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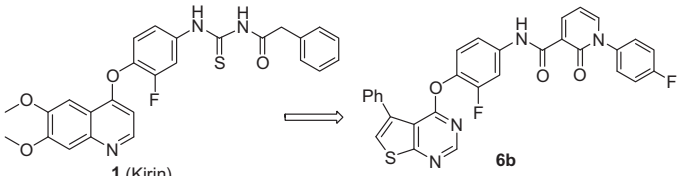
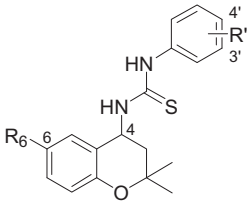
Contents

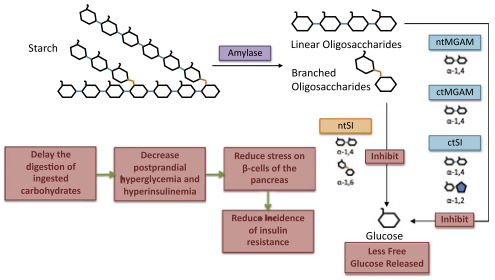
REGULAR ARTICLES

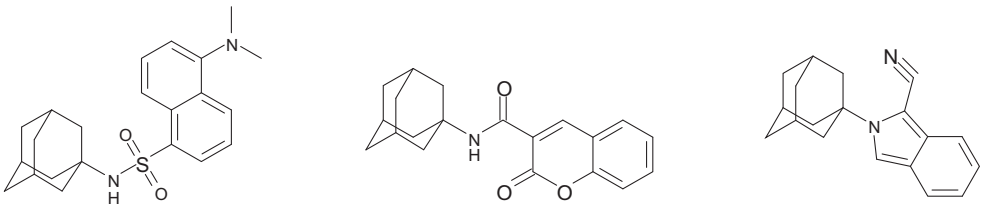


A series of thieno[2,3-*d*]pyrimidines and furo[2,3-*d*]pyrimidines were synthesized and evaluated for the c-Met inhibition. Thieno[2,3-*d*]pyrimidine **6b** stood out as the most potent showing an IC_{50} of 35.7 nM. This compound displayed high inhibitory effect on cell proliferation in BaF3-TPR-Met cells and showed high selectivity for c-Met family against other 14 tested kinases. However, compound **6b** was found ineffective in the c-Met-dependent U-87MG human gliobastoma xenograft model that may be relevant to its poor PK profile.

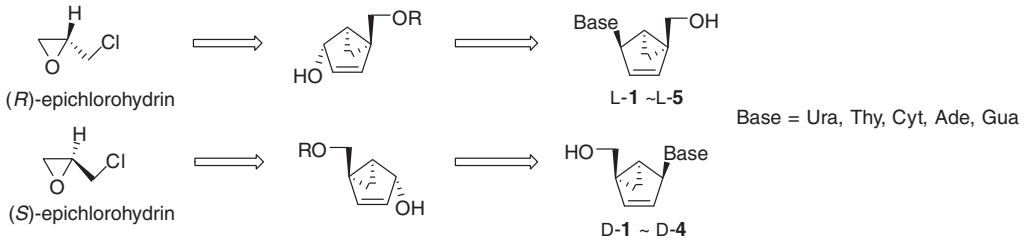


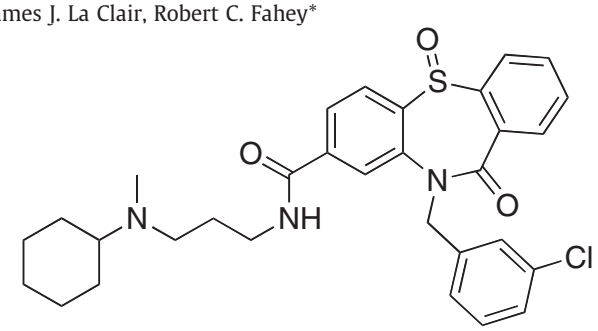
-R_6 = -NH_2; -NHCHO; -$NHCOCH_3$; -$NHCOOC(CH_3)_3$
-R' = 3' or 4'-Cl or -CN

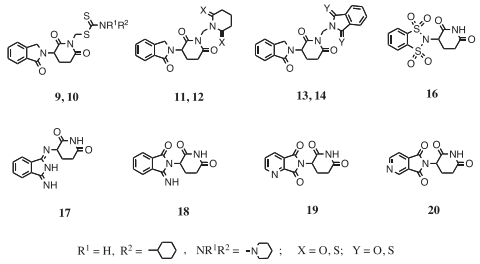




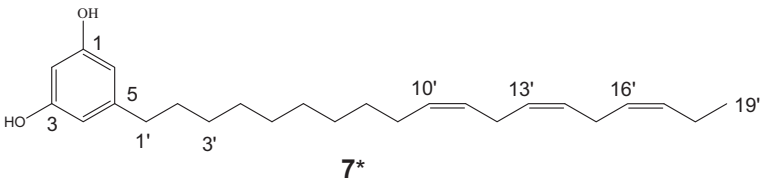
A series of fluorescent heterocyclic adamantine derivatives were found to possess a high degree of multifunctional neuroprotective activity.



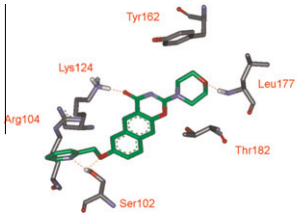


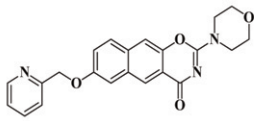


Eleven N-substituted 3-(phthalimidin-2-yl)-2,6-dioxopiperidines and 3-substituted 2,6-dioxopiperidines were designed, synthesized and assessed for TNF-α lowering activity.



7*

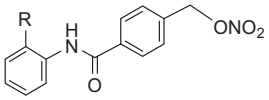


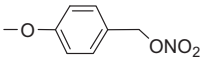


18

DNA-PK IC_{50} = 0.096 μM

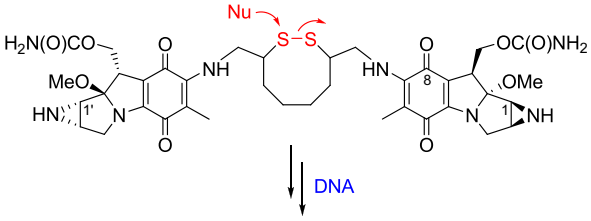
Twelve new *O*-substituted-morpholino-naphtho-oxazines were synthesised, characterised and used for DNA-PK IC_{50} evaluation. The compound **18** is the most potent inhibitor. Docking of compound **18** within the binding pocket and SAR analyses of the poses support the observed activity.



2a: R = 

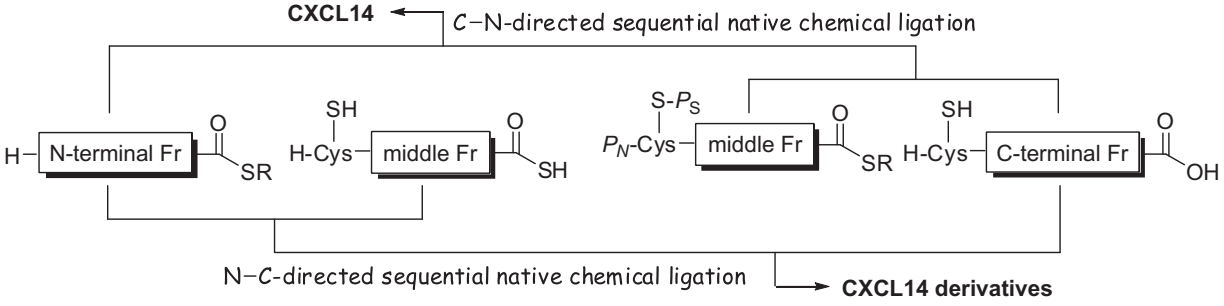
8a: R = H

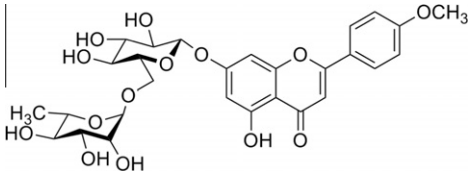
New compounds possessing a nitrooxymethylphenyl group were designed. Compounds **2a** and **8a** disrupted the formation of microtubules as did vincristine. The intraperitoneal administration (at 80 mg/kg) of **8a** reduced the growth of HCT116 xenografts in nude mice to *T*/*C* 55%.



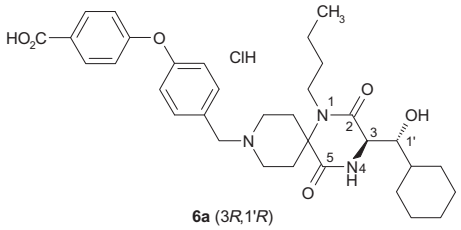
DNA ISC adducts

A mitomycin dimer containing an eight-membered cyclic disulfide underwent fast activation and was found to be highly efficient in generating DNA interstrand cross-link (ISC) adducts under nucleophilic activation conditions.



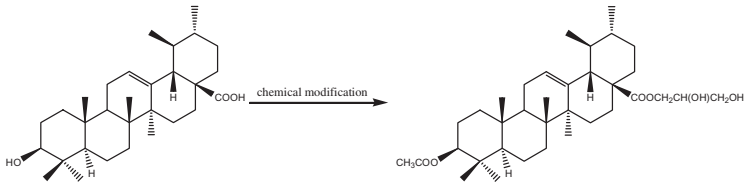


Linarin is a natural acetylcholinesterase inhibitor and the present study explored the neuroprotective effects against $A\beta_{25-35}$-induced neurotoxicity in cultured rat pheochromocytoma cells and the possible mechanisms involved.



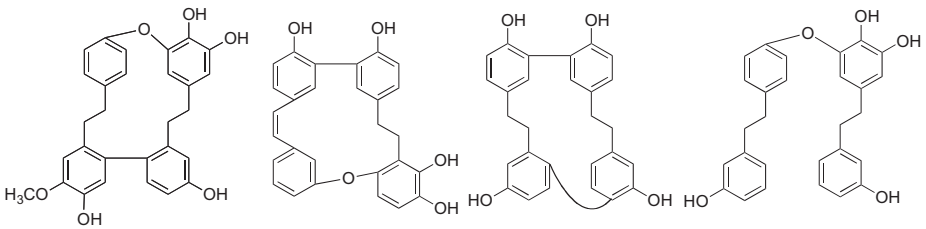
6a (3*R*,1'*R*)

Discovery of a new orally available CCR5 antagonist.

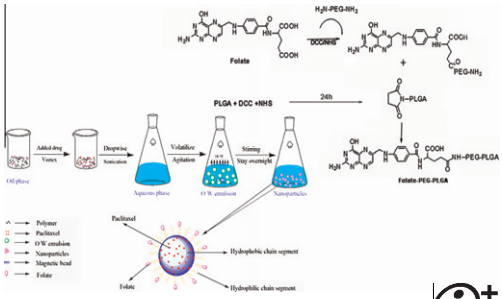


UA (Ursolic Acid) **UA-1a** (UA derivative)

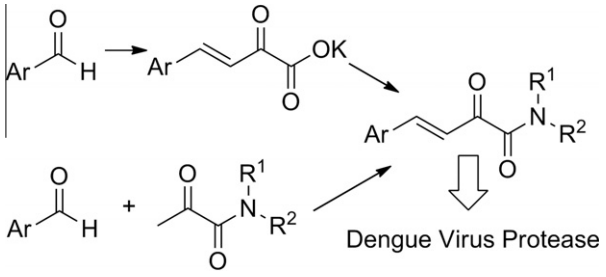
A series of ursolic acid derivatives (three novel compounds **UA-1a**, **UA-1b** and **UA-2**) by modification at the C-3 or/and C-28 positions were synthesized and their cytotoxicities against human cancer cell lines HepG2, HT-29, and BGC-823 were evaluated by MTT assay. Among the prepared derivatives, [3β-acetoxy-urs-12-en-28-oyl]-1-monoglyceride (**UA-1a**) exhibited the highest antiproliferation activity. Its anti tumor activity against human gastric carcinoma BGC-823 was reported both in vitro and in vivo. The results indicated that **UA-1a** triggered the death of BGC-823 cells by inducing apoptosis via the mitochondria pathway.

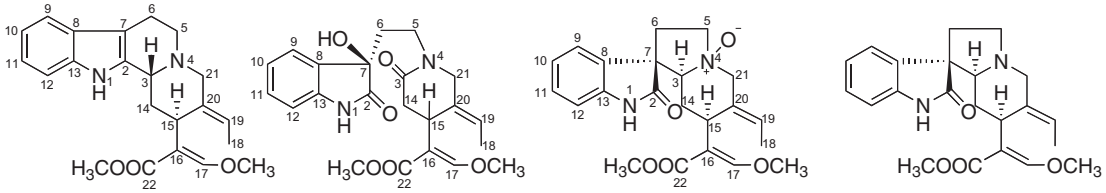


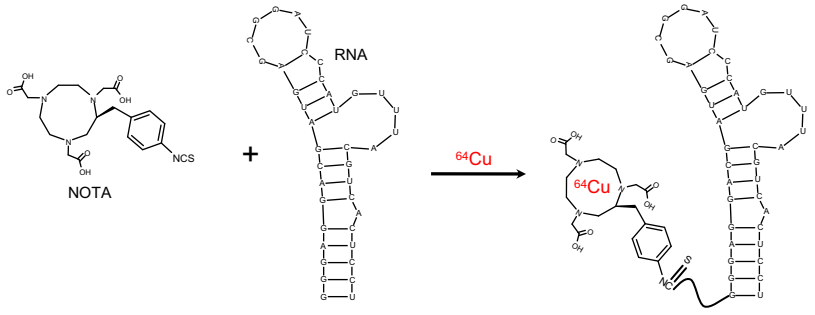
plagiochin A isoplagiochin B isoplagiochin D perrottetin F

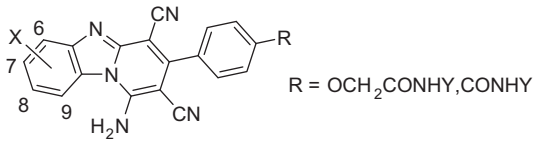


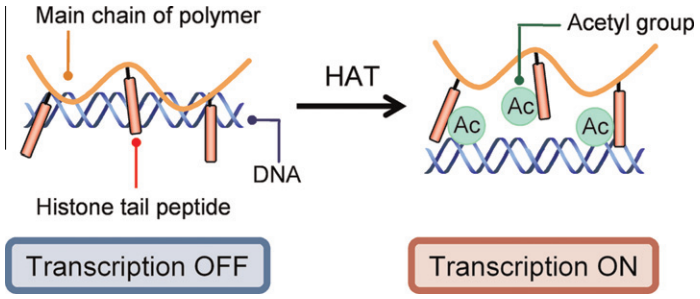
Folate (FOL) mediated poly-lactide-co-glycolide–polyethylene glycol nanoparticles (FOL–PEG–PLGA NPs) bearing paclitaxel (PTX) were prepared for the effective delivery of drug to endometrial carcinoma. The FOL-targeted PTX NPs showed a greater cytotoxicity against HEC-1A cancer cells in vitro and in vivo. These results suggest that the novel FOL–PEG–PLGA NPs could be a potential delivery system with excellent therapeutic efficacy for targeting the drugs to cancer cells.

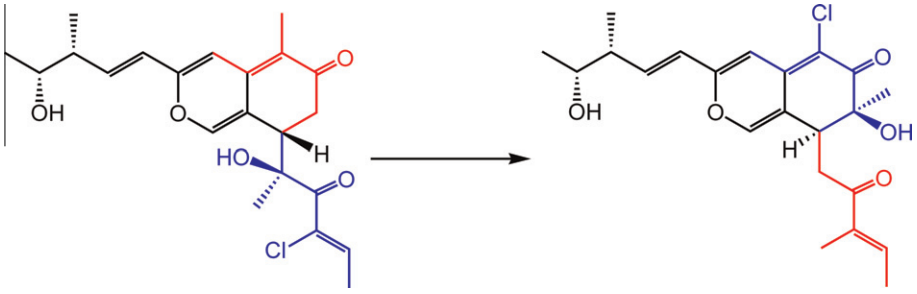


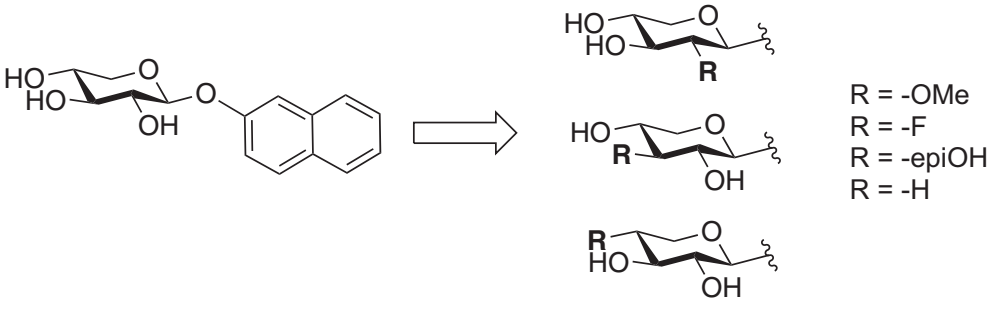


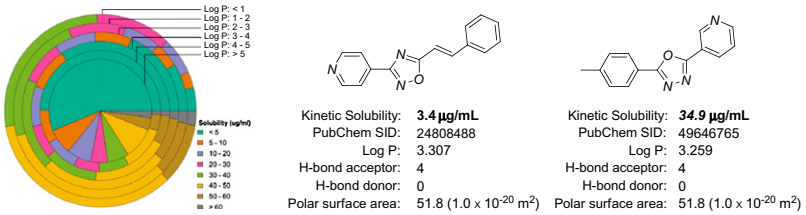




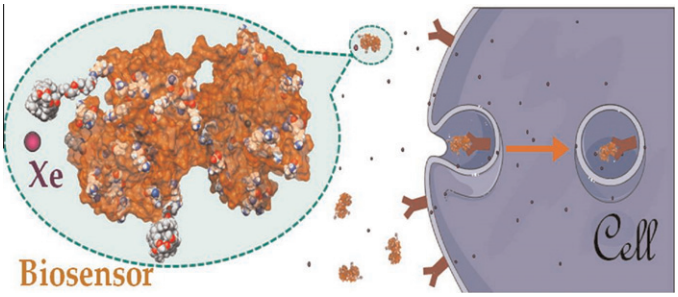


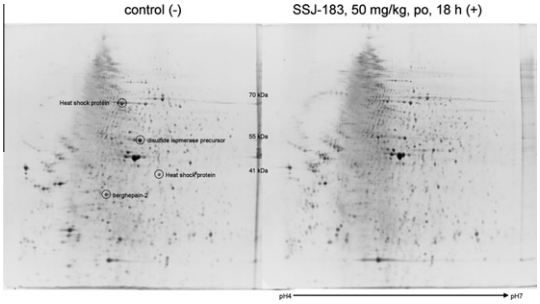




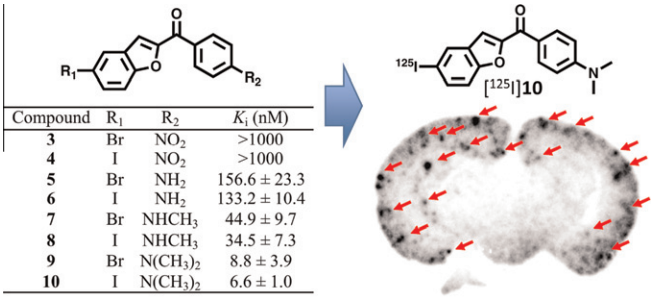


Kinetic solubility measurements are presented for a ~58,000 member library of small molecules and the data is examined in the context of physicochemical properties, assay outcomes and optimization strategies.





Plasmodium berghei proteome changes in response to SSJ-183 treatment.



Compound	R_1	R_2	K_i (nM)
3	Br	NO_2	>1000
4	I	NO_2	>1000
5	Br	NH_2	156.6 ± 23.3
6	I	NH_2	133.2 ± 10.4
7	Br	$NHCH_3$	44.9 ± 9.7
8	I	$NHCH_3$	34.5 ± 7.3
9	Br	$N(CH_3)_2$	8.8 ± 3.9
10	I	$N(CH_3)_2$	6.6 ± 1.0

OTHER CONTENTS

*Corresponding author
Supplementary data available via ScienceDirect

COVER

^{129}Xe NMR-based biosensors are built via grafting of cryptophane precursors on transferrin. Internalization of these biosensors in eukaryotic cells is revealed through a specific signal on the ^{129}Xe NMR spectrum, in agreement with fluorescence microscopy. These biosensors allow the first in-cell probing of biological events using hyperpolarized xenon. The cover illustration displays the partners of this approach: a K562 cell observed by fluorescence microscopy, the biosensor and xenon atoms; superimposed in yellow, the resulting ^{129}Xe NMR spectrum. [Boutin, C.; Stopin, A.; Lenda, F.; Brotin, T.; Dutasta, J-P.; Jamin, N.; Sanson, A.; Bouldard, Y.; Leteurtre, F.; Huber, G.; Bogaert-Buchmann, A.; Tassali, N.; Desvaux, H.; Carrière, M.; Berthault, P. *Bioorg. Med. Chem.* **2011**, *19*, 4135.]

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