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### Kinetics and mechanism of perborate oxidation of aromatic aldehydes

March 2004 · *Polish Journal of Chemistry* 78(3):437-445

 Hesham A. A. Medien

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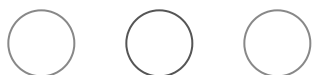
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## Abstract

The kinetics of oxidation of benzaldehyde by sodium perborate in an acetic acid medium have been studied. The reaction is first order with respect to both oxidant concentration and to the substrate. Hydrogen ion accelerates the rate of reaction. A mechanism involving the formation of an unstable perborate ester, which decomposes to the reaction products, has been suggested. The activation parameters associated with the rate-determining step have been calculated. The effects of various functional groups on the ring at the meta, and para positions of benzaldehyde have also been examined.

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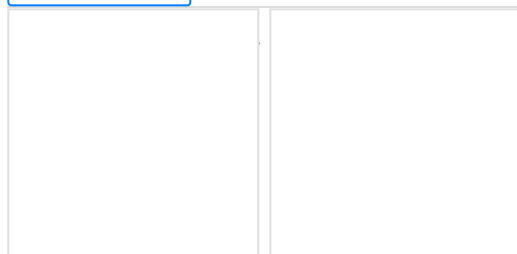
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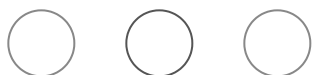
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