*Latin American Journal of Pharmacy*
(formerly *Acta Farmacéutica Bonaerense)*
*Lat. Am. J. Pharm.* **37** (7): 1388-91 (2018)

Received: February 2, 2018
Revised version: May 22, 2018
Accepted: May 23, 2018

# A New Microporous Er(III) Metal-Organic Framework for 5-Fu Loading and Inhibiting Human Glioma Cells

Dan WANG

*Department of Neurosurgery, People's Hospital of Hunan Province, Changsha, Hunan, China*

***SUMMARY.*** **A new microporous metal-organic framework, {[Er(TATB)](DEF)$_2$(H$_2$O)}$_n$ (1, DEF = *N,N*-Diethylformamide), was synthesized under a solvothermal condition by using the 4,4′,4′′-s-triazine-2,4,6-triyl-tribenzoate (H$_3$TATB) as the organic bridging ligand. The efficient encapsulation of an anticancer drug 5-fluorouracil (5-Fu) on the desolvated 1 (1a) has been studied by grand canonical Monte Carlo (GCMC) simulation. In addition, *in vitro* anticancer activity of compounds 1 and 5-Fu loaded 1a have also been evaluated using MTT assay.**

*RESUMEN.* Un nuevo marco microporoso metalorgánico, {[Er (TATB)] (DEF)$_2$(H$_2$O)}$_n$ (1, DEF = *N,N*-dietilformamida), se sintetizó en condiciones solvotermales utilizando 4,4',4''-s-triazin-2,4,6-triil-tribenzoato (H$_3$TATB) como el ligando puente orgánico. La encapsulación eficaz de un fármaco anticancerígeno 5-fluorouracilo (5-Fu) en el 1 desolvatado (1a) se ha estudiado mediante la simulación de Grand Carlo Canonical (GCMC). Además, la actividad anticancerosa *in vitro* de los compuestos 1 y 5-Fu cargado 1a también se han evaluado usando el ensayo MTT.

*KEY WORDS:* glioma, *in vitro*, metal-organic framework.

* Author to whom correspondence should be addressed. *E-mail:* dan_wang666@126.com



ISSN 0326 2383 (printed ed.)
ISSN 2362-3853 (on line ed.)