Mixing ratios at 1000x solar metallicity, 1.5 C/O ratio  $10^{-9}$  $10^{-7}$ Pressure (bar) 10<sup>-5</sup> H2O CO2 CO CH4 NH3 10<sup>1</sup> 10-11 10 -9 10 -7 10 -5 10<sup>-3</sup> 10 -1 Mixing ratios