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New 4-Arylpolyhydroquinoline Derivatives: Inhibiting Growth of Human Tumor Cells

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SUMMARY. Six novel 4-arylpolyhydroquinoline derivatives (**1-6**) were synthesized via a one-pot three-component reaction by condensing aromatic aldehydes, 1,1-dimethyl-3,5-cyclohexanedione, 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, ^{1}H NMR, HRMS, and single crystal X-ray crystallography. The experimental results of antitumor activity showed that compared with compounds **1-3**, compounds **4-6** with two strong electron-withdrawing groups in the phenyl ring exhibited better antitumor activity.

RESUMEN. Se sintetizaron seis nuevos derivados de 4-arilpolihidroquinolina (**1-6**) mediante una reacción de tres componentes de un solo recipiente condensando aldehídos aromáticos, 1,1-dimetil-3,5-ciclohexanodiona, 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, ^{1}H NMR de, HRMS y cristalografía de cristal único. Los resultados experimentales de la actividad antitumoral mostraron que en comparación con los compuestos **1-3**, los compuestos **4-6** con dos grupos fuertemente atrayentes de electrones en el anillo de fenilo presentaban una mejor actividad antitumoral.

KEY WORDS: antitumor activity, 4-arylpolyhydroquinoline, X-ray.

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