

# Observation-based Analysis of Ozone Production Sensitivity for Two Persistent Ozone Episodes in Guangdong, China

Kaixiang Song<sup>1</sup>, Run Liu<sup>1,2</sup>, Yu Wang<sup>1,2</sup>, Tao Liu<sup>1</sup>, Liyan Wei<sup>1</sup>, Yanxing Wu<sup>1</sup>, Junyu Zheng<sup>1,2</sup>, Boguang Wang<sup>1,2</sup>, Shaw Chen Liu<sup>1,2</sup>

5 <sup>1</sup>Institute for Environmental and Climate Research, Jinan University, Guangzhou, 511443, China

<sup>2</sup>Guangdong-Hongkong-Macau Joint Laboratory of Collaborative Innovation for Environmental Quality, Guangzhou, 511443, China

*Correspondence to:* Run Liu (liurun@jnu.edu.cn), Shaw Chen Liu (shawliu@jnu.edu.cn)

## Supplementary Tables

10 **Table S1.** Ratios of VOC species to CO and the corresponding reaction rate constants of individual VOC<sub>s</sub> with OH (Huang et al., 2021).

	VOC <sub>s</sub> /CO	VOC <sub>s</sub> /VOC <sub>s</sub> (total)	molecular mass	10 <sup>-12</sup> ×K <sub>OH</sub>
Methylbenzene	0.01266	0.0634	92	5.63
M/P-xylene	0.00965	0.04836	106	18.9
Formaldehyde	0.00900	0.0451	30	9.37
Ethylbenzene	0.00771	0.03863	106	7
N-hexane	0.00582	0.0292	86	5.2
Ethylene	0.00544	0.02728	28	8.52
Acrylic	0.00479	0.02399	42	26.3
Acetone	0.00475	0.02379	58	0.17
Benzene	0.00432	0.02166	78	1.22
O-xylene	0.00407	0.02038	106	13.6
Ethanol	0.00405	0.02032	46	3.2
Ethane	0.00397	0.01992	30	0.26
Butanone	0.00331	0.01662	72	1.22
Methanol	0.00326	0.01635	32	0.94
N-butane	0.00319	0.01601	58	2.36
Cyclohexane	0.00300	0.01504	84	6.97
Propane	0.00297	0.01489	44	1.09
N-pentane	0.00289	0.01451	72	3.8
2-methylpentane	0.00274	0.01377	86	5.2
Acetaldehyde	0.00272	0.01364	44	15
1-butene	0.00238	0.01193	56	31.4
1,2,4-Trimethylbenzene	0.00222	0.01114	120	32.5
M-xylene	0.00152	0.00761	106	23.1
N-heptane	0.00140	0.00706	100	6.76
4-Methyl-2-pentanone	0.00123	0.00616	100	13
N-dodecane	0.00101	0.00508	170	13.2
1,2,3-Trimethylbenzene	0.00089	0.00448	120	32.7
1,3,5-Trimethylbenzene	0.00086	0.00431	120	56.7
N-octane	0.00083	0.00419	114	8.11
2,3-Dimethylbutane	0.00080	0.00405	86	5.78

---

Hexanal	0.00075	0.00379	100	30
Undecane	0.00073	0.00367	156	12.3
O-ethyl toluene	0.00073	0.00367	120	11.9
Trans-2-butene	0.00070	0.00353	56	64
N-decane	0.00069	0.00346	142	11
P-ethyl toluene	0.00067	0.00336	120	11.8
2,2,4-Trimethyl pentane	0.00067	0.00335	114	3.34
Total	0.23547	0.6082	/	/

---