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Design, Synthesis, and Biological Screening of *N*-Arylidene-4-(4-nitro-*1H*-benzo[*d*]imidazol-2-yl)aniline Derivatives as Antimycobacterial Agents

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SUMMARY. A series of novel N-Arylidene-4-(4-nitro-1H-benzo[d]imidazol-2-yl)aniline derivatives (**2a-e**) were designed and synthesized from 3-nitro-1,2diphenylenediamine and p-aminobenzoic acid followed by reacted with appropriate aromatic aldehydes to formed final compounds (Schiff's base). All the title compounds were characterized by FT-IR, 1H-NMR, and Mass spectroscopy. In vitro antimycobacterial activity by using the Microplate Alamar Blue dye Assay (MABA) technique against M. tuberculosis H37Rv method was performed. According to the findings of biological research, all of the compounds in the title displayed weak antimycobacterial action. The biological activity of the screened compounds and the functional group variation were related, and this was discussed.

RESUMEN. Se diseñó y sintetizó una serie de nuevos derivados de N-Arilideno-4-(4-nitro-1H-benzo[d]imidazol-2-il)anilina (**2a-e**) a partir de 3-nitro-1,2difenilendiamina y p-aminobenzoico seguido de reacción con aldehídos aromáticos apropiados para formar compuestos finales (base de Schiff). Todos los compuestos del título se caracterizaron por FT-IR, 1H-NMR y espectroscopia de masas. Se realizó actividad antimicobacteriana *in vitro* mediante el uso de la técnica Microplate Alamar Blue dye Assay (MABA) contra el método *M. tuberculosis* H37Rv. De acuerdo con los hallazgos de la investigación biológica, todos los compuestos del título mostraron una acción antimicobacteriana débil. Se relacionaron la actividad biológica de los compuestos seleccionados y la variación del grupo funcional, y esto se discutió.

KEY WORDS: antitubercular agent, benzimidazole, heterocyclic, synthesis.

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