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**NANO TiO2 PHA TẠP NEODYM**

**Study of the synthesis and photocatalytic activity of neodymium-doped TiO2 nano**

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**ABSTRACT**

*In this study, we report photocatalytic activity under visible light irradiation and ultraviolet radiation of neodymium-doped TiO2 nanoparticles prepared by method sol–gel. The results showed that, we have successfully prepared neodymium-doped TiO2 materials at conditions such as Nd/TiO2 ratio (mol/mol) is 0.3%, the gelling time is three days, the calcination temperature is 950°C in 30 minutes. The particles are well uniform and the average size from 50 to 55 nm. The catalytic ability of neodymium-doped TiO2 is better than undoped TiO2. After 40 minutes of irradiation, the conversion degree of methylene blue added neodymium-doped TiO2 solution reached 70.57 % by ultraviolet radiation and 76.84 % by visible light.*

***Keywords:*** *TiO2 nanoparticles, neodymium-doped TiO2 materials, photocatalytic.*