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Synthesis and Anti-Tuberculosis Activity of Hexahydro-Benzo[D][1,3]Thiazin-5(6H)-One/Hexahydro-Benzo[D][1,3]Thiazin-5-ylideneamino)-Methanethiols

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SUMMARY. An efficient methodology has been developed for the synthesis of novel and structurally diverse hexahydro-benzo[d][1,3]thiazin-5-ones/hexahydro-benzo[d][1,3]thiazin-5-ylideneamino)methanethiols. The reaction has been carried out under reflux for up to 12 h and progress was monitored by TLC technique. The simple reaction conditions, metal free synthesis and easy workup are the attractive features of the reported synthetic methodology. The diversity of products with multiple functionalities synthesized could provide them a better place in biological science for evaluation against several diseases/disorders. Screening of the synthetic molecules (**IIIa-IIIk**) identified two compounds (**IIIe** and **IIIj**) with good inhibitory activity against M. tuberculosis H37Rv (32.0 and 5.0 μg/mL, respectively).

RESUMEN. Se ha desarrollado una metodología eficiente para la síntesis de hexahidro-benzo[d][1,3]tiazin-5-onas/hexahidro-benzo[d][1,3]tiazin-5-ilidenoamino)metanotioles nuevos y estructuralmente diversos. La reacción se llevó a cabo a reflujo durante un máximo de 12 h y el progreso se controló mediante la técnica de TLC. Las condiciones de reacción simples, la síntesis libre de metales y el fácil procesamiento son las características atractivas de la metodología sintética informada. La diversidad de productos con múltiples funcionalidades sintetizados podría brindarles un mejor lugar en la ciencia biológica para la evaluación contra varias enfermedades/trastornos. El cribado de las moléculas sintéticas (**IIIa-IIIk**) identificó dos compuestos (**IIIe** y **IIIj**) con buena actividad inhibidora contra *M. tuberculosis* H37Rv (32,0 y 5,0 μg/mL, respectivamente).

KEY WORDS: C-N and C-S bond formation, *M. tuberculosis*, Thiazin-5(6H)-one, Thiazin-aminothiols, PEGs,.

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