

Biodegradation of malachite green by *Bacillus spp. ETL-2412*

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Malachite green (100 mg/L) was completely decolorized under static anoxic condition within 4 h by bacteria *Bacillus spp. ETL-2412*; however decolorization was not observed at shaking condition. *Bacillus spp. ETL-2412* have also shown decolorization of azo, triphenylmethane and industrial dyes (cotton blue, methyl orange, reactive blue , direct blue, reactive yellow 81). Semi-synthetic media containing molasses, urea and sucrose have shown 100, 94, 86% decolorization respectively. Induction in the activities of malachite green reductase and DCIP reductase was observed during MG decolorization suggesting their involvement in the decolorization process. UV-Visible absorption spectrum, HPLC and FTIR analysis showed degradation of MG. Toxicity study revealed the degradation of MG into non-toxic products by *Bacillus spp. ETL-2412*.

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