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# ANALYSIS OF ENZYMATIC DEGRADATION OF ACID ORANGE 52 AND MORDANT YELLOW 10

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## Abstract:

Azo dyes, which are aromatic compounds with one or more ( $-N=N-$ ) groups, constitutes the largest class of synthetic dyes used in commercial applications. These dyes are widely used in a number of industries, such as textile dyeing, food, cosmetics, paper printing, with the textile industry as the largest consumer. Release of these dyes into the environment causes an adverse impact on the aquatic ecosystem and considered to be toxic to the aquatic biota and carcinogenic to the humans. Azo dyes are believed to be electron deficient xenobiotic compounds and are recalcitrant in nature. Degradation of these dyes can reduce their harmful effects. But in present scenario biological treatment methods are most suitable and widely used due to their cost effectiveness, ability to produce less sludge, and eco-friendly nature. Moreover, bacteria mediated process is faster than fungal systems with regard to decolorization and mineralization of azo dyes. As far as decolorization and degradation of textile dyes are concerned, azoreductases, laccases, peroxidases and many other important enzymes seem to have shown great potential to decolorize the textile dyes and these enzymes are considered as effective molecular weapon for bioremediation of azo dyes.

**Keywords:** *Recalcitrant, degradation, decolorization, bioremediation.*

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