

## Biomimetic model systems for the enzyme bromoperoxidase

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Some functional mimics for the vanadoenzyme, bromoperoxidase (BPO) have been described. Reactions of KBr with various organic substrates like acetanilide, *p*-Me<sup>-</sup>acetanilide; salicylaldehyde, etc. in aqueous medium in presence of H<sub>2</sub>O<sub>2</sub> and V<sub>2</sub>O<sub>5</sub> afford brominated organic products. The proposed reaction path involves V(V) peroxo intermediates like VO<sub>5</sub><sup>-</sup>VO<sub>3</sub><sup>+</sup> which oxidise Br<sup>-</sup> to OBr<sup>-</sup>, Br<sub>3</sub><sup>-</sup> etc. In order to confirm the involvement of V(V)-peroxo intermediates, similar reactions using a peroxo-vanadium (V) compound, V<sub>2</sub>O<sub>2</sub>(O<sub>2</sub>)<sub>3</sub> (GlyH)<sub>2</sub> (H<sub>2</sub>O<sub>2</sub>)<sub>2</sub> (GlyH = glycine) has been carried out. The later reactions afford similar brominated organic substrates and thus confirm the involvement of peroxo-vanadium(V) intermediate in the oxidation of Br<sup>-</sup> and subsequent bromination of organic substrates.

Further, the efficacy of the Mo(VI)-H<sub>2</sub>O<sub>2</sub>-KBr system as brominating agent has been investigated.