

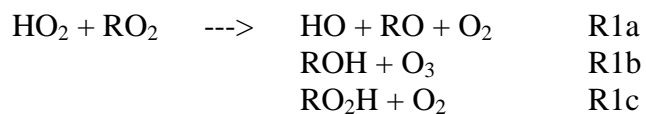
OH from reactions of HO₂ with organic peroxy radicals (RO₂)

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The OH yield (α) of the reactions of HO₂ with twelve different RO₂ has been determined experimentally using Pulsed Laser Photolysis (PLP) combined with Laser Induced Fluorescence (LIF) and Transient Absorption Spectroscopy (TAS). Direct measurement of the main species OH, HO₂, RO₂ and O₃ enabled extraction of α via numerical simulation of their time dependent concentration profiles.



A wide range of RO₂ was investigated, including ones with oxo-, hydroxy-, fluoro- and aromatic substituents. We found the highest values of α (larger than 70%) for RO₂ bearing a carbonyl group close to the peroxy entity.