

The role of chemistry in the oscillating combustion of hydrocarbons: an experimental and theoretical study

Supplementary Material

Time evolution of raw signals recorded during experiments

The following figure displays the time evolution of raw signals recorded during experiments for several m/z (16, 18, 28, 30, 32 and 44).

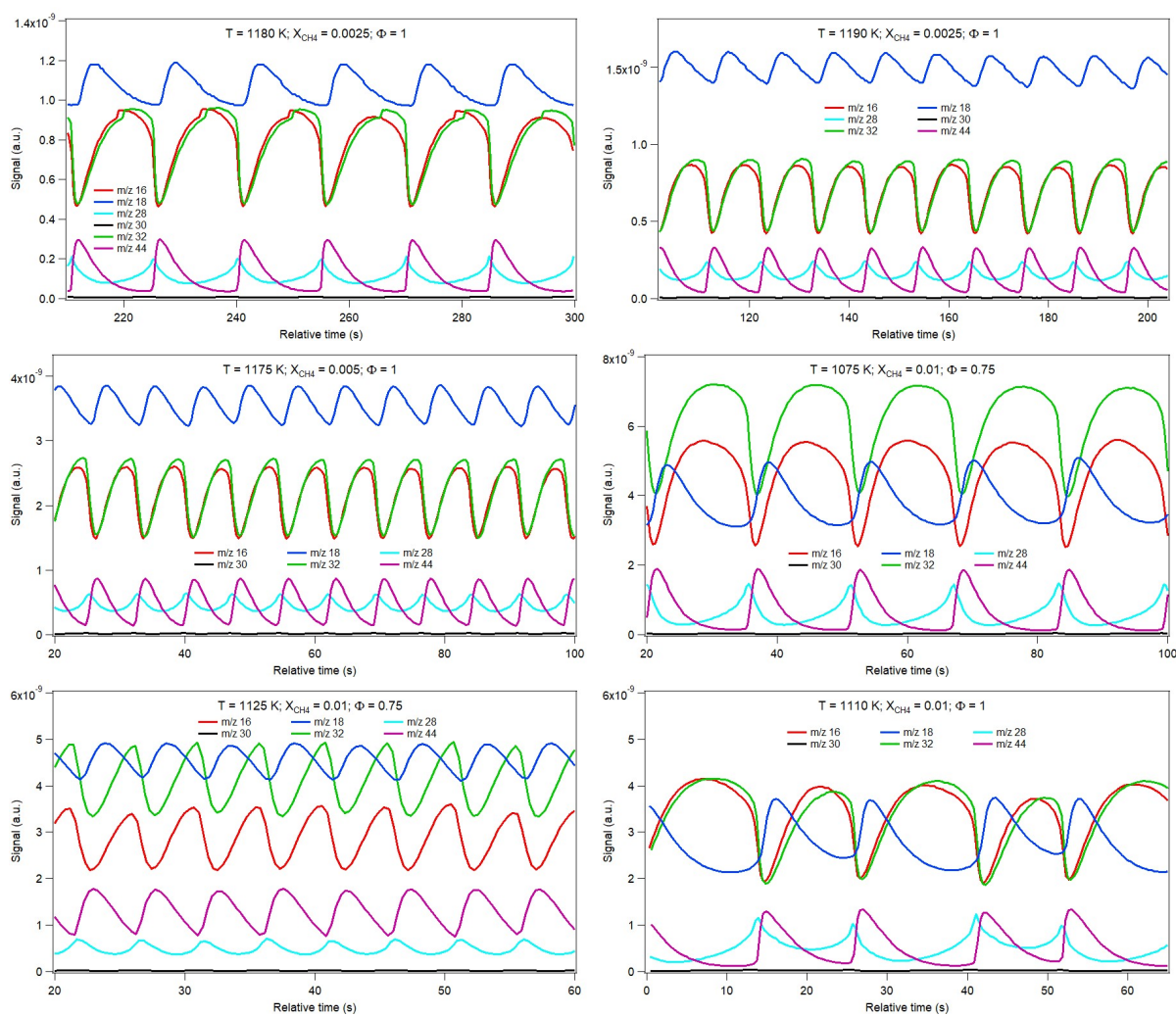


Figure S1. Time evolution of raw signals recorded during experiments.

Calibration curves

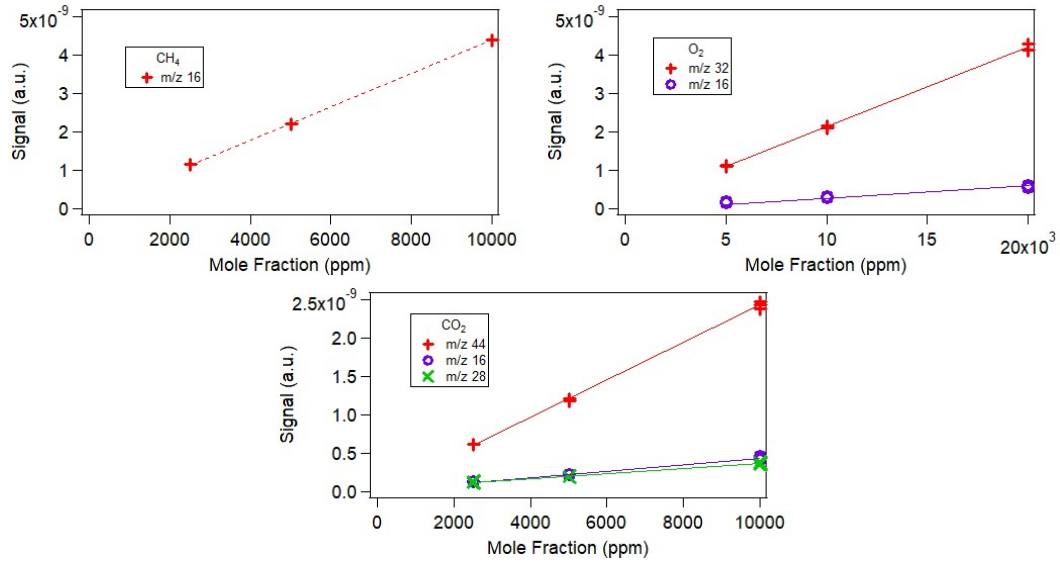


Figure S2. Calibration curves for methane, oxygen and carbon dioxide.

Carbon-atom balances

Table S1: Carbon-atom balances ($balance = \frac{X_{CH_4}^{out} + X_{CO_2}^{out}}{X_{CH_4}^{in}} \times 100$).

Conditions	Average (%)	Standard deviation (%)
$T = 1180\text{ K}; X_{CH_4} = 0.0025; \Phi = 1$	84	4
$T = 1190\text{ K}; X_{CH_4} = 0.005; \Phi = 1$	81	4
$T = 1175\text{ K}; X_{CH_4} = 0.0025; \Phi = 1$	118	4
$T = 1075\text{ K}; X_{CH_4} = 0.01; \Phi = 0.75$	112	9
$T = 1125\text{ K}; X_{CH_4} = 0.01; \Phi = 0.75$	101	4
$T = 1110\text{ K}; X_{CH_4} = 0.01; \Phi = 1$	87	6