

1 **Anthropogenic imprints on nitrogen and oxygen isotopic**  
2 **composition of precipitation nitrate in a nitrogen-polluted**  
3 **city in southern China**

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15 **Appendix**

16 **Appendix**17  **$\delta^{15}\text{N}$  (‰) in  $\text{NO}_x$  sources and atmospheric  $\text{NO}_3^-$ .**

	$\text{NO}_x$	$\text{NO}_3^-$	Reference
Precipitation in Guangzhou, Guangdong, China		-4.9 to +10.1 (+3.6)	This study
Precipitation in Dinghushan, Guangdong, China		+0.7 to +11.1 (+5.0)	Koba et al., under review
Precipitation in Guiyang, China		-3.8 to +8.4	Xiao and Liu, 2002
Precipitation in two suburban sites in Beijing, China		-4.6 to +20.7 (+1.7 and +6.8)	Zhang et al., 2008
Precipitation in two rural sites in Hebei, China		-10.0 to +6.9 (-1.4 and -1.0)	Zhang et al., 2008
Precipitation in one rural site in Beijing, China		-4.5 to +22.0 (+1.4)	Zhang et al., 2008
Precipitation in Wakayama, Japan		-7 to +14.5 (+3.2)	Tobari et al., 2010
Precipitation in Niigata, Japan		-8 to +2	Fukuzaki and Hayasaka, 2009
Precipitation in Toyama, Japan		-7.8 to +1.6	Wu et al., 2008
Precipitation in Tokyo, Japan		-5.8 to +3.9 (-1.2)	Kurata, 2002
Precipitation in Rishiri Island, Japan		-10 to +11	Tsunogai et al., 2010
Precipitation across the MW and NE U. S..		-8.1 to +3.2 (-1.5)	Elliott et al., 2007
Precipitation in Jülich, German		-10 to +6	Freyer, 1991
Precipitation in Hawaii (Pacific Ocean)		-3.8 to +2.4	Carrillo et al., 2002
Precipitation in Bermuda (Atlantic)		-13.9 to +1.8	Hastings et al., 2003
$\text{HNO}_3$ vapor in Jülich, German		-2 to +2	Freyer, 1991
$\text{HNO}_3$ vapor across the MW and NE U. S..		-4.9 to +10.8 (+3.2)	Elliott et al., 2009
Particulate $\text{NO}_3^-$ across the MW and NE U. S..		-9.5 to +14.1 (+6.8)	Elliott et al., 2009
Particulate $\text{NO}_3^-$ in Jülich, German		-3 to +14	Freyer, 1991
Aerosol in the Gulf of Aqaba, Israel		-6.9 to +1.9 (-2.6)	Wankel et al., 2010
Snowpack at Summit, Greenland		-15.3 to +16.7	Hasting et al., 2004
Surface snow at Summit, Greenland		-3.2 to +2.0	Hasting et al., 2004
Aerosol over Atlantic Ocean (non-polar areas)		-7.1 to -1.6 (-4)	Morin et al., 2009
Aerosol in Ny-Ålesund (Arctic)		-22.8 to -6.0 (-15)	Morin et al., 2009
Aerosol over Weddell sea (Antarctic)		-42.8 to +1.8 (-17)	Morin et al., 2009

Aerosol at Alert, Canada (Arctic)		-42 to +3	Morin et al., 2008
Aerosol at French Antarctic Station Dumont d'Urville (Antarctic)		-46.9 to +10.8	Savarino et al., 2007
Natural gas combustion	+2.9 to +15.4		Widory, 2007
Diesel combustion	+3.9 to +5.4		Widory, 2007
Coal combustion	+4.8 to +9.6		Kiga et al., 2000
Coal-fired boiler	+6 to +13		Heaton, 1990
Vehicle exhaust	+3.9 to +5.4		Widory, 2007
Vehicle exhaust	+5.7		Ammann et al., 1999
Vehicle exhaust	+3.7		Moore, 1997
Vehicle exhaust	+3.8		Pearson et al., 2000
Fuel oil combustion	-19.4 to +2.9		Widory, 2007
Coal combustion	-5.3		Widory, 2007
Vehicle exhaust	-13 to -2		Heaton, 1990
Lightning (Lab. simulation)	-0.5 to +1.4		Hoering, 1957
NO from agriculture soils in Guangzhou	-48 to -20		Li and Wang 2008

18 Mean values appear in parentheses.

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