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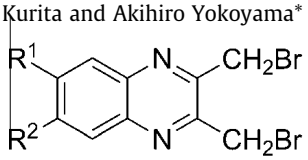
Regular Articles

Synthesis and antimicrobial activity of 2,3-bis(bromomethyl)quinoxaline derivatives **pp 1–5**

Hisato Ishikawa, Takayuki Sugiyama, Keisuke Kurita and Akihiro Yokoyama*



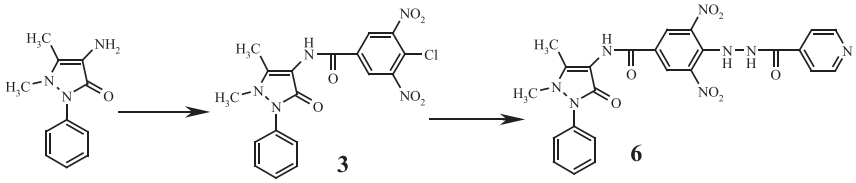
1a-l

a: $R^1 = R^2 = Me$ **g**: $R^1 = CF_3$, $R^2 = H$
b: $R^1 = CN$, $R^2 = H$ **h**: $R^1 = NO_2$, $R^2 = H$
c: $R^1 = F$, $R^2 = H$ **i**: $R^1 = CO_2H$, $R^2 = H$
d: $R^1 = Cl$, $R^2 = H$ **j**: $R^1 = CO_2Me$, $R^2 = H$
e: $R^1 = Br$, $R^2 = H$ **k**: $R^1 = CO_2Et$, $R^2 = H$
f: $R^1 = OMe$, $R^2 = H$ **l**: $R^1 = OH$, $R^2 = H$

Twelve 2,3-bis(bromomethyl)quinoxaline derivatives were synthesized and screened for antibacterial and antifungal activities.

Chemical and biological evaluation of some new antipyrine derivatives with particular properties **pp 6–12**

C. Remes, A. Paun, I. Zarafu, M. Tudose, M.T. Caproiu, G. Ionita, C. Bleotu, L. Matei and P. Ionita*

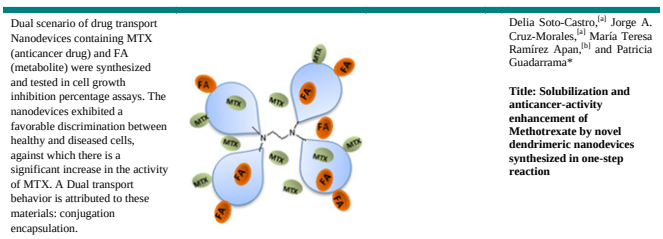


3 **6**

Solubilization and anticancer-activity enhancement of Methotrexate by novel dendrimeric nanodevices synthesized in one-step reaction **pp 13–21**

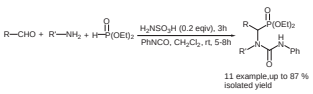
Delia Soto-Castro, Jorge A. Cruz-Morales, María Teresa Ramírez Apan and Patricia Guadarrama*

Dual scenario of drug transport Nanodevices containing MTX (anticancer drug) and FA (metabolite) were synthesized and tested in cell growth inhibition percentage assays. The nanodevices exhibited a favorable discrimination between healthy and diseased cells, against which there is a significant increase in the activity of MTX. A Dual transport behavior is attributed to these materials: conjugation and encapsulation.

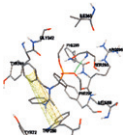


Synthesis and inhibitory activity of ureidophosphonates, against acetylcholinesterase: Pharmacological assay and molecular modeling **pp 22–27**

Babak Kaboudin,* Marzban Arefi, Saeed Emadi* and Vahid Sheikh-Hasani

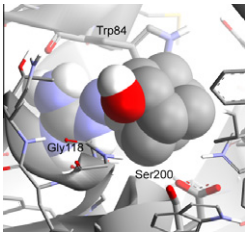


A novel method has been developed for the synthesis of 1-ureidophosphonates through a three components condensation of aldehyde with amine and diethylphosphite in the presence of sulfanilic acid as catalyst followed by subsequent reaction of the product with isocyanate. The compounds were evaluated for their acetylcholinesterase (AChE) inhibition potency through IC_{50} determination.



Adamantane-substituted guanylhydrazones: Novel inhibitors of butyrylcholinesterase **pp 28–34**

Marina Šekutor, Kata Mlinarić-Majerski,* Tomica Hrenar, Srđanka Tomić and Ines Primožič*



A series of novel adamantane-substituted guanylhydrazones was synthesized and used in a study of inhibitory potential toward butyrylcholinesterase. The inhibition constants were determined and docking studies performed to examine the behavior of the inhibitors within the active site regions of the enzyme. The strongest interactions observed in complexes obtained by docking studies were numerous H-bonds of the guanidine group.

*Corresponding author