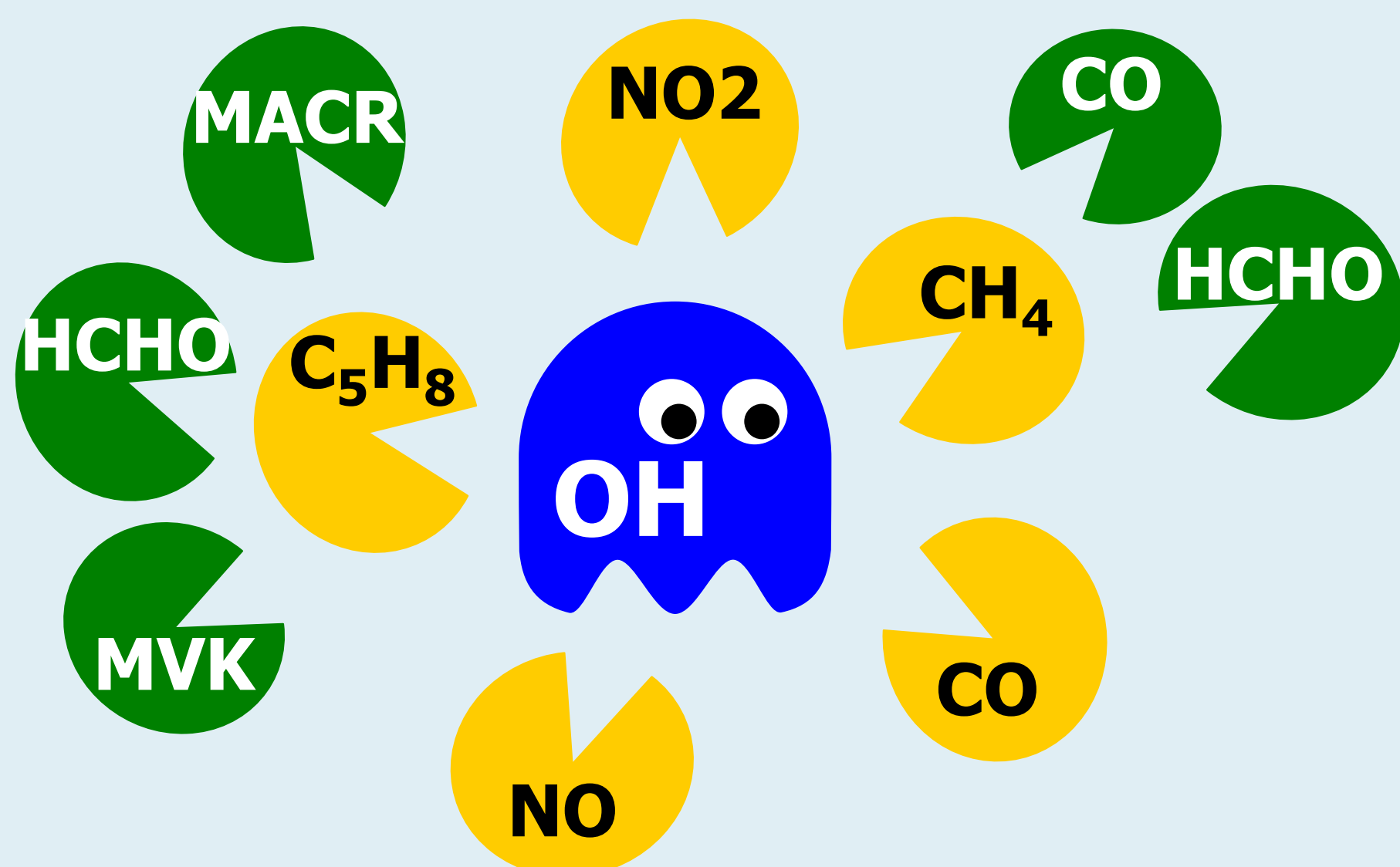


# VOC Source Attribution of OH, O<sub>3</sub> and NO<sub>3</sub> Reactivity

Jane Coates and Tim Butler

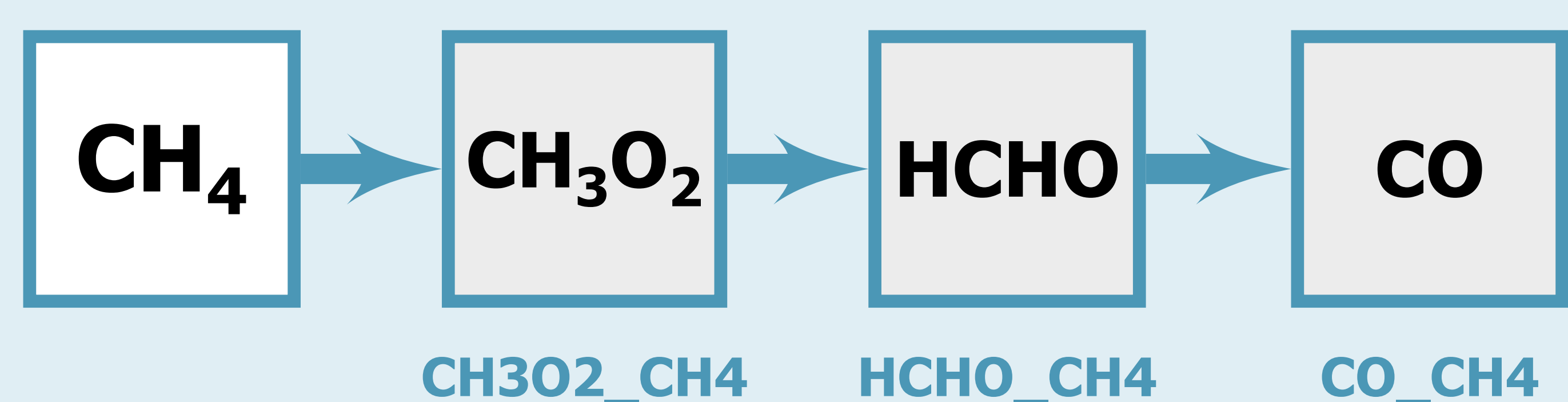
## Objective

- Determine total VOC impacts on oxidant reactivities.



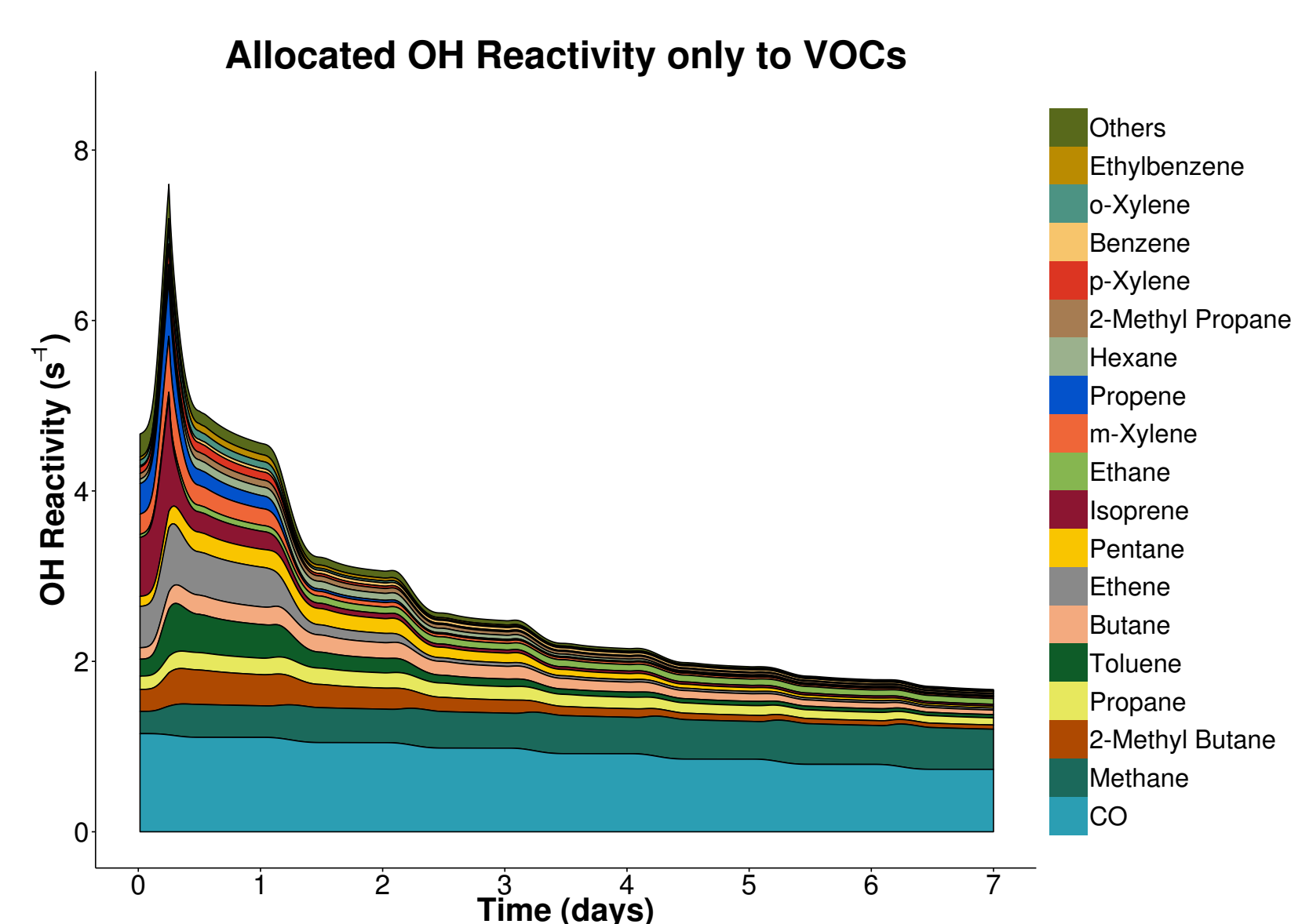
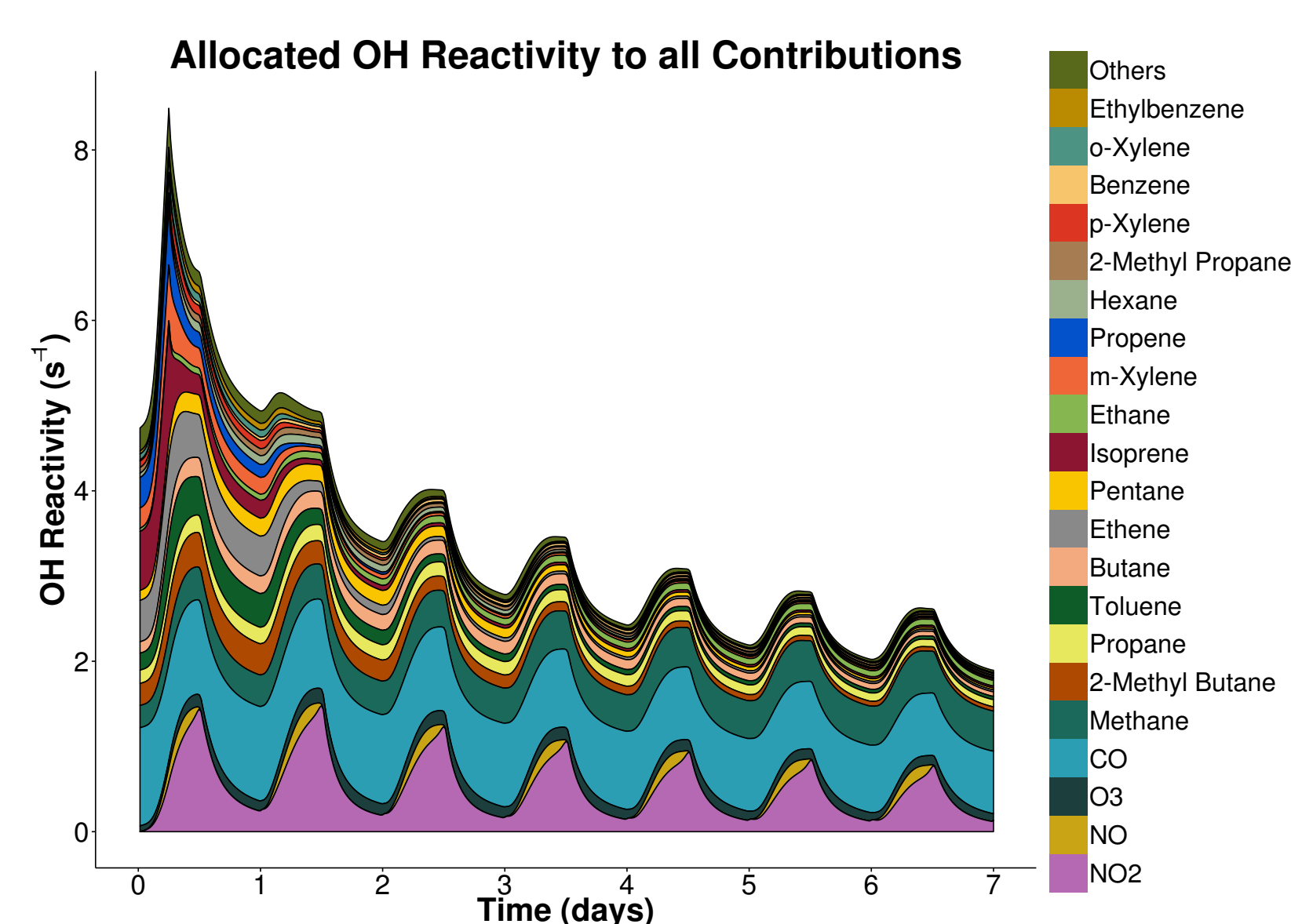
## Approach

- Chemical mechanism tagging [1] allows reactivity allocation back to emitted VOC.
- Tagging used to calculate many atmospheric oxidant reactivities (OH, O<sub>3</sub>, NO<sub>3</sub> and others).

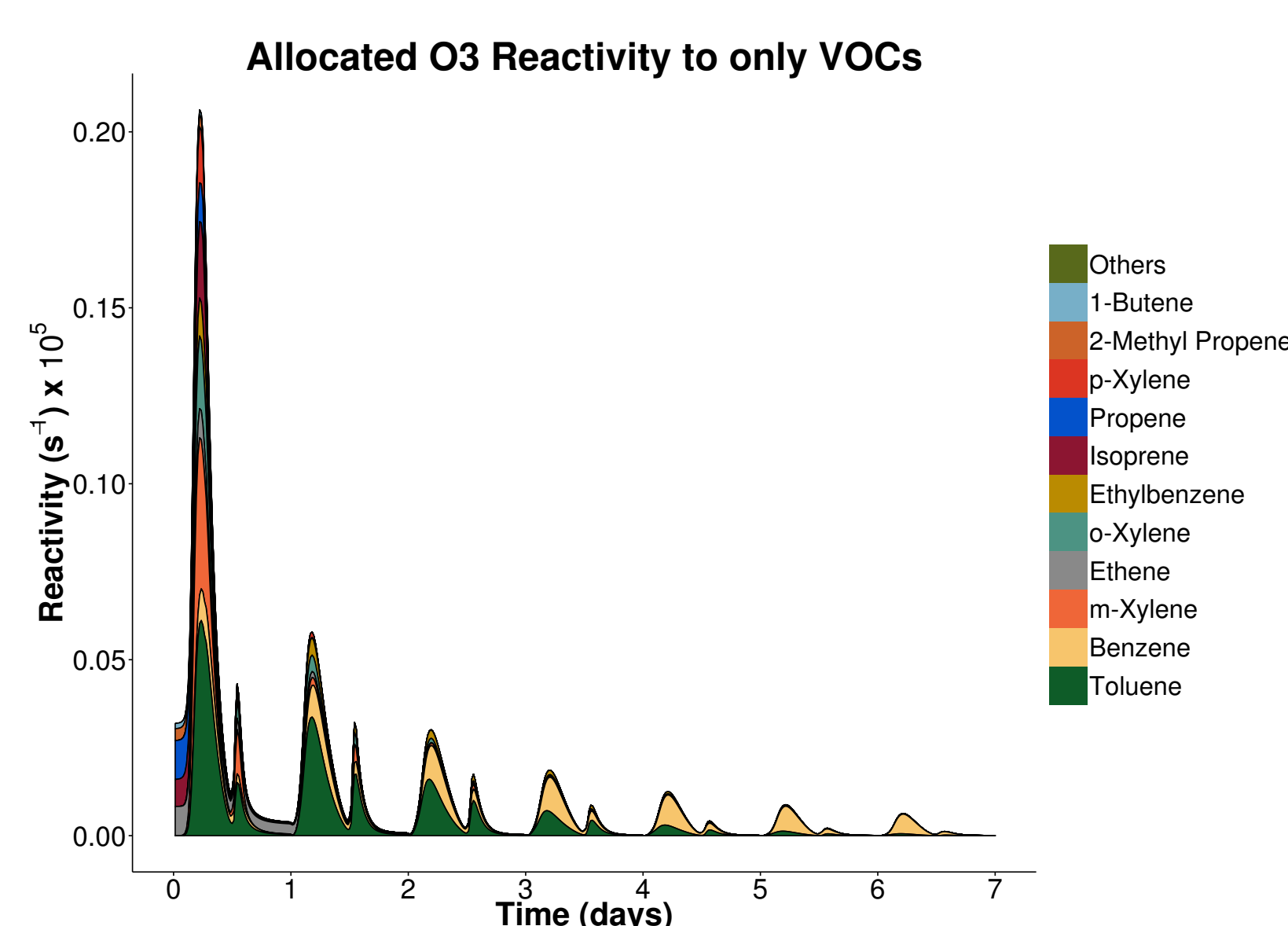
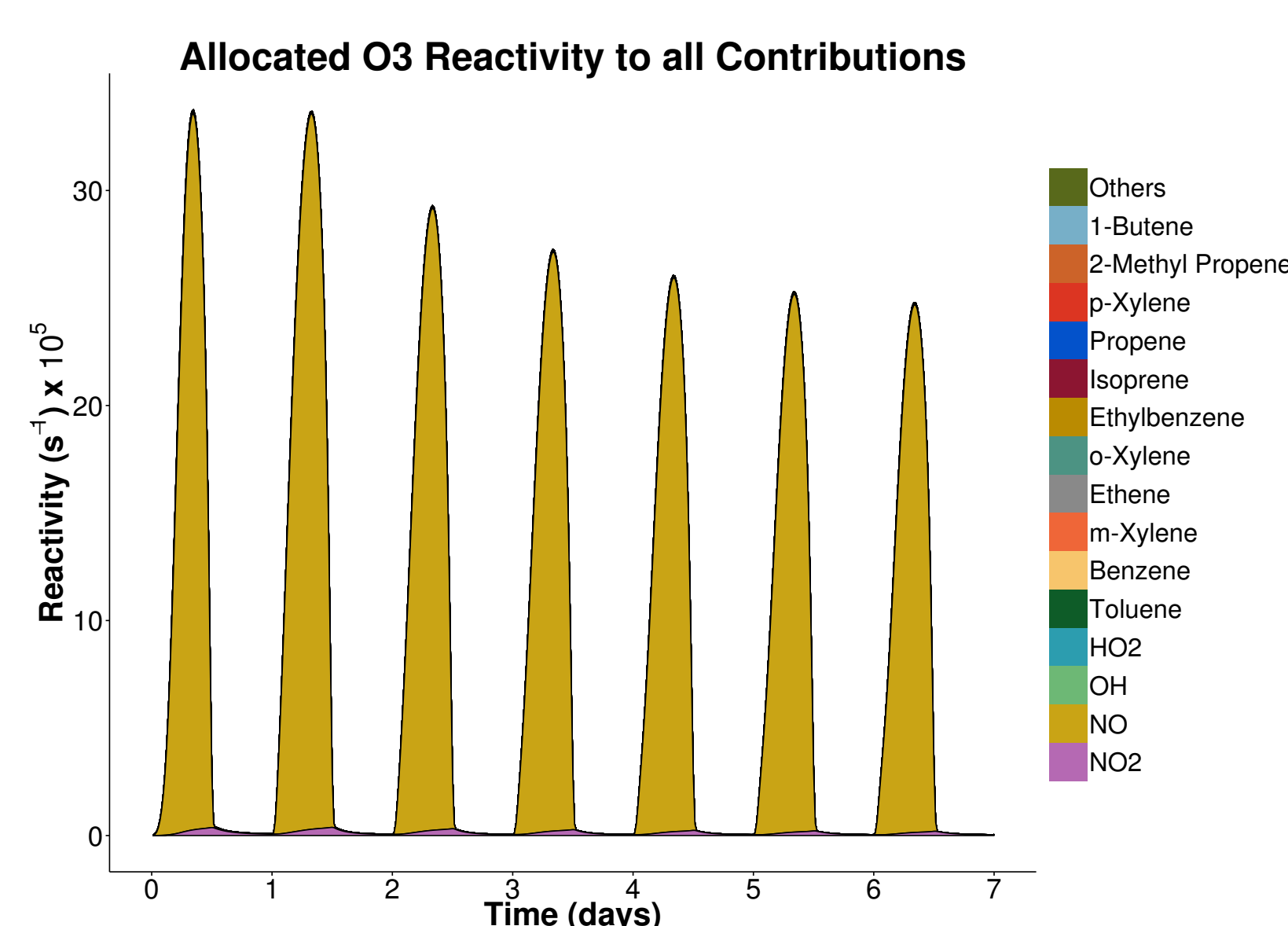


## Application

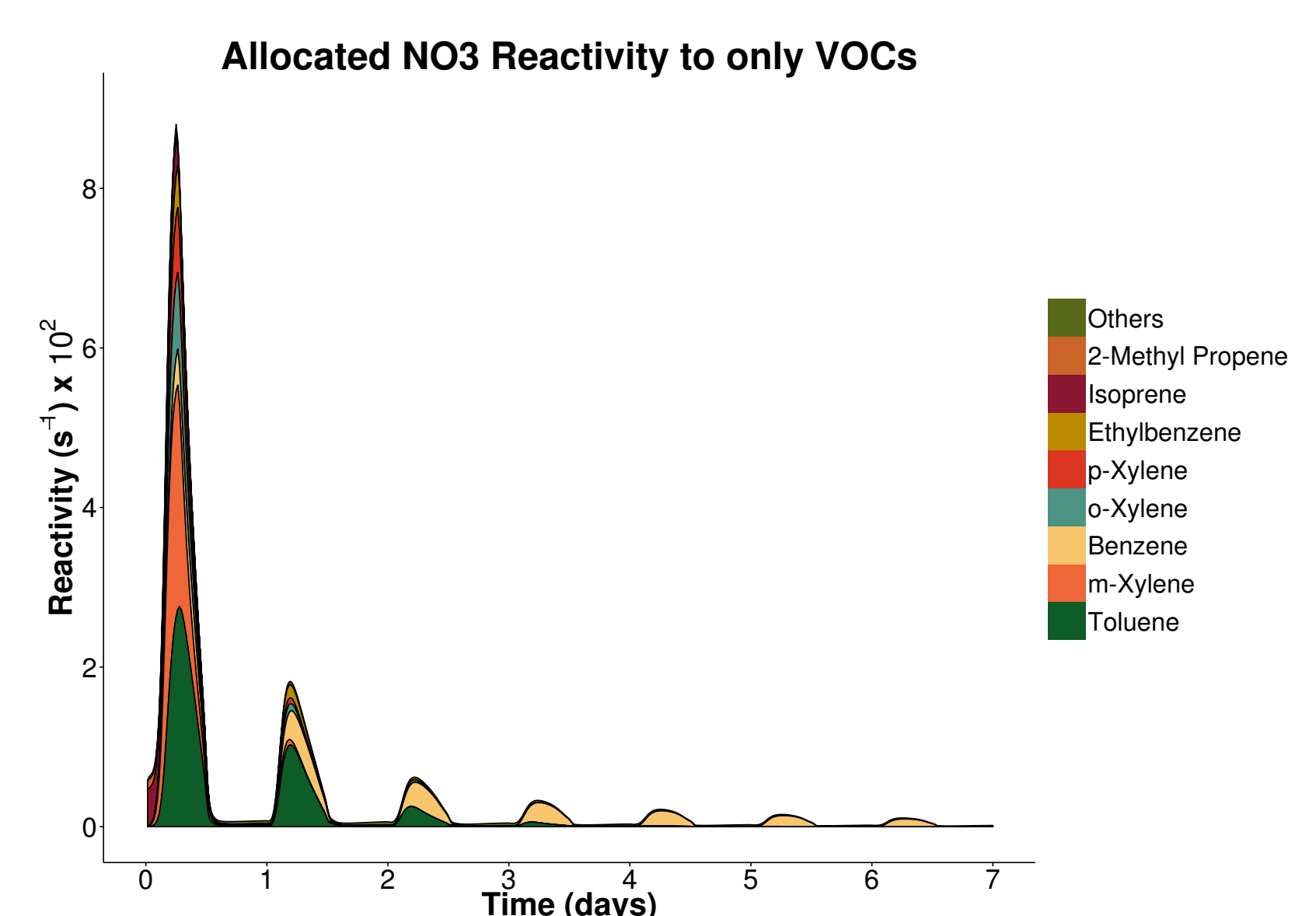
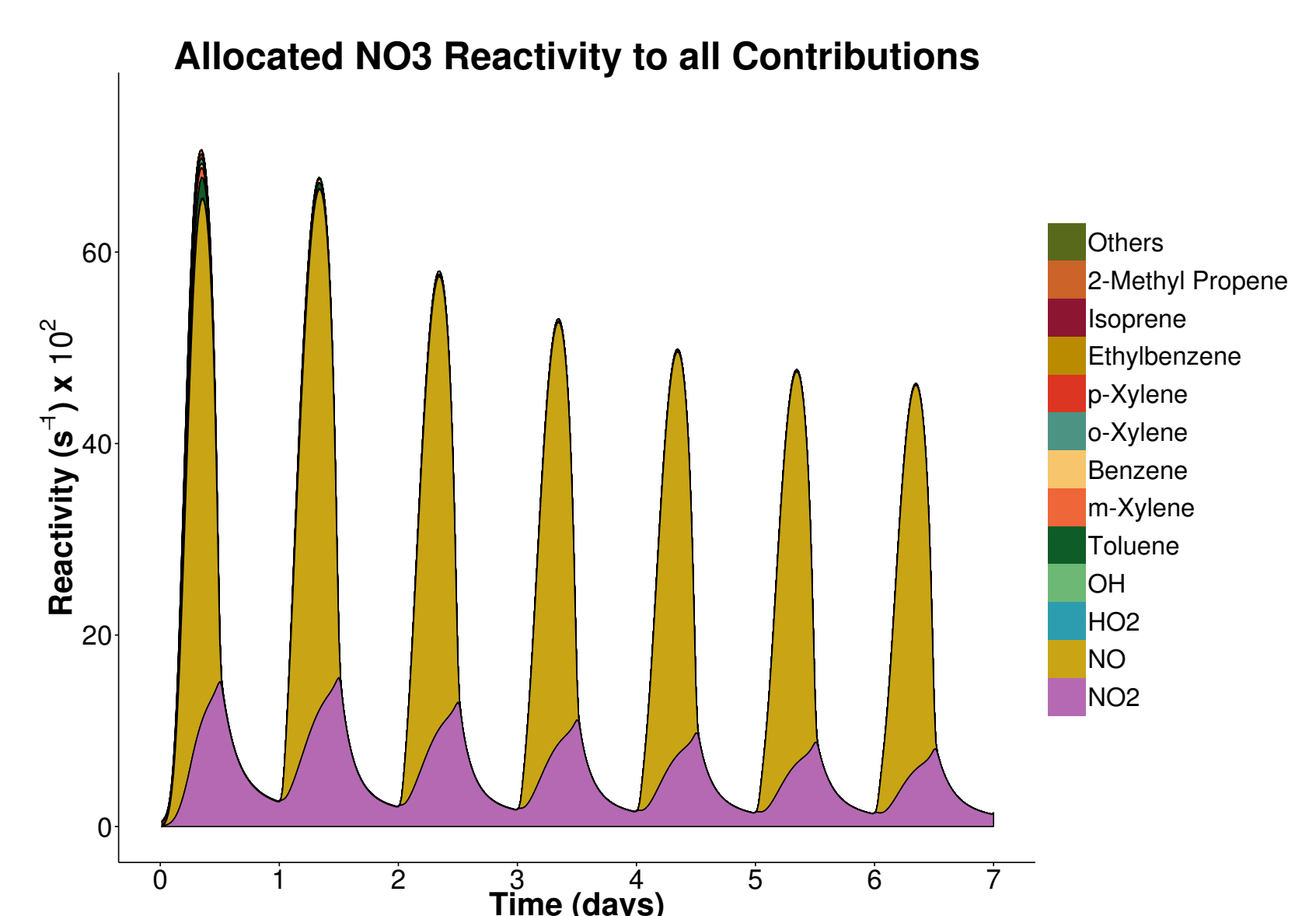
### OH Reactivity



### O<sub>3</sub> Reactivity



### NO<sub>3</sub> Reactivity



## Summary

- Tagging chemical mechanisms allows source attribution of atmospheric oxidant reactivities.
- Reactivity attribution to emitted VOCs separated from inorganic contributions.

## References

- [1] T. M. Butler, M. G. Lawrence, D. Taraborrelli, and J. Lelieveld. Multi-day ozone production potential of volatile organic compounds calculated with a tagging approach. Atmospheric Environment, 45(24):4082–4090, 2011.

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