

Table S1. Several comparison studies over East Asia without the application of AKs

References	Model (CTM/Meteorological Model)	Models used in NO <sub>2</sub> retrieval	Satellite data (algorithm)
Ma et al., 2006	RADM/MM5	MOZART	GOME (Bremen)
Uno et al., 2007	CTM based on CMAQ/RAMS	MOZART	GOME (Bremen)
He et al., 2007	CTM based on CMAQ/RAMS	MOZART (Richter et al., 2005)	GOME & SCIAMACHY (Bremen)
Shi et al., 2008	CMAQ/MM5	Described ambiguously	SCIAMACHY (KNMI)
Han et al., 2009	CMAQ/MM5	MOZART	GOME (Bremen)
Han et al., 2011	CMAQ/MM5	TM4	OMI (KNMI)

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