



Supplement of

Mapping gaseous dimethylamine, trimethylamine, ammonia, and their particulate counterparts in marine atmospheres of China's marginal seas – Part 1: Differentiating marine emission from continental transport

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Supplement

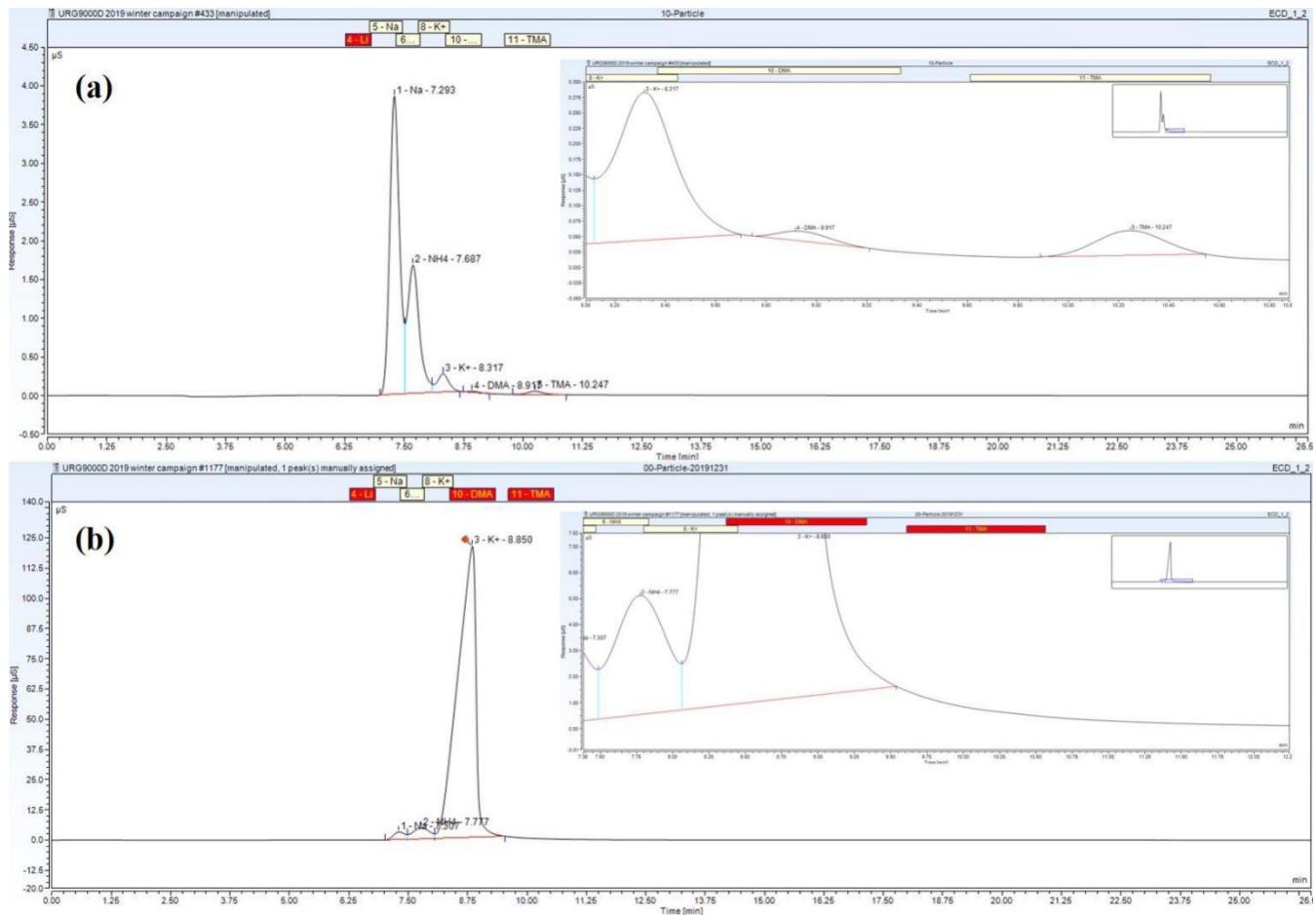


Figure S1. Two chromatograph figures for cations without and with K^+ interference ((a): without K^+ interference; (b): with K^+ interference)

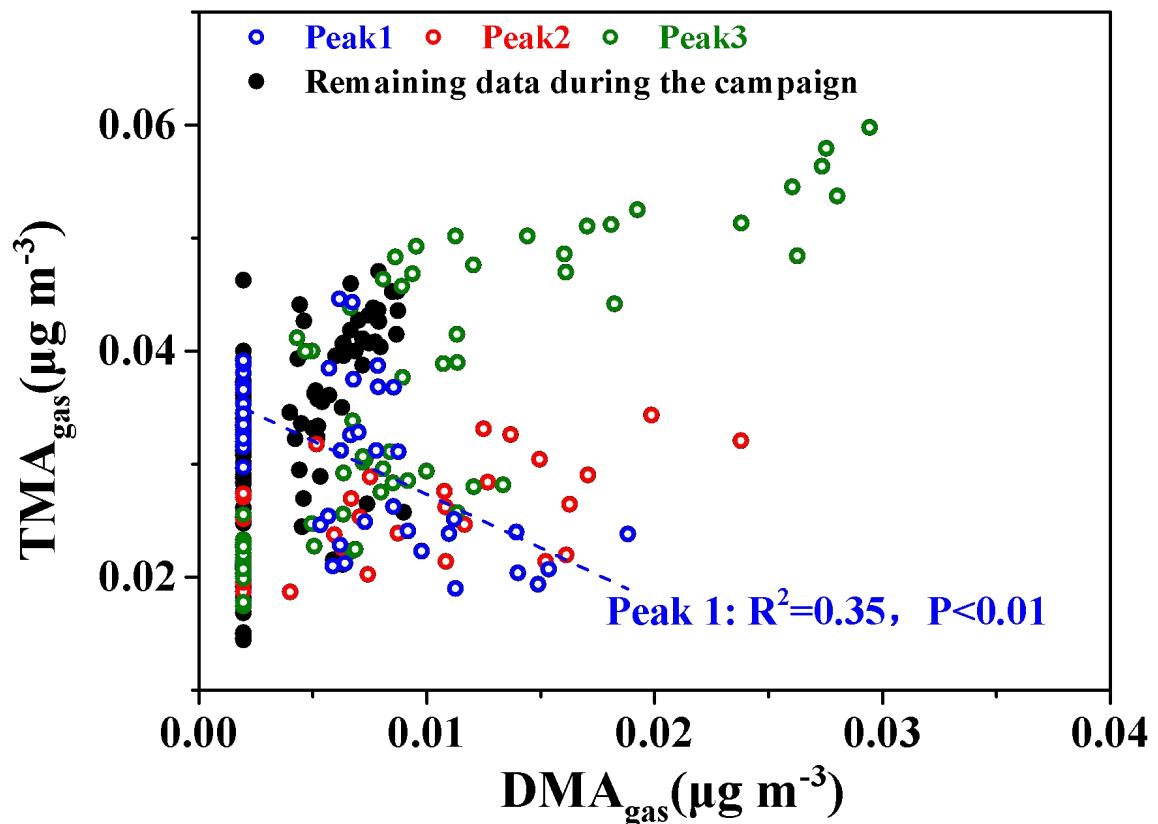


Figure S2. Relationship between DMA_{gas} and TMA_{gas} during the whole campaign.

Table S1. Atmospheric Gaseous and Aerosol Concentrations of DMA and TMA in the marine atmosphere during the campaigns and at the coastal sites with published data.

Location	sampling period	source	concentrations of species ($\mu\text{g m}^{-3}$)			
			DMA _{gas}	TMA _{gas}	DMAH ⁺	TMAH ⁺
Yellow and Bohai Seas (Campaign A)	December 9 - 22, 2019	this study	0.006±0.006	0.031±0.09	0.065±0.068	0.28±0.17
Arabian Sea	November 16 to December 19 in 1994	Gibb et al. (1999)	0.0088	4.8 *10 ⁻⁴	0.011	4.8 *10 ⁻⁴
Yellow sea and Northwest Pacific	April, 2015	/	/	0.013±0.011	0.013±0.014	
East China Sea	June, 2016	/	/	0.031±0.010	0.012±0.007	
Yellow sea and Bohai sea	August, 2015	Xie et al.	/	/	0.024±0.013	0.019±0.007
	June-July, 2016	(2018)	/	/	0.051±0.022	0.021±0.008
South Yellow Sea (SYS)	November, 2013	/	/	0.019±0.017	0.032±0.020	
Coastal site1	November-December, 2013	/	/	0.016±0.018	0.002±0.001	
Coastal site2	August, 2016	/	/	0.029±0.023	0.009±0.007	
SYS	November, 2012	/	/	0.013±0.005	0.030±0.013	
North Yellow Sea and Bohai Sea	Yu et al. (2016)	/	/	-	0.015±0.007	
	November, 2012					

Table S2. Summary of min-max values and mean values of amine in gas and particle phase during the campaigns.

Location	sampling period	concentrations of species ($\mu\text{g m}^{-3}$)			
		DMA_{gas}	TMA_{gas}	DMAH⁺	TMAH⁺
Yellow and Bohai Seas (Campaign A)	December 9 - 22, 2019	<LOD-0.029 (0.006 \pm 0.006)	0.014-0.060 (0.031 \pm 0.009)	0.006-0.41 (0.065 \pm 0.068)	0.057-1.8 (0.28 \pm 0.17)
coastal site (36.34°N, 120.67°E)	August 1-9 , September 12 - October 1, November 16 - December 1, 2019	<LOD-0.14 (0.018 \pm 0.021)	<LOD-0.004 (0.001 \pm 0.001)	<LOD-0.097 (0.017 \pm 0.013)	<LOD-0.004 (0.001 \pm 0.001)