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Synthesis and Anti-Lung Cancer Activity of Novel 4-Aryl-1,4-Dihydropyridines

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SUMMARY. **Four novel 4-aryl-1,4-dihydropyridines (1-4) were synthesized via a one-pot three-component reaction by condensing aromatic aldehydes, ammonium acetate and ethyl acetoacetate in the presence of 4-(dimethylamino)pyridine (DMAP) as a highly efficient homogenous catalyst. The structures of the synthesized compounds have been deduced from IR, 1H NMR, HRMS, and single crystal X-ray crystallography. The experimental results of anti-cancer activity showed that compared with compounds 1 and 2, compounds 3 and 4 with two strong electron-withdrawing groups in the phenyl ring exhibited better anti-cancer activity.**

RESUMEN. Se sintetizaron cuatro nuevas 4-aril-1,4-dihidropiridinas (1-4) mediante una reacción de tres componentes en un solo recipiente condensando aldehídos aromáticos, acetato de amonio y acetoacetato de etilo en presencia de 4-(dimetilamino)piridina (DMAP) como catalizador homogéneo altamente eficiente. Las estructuras de los compuestos sintetizados se han deducido a partir de IR, 1H NMR, HRMS y cristalografía de rayos X de cristal único. Los resultados experimentales de la actividad anticancerosa mostraron que en comparación con los compuestos 1 y 2, los compuestos 3 y 4 con dos grupos electrógenos fuertes en el anillo de fenilo presentaban una mejor actividad anticancerosa.

KEY WORDS: anti-lung cancer, 4-aryl-1,4-dihydropyridines, X-ray.

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