Bioorganic & Medicinal Chemistry 17 (2009) 429–443

Contents lists available at ScienceDirect

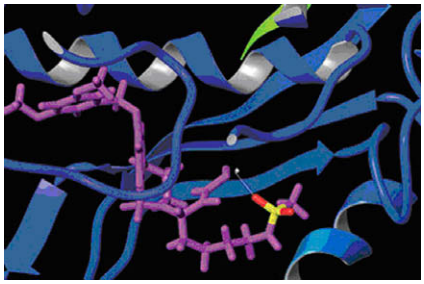
Bioorganic & Medicinal Chemistry

journal homepage: www.elsevier.com/locate/bmc

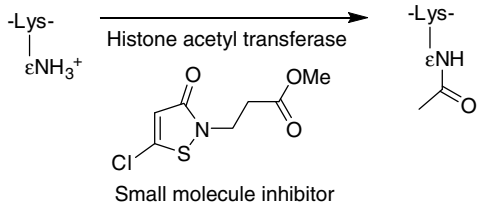
Bioorganic & Medicinal Chemistry Vol. 17, No. 2, 2009

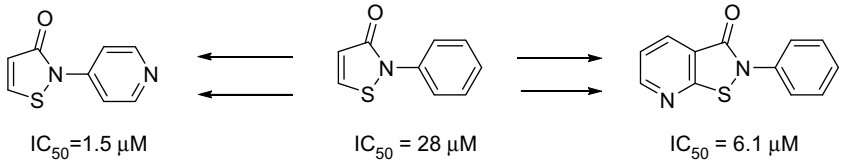
Contents

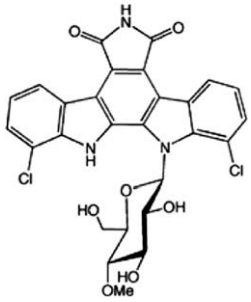
REVIEW

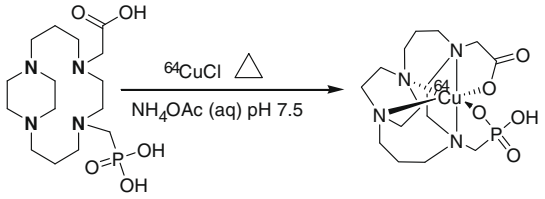


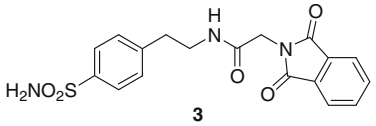
ARTICLES





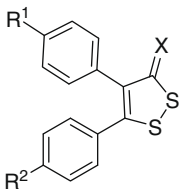




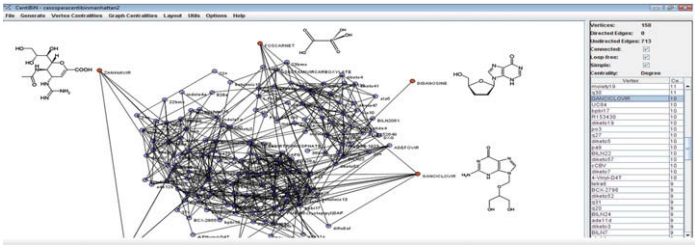


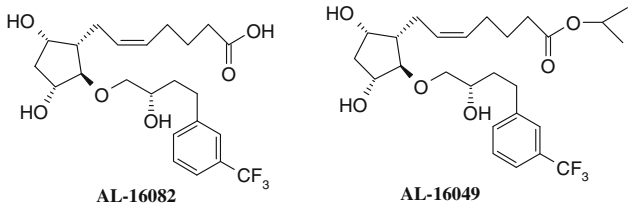
3

K_I CA I = 4.2 μM
K_I CA II = 0.6 μM
K_I CA IX = 0.3 μM

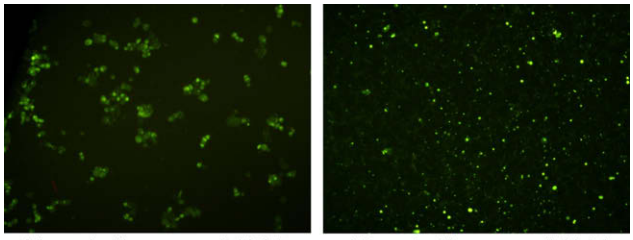


X= O. S





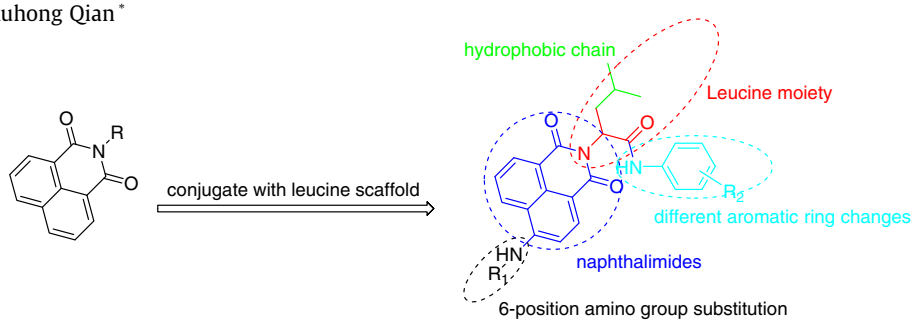
Novel 13-oxa prostaglandin analogs were designed, synthesized and evaluated for their antiglaucoma activities. **AL-16082** was the most potent prostaglandin FP agonist in vitro (EC_{50}=1. 9nM). Its pro-drug **AL-16049** significantly lowered intraocular pressure in the ocular hypertensive monkey eyes by 30% with low side-effects.

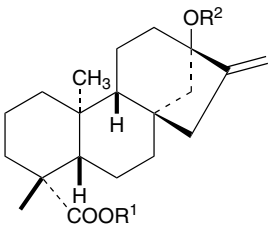


Micrographs of breast cancer cells labeled by TO-COOH.

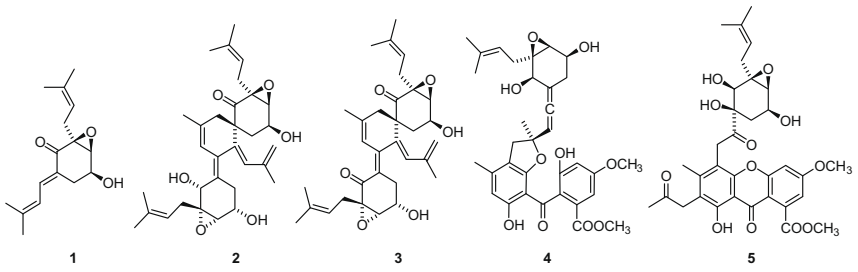
Micrographs of breast cancer cells labeled by TO-COOH-CTS.

A series of Thiazole Orange (TO) derivatives were synthesized and modified. TO derivatives modified by folic acid were also studied and their preliminary labeling breast cancer cells was carried out.

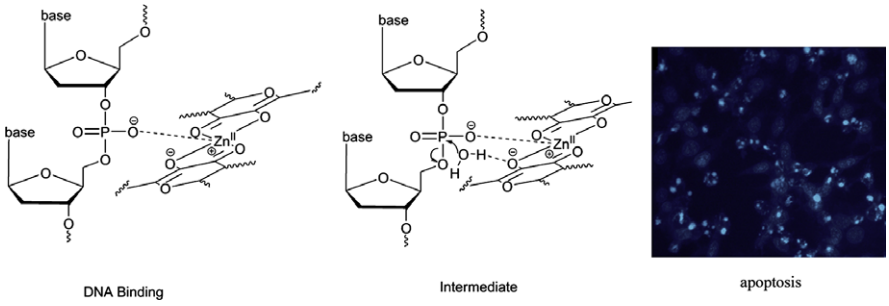


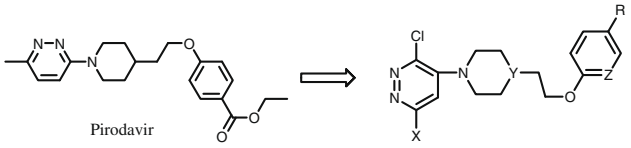


1: stevioside R^1 = Glc, R^2 = Glc^2-Glc

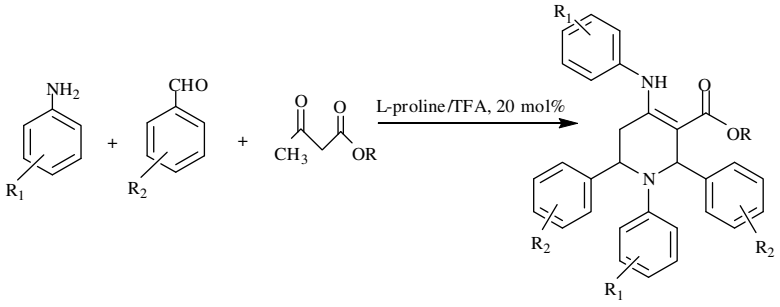


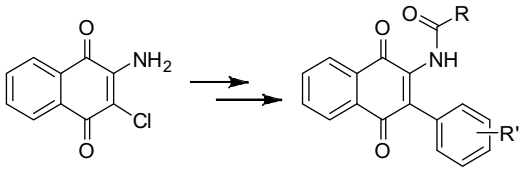
Pestalofones A–E (**1**–**5**), five new cyclohexanone derivatives, have been isolated from the plant endophyte *Pestalotiopsis fici* and evaluated for their anti-HIV-1 and antifungal activities.

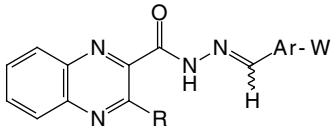




A series of novel chloropyridazine derivatives were synthesized as potent human rhinovirus capsid-binding inhibitors. The anti-HRV activity of them was evaluated in vitro by using cell culture cytopathic effect assays.

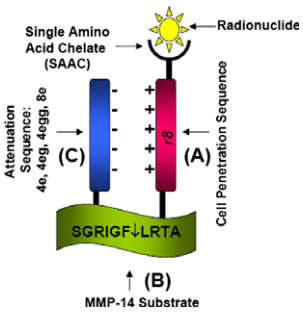


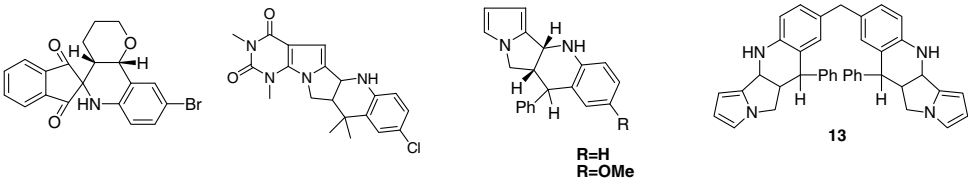


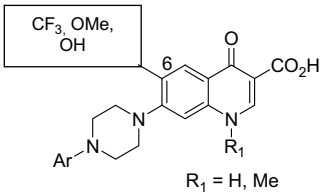


In this paper, we report the structural design, synthesis, trypanocidal activity and docking studies of novel quinoxaline-*N*-acylhydrazone (NAH) derivatives, planned as cruzain inhibitors candidates.

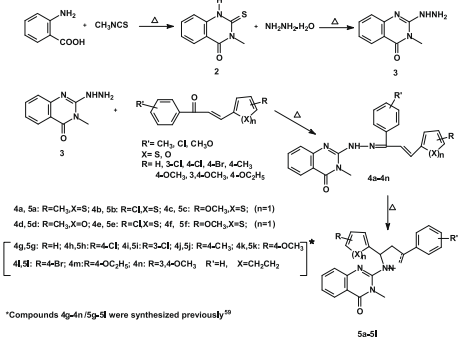
Design strategy combining computational chemistry, parallel synthesis and protease cleavage studies has yielded a promising MMP-14 sensitive probe for SPECT imaging.

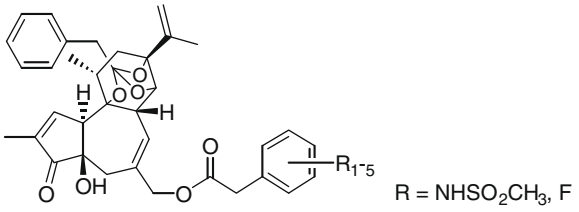


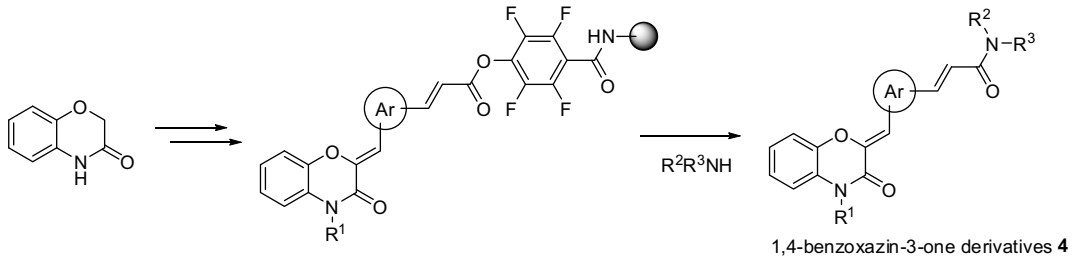




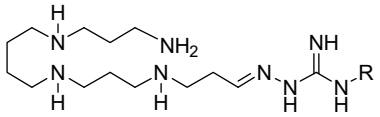
Groups with different chemical–physical properties have been explored to further investigate the role of the C-6 substituent in the anti-HIV activity/cytotoxicity of the quinolone derivatives.



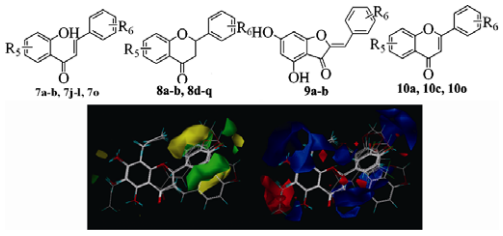




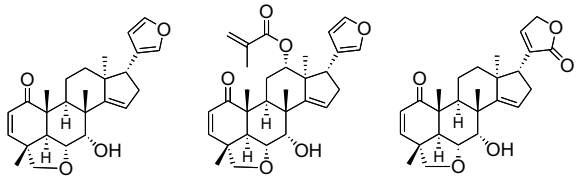
1,4-benzoxazin-3-one derivatives **4**

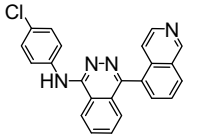


R= H, or alkyl groups

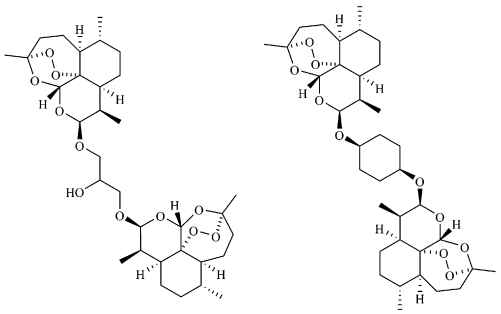


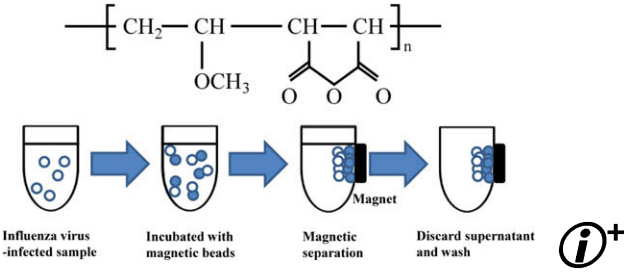
A series of flavonoid derivatives were designed, synthesized as vasorelaxant agents. Some were found to possess potent vasorelaxant activity. CoMFA analysis was carried out, and a statistically reliable QSAR model (r^2=0. 872 and q^2=0. 496) was established.

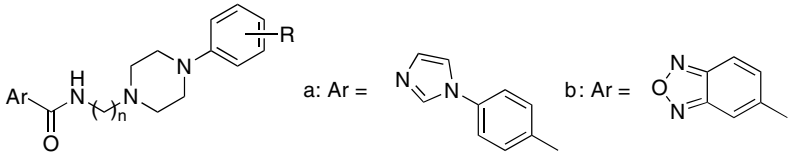




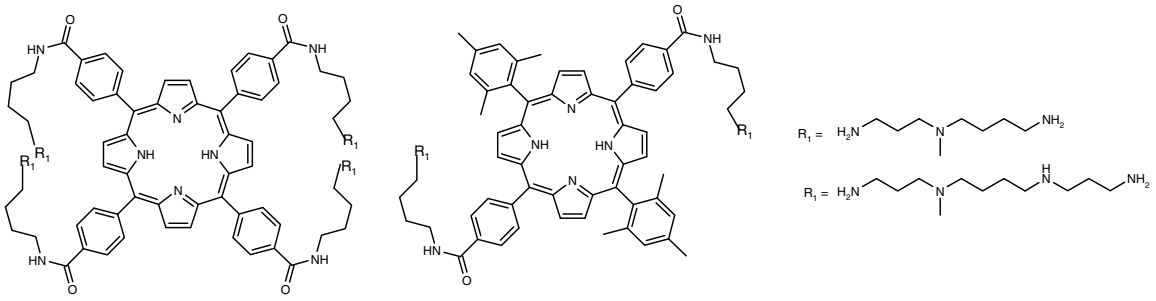
57 IM-094882
VEGFR-2 IC_{50} (enz.) = 48 nM
VEGFR-2 ED_{50} (cell) = 10 nM

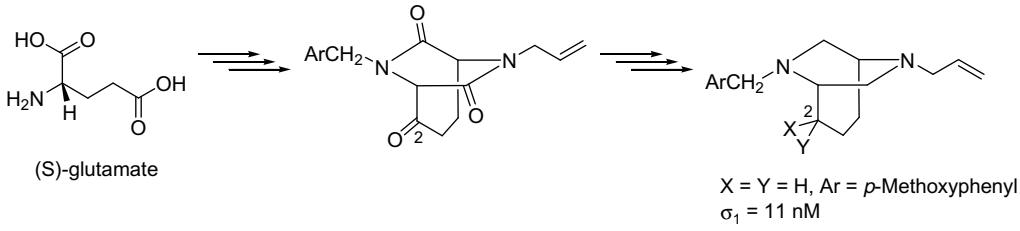


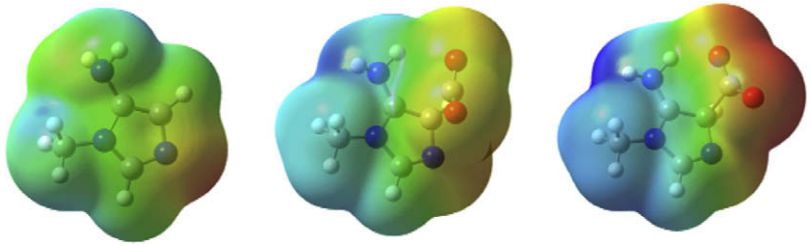


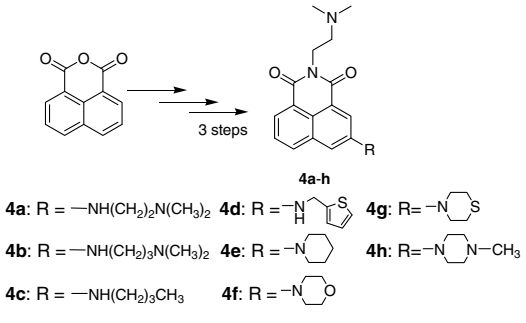


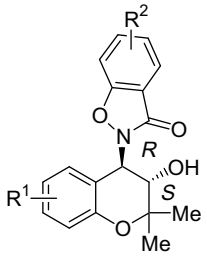
n = 3,4
R= 2-OCH_3; 3-OCH_3; 2-OCH_2CH_2F; 3-OCH_2CH_2F; 3-F,5-OCH_3



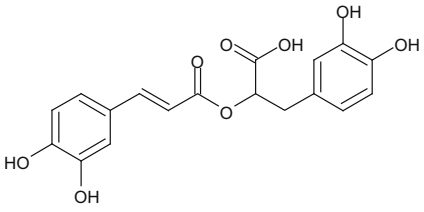






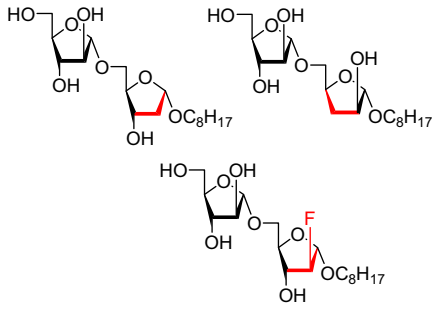


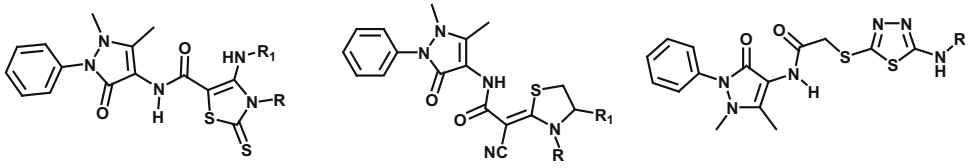
A novel series of benzopyran derivatives were synthesized and evaluated as K_{ATP} channel openers. The lead compound is a potent and selective K_{ATP} channel opener in vitro. In two anesthetized rat models of myogenic bladder overactivity, it is found to inhibit spontaneous bladder contractions.



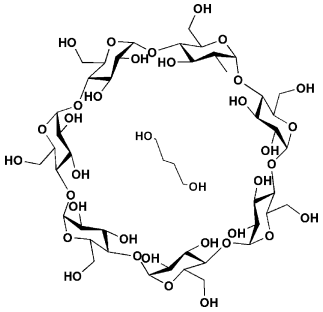
Rosmarinic acid

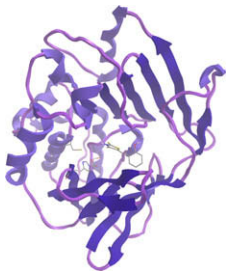
Acetylcholinesterase guided fractionation of *Melissa officinalis* L. was carried out and the contents of the most potent fraction were identified as *cis*- and *trans*-rosmarinic acids and a derivative of rosmarinic acid.

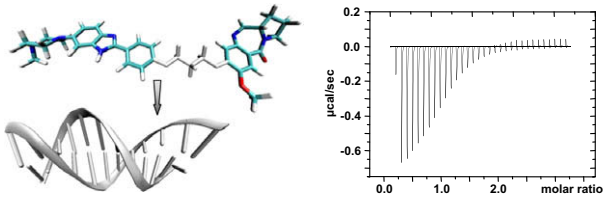




The synthesis of two groups of structure hybrids comprising basically the antipyrine moiety attached to either polysubstituted thiazole or 2,5-disubstituted-1,3,4-thiadiazole counterparts through various linkages is described. Twelve compounds were evaluated for their anti-inflammatory activity, ulcerogenic effects and acute toxicity. The analgesic activity of the same compounds was also evaluated. Additionally, their in vitro antimicrobial activity was evaluated. In general, compounds belonging to the thiazolylantipyrine series exhibited better biological activities than their thiadiazolyl structure variants. Some compounds displayed remarkable anti-inflammatory and analgesic profiles with a fast onset of action together with a super GI safety profile and safety margin. Meanwhile, some compounds exhibited broad spectrum antimicrobial activity. Compound **10** could be identified as the most biologically active member within this study with an interesting dual anti-inflammatory analgesic and antibacterial profile.







OTHER CONTENTS

*Corresponding author
ⓘ+ Supplementary data available via ScienceDirect

COVER

Histone acetylation plays an important role in the regulation of gene transcription. Chromatin with a low histone acetylation level is condensed due to charge-charge interactions between the positively charged histones and the negatively charged DNA. Acetylation reduces the charge-charge interactions between the histones and the DNA and results in relaxation of the chromatin and activation of gene transcription. Recent discoveries indicate that multiple subtypes of histone acetyl transferases exist. Small molecule inhibitors of histone acetyl transferases provide tools for pharmacological studies and ultimately provide starting points for drug discovery. This issue reports studies by Dekker *et al.* and Gorsuch *et al.* on histone acetyl transferase inhibitors with an isothiazolones core structure. [Dekker, F. J.; Ghizzoni, M.; van der Meer, N.; Wisastra, R.; Haisma, H. J. *Bioorg. Med. Chem.* **2009,** *17*, 459; Gorsuch, S.; Bavetsias, V.; Rowlands, M. G.; Aherne, G. W.; Workman, P.; Jarman, M.; McDonald, E. *Bioorg. Med. Chem.* **2009, *17,*** 466.]

Indexed/Abstracted in: Beilstein, Biochemistry & Biophysics Citation Index, CANCERLIT, Chemical Abstracts, Chemistry Citation Index, Current Awareness in Biological Sciences/BIOBASE, Current Contents: Life Sciences, EMBASE/Excerpta Medica, MEDLINE, PASCAL, Research Alert, Science Citation Index, SciSearch, TOXFILE

ELSEVIER

ISSN 0968-0896