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# PHOTOCATALYTIC ACTIVITY OF A SILVER DOPED $TIO_2$ MODIFIED ZEOLITE IN THE DEGRADATION OF REACTIVE YELLOW 125 AZO DYE

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## Abstract

The aim of this study was to investigate photocatalytic activity of a silver doped $TiO_2$ modified zeolite (Z-$TiO_2$-Ag) in the photocatalytic degradation of Reactive Yellow 125 (RY 125) azo dye. The operational conditions using photocatalyst dose of 1g·$L^{-1}$ at pH 6 were established as optimal conditions for photocatalysis application in RY 125 dye solution degradation. The photocatalyst exhibited a good performance for discoloration at all studied concentrations (25, 50 and 100 mg·$L^{-1}$). A good efficiency regarding the aromatic ring-opening process was achieved especially at low concentrations of the dye. However, an effective mineralization did not occur even at low concentrations of dye (25 mg·$L^{-1}$). The results of photocatalyst activity under VIS irradiation revealed a practical utility of the silver doped $TiO_2$ modified zeolite for the RY 125 dye degradation at low concentrations.

*Key words:* photocatalysis, Reactive Yellow 125, silver doped $TiO_2$ modified zeolite, UV irradiation, VIS irradiation

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