



## Supplement of

## Aerosol characteristics at the three poles of the Earth as characterized by Cloud–Aerosol Lidar and Infrared Pathfinder Satellite Observations

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Figure S1. Monthly average wind speed at 10 m above the surface (red line) and its standard deviation (red
shadow), and monthly average convective available potential energy (CAPE) (blue line) and its standard
deviation (blue shadow), for the period from June 2006 to December 2019 over the Arctic.

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12 Figure S2. Temporal variation of seasonal average AOD from the summer of 2006 to the winter of 2019 over

13 the TP (red), Arctic (green), and Antarctic (blue). The shaded area represents the standard deviation.

Table S1. Detail information about the location and release height (above the surface) of HYSPLIT back
trajectory simulations at eleven selected sites in the Arctic (N1-N4), Antarctic (S1-S4), and TP (TP1-TP3).

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	Abb.	Longitude (°)	Latitude (°)	Altitude (m)	Location
	N1	-43.0	75.0	500	Greenland
	N2	47.0	80.0	500	Franz Josef Land
	N3	136.0	76.0	500	New Siberian Islands
	N4	-122.0	73.0	500	Victoria Island
	<b>S</b> 1	-70.0	-72.0	500	Antarctic Peninsula
	S2	-160.0	-75.0	500	Ross Sea
	S3	30.0	-70.0	500	Dronning Maud Land
	S4	122.0	-68.0	500	Wilkes Land
	TP1	89.0	37.0	500	The Northern edge of TP
	TP2	84.0	30.0	500	The Southern edge of TP
	TP3	100.0	34	500	The Eastern edge of TP

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