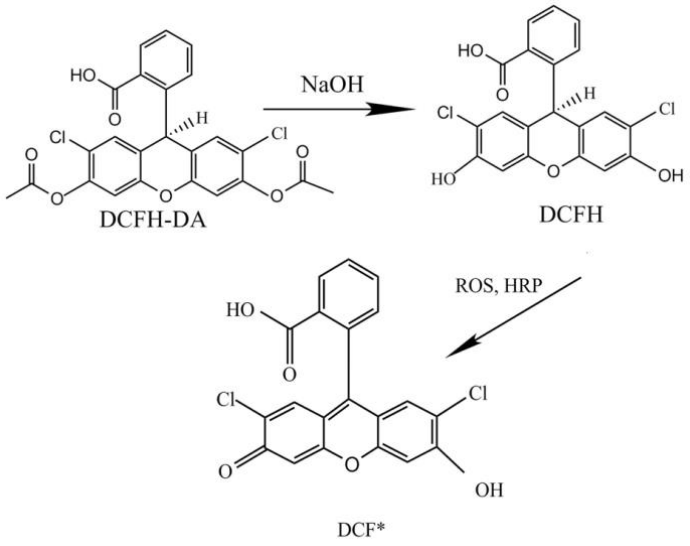

Figure S1. The reaction scheme of the DCFH assay (Miljevic et al., 2014).

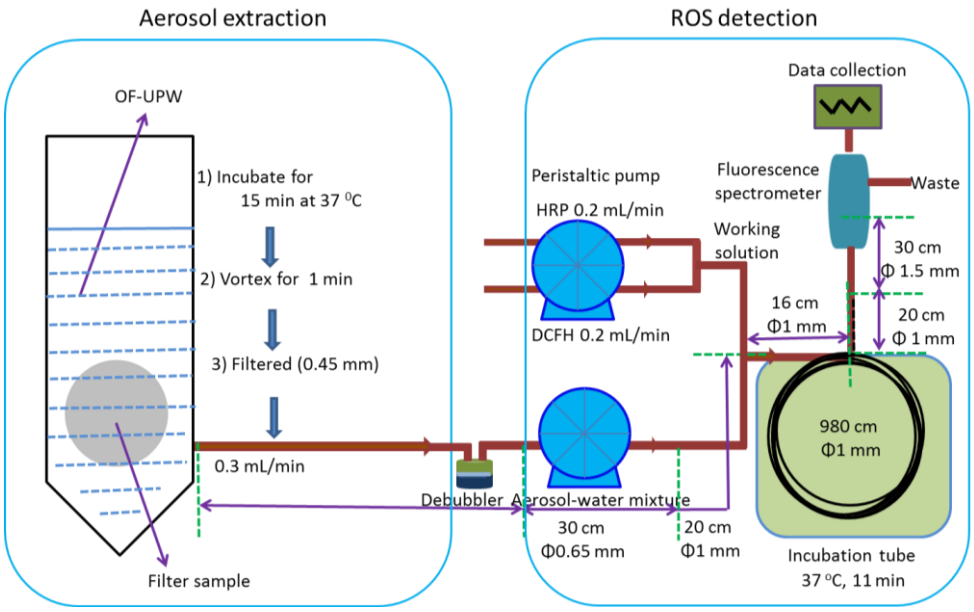

Figure S2. Overview of the offline ROS analyzer.

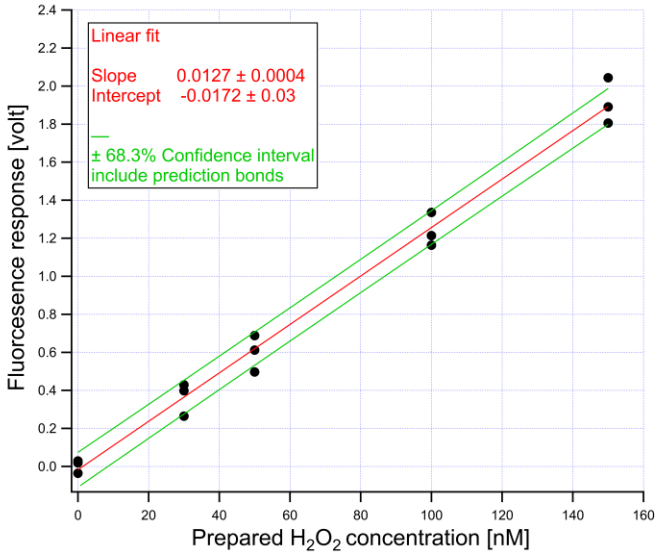

Figure S3. Average of calibrations of the ROS analyzer with different H_2O_2 concentrations which were repeated three times.

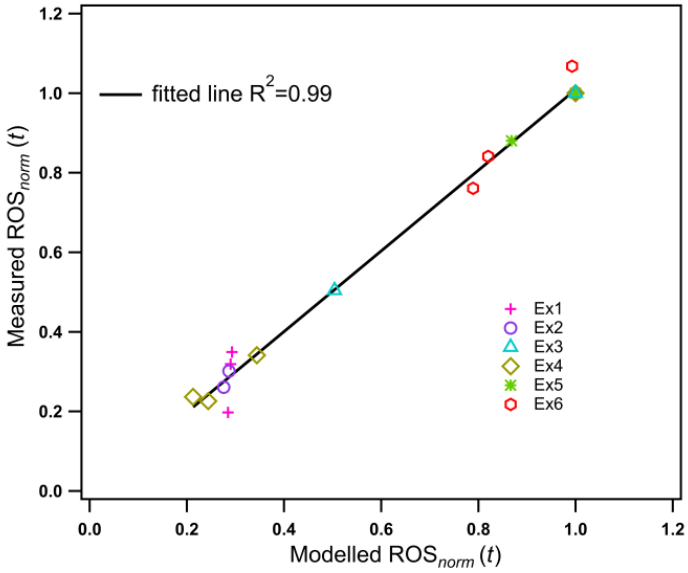

Figure S4. Comparison of measured $ROS_{norm}(t)$ and modelled $ROS_{norm}(t)$. $ROS_{norm}(t)$ is the ROS measured at time t normalized to the ROS measured at time t_1.

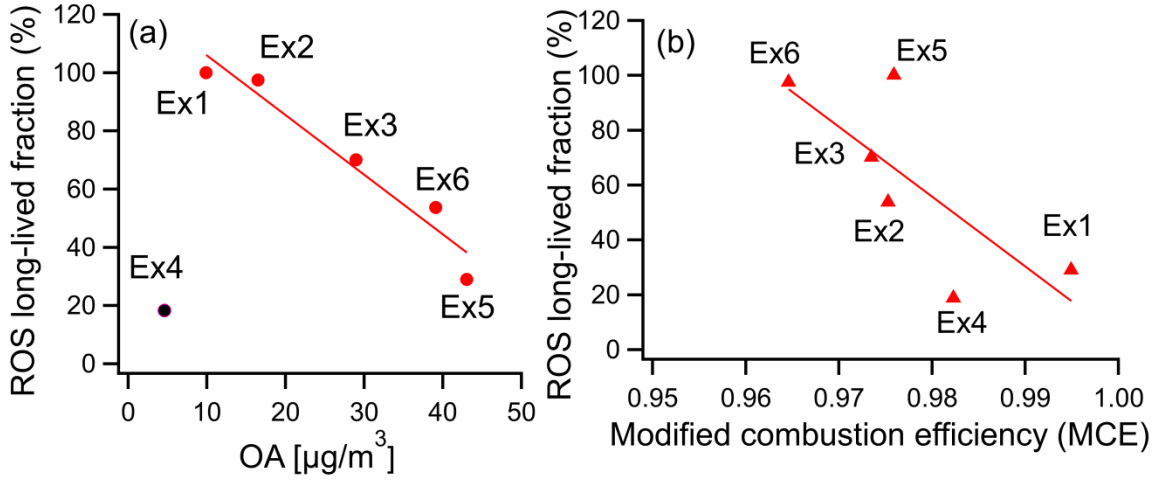

Figure S5. Long-lived ROS fraction as a function of OA loading (a) and modified combustion efficiency (MCE) (b). Markers indicate the modelled long-lived-ROS fraction (see section 3.4.2) and the solid lines a linear least-square fit.

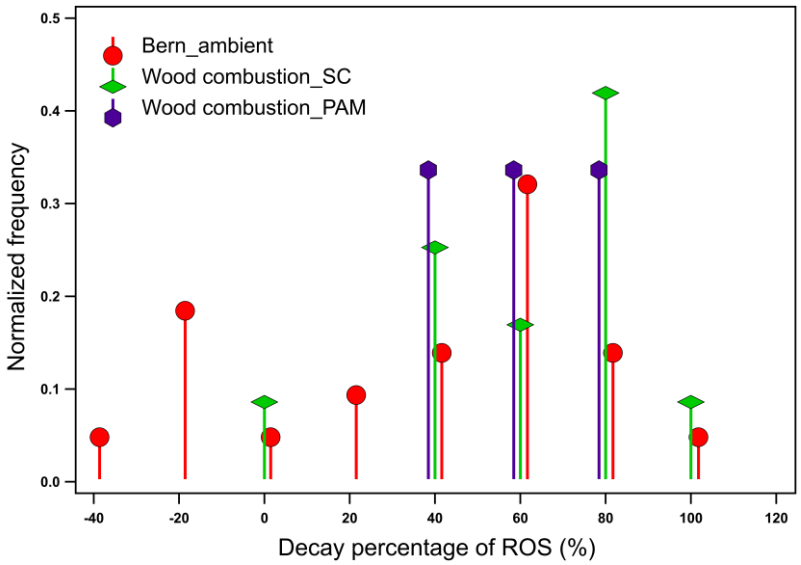

Figure S6. Normalized frequency of ROS decay percentages. "Bern_ambient" and "wood combustion_SC" represent the results from Bern ambient air (filter storage time: 1 year) and wood combustion smog chamber aging (filter storage time: 2 years), respectively; "Wood combustion_PAM" represents the estimated results from wood combustion potential aerosol mass chamber aging using the biexponential decay model described in section 3.4.2 (filter storage time: 1 year).