



Supplement of

Isoprene chemistry in pristine and polluted Amazon environments: Eulerian and Lagrangian model frameworks and the strong bearing they have on our understanding of surface ozone and predictions of rainforest exposure to this priority pollutant

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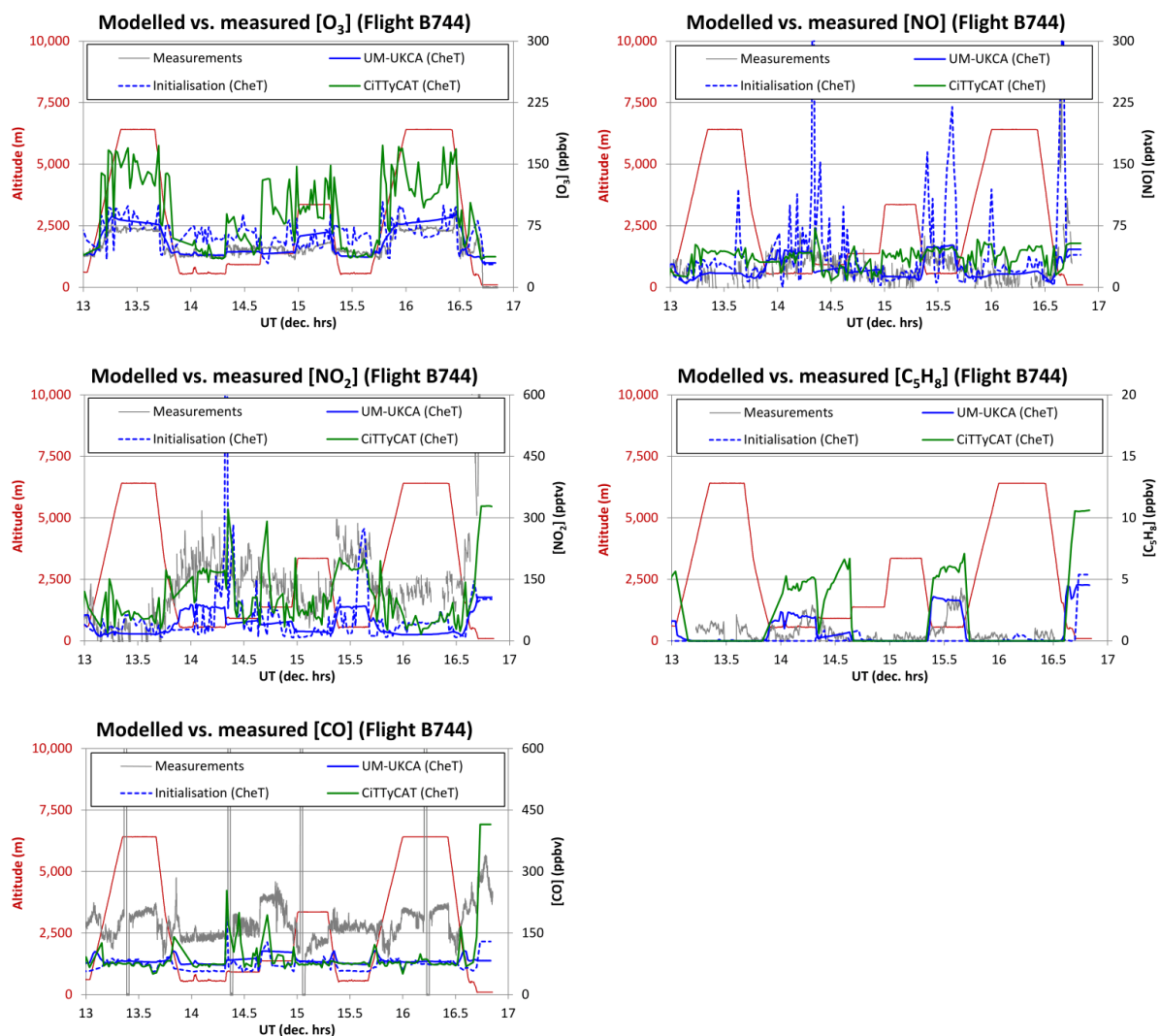


Figure S1. Analogous to the combination of Figures 4-7 in the main manuscript: [O₃], [NO], [NO₂], [C₅H₈] and [CO] measured on SAMBBA flight B744 and simulated in UM-UKCA (CheT) and CiTTYCAT (CheT). The concentrations of these species with which CiTTYCAT is initialised are also illustrated; see text accompanying Figures 4-7 for more details.

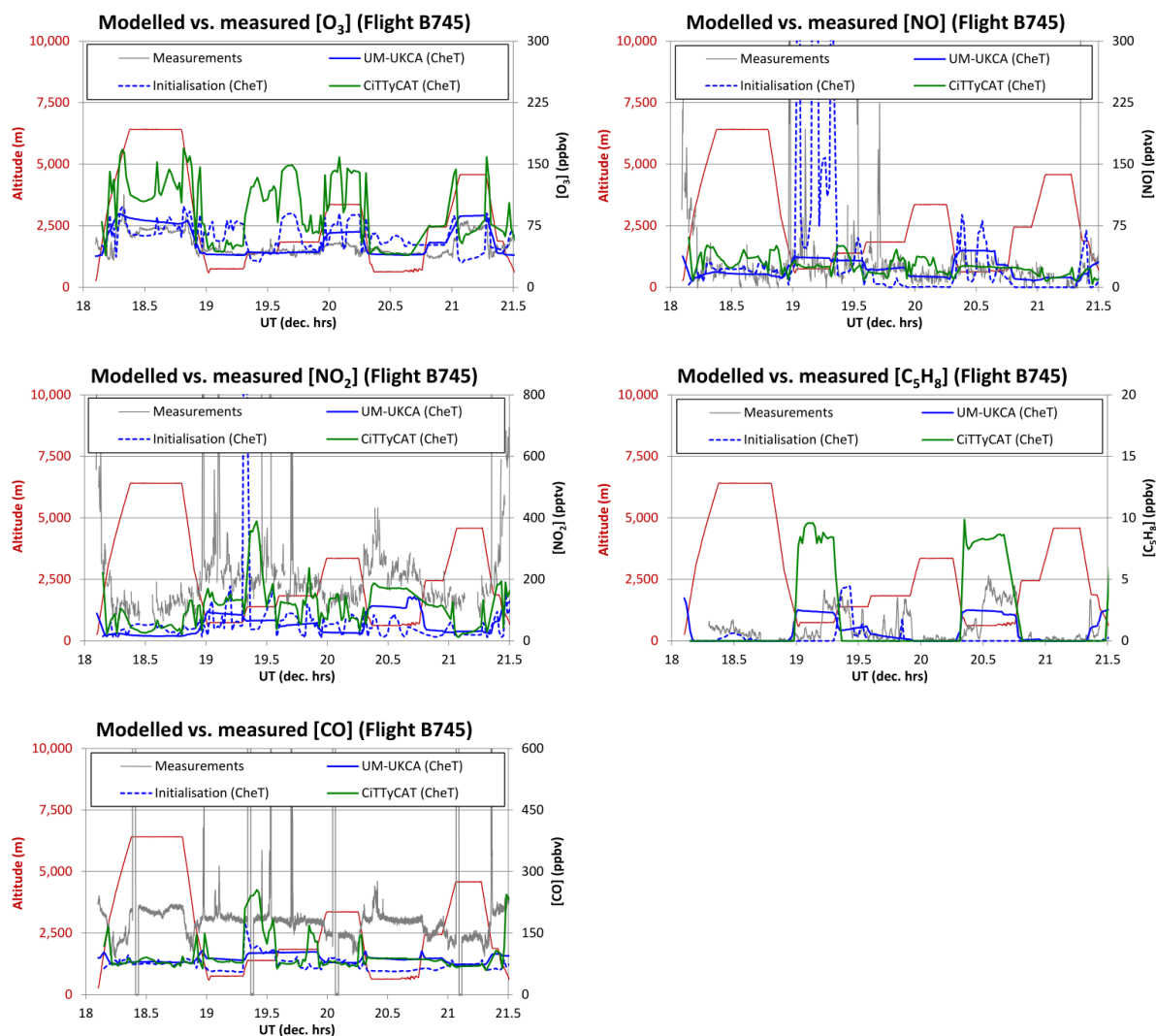


Figure S2. Analogous to the combination of Figures 4-7 in the main manuscript: $[O_3]$, $[NO]$, $[NO_2]$, $[C_5H_8]$ and $[CO]$ measured on SAMBBA flight B745 and simulated in UM-UKCA (CheT) and CiTTYCAT (CheT). The concentrations of these species with which CiTTYCAT is initialised are also illustrated; see text accompanying Figures 4-7 for more details.

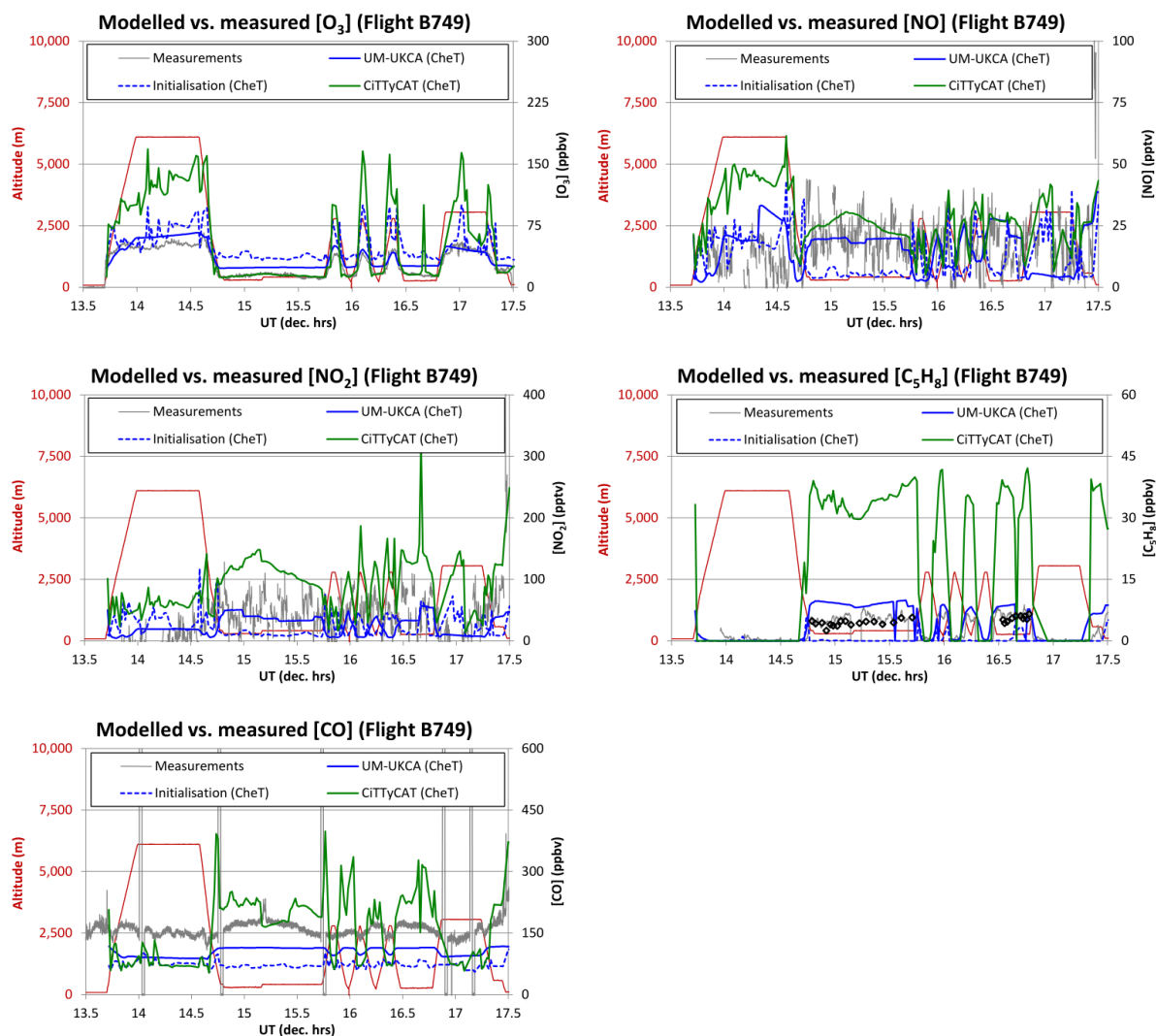


Figure S3. Analogous to the combination of Figures 4-7 in the main manuscript: $[O_3]$, $[NO]$, $[NO_2]$, $[C_5H_8]$ and $[CO]$ measured on SAMBBA flight B749 and simulated in UM-UKCA (CheT) and CiTTYCAT (CheT); the open black diamonds in the $[C_5H_8]$ plot correspond to measurements based on whole air samples. The concentrations of these species with which CiTTYCAT is initialised are also illustrated; see text accompanying Figures 4-7 for more details.

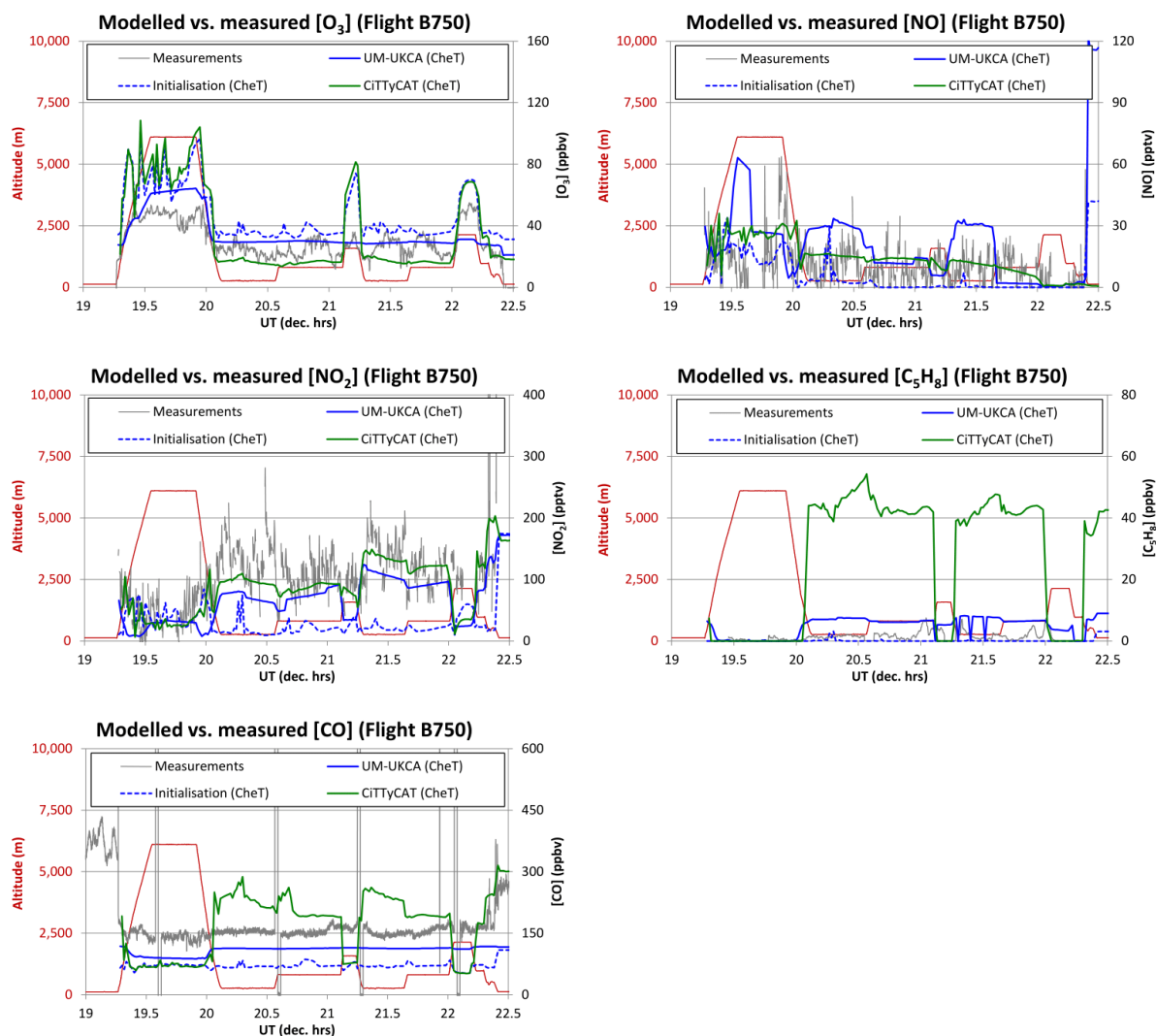


Figure S4. Analogous to the combination of Figures 4-7 in the main manuscript: [O₃], [NO], [NO₂], [C₅H₈] and [CO] measured on SAMBBA flight B750 and simulated in UM-UKCA (CheT) and CiTTYCAT (CheT). The concentrations of these species with which CiTTYCAT is initialised are also illustrated; see text accompanying Figures 4-7 for more details.

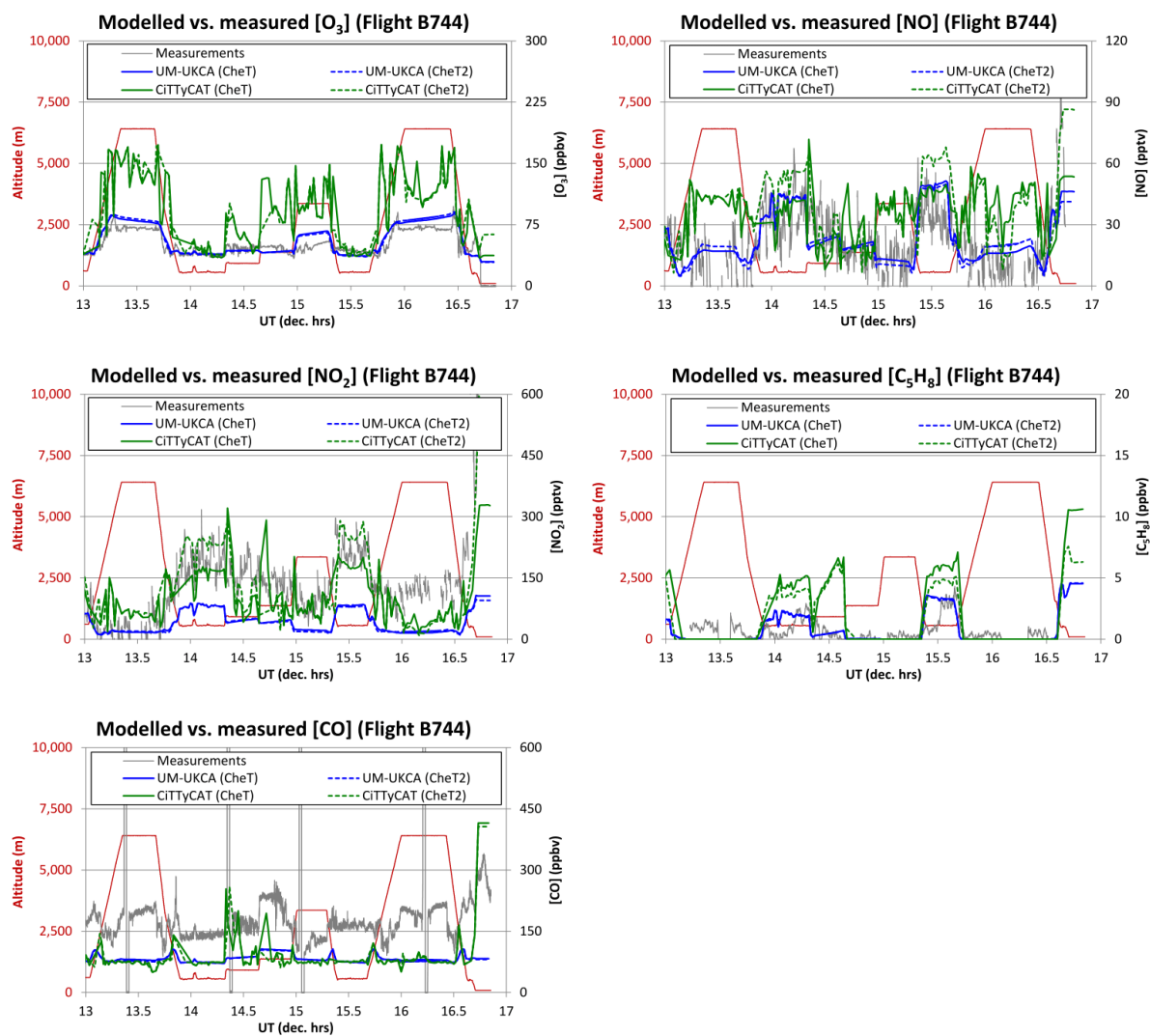


Figure S5. Analogous to Figures 8 in the main manuscript: $[O_3]$, $[NO]$, $[NO_2]$, $[C_5H_8]$ and $[CO]$ measured on SAMBBA flight B744 and simulated in UM-UKCA and CiTTYCAT, subject to CheT and CheT2 chemical mechanisms (see section 2.3 of the main manuscript for more details).

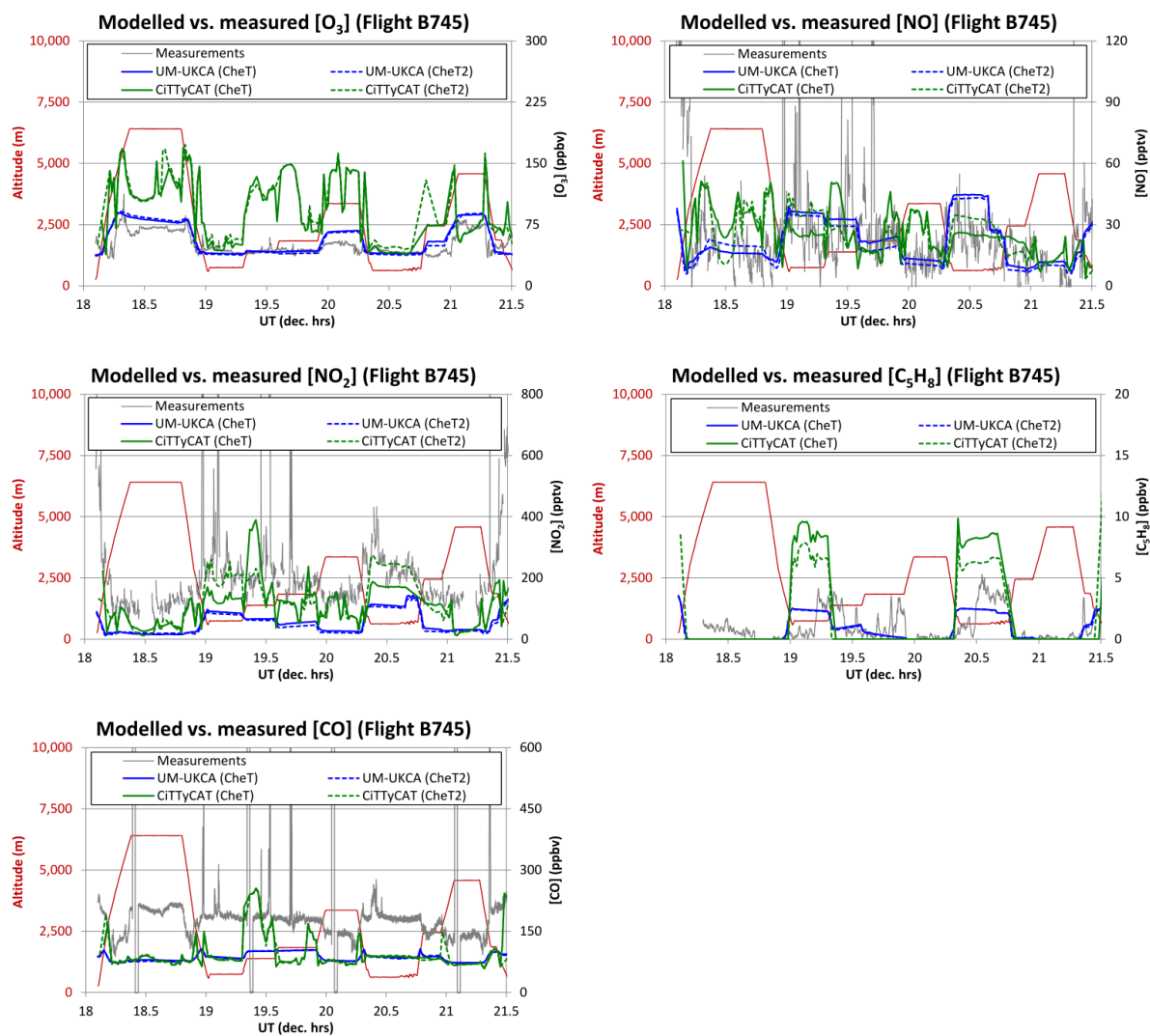


Figure S6. Analogous to Figures 8 in the main manuscript: $[O_3]$, $[NO]$, $[NO_2]$, $[C_5H_8]$ and $[CO]$ measured on SAMBBA flight B745 and simulated in UM-UKCA and CiTTYCAT, subject to CheT and CheT2 chemical mechanisms (see section 2.3 of the main manuscript for more details).

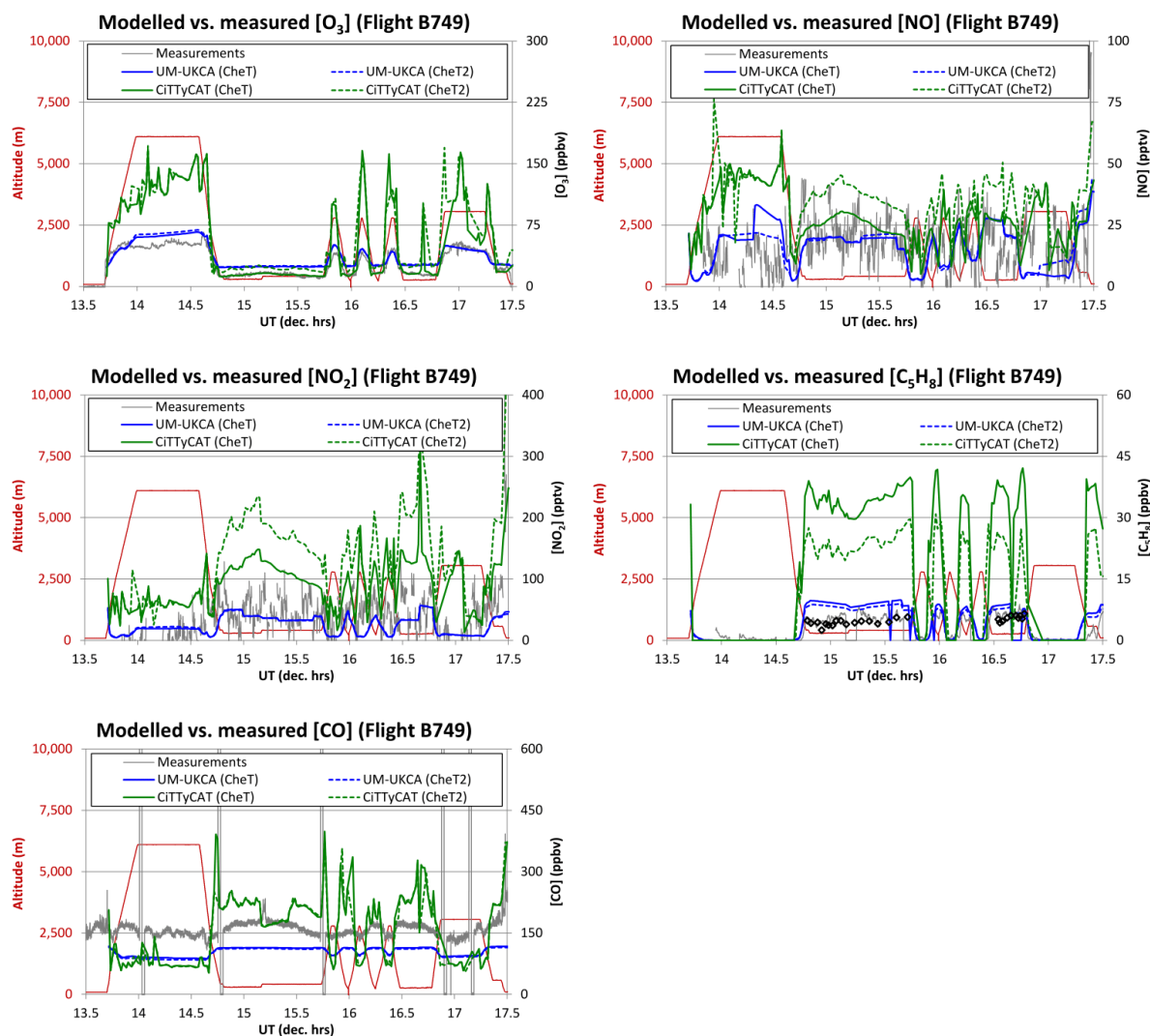


Figure S7. Analogous to Figures 8 in the main manuscript: $[O_3]$, $[NO]$, $[NO_2]$, $[C_5H_8]$ and $[CO]$ measured on SAMBBA flight B749 and simulated in UM-UKCA and CiTTyCAT, subject to CheT and CheT2 chemical mechanisms (see section 2.3 of the main manuscript for more details); the open black diamonds in the $[C_5H_8]$ plot correspond to measurements based on whole air samples.

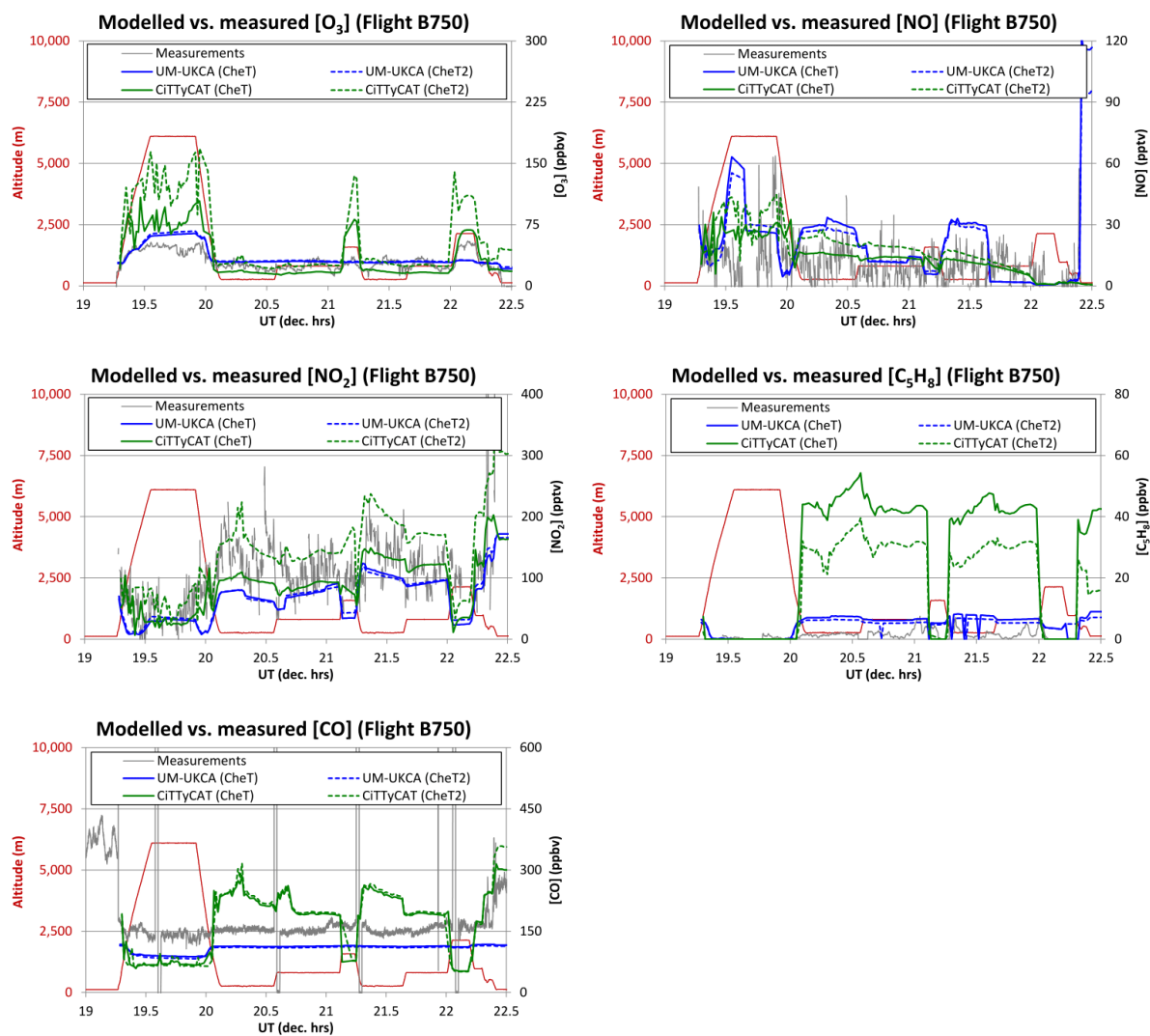


Figure S8. Analogous to Figures 8 in the main manuscript: [O₃], [NO], [NO₂], [C₅H₈] and [CO] measured on SAMBBA flight B750 and simulated in UM-UKCA and CiTTYCAT, subject to CheT and CheT2 chemical mechanisms (see section 2.3 of the main manuscript for more details).

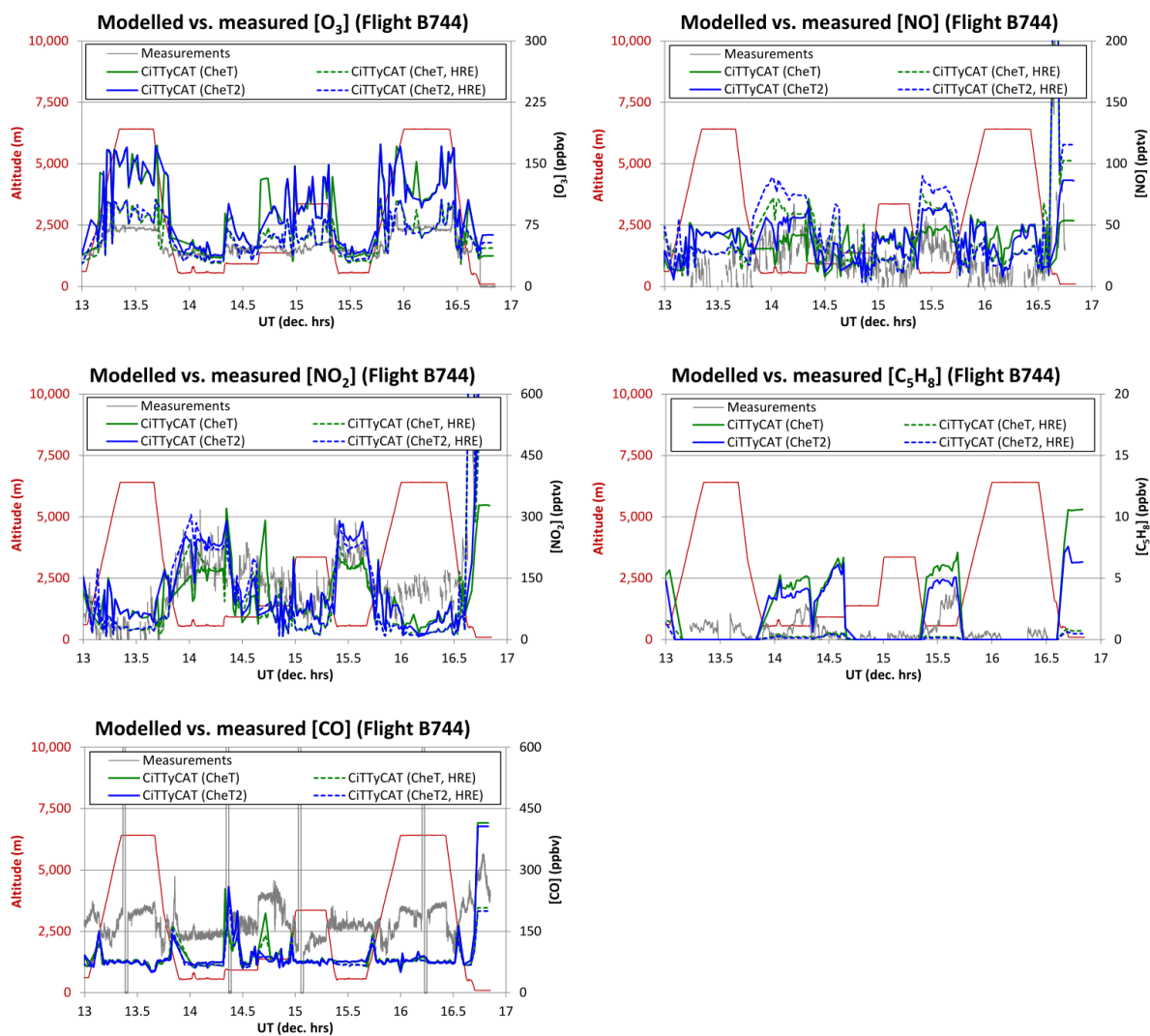


Figure S9. Analogous to Figures 9 in the main manuscript: $[O_3]$, $[NO]$, $[NO_2]$, $[C_5H_8]$ and $[CO]$ measured on SAMBBA flight B744 and simulated in CiTTYCAT, subject to CheT and CheT2 chemical mechanisms (see section 2.3 of the main manuscript) and both ‘UKCA res’ emissions and ‘High res’ emissions (HRE; see section 2.4 of the main manuscript for more details).

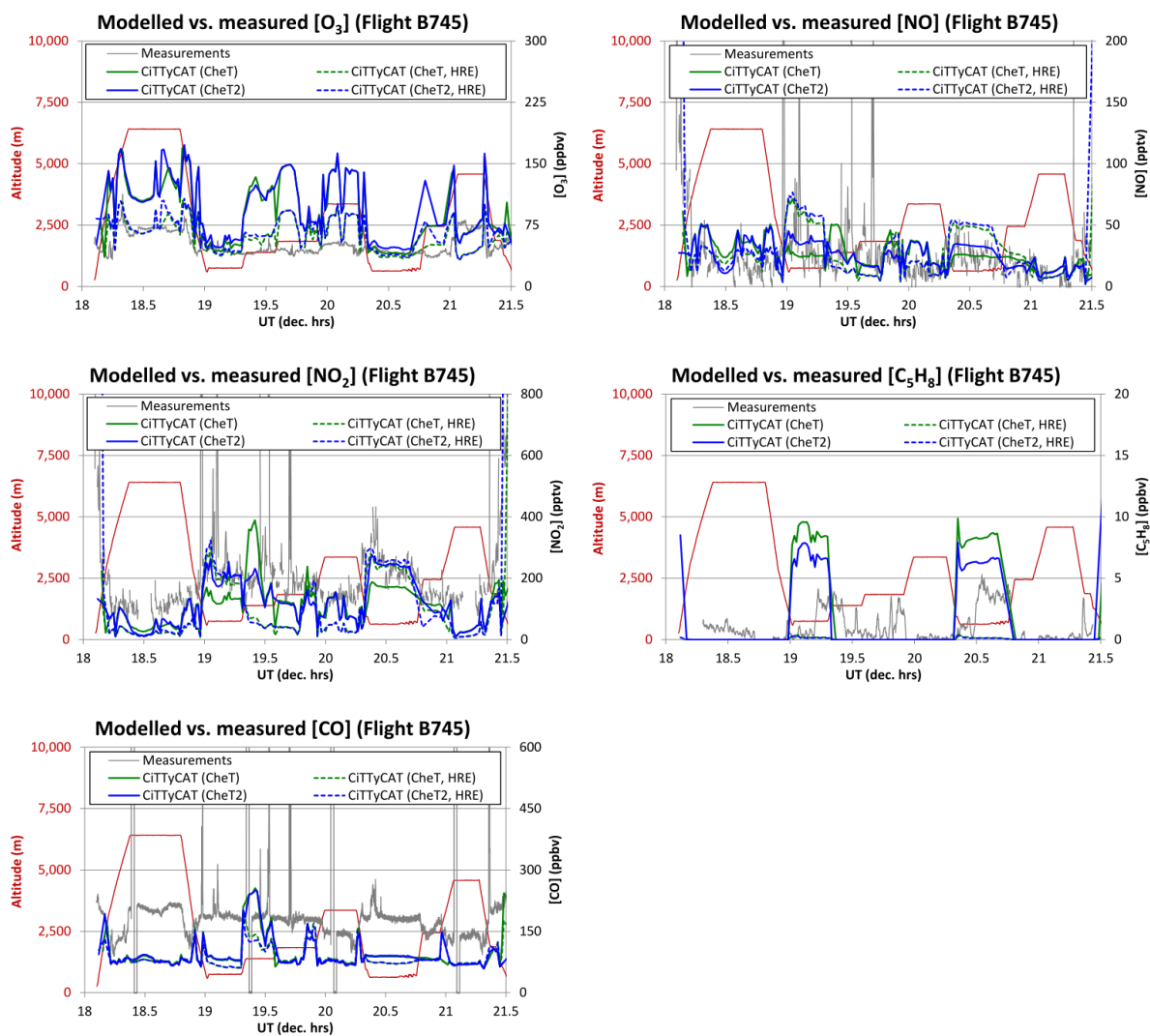


Figure S10. Analogous to Figures 9 in the main manuscript: $[O_3]$, $[NO]$, $[NO_2]$, $[C_5H_8]$ and $[CO]$ measured on SAMBBA flight B745 and simulated in CiTTyCAT, subject to CheT and CheT2 chemical mechanisms (see section 2.3 of the main manuscript) and both ‘UKCA res’ emissions and ‘High res’ emissions (HRE; see section 2.4 of the main manuscript for more details).

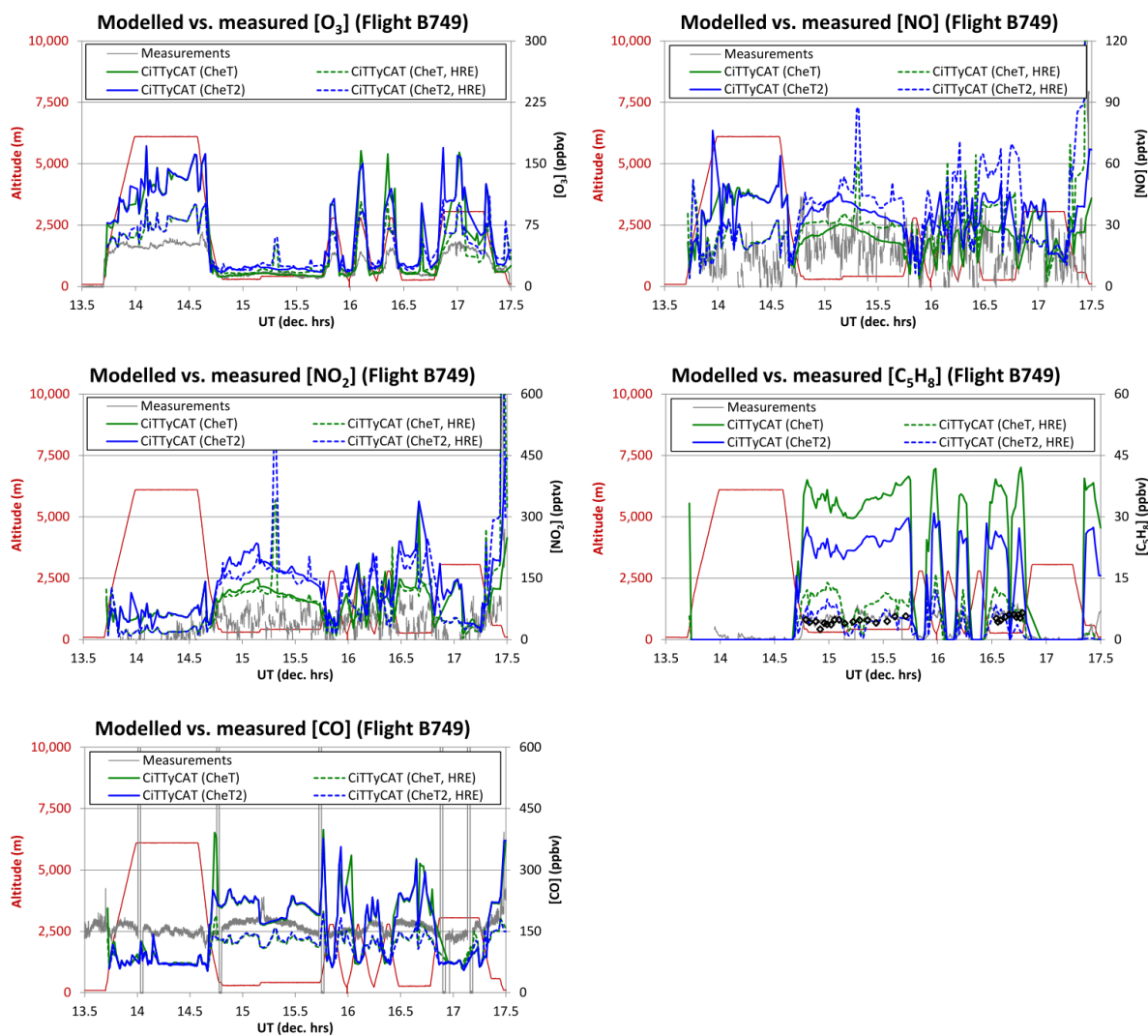


Figure S11. Analogous to Figures 9 in the main manuscript: $[O_3]$, $[NO]$, $[NO_2]$, $[C_5H_8]$ and $[CO]$ measured on SAMBBA flight B749 and simulated in CiTTycAT, subject to CheT and CheT2 chemical mechanisms (see section 2.3 of the main manuscript) and both ‘UKCA res’ emissions and ‘High res’ emissions (HRE; see section 2.4 of the main manuscript for more details); the open black diamonds in the $[C_5H_8]$ plot correspond to measurements based on whole air samples.

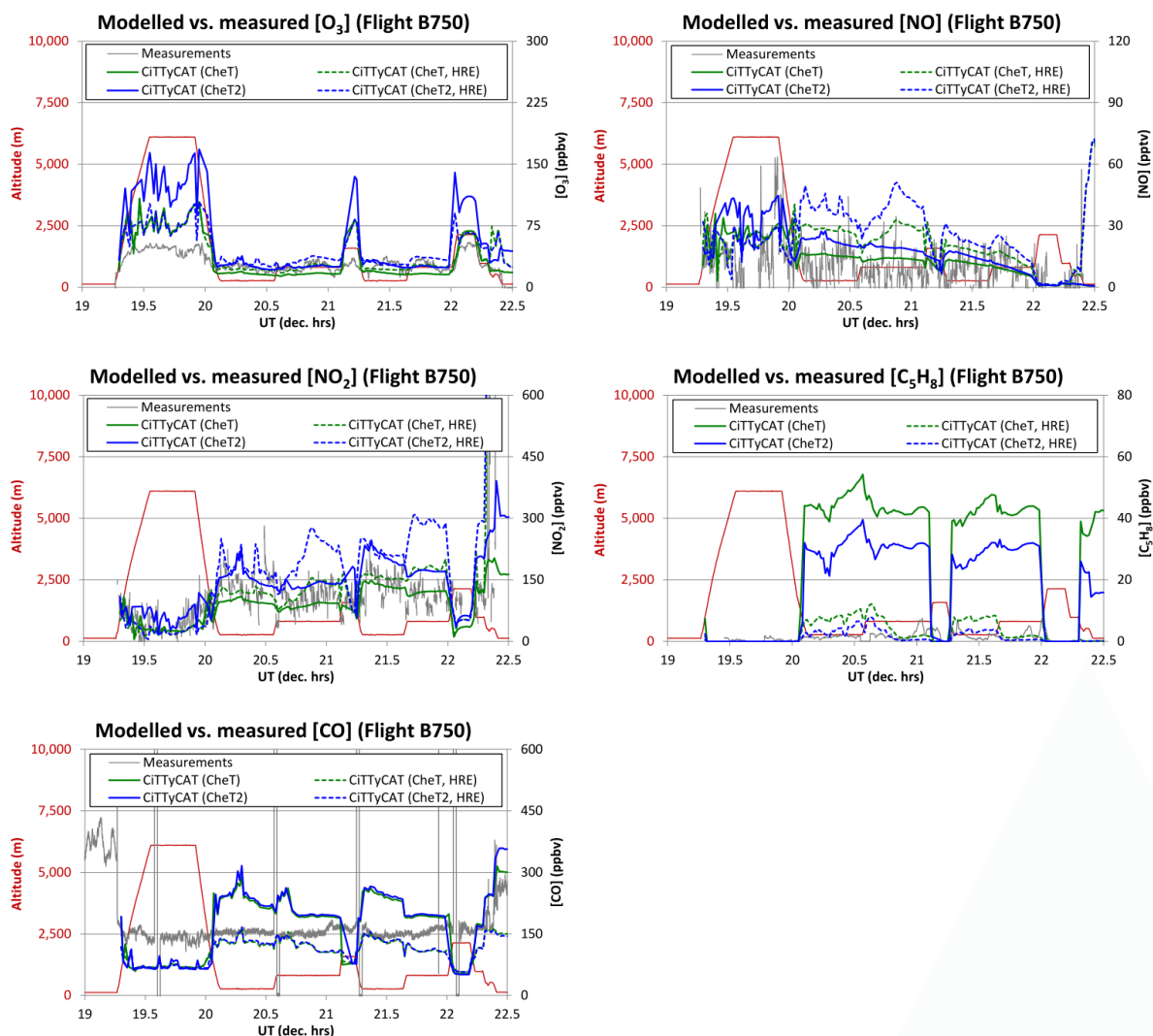


Figure S12. Analogous to Figures 9 in the main manuscript: $[O_3]$, $[NO]$, $[NO_2]$, $[C_5H_8]$ and $[CO]$ measured on SAMBBA flight B750 and simulated in CiTTycAT, subject to CheT and CheT2 chemical mechanisms (see section 2.3 of the main manuscript) and both ‘UKCA res’ emissions and ‘High res’ emissions (HRE; see section 2.4 of the main manuscript for more details).