



## Pavel Kočovský – Representative Publications

Total >230; Hirsch index = 52; papers cited  $\geq 100\times$  (>21 in total) are marked with \*; ~40 citations per paper.

*Credo: Man reist nicht, um anzukommen, sondern um zu reisen.* (J. W. Goethe)

- (1) Carbamates: A Method of Synthesis and Some Synthetic Applications  
**Kočovský, P.** *Tetrahedron Lett.* **1986**, *27*, 5521. \*
- (2) The First Observation of Syn-Anti Dichotomy in the Formation of ( $\pi$ -Allyl)palladium Complexes  
Starý, I.; **Kočovský, P.** *J. Am. Chem. Soc.* **1989**, *111*, 4981.
- (3) Synthesis of Strophanthidin  
**Kočovský, P.**; Stieborová, I. *Tetrahedron Lett.* **1989**, *30*, 4295.
- (4) Steric Control of Epoxidation by Carbamate and Amide Groups. An Evidence for the Carbonyl-Directed Epoxidation  
**Kočovský, P.**; Starý, I. *J. Org. Chem.* **1990**, *55*, 3236.
- (5) Corner Attack on Cyclopropane by Thallium(III) Ions. A Highly Stereospecific Cleavage and Skeletal Rearrangement of 3 $\alpha$ ,5-Cyclo-5 $\alpha$ -cholestan-6 $\alpha$ -ol  
**Kočovský, P.**; Pour, M.; Gogoll, A.; Hanuš, V.; Smrčina, M. *J. Am. Chem. Soc.* **1990**, *112*, 6735.
- (6) Stereo- and Regiocontrol of Electrophilic Additions to Cyclohexene Systems by Neighboring Groups. Competition of Electronic and Stereoelectronic Effects and Comparison of the Reactivity of Selected Electrophiles  
**Kočovský, P.**; Pour, M. *J. Org. Chem.* **1990**, *50*, 5580.
- (7) Synthesis of Enantiomerically Pure 2,2'-Dihydroxy-1,1'-binaphthyl, 2,2'-Diamino-1,1'-binaphthyl, and 2-Amino-2'-hydroxy-1,1'-binaphthyl. Comparison of Processes Operating as Diastereoselective Crystallization and as Second Order Asymmetric Transformation  
Smrčina, M.; Lorenc, M.; Hanuš, V.; Sedmera, P.; **Kočovský, P.** *J. Org. Chem.* **1992**, *57*, 1917. \*
- (8) Synthesis of Enantiomerically Pure Binaphthyl Derivatives. Mechanism of the Enantioselective Binaphthyl Coupling and Designing a Catalytic Cycle  
Smrčina, M.; Poláková, J.; Vyskočil, Š.; **Kočovský, P.** *J. Org. Chem.* **1993**, *58*, 4534. \*
- (9) Corner Opening of Cyclopropanes by Mercury(II) and Thallium(III) and Transmetalation of the Intermediate Organomercurials. A Novel, Stereoselective Approach to Cyclobutanes and Cyclopropanes  
**Kočovský, P.**; Šrogl, J.; Pour, M.; Gogoll, A. *J. Am. Chem. Soc.* **1994**, *116*, 186.
- (10) Stereoelectronically Controlled, Thallium(III)-Mediated C-19 Degradation of 19-Hydroxy Steroids. An Expedient Route to Estrone and its Congeners via 19-Nor-10 $\beta$ -hydroxy Intermediates  
**Kočovský, P.**; Baines, R. S. *J. Org. Chem.* **1994**, *59*, 5439.
- (11) Stereochemistry of the Molybdenum(0)-Catalyzed Allylic Substitution: The First Observation of a Syn-Syn Mechanism  
Dvořák, D.; Starý, I.; **Kočovský, P.** *J. Am. Chem. Soc.* **1995**, *117*, 6130.
- (12) The S<sub>N</sub>2 Reaction in Solid State. An Unusual, B<sub>Al</sub>2 Aminolysis of an Ester Group in Crystalline ( $\pm$ )-2-Amino-2'-hydroxy-3'-(methoxycarbonyl)-1,1'-binaphthyl Elucidated by X-Ray Diffraction and Isotope Labeling. New Experimental Evidence for Linearity in S<sub>N</sub>2 Substitution  
Smrčina, M.; Vyskočil, Š.; Hanuš, V.; Polášek, M.; Langer, V.; Zax, D. B.; Chew, B. G. M.; Verrier, H.; Harper, K.; Claxton, T. A.; **Kočovský, P.** *J. Am. Chem. Soc.* **1996**, *118*, 487.
- (13) Ruthenium-Catalyzed Oppenauer-Type Oxidation of 3 $\beta$ -Hydroxy-Steroids. A Highly Efficient Entry into the Steroid Hormones with the 4-en-3-one Functionality  
Almeida, M. L. S.; **Kočovský, P.**; Bäckvall, J.-E. *J. Org. Chem.* **1996**, *61*, 6587.
- (14) The Stereochemical Dichotomy in Palladium(0)- and Nickel(0)-Catalyzed Allylic Substitution  
Farthing, C. N.; **Kočovský, P.** *J. Am. Chem. Soc.* **1998**, *120*, 6661.

- (15) Synthesis of *N*-Alkylated and *N*-Arylated Derivatives of 2-Amino-2'-hydroxy-1,1'-binaphthyl (NOBIN) and 2,2'-Diamino-1,1'-binaphthyl and their Application in the Enantioselective Addition of Diethylzinc to Aromatic Aldehydes  
Vyskočil, Š.; Jaracz, J.; Smrčina, M.; Štícha, M.; Hanuš, V.; Polášek, M.; **Kočovský, P.** *J. Org. Chem.* **1998**, *63*, 7727. \*
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- (17) Palladium(II) Complexes of 2-Dimethylamino-2'-diphenylphosphino-1,1'-binaphthyl (MAP) with Unique P,C<sub>σ</sub>-Coordination and Their Catalytic Activity in Allylic Substitution, Hartwig-Buchwald Amination, and Suzuki Coupling  
**Kočovský, P.**; Vyskočil, Š.; Císařová, I.; Sejbal, J.; Tišlerová, I.; Smrčina, M.; Lloyd-Jones, G. C.; Stephen, S. C.; Butts, C. P.; Murray, M.; Langer, V. *J. Am. Chem. Soc.* **1999**, *121*, 7714. \*
- (18) An Approach Toward the Triquinane-Type Skeleton via a Reagent-Controlled Skeletal Rearrangement. A Facile Method for Protection-Deprotection of Organomercurials, Tuning the Selectivity of Wagner-Meerwein Migrations, and a New Route to Annulated Lactones  
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- (19) Diastereoisomeric Cationic  $\pi$ -allyl-Pd-(*P,C*)-MAP and MOP Complexes and their Relationship to Stereochemical Memory Effects in Allylic Alkylation  
Lloyd-Jones, G. C.; Stephen, S. C.; Murray, M.; Butts, C. P.; Vyskočil, Š.; **Kočovský, P.** *Chem. Eur. J.* **2000**, *6*, 4348. \*
- (20) Synthesis of New Chiral 2,2'-Bipyridyl-Type Ligands, their Coordination to Molybdenum(0), Copper (II), and Palladium(II), and Application in Asymmetric Allylic Substitution, Allylic Oxidation, and Cyclopropanation  
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- (21) Chiral 2,2'-Bipyridine-Type *N*-Oxides as Catalysts in the Enantioselective Allylation of Aldehydes with Allyltrichlorosilane  
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- (24) Synthesis of  $\alpha$ -Amino Acids via Asymmetric Phase Transfer-Catalyzed Alkylation of Achiral Nickel(II) Complexes of Glycine-Derived Schiff Bases  
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- (29) Asymmetric Allylic Substitution Catalyzed by  $C_1$ -Symmetrical Complexes of Molybdenum: Structural Requirements of the Ligand and Stereochemical Course of Reaction  
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- (30) Enantioselective Synthesis of 1,2-Diarylaziridines via Organocatalytic Reductive Amination of  $\alpha$ -Chloro Ketones  
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- (31) Amino Alcohols as Organocatalysts in Asymmetric Cross-Aldol Reaction of Ketones: Application in the Synthesis of Convolutamydine A  
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- (32) On the Mechanism of Asymmetric Allylation of Aldehydes with Allyltrichlorosilanes Catalyzed by QUINOX, a Chiral Isoquinoline *N*-Oxide  
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- (34) Asymmetric Reduction of Imines with Trichlorosilane Catalyzed by Amino Acid-Derived Formamides: Scope and Limitations  
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- (35) A Novel Bifunctional Allyldisilane as a Triple Allylation Reagent in the Stereoselective Synthesis of Trisubstituted Tetrahydrofurans  
Malkov, A. V.; Kysilka, O.; Edgar, M.; Kadlčíková, A.; Kotora, M.; **Kočovský, P.** *Chem. Eur. J.* **2011**, *17*, 7162.
- (36) Synthesis of Di- and Tri-Substituted Isoxazolidines and  $\beta$ -Amino- $\delta$ -Hydroxy Esters via a Stereoselective Palladium-Catalyzed Functionalization of Homoallylic Alcohols  
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- (37) Mechanistic Dichotomy in the Asymmetric Allylation of Aldehydes with Allyltrichlorosilanes Catalyzed by Chiral Pyridine *N*-Oxides  
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- (38) Palladium Catalyzed Alkoxyacylation of Terminal Alkenes to Produce  $\alpha,\beta$ -Unsaturated Esters: The Key Role of Acetonitrile as a Ligand  
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- (39) Cross-Aldol Reaction of Ketones Catalyzed by Leucinol: A Mechanistic Investigation  
Kabeshov, M. A.; Kysilka, O.; Rulišek, L.; Sulejmanov, Y. V.; Bella, M.; Malkov, A. V.; **Kočovský, P.** *Chem. Eur. J.* **2015**, *21*, 12026. (*Hot paper + cover page*)
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## Books

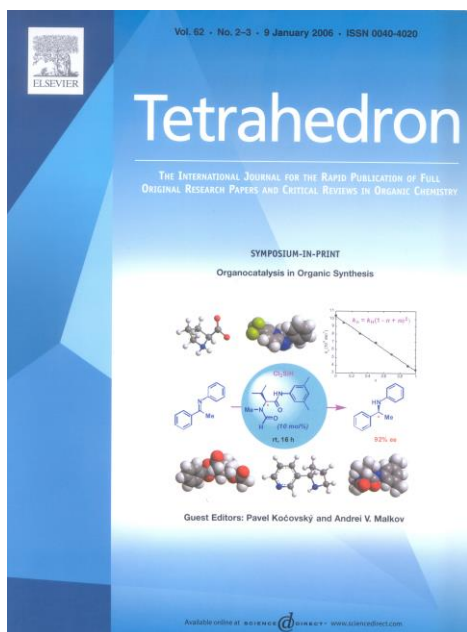
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- (2) **Kočovský, P.**: Electrophilic Additions to C=X Bonds, In: *Chemistry of Functional Groups; Supp. A3: The Chemistry of Double-Bonded Functional Groups* (S. Patai, Ed.); J. Wiley & Sons, Chichester **1997**, p 1135.
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## Selected Reviews

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- (4) Asymmetric Synthesis: From Transition Metals to Organocatalysis  
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- (5) C-Nucleosides: Synthetic Strategies and Biological Applications  
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## Personal Recollections

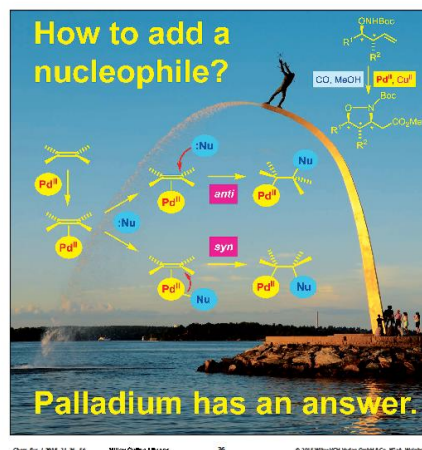
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### Homogeneous Catalysis

The *syn/anti*-Dichotomy in the Palladium-Catalyzed Addition of Nucleophiles to Alkenes

Pavel Kočovský<sup>1,2,3,4</sup> and Jan-E. Bäckvall<sup>1,2</sup>



Chem. Rev. 2015, 15, 36-54 Wiley Online Library 36 © 2015 Wiley-VCH Verlag GmbH & Co. KGaA, Weinheim

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A catalyst's catalyst ...  
 ... Investigation of the leucine-catalyzed aldol reaction of isatin with acetone revealed an intriguing and unusual mechanistic concept: apart from being a substrate, isatin also acts as a dichotomous co-catalyst that accelerates the turnover-limiting step: the formation of the reactive enamine. This concept resembles that of a wind turbine: only when the wind is blowing, that is, when the starting material is present, rotation commences and gives rise to the desired product. For more details, see the Full Paper by M. A. Kabanov, A. V. Mal'kov, P. Kobovský, and co-workers on page 12026 ff.

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