



*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**

**Dihui Chen et al.**

*Correspondence to:* Xiaohong Yao (xhyao@ouc.edu.cn)

The copyright of individual parts of the supplement might differ from the article licence.

# Supplement

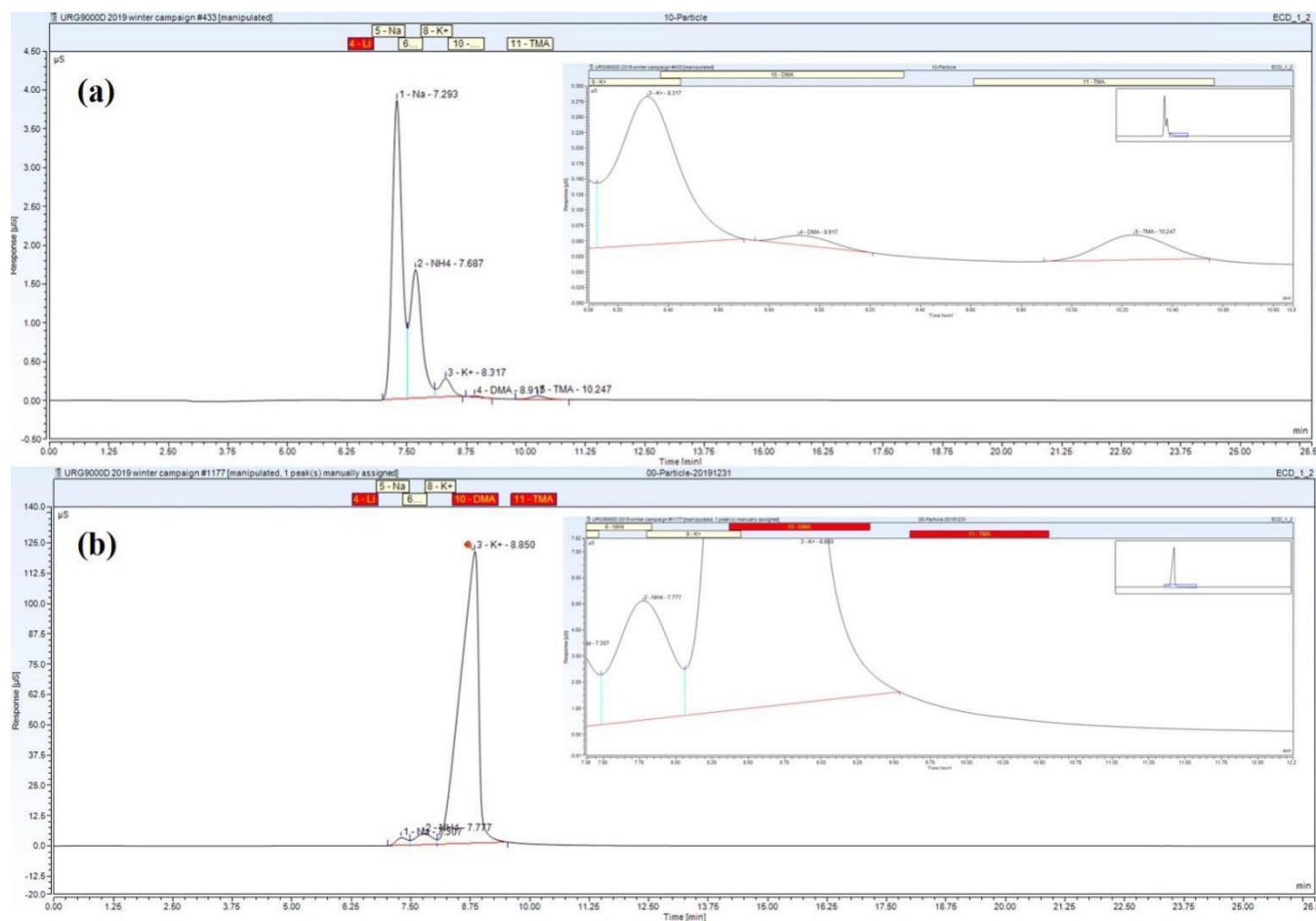


Figure S1. Two chromatograph figures for cations without and with K<sup>+</sup> interference ((a): without K<sup>+</sup> interference; (b): with K<sup>+</sup> interference)

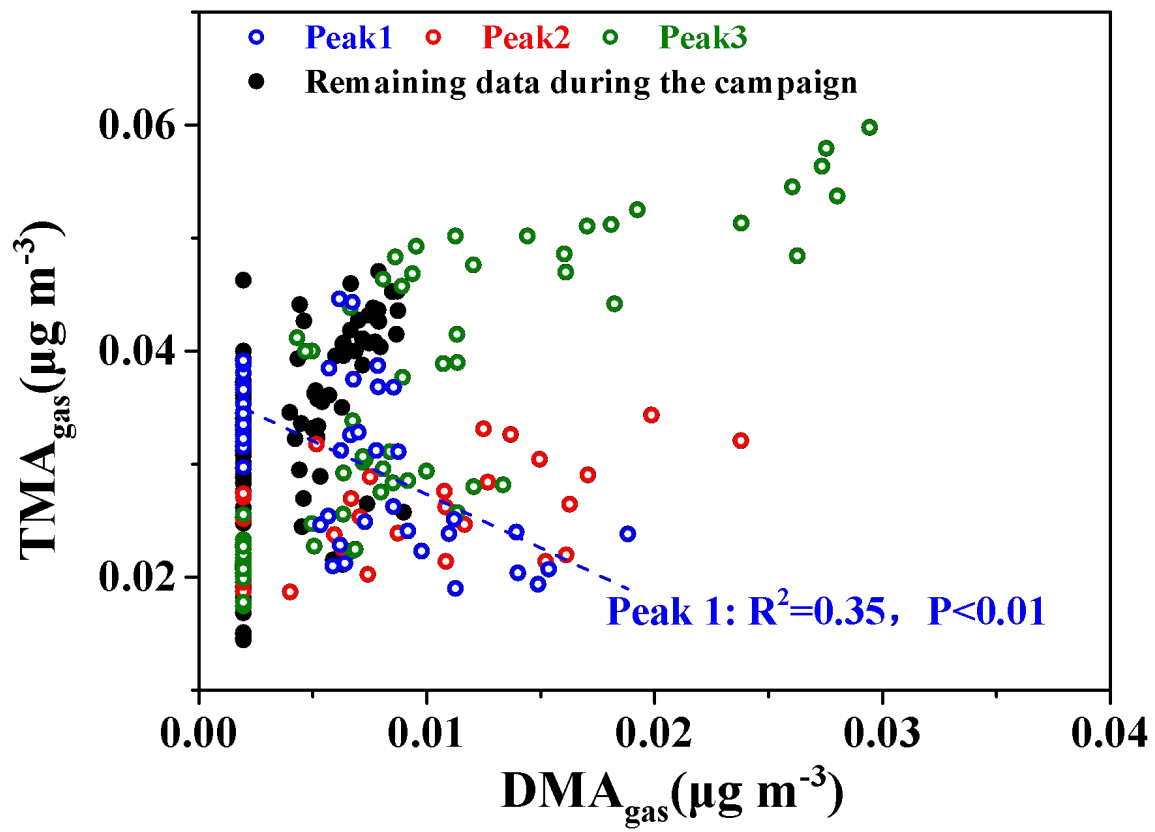


Figure S2. Relationship between DMA<sub>gas</sub> and TMA<sub>gas</sub> during the whole campaign.

**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 <sub>gas</sub>	TMA <sub>gas</sub>	DMAH <sup>+</sup>	TMAH <sup>+</sup>
Yellow and Bohai Seas (Campaign A)	December 9 - 22, 2019	this study	0.006±0.006	0.031±0.009	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 <sup>-4</sup>	0.011	4.8 *10 <sup>-4</sup>
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. (2018)	/	/	0.024±0.013	0.019±0.007
	June-July, 2016		/	/	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	November, 2012	Yu et al. (2016)	/	/	-	0.015±0.007

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 ( $\mu\text{g m}^{-3}$ )			
		min-max valu (mean value)			
		DMA <sub>gas</sub>	TMA <sub>gas</sub>	DMAH <sup>+</sup>	TMAH <sup>+</sup>
Yellow and Bohai Seas (Campaign A)	December 9 - 22, 2019	<LOD-0.029 (0.006±0.006)	0.014-0.060 (0.031±0.009)	0.006-0.41 (0.065±0.068)	0.057-1.8 (0.28±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±0.021)	<LOD-0.004 (0.001±0.001)	<LOD-0.097 (0.017±0.013)	<LOD-0.004 (0.001±0.001)