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Biogenically driven marine organic aerosol production over the West Pacific Ocean

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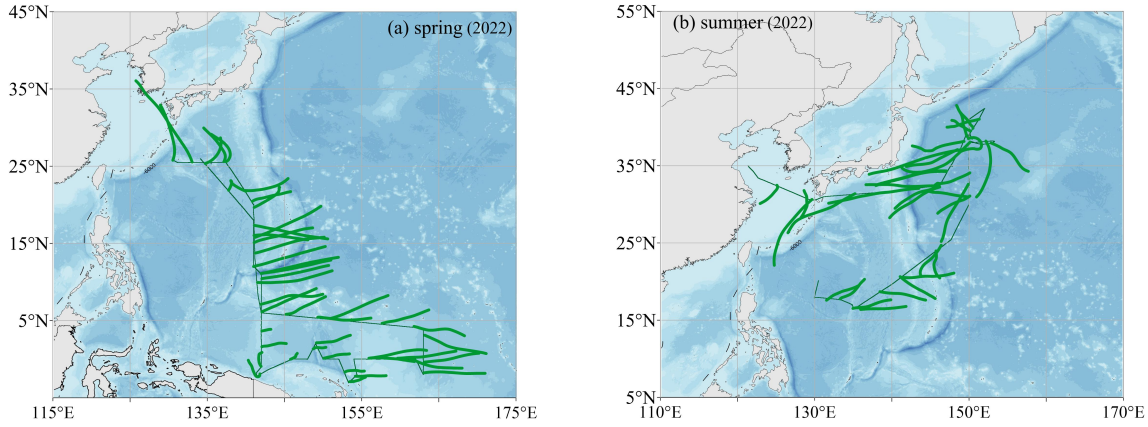

Figure S1 The 24-hr back trajectories of air masses during the cruises in (a) spring and (b) summer.

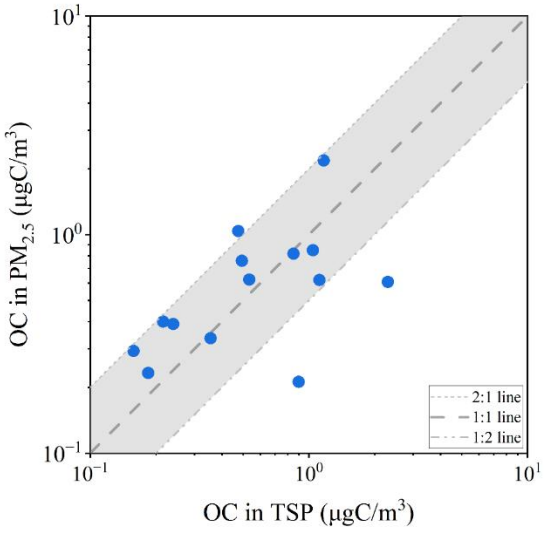

Figure S2 Comparison of the OC concentrations in the $PM_{2.5}$ and the TSP samples during the spring observation (Cruise I)

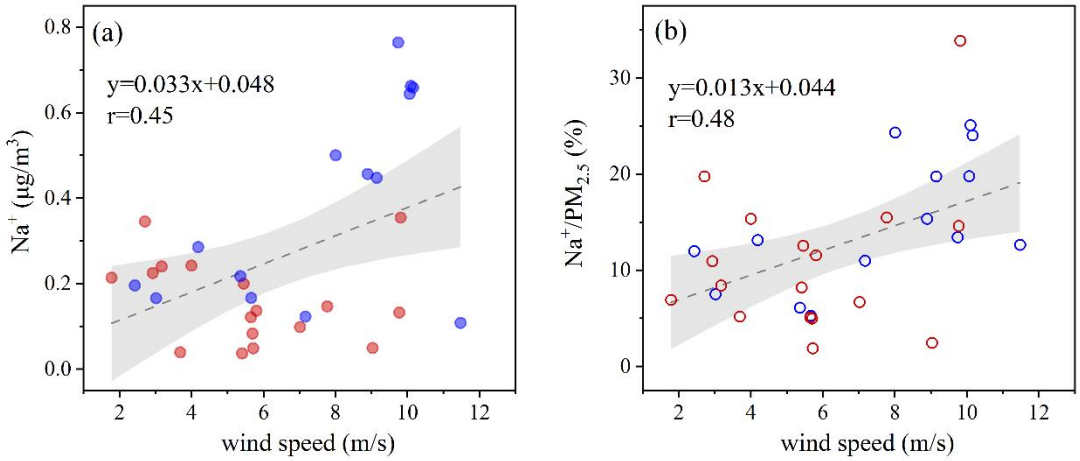

Figure S3 The variation of Na^+ concentration and $Na^+/PM_{2.5}$ as a function of the wind speed during the cruises. The data obtained during the spring Cruise I is in blue, and the data during the summer Cruise II is in red.

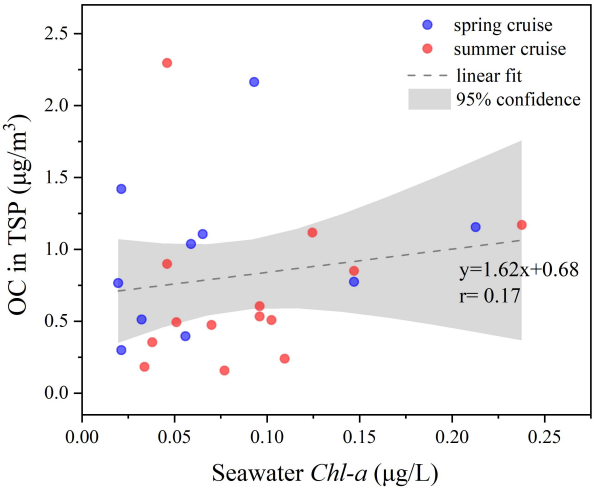

Figure S4 Scatter plot of the OC concentration in the collected TSP samples and seawater *Chl-a* during the cruises.

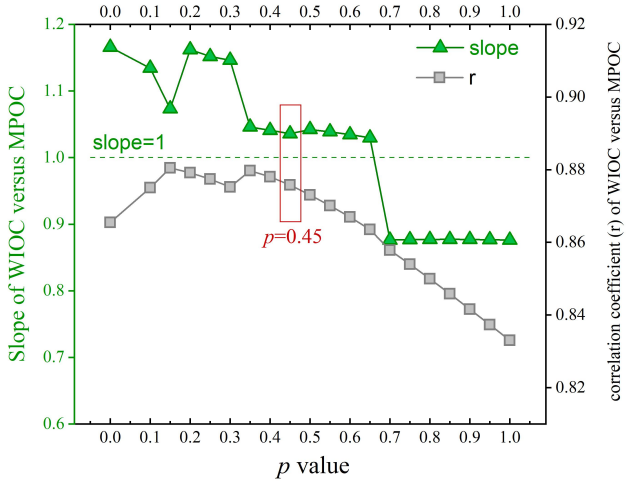

Figure S5 The variations of the fitting line slopes and correlation coefficients (r) of WIOC and estimated MPOC, using Eq. 3 with the *p* value changing from 0−1.

40

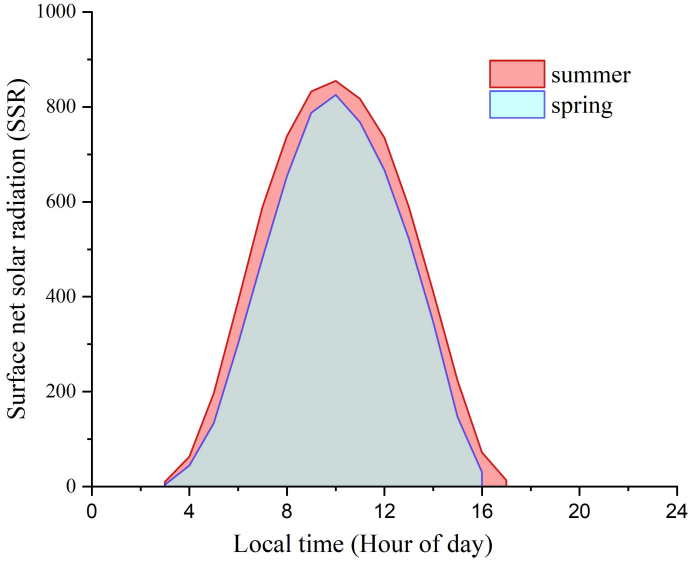

Figure S6 Diurnal variation of the surface net solar radiation (SSR) within the 15°N–20°N during the spring and the summer cruises.

45

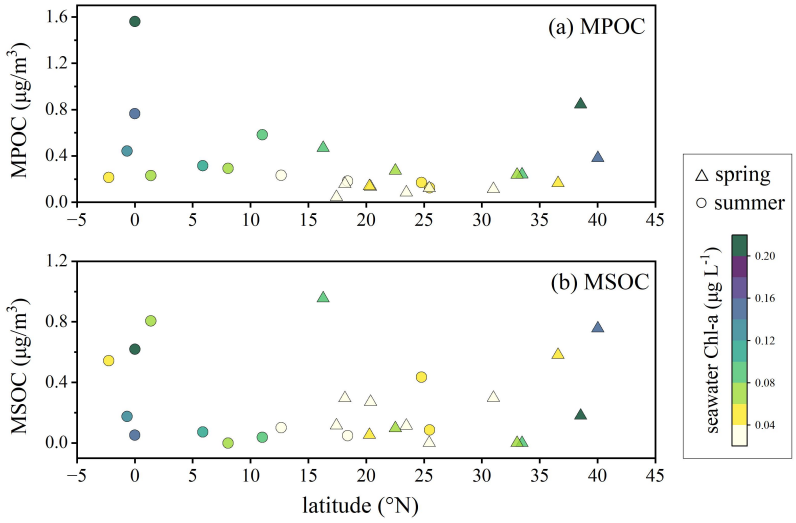

Figure S7 Spatial distribution of the estimated MPOC and MSOC concentrations. The data is colored by the corresponding seawater *Chl-a* concentrations.

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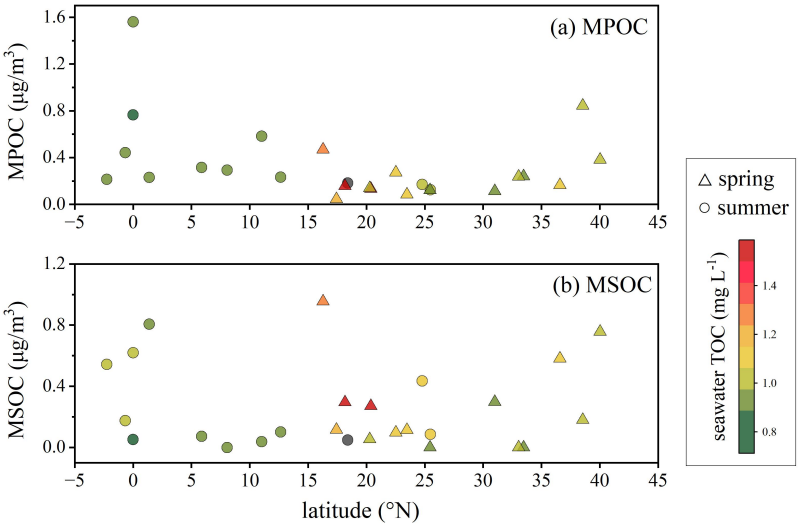

Figure S8 Spatial distribution of the estimated MPOC and MSOC concentrations. The data is colored by the corresponding seawater TOC concentrations.

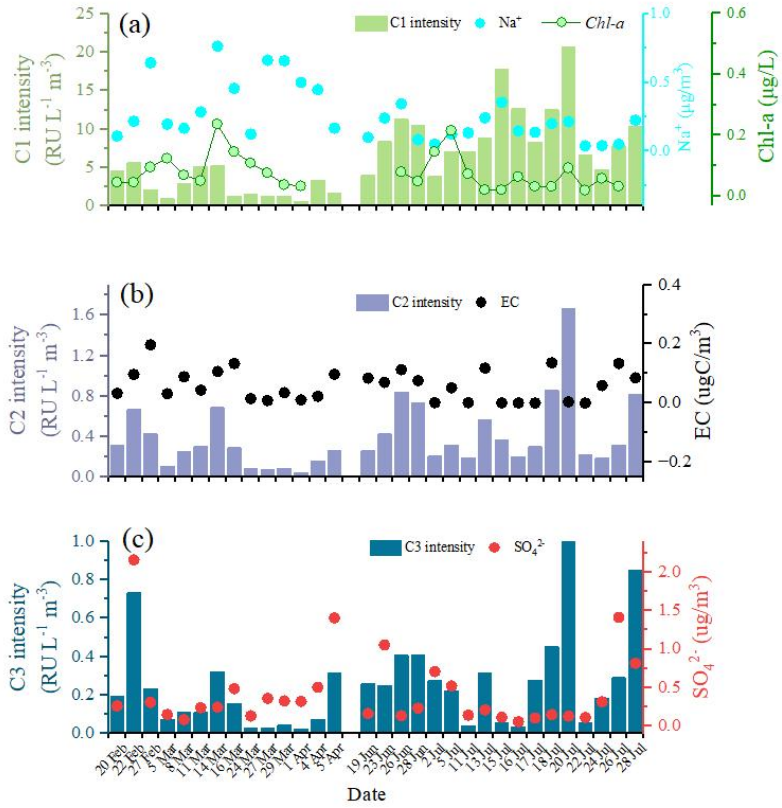

Figure S9 Variations of fluorescence component intensity identified by three-component solutions based on PARAFAC model analysis and related aerosol components: (a) C1, Na^+, and *Chl-a*, (b) C2 and EC, (c) C3 and SO_4^{2-}.