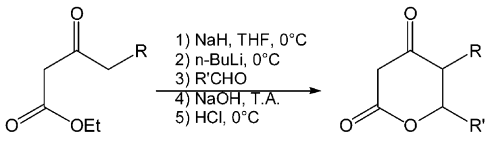
ELSEVIER

Bioorganic & Medicinal Chemistry Vol. 12, No. 5, 2004

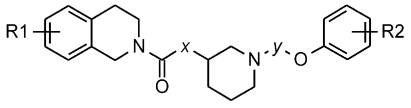
Bioorganic & Medicinal Chemistry

Contents

ARTICLES

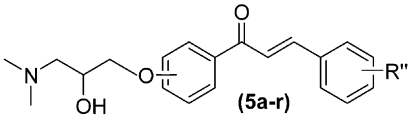


R = R' = Me, 48%, DL_{90} = 96,95 ppm
R = H; R' = Ph, 61%, DL_{90} = 39,40 ppm
R = H; R' = 2,3-$(OMe)_2C_6H_3$, 69%, DL_{90} = 54,92 ppm
R = H; R' = $CH{=}CHCH_3$, 80%, DL_{90} = 30,73 ppm

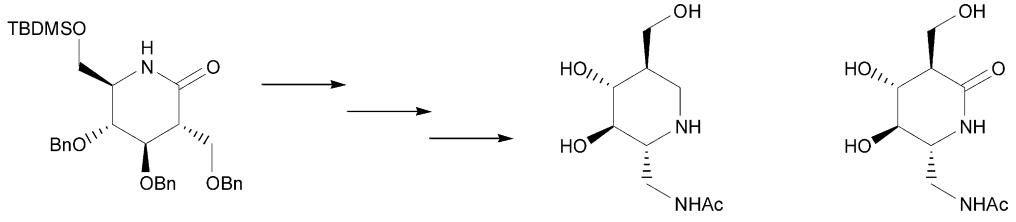


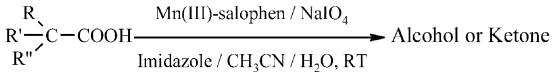
I

A series of *N*-acyl-1,2,3,4-tetrahydroisoquinoline derivatives (formula I) were synthesized and evaluated for their bradycardic activities in isolated guinea pig right atria and in urethane-anesthetized rats.

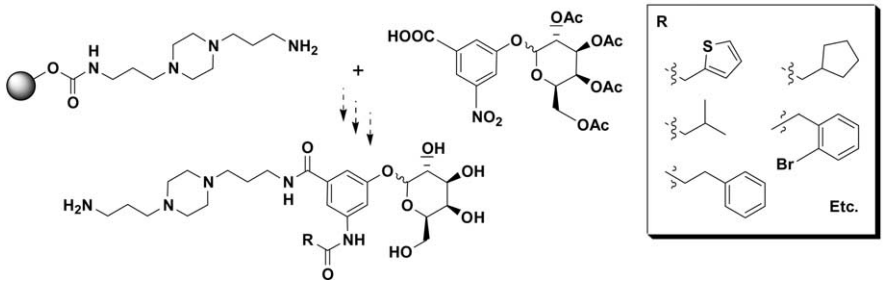


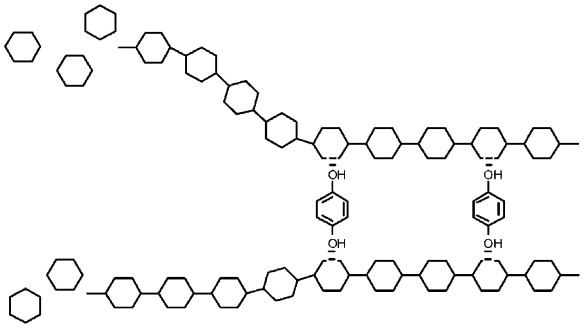
A series of chalcone based aryloxypropanolamines (**5a**–**r**) were synthesized and evaluated for antihyperglycemic activity. Among them compounds **5a**, **g**, **m**, **o**, **p** and **r** showed significant reduction in blood glucose levels in both sucrose loaded (SLM) and streptozotocin (STZ) induced diabetic animal models.



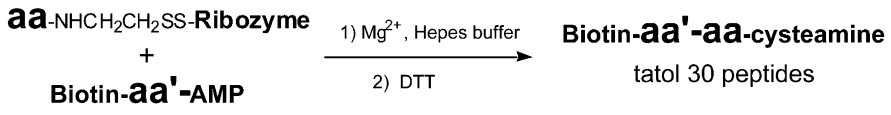


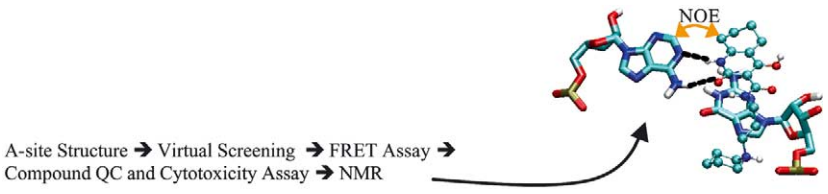
Oxidative decarboxylation of carboxylic acids catalyzed by Manganese (III) salophen complex to the corresponding carbonyl compounds with sodium periodate was investigated.

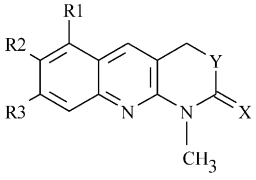




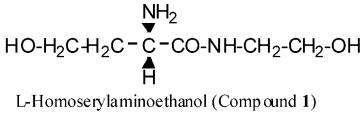
Hydroquinone was found to alter agglutination of *Streptococcus mutans* induced by sucrose. The newly formed agglutination product produced by hydroquinone does not kill this cariogenic bacterium and the formation is reversible. The agglutination altering activity of hydroquinone seems to be specific for strains of *S. mutans*. As a result, hydroquinone inhibits sucrose-induced adherence of *S. mutans*.



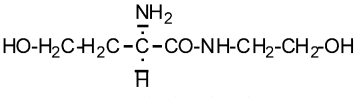




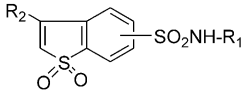
1. X= H,H Y= O, R2-R3= $O(CH_2)_2O$
2. X= O Y= O, R2-R3= $O(CH_2)_2O$
3. X= O Y= N-CH_3, R2-R3= $O(CH_2)_2O$
4. X= H,H Y= N-CH_3, R2-R3= $O(CH_2)_2O$
5. X= H,H Y= O, R1-R2= $O(CH_2)_2O$
6. X=O Y= O, R1-R2= $O(CH_2)_2O$
7. X=O, Y= NCH_3, R1-R2= $O(CH_2)_2O$
8. X= H,H Y= NCH_3, R1-R2= $O(CH_2)_2O$



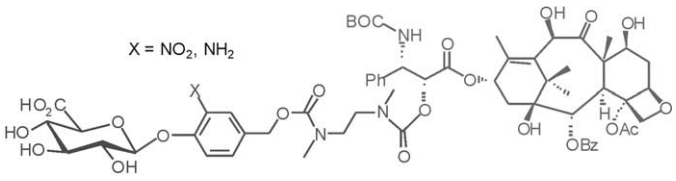
L-Homoserylaminoethanol (Compound **1**)



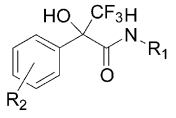
D-Homoserylaminoethanol

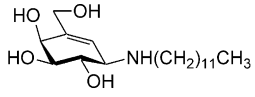


Several structural modifications were analysed on benzo[*b*]thiophenesulphonamide 1,1-dioxide system to find new potential antineoplastic compounds. Lipophilic substituents on the sulphonamide group significantly increased cytoxicity against a panel of tumour cell lines. The most active compound showing GI50 values of 1–9 nM against HT-29, CCRF-CEM, K-562 and MEL-AC cells and of 200 nM against HTB-54 cells was the *N*-4-methoxyphenyl derivative **15**.

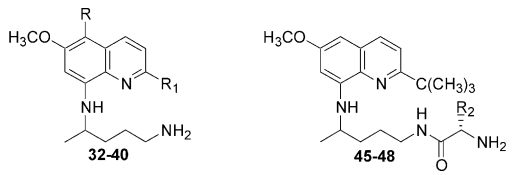


The synthesis and biological evaluation of the first two enzymatically activated prodrugs of Taxotere® are reported. They fulfil all the requirements for an ADEPT or a PMT strategy in cancer chemotherapy.

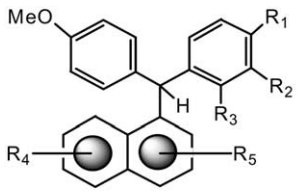




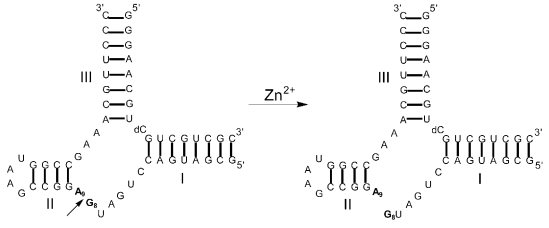
IC_{50} 0.01 μM
β-Galactosidase (Bovine liver)

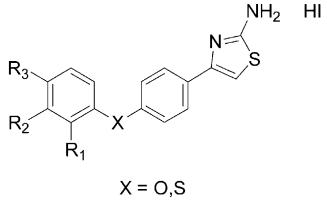


Synthesis and in vivo antimalarial activities of ring-substituted 8-quinolinamines and some of their L-amino acid conjugates against drug-sensitive and multi-drug-resistant strains are described.



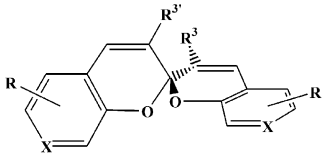
R_4 / R_5 Optionally reduced ring





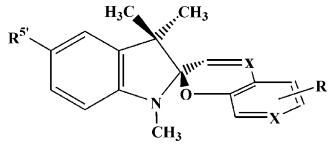
X = O,S

The present study deals with various, structurally closely related types of the *spiro*-compounds: spirobipyridopyran (**1**), spirobinaphthopyrans (**2** and **3**) indolinospirobenzopyrans (**4**–**10**), indolinospironaphthopyrans (**11**–**14**), indolinospiropyridopyran (**15**) and indolinospironaphtho-1,4-oxazines (**16**–**18**) and their cytostatic and antiviral activities.



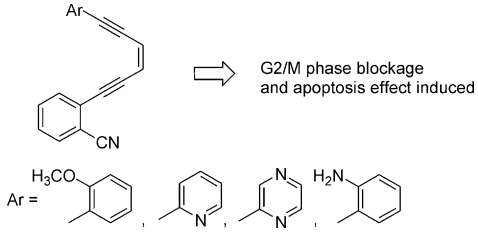
1-3

$R^{3'}$/ R^3 = $(CH_2)_3$, C_6H_5/C_6H_5
R = CH_3, benzo
X = CH, N

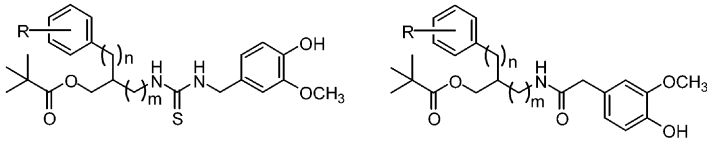


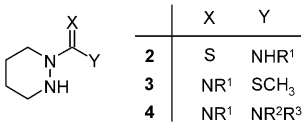
4-18

$R^{5'}$ = H, NO_2, Cl
R = NO_2, OCH_3, benzo
X = CH, N



Several 2-(6-aryl-3-hexen-1,5-diynyl)benzonitriles showed growth inhibition effects on a full panel of sixty human cancer cell lines in low micro-concentrations together with a significant G2/M arrest in the cell growth cycle and an apoptotic progress induction.

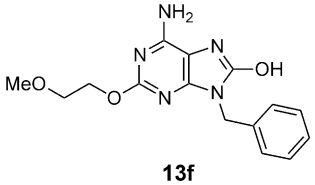




	X	Y
2	S	NHR^1
3	NR^1	SCH_3
4	NR^1	NR^2R^3

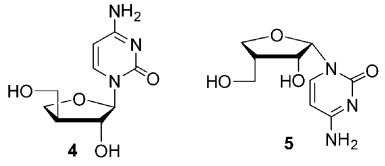
R^1 - R^3: alkyl, aryl

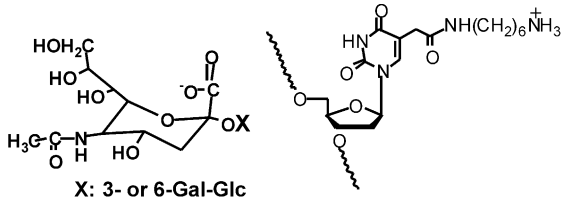
A series of variously substituted hexahydropyridazine-1-carbothioamides **2**, -carbothioimidic acid methyl ester hydroiodides **3** and -carboximidamides hydroiodides **4** was synthesized and dose-dependently evaluated as potential iNOS inhibitors with insulin-producing RIN-5AH cells.



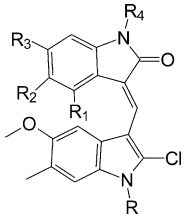
13f

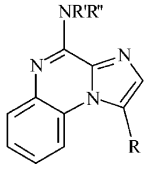
Compound **13f** exhibited a potent IFN inducing activity both in vitro and in vivo. Compound **13f** induced IFN from the dosage of 0.03 mg/kg by oral administration in mouse, and showed an excellent bioavailability (F = 40%).





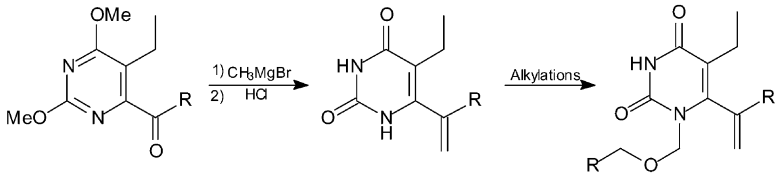
Sialyllactose-binding DNA aptamer was obtained from a library of modified DNA containing thymidine analogue bearing a positively charged amino group, which could enhance the binding with sialyllactose that contains a negatively charged carboxyl group.

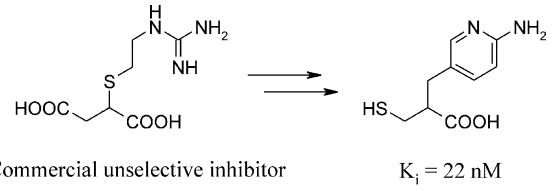


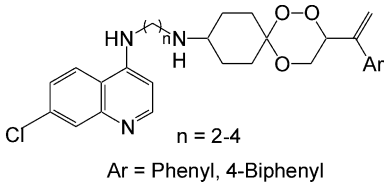


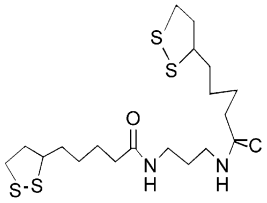
7: NH_2 **12**: C_6H_5NH
8: CH_3NH **13**: $C_6H_5(CH_2)_2NH$
9: $(CH_3)_2N$ **14**: $C_6H_5CH_2NH$
10: C_4H_8N **15**: $CH_3O(CH_2)_2NH$
11: $C_5H_{10}N$ **18**: piperazinyl

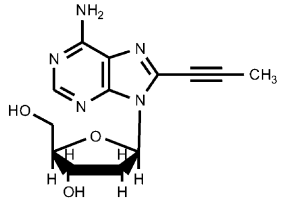
New imidazo[1,2-*a*]quinoxaline derivatives have been synthesised by condensation of an appropriate α-aminoalcohol with a quinoxaline followed by intramolecular cyclisation and nucleophilic substitutions. Several of them revealed powerful inhibition properties of PDE4.

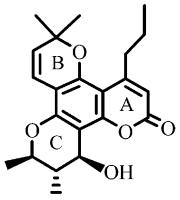






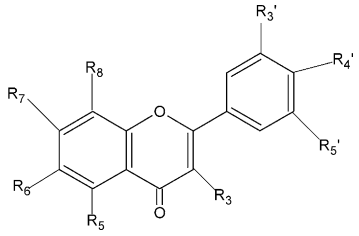




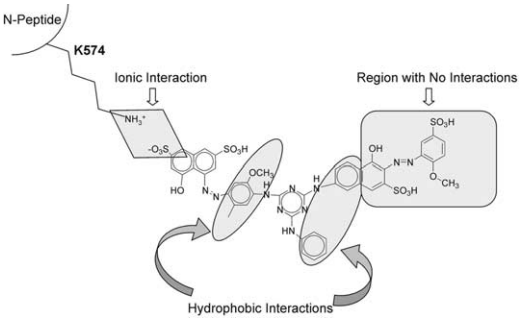


(+)-Calanolide A

Naturally occurring anti-HIV-1 agent (+)-calanolide A was found to be active against all of the strains of *Mycobacterium tuberculosis* tested, including those resistant to the standard antitubercular drugs.



QSAR studies on 104 flavonoids derivatives as p56lck protein tyrosin kinase inhibitors were performed using hydration energy and hydrophobic parameters. The obtained results demonstrated in detail, which specify that hydration energy and hydrophobic parameters of the compounds play a significant role in their binding. The significance of presence and absence of substituents on particular positions is successfully explored with the help of indicator parameters. The results are critically discussed on the basis of multiple linear regression parameters.



OTHER CONTENTS

*Corresponding author

Supplementary data available via ScienceDirect

COVER

2004: Overlaps of the eight known aldolase alpha-beta barrels in 2-Deoxyribose-5-phosphate aldolase (DERA). Ribbon model for DERA is shown in green, with key Lys residues capable of Schiff base formation highlighted in stick figure. Reactive Lys167 is shown in yellow. DeSantis, G.; Liu, J.; Clark, D. P.; Heine, A.; Wilson, I. A.; and Wong, C.-H. *Bioorganic & Medical Chemistry* **2003**, *11*, 43–52.

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