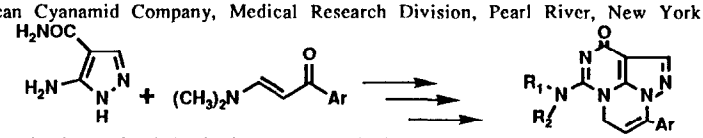
GRAPHICAL ABSTRACTS

BioMed. Chem. Lett. **1991**, *1*, 435

SYNTHESIS OF SUBSTITUTED 5-AMINO-8-PHENYL-3H,6H-1,4,5a,8a-TETRAAZAACENAPHTHALEN-3-ONES, A NEW CLASS OF AGENTS FOR THE IMPROVEMENT OF COGNITION.

J. I. Levin*, J. W. Epstein, B. Beer*, W. D. Dean, J. P. Dusza, S.-S. Tseng, H. J. Schweitzer, G. D. Francisco, W. T. Cain, R. T. Bartus and R. L. Dean, III
American Cyanamid Company, Medical Research Division, Pearl River, New York 10965



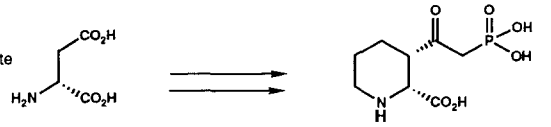
The synthesis and biological activity of the title compounds is described.

BioMed. Chem. Lett. **1991**, *1*, 441

The Synthesis of 3(*S*)-Phosphonoacetyl-2(*R*)-piperidinecarboxylic Acid, a Conformationally-restricted Glutamate Antagonist.

Jeffrey P. Whitten*, Daniel Muench, Rowena V Cube, Philip L. Nyce, Bruce M. Baron and Ian A. McDonald
Marion Merrell Dow Research Institute, 2110 E Galbraith Road Cincinnati, Ohio45215

An enantiomeric synthesis of the cyclic β-ketophosphonate from D-aspartic acid is described.

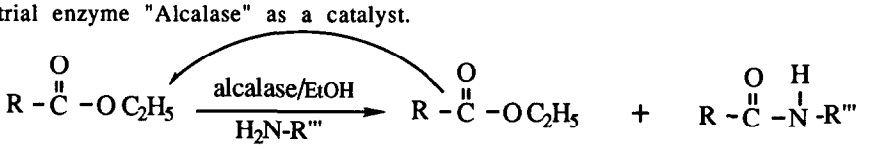


BioMed. Chem. Lett. **1991**, *1*, 445

Stable Industrial Protease Catalyzed Peptide Bond Formation in Organic Solvent.

Shui-Tein Chen* Shu-Chyong Hsiao and Kung-Tsung Wang. Institute of Biological Chemistry, Academia Sinica, PO Box 23-106, Taipei, Taiwan. 10098

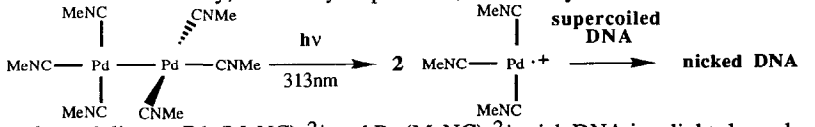
Abstract: Procedures have been developed for peptide bond formation in ethanol using the industrial enzyme "Alcalase" as a catalyst.



BioMed. Chem. Lett. **1991**, *1*, 451

NICKING OF SUPERCOILED DNA VIA METAL RADICALS GENERATED FROM PHOTOLYSIS OF SPECIES CONTAINING METAL-METAL BONDS

Suzanne M. Rudnicki*, Allison A. Stankus, Clifford P. Kubiak[a] and J. William Suggs
Brown Univeristy, Chemistry Department, Providence, Rhode Island 02912
[a]Purdue University, Chemistry Department, West Lafayette, Indiana 47907



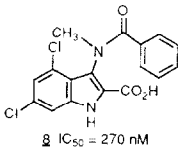
The photoactivated metal dimers, $Pd_2(MeNC)_6^{2+}$ and $Pt_2(MeNC)_6^{2+}$, nick DNA in a light-dependent reaction.

BioMed. Chem. Lett. **1991**, *1*, 455

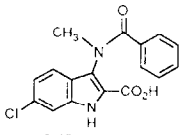
Design, Synthesis and Molecular Modeling of 3-Acylamino-2-carboxyindole NMDA Receptor Glycine-Site Antagonists

Francesco G Salituro,* Ronald C Tomlinson, Bruce M Baron, Dave A Demeter, Herschel J R Weintraub and Ian A McDonald, Marion Merrell Dow Research Institute, 2110 E Galbraith Rd Cincinnati, OH, 45215

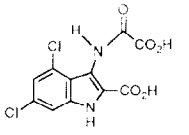
The synthesis and molecular modeling of several 3-acylamino-2-carboxyindole NMDA glycine-site antagonists is described



8 IC_{50} = 270 nM



13 IC_{50} = 110 nM



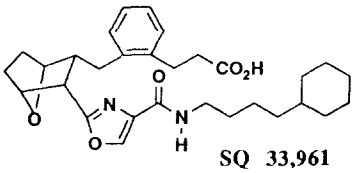
10 IC_{50} =170nM

BioMed. Chem. Lett. **1991**, *1*, 461

INTERPHENYLENE 7-OXABICYCLO[2.2.1]HEPTANES. SQ 33,961: A NEW POTENT, LONG-ACTING THROMBOXANE ANTAGONIST

Raj N. Misra*, B. R. Brown, P. M. Sher, M. M. Patel, H. J. Goldenberg, I. M. Michel and D. N. Harris
Bristol-Myers Squibb Pharmaceutical Research Institute, PO Box 4000, Princeton, NJ 08543-4000

The synthesis and initial biological evaluation of a novel series of chiral interphenylene 7-oxabicyclo[2.2.1]heptane TxA_2 antagonists with 4-amido oxazole omega chains is described. Within this series SQ 33,961 has been identified as a highly potent TxA_2 antagonist (AAIPA I_{50} = 2 nM) with an exceptionally long *in vivo* duration of action.



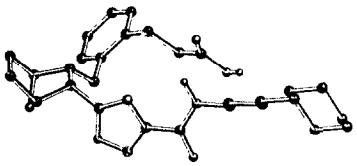
SQ 33,961

BioMed. Chem. Lett. **1991**, *1*, 465

CONFORMATIONALLY-RESTRICTED ANALOGS OF TXA_2 ANTAGONIST SQ 33,961: RECEPTOR BINDING CONFORMATION OF THE CARBOXYL SIDECHAIN

Raj N. Misra*, Baerbel R. Brown, Don N. Harris and Andrew T. Pudzianowski*
Bristol-Myers Squibb Pharmaceutical Research Institute, PO Box 4000, Princeton, NJ 08543-4000

Two distinct conformational families of TxA_2 receptor antagonist SQ 33,961 have been determined by molecular modeling. Synthesis and biological evaluation of conformationally-restricted mimics suggested that the hairpin-like conformer (right) is the bioactive conformation.

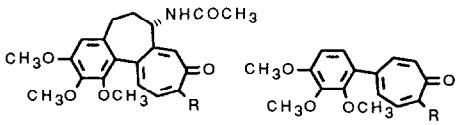


BioMed. Chem. Lett. **1991**, *1*, 471

STRUCTURAL REQUIREMENTS FOR THE BINDING OF COLCHICINE ANALOGS TO TUBULIN: THE ROLE OF THE C-10 SUBSTITUENT

K.M. Hahn, W.G. Humphreys, A.M. Helms, S.B. Hastie*+ and T.L. Macdonald*, Department of Chemistry, University of Virginia, Charlottesville, VA 22901, and +Department of Chemistry, S.U.N.Y.-University Center, P.O. Box 6000, Binghamton, NY 13902-6000, U.S.A.

Derivatives of colchicine (**I**) and its bicyclic analog (**II**) with varying tropone substituents (R) were prepared and assayed for inhibition of microtubule assembly. Significantly greater variations in potency are observed in the bicyclic series than in the colchicine series.



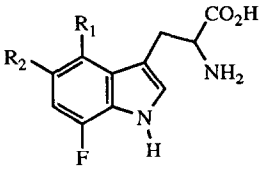
I **II**

BioMed. Chem. Lett. **1991**, *1*, 477

SYNTHESIS AND RESOLUTION OF 7-FLUOROTRYPTOPHANS

Minsu Lee and Robert S. Phillips*
Departments of Chemistry and Biochemistry, School of Chemical Sciences, University of Georgia, Athens, GA 30602

Synthesis of 7-fluorotryptophans **1a-c**, their resolution, and their reactions with tryptophan indole-lyase (tryptophanase) from *E. coli* are described.



1a: R_1=R_2=H

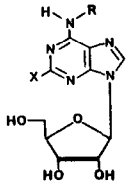
1b: R_1=F, R_2=H

1c: R_1=H, R_2=F

BioMed. Chem. Lett. **1991**, *1*, 481

HIGH SELECTIVITY OF NOVEL ISOGUANOSINE ANALOGUES FOR THE ADENOSINE A_1 RECEPTOR

Vasu Nair*+, Allen J. Fasbender,+ Leonard P. Miller# and Jennifer L. Bruce#
+Department of Chemistry, University of Iowa, Iowa City, Iowa 52242
#Gensia Pharmaceuticals, Department of CNS Studies, San Diego, California 92121



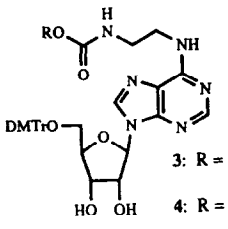
Synthesis of novel N^6-cyclosubstituted isoguanosines with high adenosine A_1 receptor affinity and excellent A_2/A_1 selectivity.
R = Cycloalkyl or Bicycloalkyl, X = OH, I

BioMed. Chem. Lett. **1991**, *1*, 487

DEVELOPMENT OF AN EFFICIENT OLIGONUCLEOTIDE DERIVATIZATION PROTOCOL

William H. Gmeiner, Weido Luo, Richard T. Pon, and J. William Lown * Department of Chemistry, University of Alberta, Edmonton, Alberta, Canada, T6G 2G2

Abstract: An efficient procedure is presented for the modification of oligonucleotides to provide more potent antisense agents.



3: R = cholesteryl

4: R = 9-fluorenylmethyl