A Benchmark to Consistently Model Haze Precursors in Exoplanet Atmospheres

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We present the benchmark of the the long-chain carbon chemical network from Venot et al. (2015) into the 1D atmospheric code, ATMO.[2] ATMO is capable of modelling pressure-temper- ature profiles consistently with equilibrium and non-equilibrium chemical compositions, hydrostatic equilibrium, and radiative convective equilibrium. Drummond et al. (2016) implemented the C0-C2 chemical network from Venot et al. (2012) to consistently model the pressure-temperature profiles of HD 209458b and HD 189733b. We repeat this work adding the C0-C6 chemical network from Venot et al. (2015)

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[2]Tremblin et al. 2015