

Publications (original papers, book chapters, reviews, Theses)

2011

C. Stangel, G. Charalambidis, V. Varda, A.G. Coutsolelos,* I.D. Kostas*

Eur. J. Inorg. Chem. **2011**, DOI: 10.1002/ejic.201100668

“Aqueous–Organic Biphasic Hydrogenation of trans-Cinnamaldehyde Catalyzed by Rhodium and Ruthenium Phosphane-Free Porphyrin Complexes”.

2010

K.-M. Alexacou, A.-C. Tenchiu (Deleanu), E.D. Chrysinia, M.-D. Charavgi, I.D. Kostas*, S.E. Zografos, N.G. Oikonomakos, D.D. Leonidas*

Bioorg. Med. Chem. **2010**, 18(22), 7911-7922

“The binding of β -D-glucopyranosyl-thiosemicarbazone derivatives to glycogen phosphorylase: A new class of inhibitors”

2009

I.D. Kostas*, F.J. Andreadaki, E.A. Medlycott, G.S. Hanan, E. Monflier

Tetrahedron Lett. **2009**, 50(16), 1851-1854

“Synthesis of a halo-methylphenylene periphery-functionalized triazine-based dendritic molecule with a 3,3'-dimethyl-biphenyl linker using tris(halo-methylphenylene)triazines as building blocks”

A.-C. Tenchiu (Deleanu), I.D. Kostas*, D. Kovala-Demertzi, A. Terzis

Carbohydr. Res. **2009**, 344(11), 1352-1364

“Synthesis and characterization of new aromatic aldehyde/ketone 4-(β -D-glucopyranosyl)thiosemicarbazones”

2008

I.D. Kostas*

“Other P/N-Ligands” (Chiral Bidentate Monophosphorus Ligands: Hybrid Monophosphorus Ligands – Bidentate P/NR₂ Ligands – Other P/N-Ligands). In *Phosphorus Ligands in Asymmetric Catalysis – Synthesis and Applications*, A. Börner (Ed.), Wiley-VCH, Weinheim, **2008**, vol. 2, part IV, chapter 1.2, pp. 596-632.

Invited book chapter

I.D. Kostas*

Curr. Org. Synth. **2008**, 5(3), 227-249

“Recent Advances on P,N-Containing Ligands for Transition-Metal Homogeneous Catalysis”

Invited review

I.D. Kostas*, K.A. Vallianatou, J. Holz, A. Börner*

Tetrahedron Lett. **2008**, 49(2), 331-334

“A new easily accessible chiral phosphite-phosphoramidite ligand based on 2-anilinoethanol and *R*-BINOL moieties for Rh-catalyzed asymmetric olefin hydrogenation”

D. Kovala-Demertzi*, N. Kourkoumelis*, K. Derlat, J. Michalak, F.J. Andreadaki, I.D. Kostas*
Inorg. Chim. Acta **2008**, 361(5), 1562-1565

“Thiosemicarbazone-derivatised palladium nanoparticles as efficient catalyst for the Suzuki-Miyaura cross-coupling of aryl bromides with phenylboronic acid”

2007

I.D. Kostas*, A.G. Coutsolelos*, G. Charalambidis, A. Skondra
Tetrahedron Lett. **2007**, 48(38), 6688-6691

“The first use of porphyrins as catalysts in cross-coupling reactions: a water-soluble palladium complex with a porphyrin ligand as an efficient catalyst precursor or the Suzuki–Miyaura reaction in aqueous media under aerobic conditions”

K.A. Chatziapostolou, K.A. Vallianatou, A. Grigoropoulos, C.P. Raptopoulou, A. Terzis, I.D. Kostas*, P. Kyritsis*, G. Pneumatikakis
J. Organomet. Chem. **2007**, 692(19), 4129-4138

“Synthesis and characterization of new Rh^I complexes bearing CO, PPh₃ and chelating *P,O*- or *Se,Se*-ligands. Application to hydroformylation of styrene”

2006

K.A. Vallianatou, I.D. Kostas*, J. Holz, A. Börner
Tetrahedron Lett. **2006**, 47(45), 7947-7950

“Me-AnilaPhos: A new chiral phosphine–phosphoramidite ligand for a highly efficient Rh-catalyzed asymmetric olefin hydrogenation”

Selected comments: (a) “**excellent catalyst**” (a critical review: L. Eberhardt, D. Armspach, J. Harrowfield, D. Matt *Chem. Soc. Rev.* **2008**, 37, 839); (b) “**highly versatile ligand class**” (*ALDRICH: D. Amoroso et al. Aldrichimica Acta*, **2008**, 41, 20).

E.I. Tolis, K.A. Vallianatou, F.J. Andreadaki, I.D. Kostas*
Appl. Organomet. Chem. **2006**, 20(5), 335-337

“A new rhodium complex with a nitrogen-containing bis(phosphine oxide) ligand as an efficient catalyst for the hydroformylation of styrene”

I.D. Kostas*, G.A. Heropoulos*, D. Kovala-Demertzi*, P.N. Yadav, J.P. Jasinski, M.A. Demertzis, F.J. Andreadaki, G. Vo-Thanh, A. Petit, A. Loupy
Tetrahedron Lett. **2006**, 47(26), 4403-4407

“Microwave-promoted Suzuki-Miyaura cross-coupling of aryl halides with phenylboronic acid under aerobic conditions catalyzed by a new palladium complex with a thiosemicarbazone ligand”

I.D. Kostas*, B.R. Steele*, A. Terzis, S.V. Amosova, A.V. Martynov, N.A. Makhaeva
Eur. J. Inorg. Chem. **2006**, (13), 2642-2646

“New Palladium Complexes with S- or Se-Containing Schiff-Base Ligands as Efficient Catalysts for the Suzuki-Miyaura Cross-Coupling Reaction of Aryl Bromides with Phenylboronic Acid under

Aerobic Conditions”

N.G. Oikonomakos*, M.N. Kosmopoulou, D.D. Leonidas, E.D. Chrysina, C. Tiraidis, N. Bischler, K.E. Tsitsanou, S.E. Zographos, I.D. Kostas, G. Eisenbrand
“Indirubin and indigo analogues as potential inhibitors of glycogenolysis: structural basis of glycogen phosphorylase inhibition”. In *Indirubin, the red shape of indigo*, L. Meijer, N. Guyard, L.A. Skaltsounis, G. Eisenbrand (eds.). Editions “Life in Progress”, Roscoff, **2006**, Chapter 18, 177-189.

2005

I.D. Kostas*, K.A. Vallianatou, J. Holz, A. Börner
Appl. Organomet. Chem. **2005**, *19*(10), 1090-1095
“Rhodium complexes with a new chiral nitrogen-containing BINOL-based diphosphite or phosphonite ligand: synthesis and application to hydroformylation of styrene and/or hydrogenation of prochiral olefins”

N.V. Dubrovina*, V.I. Tararov, A. Monsees, A. Spannenberg, I.D. Kostas, A. Börner*
Tetrahedron: Asymmetry **2005**, *16*(22), 3640-3649
“New chiral 1,3-diphosphine ligands for Rh-catalyzed enantioselective hydrogenation: a search for electronic effects”

I.D. Kostas*, F.J. Andreadaki, D. Kovala-Demertzi*, C. Prentjas, M.A. Demertzis
Tetrahedron Lett. **2005**, *46*(12), 1967-1970
“Suzuki-Miyaura cross-coupling reaction of aryl bromides and chlorides with phenylboronic acid under aerobic conditions catalyzed by palladium complexes with thiosemicarbazone ligands”

S.V. Amosova*, N.A. Makhaeva, A.V. Martynov, V.A. Potapov, B.R. Steele, I.D. Kostas
Synthesis **2005**, (10), 1641-1648
“Terminal organochalcogenoethyl- and -propylamines and their Schiff base derivatives”

N.G. Oikonomakos*, M.N. Kosmopoulou, E.D. Chrysina, D.D. Leonidas, I.D. Kostas, K.U. Wendt, T. Klabunde, E. Defossa
Protein Sci. **2005**, *14*(7), 1760-1771
“Crystallographic studies on acyl ureas, a new class of glycogen phosphorylase inhibitors, as potential antidiabetic drugs”

2004

I.D. Kostas*, K.A. Vallianatou, P. Kyritsis*, J. Zedník, J. Vohlídal*
Inorg. Chim. Acta **2004**, *357*, 3084-3088
“Hydroformylation of alkenes catalyzed by new dinuclear aryloxide- and carboxylate-bridged rhodium complexes”
Invited paper in “Rhodium and Iridium Topical Issue”

I.D. Kostas*, B.R. Steele, F.J. Andreadaki, V.A. Potapov
Inorg. Chim. Acta **2004**, *357*, 2850-2854

“Rhodium complexes possessing S-phosphinite ligands with or without an amino group. Application to hydroformylation of styrene”

Invited paper in “Rhodium and Iridium Topical Issue”

A.V. Martynov*, N.A. Makhaeva, V.A. Potapov, S.V. Amosova, B.R. Steele, I.D. Kostas

Phosphorus Sulfur **2004**, 179(7), 1373-1380

“Reduction of Terminal Organylchalcogeno Phosphonates as a Way to Prepare Primary Organylchalcogeno Phosphines”

D. Kovala-Demertzi*, P.N. Yadav, M.A. Demertzis, J.P. Jasiski, F.J. Andreadaki, I.D. Kostas*

Tetrahedron Lett. **2004**, 45(14), 2923-2926

“First use of a palladium complex with a thiosemicarbazone ligand as catalyst precursor for the Heck reaction”

2003

I.D. Kostas*, B.R. Steele*, A. Terzis, S. V. Amosova

Tetrahedron **2003**, 59(19), 3467-3473

“A palladium complex with a new hemilabile amino- and sulfur-containing phosphinite ligand as an efficient catalyst for the Heck reaction of aryl bromides with styrene. The effect of the amino group”

I.D. Kostas*

Inorg. Chim. Acta **2003**, 355, 424-427

“Synthesis of new nitrogen-containing phosphinite and phosphine-phosphinite ligands. Application to rhodium-catalyzed hydroformylation of styrene”

2002

M.T. Reetz*, I.D. Kostas, S.R. Waldvogel

Inorg. Chem. Commun. **2002**, 5(4), 252-254

“Synthesis of a gold(I) complex with a (thio)phosphine-modified β -cyclodextrin”

2001

I.D. Kostas*

J. Organomet. Chem. **2001**, 626(1-2), 221-226

“Synthesis of new rhodium complexes with a hemilabile nitrogen-containing bis(phosphinite) or bis(phosphine) ligand. Application to hydroformylation of styrene”

I.D. Kostas*

J. Organomet. Chem. **2001**, 634(1), 90-98

“Synthesis of a tetramethoxy and an amphiphilic tetrahydroxy hemilabile *N,P,N*-ligand. Coordination behavior towards rhodium(I) and application to hydroformylation of styrene or hydrogenation of *trans*-cinnamaldehyde”

1999

I.D. Kostas, O.S. Akkerman, F. Bickelhaupt*, N. Veldman, A.L. Spek

J. Organomet. Chem. **1999**, 572, 93-104

“Intraannular functionalization of the 1,3-phenylene-19-crown-6 system via bromine-lithium exchange”

I.D. Kostas*, C.G. Screttas*

J. Organomet. Chem. **1999**, 585(1), 1-6

“New rhodium complexes with *P,N*-ligands possessing a hydroxy or methoxy group. Synthesis, characterization and application to hydroformylation of styrene”

C.S. Salteris, I.D. Kostas, M. Micha-Screttas, G.A. Heropoulos, C.G. Screttas*, A. Terzis

J. Org. Chem. **1999**, 64(15), 5589-5592

“Ortho-Directed Lithiation of ω -Phenoxy Alcohols”

C.S. Salteris, I.D. Kostas, M. Micha-Screttas, G.A. Heropoulos, C.G. Screttas*, A. Terzis

Main Group Met. Chem. **1999**, 22(7), 427-434

“ortho-Directed Lithiation of ω -Phenoxyalkanethiols and *N,N*-Dimethyl- ω -phenoxyalkylamines. Crystal Structure of Bis[*o*-[(2-dimethylamino)ethoxy]phenyl]-mercury”

I.D. Kostas*

J. Chem. Res. (S) **1999**, (10), 630-631

“Hydroaminomethylation of Styrene with Morpholine Catalysed by a Rhodium Complex with a Phosphino Amino Alcohol Ligand”

C.S. Salteris, I.D. Kostas, M. Micha-Screttas, B.R. Steele, G.A. Heropoulos, C.G. Screttas*, A. Terzis

J. Organomet. Chem. **1999**, 590(1), 63-70

“Synthesis of lithium ω -(*m*- and *p*-lithiophenoxy)alkoxides modified with magnesium 2-ethoxyethoxide. Crystal structures of bis[4-(2-hydroxyethoxy)phenyl]mercury and bis[4-(3-hydroxypropoxy)phenyl]mercury”

1998

I.D. Kostas*

“Applied Homogeneous Catalysis”, in “*Contemporary Organic Chemistry and Applications*” (in Greek), National Hellenic Research Foundation, Institute of Organic and Pharmaceutical Chemistry, Athens **1998**, pp. 27-48

1997

I.D. Kostas, C.G. Screttas*

J. Org. Chem. **1997**, 62(16), 5575-5577

“Synthesis and Applications of Tetrahydrofuran-Stable Substituted 3-(Lithioxyalkyl)- and 4-(Lithioxyalkyl)lithiums, Modified with Magnesium 2-Ethoxyethoxide”

I.D. Kostas, C.G. Screttas*, C.P. Raptopoulou, A. Terzis

Tetrahedron Lett. **1997**, 38(50), 8761-8764

"A Remarkable Tendency of *o*-Lithio-*N*-(2-lithiooxyethyl)-*N*-methyl-aniline to Form Heterocyclic Derivatives by its Reaction with Dichlorodialkylsilanes or Silicon Tetrachloride. Synthesis of 2,5,1-Benzoxazasilines and of the Silaspiro Analogue"

I.D. Kostas, C.G. Screttas*

Main Group Met. Chem. **1997**, 20(12), 787-790

"Synthesis of Tetrahydrofuran-Stable ω -Lithioxy-azaalkyllithiums"

1996

I.D. Kostas, G-J.M. Gruter, O.S. Akkerman, F. Bickelhaupt*, H. Kooijman, W.J.J. Smeets, A.L. Spek

Organometallics **1996**, 15(21), 4450-4458

"Functionalization of 1,3-Phenylene-16-crown-5 *via* Direct Lithiation"

1991

I.D. Kostas*

PhD Thesis, University of Athens, Athens **1991**

"Metal alkoxide modified organolithium reagents. Synthesis and stabilization of substituted lithioxyalkyllithiums including the aza-analogues, in tetrahydrofuran, in the presence of magnesium 2-ethoxyethoxide" (in Greek)

1986

I.D. Kostas*

Undergraduate Thesis in Chemistry, Aristotle University of Thessaloniki, Thessaloniki **1986**

"1,3-Dipolar cycloaddition of nitrile oxides to 2,6-dibenzylidenecyclohexanone" (in Greek)