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## Chemiluminescence of luminol - sodium hydroxide system using hemin as catalyst

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### Abstract

The chemiluminescence (CL) emission spectra of luminol in aqueous sodium hydroxide [Na(OH)<sub>2</sub>] system has been recorded in presence of hemin using various oxidants. Hydrogen peroxide, potassium ferricyanide, potassium permanganate, and potassium persulphate are the various oxidants used. There is no emission of light observed when potassium persulphate has been used as an oxidant. The microphotometric traces of CL emission spectra are re-plotted on a linear wavelength scale. On the basis of CL emission spectra resolution the mechanism has been explained. A 460 nm band appears for potassium ferricyanide when used as oxidant while two emission bands are observed for hydrogen peroxide and potassium permanganate when used. The mechanism has been explained by decomposition of transannular peroxide to form excited 3-APA which has been responsible for the intense CL emission in presence of hemin.

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