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Supplement of

Dicarboxylic acids, oxoacids, benzoic acid, α-dicarbonyls, WSOC, OC, and ions in spring aerosols from Okinawa Island in the western North Pacific Rim: size distributions and formation processes

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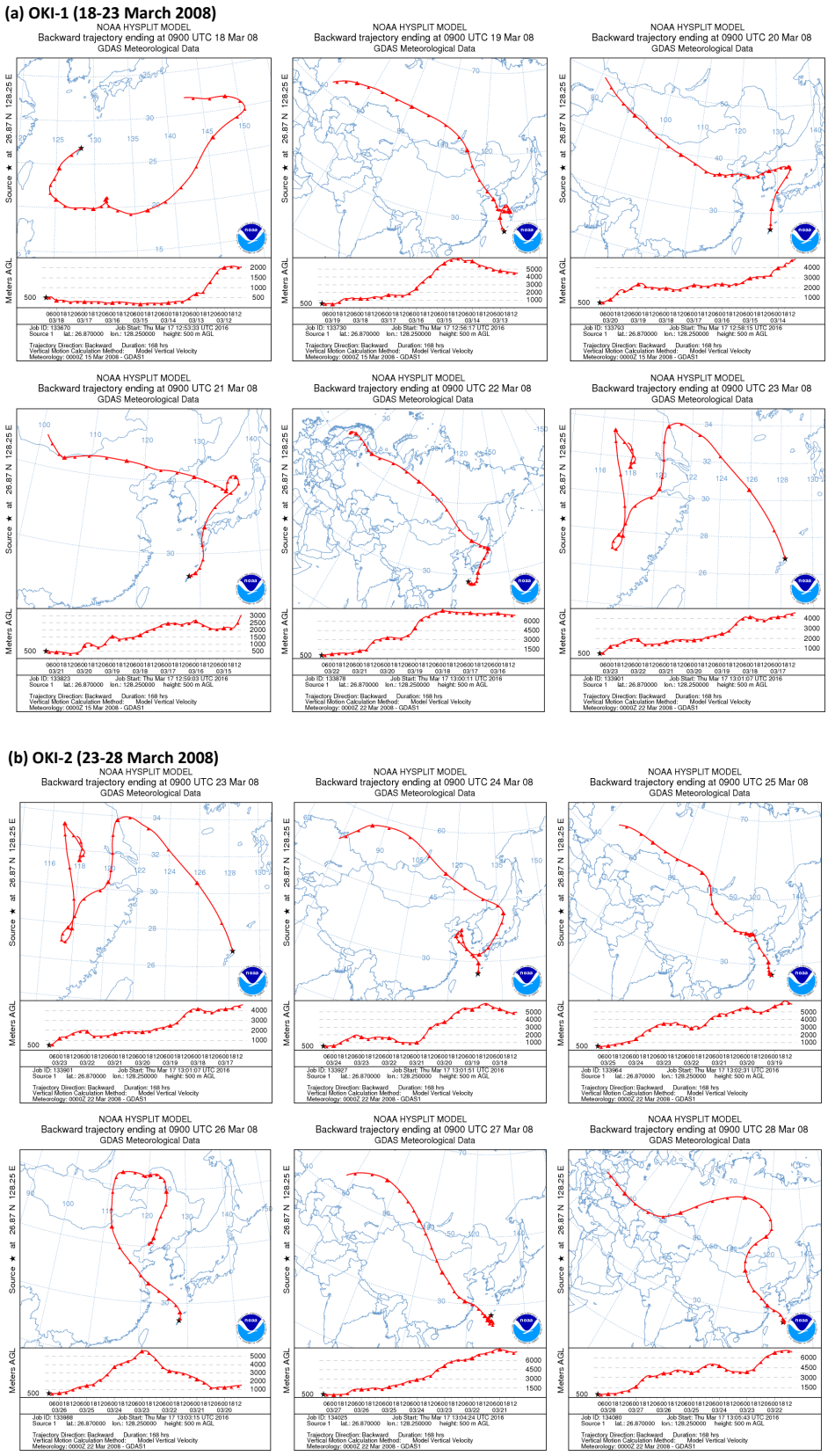


Figure S1. Seven-day backward air mass trajectories (NOAA HYSPLIT) at 500 m a.g.l. corresponding to 0900 UTC for the aerosol samples collected (OKI-1 to OKI-5) in Okinawa Island. The dates along with the sample ID are the starting and ending times for the collection of aerosol samples in Okinawa Island.

Figure S1 continue.

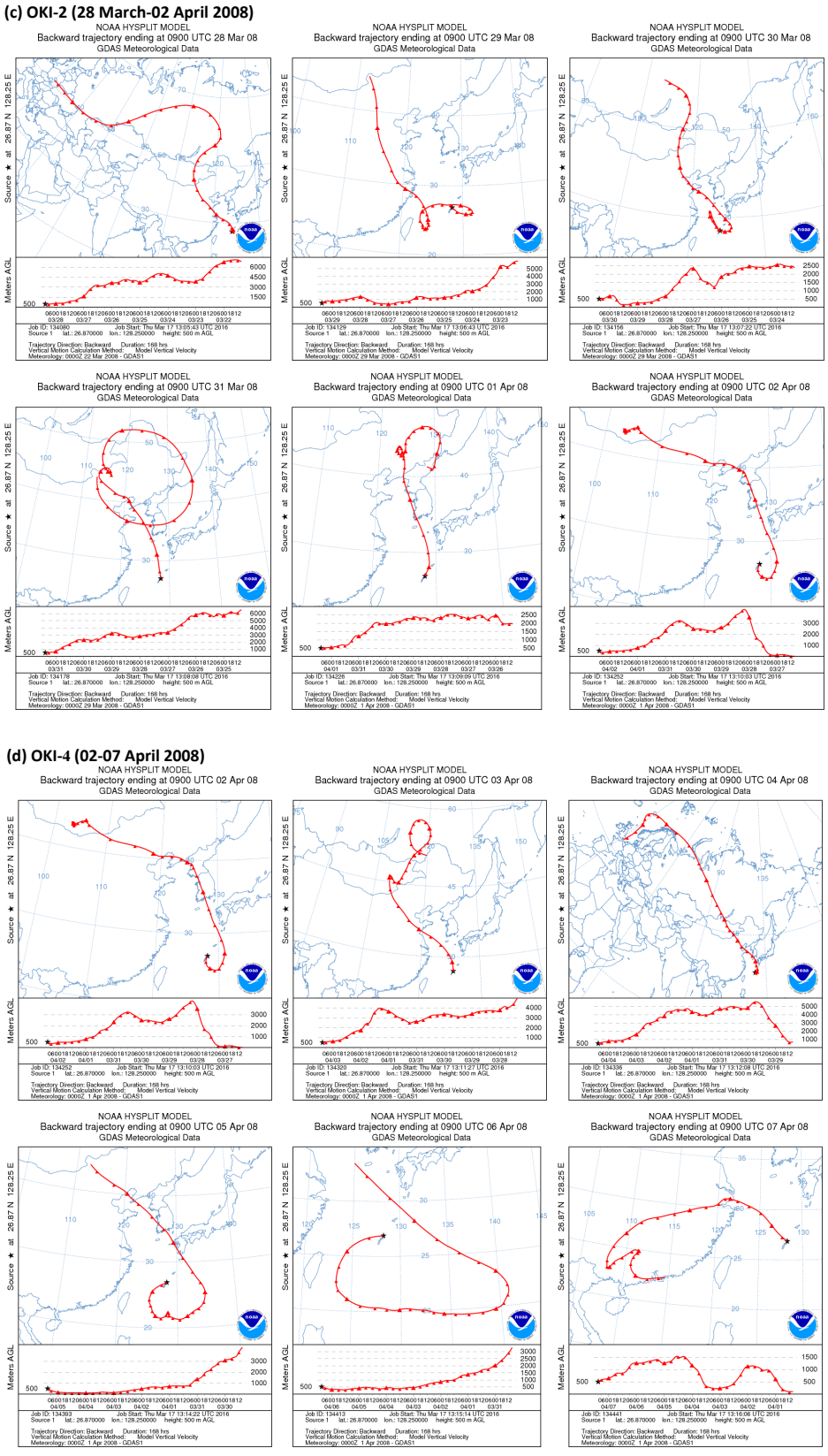
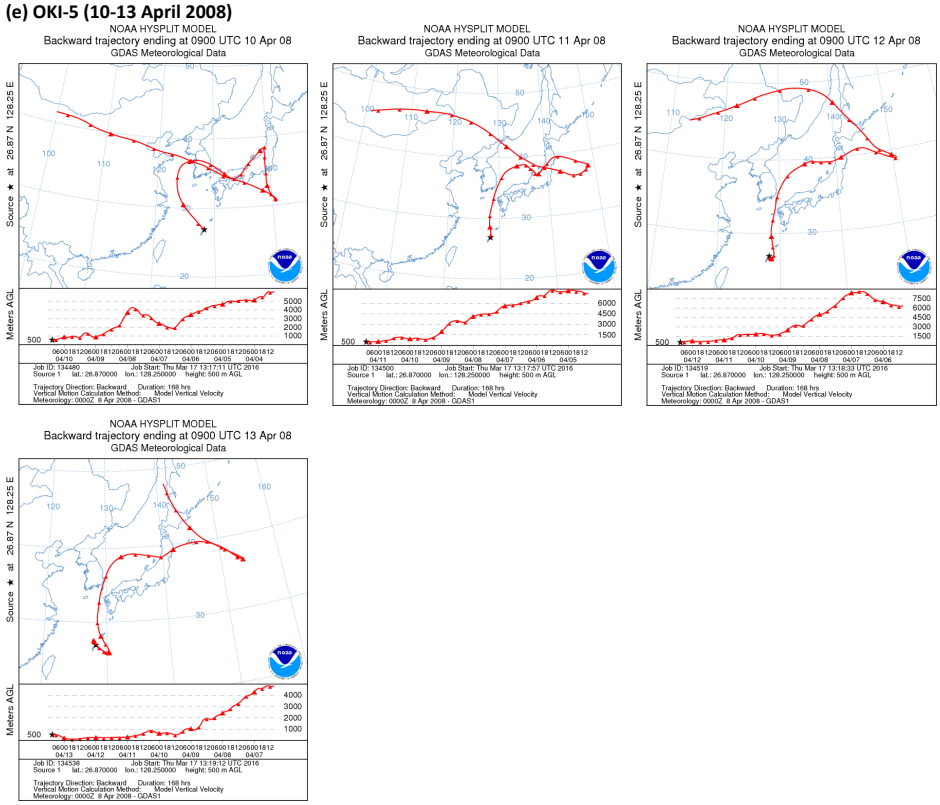


Figure S1 continue.

(e) OKI-5 (10-13 April 2008)



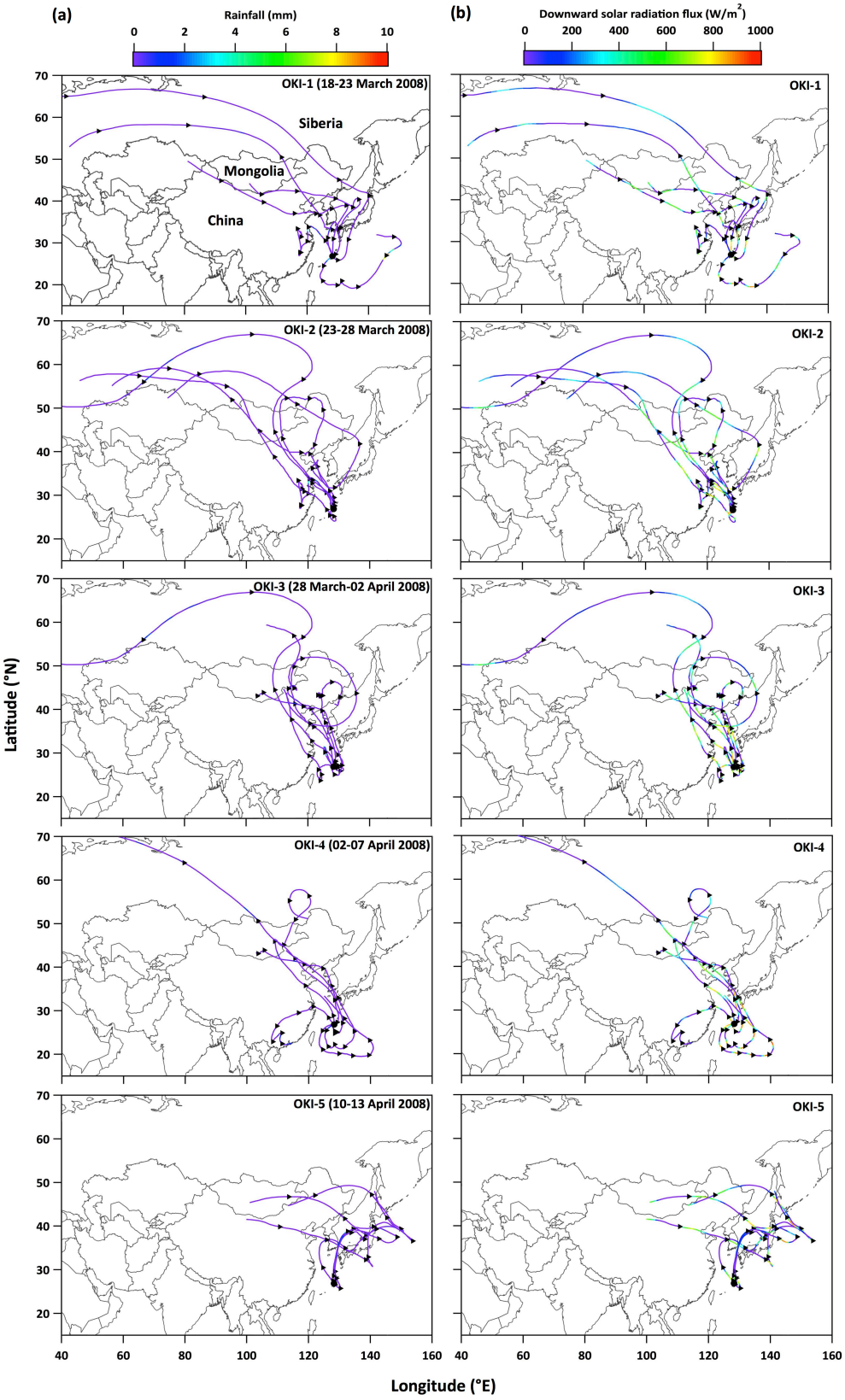


Figure S2. Seven-day backward air mass trajectories (NOAA HYSPLIT) at 500 m a.g.l. (0900 UTC) along with the data of (a) precipitation and (b) downward solar radiation flux for the aerosol samples collected (OKI-1 to OKI-5) in Okinawa Island. The dates given in each panel in figure are the starting and ending times of collection of aerosol samples in Okinawa Island.

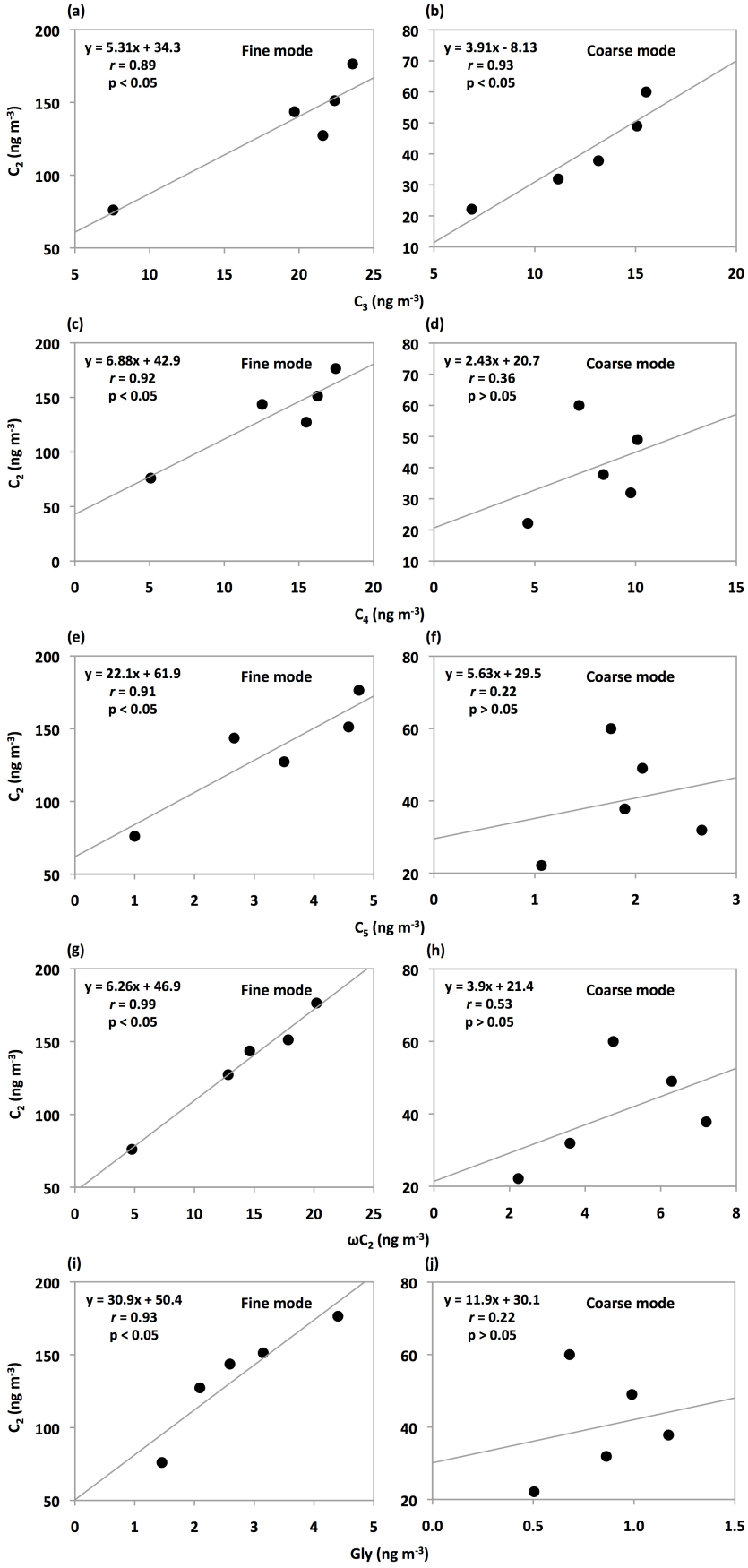


Figure S3. The scatter plots of C_2 with C_3-C_5 diacids, ωC_2 and Gly in fine and coarse mode aerosols in Okinawa.

Table S1. Correlation coefficient (r) and slope of the linear regression of oxalic acid (C_2) with other diacids and related compounds together with their statistical significance between fine and coarse mode aerosols in Okinawa Island.

Linear regression	Fine mode		Coarse mode						
	Correlation coefficient (r)	Slope	Correlation coefficient (r)	Slope	t-score	p-value	df	t-critical at p = 0.05	Slope significance*
C_2 vs. C_3	0.89	5.31	0.93	3.91	0.92	>0.05	6	2.45	Not significant
C_2 vs. C_4	0.92	6.88	0.36	2.43	1.12	>0.05	6	2.45	Not significant
C_2 vs. C_5	0.91	22.1	0.22	5.63	2.61	<0.05	6	2.45	Significant
C_2 vs. ωC_2	0.99	6.26	0.53	3.90	0.65	>0.05	6	2.45	Not significant
C_2 vs. Gly	0.93	30.9	0.22	11.9	2.53	<0.05	6	2.45	Significant

See Table 2 for abbreviation.
df = degree of freedom.
*If, t-score > t-critical => reject null hypothesis => difference in the slope is significant.

Table S2. Correlation coefficient (r) and slope of the linear regression of oxalic acid (C_2) with other diacids and related compounds together with their statistical significance in fine mode aerosols in Okinawa Island.

Linear regression	Correlation coefficient (r)	Slope	Linear regression	Correlation coefficient (r)	Slope	t-score	p-value	df	t-critical at p = 0.05	Slope significance*
C_2 vs. C_3	0.89	5.31	C_2 vs. C_4	0.92	6.88	0.73	>0.05	6	2.45	Not significant
C_2 vs. C_3	0.89	5.31	C_2 vs. C_5	0.91	22.1	2.83	<0.05	6	2.45	Significant
C_2 vs. C_4	0.92	6.88	C_2 vs. C_5	0.91	22.1	2.51	<0.05	6	2.45	Significant
C_2 vs. ωC_2	0.99	6.26	C_2 vs. Gly	0.93	30.9	3.36	<0.05	6	2.45	Significant

See Table 2 for abbreviation.
df = degree of freedom.
*If, t-score > t-critical => reject null hypothesis => difference in the slope is significant.