

Pyran Derivatives: Synthesis and Evaluation of their Antidepressant Effect

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SUMMARY. The reaction of cyclohexane-1,3-dione (or 5,5-dimethylcyclohexane-1,3-dione) with aromatic aldehyde and ethyl cyanoacetate gave two kinds of pyran derivatives (**1-6**) and their structures were characterized via IR, ¹H NMR, HRMS, and single crystal X-ray crystallography. The synthesized compounds **1-6** were investigated for antidepressant activity using the forced swimming test, in which compounds **3** and **6** showed significant reduction in the mice immobility indicating significant antidepressant effects.

RESUMEN. La reacción de ciclohexano-1,3-diona (o 5,5-dimetilciclohexano-1,3-diona) con aldehído aromático y cianoacetato de etilo dio dos tipos de derivados de pirano (**1-6**) y sus estructuras se caracterizaron mediante IR, ¹H RMN, HRMS y cristalografía de rayos X de cristal único. Los compuestos sintetizados **1-6** se investigaron para la actividad antidepresiva utilizando la prueba de natación forzada, en la que los compuestos **3** y **6** mostraron una reducción significativa en la inmovilidad de los ratones que indica efectos antidepresivos significativos.

KEY WORDS: Pyran, crystal structure, antidepressant effect

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