

Pembentukan senyawa hasil penguraian Orange II oleh *Penicilium* SP.L2

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Abstrak

Azo dyes are the largest class of dyes used in industry, mainly in textile and paper making sectors. These compounds are difficult to be degraded biologically and in anaerobic environments could transform into aromatic amine, which may be toxic and carcinogenic. This article discusses preliminary identification of degradation products of Orange II, an azo dye, by a fungus isolate *Penicilium* sp. L2 in aerobic conditions. The decolorization of Orange II in a laboratory scale batch process with an initial concentration of 0.1 g/l was completed after 74 hours of incubation. The degradation products were observed as three distinct spots on thin layer chromatography plates in solvent system of 1-propanol-water (25:75). Using the same mobile phase, the result of highperformance liquid chromatography analysis demonstrated that the number of intermediate products was increasing at a longer incubation time, up to a certain point, where some of these compounds were further decomposed. After 74 hours to 144 hours of incubation, Orange II has been transformed into at least five intermediate-products, separated at retention times of 4.14, 4.73, 6.03, 8.14, and 14.88 minutes, having maximum wavelengths of 207, 254, 227, 203, and 227 nm, respectively.