

**DEGRADASI SENYAWA NIKOTIN DARI TEMBAKAU ROKOK
SECARA FOTOLISIS DENGAN MENGGUNAKAN
KATALIS C-N-CODOPED TiO₂**

SKRIPSI SARJANA KIMIA

OLEH:

BASHENDRI

BP: 1310411057

Pembimbing I: Prof. Dr. Safni, M.Eng

Pembimbing II: Emil Salim, M.Sc, M.Si



JURUSAN KIMIA

FAKULTAS MATEMATIKA DAN ILMU PENGETAHUAN ALAM

UNIVERSITAS ANDALAS

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ABSTRACT

DEGRADATION OF NICOTINE FROM TABACCO BY PHOTOLYSIS USING C-N-CODOPED TiO₂ CATALYST

BY

Bashendri (BP:1310411057)

Prof. Dr. Safni, M.Eng and Emil Salim, M.Sc, M.Si

Many toxic and non-biodegradable natural organic matters can pose environmental threats to human health and ecosystem. Nicotine is one of toxic organic compounds detected in natural water sources, industrial and domestic wastewater. Photolytic process is one of the efficient methods used to eliminate nicotine in wastewater in the presence of C-N-codoped TiO₂ catalyst by using UV and visible light. Nicotine was degraded by UV light 10 watt ($\lambda = 365$ nm) and visible light (Philips LED 13 watt 1400 LUX), with and without addition of C-N-Codoped TiO₂ catalyst. The result is measured by UV-Visible Spektrophotometer at λ 200-500 nm. Degradation of nicotine solution with concentration 0,2 mg/L and 0,025 mg/L for 4 hours in the presence of catalyst showed the amount of degradation about 15,405 and 80,43% respectively. However, percent degradation is much lower in the absence of catalyst 7,86% and 47,27% respectively.

Keywords: C-N-Codoped TiO₂, degradation, nicotine, photolysis

