Supplementary materials to

Characteristics of the main primary source chemical profiles of particulate matter across China: from 1987 to 2017

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This Supplementary materials includes 1 table and 1 figure.

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Table S1. Source profiles statistics (Cluster analysis)

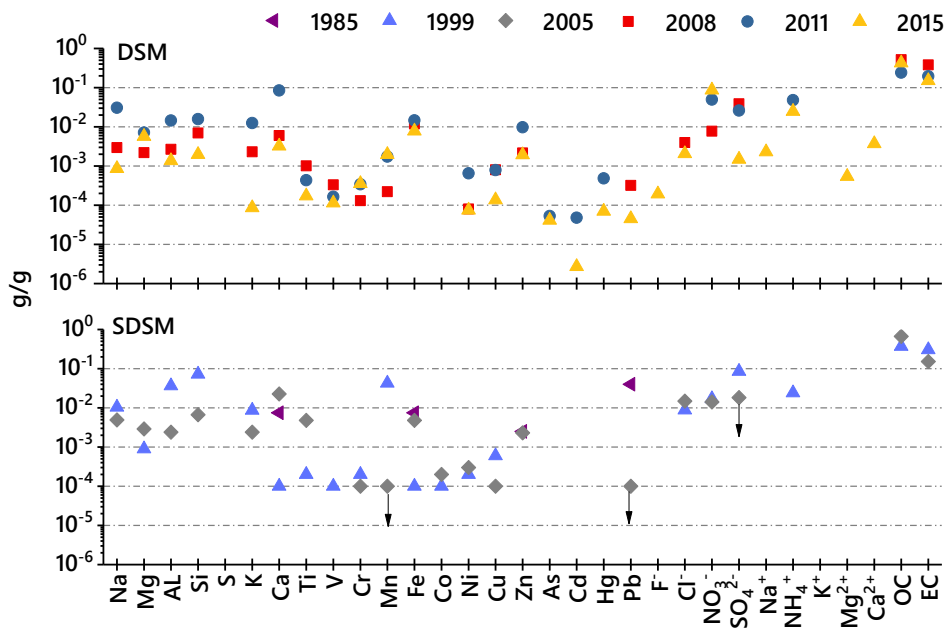| Code	Source category	Size	Profiles
CE1-13	Cooking emissions	$PM_{2.5}$	13
SD1-20	Soil dust	$PM_{2.5}$	20
RD1-26	Road dust	$PM_{2.5}$	26
IE1-43	Industrial emissions	$PM_{2.5}$	43
VE1-22	Vehicle emissions	$PM_{2.5}$	22
BB1-24	Biomass burning	$PM_{2.5}$	24
CC1-66	Coal combustion	$PM_{2.5}$	66

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Figure S1. Characteristics of chemical profiles for particulate matter emissions from vehicles obtained by different sampling methods. Different colors denote different years of these measurements. DSM and SDSM denote direct sampling method and source dominated sampling method, respectively. Data were collected from the source library of Nankai University, Zhang et al.(2000), Guo et al.(2013), Li et al.(2016), Zhang et al.(2009), Dai et al.(1986), Han et al.(2009) and Bi et al.(2007).