Supplementary Material

Impact of high-resolution *a priori* profiles on satellite-based formaldehyde retrievals by Si-Wan Kim[1,2,3], Vijay Natraj[4], Seoyoung Lee[3], Hyeong-Ahn Kwon[5], Rokjin Park[5], Joost de Gouw[1,2], Gregory Frost[1], Jhoon Kim[3], Jochen Stutz[6], Michael Trainer[1], Catalina Tsai[6], and Carsten Warneke[1,2]

[1] NOAA Earth System Research Laboratory, Chemical Sciences Division,, Boulder, CO 80305, USA

[2] Cooperative Institute for Research in Environmental Sciences, University of Colorado, Boulder, CO, USA

[3]Department of Atmospheric Sciences, Yonsei University, Seoul, South Korea

[4]Jet Propulsion Laboratory, California Institute of Technology, Pasadena, CA, USA

[5]Department of Earth and Environmental Sciences, Seoul National University, Seoul, South Korea

[6]Department of Atmospheric Sciences, University of California, Los Angeles, CA, USA

Correspondence to: Si-Wan Kim (siwan.kim@noaa.gov)

The Supplementary Material includes Figure S1.

Figure S1. Spatial distributions of AMFs from RT model calculations for HCHO retrieval at 19 UTC (12 PDT) in the LA Basin: (a) AMF in the control case (CTL) using top-down VOC emissions, (b) same as CTL except for constant surface pressure, and (c) same as CTL except for NEI11 VOC emission inventory.

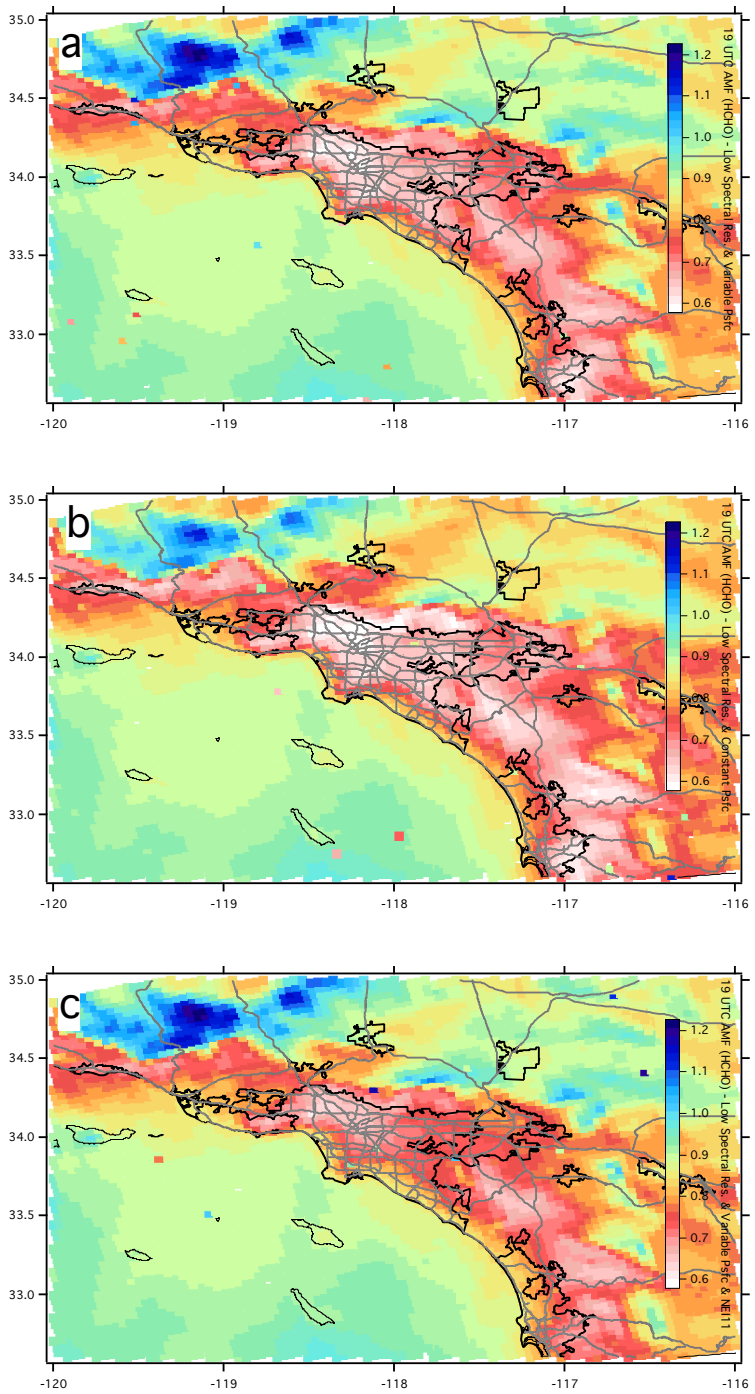

Figure S1. Spatial distributions of AMFs from RT model calculations for HCHO retrieval at 19 UTC (12 PDT) in the LA Basin: (a) AMF in the control case (CTL) using top-down VOC emissions, (b) same as CTL except for constant surface pressure, and (c) same as CTL except for NEI11 VOC emission inventory.