 ± 3.1
294.0	929.6 ± 3.3	548 ± 8	574 ± 6	548.1 ± 2.5	621.2 ± 1.5	1107.9 ± 3.1
294.25	937.7 ± 3.4	554 ± 8	581 ± 6	553.9 ± 2.5	631.8 ± 1.6	1123.8 ± 3.2
294.5	945.7 ± 3.5	559 ± 8	587 ± 6	559.8 ± 2.6	642.5 ± 1.6	1139.9 ± 3.3
294.75	954 ± 4	564 ± 8	594 ± 6	565.7 ± 2.6	653.4 ± 1.7	1156.1 ± 3.4
295.0	962 ± 4	569 ± 8	601 ± 6	571.7 ± 2.7	664.5 ± 1.7	1172.6 ± 3.5
295.25	970 ± 4	574 ± 9	608 ± 6	577.7 ± 2.8	675.7 ± 1.8	1189 ± 4
295.5	979 ± 4	579 ± 9	615 ± 6	583.8 ± 2.8	687.2 ± 1.8	1206 ± 4
295.75	987 ± 4	585 ± 9	622 ± 7	589.9 ± 2.9	698.8 ± 1.9	1223 ± 4
296.0	995 ± 4	590 ± 9	629 ± 7	596.1 ± 2.9	710.5 ± 1.9	1241 ± 4
296.25	1004 ± 4	595 ± 9	636 ± 7	602.4 ± 3.0	722.5 ± 2.0	1258 ± 4
296.5	1012 ± 4	601 ± 10	643 ± 7	608.7 ± 3.1	734.6 ± 2.0	1276 ± 4
296.75	1021 ± 4	606 ± 10	651 ± 7	615.0 ± 3.1	746.9 ± 2.1	1294 ± 4
297.0	1030 ± 4	611 ± 10	658 ± 7	621.4 ± 3.2	759.4 ± 2.1	1312 ± 4
297.25	1038 ± 4	617 ± 10	665 ± 8	627.9 ± 3.3	772.1 ± 2.2	1331 ± 4
297.5	1047 ± 4	622 ± 10	673 ± 8	634.4 ± 3.3	785.0 ± 2.3	1349 ± 4
297.75	1056 ± 4	628 ± 10	680 ± 8	641.0 ± 3.4	798.0 ± 2.3	1368 ± 5
298.0	1065 ± 5	634 ± 11	688 ± 8	647.6 ± 3.5	811.3 ± 2.4	1387 ± 5
298.25	1074 ± 5	639 ± 11	696 ± 8	654 ± 4	824.8 ± 2.5	1407 ± 5
298.5	1083 ± 5	645 ± 11	704 ± 8	661 ± 4	838.4 ± 2.5	1426 ± 5
298.75	1092 ± 5	651 ± 11	712 ± 9	668 ± 4	852.3 ± 2.6	1446 ± 5
299.0	1101 ± 5	657 ± 12	719 ± 9	675 ± 4	866.4 ± 2.7	1466 ± 5
299.25	1110 ± 5	662 ± 12	728 ± 9	682 ± 4	880.7 ± 2.7	1487 ± 5
299.5	1120 ± 5	668 ± 12	736 ± 9	689 ± 4	895.2 ± 2.8	1507 ± 5
299.75	1129 ± 5	674 ± 12	744 ± 9	696 ± 4	909.9 ± 2.9	1528 ± 6
300.0	1138 ± 5	680 ± 12	752 ± 9	703 ± 4	924.8 ± 3.0	1549 ± 6
300.25	1148 ± 5	686 ± 13	760 ± 10	710 ± 4	940.0 ± 3.0	1571 ± 6
300.5	1157 ± 5	692 ± 13	769 ± 10	717 ± 4	955.3 ± 3.1	1592 ± 6
300.75	1167 ± 6	698 ± 13	777 ± 10	725 ± 4	970.9 ± 3.2	1614 ± 6
301.0	1176 ± 6	705 ± 13	786 ± 10	732 ± 4	986.7 ± 3.3	1636 ± 6
301.25	1186 ± 6	711 ± 14	795 ± 10	739 ± 4	1002.8 ± 3.4	1659 ± 6
301.5	1196 ± 6	717 ± 14	803 ± 11	747 ± 5	1019.1 ± 3.5	1681 ± 7
301.75	1206 ± 6	723 ± 14	812 ± 11	754 ± 5	1035.6 ± 3.5	1704 ± 7
302.0	1216 ± 6	729 ± 14	821 ± 11	762 ± 5	1052 ± 4	1728 ± 7
302.25	1226 ± 6	736 ± 15	830 ± 11	770 ± 5	1069 ± 4	1751 ± 7
302.5	1236 ± 6	742 ± 15	839 ± 12	777 ± 5	1087 ± 4	1775 ± 7
302.75	1246 ± 6	749 ± 15	848 ± 12	785 ± 5	1104 ± 4	1799 ± 7
303.0	1256 ± 6	755 ± 15	857 ± 12	793 ± 5	1122 ± 4	1823 ± 7
303.25	1266 ± 7	762 ± 16	867 ± 12	801 ± 5	1140 ± 4	1848 ± 8
303.5	1276 ± 7	768 ± 16	876 ± 12	809 ± 5	1158 ± 4	1873 ± 8
303.75	1287 ± 7	775 ± 16	886 ± 13	817 ± 5	1177 ± 4	1898 ± 8
304.0	1297 ± 7	782 ± 16	895 ± 13	825 ± 5	1196 ± 4	1924 ± 8
304.25	1308 ± 7	788 ± 17	905 ± 13	834 ± 6	1215 ± 5	1950 ± 8
304.5	1318 ± 7	795 ± 17	915 ± 13	842 ± 6	1234 ± 5	1976 ± 8
304.75	1329 ± 7	802 ± 17	925 ± 14	850 ± 6	1254 ± 5	2002 ± 9
305.0	1340 ± 7	809 ± 17	935 ± 14	859 ± 6	1274 ± 5	2029 ± 9
305.25	1350 ± 7	816 ± 18	945 ± 14	867 ± 6	1294 ± 5	2056 ± 9
305.5	1361 ± 8	823 ± 18	955 ± 14	876 ± 6	1314 ± 5	2083 ± 9
305.75	1372 ± 8	830 ± 18	965 ± 15	884 ± 6	1335 ± 5	2111 ± 9
306.0	1383 ± 8	837 ± 19	975 ± 15	893 ± 6	1356 ± 5	2139 ± 10
306.25	1394 ± 8	844 ± 19	986 ± 15	902 ± 6	1377 ± 5	2168 ± 10
306.5	1405 ± 8	851 ± 19	996 ± 16	911 ± 7	1399 ± 6	2196 ± 10
306.75	1417 ± 8	858 ± 19	1007 ± 16	920 ± 7	1421 ± 6	2225 ± 10
307.0	1428 ± 8	866 ± 20	1017 ± 16	929 ± 7	1443 ± 6	2255 ± 10
307.25	1439 ± 8	873 ± 20	1028 ± 16	938 ± 7	1466 ± 6	2284 ± 11
307.5	1451 ± 8	880 ± 20	1039 ± 17	947 ± 7	1489 ± 6	2314 ± 11
307.75	1462 ± 9	888 ± 21	1050 ± 17	956 ± 7	1512 ± 6	2345 ± 11
308.0	1474 ± 9	895 ± 21	1061 ± 17	965 ± 7	1536 ± 6	2376 ± 11
308.25	1485 ± 9	903 ± 21	1072 ± 18	975 ± 7	1560 ± 7	2407 ± 12
308.5	1497 ± 9	910 ± 22	1084 ± 18	984 ± 7	1584 ± 7	2438 ± 12
308.75	1509 ± 9	918 ± 22	1095 ± 18	994 ± 8	1608 ± 7	2470 ± 12
309.0	1521 ± 9	926 ± 22	1107 ± 18	1003 ± 8	1633 ± 7	2502 ± 12
309.25	1533 ± 9	933 ± 23	1118 ± 19	1013 ± 8	1658 ± 7	2535 ± 12
309.5	1545 ± 10	941 ± 23	1130 ± 19	1023 ± 8	1684 ± 7	2568 ± 13
309.75	1557 ± 10	949 ± 23	1142 ± 19	1032 ± 8	1710 ± 8	2601 ± 13
310.0	1569 ± 10	957 ± 24	1154 ± 20	1042 ± 8	1736 ± 8	2635 ± 13

Table 3: Exchange rates extrapolated to 310 K, 1M glucose at pH=7.00, using restricted model, with partial assignment.

T(K)	C_6	$C_{3/4}$	$C_{3/4}$	C_2	$C_{1,\alpha}$	$C_{1,\beta}$
260.0	175.02 ± 0.27	125.0 ± 0.5	110.6 ± 0.5	112.2 ± 0.4	140.8 ± 0.5	280.4 ± 0.9
260.25	177.39 ± 0.26	126.9 ± 0.5	112.7 ± 0.5	114.0 ± 0.4	144.1 ± 0.5	286.4 ± 0.9
260.5	179.79 ± 0.26	128.9 ± 0.5	114.8 ± 0.5	115.9 ± 0.4	147.4 ± 0.5	292.5 ± 0.9
260.75	182.21 ± 0.26	130.8 ± 0.5	116.9 ± 0.5	117.9 ± 0.4	150.9 ± 0.5	298.7 ± 0.9
261.0	184.67 ± 0.26	132.8 ± 0.5	119.2 ± 0.5	119.8 ± 0.4	154.4 ± 0.5	305.1 ± 0.9
261.25	187.15 ± 0.25	134.8 ± 0.5	121.4 ± 0.5	121.8 ± 0.4	157.9 ± 0.5	311.5 ± 0.9
261.5	189.66 ± 0.25	136.9 ± 0.5	123.7 ± 0.5	123.8 ± 0.4	161.6 ± 0.5	318.1 ± 0.9
261.75	192.20 ± 0.25	138.9 ± 0.5	126.0 ± 0.5	125.9 ± 0.4	165.3 ± 0.5	324.9 ± 0.9
262.0	194.77 ± 0.24	141.0 ± 0.5	128.3 ± 0.5	127.9 ± 0.4	169.1 ± 0.5	331.7 ± 0.8
262.25	197.37 ± 0.24	143.1 ± 0.5	130.7 ± 0.4	130.0 ± 0.4	173.0 ± 0.5	338.7 ± 0.8
262.5	199.99 ± 0.24	145.3 ± 0.5	133.2 ± 0.4	132.2 ± 0.4	176.9 ± 0.5	345.9 ± 0.8
262.75	202.65 ± 0.23	147.5 ± 0.5	135.6 ± 0.4	134.3 ± 0.4	181.0 ± 0.5	353.1 ± 0.8
263.0	205.34 ± 0.23	149.7 ± 0.4	138.2 ± 0.4	136.53 ± 0.35	185.1 ± 0.5	360.5 ± 0.8
263.25	208.06 ± 0.22	151.9 ± 0.4	140.7 ± 0.4	138.76 ± 0.35	189.3 ± 0.5	368.1 ± 0.8
263.5	210.81 ± 0.22	154.2 ± 0.4	143.3 ± 0.4	141.02 ± 0.34	193.6 ± 0.5	375.8 ± 0.8
263.75	213.59 ± 0.22	156.5 ± 0.4	146.0 ± 0.4	143.31 ± 0.33	198.0 ± 0.5	383.6 ± 0.8
264.0	216.40 ± 0.21	158.8 ± 0.4	148.7 ± 0.4	145.64 ± 0.33	202.5 ± 0.5	391.6 ± 0.8
264.25	219.25 ± 0.21	161.1 ± 0.4	151.4 ± 0.4	148.00 ± 0.32	207.1 ± 0.5	399.7 ± 0.8
264.5	222.12 ± 0.20	163.5 ± 0.4	154.2 ± 0.4	150.39 ± 0.31	211.8 ± 0.5	408.0 ± 0.8
264.75	225.03 ± 0.20	165.9 ± 0.4	157.0 ± 0.4	152.82 ± 0.31	216.5 ± 0.5	416.4 ± 0.7
265.0	227.98 ± 0.19	168.4 ± 0.4	159.86 ± 0.35	155.28 ± 0.30	221.4 ± 0.5	425.0 ± 0.7
265.25	230.95 ± 0.19	170.8 ± 0.4	162.77 ± 0.34	157.77 ± 0.29	226.4 ± 0.5	433.8 ± 0.7
265.5	233.96 ± 0.18	173.35 ± 0.35	165.74 ± 0.33	160.31 ± 0.29	231.4 ± 0.5	442.7 ± 0.7
265.75	237.00 ± 0.18	175.89 ± 0.34	168.75 ± 0.32	162.87 ± 0.28	236.6 ± 0.4	451.8 ± 0.7
266.0	240.08 ± 0.17	178.46 ± 0.33	171.81 ± 0.31	165.48 ± 0.27	241.9 ± 0.4	461.0 ± 0.7
266.25	243.19 ± 0.17	181.07 ± 0.31	174.92 ± 0.30	168.12 ± 0.26	247.3 ± 0.4	470.5 ± 0.7
266.5	246.33 ± 0.16	183.70 ± 0.30	178.09 ± 0.29	170.80 ± 0.26	252.8 ± 0.4	480.1 ± 0.7
266.75	249.51 ± 0.16	186.38 ± 0.29	181.30 ± 0.28	173.51 ± 0.25	258.4 ± 0.4	489.9 ± 0.6
267.0	252.72 ± 0.16	189.08 ± 0.28	184.57 ± 0.27	176.27 ± 0.24	264.1 ± 0.4	499.8 ± 0.6
267.25	255.97 ± 0.15	191.82 ± 0.27	187.88 ± 0.26	179.06 ± 0.24	269.9 ± 0.4	510.0 ± 0.6
267.5	259.26 ± 0.15	194.60 ± 0.26	191.26 ± 0.25	181.89 ± 0.23	275.9 ± 0.4	520.3 ± 0.6
267.75	262.58 ± 0.14	197.41 ± 0.25	194.68 ± 0.24	184.76 ± 0.22	282.0 ± 0.4	530.9 ± 0.6
268.0	265.94 ± 0.14	200.25 ± 0.25	198.16 ± 0.23	187.67 ± 0.22	288.2 ± 0.4	541.6 ± 0.6
268.25	269.34 ± 0.13	203.13 ± 0.24	201.70 ± 0.23	190.62 ± 0.21	294.5 ± 0.4	552.5 ± 0.6
268.5	272.77 ± 0.13	206.05 ± 0.23	205.29 ± 0.22	193.62 ± 0.21	300.93 ± 0.35	563.6 ± 0.6
268.75	276.24 ± 0.13	209.00 ± 0.23	208.94 ± 0.22	196.65 ± 0.20	307.51 ± 0.35	574.9 ± 0.6
269.0	279.75 ± 0.13	211.99 ± 0.23	212.65 ± 0.22	199.72 ± 0.20	314.22 ± 0.35	586.5 ± 0.5
269.25	283.29 ± 0.12	215.02 ± 0.23	216.42 ± 0.22	202.84 ± 0.20	321.07 ± 0.35	598.2 ± 0.5
269.5	286.88 ± 0.12	218.08 ± 0.23	220.24 ± 0.22	206.00 ± 0.20	328.05 ± 0.35	610.1 ± 0.5
269.75	290.50 ± 0.12	221.19 ± 0.23	224.13 ± 0.23	209.21 ± 0.20	335.16 ± 0.35	622.3 ± 0.5
270.0	294.16 ± 0.12	224.33 ± 0.24	228.08 ± 0.24	212.46 ± 0.21	342.43 ± 0.35	634.7 ± 0.5
270.25	297.86 ± 0.12	227.51 ± 0.25	232.09 ± 0.25	215.75 ± 0.21	349.8 ± 0.4	647.3 ± 0.6
270.5	301.60 ± 0.13	230.73 ± 0.26	236.17 ± 0.27	219.09 ± 0.22	357.4 ± 0.4	660.1 ± 0.6
270.75	305.39 ± 0.13	233.99 ± 0.27	240.31 ± 0.28	222.47 ± 0.23	365.1 ± 0.4	673.2 ± 0.6
271.0	309.21 ± 0.13	237.29 ± 0.29	244.51 ± 0.30	225.90 ± 0.24	372.9 ± 0.4	686.5 ± 0.6
271.25	313.07 ± 0.14	240.63 ± 0.30	248.78 ± 0.33	229.38 ± 0.25	380.9 ± 0.4	700.0 ± 0.6
271.5	316.98 ± 0.14	244.01 ± 0.32	253.11 ± 0.35	232.90 ± 0.26	389.1 ± 0.4	713.8 ± 0.7
271.75	320.92 ± 0.15	247.43 ± 0.34	257.5 ± 0.4	236.47 ± 0.27	397.4 ± 0.5	727.8 ± 0.7
272.0	324.91 ± 0.16	250.9 ± 0.4	262.0 ± 0.4	240.09 ± 0.29	405.9 ± 0.5	742.1 ± 0.7
272.25	328.94 ± 0.17	254.4 ± 0.4	266.5 ± 0.4	243.76 ± 0.31	414.5 ± 0.5	756.6 ± 0.8
272.5	333.02 ± 0.17	258.0 ± 0.4	271.1 ± 0.5	247.48 ± 0.33	423.4 ± 0.6	771.4 ± 0.8
272.75	337.13 ± 0.18	261.5 ± 0.4	275.8 ± 0.5	251.24 ± 0.34	432.4 ± 0.6	786.5 ± 0.9
273.0	341.29 ± 0.19	265.2 ± 0.5	280.6 ± 0.5	255.1 ± 0.4	441.5 ± 0.6	801.8 ± 0.9
273.25	345.50 ± 0.20	268.9 ± 0.5	285.4 ± 0.6	258.9 ± 0.4	450.9 ± 0.7	817.4 ± 1.0
273.5	349.74 ± 0.22	272.6 ± 0.5	290.3 ± 0.6	262.9 ± 0.4	460.4 ± 0.7	833.2 ± 1.1
273.75	354.04 ± 0.23	276.4 ± 0.6	295.3 ± 0.6	266.8 ± 0.4	470.1 ± 0.8	849.4 ± 1.1
274.0	358.38 ± 0.24	280.2 ± 0.6	300.3 ± 0.7	270.9 ± 0.5	480.0 ± 0.8	865.8 ± 1.2
274.25	362.76 ± 0.25	284.0 ± 0.6	305.5 ± 0.7	274.9 ± 0.5	490.1 ± 0.9	882.5 ± 1.3
274.5	367.19 ± 0.26	287.9 ± 0.7	310.7 ± 0.8	279.1 ± 0.5	500.3 ± 0.9	899.5 ± 1.3
274.75	371.66 ± 0.28	291.9 ± 0.7	316.0 ± 0.8	283.3 ± 0.5	510.8 ± 1.0	916.8 ± 1.4
275.0	376.18 ± 0.29	295.9 ± 0.7	321.4 ± 0.9	287.5 ± 0.6	521.5 ± 1.1	934.4 ± 1.5
275.25	380.75 ± 0.31	299.9 ± 0.8	326.8 ± 0.9	291.8 ± 0.6	532.3 ± 1.1	952.3 ± 1.6
275.5	385.37 ± 0.32	304.0 ± 0.8	332.3 ± 0.9	296.1 ± 0.6	543.4 ± 1.2	970.5 ± 1.7
275.75	390.03 ± 0.34	308.2 ± 0.8	338.0 ± 1.0	300.6 ± 0.7	554.7 ± 1.2	989.0 ± 1.8
276.0	394.75 ± 0.35	312.4 ± 0.9	343.7 ± 1.0	305.0 ± 0.7	566.2 ± 1.3	1007.9 ± 1.8
276.25	399.5 ± 0.4	316.6 ± 0.9	349.4 ± 1.1	309.6 ± 0.7	577.9 ± 1.4	1027.0 ± 1.9
276.5	404.3 ± 0.4	320.9 ± 1.0	355.3 ± 1.2	314.1 ± 0.8	589.9 ± 1.5	1046.5 ± 2.0
276.75	409.2 ± 0.4	325.3 ± 1.0	361.3 ± 1.2	318.8 ± 0.8	602.0 ± 1.5	1066.4 ± 2.1
277.0	414.1 ± 0.4	329.7 ± 1.1	367.3 ± 1.3	323.5 ± 0.8	614.4 ± 1.6	1086.6 ± 2.3
277.25	419.0 ± 0.4	334.1 ± 1.1	373.5 ± 1.3	328.3 ± 0.9	627.1 ± 1.7	1107.1 ± 2.4
277.5	424.1 ± 0.5	338.6 ± 1.1	379.7 ± 1.4	333.1 ± 0.9	639.9 ± 1.8	1128.0 ± 2.5
277.75	429.1 ± 0.5	343.1 ± 1.2	386.1 ± 1.4	338.0 ± 0.9	653.0 ± 1.9	1149.2 ± 2.6
278.0	434.2 ± 0.5	347.8 ± 1.2	392.5 ± 1.5	343.0 ± 1.0	666.4 ± 2.0	1170.8 ± 2.7
278.25	439.4 ± 0.5	352.4 ± 1.3	399.0 ± 1.6	348.0 ± 1.0	680.0 ± 2.1	1192.7 ± 2.8
278.5	444.6 ± 0.5	357.1 ± 1.3	405.6 ± 1.6	353.1 ± 1.1	693.9 ± 2.2	1215.1 ± 3.0
278.75	449.9 ± 0.6	361.9 ± 1.4	412.3 ± 1.7	358.2 ± 1.1	708.0 ± 2.3	1237.8 ± 3.1
279.0	455.2 ± 0.6	366.7 ± 1.4	419.1 ± 1.8	363.4 ± 1.1	722.3 ± 2.4	1260.9 ± 3.2
279.25	460.6 ± 0.6	371.6 ± 1.5	426.0 ± 1.9	368.7 ± 1.2	737.0 ± 2.5	1284.3 ± 3.4
279.5	466.0 ± 0.6	376.5 ± 1.6	433.1 ± 1.9	374.1 ± 1.2	751.9 ± 2.6	1308.2 ± 3.5
279.75	471.5 ± 0.6	381.5 ± 1.6	440.2 ± 2.0	379.5 ± 1.3	767.1 ± 2.7	1332 ± 4
280.0	477.0 ± 0.7	386.6 ± 1.7	447.4 ± 2.1	385.0 ± 1.3	782.5 ± 2.8	1357 ± 4
280.25	482.6 ± 0.7	391.7 ± 1.7	454.7 ± 2.2	390.5 ± 1.4	798.3 ± 2.9	1382 ± 4
280.5	488.3 ± 0.7	396.8 ± 1.8	462.2 ± 2.2	396.2 ± 1.4	814.3 ± 3.0	1408 ± 4
280.75	494.0 ± 0.7	402.1 ± 1.9	469.7 ± 2.3	401.9 ± 1.5	830.6 ± 3.2	1434 ± 4
281.0	499.7 ± 0.8	407.3 ± 1.9	477.4 ± 2.4	407.6 ± 1.5	847.3 ± 3.3	1460 ± 4
281.25	505.6 ± 0.8	412.7 ± 2.0	485.1 ± 2.5	413.5 ± 1.6	864.2 ± 3.4	1487 ± 5
281.5	511.4 ± 0.8	418.1 ± 2.0	493.0 ± 2.6	419.4 ± 1.6	881 ± 4	1514 ± 5
281.75	517.4 ± 0.8	423.6 ± 2.1	501.0 ± 2.7	425.4 ± 1.7	899 ± 4	1542 ± 5
282.0	523.4 ± 0.9	429.1 ± 2.2	509.1 ± 2.8	431.5 ± 1.8	917 ± 4	1570 ± 5
282.25	529.4 ± 0.9	434.7 ± 2.2	517.3 ± 2.9	437.6 ± 1.8	935 ± 4	1599 ± 5
282.5	535.5 ± 0.9	440.3 ± 2.3	525.6 ± 3.0	443.8 ± 1.9	954 ± 4	1628 ± 6
282.75	541.7 ± 0.9	446.0 ± 2.4	534.1 ± 3.1	450.1 ± 1.9	972 ± 4	1657 ± 6
283.0	548.0 ± 1.0	451.8 ± 2.5	542.7 ± 3.2	456.5 ± 2.0	992 ± 4	1687 ± 6
283.25	554.3 ± 1.0	457.7 ± 2.5	551.4 ± 3.3	462.9 ± 2.1	1011 ± 5	1718 ± 6
283.5	560.6 ± 1.0	463.6 ± 2.6	560.2 ± 3.4	469.5 ± 2.1	1031 ± 5	1749 ± 6
283.75	567.0 ± 1.0	469.6 ± 2.7	569.2 ± 3.5	476.1 ± 2.2	1051 ± 5	1781 ± 7
284.0	573.5 ± 1.1	475.6 ± 2.8	578 ± 4	482.8 ± 2.3	1072 ± 5	1813 ± 7
284.25	580.1 ± 1.1	481.7 ± 2.8	587 ± 4	489.6 ± 2.3	1093 ± 5	1845 ± 7
284.5	586.7 ± 1.1	487.9 ± 2.9	597 ± 4	496.4 ± 2.4	1114 ± 6	1878 ± 7
284.75	593.3 ± 1.2	494.2 ± 3.0	606 ± 4	503.4 ± 2.5	1136 ± 6	1912 ± 8
285.0	600.1 ± 1.2	500.5 ± 3.1	616 ± 4	510.4 ± 2.5	1158 ± 6	1946 ± 8

Table 4: CONT: Exchange rates extrapolated to 310 K, 1M glucose at pH=7.00, using restricted model, with partial assignment.

T(K)	C_6	$C_{3/4}$	$C_{3/4}$	C_2	$C_{1,\alpha}$	$C_{1,\beta}$
285.25	606.9 ± 1.2	506.9 ± 3.2	626 ± 4	517.5 ± 2.6	1181 ± 6	1981 ± 8
285.5	613.7 ± 1.3	513.3 ± 3.3	636 ± 4	524.7 ± 2.7	1203 ± 6	2016 ± 8
285.75	620.7 ± 1.3	519.8 ± 3.4	646 ± 4	532.0 ± 2.8	1227 ± 7	2052 ± 9
286.0	627.7 ± 1.3	526.4 ± 3.4	656 ± 5	539.4 ± 2.8	1250 ± 7	2089 ± 9
286.25	634.7 ± 1.4	533.1 ± 3.5	666 ± 5	546.9 ± 2.9	1275 ± 7	2126 ± 9
286.5	641.9 ± 1.4	540 ± 4	676 ± 5	554.5 ± 3.0	1299 ± 7	2163 ± 10
286.75	649.1 ± 1.4	547 ± 4	687 ± 5	562.1 ± 3.1	1324 ± 8	2202 ± 10
287.0	656.3 ± 1.5	554 ± 4	698 ± 5	569.9 ± 3.2	1350 ± 8	2240 ± 10
287.25	663.7 ± 1.5	561 ± 4	709 ± 5	577.7 ± 3.3	1375 ± 8	2280 ± 11
287.5	671.1 ± 1.5	568 ± 4	720 ± 5	585.6 ± 3.3	1402 ± 8	2320 ± 11
287.75	678.6 ± 1.6	575 ± 4	731 ± 6	593.7 ± 3.4	1429 ± 9	2361 ± 11
288.0	686.1 ± 1.6	582 ± 4	742 ± 6	601.8 ± 3.5	1456 ± 9	2402 ± 12
288.25	693.7 ± 1.7	589 ± 4	754 ± 6	610 ± 4	1483 ± 9	2444 ± 12
288.5	701.4 ± 1.7	597 ± 4	765 ± 6	618 ± 4	1512 ± 9	2487 ± 12
288.75	709.2 ± 1.7	604 ± 5	777 ± 6	627 ± 4	1540 ± 10	2530 ± 13
289.0	717.0 ± 1.8	612 ± 5	789 ± 6	635 ± 4	1570 ± 10	2574 ± 13
289.25	725.0 ± 1.8	619 ± 5	801 ± 7	644 ± 4	1599 ± 10	2619 ± 13
289.5	732.9 ± 1.9	627 ± 5	814 ± 7	653 ± 4	1629 ± 11	2664 ± 14
289.75	741.0 ± 1.9	635 ± 5	826 ± 7	661 ± 4	1660 ± 11	2710 ± 14
290.0	749.1 ± 1.9	642 ± 5	839 ± 7	670 ± 4	1691 ± 11	2757 ± 15
290.25	757.3 ± 2.0	650 ± 5	852 ± 7	679 ± 4	1723 ± 12	2805 ± 15
290.5	765.6 ± 2.0	658 ± 5	865 ± 8	689 ± 5	1755 ± 12	2853 ± 16
290.75	774.0 ± 2.1	666 ± 5	878 ± 8	698 ± 5	1788 ± 12	2902 ± 16
291.0	782.4 ± 2.1	675 ± 6	891 ± 8	707 ± 5	1822 ± 13	2952 ± 16
291.25	791.0 ± 2.2	683 ± 6	905 ± 8	717 ± 5	1856 ± 13	3003 ± 17
291.5	799.6 ± 2.2	691 ± 6	918 ± 8	726 ± 5	1890 ± 14	3054 ± 17
291.75	808.2 ± 2.3	700 ± 6	932 ± 9	736 ± 5	1925 ± 14	3106 ± 18
292.0	817.0 ± 2.3	708 ± 6	946 ± 9	746 ± 5	1961 ± 14	3159 ± 18
292.25	825.8 ± 2.4	717 ± 6	961 ± 9	756 ± 5	1997 ± 15	3213 ± 19
292.5	834.7 ± 2.4	726 ± 6	975 ± 9	766 ± 5	2034 ± 15	3268 ± 19
292.75	843.7 ± 2.5	734 ± 7	990 ± 10	776 ± 6	2072 ± 16	3323 ± 20
293.0	852.8 ± 2.5	743 ± 7	1005 ± 10	786 ± 6	2110 ± 16	3379 ± 20
293.25	862.0 ± 2.6	752 ± 7	1020 ± 10	797 ± 6	2149 ± 17	3437 ± 21
293.5	871.2 ± 2.6	761 ± 7	1035 ± 10	807 ± 6	2188 ± 17	3495 ± 22
293.75	880.6 ± 2.7	770 ± 7	1050 ± 10	818 ± 6	2228 ± 18	3553 ± 22
294.0	890.0 ± 2.7	780 ± 7	1066 ± 11	828 ± 6	2269 ± 18	3613 ± 23
294.25	899.5 ± 2.8	789 ± 7	1082 ± 11	839 ± 6	2311 ± 18	3674 ± 23
294.5	909.1 ± 2.8	799 ± 8	1098 ± 11	850 ± 7	2353 ± 19	3736 ± 24
294.75	918.7 ± 2.9	808 ± 8	1114 ± 12	861 ± 7	2396 ± 20	3798 ± 25
295.0	928.5 ± 3.0	818 ± 8	1131 ± 12	873 ± 7	2439 ± 20	3862 ± 25
295.25	938.3 ± 3.0	828 ± 8	1148 ± 12	884 ± 7	2484 ± 21	3926 ± 26
295.5	948.3 ± 3.1	837 ± 8	1164 ± 12	896 ± 7	2529 ± 21	3991 ± 27
295.75	958.3 ± 3.1	847 ± 8	1182 ± 13	907 ± 7	2574 ± 22	4058 ± 27
296.0	968.4 ± 3.2	857 ± 9	1199 ± 13	919 ± 7	2621 ± 22	4125 ± 28
296.25	978.6 ± 3.3	868 ± 9	1217 ± 13	931 ± 8	2668 ± 23	4194 ± 29
296.5	988.9 ± 3.3	878 ± 9	1234 ± 14	943 ± 8	2716 ± 24	4263 ± 29
296.75	999.3 ± 3.4	888 ± 9	1253 ± 14	955 ± 8	2765 ± 24	4333 ± 30
297.0	1009.8 ± 3.4	899 ± 9	1271 ± 14	967 ± 8	2815 ± 25	4405 ± 31
297.25	1020.3 ± 3.5	909 ± 10	1289 ± 15	980 ± 8	2865 ± 25	4477 ± 32
297.5	1031 ± 4	920 ± 10	1308 ± 15	992 ± 8	2916 ± 26	4551 ± 32
297.75	1042 ± 4	931 ± 10	1327 ± 15	1005 ± 9	2968 ± 27	4626 ± 33
298.0	1053 ± 4	942 ± 10	1346 ± 16	1018 ± 9	3021 ± 28	4702 ± 34
298.25	1064 ± 4	953 ± 10	1366 ± 16	1031 ± 9	3075 ± 28	4778 ± 35
298.5	1075 ± 4	964 ± 11	1386 ± 16	1044 ± 9	3130 ± 29	$(4.86 \pm 0.04) \times 10^3$
298.75	1086 ± 4	975 ± 11	1406 ± 17	1058 ± 9	3185 ± 30	$(4.94 \pm 0.04) \times 10^3$
299.0	1097 ± 4	987 ± 11	1426 ± 17	1071 ± 10	3242 ± 30	$(5.02 \pm 0.04) \times 10^3$
299.25	1108 ± 4	998 ± 11	1447 ± 17	1085 ± 10	3299 ± 31	$(5.10 \pm 0.04) \times 10^3$
299.5	1120 ± 4	1010 ± 11	1467 ± 18	1098 ± 10	3357 ± 32	$(5.18 \pm 0.04) \times 10^3$
299.75	1131 ± 4	1021 ± 12	1488 ± 18	1112 ± 10	3416 ± 33	$(5.26 \pm 0.04) \times 10^3$
300.0	1143 ± 4	1033 ± 12	1510 ± 18	1126 ± 10	3476 ± 34	$(5.35 \pm 0.04) \times 10^3$
300.25	1155 ± 4	1045 ± 12	1531 ± 19	1141 ± 11	3537 ± 35	$(5.44 \pm 0.04) \times 10^3$
300.5	1166 ± 4	1057 ± 12	1553 ± 19	1155 ± 11	3599 ± 35	$(5.52 \pm 0.04) \times 10^3$
300.75	1178 ± 5	1069 ± 13	1575 ± 20	1169 ± 11	$(3.66 \pm 0.04) \times 10^3$	$(5.61 \pm 0.04) \times 10^3$
301.0	1190 ± 5	1082 ± 13	1598 ± 20	1184 ± 11	$(3.73 \pm 0.04) \times 10^3$	$(5.70 \pm 0.05) \times 10^3$
301.25	1203 ± 5	1094 ± 13	1621 ± 21	1199 ± 11	$(3.79 \pm 0.04) \times 10^3$	$(5.79 \pm 0.05) \times 10^3$
301.5	1215 ± 5	1107 ± 13	1644 ± 21	1214 ± 12	$(3.86 \pm 0.04) \times 10^3$	$(5.89 \pm 0.05) \times 10^3$
301.75	1227 ± 5	1119 ± 13	1667 ± 21	1229 ± 12	$(3.92 \pm 0.04) \times 10^3$	$(5.98 \pm 0.05) \times 10^3$
302.0	1240 ± 5	1132 ± 14	1690 ± 22	1245 ± 12	$(3.99 \pm 0.04) \times 10^3$	$(6.08 \pm 0.05) \times 10^3$
302.25	1252 ± 5	1145 ± 14	1714 ± 22	1260 ± 12	$(4.06 \pm 0.04) \times 10^3$	$(6.17 \pm 0.05) \times 10^3$
302.5	1265 ± 5	1158 ± 14	1738 ± 23	1276 ± 13	$(4.13 \pm 0.04) \times 10^3$	$(6.27 \pm 0.05) \times 10^3$
302.75	1278 ± 5	1171 ± 14	1763 ± 23	1292 ± 13	$(4.20 \pm 0.04) \times 10^3$	$(6.37 \pm 0.05) \times 10^3$
303.0	1291 ± 5	1184 ± 15	1788 ± 24	1308 ± 13	$(4.28 \pm 0.05) \times 10^3$	$(6.47 \pm 0.05) \times 10^3$
303.25	1304 ± 5	1198 ± 15	1813 ± 24	1324 ± 13	$(4.35 \pm 0.05) \times 10^3$	$(6.57 \pm 0.06) \times 10^3$
303.5	1317 ± 5	1211 ± 15	1838 ± 25	1340 ± 14	$(4.42 \pm 0.05) \times 10^3$	$(6.68 \pm 0.06) \times 10^3$
303.75	1330 ± 6	1225 ± 16	1864 ± 25	1357 ± 14	$(4.50 \pm 0.05) \times 10^3$	$(6.78 \pm 0.06) \times 10^3$
304.0	1343 ± 6	1239 ± 16	1890 ± 26	1373 ± 14	$(4.58 \pm 0.05) \times 10^3$	$(6.89 \pm 0.06) \times 10^3$
304.25	1357 ± 6	1253 ± 16	1916 ± 26	1390 ± 14	$(4.66 \pm 0.05) \times 10^3$	$(7.00 \pm 0.06) \times 10^3$
304.5	1370 ± 6	1267 ± 16	1943 ± 27	1407 ± 15	$(4.74 \pm 0.05) \times 10^3$	$(7.11 \pm 0.06) \times 10^3$
304.75	1384 ± 6	1281 ± 17	1970 ± 27	1425 ± 15	$(4.82 \pm 0.05) \times 10^3$	$(7.22 \pm 0.06) \times 10^3$
305.0	1398 ± 6	1296 ± 17	1997 ± 28	1442 ± 15	$(4.90 \pm 0.05) \times 10^3$	$(7.33 \pm 0.06) \times 10^3$
305.25	1412 ± 6	1310 ± 17	2025 ± 29	1460 ± 16	$(4.98 \pm 0.06) \times 10^3$	$(7.45 \pm 0.07) \times 10^3$
305.5	1426 ± 6	1325 ± 18	2053 ± 29	1477 ± 16	$(5.07 \pm 0.06) \times 10^3$	$(7.56 \pm 0.07) \times 10^3$
305.75	1440 ± 6	1339 ± 18	2081 ± 30	1495 ± 16	$(5.15 \pm 0.06) \times 10^3$	$(7.68 \pm 0.07) \times 10^3$
306.0	1454 ± 6	1354 ± 18	2110 ± 30	1514 ± 16	$(5.24 \pm 0.06) \times 10^3$	$(7.80 \pm 0.07) \times 10^3$
306.25	1468 ± 7	1369 ± 18	2139 ± 31	1532 ± 17	$(5.33 \pm 0.06) \times 10^3$	$(7.92 \pm 0.07) \times 10^3$
306.5	1483 ± 7	1385 ± 19	2169 ± 31	1551 ± 17	$(5.42 \pm 0.06) \times 10^3$	$(8.05 \pm 0.07) \times 10^3$
306.75	1497 ± 7	1400 ± 19	2198 ± 32	1569 ± 17	$(5.51 \pm 0.06) \times 10^3$	$(8.17 \pm 0.08) \times 10^3$
307.0	1512 ± 7	1415 ± 19	2228 ± 33	1588 ± 18	$(5.60 \pm 0.07) \times 10^3$	$(8.30 \pm 0.08) \times 10^3$
307.25	1527 ± 7	1431 ± 20	2259 ± 33	1608 ± 18	$(5.70 \pm 0.07) \times 10^3$	$(8.42 \pm 0.08) \times 10^3$
307.5	1542 ± 7	1447 ± 20	2290 ± 34	1627 ± 18	$(5.79 \pm 0.07) \times 10^3$	$(8.55 \pm 0.08) \times 10^3$
307.75	1557 ± 7	1463 ± 20	2321 ± 35	1646 ± 19	$(5.89 \pm 0.07) \times 10^3$	$(8.69 \pm 0.08) \times 10^3$
308.0	1572 ± 7	1479 ± 21	2353 ± 35	1666 ± 19	$(5.99 \pm 0.07) \times 10^3$	$(8.82 \pm 0.08) \times 10^3$
308.25	1588 ± 7	1495 ± 21	$(2.38 \pm 0.04) \times 10^3$	1686 ± 19	$(6.09 \pm 0.07) \times 10^3$	$(8.95 \pm 0.09) \times 10^3$
308.5	1603 ± 7	1512 ± 21	$(2.42 \pm 0.04) \times 10^3$	1706 ± 20	$(6.19 \pm 0.07) \times 10^3$	$(9.09 \pm 0.09) \times 10^3$
308.75	1619 ± 8	1528 ± 22	$(2.45 \pm 0.04) \times 10^3$	1727 ± 20	$(6.29 \pm 0.08) \times 10^3$	$(9.23 \pm 0.09) \times 10^3$
309.0	1634 ± 8	1545 ± 22	$(2.48 \pm 0.04) \times 10^3$	1747 ± 20	$(6.39 \pm 0.08) \times 10^3$	$(9.37 \pm 0.09) \times 10^3$
309.25	1650 ± 8	1562 ± 23	$(2.52 \pm 0.04) \times 10^3$	1768 ± 21	$(6.50 \pm 0.08) \times 10^3$	$(9.51 \pm 0.09) \times 10^3$
309.5	1666 ± 8	1579 ± 23	$(2.55 \pm 0.04) \times 10^3$	1789 ± 21	$(6.61 \pm 0.08) \times 10^3$	$(9.66 \pm 0.09) \times 10^3$
309.75	1682 ± 8	1596 ± 23	$(2.58 \pm 0.04) \times 10^3$	1811 ± 21	$(6.72 \pm 0.08) \times 10^3$	$(9.81 \pm 0.10) \times 10^3$
310.0	1699 ± 8	1613 ± 24	$(2.62 \pm 0.04) \times 10^3$	1832 ± 22	$(6.83 \pm 0.09) \times 10^3$	$(9.95 \pm 0.10) \times 10^3$

Table 5: Exchange rates extrapolated to 310 K, 1M glucose at pH=7.38, using restricted model, with partial assignment.

T(K)	C_6	$C_{3/4}$	$C_{3/4}$	C_2	$C_{1,\alpha}$	$C_{1,\beta}$
260.0	162.0 ± 0.7	111.0 ± 2.2	176.4 ± 2.1	99.7 ± 1.3	222.3 ± 3.0	478 ± 6
260.25	165.5 ± 0.7	114.5 ± 2.2	179.5 ± 2.1	103.0 ± 1.3	229.1 ± 3.0	490 ± 6
260.5	169.0 ± 0.7	118.2 ± 2.2	182.6 ± 2.0	106.3 ± 1.3	236.1 ± 3.0	501 ± 6
260.75	172.6 ± 0.7	121.9 ± 2.2	185.8 ± 2.0	109.8 ± 1.3	243.3 ± 3.0	514 ± 6
261.0	176.3 ± 0.7	125.8 ± 2.2	189.0 ± 2.0	113.3 ± 1.3	250.6 ± 3.0	526 ± 6
261.25	180.1 ± 0.7	129.7 ± 2.2	192.3 ± 2.0	117.0 ± 1.3	258.2 ± 3.0	539 ± 6
261.5	183.9 ± 0.7	133.8 ± 2.2	195.6 ± 2.0	120.8 ± 1.3	266.0 ± 3.0	552 ± 6
261.75	187.8 ± 0.7	138.0 ± 2.2	199.0 ± 2.0	124.7 ± 1.3	274.0 ± 3.0	566 ± 6
262.0	191.7 ± 0.7	142.3 ± 2.2	202.4 ± 1.9	128.7 ± 1.3	282.3 ± 3.0	579 ± 6
262.25	195.8 ± 0.7	146.8 ± 2.2	205.9 ± 1.9	132.8 ± 1.3	290.8 ± 3.0	593 ± 6
262.5	199.9 ± 0.7	151.4 ± 2.2	209.4 ± 1.9	137.1 ± 1.3	299.5 ± 3.0	607 ± 6
262.75	204.1 ± 0.7	156.1 ± 2.2	213.0 ± 1.9	141.4 ± 1.3	308.4 ± 3.0	622 ± 6
263.0	208.4 ± 0.6	161.0 ± 2.1	216.6 ± 1.8	146.0 ± 1.3	317.6 ± 3.0	637 ± 6
263.25	212.7 ± 0.6	166.0 ± 2.1	220.3 ± 1.8	150.6 ± 1.3	327.1 ± 3.0	652 ± 6
263.5	217.2 ± 0.6	171.1 ± 2.1	224.1 ± 1.8	155.4 ± 1.2	336.8 ± 2.9	668 ± 6
263.75	221.7 ± 0.6	176.4 ± 2.1	227.9 ± 1.7	160.3 ± 1.2	346.8 ± 2.9	684 ± 6
264.0	226.3 ± 0.6	181.9 ± 2.0	231.8 ± 1.7	165.4 ± 1.2	357.1 ± 2.9	700 ± 6
264.25	231.0 ± 0.6	187.5 ± 2.0	235.7 ± 1.7	170.6 ± 1.2	367.7 ± 2.8	717 ± 6
264.5	235.8 ± 0.6	193.2 ± 2.0	239.7 ± 1.6	176.0 ± 1.1	378.5 ± 2.8	734 ± 6
264.75	240.7 ± 0.5	199.2 ± 1.9	243.7 ± 1.6	181.6 ± 1.1	389.7 ± 2.8	751 ± 6
265.0	245.7 ± 0.5	205.3 ± 1.9	247.8 ± 1.6	187.3 ± 1.1	401.1 ± 2.7	769 ± 6
265.25	250.7 ± 0.5	211.6 ± 1.8	252.0 ± 1.5	193.1 ± 1.1	412.9 ± 2.7	787 ± 6
265.5	255.9 ± 0.5	218.0 ± 1.8	256.2 ± 1.5	199.2 ± 1.0	425.0 ± 2.6	806 ± 6
265.75	261.2 ± 0.5	224.7 ± 1.7	260.5 ± 1.5	205.4 ± 1.0	437.4 ± 2.5	824 ± 6
266.0	266.5 ± 0.5	231.5 ± 1.7	264.9 ± 1.4	211.8 ± 0.9	450.2 ± 2.5	844 ± 5
266.25	272.0 ± 0.4	238.6 ± 1.6	269.3 ± 1.4	218.4 ± 0.9	463.3 ± 2.4	864 ± 5
266.5	277.5 ± 0.4	245.8 ± 1.6	273.8 ± 1.3	225.2 ± 0.9	476.8 ± 2.4	884 ± 5
266.75	283.2 ± 0.4	253.2 ± 1.5	278.3 ± 1.3	232.2 ± 0.8	490.6 ± 2.3	904 ± 5
267.0	289.0 ± 0.4	260.9 ± 1.5	282.9 ± 1.3	239.4 ± 0.8	504.8 ± 2.2	925 ± 5
267.25	294.8 ± 0.4	268.8 ± 1.4	287.6 ± 1.2	246.8 ± 0.7	519.4 ± 2.2	947 ± 5
267.5	300.8 ± 0.4	276.8 ± 1.3	292.4 ± 1.2	254.4 ± 0.7	534.4 ± 2.1	969 ± 5
267.75	306.89 ± 0.35	285.2 ± 1.3	297.2 ± 1.1	262.2 ± 0.7	549.8 ± 2.0	991 ± 5
268.0	313.09 ± 0.34	293.7 ± 1.3	302.1 ± 1.1	270.3 ± 0.6	565.6 ± 2.0	1014 ± 5
268.25	319.40 ± 0.33	302.5 ± 1.2	307.1 ± 1.1	278.6 ± 0.6	581.9 ± 1.9	1038 ± 4
268.5	325.83 ± 0.32	311.5 ± 1.2	312.1 ± 1.0	287.1 ± 0.6	598.5 ± 1.9	1062 ± 4
268.75	332.38 ± 0.32	320.8 ± 1.2	317.2 ± 1.0	295.9 ± 0.6	615.6 ± 1.9	1086 ± 4
269.0	339.04 ± 0.32	330.4 ± 1.3	322.4 ± 1.0	304.9 ± 0.7	633.2 ± 1.9	1111 ± 4
269.25	345.83 ± 0.33	340.2 ± 1.3	327.7 ± 1.0	314.2 ± 0.7	651.2 ± 2.0	1136 ± 4
269.5	352.74 ± 0.34	350.3 ± 1.4	333.0 ± 1.0	323.7 ± 0.8	669.8 ± 2.0	1162 ± 4
269.75	359.8 ± 0.4	360.7 ± 1.5	338.5 ± 1.0	333.5 ± 0.9	688.8 ± 2.1	1189 ± 4
270.0	366.9 ± 0.4	371.3 ± 1.7	344.0 ± 1.0	343.6 ± 1.0	708.3 ± 2.2	1216 ± 4
270.25	374.2 ± 0.4	382.3 ± 1.8	349.5 ± 1.0	354.0 ± 1.1	728.3 ± 2.4	1244 ± 4
270.5	381.7 ± 0.4	393.5 ± 2.0	355.2 ± 1.0	364.7 ± 1.3	748.9 ± 2.5	1272 ± 4
270.75	389.2 ± 0.5	405.1 ± 2.2	360.9 ± 1.0	375.7 ± 1.4	770.0 ± 2.7	1301 ± 4
271.0	396.9 ± 0.5	416.9 ± 2.4	366.7 ± 1.1	387.0 ± 1.6	791.6 ± 3.0	1330 ± 4
271.25	404.7 ± 0.6	429.2 ± 2.7	372.6 ± 1.1	398.6 ± 1.7	813.8 ± 3.2	1360 ± 4
271.5	412.7 ± 0.6	441.7 ± 2.9	378.6 ± 1.2	410.5 ± 1.9	836.7 ± 3.5	1391 ± 5
271.75	420.8 ± 0.7	454.6 ± 3.2	384.7 ± 1.2	422.8 ± 2.1	860 ± 4	1422 ± 5
272.0	429.1 ± 0.7	467.8 ± 3.5	390.9 ± 1.3	435.4 ± 2.3	884 ± 4	1454 ± 5
272.25	437.5 ± 0.8	481 ± 4	397.1 ± 1.4	448.3 ± 2.5	909 ± 4	1487 ± 5
272.5	446.0 ± 0.8	495 ± 4	403.4 ± 1.5	461.7 ± 2.8	934 ± 5	1520 ± 6
272.75	454.7 ± 0.9	510 ± 5	409.9 ± 1.6	475.4 ± 3.0	960 ± 5	1554 ± 6
273.0	463.6 ± 0.9	524 ± 5	416.4 ± 1.7	489.4 ± 3.2	986 ± 6	1588 ± 6
273.25	472.6 ± 1.0	540 ± 5	423.0 ± 1.8	503.9 ± 3.5	1014 ± 6	1624 ± 7
273.5	481.8 ± 1.1	555 ± 6	429.7 ± 1.9	519 ± 4	1042 ± 7	1660 ± 7
273.75	491.1 ± 1.2	571 ± 6	436.5 ± 2.0	534 ± 4	1070 ± 7	1697 ± 8
274.0	500.6 ± 1.2	587 ± 7	443.4 ± 2.2	550 ± 4	1100 ± 8	1734 ± 9
274.25	510.3 ± 1.3	604 ± 7	450.4 ± 2.3	566 ± 5	1130 ± 8	1772 ± 9
274.5	520.1 ± 1.4	622 ± 8	457.4 ± 2.4	582 ± 5	1161 ± 9	1811 ± 10
274.75	530.1 ± 1.5	639 ± 8	464.6 ± 2.6	599 ± 5	1193 ± 9	1851 ± 10
275.0	540.3 ± 1.6	657 ± 9	471.9 ± 2.7	617 ± 6	1225 ± 10	1892 ± 11
275.25	550.7 ± 1.6	676 ± 9	479.3 ± 2.9	635 ± 6	1259 ± 11	1933 ± 12
275.5	561.2 ± 1.7	695 ± 10	486.8 ± 3.0	653 ± 7	1293 ± 11	1976 ± 13
275.75	571.9 ± 1.8	715 ± 10	494.3 ± 3.2	672 ± 7	1328 ± 12	2019 ± 13
276.0	582.8 ± 1.9	735 ± 11	502.0 ± 3.3	692 ± 7	1364 ± 13	2063 ± 14
276.25	593.9 ± 2.0	756 ± 12	509.8 ± 3.5	712 ± 8	1401 ± 14	2108 ± 15
276.5	605.2 ± 2.1	777 ± 12	518 ± 4	732 ± 8	1439 ± 14	2154 ± 16
276.75	616.7 ± 2.2	799 ± 13	526 ± 4	754 ± 9	1478 ± 15	2200 ± 17
277.0	628.3 ± 2.3	822 ± 14	534 ± 4	775 ± 9	1518 ± 16	2248 ± 18
277.25	640.2 ± 2.5	845 ± 15	542 ± 4	797 ± 10	1558 ± 17	2297 ± 19
277.5	652.3 ± 2.6	868 ± 16	550 ± 4	820 ± 10	1600 ± 18	2346 ± 20
277.75	664.6 ± 2.7	892 ± 16	559 ± 5	844 ± 11	1643 ± 19	2397 ± 21
278.0	677.1 ± 2.8	917 ± 17	567 ± 5	868 ± 12	1687 ± 20	2448 ± 22
278.25	689.8 ± 2.9	943 ± 18	576 ± 5	893 ± 12	1732 ± 21	2501 ± 23
278.5	702.7 ± 3.1	969 ± 19	585 ± 5	918 ± 13	1778 ± 22	2554 ± 24
278.75	715.8 ± 3.2	996 ± 20	594 ± 6	944 ± 14	1825 ± 23	2609 ± 25
279.0	729.2 ± 3.4	1023 ± 21	603 ± 6	971 ± 14	1874 ± 25	2665 ± 26
279.25	742.8 ± 3.5	1052 ± 22	612 ± 6	998 ± 15	1924 ± 26	2721 ± 28
279.5	757 ± 4	1081 ± 24	621 ± 6	1027 ± 16	1974 ± 27	2779 ± 29
279.75	771 ± 4	1111 ± 25	631 ± 6	1056 ± 17	2026 ± 28	2838 ± 30
280.0	785 ± 4	1141 ± 26	640 ± 7	1085 ± 17	2080 ± 30	2899 ± 32
280.25	799 ± 4	1172 ± 27	650 ± 7	1116 ± 18	2135 ± 31	2960 ± 33
280.5	814 ± 4	1204 ± 29	660 ± 7	1147 ± 19	2191 ± 33	3022 ± 35
280.75	829 ± 4	1237 ± 30	670 ± 8	1179 ± 20	2248 ± 34	$(3.09 \pm 0.04) \times 10^3$
281.0	844 ± 5	1271 ± 31	680 ± 8	1212 ± 21	$(2.31 \pm 0.04) \times 10^3$	$(3.15 \pm 0.04) \times 10^3$
281.25	860 ± 5	1306 ± 33	690 ± 8	1246 ± 22	$(2.37 \pm 0.04) \times 10^3$	$(3.22 \pm 0.04) \times 10^3$
281.5	876 ± 5	1341 ± 34	700 ± 8	1281 ± 23	$(2.43 \pm 0.04) \times 10^3$	$(3.28 \pm 0.04) \times 10^3$
281.75	892 ± 5	$(1.38 \pm 0.04) \times 10^3$	711 ± 9	1316 ± 24	$(2.49 \pm 0.04) \times 10^3$	$(3.35 \pm 0.04) \times 10^3$
282.0	908 ± 5	$(1.41 \pm 0.04) \times 10^3$	721 ± 9	1353 ± 25	$(2.56 \pm 0.04) \times 10^3$	$(3.42 \pm 0.04) \times 10^3$
282.25	925 ± 6	$(1.45 \pm 0.04) \times 10^3$	732 ± 9	1390 ± 26	$(2.62 \pm 0.04) \times 10^3$	$(3.50 \pm 0.05) \times 10^3$
282.5	941 ± 6	$(1.49 \pm 0.04) \times 10^3$	743 ± 10	1429 ± 28	$(2.69 \pm 0.05) \times 10^3$	$(3.57 \pm 0.05) \times 10^3$
282.75	959 ± 6	$(1.53 \pm 0.04) \times 10^3$	754 ± 10	1468 ± 29	$(2.76 \pm 0.05) \times 10^3$	$(3.64 \pm 0.05) \times 10^3$
283.0	976 ± 6	$(1.57 \pm 0.04) \times 10^3$	765 ± 10	1509 ± 30	$(2.83 \pm 0.05) \times 10^3$	$(3.72 \pm 0.05) \times 10^3$
283.25	994 ± 6	$(1.62 \pm 0.05) \times 10^3$	777 ± 11	1550 ± 32	$(2.90 \pm 0.05) \times 10^3$	$(3.79 \pm 0.05) \times 10^3$
283.5	1012 ± 7	$(1.66 \pm 0.05) \times 10^3$	788 ± 11	1593 ± 33	$(2.98 \pm 0.06) \times 10^3$	$(3.87 \pm 0.06) \times 10^3$
283.75	1030 ± 7	$(1.70 \pm 0.05) \times 10^3$	800 ± 11	1636 ± 34	$(3.06 \pm 0.06) \times 10^3$	$(3.95 \pm 0.06) \times 10^3$
284.0	1048 ± 7	$(1.75 \pm 0.05) \times 10^3$	811 ± 12	$(1.68 \pm 0.04) \times 10^3$	$(3.13 \pm 0.06) \times 10^3$	$(4.03 \pm 0.06) \times 10^3$
284.25	1067 ± 7	$(1.80 \pm 0.06) \times 10^3$	823 ± 12	$(1.73 \pm 0.04) \times 10^3$	$(3.21 \pm 0.06) \times 10^3$	$(4.12 \pm 0.06) \times 10^3$
284.5	1086 ± 8	$(1.84 \pm 0.06) \times 10^3$	835 ± 12	$(1.77 \pm 0.04) \times 10^3$	$(3.30 \pm 0.07) \times 10^3$	$(4.20 \pm 0.07) \times 10^3$
284.75	1106 ± 8	$(1.89 \pm 0.06) \times 10^3$	848 ± 13	$(1.82 \pm 0.04) \times 10^3$	$(3.38 \pm 0.07) \times 10^3$	$(4.29 \pm 0.07) \times 10^3$
285.0	1126 ± 8	$(1.94 \pm 0.06) \times 10^3$	860 ± 13	$(1.87 \pm 0.04) \times 10^3$	$(3.47 \pm 0.07) \times 10^3$	$(4.38 \pm 0.07) \times 10^3$

Table 6: CONT: Exchange rates extrapolated to 310 K, 1M glucose at pH=7.38, using restricted model, with partial assignment.

T(K)	C_6	$C_{3/4}$	$C_{3/4}$	C_2	$C_{1,\alpha}$	$C_{1,\beta}$
285.25	1146 ± 8	$(1.99 \pm 0.07) \times 10^3$	873 ± 14	$(1.92 \pm 0.04) \times 10^3$	$(3.55 \pm 0.07) \times 10^3$	$(4.47 \pm 0.07) \times 10^3$
285.5	1166 ± 9	$(2.05 \pm 0.07) \times 10^3$	885 ± 14	$(1.97 \pm 0.05) \times 10^3$	$(3.64 \pm 0.08) \times 10^3$	$(4.56 \pm 0.08) \times 10^3$
285.75	1187 ± 9	$(2.10 \pm 0.07) \times 10^3$	898 ± 14	$(2.03 \pm 0.05) \times 10^3$	$(3.74 \pm 0.08) \times 10^3$	$(4.65 \pm 0.08) \times 10^3$
286.0	1208 ± 9	$(2.16 \pm 0.07) \times 10^3$	911 ± 15	$(2.08 \pm 0.05) \times 10^3$	$(3.83 \pm 0.08) \times 10^3$	$(4.74 \pm 0.08) \times 10^3$
286.25	1230 ± 9	$(2.21 \pm 0.08) \times 10^3$	924 ± 15	$(2.14 \pm 0.05) \times 10^3$	$(3.93 \pm 0.09) \times 10^3$	$(4.84 \pm 0.08) \times 10^3$
286.5	1251 ± 10	$(2.27 \pm 0.08) \times 10^3$	938 ± 16	$(2.20 \pm 0.05) \times 10^3$	$(4.03 \pm 0.09) \times 10^3$	$(4.94 \pm 0.09) \times 10^3$
286.75	1273 ± 10	$(2.33 \pm 0.08) \times 10^3$	951 ± 16	$(2.26 \pm 0.06) \times 10^3$	$(4.13 \pm 0.09) \times 10^3$	$(5.04 \pm 0.09) \times 10^3$
287.0	1296 ± 10	$(2.39 \pm 0.09) \times 10^3$	965 ± 17	$(2.32 \pm 0.06) \times 10^3$	$(4.23 \pm 0.10) \times 10^3$	$(5.14 \pm 0.09) \times 10^3$
287.25	1319 ± 11	$(2.45 \pm 0.09) \times 10^3$	979 ± 17	$(2.38 \pm 0.06) \times 10^3$	$(4.34 \pm 0.10) \times 10^3$	$(5.24 \pm 0.10) \times 10^3$
287.5	1342 ± 11	$(2.52 \pm 0.09) \times 10^3$	993 ± 18	$(2.44 \pm 0.06) \times 10^3$	$(4.45 \pm 0.10) \times 10^3$	$(5.35 \pm 0.10) \times 10^3$
287.75	1366 ± 11	$(2.58 \pm 0.10) \times 10^3$	1007 ± 18	$(2.51 \pm 0.07) \times 10^3$	$(4.56 \pm 0.11) \times 10^3$	$(5.46 \pm 0.10) \times 10^3$
288.0	1389 ± 12	$(2.65 \pm 0.10) \times 10^3$	1022 ± 18	$(2.57 \pm 0.07) \times 10^3$	$(4.67 \pm 0.11) \times 10^3$	$(5.57 \pm 0.11) \times 10^3$
288.25	1414 ± 12	$(2.72 \pm 0.10) \times 10^3$	1036 ± 19	$(2.64 \pm 0.07) \times 10^3$	$(4.79 \pm 0.12) \times 10^3$	$(5.68 \pm 0.11) \times 10^3$
288.5	1439 ± 12	$(2.79 \pm 0.11) \times 10^3$	1051 ± 20	$(2.71 \pm 0.07) \times 10^3$	$(4.90 \pm 0.12) \times 10^3$	$(5.79 \pm 0.12) \times 10^3$
288.75	1464 ± 13	$(2.86 \pm 0.11) \times 10^3$	1066 ± 20	$(2.78 \pm 0.08) \times 10^3$	$(5.03 \pm 0.13) \times 10^3$	$(5.91 \pm 0.12) \times 10^3$
289.0	1489 ± 13	$(2.94 \pm 0.12) \times 10^3$	1081 ± 21	$(2.86 \pm 0.08) \times 10^3$	$(5.15 \pm 0.13) \times 10^3$	$(6.02 \pm 0.12) \times 10^3$
289.25	1515 ± 13	$(3.01 \pm 0.12) \times 10^3$	1096 ± 21	$(2.93 \pm 0.08) \times 10^3$	$(5.28 \pm 0.13) \times 10^3$	$(6.14 \pm 0.13) \times 10^3$
289.5	1541 ± 14	$(3.09 \pm 0.13) \times 10^3$	1112 ± 22	$(3.01 \pm 0.09) \times 10^3$	$(5.41 \pm 0.14) \times 10^3$	$(6.27 \pm 0.13) \times 10^3$
289.75	1568 ± 14	$(3.17 \pm 0.13) \times 10^3$	1128 ± 22	$(3.09 \pm 0.09) \times 10^3$	$(5.54 \pm 0.14) \times 10^3$	$(6.39 \pm 0.14) \times 10^3$
290.0	1595 ± 15	$(3.25 \pm 0.13) \times 10^3$	1144 ± 23	$(3.17 \pm 0.09) \times 10^3$	$(5.68 \pm 0.15) \times 10^3$	$(6.52 \pm 0.14) \times 10^3$
290.25	1623 ± 15	$(3.33 \pm 0.14) \times 10^3$	1160 ± 23	$(3.25 \pm 0.10) \times 10^3$	$(5.82 \pm 0.16) \times 10^3$	$(6.64 \pm 0.14) \times 10^3$
290.5	1651 ± 15	$(3.42 \pm 0.14) \times 10^3$	1176 ± 24	$(3.34 \pm 0.10) \times 10^3$	$(5.96 \pm 0.16) \times 10^3$	$(6.78 \pm 0.15) \times 10^3$
290.75	1679 ± 16	$(3.50 \pm 0.15) \times 10^3$	1193 ± 25	$(3.43 \pm 0.10) \times 10^3$	$(6.10 \pm 0.17) \times 10^3$	$(6.91 \pm 0.15) \times 10^3$
291.0	1708 ± 16	$(3.59 \pm 0.16) \times 10^3$	1209 ± 25	$(3.51 \pm 0.11) \times 10^3$	$(6.25 \pm 0.17) \times 10^3$	$(7.04 \pm 0.16) \times 10^3$
291.25	1737 ± 17	$(3.68 \pm 0.16) \times 10^3$	1226 ± 26	$(3.61 \pm 0.11) \times 10^3$	$(6.41 \pm 0.18) \times 10^3$	$(7.18 \pm 0.16) \times 10^3$
291.5	1767 ± 17	$(3.78 \pm 0.17) \times 10^3$	1243 ± 27	$(3.70 \pm 0.11) \times 10^3$	$(6.56 \pm 0.18) \times 10^3$	$(7.32 \pm 0.17) \times 10^3$
291.75	1797 ± 18	$(3.87 \pm 0.17) \times 10^3$	1261 ± 27	$(3.80 \pm 0.12) \times 10^3$	$(6.72 \pm 0.19) \times 10^3$	$(7.47 \pm 0.17) \times 10^3$
292.0	1828 ± 18	$(3.97 \pm 0.18) \times 10^3$	1278 ± 28	$(3.89 \pm 0.12) \times 10^3$	$(6.88 \pm 0.20) \times 10^3$	$(7.61 \pm 0.18) \times 10^3$
292.25	1859 ± 19	$(4.07 \pm 0.19) \times 10^3$	1296 ± 29	$(3.99 \pm 0.13) \times 10^3$	$(7.05 \pm 0.20) \times 10^3$	$(7.76 \pm 0.18) \times 10^3$
292.5	1890 ± 19	$(4.17 \pm 0.19) \times 10^3$	1314 ± 29	$(4.10 \pm 0.13) \times 10^3$	$(7.22 \pm 0.21) \times 10^3$	$(7.91 \pm 0.19) \times 10^3$
292.75	1923 ± 20	$(4.28 \pm 0.20) \times 10^3$	1332 ± 30	$(4.20 \pm 0.14) \times 10^3$	$(7.39 \pm 0.22) \times 10^3$	$(8.06 \pm 0.19) \times 10^3$
293.0	1955 ± 20	$(4.39 \pm 0.21) \times 10^3$	1351 ± 31	$(4.31 \pm 0.14) \times 10^3$	$(7.57 \pm 0.23) \times 10^3$	$(8.22 \pm 0.20) \times 10^3$
293.25	1988 ± 21	$(4.50 \pm 0.21) \times 10^3$	1369 ± 31	$(4.42 \pm 0.15) \times 10^3$	$(7.75 \pm 0.23) \times 10^3$	$(8.38 \pm 0.21) \times 10^3$
293.5	2022 ± 21	$(4.61 \pm 0.22) \times 10^3$	1388 ± 32	$(4.54 \pm 0.15) \times 10^3$	$(7.94 \pm 0.24) \times 10^3$	$(8.54 \pm 0.21) \times 10^3$
293.75	2056 ± 22	$(4.72 \pm 0.23) \times 10^3$	1407 ± 33	$(4.65 \pm 0.16) \times 10^3$	$(8.13 \pm 0.25) \times 10^3$	$(8.71 \pm 0.22) \times 10^3$
294.0	2091 ± 23	$(4.84 \pm 0.23) \times 10^3$	1427 ± 34	$(4.77 \pm 0.16) \times 10^3$	$(8.33 \pm 0.26) \times 10^3$	$(8.87 \pm 0.23) \times 10^3$
294.25	2126 ± 23	$(4.96 \pm 0.24) \times 10^3$	1446 ± 34	$(4.89 \pm 0.17) \times 10^3$	$(8.52 \pm 0.27) \times 10^3$	$(9.04 \pm 0.23) \times 10^3$
294.5	2161 ± 24	$(5.09 \pm 0.25) \times 10^3$	1466 ± 35	$(5.02 \pm 0.17) \times 10^3$	$(8.73 \pm 0.28) \times 10^3$	$(9.22 \pm 0.24) \times 10^3$
294.75	2198 ± 24	$(5.21 \pm 0.26) \times 10^3$	$(1.49 \pm 0.04) \times 10^3$	$(5.14 \pm 0.18) \times 10^3$	$(8.93 \pm 0.29) \times 10^3$	$(9.39 \pm 0.25) \times 10^3$
295.0	2234 ± 25	$(5.34 \pm 0.27) \times 10^3$	$(1.51 \pm 0.04) \times 10^3$	$(5.27 \pm 0.19) \times 10^3$	$(9.15 \pm 0.29) \times 10^3$	$(9.57 \pm 0.25) \times 10^3$
295.25	2272 ± 26	$(5.47 \pm 0.28) \times 10^3$	$(1.53 \pm 0.04) \times 10^3$	$(5.41 \pm 0.19) \times 10^3$	$(9.36 \pm 0.30) \times 10^3$	$(9.76 \pm 0.26) \times 10^3$
295.5	2309 ± 26	$(5.61 \pm 0.29) \times 10^3$	$(1.55 \pm 0.04) \times 10^3$	$(5.54 \pm 0.20) \times 10^3$	$(9.59 \pm 0.31) \times 10^3$	$(9.94 \pm 0.27) \times 10^3$
295.75	2348 ± 27	$(5.75 \pm 0.30) \times 10^3$	$(1.57 \pm 0.04) \times 10^3$	$(5.68 \pm 0.20) \times 10^3$	$(9.81 \pm 0.32) \times 10^3$	$(1.013 \pm 0.027) \times 10^4$
296.0	2387 ± 28	$(5.89 \pm 0.31) \times 10^3$	$(1.59 \pm 0.04) \times 10^3$	$(5.83 \pm 0.21) \times 10^3$	$(1.004 \pm 0.033) \times 10^4$	$(1.032 \pm 0.028) \times 10^4$
296.25	2426 ± 28	$(6.03 \pm 0.32) \times 10^3$	$(1.61 \pm 0.04) \times 10^3$	$(5.97 \pm 0.22) \times 10^3$	$(1.028 \pm 0.035) \times 10^4$	$(1.052 \pm 0.029) \times 10^4$
296.5	2467 ± 29	$(6.18 \pm 0.33) \times 10^3$	$(1.63 \pm 0.04) \times 10^3$	$(6.12 \pm 0.23) \times 10^3$	$(1.05 \pm 0.04) \times 10^4$	$(1.072 \pm 0.030) \times 10^4$
296.75	2507 ± 30	$(6.33 \pm 0.34) \times 10^3$	$(1.66 \pm 0.04) \times 10^3$	$(6.28 \pm 0.23) \times 10^3$	$(1.08 \pm 0.04) \times 10^4$	$(1.092 \pm 0.031) \times 10^4$
297.0	2549 ± 30	$(6.49 \pm 0.35) \times 10^3$	$(1.68 \pm 0.04) \times 10^3$	$(6.44 \pm 0.24) \times 10^3$	$(1.10 \pm 0.04) \times 10^4$	$(1.113 \pm 0.032) \times 10^4$
297.25	2591 ± 31	$(6.6 \pm 0.4) \times 10^3$	$(1.70 \pm 0.05) \times 10^3$	$(6.60 \pm 0.25) \times 10^3$	$(1.13 \pm 0.04) \times 10^4$	$(1.134 \pm 0.032) \times 10^4$
297.5	2633 ± 32	$(6.8 \pm 0.4) \times 10^3$	$(1.72 \pm 0.05) \times 10^3$	$(6.76 \pm 0.26) \times 10^3$	$(1.15 \pm 0.04) \times 10^4$	$(1.155 \pm 0.033) \times 10^4$
297.75	2677 ± 33	$(7.0 \pm 0.4) \times 10^3$	$(1.75 \pm 0.05) \times 10^3$	$(6.93 \pm 0.27) \times 10^3$	$(1.18 \pm 0.04) \times 10^4$	$(1.177 \pm 0.034) \times 10^4$
298.0	2720 ± 34	$(7.1 \pm 0.4) \times 10^3$	$(1.77 \pm 0.05) \times 10^3$	$(7.10 \pm 0.27) \times 10^3$	$(1.21 \pm 0.04) \times 10^4$	$(1.199 \pm 0.035) \times 10^4$
298.25	2765 ± 34	$(7.3 \pm 0.4) \times 10^3$	$(1.79 \pm 0.05) \times 10^3$	$(7.28 \pm 0.28) \times 10^3$	$(1.24 \pm 0.04) \times 10^4$	$(1.22 \pm 0.04) \times 10^4$
298.5	2810 ± 35	$(7.5 \pm 0.4) \times 10^3$	$(1.82 \pm 0.05) \times 10^3$	$(7.46 \pm 0.29) \times 10^3$	$(1.27 \pm 0.05) \times 10^4$	$(1.24 \pm 0.04) \times 10^4$
298.75	$(2.86 \pm 0.04) \times 10^3$	$(7.7 \pm 0.4) \times 10^3$	$(1.84 \pm 0.05) \times 10^3$	$(7.64 \pm 0.30) \times 10^3$	$(1.29 \pm 0.05) \times 10^4$	$(1.27 \pm 0.04) \times 10^4$
299.0	$(2.90 \pm 0.04) \times 10^3$	$(7.9 \pm 0.4) \times 10^3$	$(1.87 \pm 0.05) \times 10^3$	$(7.83 \pm 0.31) \times 10^3$	$(1.32 \pm 0.05) \times 10^4$	$(1.29 \pm 0.04) \times 10^4$
299.25	$(2.95 \pm 0.04) \times 10^3$	$(8.0 \pm 0.5) \times 10^3$	$(1.89 \pm 0.05) \times 10^3$	$(8.02 \pm 0.32) \times 10^3$	$(1.36 \pm 0.05) \times 10^4$	$(1.31 \pm 0.04) \times 10^4$
299.5	$(3.00 \pm 0.04) \times 10^3$	$(8.2 \pm 0.5) \times 10^3$	$(1.92 \pm 0.05) \times 10^3$	$(8.22 \pm 0.33) \times 10^3$	$(1.39 \pm 0.05) \times 10^4$	$(1.34 \pm 0.04) \times 10^4$
299.75	$(3.05 \pm 0.04) \times 10^3$	$(8.4 \pm 0.5) \times 10^3$	$(1.94 \pm 0.06) \times 10^3$	$(8.42 \pm 0.34) \times 10^3$	$(1.42 \pm 0.05) \times 10^4$	$(1.36 \pm 0.04) \times 10^4$
300.0	$(3.10 \pm 0.04) \times 10^3$	$(8.6 \pm 0.5) \times 10^3$	$(1.97 \pm 0.06) \times 10^3$	$(8.63 \pm 0.35) \times 10^3$	$(1.45 \pm 0.05) \times 10^4$	$(1.39 \pm 0.04) \times 10^4$
300.25	$(3.15 \pm 0.04) \times 10^3$	$(8.8 \pm 0.5) \times 10^3$	$(1.99 \pm 0.06) \times 10^3$	$(8.8 \pm 0.4) \times 10^3$	$(1.48 \pm 0.06) \times 10^4$	$(1.41 \pm 0.04) \times 10^4$
300.5	$(3.20 \pm 0.04) \times 10^3$	$(9.1 \pm 0.5) \times 10^3$	$(2.02 \pm 0.06) \times 10^3$	$(9.1 \pm 0.4) \times 10^3$	$(1.52 \pm 0.06) \times 10^4$	$(1.44 \pm 0.05) \times 10^4$
300.75	$(3.25 \pm 0.04) \times 10^3$	$(9.3 \pm 0.6) \times 10^3$	$(2.05 \pm 0.06) \times 10^3$	$(9.3 \pm 0.4) \times 10^3$	$(1.55 \pm 0.06) \times 10^4$	$(1.47 \pm 0.05) \times 10^4$
301.0	$(3.30 \pm 0.04) \times 10^3$	$(9.5 \pm 0.6) \times 10^3$	$(2.07 \pm 0.06) \times 10^3$	$(9.5 \pm 0.4) \times 10^3$	$(1.59 \pm 0.06) \times 10^4$	$(1.49 \pm 0.05) \times 10^4$
301.25	$(3.35 \pm 0.05) \times 10^3$	$(9.7 \pm 0.6) \times 10^3$	$(2.10 \pm 0.06) \times 10^3$	$(9.7 \pm 0.4) \times 10^3$	$(1.62 \pm 0.06) \times 10^4$	$(1.52 \pm 0.05) \times 10^4$
301.5	$(3.41 \pm 0.05) \times 10^3$	$(9.9 \pm 0.6) \times 10^3$	$(2.13 \pm 0.06) \times 10^3$	$(1.00 \pm 0.04) \times 10^4$	$(1.66 \pm 0.07) \times 10^4$	$(1.55 \pm 0.05) \times 10^4$
301.75	$(3.46 \pm 0.05) \times 10^3$	$(1.02 \pm 0.06) \times 10^4$	$(2.16 \pm 0.07) \times 10^3$	$(1.02 \pm 0.04) \times 10^4$	$(1.70 \pm 0.07) \times 10^4$	$(1.58 \pm 0.05) \times 10^4$
302.0	$(3.52 \pm 0.05) \times 10^3$	$(1.04 \pm 0.06) \times 10^4$	$(2.18 \pm 0.07) \times 10^3$	$(1.05 \pm 0.05) \times 10^4$	$(1.74 \pm 0.07) \times 10^4$	$(1.61 \pm 0.05) \times 10^4$
302.25	$(3.57 \pm 0.05) \times 10^3$	$(1.07 \pm 0.07) \times 10^4$	$(2.21 \pm 0.07) \times 10^3$	$(1.07 \pm 0.05) \times 10^4$	$(1.78 \pm 0.07) \times 10^4$	$(1.64 \pm 0.05) \times 10^4$
302.5	$(3.63 \pm 0.05) \times 10^3$	$(1.09 \pm 0.07) \times 10^4$	$(2.24 \pm 0.07) \times 10^3$	$(1.10 \pm 0.05) \times 10^4$	$(1.82 \pm 0.07) \times 10^4$	$(1.67 \pm 0.06) \times 10^4$
302.75	$(3.69 \pm 0.05) \times 10^3$	$(1.12 \pm 0.07) \times 10^4$	$(2.27 \pm 0.07) \times 10^3$	$(1.12 \pm 0.05) \times 10^4$	$(1.86 \pm 0.08) \times 10^4$	$(1.70 \pm 0.06) \times 10^4$
303.0	$(3.75 \pm 0.05) \times 10^3$	$(1.14 \pm 0.07) \times 10^4$	$(2.30 \pm 0.07) \times 10^3$	$(1.15 \pm 0.05) \times 10^4$	$(1.90 \pm 0.08) \times 10^4$	$(1.73 \pm 0.06) \times 10^4$
303.25	$(3.80 \pm 0.05) \times 10^3$	$(1.17 \pm 0.08) \times 10^4$	$(2.33 \pm 0.07) \times 10^3$	$(1.18 \pm 0.05) \times 10^4$	$(1.94 \pm 0.08) \times 10^4$	$(1.76 \pm 0.06) \times 10^4$
303.5	$(3.86 \pm 0.06) \times 10^3$	$(1.20 \pm 0.08) \times 10^4$	$(2.36 \pm 0.08) \times 10^3$	$(1.21 \pm 0.05) \times 10^4$	$(1.99 \pm 0.08) \times 10^4$	$(1.79 \pm 0.06) \times 10^4$
303.75	$(3.93 \pm 0.06) \times 10^3$	$(1.23 \pm 0.08) \times 10^4$	$(2.39 \pm 0.08) \times 10^3$	$(1.24 \pm 0.06) \times 10^4$	$(2.03 \pm 0.09) \times 10^4$	$(1.82 \pm 0.06) \times 10^4$
304.0	$(3.99 \pm 0.06) \times 10^3$	$(1.25 \pm 0.08) \times 10^4$	$(2.42 \pm 0.08) \times 10^3$	$(1.27 \pm 0.06) \times 10^4$	$(2.08 \pm 0.09) \times 10^4$	$(1.86 \pm 0.06) \times 10^4$
304.25	$(4.05 \pm 0.06) \times 10^3$	$(1.28 \pm 0.08) \times 10^4$	$(2.45 \pm 0.08) \times 10^3$	$(1.30 \pm 0.06) \times 10^4$	$(2.12 \pm 0.09) \times 10^4$	$(1.89 \pm 0.07) \times 10^4$
304.5	$(4.11 \pm 0.06) \times 10^3$	$(1.31 \pm 0.09) \times 10^4$	$(2.48 \pm 0.08) \times 10^3$	$(1.33 \pm 0.06) \times 10^4$	$(2.17 \pm 0.09) \times 10^4$	$(1.92 \pm 0.07) \times 10^4$
304.75	$(4.18 \pm 0.06) \times 10^3$	$(1.34 \pm 0.09) \times 10^4$	$(2.51 \pm 0.08) \times 10^3$	$(1.36 \pm 0.06) \times 10^4$	$(2.22 \pm 0.10) \times 10^4$	$(1.96 \pm 0.07) \times 10^4$
305.0	$(4.24 \pm 0.06) \times 10^3$	$(1.38 \pm 0.09) \times 10^4$	$(2.55 \pm 0.08) \times 10^3$	$(1.39 \pm 0.07) \times 10^4$	$(2.27 \pm 0.10) \times 10^4$	$(1.99 \pm 0.07) \times 10^4$
305.25	$(4.31 \pm 0.06) \times 10^3$	$(1.41 \pm 0.10) \times 10^4$	$(2.58 \pm 0.09) \times 10^3$	$(1.42 \pm 0.07) \times 10^4$	$(2.32 \pm 0.10) \times 10^4$	$(2.03 \pm 0.07) \times 10^4$
305.5	$(4.38 \pm 0.07) \times 10^3$	$(1.44 \pm 0.10) \times 10^4$	$(2.61 \pm 0.09) \times 10^3$	$(1.46 \pm 0.07) \times 10^4$	$(2.37 \pm 0.10) \times 10^4$	$(2.06 \pm 0.08) \times 10^4$
305.75	$(4.45 \pm 0.07) \times 10^3$	$(1.47 \pm 0.10) \times 10^4$	$(2.65 \pm 0.09) \times 10^3$	$(1.49 \pm 0.07) \times 10^4$	$(2.42 \pm 0.11) \times 10^4$	$(2.10 \pm 0.08) \times 10^4$
306.0	$(4.52 \pm 0.07) \times 10^3$	$(1.51 \pm 0.10) \times 10^4$	$(2.68 \pm 0.09) \times 10^3$	$(1.53 \pm 0.07) \times 10^4$	$(2.48 \pm 0.11) \times 10^4$	$(2.14 \pm 0.08) \times 10^4$
306.25	$(4.59 \pm 0.07) \times 10^3$	$(1.54 \pm 0.11) \times 10^4$	$(2.71 \pm 0.09) \times 10^3$	$(1.56 \pm 0.08) \times 10^4$	$(2.53 \pm 0.11) \times 10^4$	$(2.18 \pm 0.08) \times 10^4$
306.5	$(4.66 \pm 0.07) \times 10^3$	$(1.58 \pm 0.11) \times 10^4$	$(2.75 \pm 0.09) \times 10^3$	$(1.60 \pm 0.08) \times 10^4$	$(2.59 \pm 0.12) \times 10^4$	$(2.21 \pm 0.08) \times 10^4$
306.75	$(4.73 \pm 0.07) \times 10^3$	$(1.61 \pm 0.11) \times 10^4$	$(2.78 \pm 0.10) \times 10^3$	$(1.64 \pm 0.08) \times 10^4$	$(2.64 \pm 0.12) \times 10^4$	$(2.25 \pm 0.08) \times 10^4$
307.0	$(4.80 \pm 0.08) \times 10^3$	$(1.65 \pm 0.12) \times 10^4$	$(2.82 \pm 0.10) \times 10^3$	$(1.67 \pm 0.08) \times 10^4$	$(2.70 \pm 0.12) \times 10^4$	$(2.29 \pm 0.09) \times 10^4$
307.25	$(4.88 \pm 0.08) \times 10^3$	$(1.69 \pm 0.12) \times 10^4$	$(2.85 \pm 0.10) \times 10^3$	$(1.71 \pm 0.08) \times 10^4$	$(2.76 \pm 0.13) \times 10^4$	$(2.33 \pm 0.09) \times 10^4$
307.5	$(4.95 \pm 0.08) \times 10^3$	$(1.73 \pm 0.12) \times 10^4$	$(2.89 \pm 0.10) \times 10^3$	$(1.75 \pm 0.09) \times 10^4$	$(2.82 \pm 0.13) \times 10^4$	$(2.38 \pm 0.09) \times 10^4$
307.75	$(5.03 \pm 0.08) \times 10^3$	$(1.77 \pm 0.13) \times 10^4$	$(2.93 \pm 0.10) \times 10^3$	$(1.79 \pm 0.09) \times 10^4$	$(2.88 \pm 0.13) \times 10^4$	$(2.42 \pm 0.09) \times 10^4$
308.0	$(5.10 \pm 0.08) \times 10^3$	$(1.81 \pm 0.13) \times 10^4$	$(2.96 \pm 0.11) \times 10^3$	$(1.84 \pm 0.09) \times 10^4$	$(2.94 \pm 0.14) \times 10^4$	$(2.46 \pm 0.10) \times 10^4$
308.25	$(5.18 \pm 0.08) \times 10^3$	$(1.85 \pm 0.13) \times 10^4$	$(3.00 \pm 0.11) \times 10^3$	$(1.88 \pm 0.09) \times 10^4$	$(3.01 \pm 0.14) \times 10^4$	$(2.50 \pm 0.10) \times 10^4$
308.5	$(5.26 \pm 0.09) \times 10^3$	$(1.89 \pm 0.14) \times 10^4$	$(3.04 \pm 0.11) \times 10^3$	$(1.92 \pm 0.10) \times 10^4$	$(3.07 \pm 0.14) \times 10^4$	$(2.55 \pm 0.10) \times 10^4$
308.75	$(5.34 \pm 0.09) \times 10^3$	$(1.93 \pm 0.14) \times 10^4$	$(3.07 \pm 0.11) \times 10^3$	$(1.97 \pm 0.10) \times 10^4$	$(3.14 \pm 0.15) \times 10^4$	$(2.59 \pm 0.10) \times 10^4$
309.0	$(5.42 \pm 0.09) \times 10^3$	$(1.97 \pm 0.15) \times 10^4$	$(3.11 \pm 0.11) \times 10^3$	$(2.01 \pm 0.10) \times 10^4$	$(3.21 \pm 0.15) \times 10^4$	$(2.64 \pm 0.10) \times 10^4$
309.25	$(5.51 \pm 0.09) \times 10^3$	$(2.02 \pm 0.15) \times 10^4$	$(3.15 \pm 0.12) \times 10^3$	$(2.06 \pm 0.11) \times 10^4$	$(3.28 \pm 0.16) \times 10^4$	$(2.68 \pm 0.11) \times 10^4$
309.5	$(5.59 \pm 0.09) \times 10^3$	$(2.06 \pm 0.15) \times 10^4$	$(3.19 \pm 0.12) \times 10^3$	$(2.11 \pm 0.11) \times 10^4$	$(3.35 \pm 0.16) \times 10^4$	$(2.73 \pm 0.11) \times 10^4$
309.75	$(5.68 \pm 0.09) \times 10^3$	$(2.11 \pm 0.16) \times 10^4$	$(3.23 \pm 0.12) \times 10^3$	$(2.16 \pm 0.11) \times 10^4$	$(3.42 \pm 0.16) \times 10^4$	$(2.78 \pm 0.11) \times 10^4$
310.0	$(5.76 \pm 0.10) \times 10^3$	$(2.16 \pm 0.16) \times 10^4$	$(3.27 \pm 0.12) \times 10^3$	$(2.21 \pm 0.12) \times 10^4$	$(3.49 \pm 0.17) \times 10^4$	$(2.82 \pm 0.11) \times 10^4$

Table 7: Chem shifts, 1M glucose at pH=6.21, using restricted model, with partial assignment. Signals 1 to 5

T(K)	C_6	$C_{3/4\alpha}$	$C_{3/4\beta}$	$C_{3/4\alpha}$	$C_{3/4\beta}$
269.27	0.78885 ± 0.00011	1.2290 ± 0.0011	1.37237 ± 0.00024	1.2198 ± 0.0005	1.43349 ± 0.00015
274.23	0.78644 ± 0.00015	1.2411 ± 0.0018	1.3686 ± 0.0008	1.2199 ± 0.0005	1.4326 ± 0.0005
279.19	0.78655 ± 0.00023	1.2499 ± 0.0008	1.3615 ± 0.0030	1.22000 ± 0.00023	1.4299 ± 0.0014
284.15	0.7786 ± 0.0004	1.2497 ± 0.0028	1.316 ± 0.006	1.2194 ± 0.0015	1.4487 ± 0.0024
289.11	0.7672 ± 0.0009	1.248 ± 0.004	1.313 ± 0.010	1.2199 ± 0.0031	1.434 ± 0.004
294.06	0.7603 ± 0.0021	1.244 ± 0.016	1.331 ± 0.007	1.204 ± 0.008	1.422 ± 0.004

Table 8: Chem shifts, 1M glucose at pH=6.21, using restricted model, with partial assignment. Signals 6 to 9

T(K)	$C_{2,\alpha}$	$C_{2,\beta}$	$C_{1,\alpha}$	$C_{1,\beta}$
269.27	1.07148 ± 0.00012	1.25909 ± 0.00028	2.06430 ± 0.00004	2.81704 ± 0.00009
274.23	1.06993 ± 0.00022	1.2601 ± 0.0007	2.07862 ± 0.00008	2.82553 ± 0.00014
279.19	1.0667 ± 0.0006	1.2597 ± 0.0007	2.09270 ± 0.00016	2.83369 ± 0.00024
284.15	1.0639 ± 0.0012	1.2686 ± 0.0020	2.10148 ± 0.00029	2.8372 ± 0.0004
289.11	1.0576 ± 0.0021	1.265 ± 0.004	2.1105 ± 0.0006	2.8386 ± 0.0007
294.06	1.049 ± 0.005	1.257 ± 0.006	2.1169 ± 0.0010	2.8351 ± 0.0012

Table 9: Chem shifts, 1M glucose at pH=7.00, using restricted model, with partial assignment. Signals 1 to 5

T(K)	C_6	$C_{3/4\alpha}$	$C_{3/4\beta}$	$C_{3/4\alpha}$	$C_{3/4\beta}$
267.88	0.77826 ± 0.00006	1.2139 ± 0.0010	1.35360 ± 0.00027	1.2139 ± 0.0010	1.43178 ± 0.00020
268.92	0.77559 ± 0.00007	1.2138 ± 0.0009	1.35343 ± 0.00035	1.2127 ± 0.0008	1.42465 ± 0.00027
271.53	0.77860 ± 0.00008	1.2347 ± 0.0013	1.3416 ± 0.0023	1.21999 ± 0.00018	1.4290 ± 0.0009
274.13	0.77544 ± 0.00012	1.2373 ± 0.0008	1.30002 ± 0.00010	1.21998 ± 0.00012	1.4377 ± 0.0005
276.73	0.77576 ± 0.00018	1.2361 ± 0.0016	1.3004 ± 0.0011	1.2200 ± 0.0005	1.4371 ± 0.0009

Table 10: Chem shifts, 1M glucose at pH=7.00, using restricted model, with partial assignment. Signals 6 to 9

T(K)	$C_{2,\alpha}$	$C_{2,\beta}$	$C_{1,\alpha}$	$C_{1,\beta}$
267.88	1.06316 ± 0.00011	1.24909 ± 0.00016	2.05641 ± 0.00020	2.81210 ± 0.00030
268.92	1.06199 ± 0.00013	1.24609 ± 0.00025	2.05779 ± 0.00025	2.80938 ± 0.00035
271.53	1.06047 ± 0.00017	1.2331 ± 0.0010	2.06362 ± 0.00033	2.8108 ± 0.0005
274.13	1.05868 ± 0.00025	1.2185 ± 0.0022	2.0695 ± 0.0005	2.8166 ± 0.0007
276.73	1.0599 ± 0.0004	1.2255 ± 0.0034	2.0726 ± 0.0007	2.8231 ± 0.0011

Table 11: Example defining the restricted exchange model of $\sim 1M$ glucose at temperature of 269.5 K

T=269.5K	water‡	C_6	$C_{3/4\alpha}$	$C_{3/4\beta}$	$C_{3/4\alpha}$	$C_{3/4\beta}$	$C_{2,\alpha}$	$C_{2,\beta}$	$C_{1,\alpha}$	$C_{1,\beta}$
δ [PPM]	0.0	0.78885	1.2299	1.37237	1.2198	1.43349	1.07148	1.25909	2.06430	2.81704
k_{ex} [Hz]	calculated	372.2	207.2	207.2	169.0	169.0	177.8	177.8	102.25	242.4
c_{frac}	110.0	1.0	0.36	0.64	0.36	0.64	0.36	0.64	0.36	0.64

‡ The water is used as a reference, therefore the chemical shift is zero. Exchange rate of water is calculated from the other exchange rates on the fly, so there is no need to specify it in the model. The fractional concentration of water is here set as 110 mol/l (of water hydrogen atoms). For confidence intervals of these paremeters, see Tables 1, 6 and 7, from which this table is assembled. Note however, that the chemical shifts correspond to the temperature of ∼295 K since no extrapolation of those was attempted.

Table 12: Example defining the restricted exchange model for fitting at low temperature (270 K) and pH=6.21

	water‡	C_6^a	$C_{3/4\alpha}$	$C_{3/4\beta}$	$C_{3/4\alpha}$	$C_{3/4\beta}$	$C_{2,\alpha}$	$C_{2,\beta}$	$C_{1,\alpha}$	$C_{1,\beta}$
δ [PPM]	0.0	0.70-0.80	1.15-1.5	1.15-1.5	1.15-1.5	1.15-1.5	1.0-1.1	1.15-1.5	1.9-2.2	2.7-3.0
k_{ex} [Hz]	calculated	20-1950	20-1950	$\equiv\leftarrow^b$	20-1950	$\equiv\leftarrow$	20-1950	$\equiv\leftarrow$	20-1950	20-1950
c_{frac}	110.0	1.0	0.36	0.64	0.36	0.64	0.36	0.64	0.36	0.64

[a] Suitably narrow range is used where the assignment is obvious. The chemical shift can be estimated from the spectrum. [b] With the sign we indicate, that in this (restricted) model, the exchange rate of β is set equal to the α on the left in the table. This way, the chemical shifts of corresponding α and β (of the same carbon) are obtained during the fitting.

Table 13: Example defining the restricted exchange model for fitting at higher temperature (295 K), at pH=6.21. The chemical shift ranges are narrowed arround the values obtained at low temperature to prevent swapping.

	water‡	C_6^a	$C_{3/4\alpha}$	$C_{3/4\beta}$	$C_{3/4\alpha}$	$C_{3/4\beta}$	$C_{2,\alpha}$	$C_{2,\beta}$	$C_{1,\alpha}$	$C_{1,\beta}$
δ [PPM]	0.0	0.70-0.80	1.15-1.25	1.30-1.40	1.20-1.22	1.4-1.5	1.0-1.1	1.2-1.3	1.9-2.2	2.7-3.0
k_{ex} [Hz]	calculated	20-1950	20-1950	$\equiv\leftarrow^b$	20-1950	$\equiv\leftarrow$	20-1950	$\equiv\leftarrow$	20-1950	20-1950
c_{frac}	110.0	1.0	0.36	0.64	0.36	0.64	0.36	0.64	0.36	0.64

Table 14: Parameters of the Eyring equation for exchange rates obtained by linear fit of the linearized Eying equation. Note that parameters for pH=7.38 should be used only in low temperatures for estimates of exchange rates.

pH	6.21	
site/parameter	κ	$\Delta G^{\ddagger}$ [J/mol]
C_6	1.3749-06	2.22730e+04
$C_{3/4}$	1.5401-06	2.38401e+04
$C_{3/4}$	2.4989-05	3.05403e+04
C_2	8.2092-06	2.79324e+04
$C_{1,\alpha}$	1.6195-02	4.61731e+04
$C_{1,\beta}$	1.2615-03	3.85195e+04

pH	7.00	
site/parameter	κ	$\Delta G^{\ddagger}$
C_6	1.4289-05	2.81024e+04
$C_{3/4}$	5.9687-05	3.19200e+04
$C_{3/4}$	2.2834-03	4.00640e+04
C_2	2.3088-04	3.50790e+04
$C_{1,\alpha}$	2.4681-01	4.96645e+04
$C_{1,\beta}$	7.1153-02	4.54870e+04

pH	7.38	
site/parameter	κ	$\Delta G^{\ddagger}$
C_6	4.1509-02	4.55072e+04
$C_{3/4}$	1.0688+03	6.82804e+04
$C_{3/4}$	7.9775-04	3.67809e+04
C_2	2.1281+03	7.00003e+04
$C_{1,\alpha}$	5.7136+02	6.54245e+04
$C_{1,\beta}$	2.8559+00	5.23164e+04