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ONE-POT SYNTHESIS OF SUBSTITUTED BENZIMIDAZOLE DERIVATIVES UNDER ULTRASONIC IRRADIATION USING $ZnFe_2O_4$ REUSABLE CATALYST

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Abstract. An efficient one-pot synthesis of benzimidazole derivatives by the condensation between various *o*-phenylenediamine and substituted aromatic aldehyde using $ZnFe_2O_4$ as a nano-catalyst under ultrasonic irradiation conditions was described. Remarkable advantages of the present synthetic strategy over the previously reported methods are shorter reaction times, higher isolated yields and simple work-up procedure. The presence of electron withdrawing and electron donating groups on the aromatic rings did not affect the yield of the product. The $ZnFe_2O_4$ catalyst was recycled after completion of reaction and was reused.

Keywords: one pot reaction, substituted benzimidazole, ultrasound irradiation, $ZnFe_2O_4$ catalyst, biological activity.

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