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Biomass burning plume chemistry: OH-radical-initiated oxidation of 3-penten-2-one and its main oxidation product 2-hydroxypropanal

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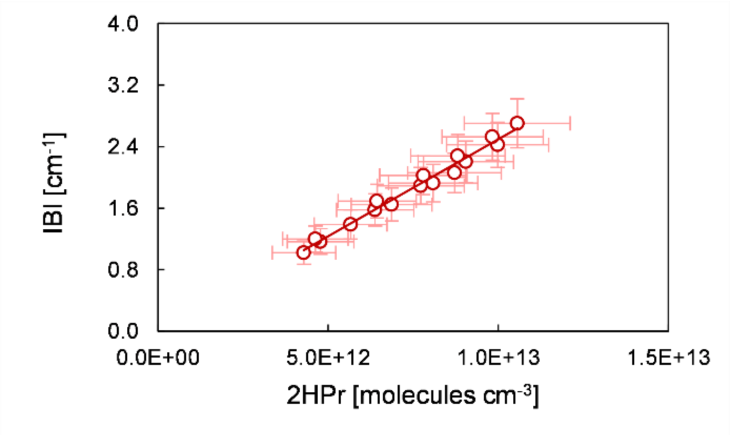

Figure S1. Correlation between the integrated absorption band of 2HPr in the range 3580–3500 cm^{-1} and the concentration of 2HPr. The experiments were carried out at an optical path length 484.7 ± 0.8 m.

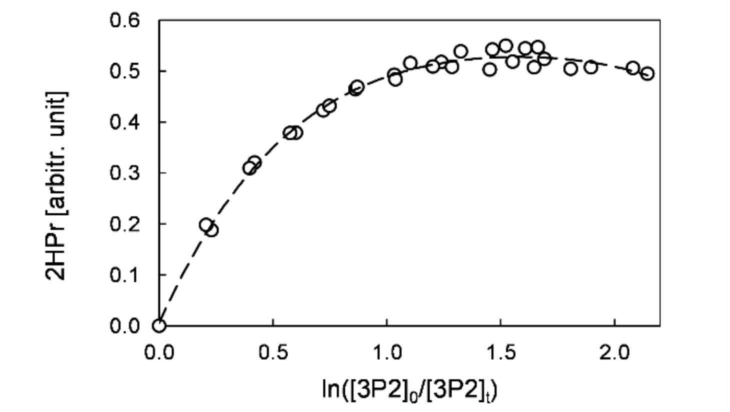

Figure S2. Non-linear plot for the formation of 2HPr from the 3P2 + OH reaction according to Baker et al. (2004) used to estimate the rate coefficient of 2HPr + OH.

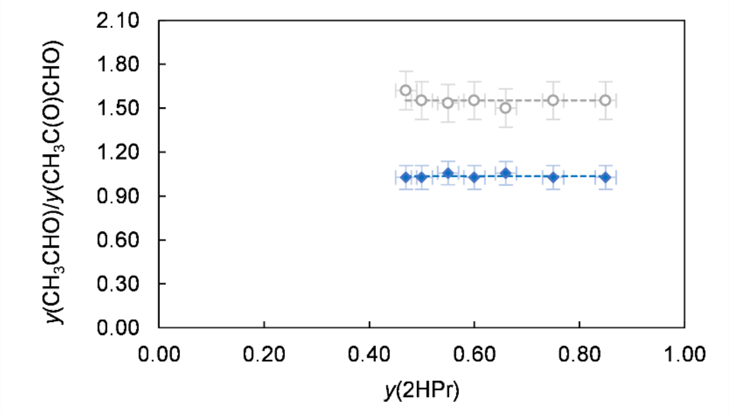

Figure S3. Ratio of the obtained yields of acetaldehyde and methyl glyoxal from 3P2 + OH in dependence of the 2HPr yield used in the model for scenario 1 (filled rhomb) and scenario 2 (open circles). The dashed lines represent the corresponding average ratio. The error bars include the precision error of the model.

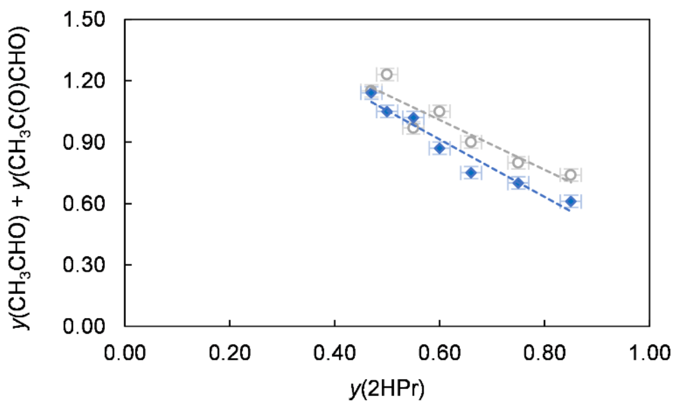

Figure S4. Sum of the obtained yields of acetaldehyde and methyl glyoxal from 2HPr + OH in dependence of the 2HPr yield used in the model for scenario 1 (filled rhomb) and scenario 2 (open circles). The error bars include the precision error of the model.

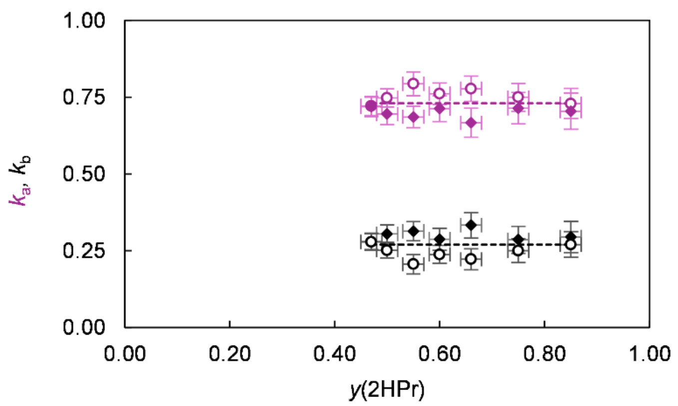

Figure S5. Obtained branching ratios k_a and k_b for the formation of acetaldehyde (purple) and methyl glyoxal (black) from 2HPr + OH in dependence of the 2HPr yield used in the model for scenario 1 (filled rhomb) and scenario 2 (open circles). The dashed lines represent the corresponding average branching ratio. The error bars include the precision error of the model.