P4-9
Recovery of biotreatment supports as catalysts in cyclohexene oxidation

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A biosorption system for the removal of hexavalent chromium from contaminated effluents that allows the reutilization of the recovered supports as catalysts is proposed. The system consists of *Arthrobacter viscosus* bacterium supported on NaY zeolite. After the treatment of the effluents, the metal-zeolite can be used in oxidation reactions. This work reports the optimized biotreatment conditions that lead to Cr-loaded in NaY zeolite, which was tested as catalysts in the liquid-phase oxidation of cyclohexene. A comparison is made with a Cr-NaY zeolite prepared by the usual ion-exchange method.

Keywords: Biofilm, Zeolite, Cyclohexene, Chromium.