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Novel bis-Enone Derivatives: Preparation and Inhibiting Meningiomas Cell Growth

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SUMMARY. Four novel bis-enone derivatives (**1-4**) derivatives were designed, synthesized and characterized by IR, ^{1}H NMR, HRMS, and single crystal X-ray crystallography. These compounds were evaluated for their *in vitro* anti-tumor activity against four representative human meningiomas cells (SF767, IOMM-Lee, Ets-1 and MMP-1). Results reveal that compounds **3** and **4** with electron-withdrawing groups in the phenyl ring exhibit good growth inhibitory potency against the four meningiomas cells with MIC values of 25-40 μM, which is even better that of the reference drugs carboplatin and rituximab.

RESUMEN. Se diseñaron y sintetizaron cuatro nuevos derivados de bis-enona (**1-4**), que se caracterizaron por IR, RMN ^{1}H, HRMS y cristalografía de rayos X de cristal único. Estos compuestos se evaluaron para su actividad antitumoral *in vitro* contra cuatro células representativas de meningiomas humanos (SF767, IOMM-Lee, Ets-1 y MMP-1). Los resultados revelan que los compuestos **3** y **4** con grupos que atraen electrones en el anillo de fenilo presentan una buena potencia inhibidora del crecimiento frente a las cuatro células de meningiomas con valores de CIM de 25-40 μM, lo cual es incluso mejor que los fármacos de referencia carboplatino y rituximab.

KEY WORDS: bis-enone, crystal, meningiomas

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