

Inorganic Chemistry

Physical Properties of Solids and Liquids

Structure

D 2000

25- 001

DOI: 10.1002/chin.201225001

2Mg(OH)₂·MgCl₂·2H₂O and 2Mg(OH)₂·MgCl₂·4H₂O, Two High Temperature Phases of the Magnesia Cement System.— The title materials exist as stable phases in the MgO—MgCl₂—H₂O system at 120 °C. They are characterized by Raman spectroscopy and powder XRD. Both phases crystallize in the space group C2/m with Z = 2 and contain infinite triple chains of edge-linked distorted MgO₆ octahedra. In the 2Mg(OH)₂·MgCl₂·4H₂O phase, the parallel stacks are additionally separated by interstitial one-dimensional zigzag chains of disordered Cl⁻ ions and H₂O molecules. — (DINNEBIER*, R. E.; OESTREICH, M.; BETTE, S.; FREYER, D.; Z. Anorg. Allg. Chem. 638 (2012) 3-4, 628-633, <http://dx.doi.org/10.1002/zaac.201100497>; MPI Festkoerperforsch., D-70569 Stuttgart, Germany; Eng.) — W. Pewestorf

Structure

D 2000

25- 002

DOI: 10.1002/chin.201225002

The Gold-Rich Indide Eu₅Au_{17.7}In_{4.3} and Its Relation with the Structures of SrAu_{4.76}In_{1.24} and BaLi₄.— Eu₅Au_{17.7}In_{4.3} is synthesized from the elements (sealed Ta ampule, Ar, 1500 K for 1 min, 900 K for 4 h) and characterized by powder and single crystal XRD. The compound crystallizes in the monoclinic space group C2/m with Z = 2. The structure is explained as an intergrowth variant of slightly distorted SrAu_{4.76}In_{1.24}- and BaLi₄-related slabs. Eu₅Au_{17.7}In_{4.3} exhibits a pronounced gold substructure with networks of Au₆ hexagons and discrete units of corner- and edge-sharing Au₄ tetrahedra. — (MUTS, I.; RODEWALD, U. C.; ZAREMBA, V. I.; PAVLOSYUK, O.; Z. Naturforsch., B: Chem. Sci. 67 (2012) 2, 107-112; Inst. Anorg. Anal. Chem., Westfael. Wilhelms-Univ., D-48149 Muenster, Germany; Eng.) — W. Pewestorf

Structure
D 2000

25- 003

DOI: 10.1002/chin.201225003

Rare Earth Site Preference in the Doped Laser Host Material Sc_2SiO_5 . A Single Crystal X-Ray Study.

— The laser materials Sc_2SiO_5 , $\text{Sc}_{1.931}\text{Tm}_{0.069}\text{SiO}_5$, and $\text{Sc}_{1.955}\text{Yb}_{0.045}\text{SiO}_5$ crystallize in monoclinic the space group C2/c with $Z = 8$ (single crystal XRD). The large rare earth cations exclusively occupy the 8f site with an oxygen coordination number of 7. — (RODEWALD, U. C.; ZHENG, L.; HEYING, B.; XU, X.; SU, L.; XU, J.; POETTGEN*, R.; Z. Naturforsch., B: Chem. Sci. 67 (2012) 2, 113-117 ; Inst. Anorg. Anal. Chem., Westfael. Wilhelms-Univ., D-48149 Muenster, Germany; Eng.) — W. Pewestorf

Structure
D 2000

25- 004

DOI: 10.1002/chin.201225004

Mixed Alkali Oxidosulfidomolybdates $\text{A}_2[\text{MoO}_x\text{S}_{4-x}]$ ($x = 1, 2, 3$; A: K, Rb, Cs, NH_4). Synthesis, Crystal Structure and Properties.

— The title compounds are prepared by passing H_2S gas through an alkaline solution of the corresponding oxido-molybdates. They precipitate as crystalline salts depending on pH, polarity of the solvent, educt concentration, and temperature. The products are characterized by single crystal XRD, UV/VIS spectroscopy, and FP-LAPW band structure calculations. The isotopic compounds $\text{A}_2[\text{MoOS}_3]$ (A: K, Rb, Cs, NH_4) crystallize in the orthorhombic space group Pnma with $Z = 4$ (β - $\text{K}_2[\text{SO}_4]$ -type structure). The four $\text{A}_2[\text{MoO}_2\text{S}_2]$ compounds are isotopic with $(\text{NH}_4)_2[\text{WO}_2\text{S}_2]$ and crystallize in the monoclinic space group C2/c with $Z = 4$. For the three alkali metal compounds a second polymorph (monoclinic space group P2₁/c, $Z = 4$) exists. The Cs salt also crystallizes with a third modification in the orthorhombic space group Pbca with $Z = 4$. An anhydrous monosulfidomolybdate is obtained only for potassium. $\text{K}_2[\text{MoO}_3\text{S}]$ crystallizes in the monoclinic space group C2/m with $Z = 4$ ($\text{K}_2[\text{MoO}_4]$ -type structure). — (LEHNER, A. J.; KRAUT, K.; ROEHR*, C.; Z. Naturforsch., B: Chem. Sci. 67 (2012) 2, 127-148 ; Inst. Anorg. Anal. Chem., Albert-Ludwigs-Univ., D-79104 Freiburg/Br., Germany; Eng.) — W. Pewestorf

Structure
D 2000

25- 005

DOI: 10.1002/chin.201225005

 $\text{Na}_{1.5}\text{Ag}_{1.5}\text{MO}_3\text{F}_3$ (M: Mo, W): An Ordered Oxyfluoride Derivative of the LiNbO_3 Structure.

— The title compounds are synthesized by solid state reaction of stoichiometric mixtures of NaF, AgF, and WO_3 or MoO_3 (Ag tubes, 550 °C, 216 h). Their structures are determined by synchrotron X-ray and neutron powder diffraction. The isotopic compounds crystallize in the space group R̄3. The structure is described as cation and anion ordered derivative of the LiNbO_3 structure. The oxyfluoride groups of the compounds are orientationally ordered, so that the Na^+ ions are coordinated by fluorine and the Ag^+ ions by oxygen. The combination of Na/Ag ordering and orientational ordering of the $[\text{MO}_3\text{F}_3]^{3-}$ (M: Mo, W) anions produces a supercell that doubles the c-axis and changes the symmetry from R3 to R̄3. Salts containing $[\text{MoO}_3\text{F}_3]^{3-}$ and $[\text{WO}_3\text{F}_3]^{3-}$ anions are potentially an important source of polar materials. — (FRY, A. M.; SEIBEL, H. A. I.; LOKUHEWA, I. N.; WOODWARD*, P. M.; J. Am. Chem. Soc. 134 (2012) 5, 2621-2625, <http://dx.doi.org/10.1021/ja208587e> ; Dep. Chem., Ohio State Univ., Columbus, OH 43210, USA; Eng.) — W. Pewestorf

Electric properties

D 8000

25- 006

DOI: 10.1002/chin.201225006

Cu₂ZnGeSe₄ Nanocrystals: Synthesis and Thermoelectric Properties. — The title nanocrystals with narrow size distributions are prepared by injecting a solution of SeO₂ in octadecene into a mixture of CuCl, ZnO, GeCl₄, hexadecylamine, n-tetradecylphosphonic acid, and octadecene at 295 °C (5 min, rapid cooling). The samples are characterized by XRD, SEM, TEM, and thermoelectric measurements. The nanocrystals have excellent thermoelectric properties with a figure of merit up to 0.55 at 450 °C. Additionally they have potential use as absorber materials in solution-processed solar cells, and in other applications such as topological insulators. — (SHAVEL*, A.; et al.; J. Am. Chem. Soc. 134 (2012) 9, 4060-4063, <http://dx.doi.org/10.1021/ja211952z>; Dep. Elect., Univ. Barcelona, E-08028 Barcelona, Spain; Eng.) — W. Pewestorf

Superconductors

D 8000

25- 007

DOI: 10.1002/chin.201225007

Growth of Single-Crystal Ca₁₀(Pt₄As₈)(Fe_{1.8}Pt_{0.2}As₂)₅ Nanowiskers with Superconductivity up to 33 K. — The title nanowiskers are prepared from mixtures of FeAs, Fe, Pt, and CaAs as a flux (h-BN cell, Ta capsule, 380 MPa, followed by heating at 1000 °C for 72 h). The samples are characterized by powder XRD, SEM, TEM, magnetic, and electrical measurements. The whiskers exhibit excellent crystallinity with a superconducting transition temperature of 33 K. Since high-temperature superconducting cuprate whiskers are fragile ceramics, the prepared intermetallic whiskers have better opportunities for device applications. — (WANG*, H.-B.; et al.; J. Am. Chem. Soc. 134 (2012) 9, 4068-4071, <http://dx.doi.org/10.1021/ja212067g>; Supercond. Mater. Cent., Natl. Inst. Mater. Sci., Tsukuba, Ibaraki 305, Japan; Eng.) — W. Pewestorf

Electric properties

D 8000

25- 008

DOI: 10.1002/chin.201225008

Superionic Phase Transition in Silver Chalcogenide Nanocrystals Realizing Optimized Thermoelectric Performance. — The thermoelectric properties of Ag₂S, Ag₂Se, and Ag₄SeS nearly monodisperse nanocrystals are investigated across the semiconductor—superionic conductor transition. The maximum figure of merit value of 0.12, 0.23, and 0.33 is achieved at the transition temperature of 454, 408, and 355 K for Ag₂S, Ag₂Se, and Ag₄SeS, respectively. Ag₄SeS nanocrystals exhibit the best figure of merit value, which is attributed to the cooperative effect of superionic phase transition and alloying at the nanoscale. — (XIAO, C.; XU, J.; LI, K.; FENG, J.; YANG, J.; XIE*, Y.; J. Am. Chem. Soc. 134 (2012) 9, 4287-4293, <http://dx.doi.org/10.1021/ja2104476>; Hefei Natl. Lab. Phys. Sci. Microscale, Univ. Sci. Technol. China, Hefei 230026, Peop. Rep. China; Eng.) — W. Pewestorf

Electric properties
D 8000

DOI: 10.1002/chin.201225009

25- 009

Superconductivity in $\text{LaT}_\text{M}BN$ and $\text{La}_3\text{T}_\text{M}2\text{B}_2\text{N}_3$ (T_M = Transition Metal) Synthesized under High Pressure. — Various layered boronitrides $(\text{LaN})_n(\text{M}_2\text{B}_2)$ (M : Co, Ni, Ru, Rh, Ir Pt; n = 2, 3), namely LaNiBN , $\text{La}_3\text{Co}_2\text{B}_2\text{N}_3$, $\text{La}_3\text{Ni}_2\text{B}_2\text{N}_3$, and the new compounds LaRuBN , LaRhBN , LaIrBN , LaPtBN , and $\text{La}_3\text{Ru}_2\text{B}_2\text{N}_3$ are synthesized by solid state reactions of LaN , M , and boron under high pressure (2—5 GPa, 1200—1600 °C, 0.5—2 h). As revealed by powder XRD the n = 2 and 3 phases crystallize in the tetragonal space group P4/nmm and I4/mmm, respectively. LaNiBN , CaNiBN , and LaPtBN show bulk superconductivity with critical temperatures of about 4.1, 2.2, and 6.7 K, respectively. The non-superconductive compounds exhibit Pauli paramagnetic behavior. DFT calculations indicate that LaNiBN exhibits three-dimensional metallic behavior and that the intermediate layers between neighboring Ni_2B_2 layers are also metallic in $(\text{LaN})_n(\text{Ni}_2\text{B}_2)$. — (IMAMURA, N.; MIZUGUCHI, H.; HOSONO*, H.; J. Am. Chem. Soc. 134 (2012) 5, 2516–2519, <http://dx.doi.org/10.1021/ja211293x> ; Front. Collab. Res. Cent., Tokyo Inst. Technol., Nagatsuta, Yokohama 226, Japan; Eng.) — W. Pewestorf

Magnetic properties
D 9000

DOI: 10.1002/chin.201225010

25- 010

A Polar Corundum Oxide Displaying Weak Ferromagnetism at Room Temperature. — $\text{ScFe}_{1-x}\text{Cr}_x\text{O}_3$ (x = 0—1) is prepared by high temperature/high pressure reaction of Sc_2O_3 , Fe_2O_3 , and Cr_2O_3 (6 GPa, 1450—1500 °C, 5 min). The new high pressure polymorph of ScFeO_3 and strain-stabilized thin films of ScFeO_3 adopt a polar variant of the corundum structure (space group R3c). The polar corundum ScFeO_3 has a weak ferromagnetic ground state below 356 K, which is in contrast to the purely antiferromagnetic ground state adopted by the well-studied ferroelectric BiFeO_3 . — (CLARIDGE*, J. B.; et al.; J. Am. Chem. Soc. 134 (2012) 8, 3737–3747, <http://dx.doi.org/10.1021/ja208395z> ; Dep. Chem., Univ. Liverpool, Liverpool L69 7ZD, UK; Eng.) — W. Pewestorf

Electrochemistry

Cells
F 3000

DOI: 10.1002/chin.201225011

25- 011

SnSe_2 Quantum Dot Sensitized Solar Cells Prepared Employing Molecular Metal Chalcogenide as Precursors. — $(\text{N}_2\text{H}_4)_3(\text{N}_2\text{H}_5)_4\text{Sn}_2\text{Se}_6$ complexes, synthesized by dissolving elemental tin and selenium in hydrazine under ambient conditions, are used as precursors for SnSe_2 deposition on TiO_2 nanocrystalline porous films. The obtained SnSe_2 sensitized TiO_2 solar cells exhibit a power conversion efficiency of 0.12% whereas a bare TiO_2 cell without any sensitizer reaches only 0.004%. — (YU, X.; ZHU*, J.; ZHANG, Y.; WENG, J.; HU, L.; DAI, S.; Chem. Commun. (Cambridge) 48 (2012) 27, 3324–3326, <http://dx.doi.org/10.1039/c2cc17081g> ; Inst. Plasma Phys., CAS, Hefei, Anhui 230031, Peop. Rep. China; Eng.) — W. Pewestorf

Preparative Inorganic Chemistry

Germanium
I 4700

25- 012

Synthesis of Highly Crystalline $\text{In}_2\text{Ge}_2\text{O}_7(\text{En})$ Hybrid Sub-Nanowires with Ultra-violet Photoluminescence Emissions and Their Selective Photocatalytic Reduction of CO_2 into Renewable Fuel. — The new ultrathin title nanowires with general diameters of 2—3 nm and lengths up to hundreds of nanometers are solvothermally synthesized from GeO_2 and $\text{In}(\text{OAc})_3$ in mixtures of H_2O and en (autoclave, 180 °C, 24 h). The $\text{In}_2\text{Ge}_2\text{O}_7(\text{en})$ nanowires exhibit UV photoluminescence emission, a dramatic blue shift by more than 100 nm relative to pure inorganic $\text{In}_2\text{Ge}_2\text{O}_7$ nanowires and microtubes. The new material may have potential application in laser diodes, free-space quantum communications, and calibration purposes. The new nanowires also act as selective photocatalyst in the reduction of CO_2 to CO in the presence of water vapor. — (LIU, Q.; ZHOU*, Y.; MA, Y.; ZOU, Z.; RSC Adv. 2 (2012) 8, 3247-3250, <http://dx.doi.org/10.1039/c2ra20186k>; Natl. Lab. Solid State Microstruct., Eco-mater. Renewable Energy Res. Cent., Nanjing 210093, Peop. Rep. China; Eng.) — W. Pewestorf

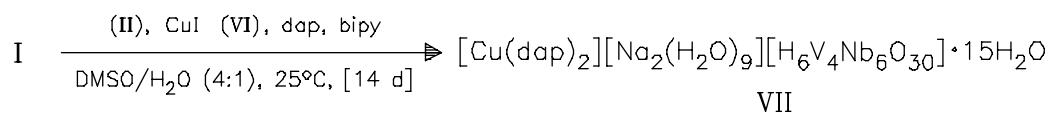
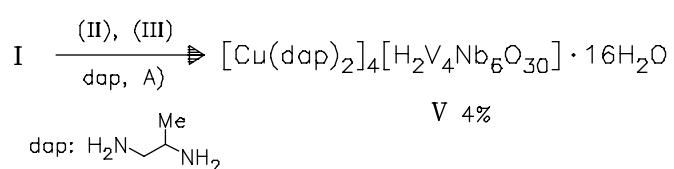
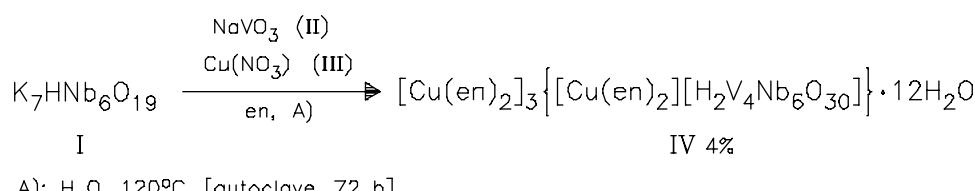
DOI: 10.1002/chin.201225012

Niobium
I 5100

25- 013

DOI: 10.1002/chin.201225013

The $\{\text{V}_4\text{Nb}_6\text{O}_{30}\}$ Cluster: A New Type of Vanadoniobate Anion Structure. — Vanadium incorporation into the isopolyoxoniobate system yields three new compounds (IV), (V), and (VII) containing the same unprecedented mixed addenda vanadoniobate cluster $\{\text{V}_4\text{Nb}_6\text{O}_{30}\}$. The new compounds are characterized by single crystal XRD, and UV/VIS spectroscopy. (IV) and (V) crystallize in the triclinic space group $\bar{P}\bar{1}$ with $Z = 2$, and (VII) in the monoclinic space group $P2_1/c$ with $Z = 2$. — (GUO, G.; XU*, Y.; CAO, J.; HU, C.; Chem. Eur. J. 18 (2012) 12, 3493-3497, <http://dx.doi.org/10.1002/chem.201103390>; Dep. Chem., Beijing Inst. Technol., Beijing 100081, Peop. Rep. China; Eng.) — W. Pewestorf



Bismuth
I 5400

25- 014

DOI: 10.1002/chin.201225014

On the Rare Earth Metal Bismuthide Oxides RE₂BiO₂ (RE: Nd, Tb, Dy, Ho).

The new dark grey metallic compounds Nd₂BiO₂, Tb₂BiO₂, Dy₂BiO₂, and Ho₂BiO₂ are synthesized in \approx 1 g batches by solid state reaction of elemental Bi, LnBi (Ln: Nd, Tb, Dy, Ho), and Ln₂O₃ (sealed Ta ampules, 1770 K, 72 h). The isotropic compounds crystallize in the tetragonal space group I4/mmm with Z = 2 (anti-ThCr₂Si₂-type structure; single crystal XRD). The structure contains PbO analogous slabs [LnO]⁺ and 4⁴ nets of Bi²⁻ anions, alternately stacked along the c-axis. — (NUSS, J.; JANSEN*, M.; Z. Anorg. Allg. Chem. 638 (2012) 3-4, 611-613, <http://dx.doi.org/10.1002/zaac.201100529>; MPI Festkoerperforsch., D-70569 Stuttgart, Germany; Eng.) — W. Pewestorf

Molybdenum
I 5600

25- 015

DOI: 10.1002/chin.201225015

Solution-Phase Monitoring of the Structural Evolution of a Molybdenum Blue Nanoring.

The inorganic host—guest complex Na₂₂{[Mo₃₆^{VI}O₁₁₂(H₂O)₁₆][Mo₁₅₀^{VI}Mo₂₀^VO₄₄₂(OH)₁₀(H₂O)₆₁]}.180H₂O (I) is synthesized in a flow reactor from aqueous solutions of Na₂MoO₄, HCl, and Na₂S₂O₄ reacting in a mixing chamber at a flow rate of 4—6 mL/h. The output of the chamber enters a reactor containing solutions of K₂MoO₄ and HNO₃. Tiny blue-rod-shaped crystals of (I) appear within 24 h (28% yield after 3 d). The controlled flow conditions enable the generation of the [Mo₃₆]⁺[Mo₁₅₀] host—guest complex as the major product, whereas traditional one-pot batch syntheses typically lead to separate crystallization of the [Mo₃₆] cluster and the [Mo₁₅₀] molybdenum blue (MB) wheel. Dynamic light scattering techniques are used to corroborate the mechanism of formation of the MB wheels through observation of the individual cluster species in solution. (I) crystallizes in the monoclinic space group C2/m with Z = 2 (single crystal XRD). — (MIRAS, H. N.; RICHMOND, C. J.; LONG, D.-L.; CRONIN*, L.; J. Am. Chem. Soc. 134 (2012) 8, 3816-3824, <http://dx.doi.org/10.1021/ja210206z>; WestCHEM, Sch. Chem., Univ. Glasgow, Glasgow G12 8QQ, UK; Eng.) — W. Pewestorf

Tungsten
I 5700

25- 016

DOI: 10.1002/chin.201225016

Synthesis, Characterization, and Computational Study of WSF₄·NC₅H₅.

The new Lewis acid/base adduct of title is obtained from WSF₄ and pyridine at room temperature (yield given in g) and characterized by single crystal XRD, Raman and NMR spectroscopy, and DFT calculations. WSF₄·Py crystallizes in the orthorhombic space group Pbca with Z = 8. Pyridine coordinates to WSF₄ trans to the W=S bond. — (NIEBOER, J.; YU, X.; CHAUDHARY, P.; MERCIER, H. P. A.; GERKEN*, M.; Z. Anorg. Allg. Chem. 638 (2012) 3-4, 520-525,

<http://dx.doi.org/10.1002/zaac.201100453>; Dep. Chem. Biochem., Univ. Lethbridge, Lethbridge, Alberta T1K 3M4, Can.; Eng.) — W. Pewestorf

Uranium
I 5900

25- 017

DOI: 10.1002/chin.201225017

Complex Clover Cross-Sectioned Nanotubes Exist in the Structure of the First

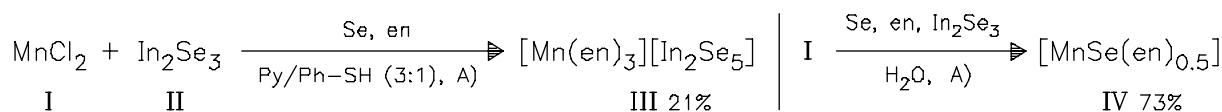
Uranium Borate Phosphate. — $\text{Ba}_5[(\text{UO}_2)(\text{PO}_4)_3(\text{B}_5\text{O}_9)](\text{H}_2\text{O})_{0.125}$ is synthesized by solid state reaction of H_3BO_3 , BPO_4 , $\text{UO}_2(\text{NO}_3)_2 \cdot 6\text{H}_2\text{O}$, and BaCO_3 (Pt crucible, 1000 °C, slow cooling to room temperature, 8—10% yield). The new compound is characterized by single crystal XRD, IR, UV/VIS/NIR, and fluorescence spectroscopy. The compound crystallizes in the tetragonal space group $\text{P}4_2/\text{n}$ with $Z = 8$ and exhibits complex nanotubular fragments with an external cross-section of about 2 x 2 nm. The nanotubular aggregates are based on borate tubes where the exterior of the tubes is decorated with $\text{UO}_2(\text{PO}_4)_3$ moieties to form a shape with a cross-section similar to the clover cross. — (WU, S.; WANG, S.; DIWU, J.; DEPMEIER, W.; MALCHEREK, T.; ALEKSEEV, E. V.; ALBRECHT-SCHMITT*, T. E.; Chem. Commun. (Cambridge) 48 (2012) 29, 3479-3481, <http://dx.doi.org/10.1039/c2cc17517g>; Dep. Civil Eng. Geol. Sci., Univ. Notre Dame, Notre Dame, IN 46556, USA; Eng.) — W. Pewestorf

Manganese
I 6800

25- 018

DOI: 10.1002/chin.201225018

Solvothermal Synthesis and Characterization of One-Dimensional Indium Poly-selenides with Transition Metal Complexes. — The presence of thiophenol appears to be essential in the synthesis of the indium selenide (III). Compounds (III) and (IV) are characterized by single crystal XRD and IR and UV/Vis spectroscopy. (III) crystallizes in the orthorhombic space group Pbcn with $Z = 4$. It contains one-dimensional $[\text{In}_2\text{Se}_5]^{2-}$ chains separated by $[\text{Mn}(\text{en})_3]^{2+}$ complex cations. The anionic chain is composed of vertex-linked InSe_4 tetrahedra linked by Se—Se bridges and contains four-membered $[\text{In}_2\text{Se}_2]$ rings and five-membered $[(\text{In}^{3+})_2(\text{Se}_2^{2-})(\text{Se}^{2-})]$ rings. Compound (IV) crystallizes in the monoclinic space group $\text{P}2_1/\text{c}$ with $Z = 8$. The structure is a three-dimensional network containing $[\text{MnSe}]$ slabs, interconnected by bridging ethylenediamine linkers. The $[\text{MnSe}]$ slab is a puckered 6^3 net formed by alternating three-coordinate Mn and Se atoms. — (YAO, H.-G.; JI, M.; JI, S.-H.; AN*, Y.-L.; Z. Anorg. Allg. Chem. 638 (2012) 3-4, 683-687, <http://dx.doi.org/10.1002/zaac.201100468>; Dep. Chem., Dalian Univ. Technol., Dalian 116024, Peop. Rep. China; Eng.) — W. Pewestorf



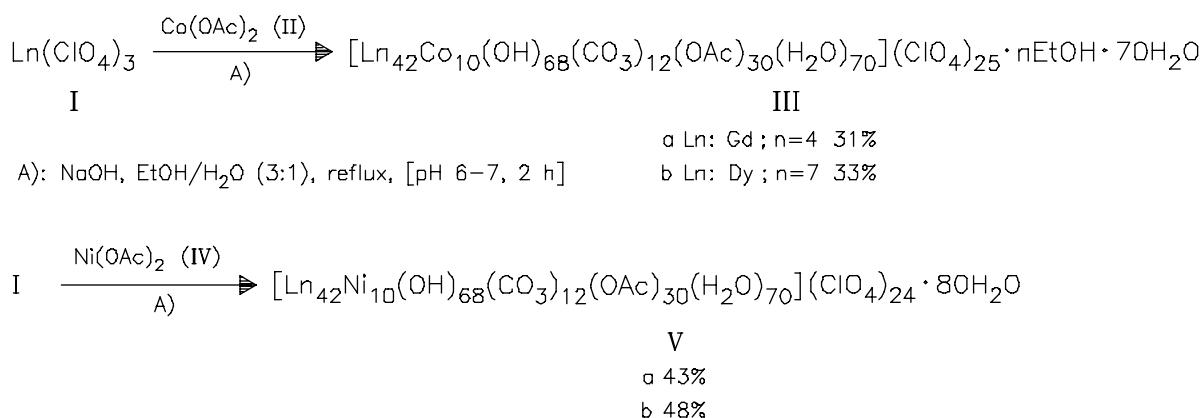
A): 170°C, [autoclave, 6 d]

Cobalt
I 7200

25- 019

DOI: 10.1002/chin.201225019

High-Nuclearity 3d—4f Clusters as Enhanced Magnetic Coolers and Molecular Magnets. — The Co^{II}/Co^{III} (9:1) mixed compounds (III) and the Ni^{II} compounds (V) are isostructural and crystallize in the monoclinic space group P2₁/m with Z = 2 (single crystal XRD). (IIIa) and (Va) exhibit the largest magnetocaloric effects among any known 3d—4f complexes, which is significant for their potential applications in magnetic cooling technology in the ultralow temperature range. Compounds (IIIb) and (Vb) display slow relaxation of the magnetization. — (PENG, J.-B.; ZHANG, Q.-C.; KONG*, X.-J.; ZHENG, Y.-Z.; REN, Y.-P.; LONG, L.-S.; HUANG, R.-B.; ZHENG, L.-S.; ZHENG, Z.; J. Am. Chem. Soc. 134 (2012) 7, 3314–3317, <http://dx.doi.org/10.1021/ja209752z>; State Key Lab. Phys. Chem. Solid Surf., Dep. Chem., Xiamen Univ., Xiamen 361005, Fujian, Peop. Rep. China; Eng.) — W. Pewestorf



Preparative Organic Chemistry

Reactions and Processes

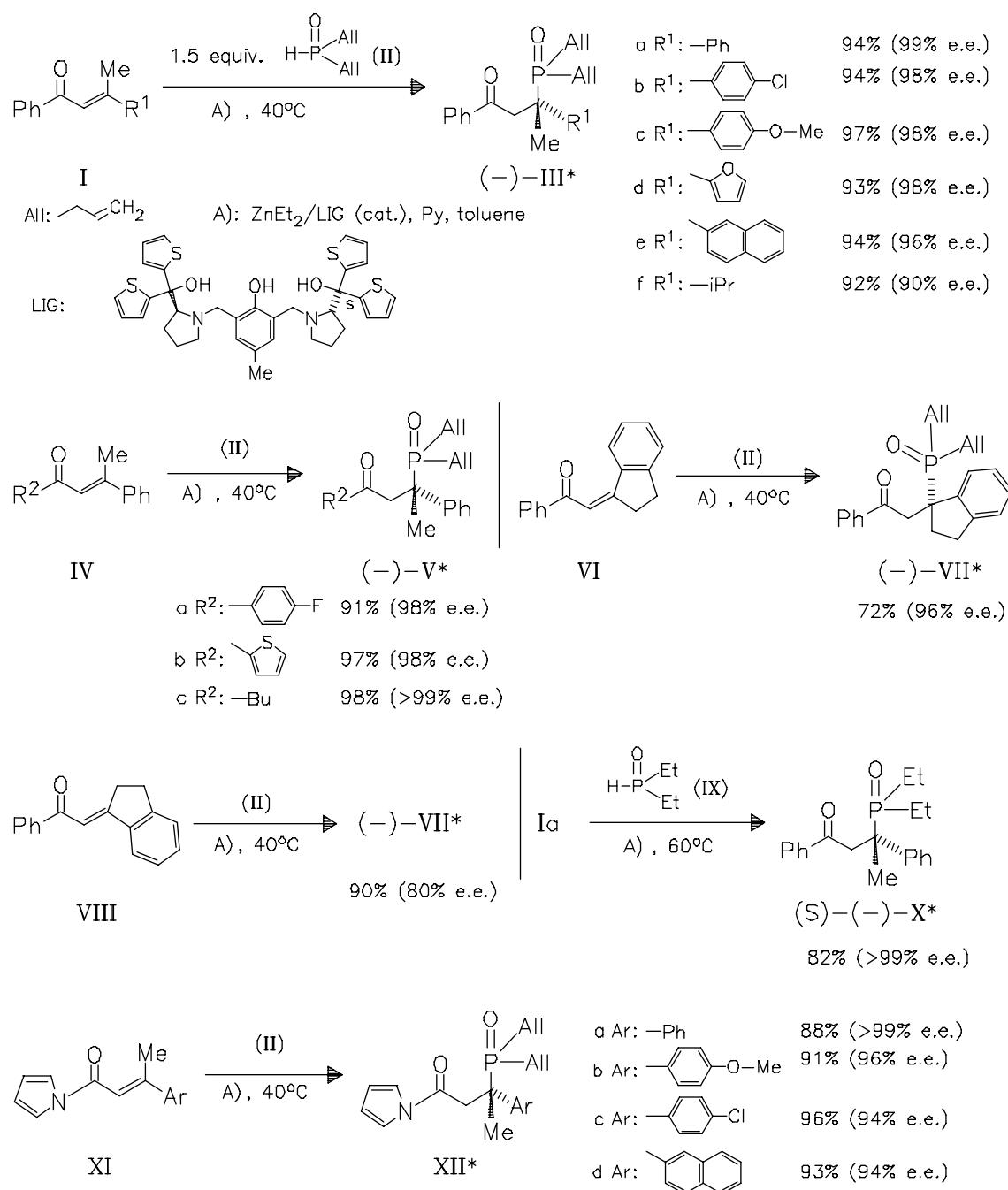
Enantioselective syntheses

O 0031

DOI: 10.1002/chin.201225020

25- 020

Catalytic Asymmetric Construction of Tetrasubstituted Carbon Stereocenters by Conjugate Addition of Dialkyl Phosphine Oxides to β,β -Disubstituted α,β -Unsaturated Carbonyl Compounds. — (ZHAO, D.; MAO, L.; WANG, L.; YANG, D.; WANG*, R.; Chem. Commun. (Cambridge) 48 (2012) 6, 889–891, <http://dx.doi.org/10.1039/c1cc16079f>; State Key Lab. Oxo Synth. Sel. Oxid., Lanzhou Inst. Chem. Phys., Chin. Acad. Sci., Lanzhou, Gansu 730000, Peop. Rep. China; Eng.) — C. Gebhardt



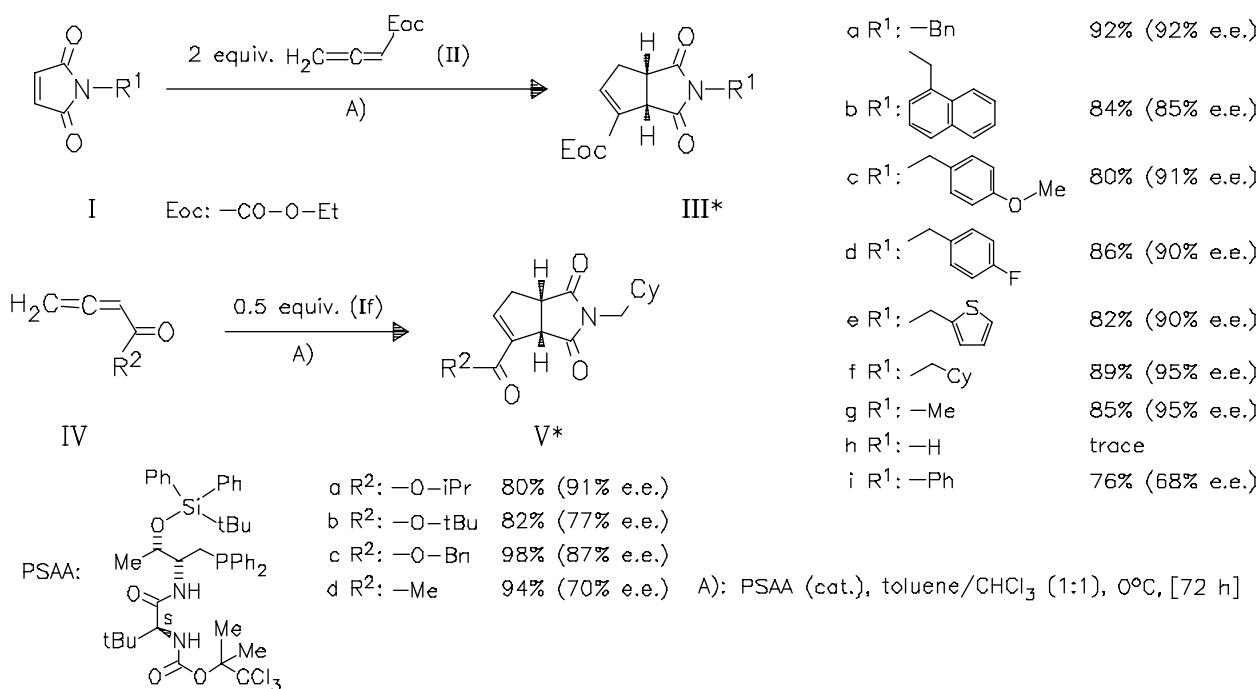
Enantioselective syntheses

O 0031

DOI: 10.1002/chin.201225021

25- 021

Asymmetric [3 + 2] Annulation of Allenes with Maleimides Catalyzed by Dipeptide-Derived Phosphines: Facile Creation of Functionalized Bicyclic Cyclopentenes Containing Two Tertiary Stereogenic Centers. — A highly enantioselective synthesis of title compounds (**III**) and (**V**) is presented. — (ZHAO, Q.; HAN, X.; WEI, Y.; SHI*, M.; LU, Y.; Chem. Commun. (Cambridge) 48 (2012) 7, 970-972, <http://dx.doi.org/10.1039/c2cc16904e>; Lab. Adv. Mater., Inst. Fine Chem., East China Univ. Sci. Technol., Shanghai 200237, Peop. Rep. China; Eng.) — C. Gebhardt



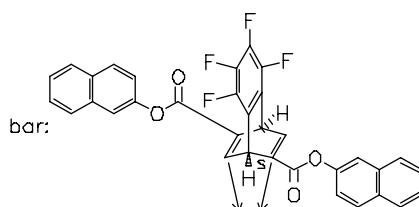
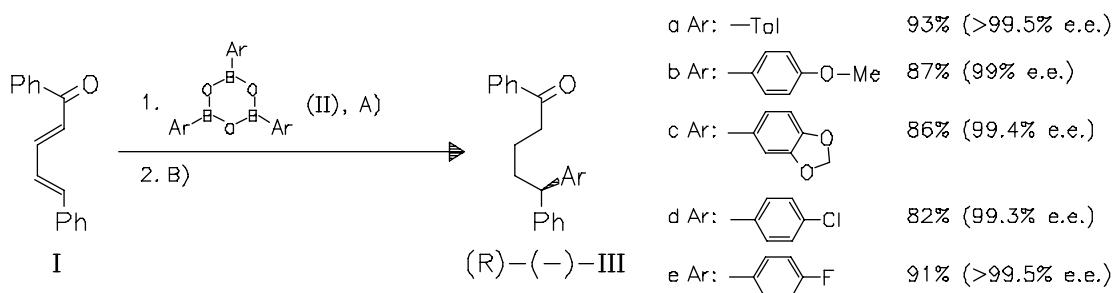
Enantioselective syntheses

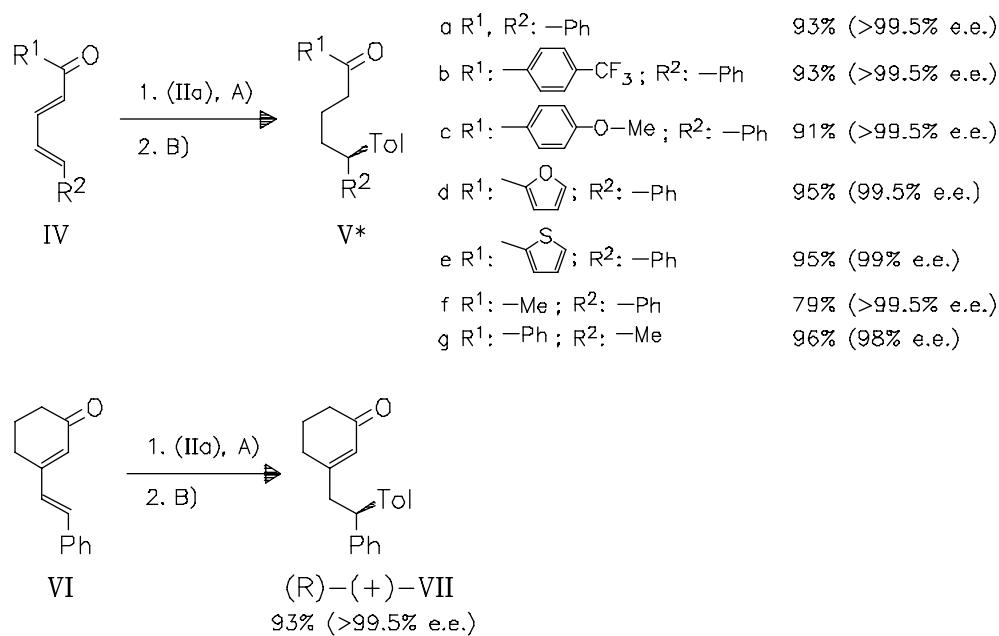
O 0031

DOI: 10.1002/chin.201225022

25- 022

Electronic Tuning of Chiral Diene Ligands in Iridium-Catalyzed Asymmetric 1,6-Addition of Arylboroxines to δ -Aryl- $\alpha,\beta,\gamma,\delta$ -unsaturated Ketones. — Highly enantioselective addition of arylboroximes to the title unsaturated ketones is achieved in the presence of an iridium catalyst coordinated to a chiral benzobarrelene derivative (bar). — (NISHIMURA*, T.; NOISHIKI, A.; HAYASHI, T.; Chem. Commun. (Cambridge) 48 (2012) 7, 973-975, <http://dx.doi.org/10.1039/c2cc16973h>; Dep. Chem., Grad. Sch. Sci., Kyoto Univ., Sakyo, Kyoto 606, Japan; Eng.) — C. Gebhardt





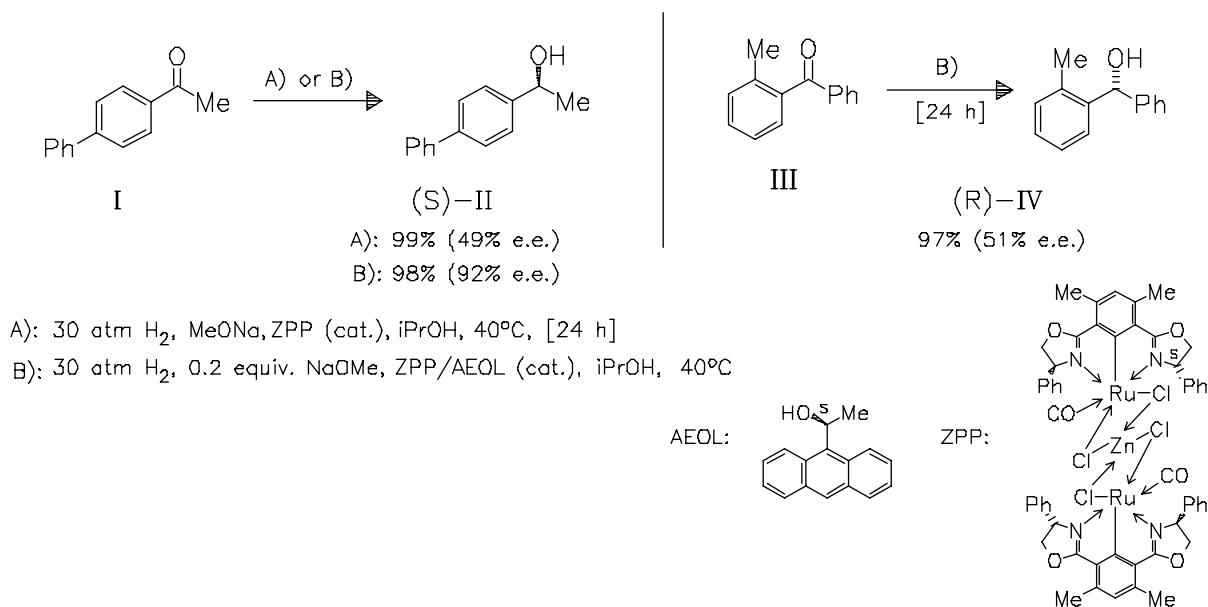
Enantioselective syntheses

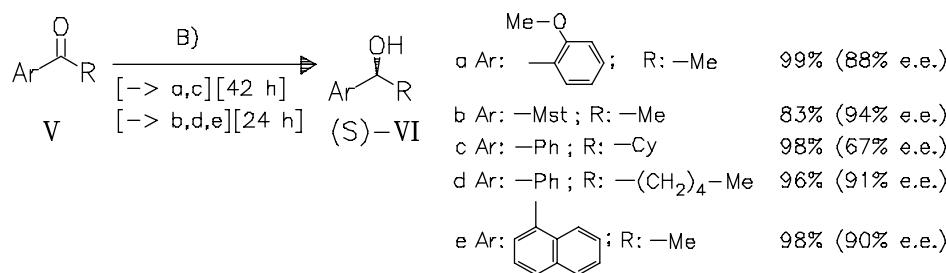
O 0031

DOI: 10.1002/chin.201225023

25- 023

Enhancement of Enantioselectivity by Alcohol Additives in Asymmetric Hydrogenation with Bis(oxazolinyl)phenyl Ruthenium Catalysts. — The chiral bulky (9-anthracenyl)ethanol enhances the enantioselectivities up to 50% in the asymmetric hydrogenation of prochiral ketones, even in protic solvents. — (ITO*, J.-I.; TESHIMA, T.; NISHIYAMA, H.; Chem. Commun. (Cambridge) 48 (2012) 8, 1105-1107, <http://dx.doi.org/10.1039/c1cc16057e>; Dep. Appl. Chem., Fac. Eng., Nagoya Univ., Chikusa, Nagoya 464, Japan; Eng.) — C. Gebhardt





Enantioselective syntheses

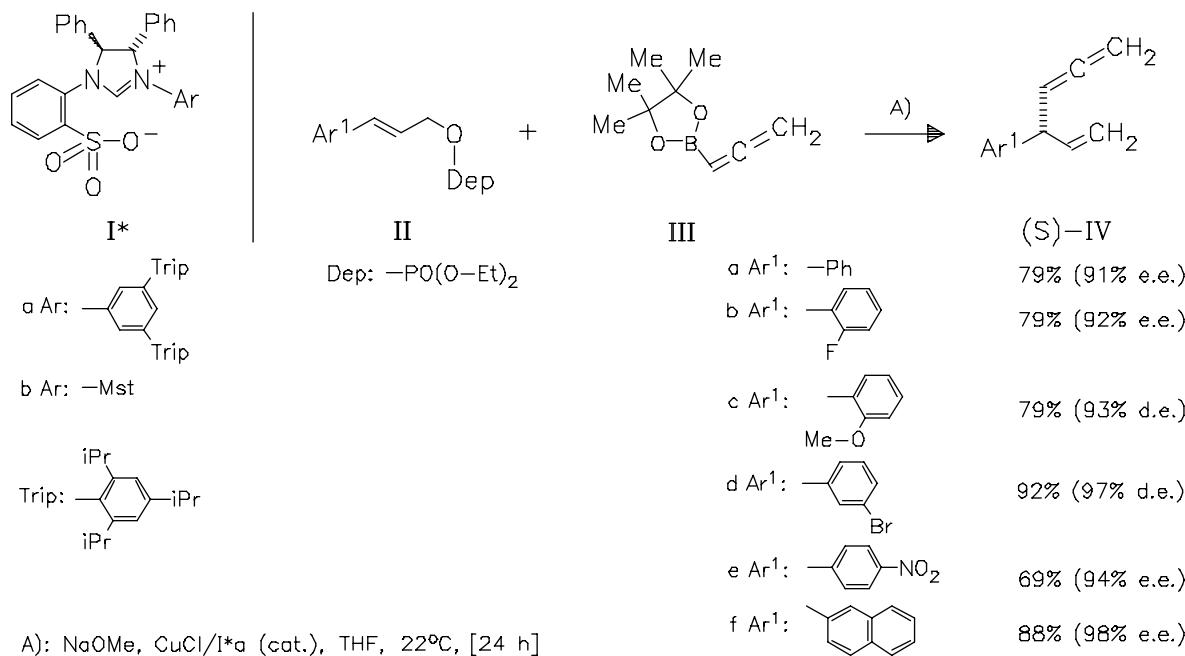
O 0031

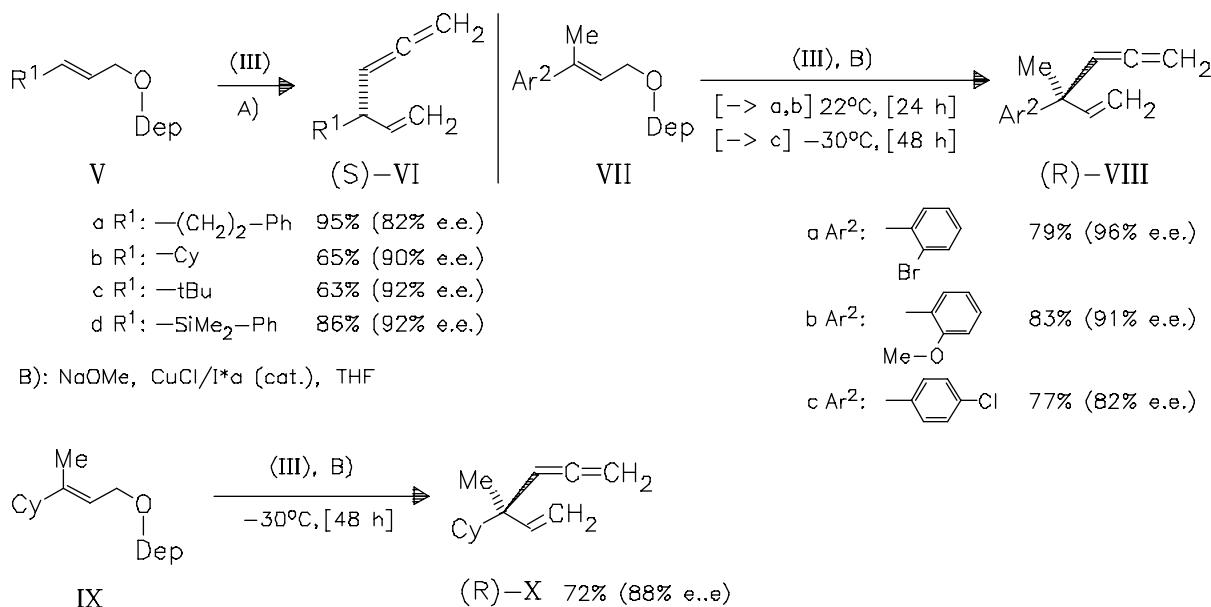
DOI: 10.1002/chin.201225024

25- 024

Site- and Enantioselective Formation of Allene-Bearing Tertiary or Quaternary Carbon Stereogenic Centers Through NHC—Cu-Catalyzed Allylic Substitution.

— The reactions of di- or trisubstituted allylic phosphates with allenylboronic ester (III) proceed with exclusive addition of the allenyl unit to give chiral S_N2' products. The transformations are performed with bidentate copper complexes prepared in situ from imidazolium salts (I). — (JUNG, B.; HOVEYDA*, A. H.; J. Am. Chem. Soc. 134 (2012) 3, 1490–1493, <http://dx.doi.org/10.1021/ja211269w>; Dep. Chem., Merkert Chem. Cent., Boston Coll., Chestnut Hill, MA 02467, USA; Eng.) — Klein





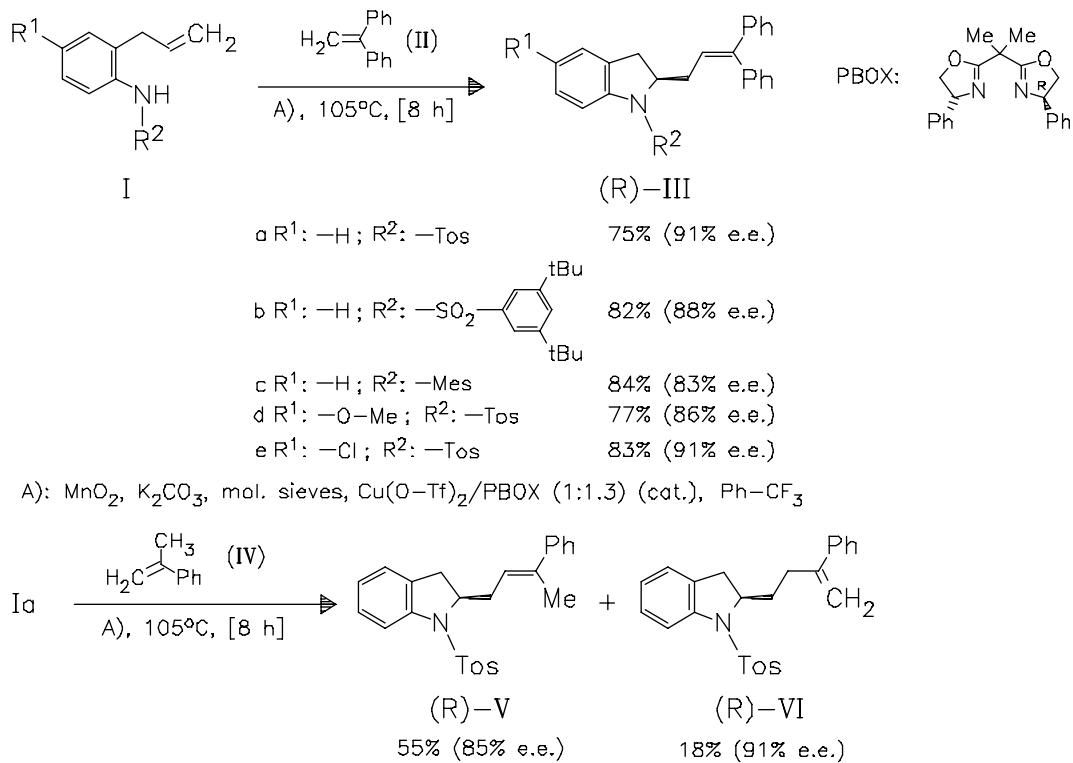
Enantioselective syntheses

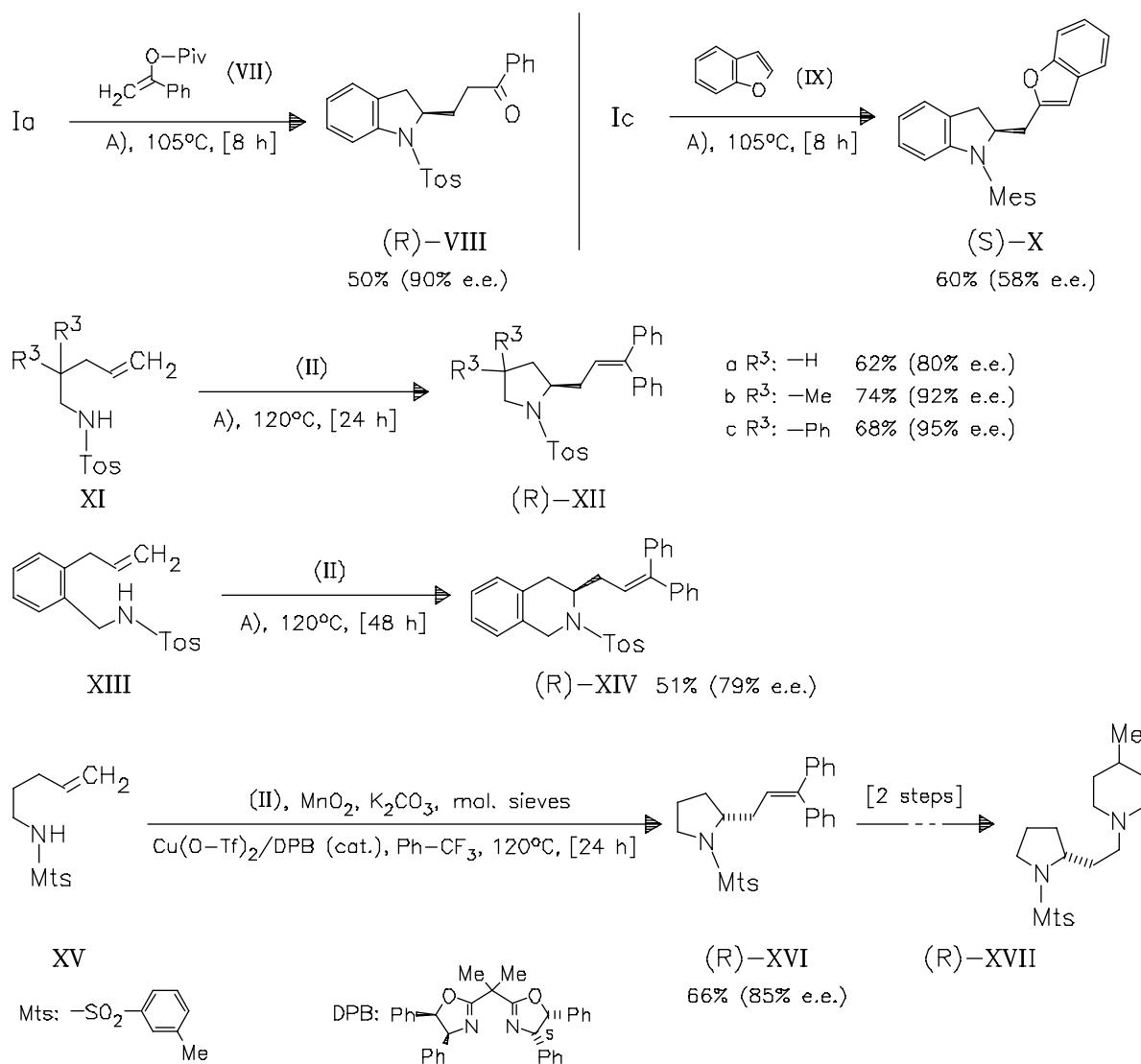
O 0031

DOI: 10.1002/chin.201225025

25- 025

Copper-Catalyzed Enantioselective Intramolecular Alkene Amination/Intermolecular Heck-Type Coupling Cascade. — The title optimized method provides functionalized indolines, pyrrolidines, and an isoquinoline with up to 95% e.e. from the respective acyclic γ - and δ -alkenylsulfonamides. Pyrrolidine (XVI) is converted into a 5-HT₇ receptor antagonist (XVII). — (LIWOSZ, T. W.; CHEMLER*, S. R.; J. Am. Chem. Soc. 134 (2012) 4, 2020–2023, <http://dx.doi.org/10.1021/ja211272v>; Dep. Chem., State Univ. N. Y., Buffalo, NY 14260, USA; Eng.) — Klein





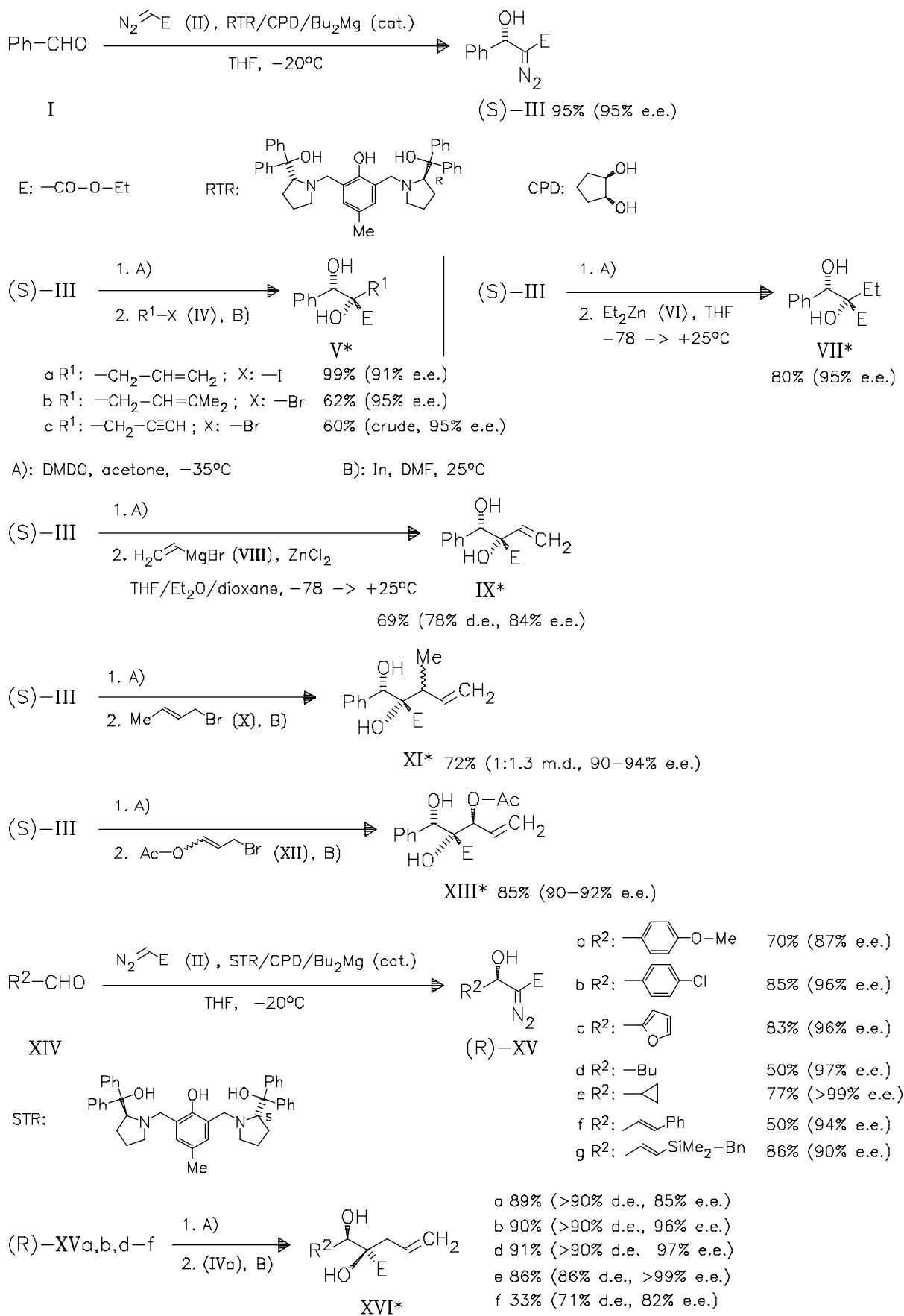
Enantioselective syntheses

O 0031

DOI: 10.1002/chin.201225026

25- 026

Development of the Enantioselective Addition of Ethyl Diazoacetate to Aldehydes: Asymmetric Synthesis of 1,2-Diols. — The title method is applied to the synthesis of vicinal diols bearing a tertiary carbon center. Under optimized conditions using an *in situ* generated chiral dinuclear magnesium catalyst, the addition of diazo ester (II) to aldehydes affords β -hydroxy- α -diazo esters, which are transformed into the target diols by oxidation of the diazo functionality, followed by the alkyl transfer of various organometallics into the resulting β -hydroxy- α -keto esters. The last step proceeds with high diastereoselectivity and chirality transfer. — (TROST*, B. M.; MALHOTRA, S.; KOSCHKER, P.; ELLERBROCK, P.; J. Am. Chem. Soc. 134 (2012) 4, 2075-2084, <http://dx.doi.org/10.1021/ja206995s>; Dep. Chem., Stanford Univ., Stanford, CA 94305, USA; Eng.) — Klein



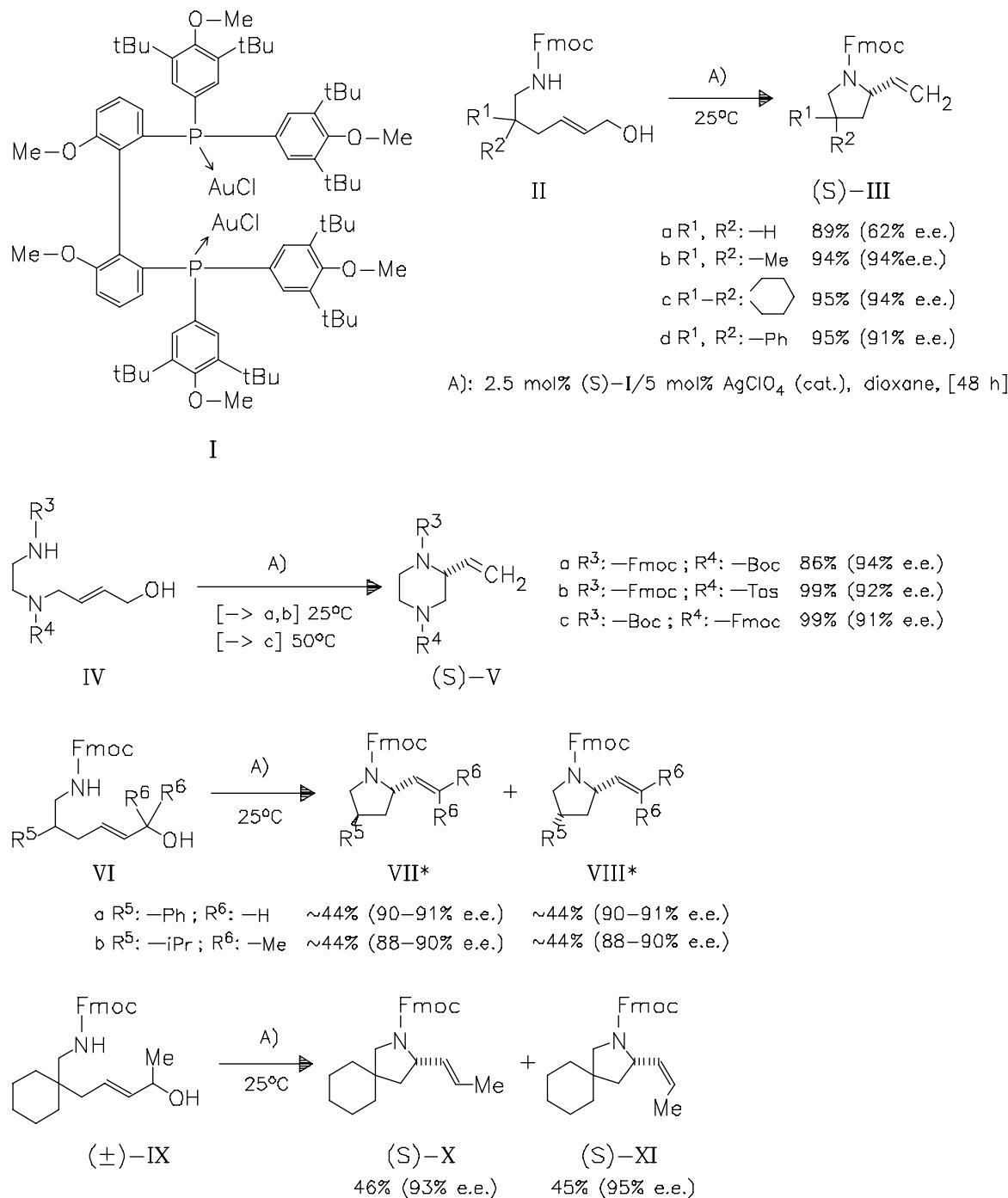
Enantioselective syntheses

O 0031

DOI: 10.1002/chin.201225027

25- 027

Gold(I)-Catalyzed Enantioselective Intramolecular Dehydrative Amination of Allylic Alcohols with Carbamates. — By use of an optimized catalyst system, vinyl-substituted pyrrolidine, piperidine, and piperazine compounds are formed with up to 95% enantioselectivity. — (MUKHERJEE, P.; WIDENHOEFER*, R. A.; *Angew. Chem., Int. Ed.* 51 (2012) 6, 1405–1407, <http://dx.doi.org/10.1002/anie.201107877>; French Family Sci. Cent., Duke Univ., Durham, NC 27708, USA; Eng.) — Klein

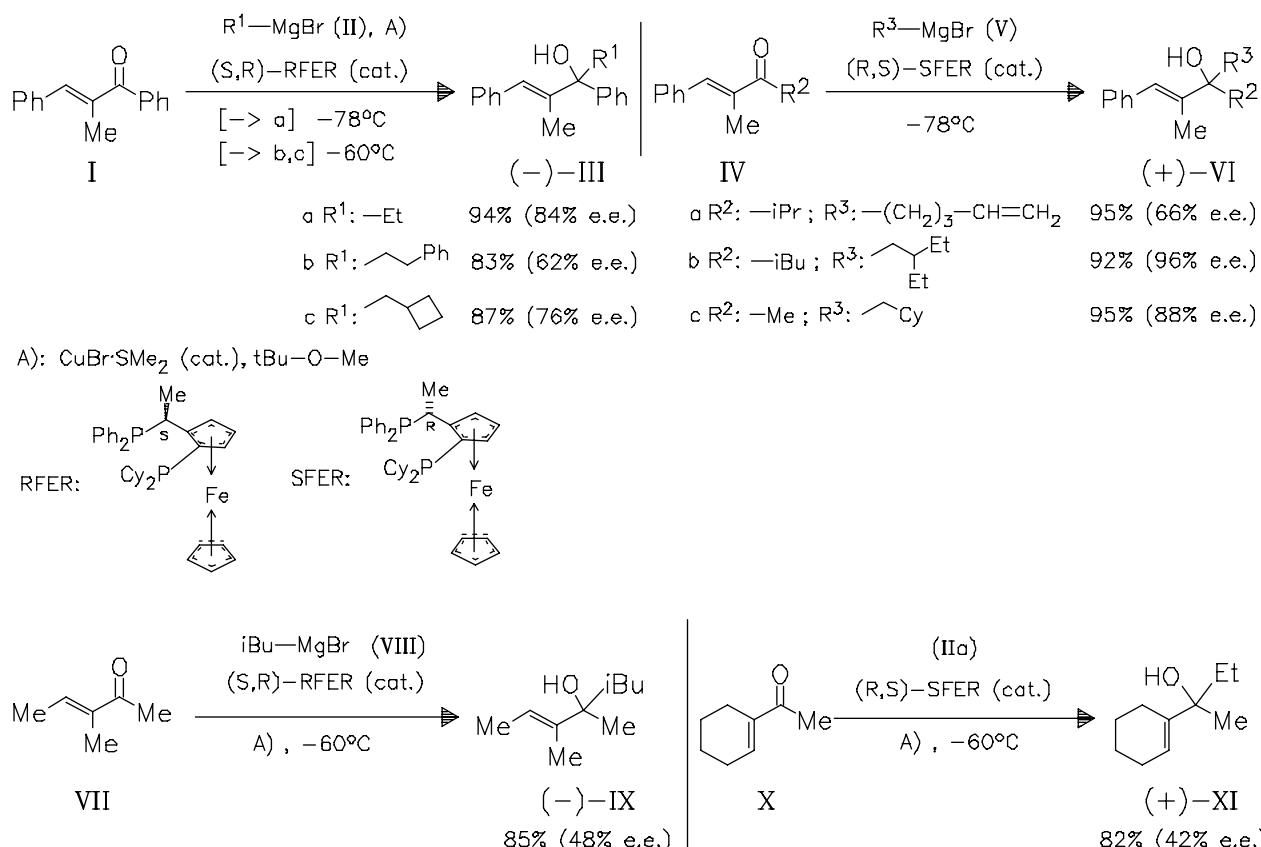


Enantioselective syntheses

O 0031

25- 028

Copper(I) Catalyzed Asymmetric 1,2-Addition of Grignard Reagents to α -Methyl Substituted α,β -Unsaturated Ketones. — The first catalytic enantioselective 1,2-addition of Grignard reagents (II), (V) and (VIII) to ketones (I), (IV), (VII) and (X) is reported. The use of stoichiometric amounts of an additive is not required. Chiral branched tertiary alcohols are obtained with excellent regioselectivity, high yields and enantioselectivities up to 96%. — (MADDURI, A. V. R.; MINNAARD*, A. J.; HARUTYUNYAN, S. R.; Chem. Commun. (Cambridge) 48 (2012) 10, 1478-1480, <http://dx.doi.org/10.1039/c1cc16725a>; Stratingh Inst. Chem., Univ. Groningen, NL-9747 AG Groningen, Neth.; Eng.) — M. Paetzel



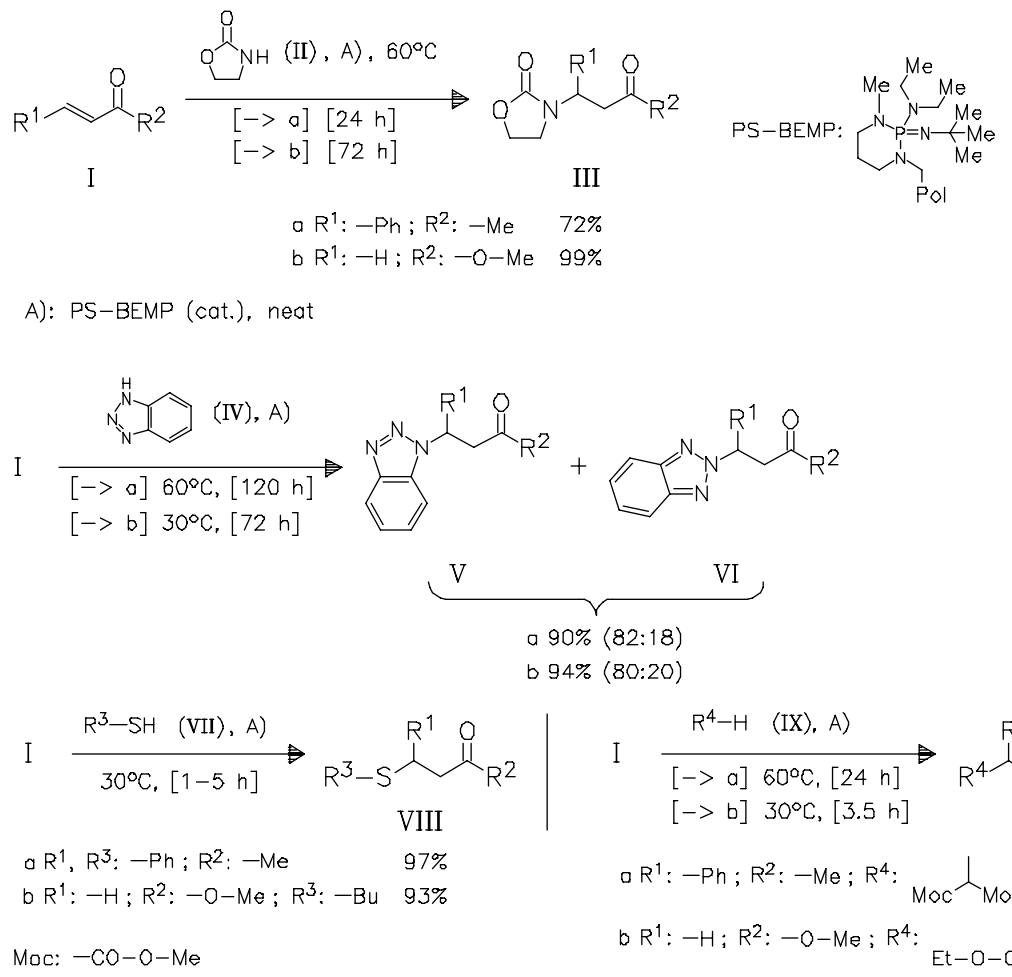
Addition reactions

O 0060

25- 029

E-Factor Minimized Protocols for the Polystyryl-BEMP Catalyzed Conjugate Additions of Various Nucleophiles to α,β -Unsaturated Carbonyl Compounds. — Michael and hetero-Michael addition of carbon, nitrogen, and sulfur nucleophiles to α,β -unsaturated carbonyl compounds (I) is carried out in the presence of the title catalyst. The adoption of solvent-free conditions is crucial for improving the efficiency of the process, whereas the use of an organic reaction medium provides poor results. The products are isolated by filtration using a minimal amount of an organic solvent necessary for work-up. The E-factor, a measure of the waste of the reaction, is minimized.

Further waste minimization (95.7% compared to batch protocol) is accomplished by defining a larger scale continuous-flow protocol operating under solvent-free conditions. — (BONOLLO, S.; LANARI, D.; LONGO, J. M.; VACCARO*, L.; Green Chem. 14 (2012) 1, 164–169, <http://dx.doi.org/10.1039/c1gc16088e>; Dip. Chim., Univ. Perugia, I-06123 Perugia, Italy; Eng.) — H. Hoennerscheid



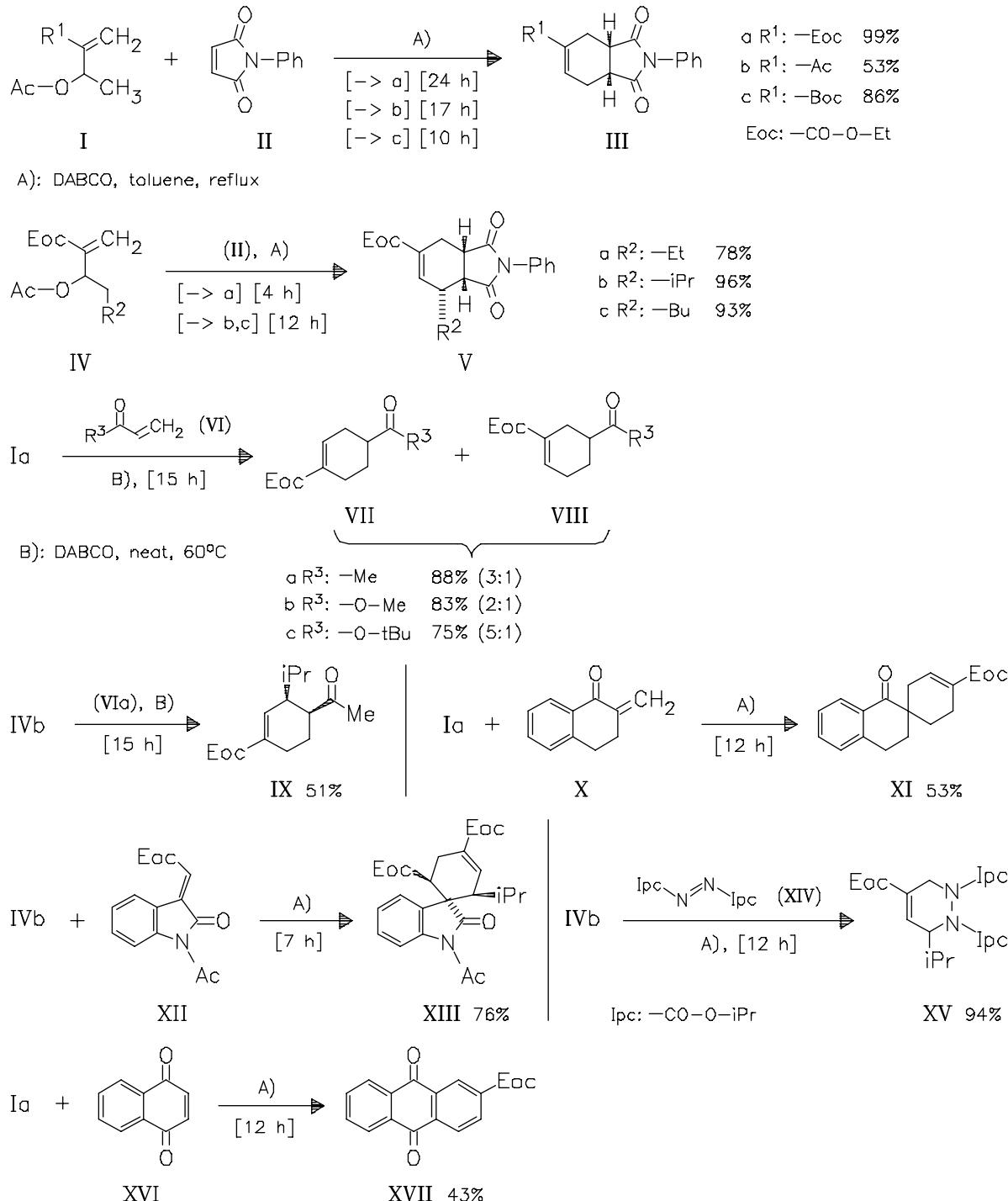
Cycloaddition reactions
O 0070

DOI: 10.1002/chin.201225030

25- 030

Divergent Amine-Catalyzed [4 + 2] Annulation of Morita—Baylis—Hillman Allylic Acetates with Electron-Deficient Alkenes. — The process provides easy access to highly functionalized cyclic compounds. The annulation features a broad substrate scope with respect to the C₄ and C₂ components. Most of the reactions are clean and afford the cyclization products with complete diastereorecontrol and good regioselectivity. As previously reported, the reaction of structurally similar allylic compounds and

electron-deficient alkenes in the presence of phosphines as catalysts exclusively affords [3 + 2] annulation products. Thus, this study showcases divergent catalysis between tertiary amines and phosphines. — (XU, S.; CHEN, R.; QIN, Z.; WU, G.; HE*, Z.; Org. Lett. 14 (2012) 4, 996–999, <http://dx.doi.org/10.1021/o12032569>; State Key Lab. Elemt.-Org. Chem., Nankai Univ., Tianjin 300071, Peop. Rep. China; Eng.) — Bartels

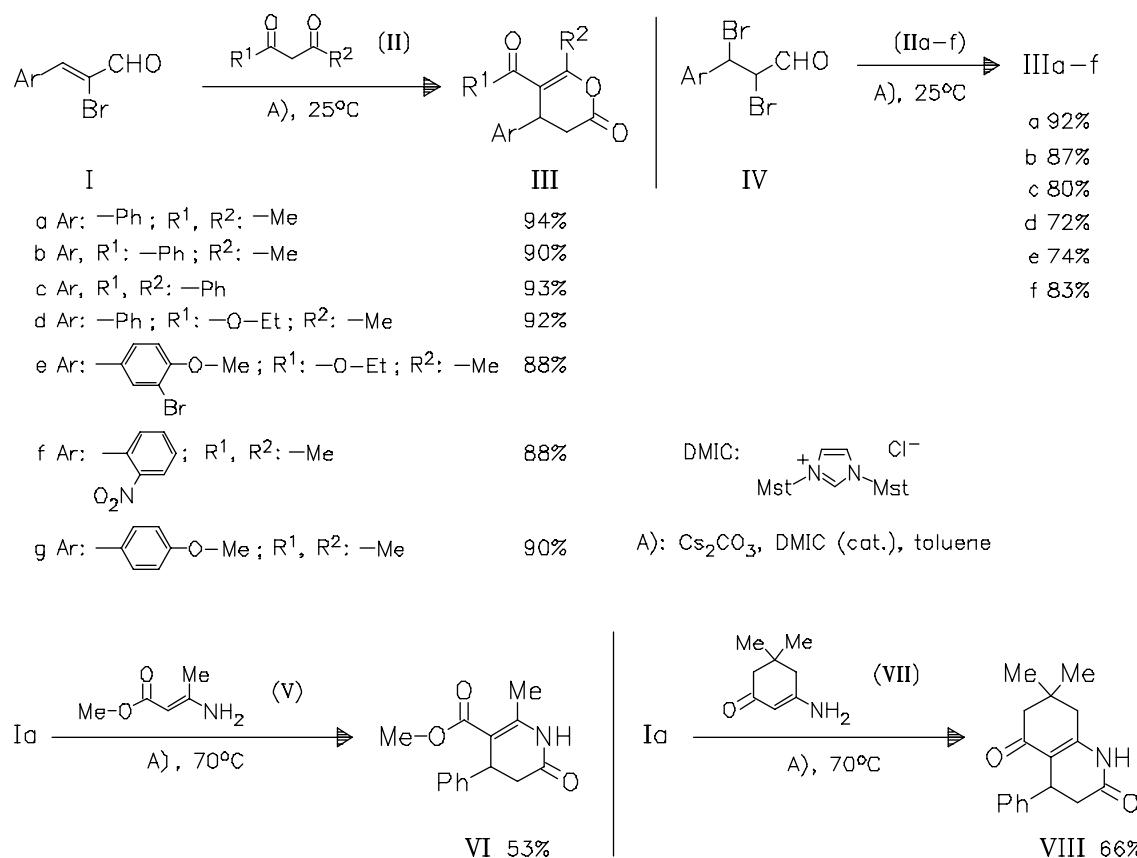


Ring closure reactions

O 0130

25- 031

N-Heterocyclic Carbene Catalyzed Reactions of α -Bromo- α,β -unsaturated Aldehydes/ α,β -Dibromoaldehydes with 1,3-Dinucleophilic Reagents. — The title reaction affords highly functionalized 3,4-dihydropyranones or 3,4-dihydropyridinones via umpolung processes in the absence of an external oxidant. — (YAO*, C.; WANG, D.; LU, J.; LIM, T.; JIAO, W.; YU, C.; Chem. Eur. J. 18 (2012) 7, 1914–1917, <http://dx.doi.org/10.1002/chem.201103358>; Sch. Chem. Chem. Eng., Xuzhou Norm. Univ., Jiangsu, Xuzhou 221116, Peop. Rep. China; Eng.) — Klein

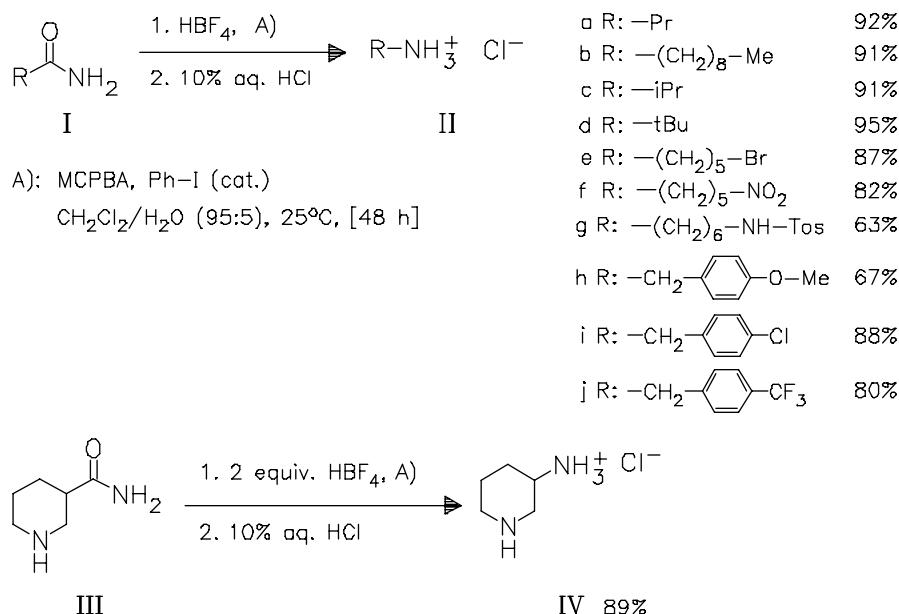


Rearrangements

O 0140

25- 032

A Catalytic Version of Hypervalent Aryl- λ^3 -iodane-induced Hofmann Rearrangement of Primary Carboxamides: Iodobenzene as an Organocatalyst and m-Chloroperbenzoic Acid as a Terminal Oxidant. — The first catalytic version of a hypervalent aryl- λ^3 -iodane-induced Hofmann rearrangement of primary carboxamides is developed (19 examples). — (MIYAMOTO, K.; SAKAI, Y.; GODA, S.; OCHIAI*, M.; Chem. Commun. (Cambridge) 48 (2012) 7, 982–984, <http://dx.doi.org/10.1039/c2cc16360h>; Grad. Sch. Pharm. Sci., Univ. Tokushima, Shohoku, Tokushima 770, Japan; Eng.) — C. Gebhardt



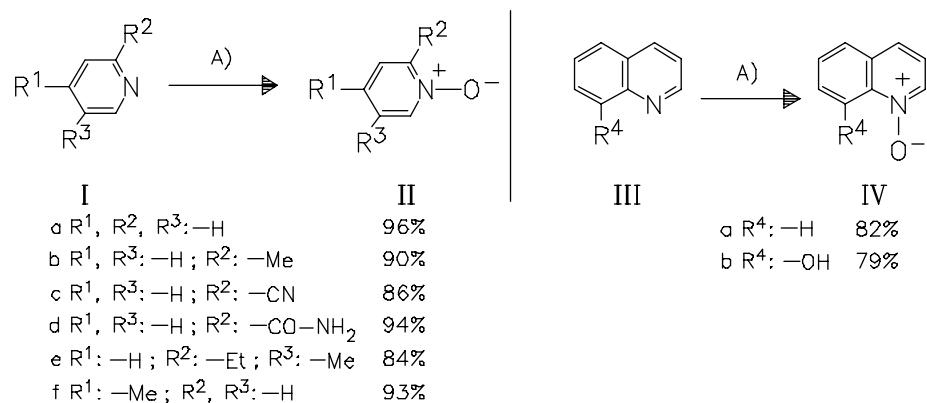
Oxidation
O 0212

DOI: 10.1002/chin.201225033

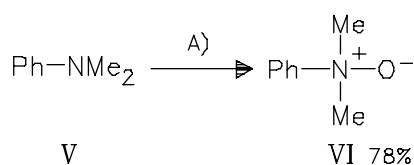
25- 033

A Short and Faster Entree to N-Oxides: Transition Metal Acetylacetones Promoted Aerobic Oxidative Transformation of Tertiary Nitrogen Compounds to N-Oxides.

The system iPr-CHO/O₂ in the presence of catalytic amounts of Fe(acac)₂ provides a simple, efficient and convenient method for the oxidation of tertiary nitrogen compounds to corresponding N-oxides under mild conditions. — (DONGRE*, R.; SHEIKH, J.; GHUGAL, D.; ALI, P.; MESHRAM, J.; RAMTEKE, D. S.; Indian J. Chem., Sect. B: Org. Chem. Incl. Med. Chem. 51 (2012) 2, 374-379; Dep. Chem., Rashtrasant Tukadoji Maharaj Nagpur Univ., Nagpur 440 033, India; Eng.) — H. Toeppe



A): 1 atm O₂, 3 equiv. iPrCHO, Fe(acac)₂ (cat.), DCE, 30°C

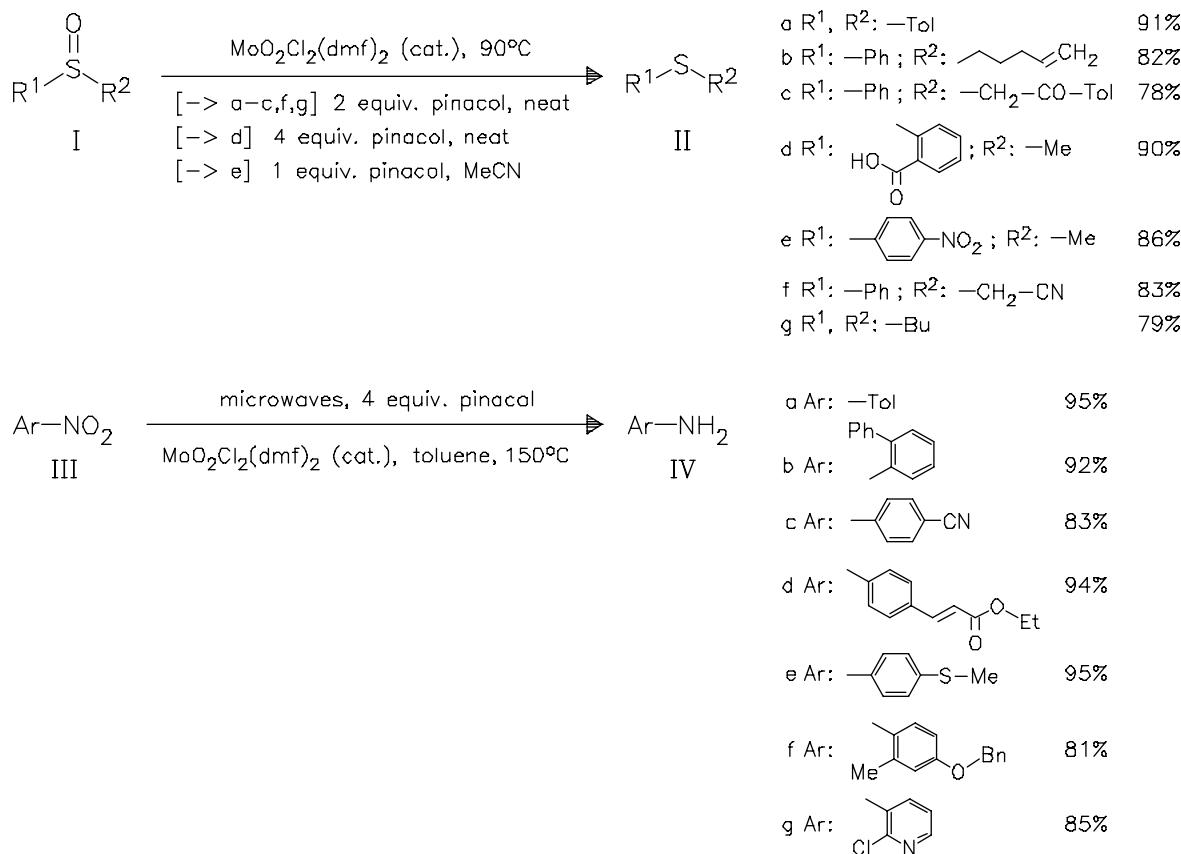


Reduction
O 0220

25- 034

DOI: 10.1002/chin.201225034

Pinacol as a New Green Reducing Agent: Molybdenum-Catalyzed Chemo-selective Reduction of Sulfoxides and Nitroaromatics. — (GARCIA, N.; GARCIA-GARCIA, P.; FERNANDEZ-RODRIGUEZ, M. A.; RUBIO, R.; PEDROSA, M. R.; ARNAIZ, F. J.; SANZ*, R.; *Adv. Synth. Catal.* 354 (2012) 2-3, 321-327, <http://dx.doi.org/10.1002/adsc.201100877>; Dep. Quim., Fac. Cienc., Univ. Burgos, E-09001 Burgos, Spain; Eng.) — Nuesgen

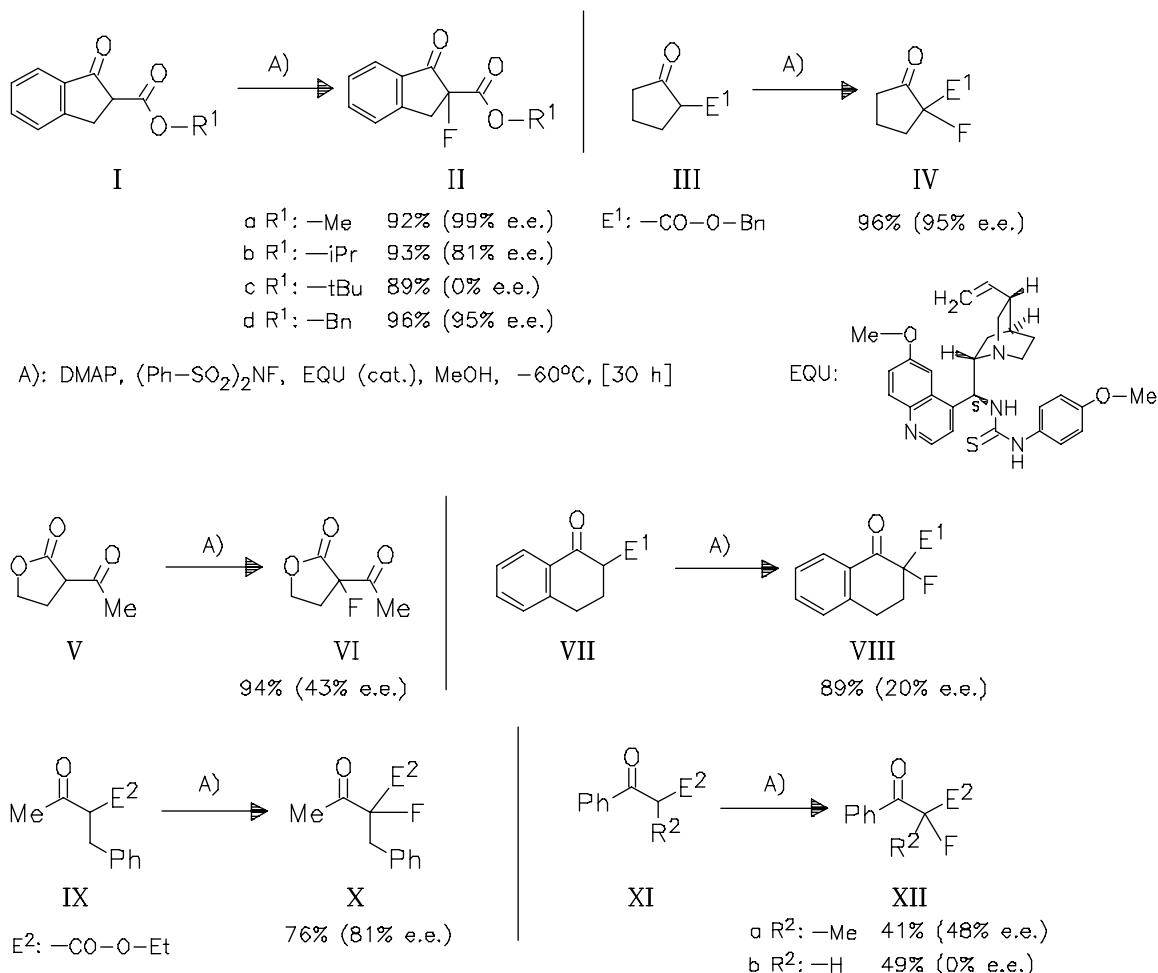


Halogenation
O 0235

25- 035

DOI: 10.1002/chin.201225035

Thiourea-Catalyzed Enantioselective Fluorination of β -Keto Esters. — (XU, J.; HU*, Y.; HUANG, D.; WANG, K.-H.; XU, C.; NIU, T.; *Adv. Synth. Catal.* 354 (2012) 2-3, 515-526, <http://dx.doi.org/10.1002/adsc.201100660>; Coll. Chem. Chem. Eng., Northwest Norm. Univ., Lanzhou, Gansu 730070, Peop. Rep. China; Eng.) — Nuesgen



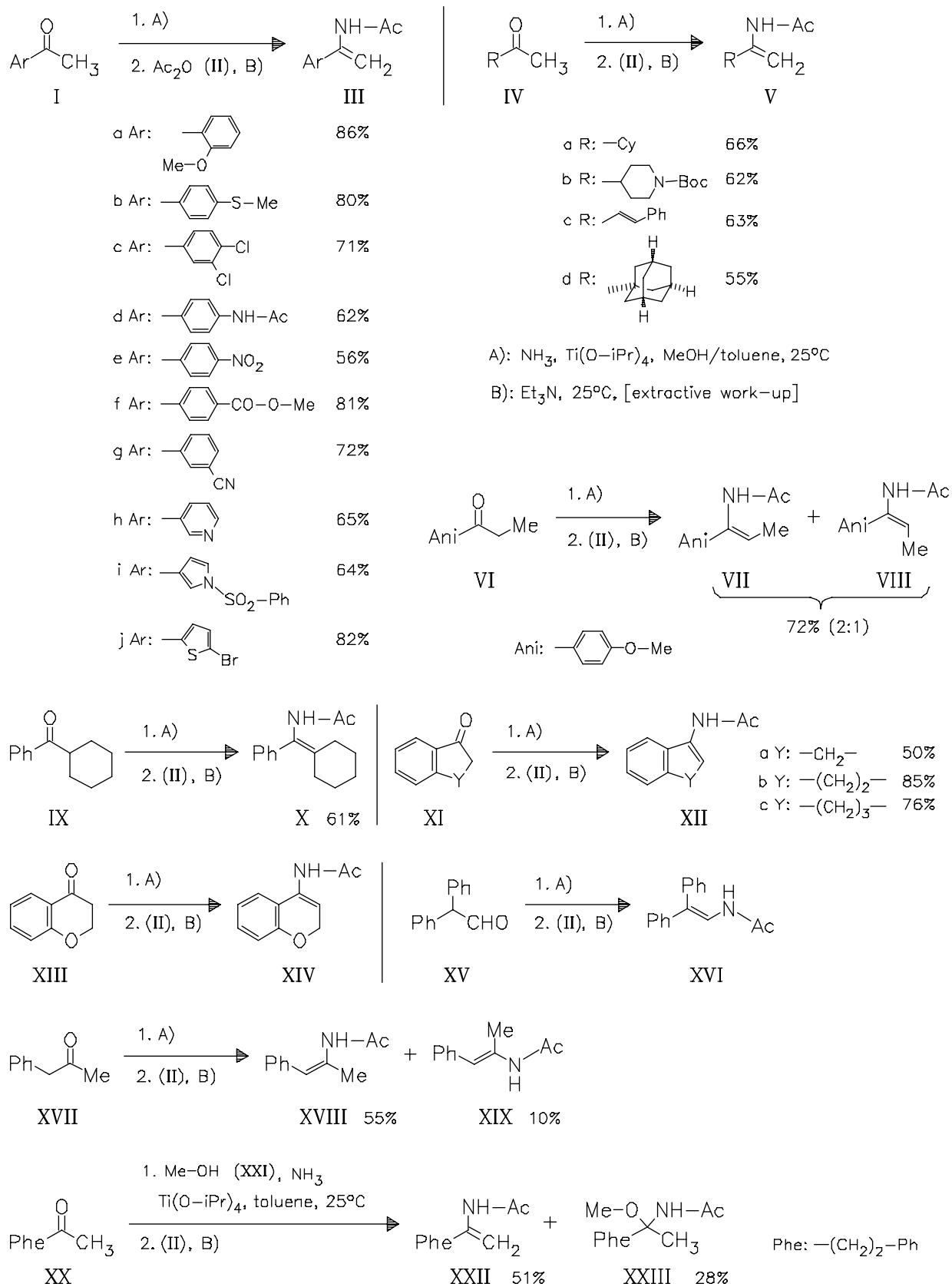
Amination

O 0268

25- 036

DOI: 10.1002/chn.201225036

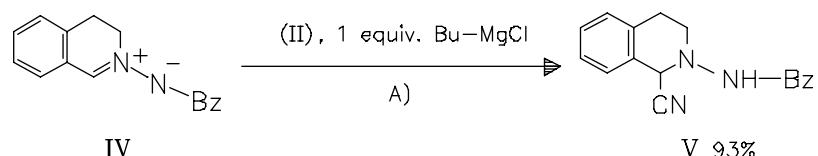
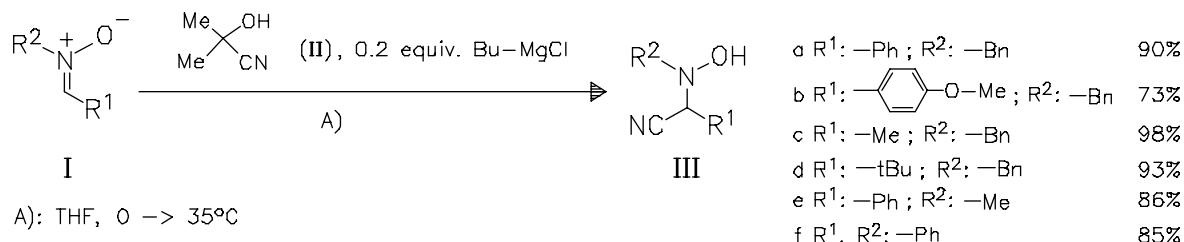
Direct Titanium-Mediated Conversion of Ketones into Enamides with Ammonia and Acetic Anhydride. — The method is performed with safe and inexpensive reagents, proceeds under mild conditions, and tolerates diverse functional groups. The addition of N,N,N',N'-tetrakis(2-hydroxyethyl)ethylenediamine prior to work-up converts $\text{Ti}(\text{O}i\text{Pr})_4$ into a water-soluble and water-stable complex which allows a simple extractive work-up. — (REEVES*, J. T.; et al.; Angew. Chem., Int. Ed. 51 (2012) 6, 1400-1404, <http://dx.doi.org/10.1002/anie.201107601>; Dep. Chem. Dev., Boehringer Ingelheim Pharm. Inc., Ridgefield, CT 06877, USA; Eng.) — Klein



Cyanation
O 0273

25- 037

Strecker-Type Reaction of Nitrones Using Cyanohydrin. — Treatment of nitrones (I) with acetone cyanhydrin (II) in the presence of BuMgCl results in transcyanation reaction to afford the corresponding α -cyanohydroxylamines (III) in good yields. — (SAKAI, T.; SOETA, T.; INOMATA, K.; UKAJI*, Y.; Bull. Chem. Soc. Jpn. 85 (2012) 2, 231-235, <http://dx.doi.org/10.1246/bcsj.20110270>; Div. Mater. Sci., Grad. Sch. Nat. Sci. Technol., Kanazawa Univ., Kanazawa 920, Japan; Eng.) — M. Paetzel



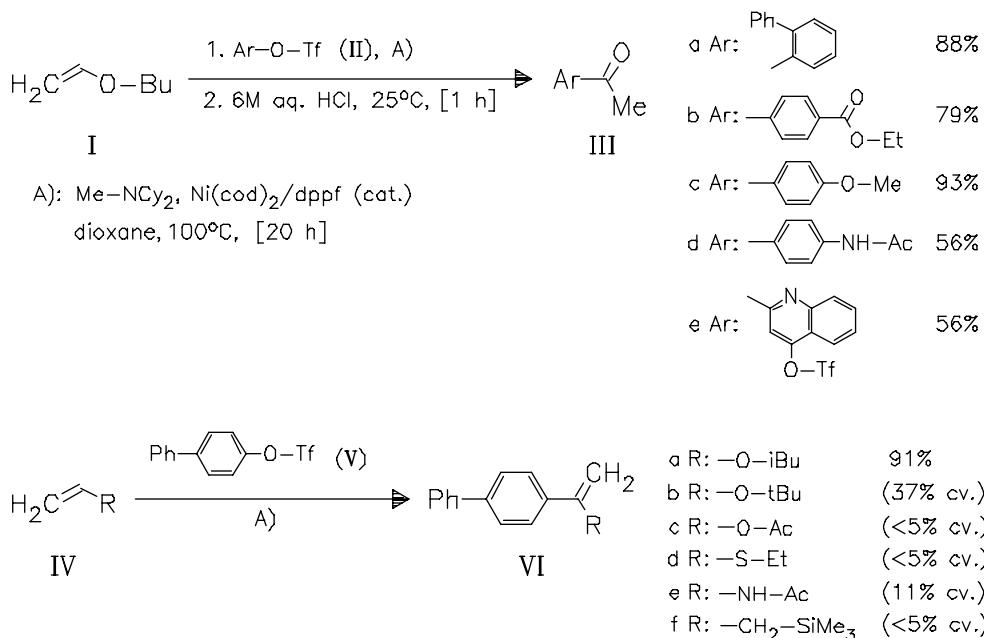
C-C bond formation

O 0282

25- 038

DOI: 10.1002/chin.201225038

Mild and Efficient Nickel-Catalyzed Heck Reactions with Electron-Rich Olefins. — (GOEGSIG, T. M.; KLEIMARK, J.; NILSSON LILL, S. O.; KORSAGER, S.; LINDHARDT, A. T.; NORRBY, P.-O.; SKRYDSTRUP*, T.; J. Am. Chem. Soc. 134 (2012) 1, 443-452, <http://dx.doi.org/10.1021/ja2084509>; Dep. Chem., Aarhus Univ., DK-8000 Aarhus, Den.; Eng.) — Nuesgen



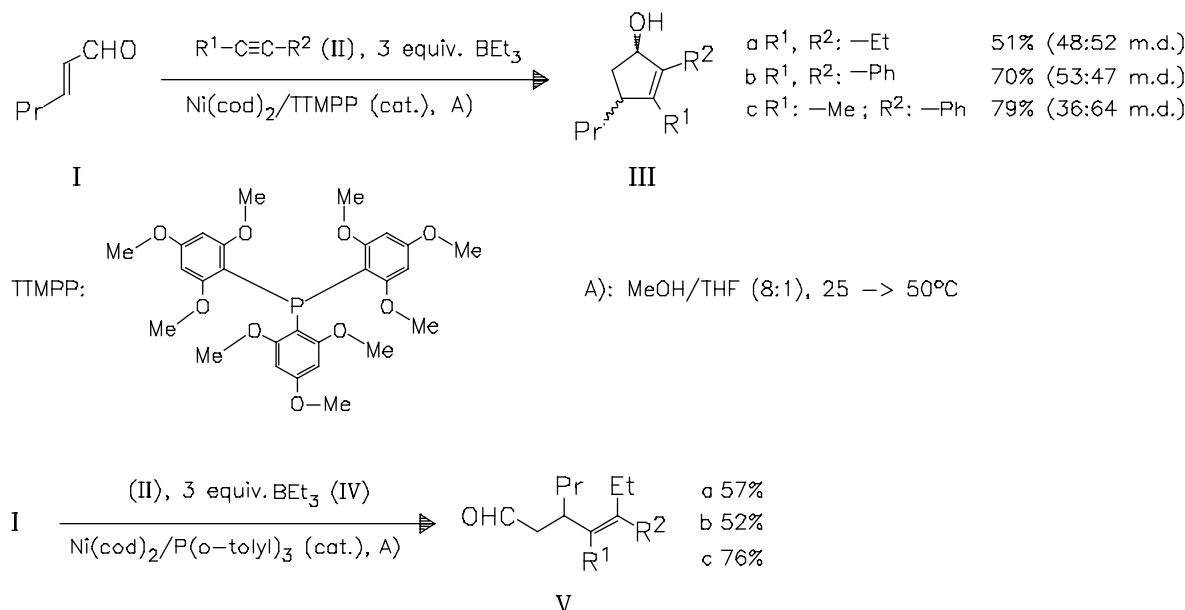
C-C bond formation

O 0282

25- 039

DOI: 10.1002/chin.201225039

Ligand-Guided Pathway Selection in Nickel-Catalyzed Couplings of Enals and Alkynes. — (LI, W.; MONTGOMERY*, J.; Chem. Commun. (Cambridge) 48 (2012) 8, 1114-1116, <http://dx.doi.org/10.1039/c2cc17073f>; Dep. Chem., Univ. Mich., Ann Arbor, MI 48109, USA; Eng.) — C. Gebhardt



C-C bond formation

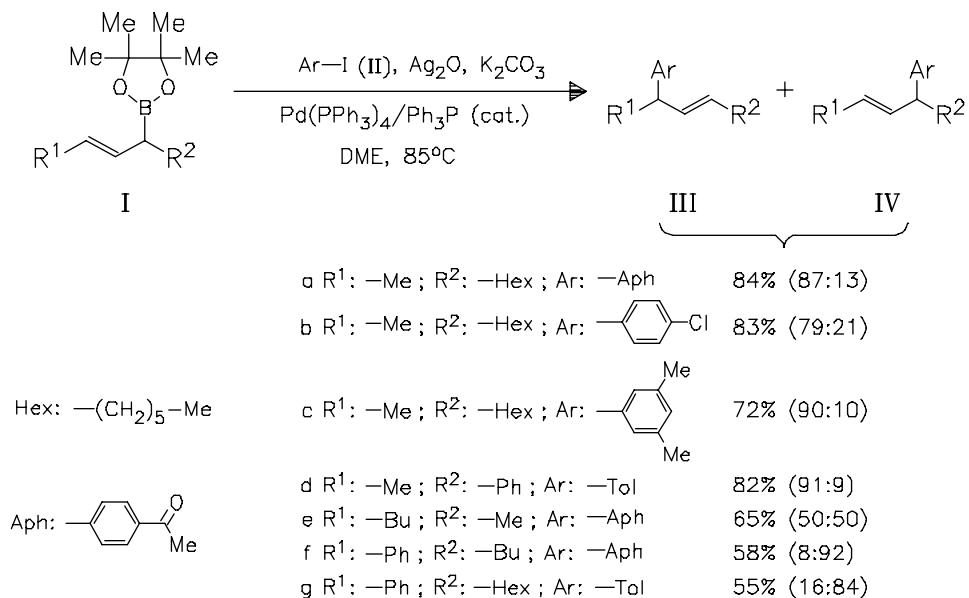
O 0282

25- 040

DOI: 10.1002/chin.201225040

Suzuki—Miyaura Cross-Couplings of Secondary Allylic Boronic Esters. —

Pd-catalyzed cross-coupling reactions of secondary allylic boronic esters (I) with aryl iodides (II) are performed under the conditions previously described for the coupling of benzylic substrates. The regioselectivity of the transformation is largely dictated by the pattern of olefin substitution. — (GLASSPOOLE, B. W.; GHOZATI, K.; MOIR, J. W.; CRUDDEN*, C. M.; Chem. Commun. (Cambridge) 48 (2012) 9, 1230-1232, <http://dx.doi.org/10.1039/c2cc16076e>; Dep. Chem., Queen's Univ., Kingston, Ont. K7L 3N6, Can.; Eng.) — M. Paetzel



C-C bond formation

O 0282

DOI: 10.1002/chin.201225041

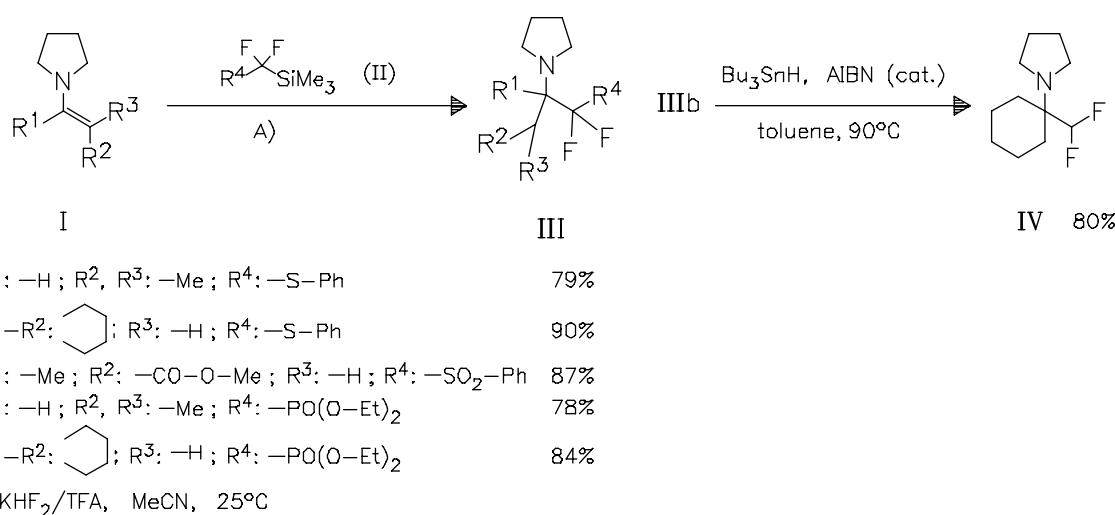
25- 041

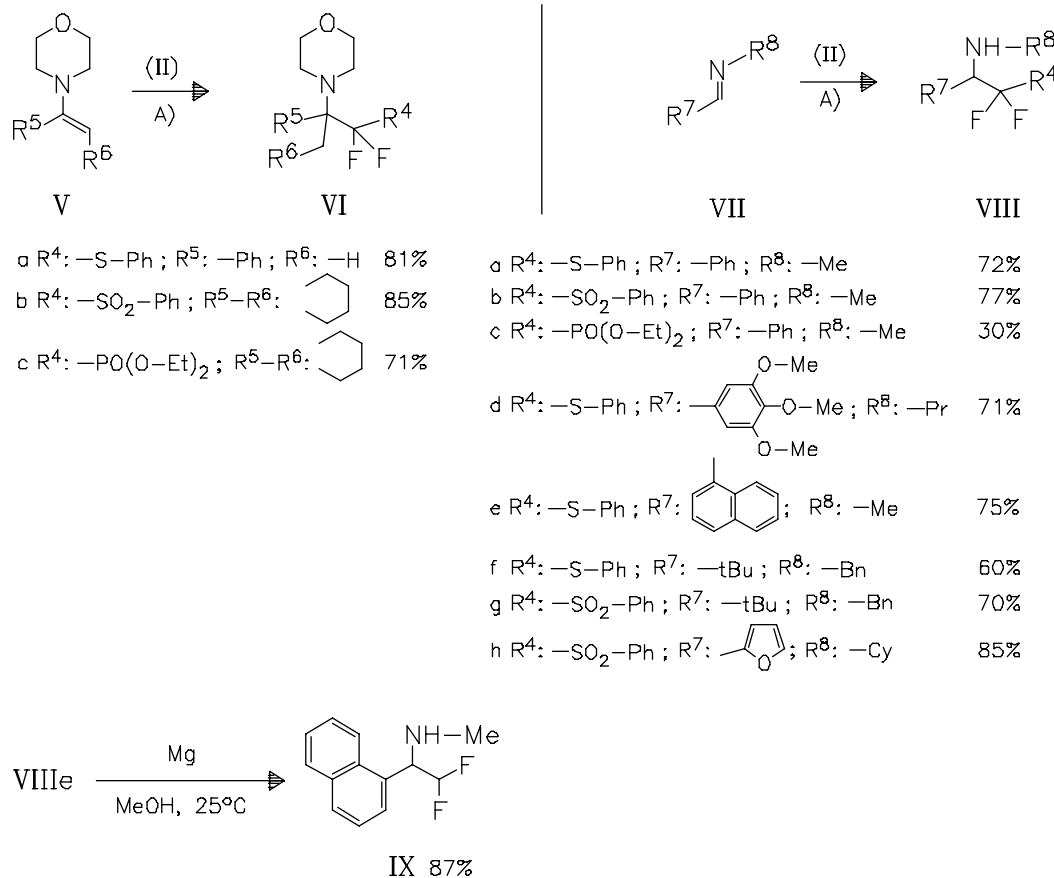
Reactions of Sulfur- and Phosphorus-Substituted Fluoroalkylating Silicon Reagents with Imines and Enamines under Acidic Conditions. — The title reaction

allows an effective access to diverse fluorinated amines of biological interest. —

(KOSOBOKOV, M. D.; DILMAN*, A. D.; STRUCHKOVA, M. I.; BELYAKOV, P. A.; HU, J.; *J. Org. Chem.* 77 (2012) 4, 2080-2086,

http://dx.doi.org/10.1021/jo202669w ; Zelinsky Inst. Org. Chem., Russ. Acad. Sci., Moscow 119991, Russia; Eng.) — Jannicke





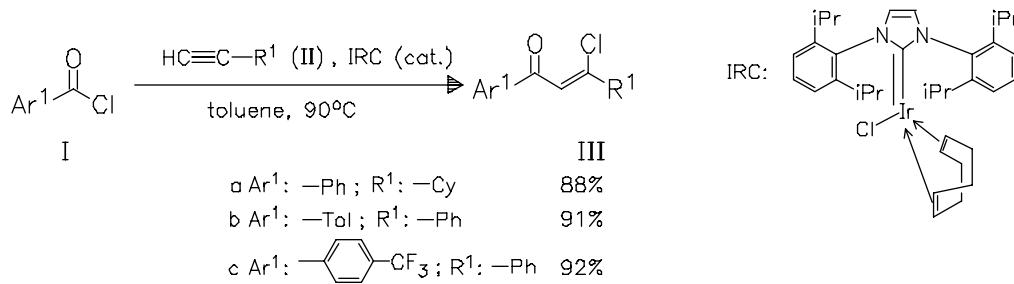
C-C bond formation

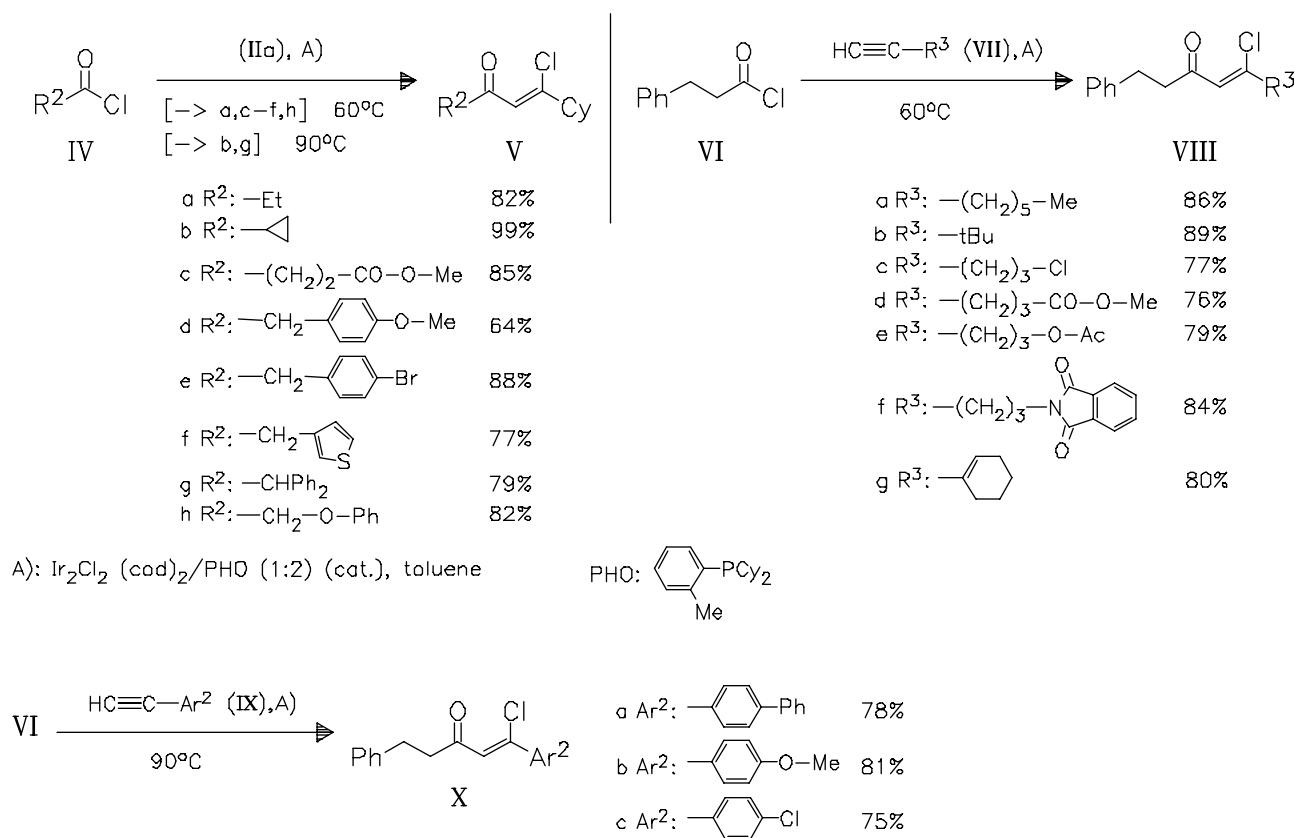
O 0282

DOI: 10.1002/chin.201225042

25- 042

Iridium-Catalyzed Addition of Aroyl Chlorides and Aliphatic Acid Chlorides to Terminal Alkynes. — The ligands in the iridium catalytic system play a crucial role for the success of the reactions. N-heterocyclic carbene-derived iridium complex IRC is an efficient catalyst for the addition of aroyl chlorides, whereas Ir/PCy₂(2-tolyl) is more active for the addition of aliphatic acid chlorides. The desired (Z)-β-chloro-α,β-unsaturated ketones are formed regio- and stereoselectively with suppression of undesired decarbonylation and β-hydrogen elimination. — (IWAI, T.; FUJIHARA, T.; TERAO, J.; TSUJI*, Y.; *J. Am. Chem. Soc.* 134 (2012) 2, 1268-1274, <http://dx.doi.org/10.1021/ja209679c>; Dep. Energy Hydrocarbon Chem., Grad. Sch. Eng., Kyoto Univ., Nishikyo, Kyoto 615, Japan; Eng.) — Klein





C-C bond formation

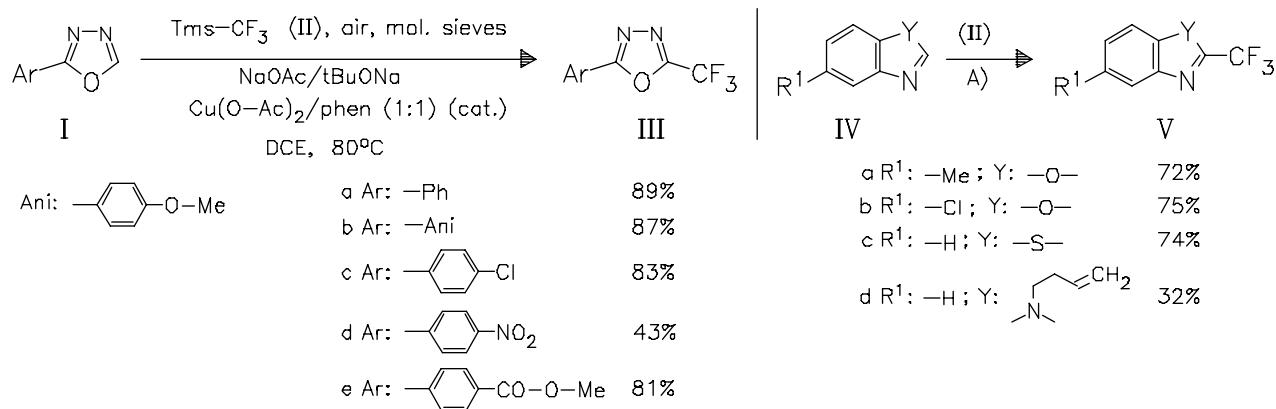
O 0282

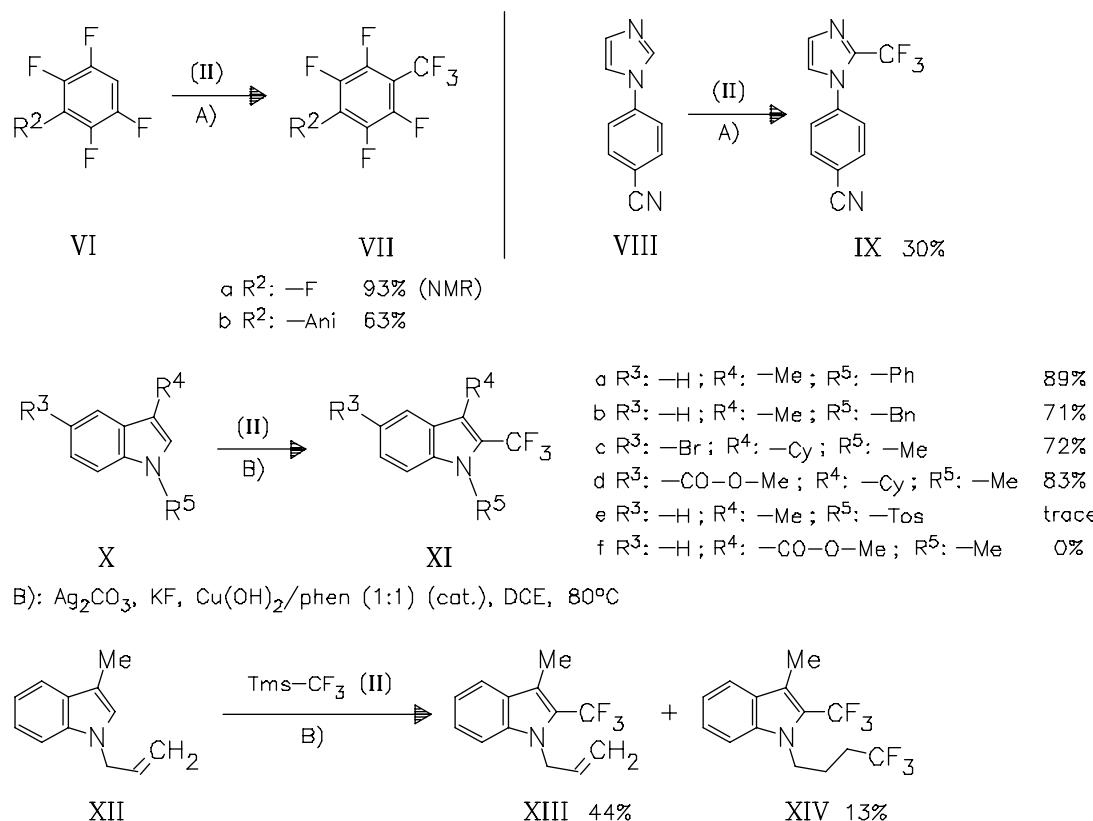
DOI: 10.1002/chin.201225043

25- 043

Copper-Catalyzed Direct C—H Oxidative Trifluoromethylation of Heteroarenes.

— Oxadiazoles, 1,3-azoles, perfluorobenzenes, and indoles react with TmsCF_3 in the presence of air, $t\text{BuOOtBu}$, or Ag_2CO_3 as oxidants. The copper catalyst and the base are optimized for each type of heteroarene. — (CHU, L.; QING*, F.-L.; J. Am. Chem. Soc. 134 (2012) 2, 1298–1304, <http://dx.doi.org/10.1021/ja209992w>; Lab. Organo-fluorine Chem., Shanghai Inst. Org. Chem., Acad. Sin., Shanghai 200032, Peop. Rep. China; Eng.) — Klein

A): $t\text{Bu-O-O-tBu}$, $t\text{BuONa}$, NaOAc , $\text{Cu(O-Ac)}_2/\text{phen}$ (1:1) (cat.), DCE, 80°C , $[\text{N}_2]$



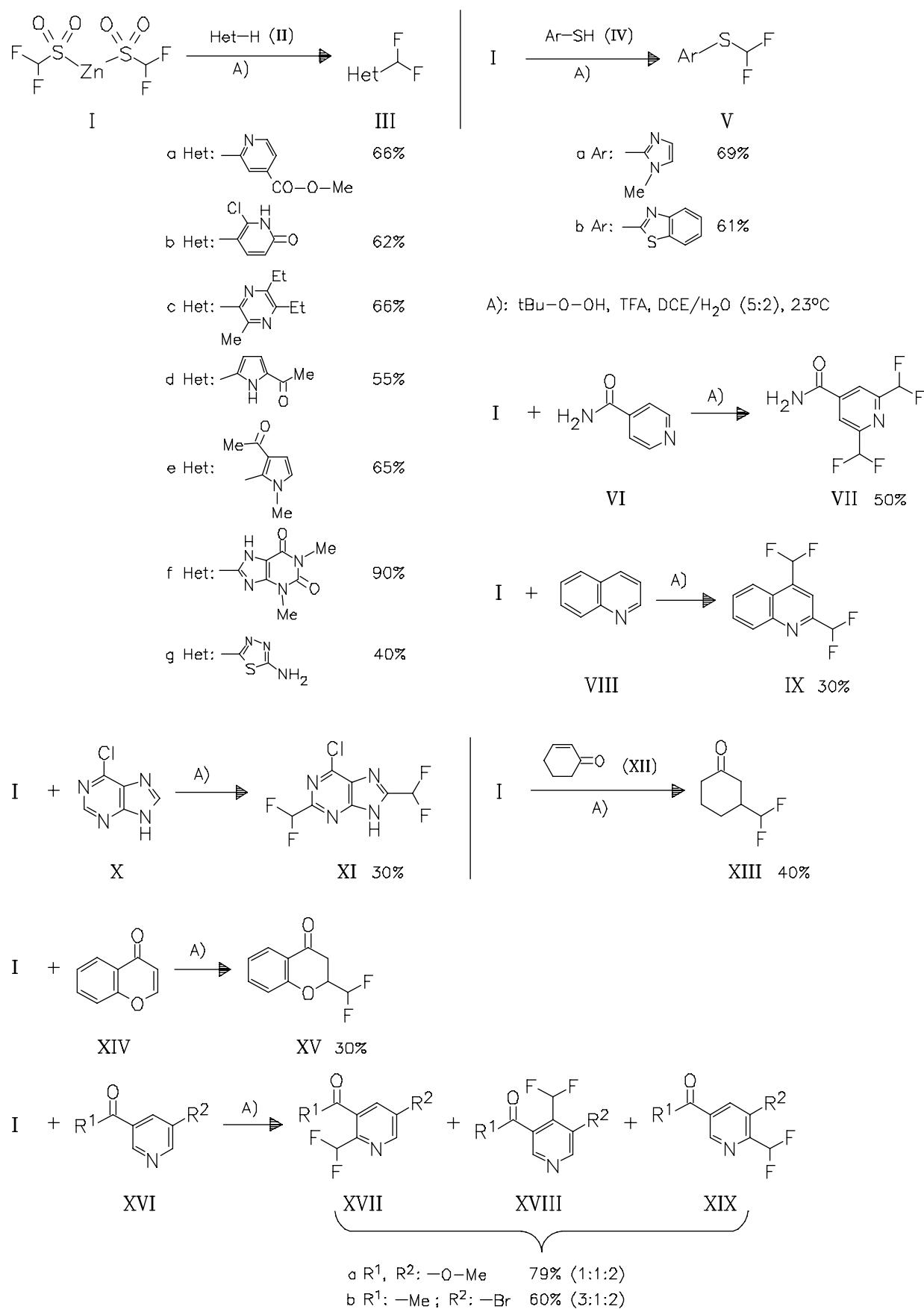
C-C bond formation

O 0282

DOI: 10.1002/chin.201225044

25- 044

A New Reagent for Direct Difluoromethylation. — Bis(difluoromethylsulfonyl)zinc (**I**), an air-stable, free-flowing powder, which exists as a polymer in the solid state, is an optimum partner for the difluoromethylation of a range of nitrogen-containing heteroarene compounds, aromatic thiols, and conjugated π -systems such as α,β -unsaturated enones. Regiochemical comparisons suggest that the CF_2H radical generated from the zinc compound possesses a nucleophilic character. — (FUJIWARA, Y.; DIXON, J. A.; RODRIGUEZ, R. A.; BAXTER, R. D.; DIXON, D. D.; COLLINS, M. R.; BLACKMOND, D. G.; BARAN*, P. S.; *J. Am. Chem. Soc.* 134 (2012) 3, 1494-1497, <http://dx.doi.org/10.1021/ja211422g>; Dep. Chem., Scripps Res. Inst., San Diego, La Jolla, CA 92037, USA; Eng.) — Klein



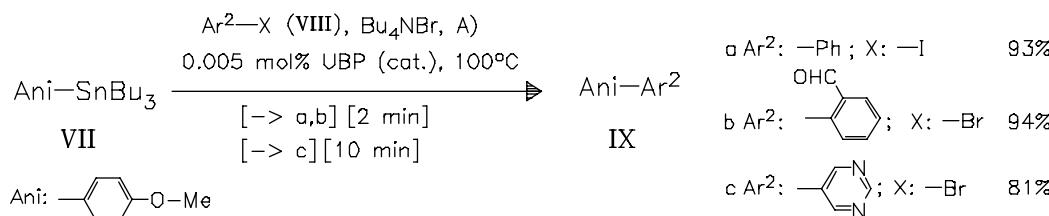
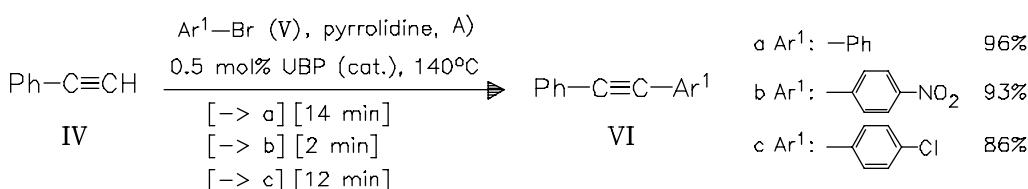
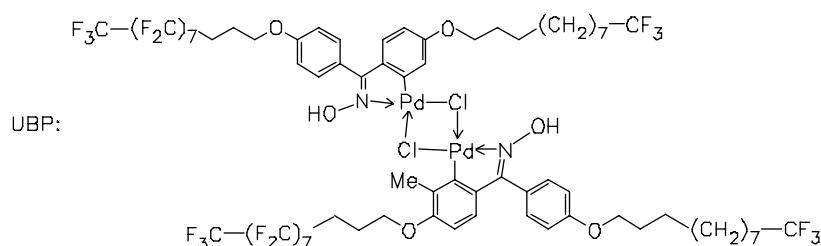
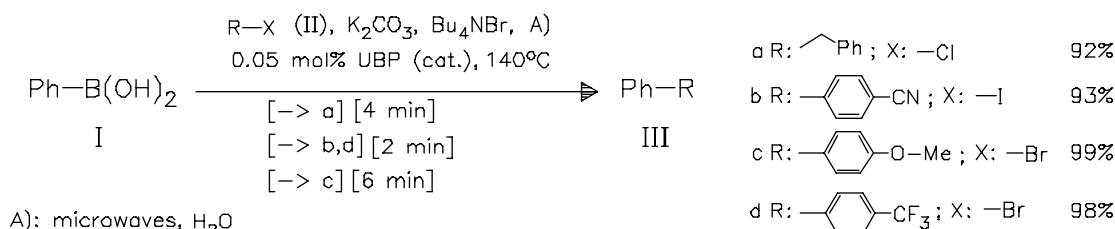
C-C bond formation

O 0282

25- 045

DOI: 10.1002/chin.201225045

Development of a Fluorous, Oxime-Based Palladacycle for Microwave-Promoted Carbon—Carbon Coupling Reactions in Aqueous Media. — The thermally stable palladacycle promotes the Suzuki—Miyaura, Sonogashira, and Stille coupling reactions under microwave irradiation at high temperatures, thus significantly shortening the reaction time. Noteworthy, the amount of palladium leaching is much lower than that observed for the polymer-supported oxime-based palladacycle analogue. The palladacycle is reused five times in the Suzuki-Miyaura reaction without significant loss of activity. — (SUSANTO, W.; CHU, C.-Y.; ANG, W. J.; CHOU, T.-C.; LO, L.-C.; LAM*, Y.; Green Chem. 14 (2012) 1, 77-80, <http://dx.doi.org/10.1039/c1gc16108c>; Dep. Chem., Natl. Univ. Singapore, Singapore 117543, Singapore; Eng.) — H. Hoennerscheid



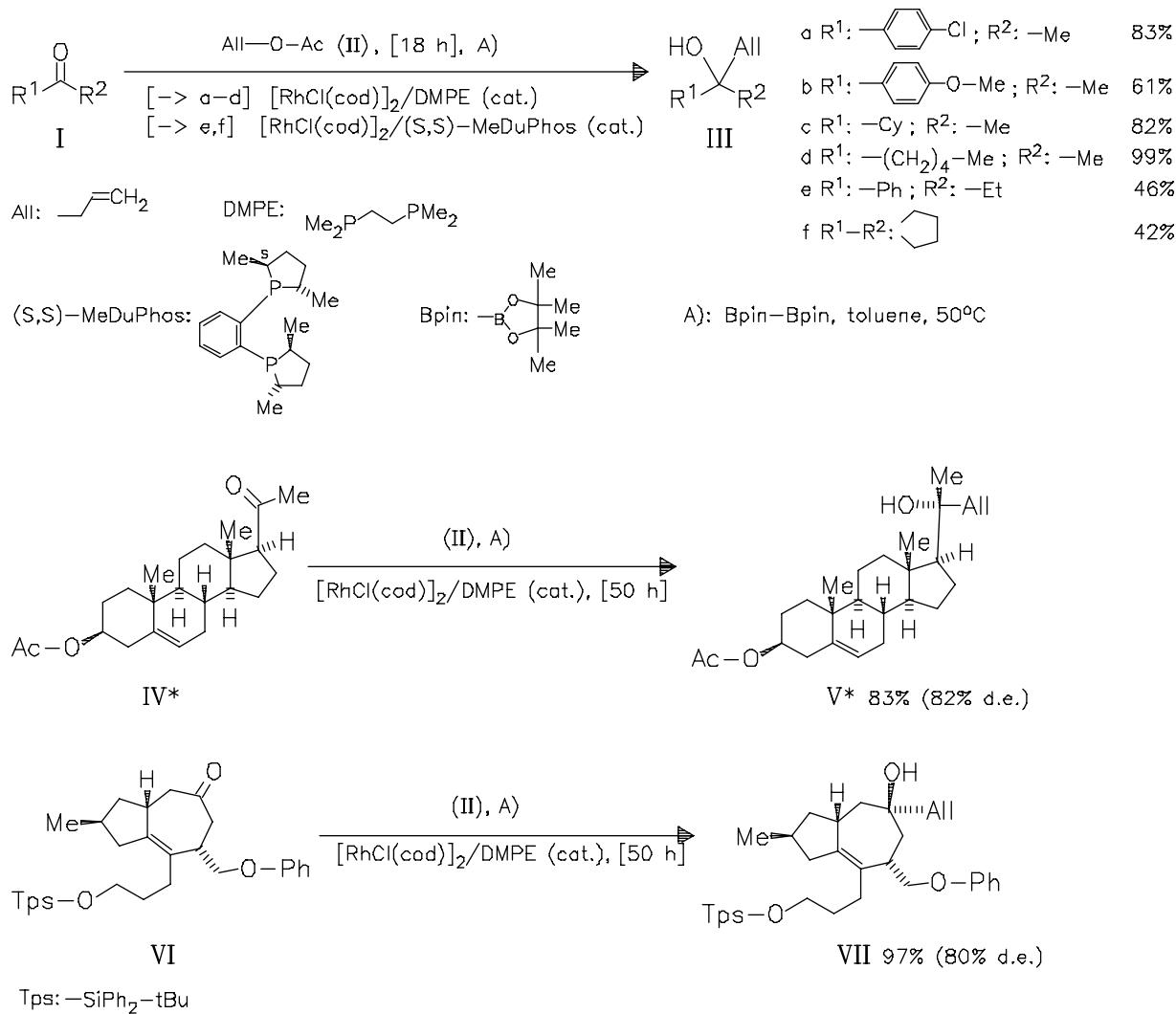
C-C bond formation

O 0282

25- 046

DOI: 10.1002/chin.201225046

Rhodium-Catalyzed Redox Allylation Reactions of Ketones. — Ketones (I) react with allyl acetate (II) to generate tertiary homoallylic alcohols (III) in the presence of a rhodium catalyst and bis(pinacolato)diboron. A range of substrates, including aryl, alkyl and cyclic ketones, reacts smoothly under these conditions. Diastereoselective allylation reactions of functionalized ketones, such as pregnenolone acetate (IV), are further reported. — (WILLIAMS, F. J.; GROTE, R. E.; JARVO*, E. R.; Chem. Commun. (Cambridge) 48 (2012) 10, 1496-1498, <http://dx.doi.org/10.1039/c1cc14691b>; Dep. Chem., Univ. Calif., Irvine, CA 92717, USA; Eng.) — M. Paetzel



Metathesis reactions

O 0286

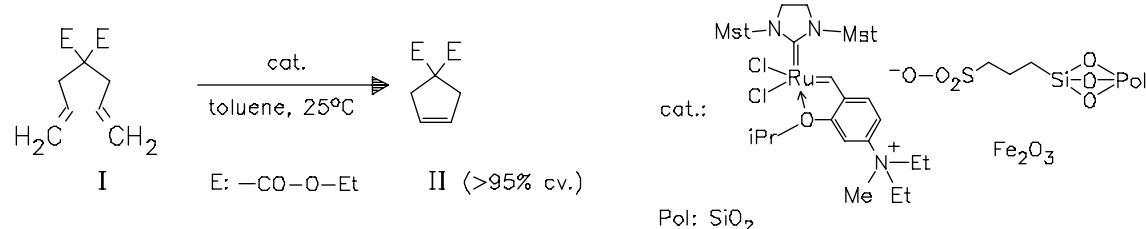
25- 047

DOI: 10.1002/chin.201225047

Electrostatic Immobilization of an Olefin Metathesis Pre-Catalyst on Iron Oxide

Magnetic Particles. — The quaternary ammonium Hoveyda—Grubbs olefin metathesis pre-catalyst affecting the ring closing metathesis of diethyl diallylmalonate (I) is readily accessed in one step from second generation Grubbs catalyst and immobilized onto magnetically separable nanosized iron oxide particles. The resultant ruthenium alkylidene catalyst provides pseudo-homogeneous reactivity combined with an in-built facile recovery option. Ready reloading of the catalyst as well as reuse of the functionalized magnetic particles are possible through the electrostatic attachment. —

(BYRNES, M. J.; HILTON, A. M.; WOODWARD, C. P.; JACKSON, W. R.; ROBINSON*, A. J.; *Green Chem.* 14 (2012) 1, 81-84, <http://dx.doi.org/10.1039/c1gc16084b>; Sch. Chem., Monash Univ., Clayton, Victoria 3800, Australia; Eng.) — H. Hoennerscheid



Hydration

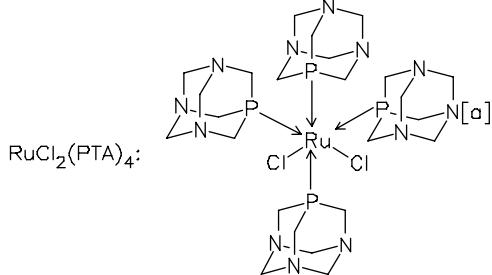
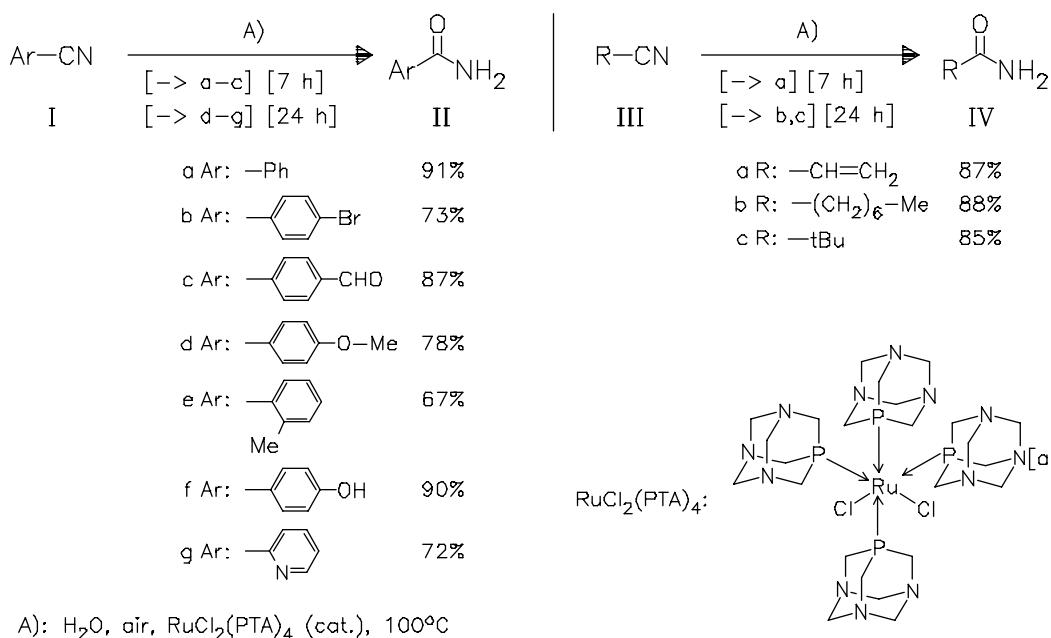
O 0335

25- 048

DOI: 10.1002/chin.201225048

Aqueous and Biphasic Nitrile Hydration Catalyzed by a Recyclable Ru(II) Complex under Atmospheric Conditions. — Aqueous phase nitrile hydration results in near quantitative conversion of aliphatic and aromatic nitriles (I) and (III) into amides (II) and (IV). Additionally the aqueous/organic biphasic hydration of benzonitrile (Ia) is investigated. The reaction tolerates a variety of functional groups. Amides are the only products formed. The catalyst is robust and can be reused more than five times.

Catalyst loading down to 0.001 mol% leads to turnover numbers up to 22000. Advantages of the catalytic system include easy catalyst preparation, simple reaction set-up, and the use of green conditions. Amides (IIb), (IId), and (IIe) are isolated by decantation from the aqueous phase catalyst. — (LEE, W.-C.; FROST*, B. J.; *Green Chem.* 14 (2012) 1, 62-66, <http://dx.doi.org/10.1039/c1gc15950j>; Dep. Chem., Univ. Nev., Reno, NV 89557, USA; Eng.) — H. Hoennerscheid

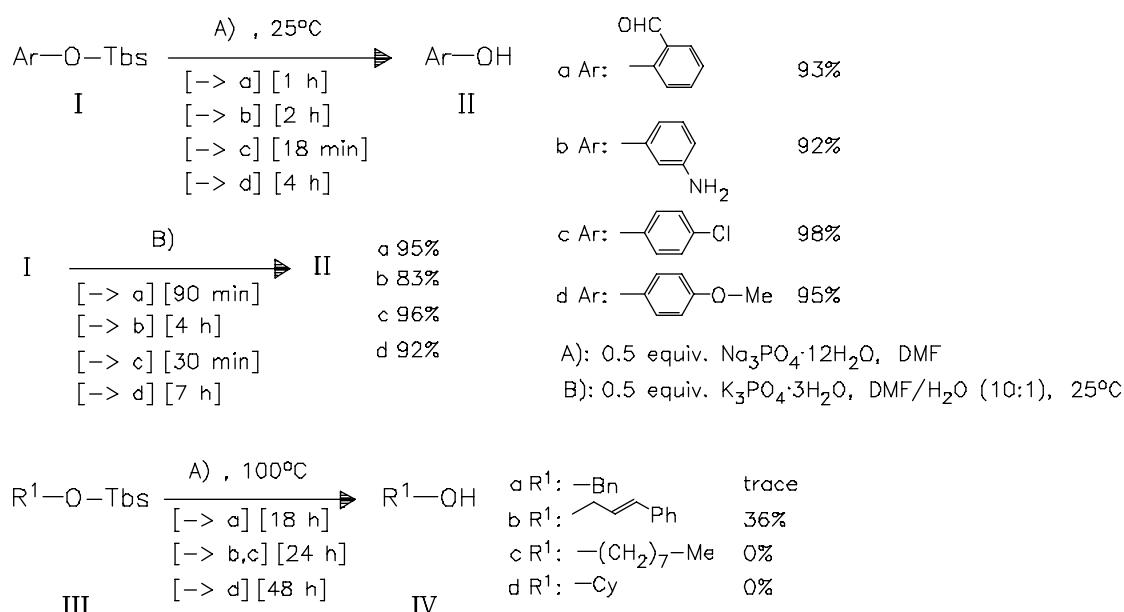


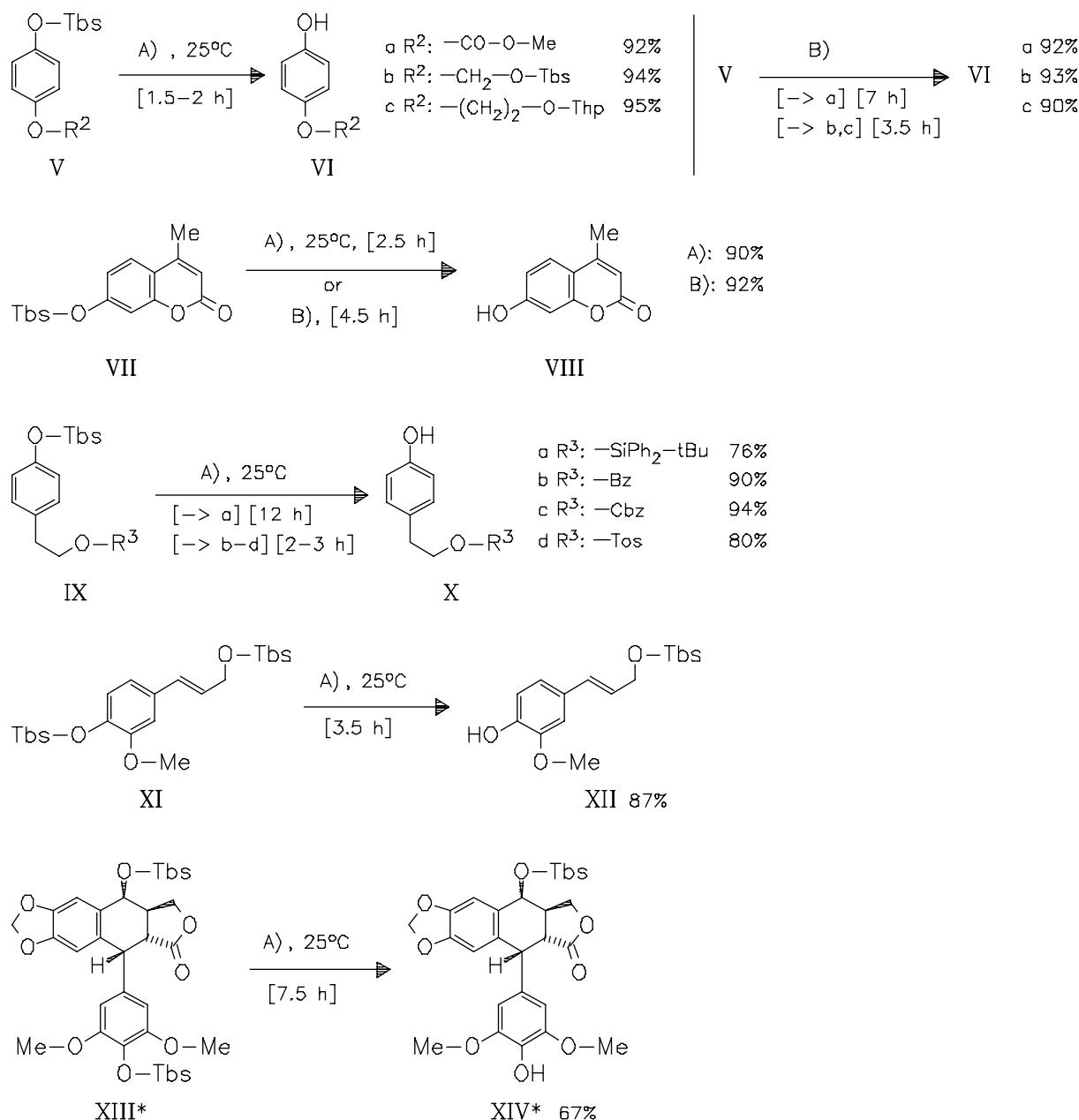
Deprotection
O 0345

DOI: 10.1002/chin.201225049

25- 049

Chemoselective Deprotection of Aryl tert-Butyldimethylsilyl Ethers Promoted by Phosphates. — Tbs functions at the aromatic moiety are deprotected selectively under conditions A). Various other common protection groups and a lot of functionalities are tolerated. If K_3PO_4 is used instead of Na_3PO_4 , similar yields are observed; however, the reaction times are somewhat prolonged. A highly efficient deprotection is also possible for the podophyllotoxin derivative (XIII). — (YAN, L.; ZHAO, F.; GAN, Y.; ZHAO, J.; JIANG*, Z.; Synth. Commun. 42 (2012) 2, 285-291, <http://dx.doi.org/10.1080/00397911.2010.523859>; Key Lab. Nat. Med. Immuno-Eng., Henan Univ., Kaifeng 475004, Peop. Rep. China; Eng.) — Lindner



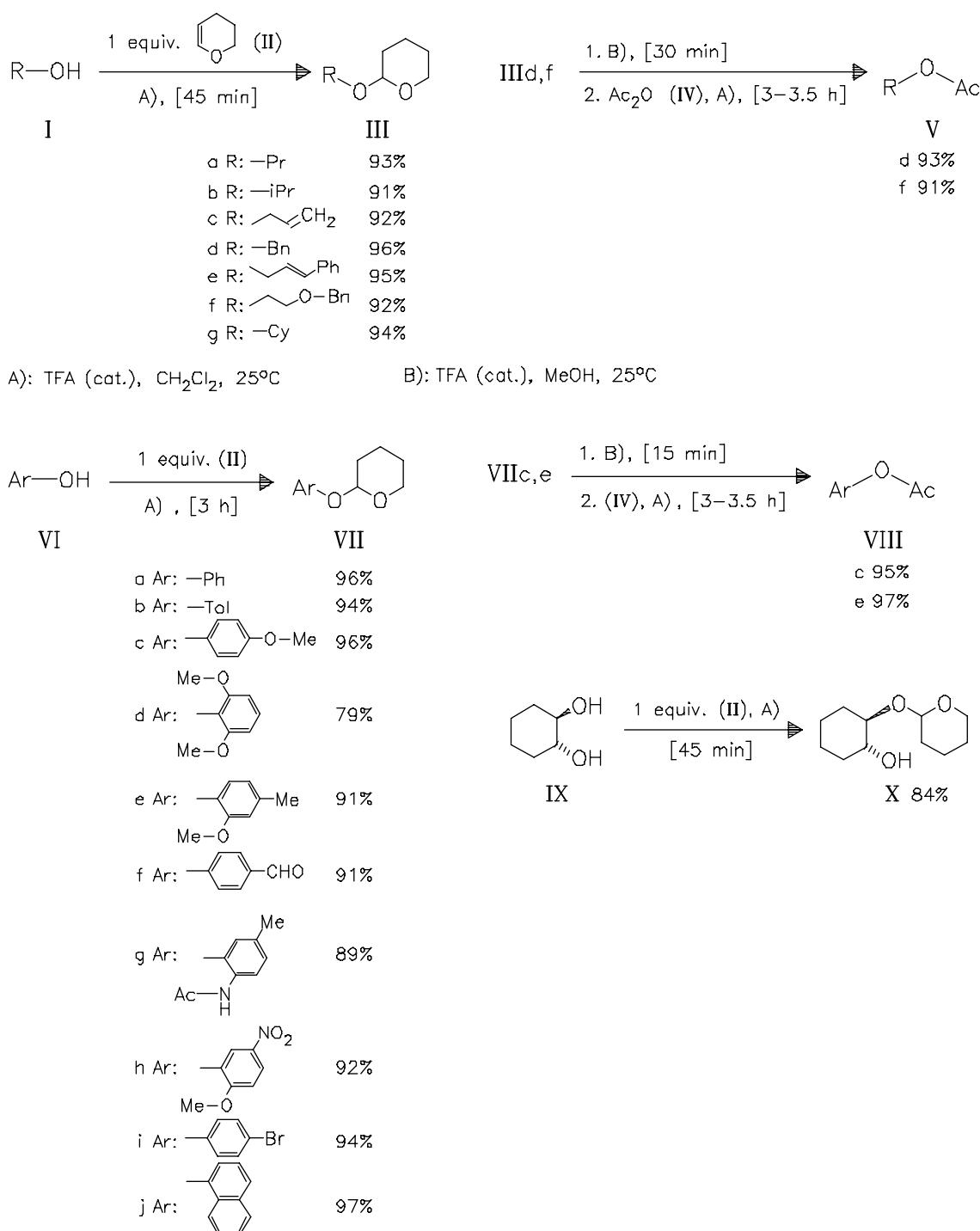


Protection
O 0345

25- 050

DOI: 10.1002/chin.201225050

Trifluoroacetic Acid Catalyzed Tetrahydropyranylation of Alcohols and Phenols and Direct Conversion of THP Ethers into Acetates. — (BODIPATI, N.; PALLA, S. R.; PEDDINTI*, R. K.; Indian J. Chem., Sect. B: Org. Chem. Incl. Med. Chem. 51 (2012) 2, 356-361 ; Dep. Chem., Indian Inst. Technol., Roorkee 247 667, India; Eng.) — H. Toeppel

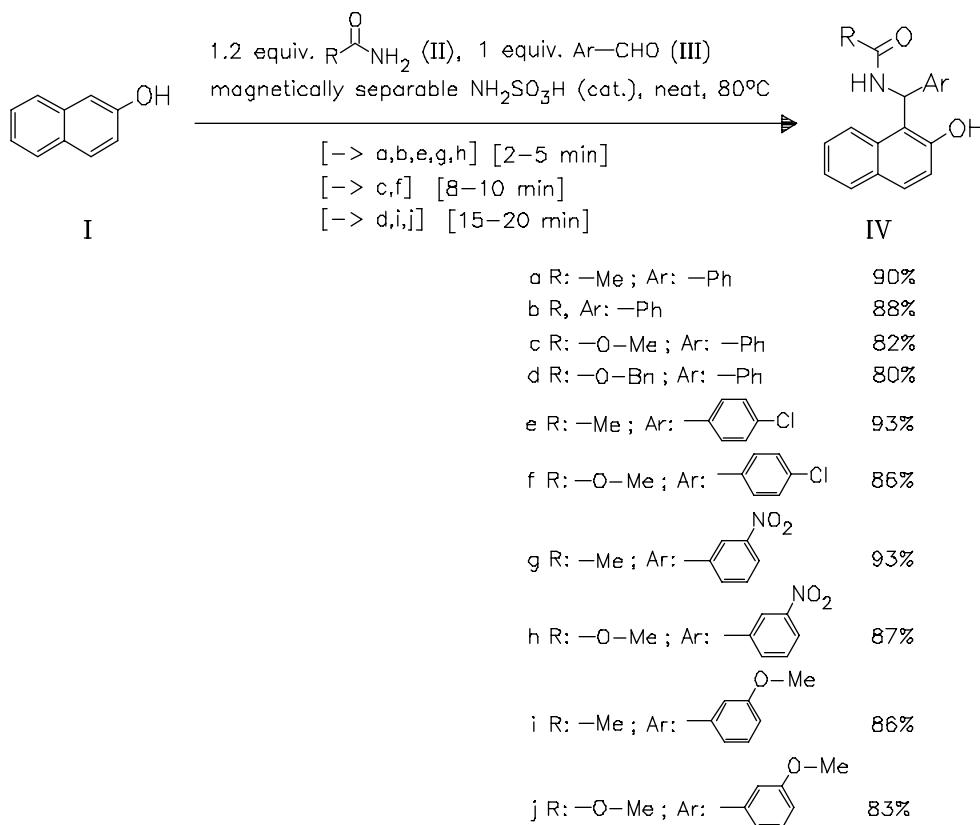


Multicomponent reactions

O 0359

25- 051

Sulfamic Acid Functionalized Magnetic Nanoparticles: An Efficient Solid Acid for the Multicomponent Condensations — [of 2-naphthol with aromatic aldehydes and amides or carbamates (17 examples)]. — (YARAHMADI, H.; SHATERIAN*, H. R.; J. Chem. Res. 36 (2012) 1, 52-55, <http://dx.doi.org/10.3184/174751912x13264749420957>; Dep. Chem., Fac. Sci., Sistan & Baluchestan Univ., Zahedan, Iran; Eng.) — C. Cyrus

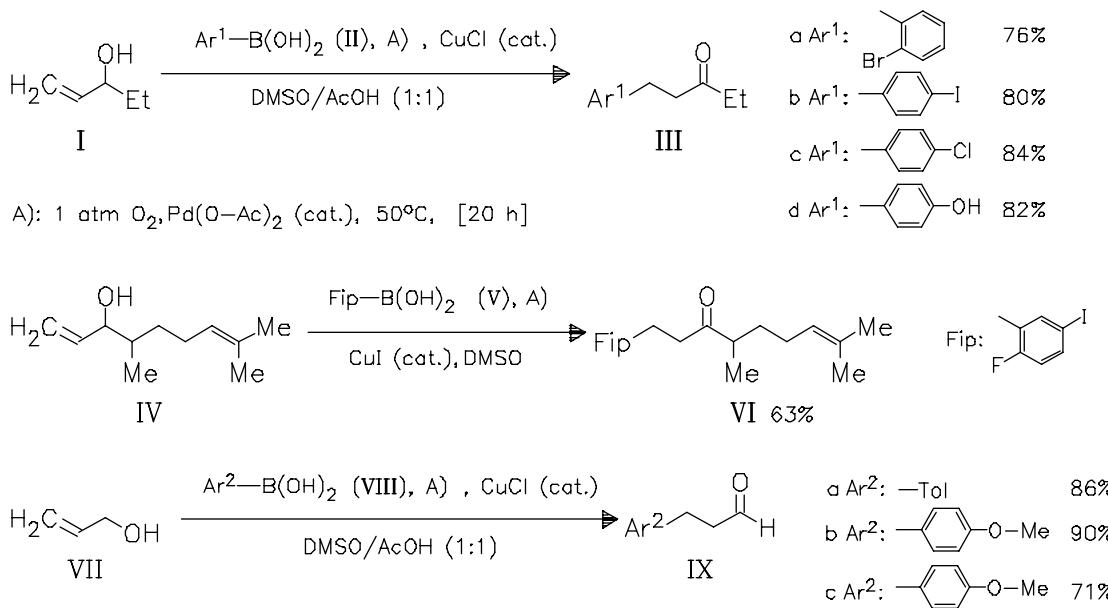


Acyclic Compounds

Ketones
P 0200

25- 052

C—X (X: Br, I) Bond-Tolerant Aerobic Oxidative Cross-Coupling: A Strategy to Selectively Construct β -Aryl Ketones and Aldehydes. — (CHEN, M.; WANG, J.; CHAI, Z.; YOU, C.; LEI*, A.; Adv. Synth. Catal. 354 (2012) 2-3, 341-346, <http://dx.doi.org/10.1002/adsc.201100782>; Coll. Chem. Mol. Sci., Wuhan Univ., Wuhan, Hubei 430072, Peop. Rep. China; Eng.) — Nuesgen



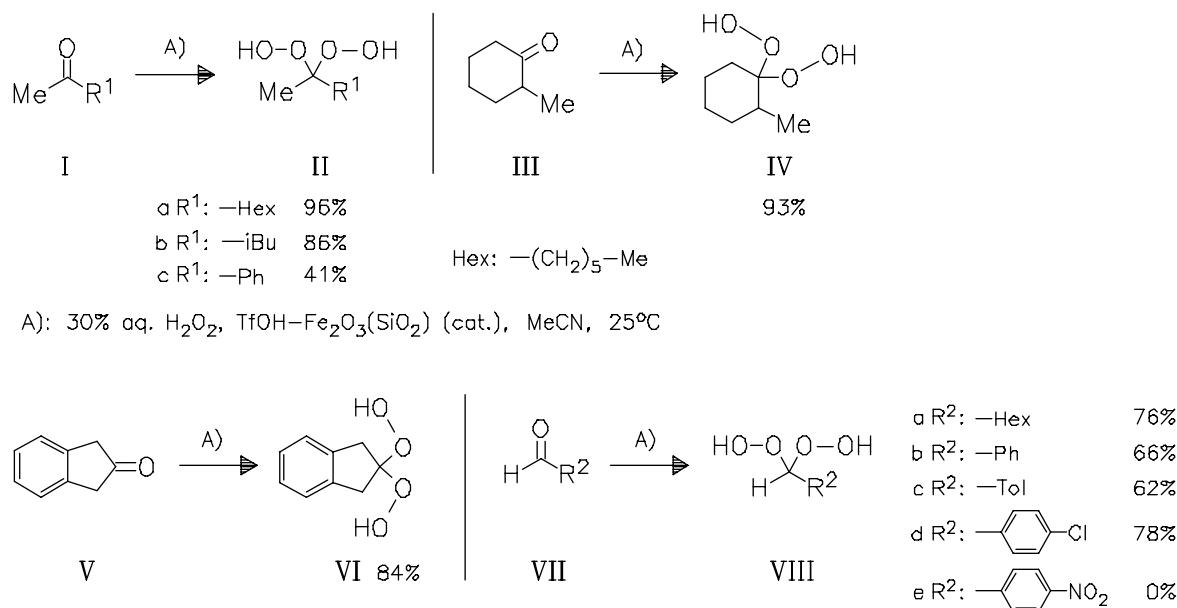
Ketone derivatives

P 0220

DOI: 10.1002/chin.201225053

25- 053

Triflic Acid-Functionalized Silica-Coated Magnetic Nanoparticles as a Magnetically Separable Catalyst for Synthesis of gem-Dihydroperoxides. — The catalyst can be easily recycled and reused for seven times without significant loss of activity. — (LIU, Y.-H.; DENG, J.; GAO, J.-W.; ZHANG*, Z.-H.; *Adv. Synth. Catal.* 354 (2012) 2-3, 441-447, <http://dx.doi.org/10.1002/adsc.201100561>; Coll. Chem. Mater. Sci., Hebei Norm. Univ., Shijiazhuang 050016, Peop. Rep. China; Eng.) — Nuesgen



Isocyclic Compounds

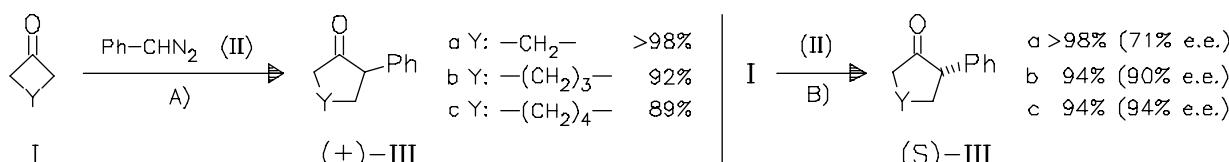
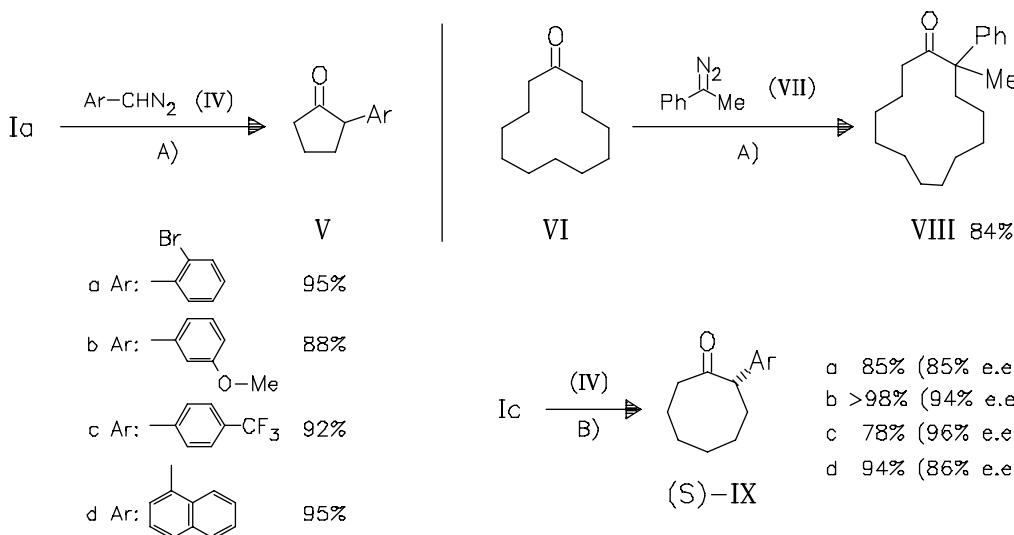
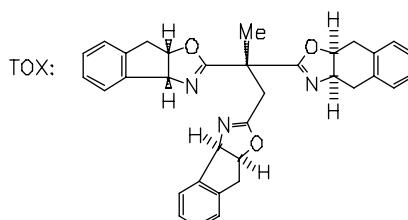
General

Q 0010

25- 054

DOI: 10.1002/chin.201225054

Highly Efficient and Enantioselective α -Arylation of Cycloalkanones by Scandium-Catalyzed Diazoalkane—Carbonyl Homologation. — The racemic version of the process proceeds with good to excellent yields. In the case of the asymmetric transformations, high enantioselectivities are obtained in most cases. — (RENDINA, V. L.; KAPLAN, H. Z.; KINGSBURY*, J. S.; Synthesis 2012, 5, 686-693, <http://dx.doi.org/10.1055/s-0031-1289650>; Merkert Chem. Cent., Boston Coll., Chestnut Hill, MA 02467, USA; Eng.) — Mais

A): Sc(O-Tf)_3 (cat.), toluene, -78°C $\rightarrow 0^\circ\text{C}$, [<1 h]B): $\text{Sc(O-Tf)}_3/\text{TOX}$ (cat.), toluene, -78°C , [up to 14 h]

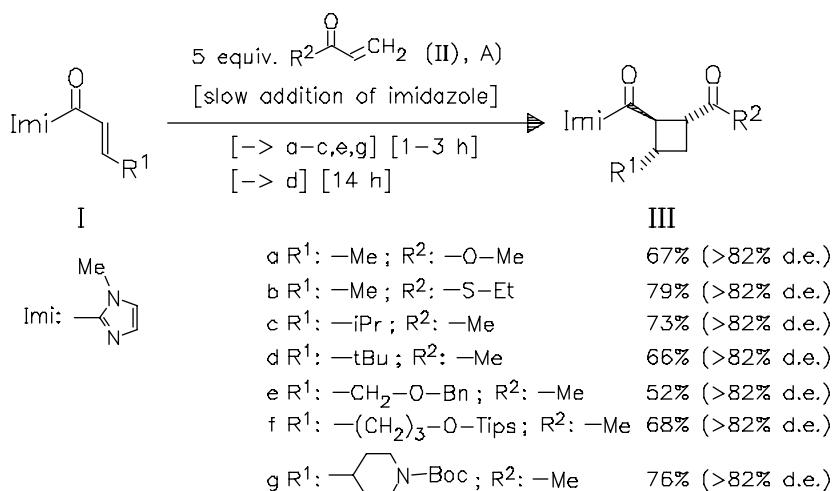
Cyclobutane derivatives

Q 0022

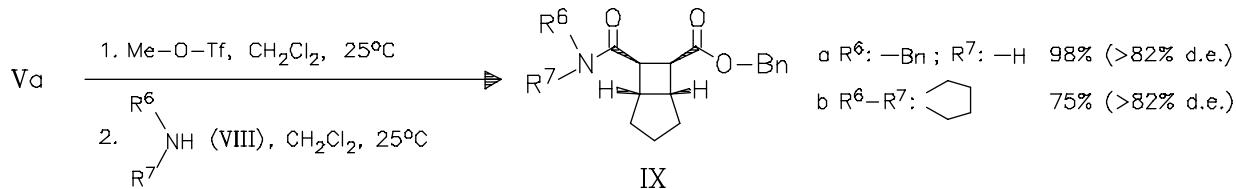
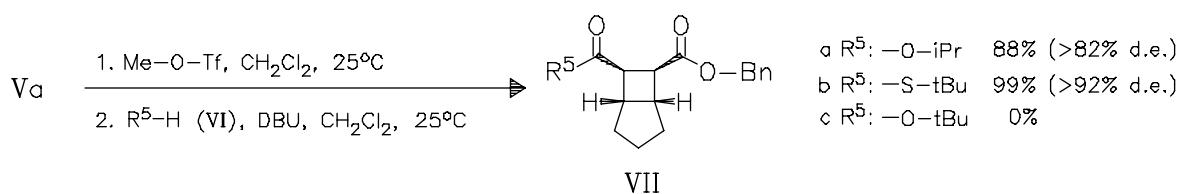
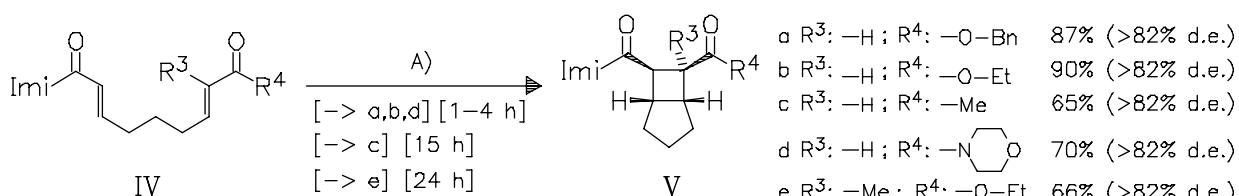
25- 055

DOI: 10.1002/chin.201225055

Photocatalytic [2 + 2] Cycloadditions of Enones with Cleavable Redox Auxiliaries. — The use of this strategy enables the synthesis of a variety of cyclobutane carboxylic acid derivatives which are not accessible from direct cycloaddition of the corresponding unsaturated carbonyl compounds. — (TYSON, E. L.; FARNEY, E. P.; YOON*, T. P.; Org. Lett. 14 (2012) 4, 1110-1113, <http://dx.doi.org/10.1021/o13000298>; Dep. Chem., Univ. Wis., Madison, WI 53706, USA; Eng.) — Bartels



A): LiBF_4 , $\text{EtN}(\text{iPr})_2$, $\text{h}\nu$ (visible light), 2.5 mol% $\text{RuCl}_2(\text{bipy})_3 \cdot 6\text{H}_2\text{O}$ (cat.), MeCN, 25°C

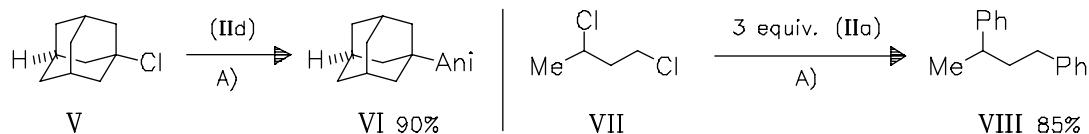
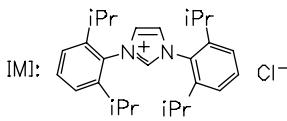
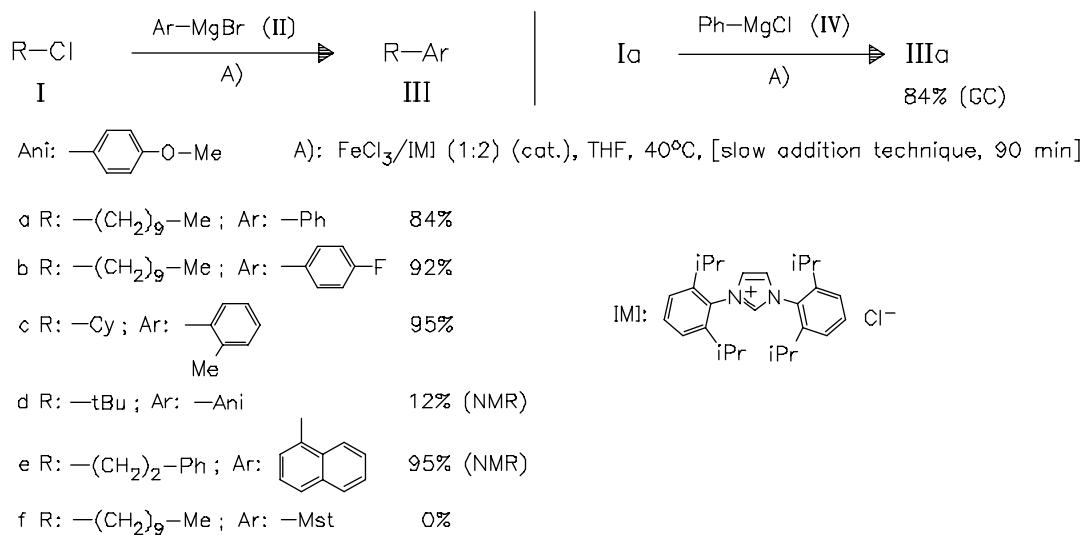


Hydrocarbons
Q 0080

DOI: 10.1002/chin.201225056

25- 056

Cross-Coupling of Non-Activated Chloroalkanes with Aryl Grignard Reagents in the Presence of Iron/N-Heterocyclic Carbene Catalysts. — The reaction is easily carried out with catalytic amounts of FeCl_3 and N-heterocyclic carbene ligands by slow addition technique. The method is also effective for arylation of polychloroalkanes that would form by-products under other conditions. — (GHORAI, S. K.; JIN, M.; HATAKEYAMA, T.; NAKAMURA*, M.; Org. Lett. 14 (2012) 4, 1066–1069, <http://dx.doi.org/10.1021/o12031729>; Int. Res. Cent. Elem. Sci., Inst. Chem. Res., Kyoto Univ., Uji, Kyoto 611, Japan; Eng.) — Bartels



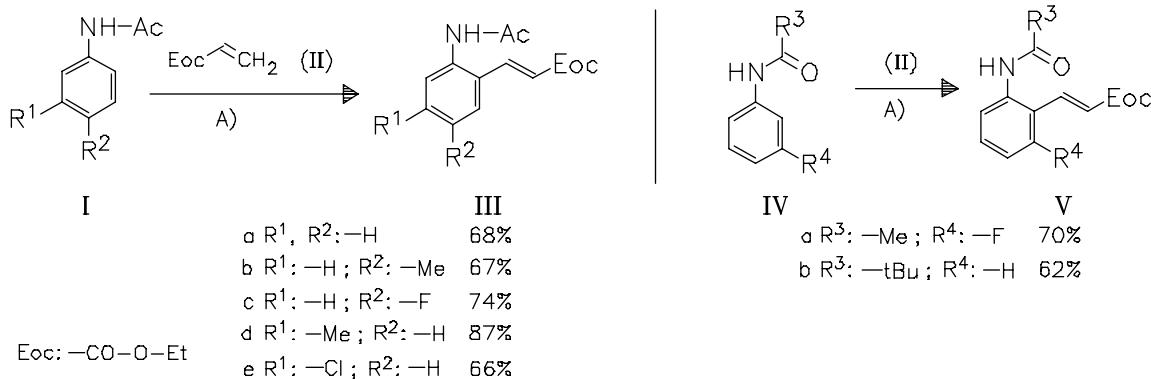
Alkenes

Q 0083

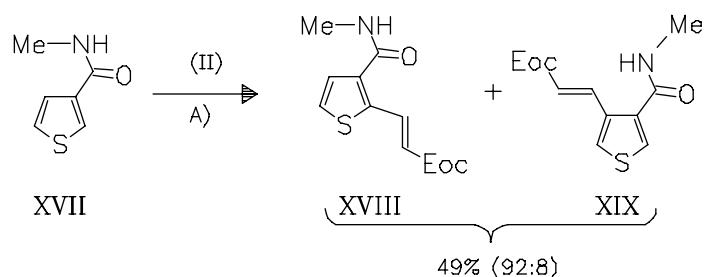
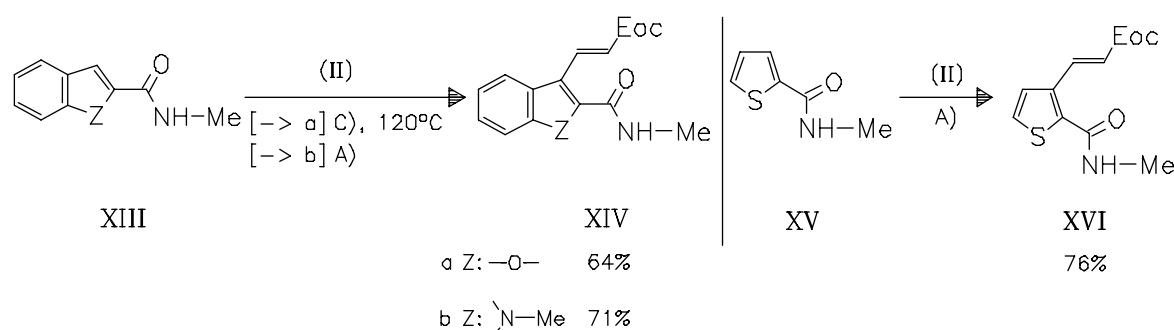
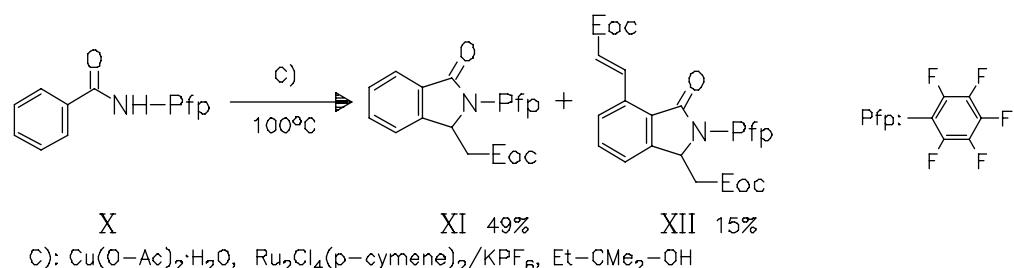
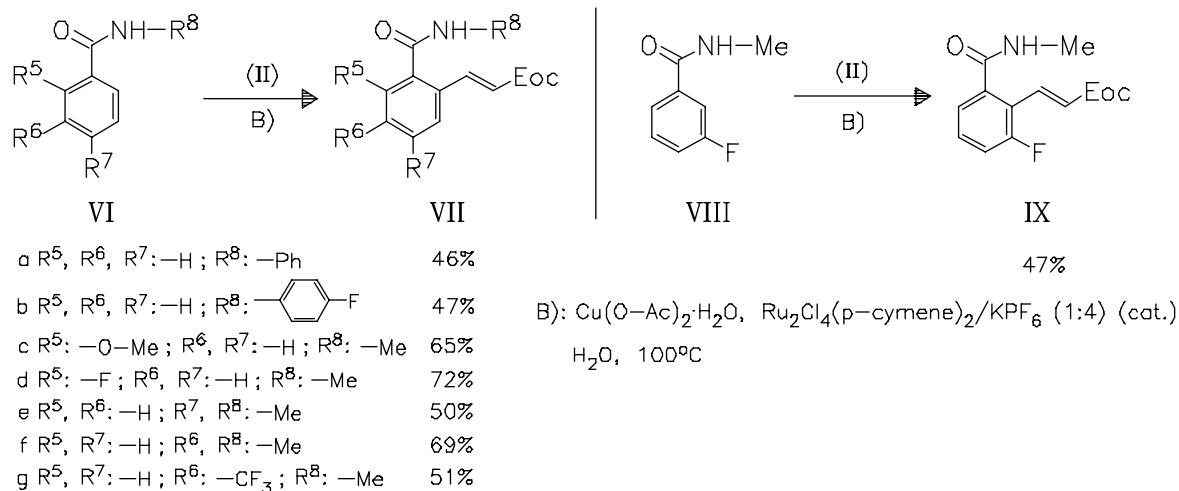
DOI: 10.1002/chin.201225057

25- 057

Ruthenium-Catalyzed Oxidative C—H Alkenylations of Anilides and Benzamides in Water. — Starting from the fluorinated benzamide (X), the lactams (XI) and (XII) are obtained. — (ACKERMANN*, L.; WANG, L.; WOLFRAM, R.; LYGIN, A. V.; Org. Lett. 14 (2012) 3, 728-731, <http://dx.doi.org/10.1021/ol203251s> ; Inst. Org. Biomol. Chem., Georg-August-Univ., D-37077 Goettingen, Germany; Eng.) — Jannicke



A): $\text{Cu}(\text{O-Ac})_2\text{H}_2\text{O}, \text{Ru}_2\text{Cl}_4(\text{p-cymene})_2/\text{KPF}_6$ (1:4) (cat.), H_2O , 120°C



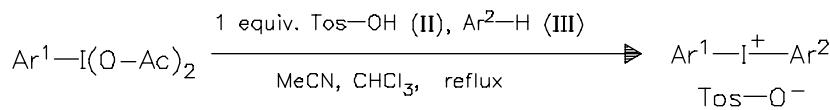
Halogen compounds

Q 0090

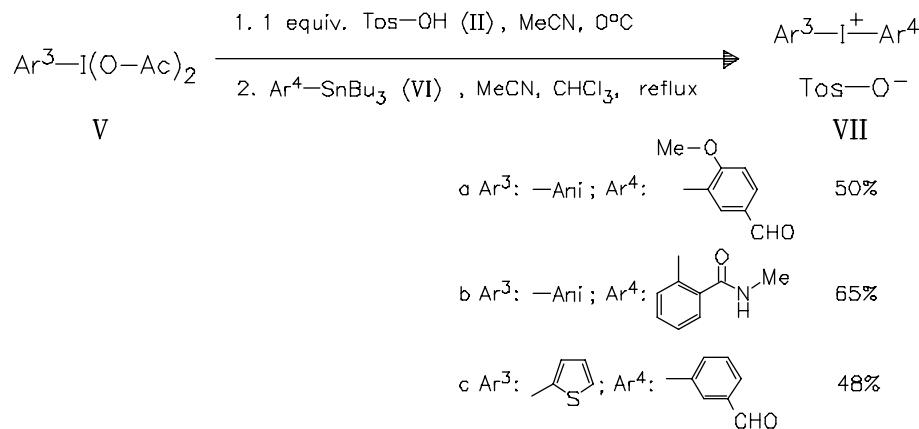
DOI: 10.1002/chin.201225058

25- 058

Regiospecific Syntheses of Functionalized Diaryliodonium Tosylates via [Hydroxy(tosyloxy)iodo]arenes Generated in situ from (Diacetoxyiodo)arenes. — (CHUN, J.-H.; PIKE*, V. W.; *J. Org. Chem.* 77 (2012) 4, 1931–1938, <http://dx.doi.org/10.1021/jo202517v>; Mol. Imaging Branch, NIH, Bethesda, MD 20892, USA; Eng.) — Jannicke



I	IV
Ani:	a $\text{Ar}^1:$; $\text{Ar}^2:$ $-\text{Ani}$ 86%
	b $\text{Ar}^1:$; $\text{Ar}^2:$ $-\text{Ani}$ 69%
	c $\text{Ar}^1:$; $\text{Ar}^2:$ $-\text{Ani}$ 83%
	d $\text{Ar}^1:$; $\text{Ar}^2:$ $-\text{Ani}$ 77%
	e $\text{Ar}^1:$; $\text{Ar}^2:$ 98%
	f $\text{Ar}^1:$; $\text{Ar}^2:$ 83%
	g $\text{Ar}^1:$; $\text{Ar}^2:$ 57%

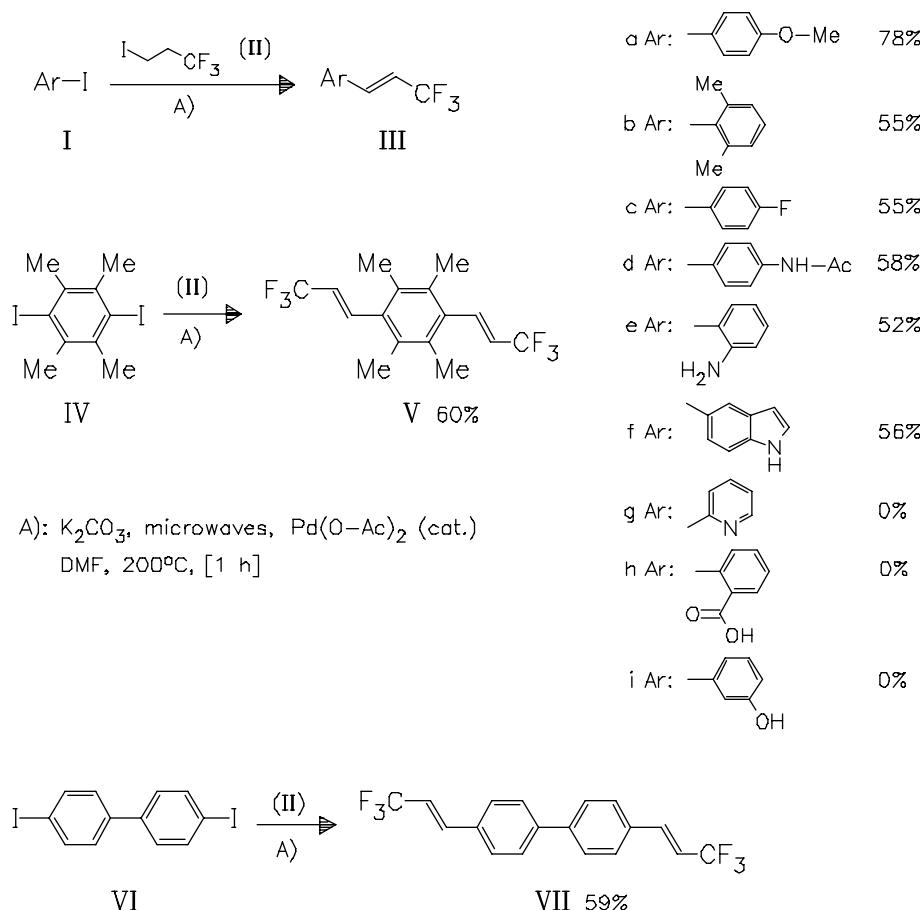


Halogen compounds

Q 0090

25- 059

A Domino Approach of Heck Coupling for the Synthesis of β -Trifluoromethylstyrenes. — The efficient, simple method gives an access to some previously unknown compounds avoiding the use of low-boiling, gaseous reagents. — (PRAKASH*, G. K. S.; KRISHNAN, H. S.; JOG, P. V.; IYER, A. P.; OLAH, G. A.; Org. Lett. 14 (2012) 4, 1146-1149, <http://dx.doi.org/10.1021/ol300076y>; Dep. Chem., Univ. South. Calif., Los Angeles, CA 90089, USA; Eng.) — Bartels



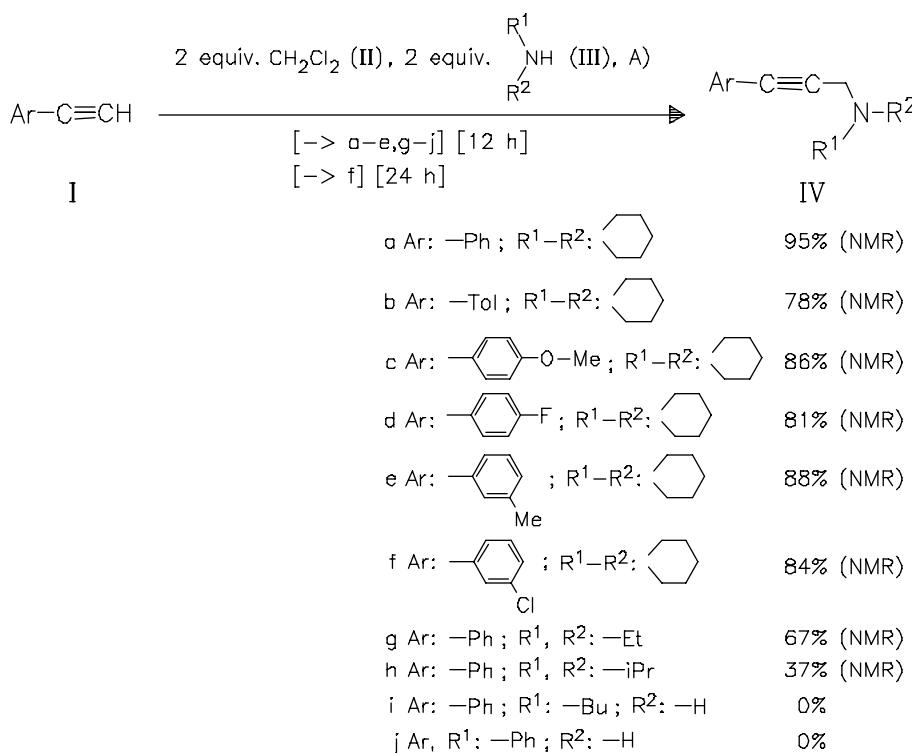
Amines

Q 0120

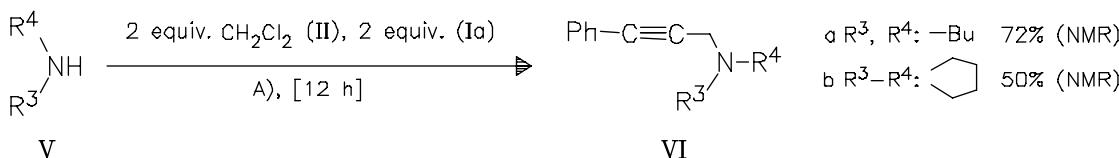
25- 060

DOI: 10.1002/chin.201225060

Efficient Iron(III)-Catalyzed Three-Component Coupling Reaction of Alkynes, CH_2Cl_2 and Amines to Propargylamines. — An economical and facile protocol for the synthesis of propargyl amines is reported. In-situ IR spectroscopy results suggest C-H bond activation of the alkyne by FeCl_3 in combination with tetramethylguanidine. — (GAO, J.; SONG, Q.-W.; HE*, L.-N.; YANG, Z.-Z.; DOU, X.-Y.; Chem. Commun. (Cambridge) 48 (2012) 14, 2024-2026, <http://dx.doi.org/10.1039/c2cc17616e>; State Key Lab. Elem.-Org. Chem., Nankai Univ., Tianjin 300071, Peop. Rep. China; Eng.) — D. Singer



A): 2 equiv. $(\text{Me}_2\text{N})_2\text{C}=\text{NH}$, 20 mol% FeCl_3 (cat.), MeCN, 100°C



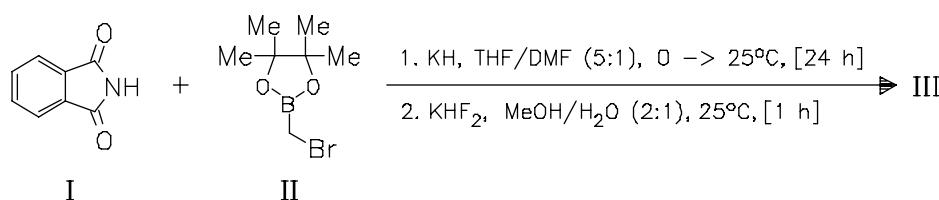
Amines

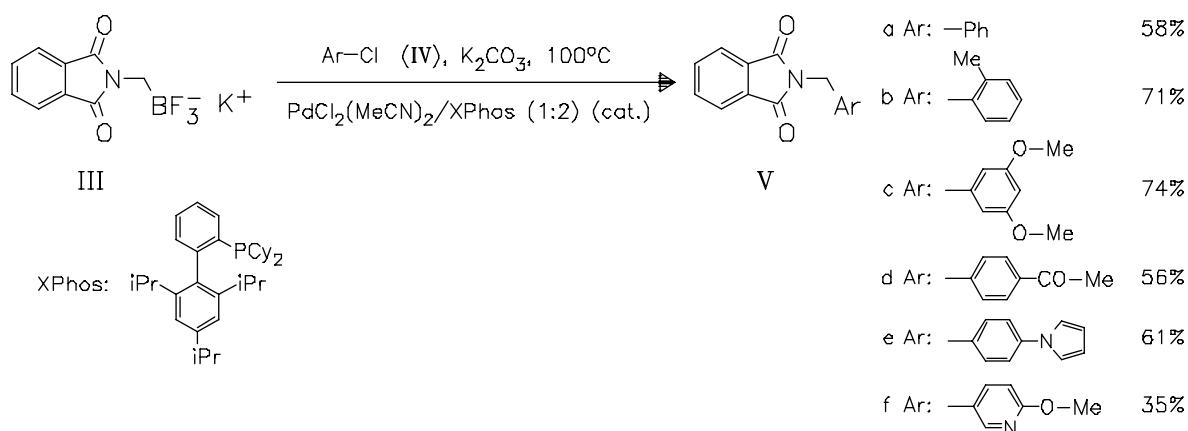
Q 0120

25- 061

DOI: 10.1002/chin.201225061

Synthesis and Cross-Coupling Reactions of Imidomethyltrifluoroborates with Aryl Chlorides. — The reaction is conveniently achieved by Suzuki—Miyaura-like cross-coupling with trifluoroborate (III), which is easily prepared by an optimized procedure. — (DEVULAPALLY, R.; FLEURY-BREGEOT, N.; MOLANDER, G. A.; SEAPY*, D. G.; Tetrahedron Lett. 53 (2012) 9, 1051-1055, <http://dx.doi.org/10.1016/j.tetlet.2011.12.062>; Dep. Chem., Fac. Sci., Tex. A&M Univ. Qatar, Doha, Qatar; Eng.) — Mais





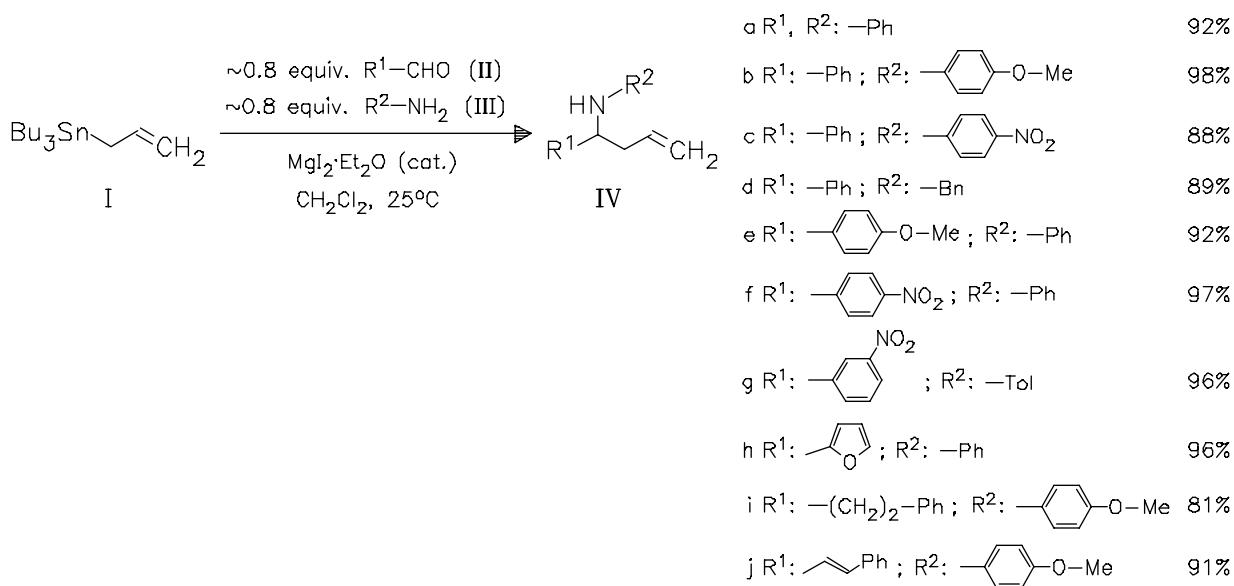
Amines

Q 0120

25- 062

DOI: 10.1002/chin.201225062

An Efficient Three-Component Synthesis of Homoallylic Amines Catalyzed by MgI_2 Etherate. — (WANG, Y.; LIU, Y.; HU, S.; ZHANG*, X.; J. Chem. Res. 36 (2012) 1, 21-24, <http://dx.doi.org/10.3184/174751912x13252567769442>; Coll. Pharm. Sci., Zhejiang Univ. Technol., Hangzhou, Zhejiang 310032, Peop. Rep. China; Eng.) — C. Cyrus



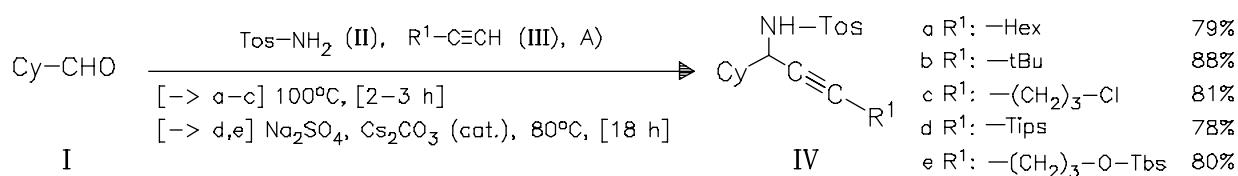
Amines

Q 0120

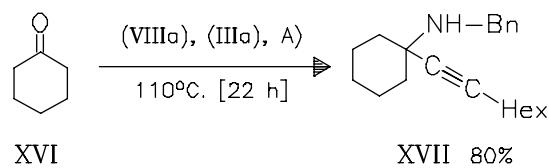
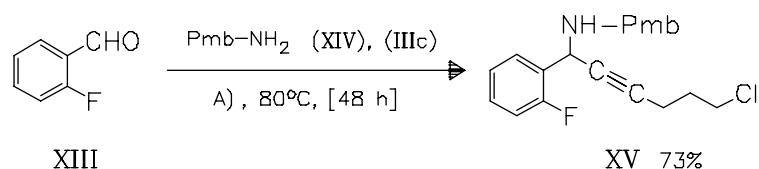
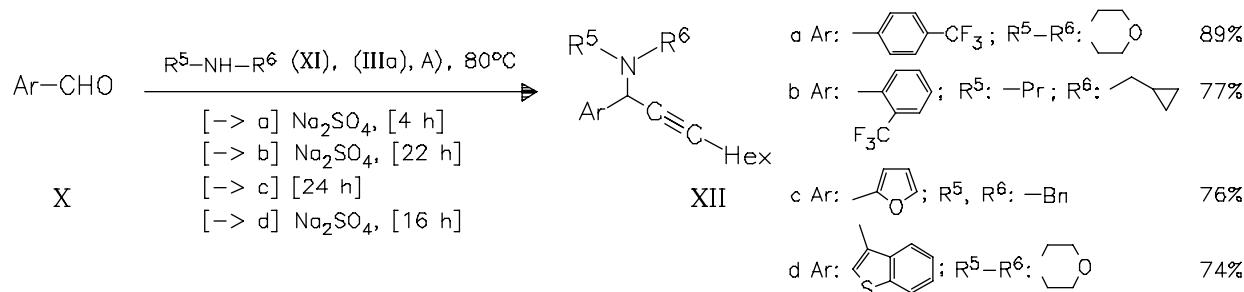
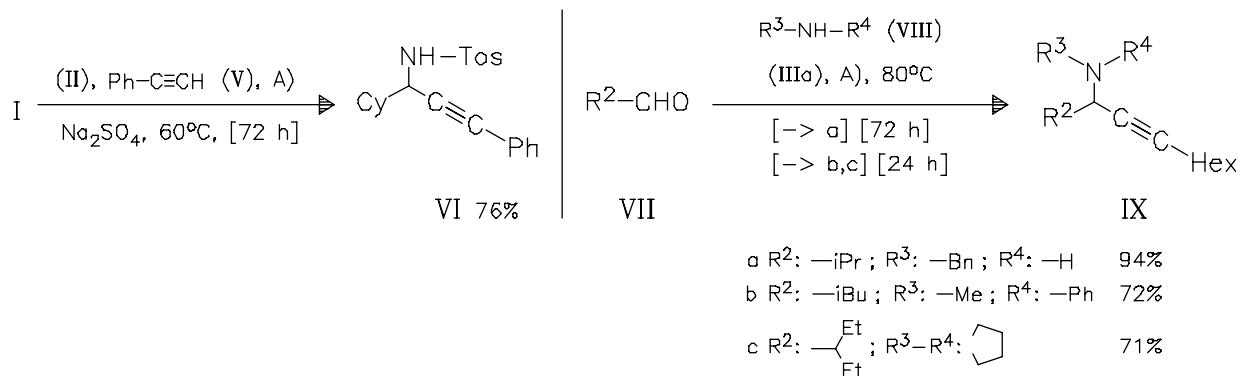
25- 063

DOI: 10.1002/chin.201225063

A Single Cu(II) Catalyst for the Three-Component Coupling of Diverse Nitrogen Sources with Aldehydes and Alkynes. — The copper salt promotes the three-component coupling without the addition of ligand or base. The reaction proceeds at a faster rate and higher yield than from preformed imine and water is sole by-product. The superior activity of copper(II) triflate also allows this three-component alkynylation to incorporate a ketone. — (MEYET, C. E.; PIERCE, C. J.; LARSEN*, C. H.; Org. Lett. 14 (2012) 4, 964-967, <http://dx.doi.org/10.1021/o12029492>; Dep. Chem., Univ. Calif., Riverside, CA 92521, USA; Eng.) — Bartels



A): 10 mol% Cu(O Tf)₂ (cat.), toluene Hex: -(CH₂)₅-Me



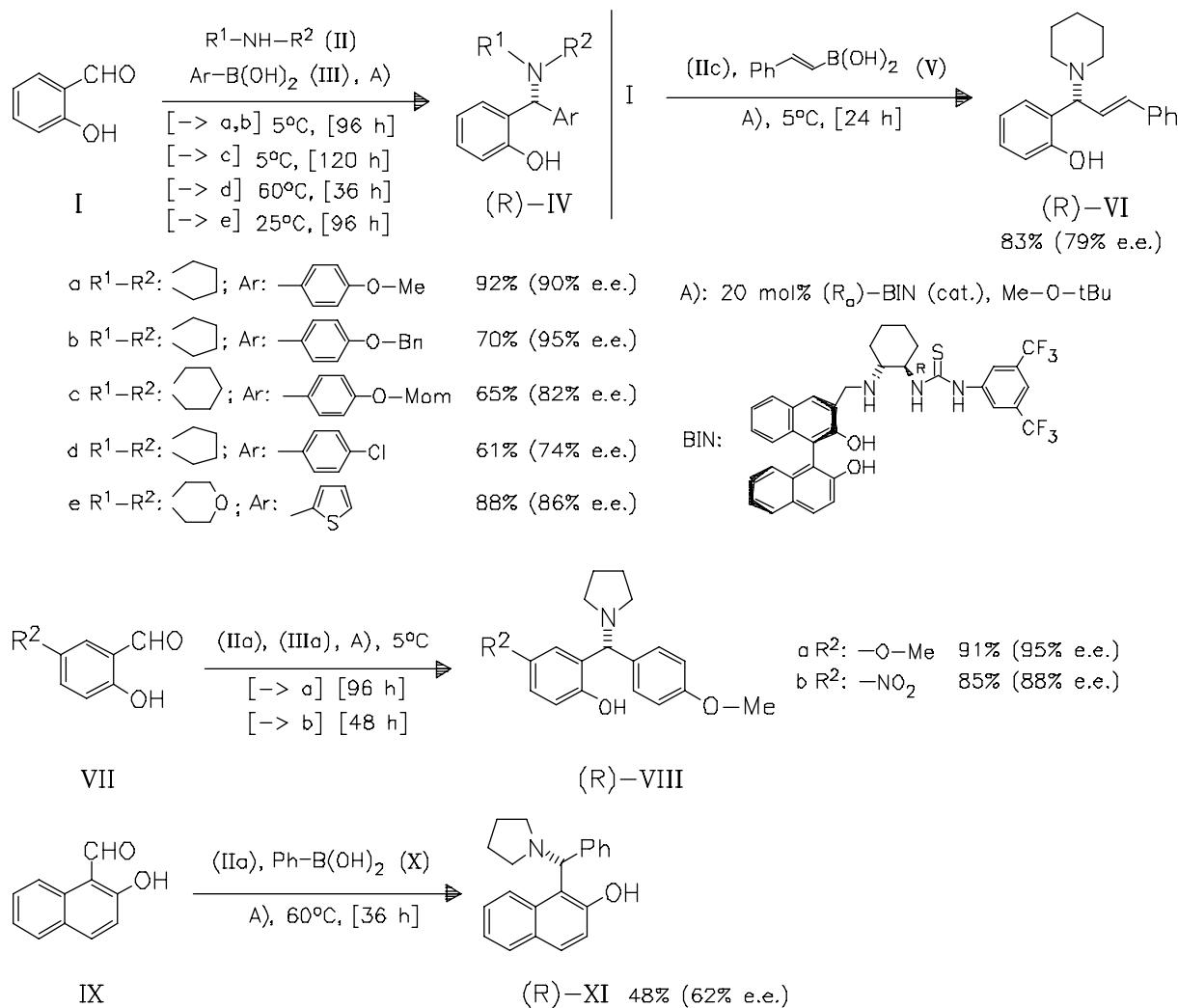
Monovalent phenols

Q 0180

25- 064

Enantioselective Organocatalytic Three-Component Petasis Reaction Among Salicylaldehydes, Amines, and Organoboronic Acids.

— In the presence of the newly designed thiourea-binol catalyst, a broad range of alkylaminophenols is obtained in good yield and good to high enantioselectivity (up to 95% e.e.). — (HAN, W.-Y.; WU, Z.-J.; ZHANG, X.-M.; YUAN*, W.-C.; Org. Lett. 14 (2012) 4, 976-979, <http://dx.doi.org/10.1021/ol203109a>; Chengdu Inst. Org. Chem., Chin. Acad. Sci., Chengdu 610041, Peop. Rep. China; Eng.) — Bartels



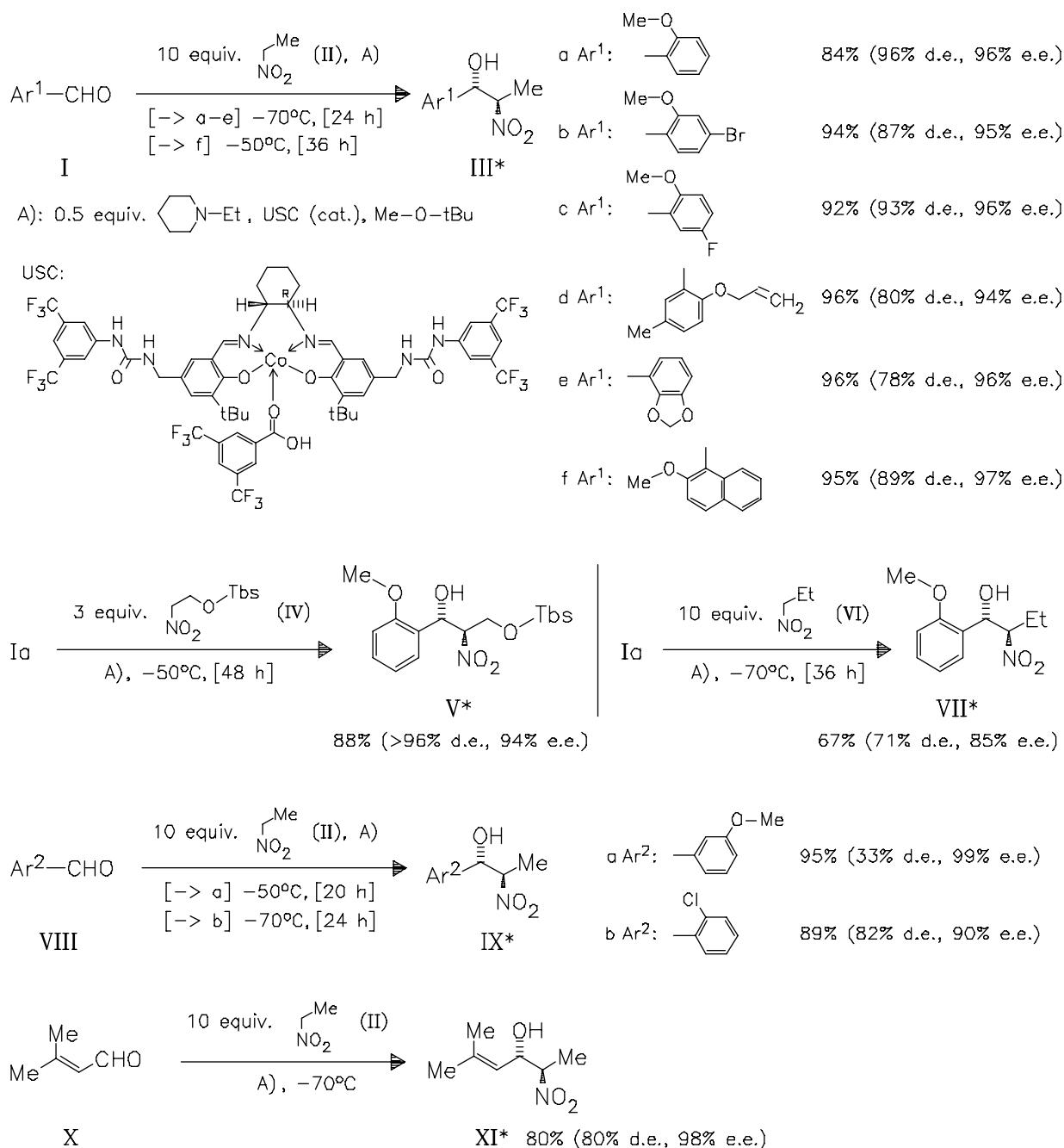
Alcohols

Q 0230

25- 065

Urea/Transition-Metal Cooperative Catalyst for anti-Selective Asymmetric Nitro-aldol Reactions.

— A highly enantio- and anti-diastereoselective Henry reaction is presented. Best results are obtained with ortho-substituted benzaldehydes (I) and (VIIIb). The compound (X) shows also an "ortho effect". — (LANG, K.; PARK, J.; HONG*, S.; Angew. Chem., Int. Ed. 51 (2012) 7, 1620-1624, <http://dx.doi.org/10.1002/anie.201107785>; Dep. Chem., Univ. Fla., Gainesville, FL 32611, USA; Eng.) — C. Gebhardt



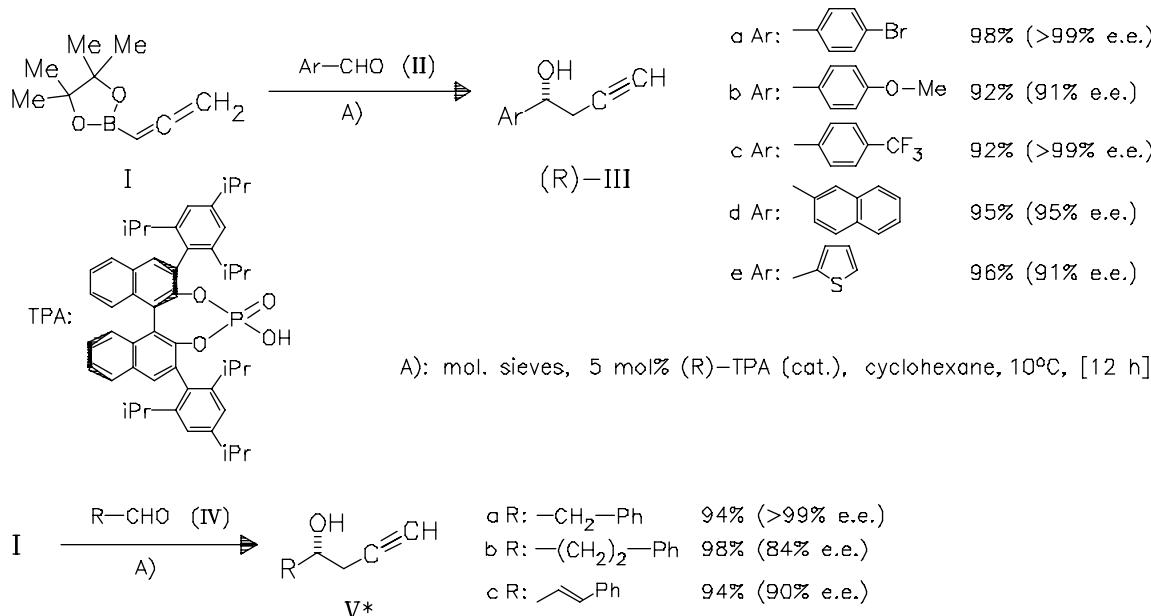
Alcohols

Q 0230

25- 066

DOI: 10.1002/chin.201225066

Chiral Broensted Acid Catalyzed Enantioselective Propargylation of Aldehydes with Allenylboronate. — The organocatalytic reaction is practical and quite general with a broad substrate scope covering aryl, polyaryl, heteroaryl, and aliphatic aldehydes. — (REDDY, L. R.; Org. Lett. 14 (2012) 4, 1142-1145, <http://dx.doi.org/10.1021/o1300075n>; Chem. Anal. Dev., Novartis Pharm. Corp., East Hanover, NJ 07936, USA; Eng.) — Bartels



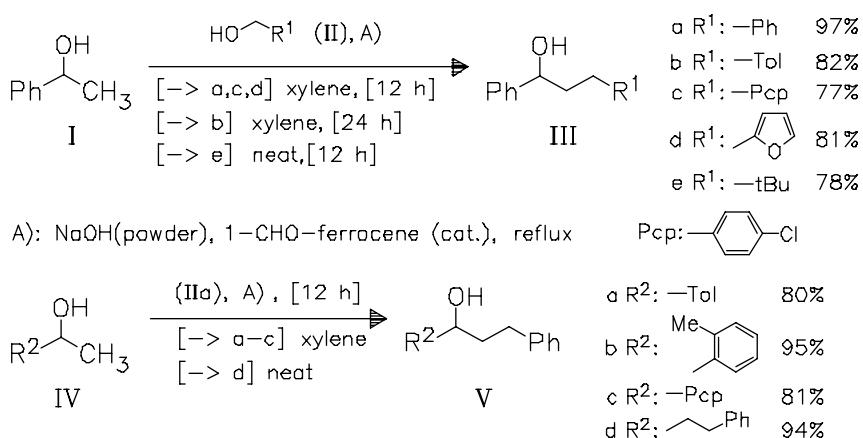
Alcohols

Q 0230

25- 067

DOI: 10.1002/chin.201225067

Efficient Iron-Catalyzed Direct β -Alkylation of Secondary Alcohols with Primary Alcohols. — (YANG, J.; LIU, X.; MENG, D.-L.; CHEN, H.-Y.; ZONG, Z.-H.; FENG, T.-T.; SUN*, K.; *Adv. Synth. Catal.* 354 (2012) 2-3, 328-334, <http://dx.doi.org/10.1002/adsc.201100907>; Sch. Pharm. Sci., Jilin Univ., Changchun 130021, Peop. Rep. China; Eng.) — Nuesgen



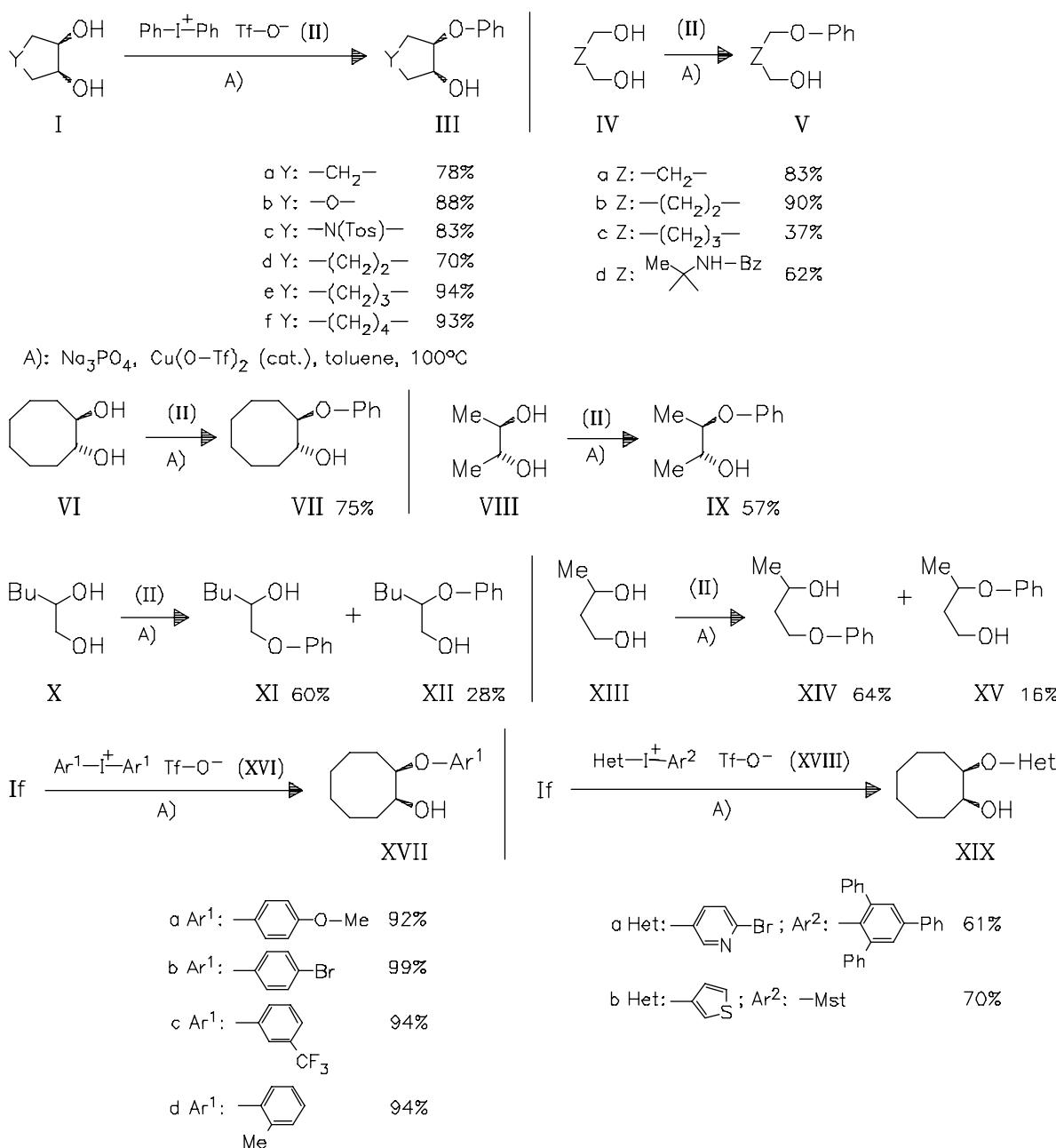
Phenol ethers

Q 0270

25- 068

DOI: 10.1002/chin.201225068

Copper(II)-Catalyzed Monoarylation of Vicinal Diols with Diaryliodonium Salts. — Under optimized conditions, cis- and trans-cycloalkane-1,2-diols, heterocyclic diols, and aliphatic diols are chemoselectively monoarylated to give the corresponding phenol ethers. — (KURIYAMA*, M.; HAMAGUCHI, N.; ONOMURA, O.; *Chem. Eur. J.* 18 (2012) 6, 1591-1594, <http://dx.doi.org/10.1002/chem.201102770>; Grad. Sch. Biomed. Sci., Nagasaki Univ., Nagasaki 852, Japan; Eng.) — Klein

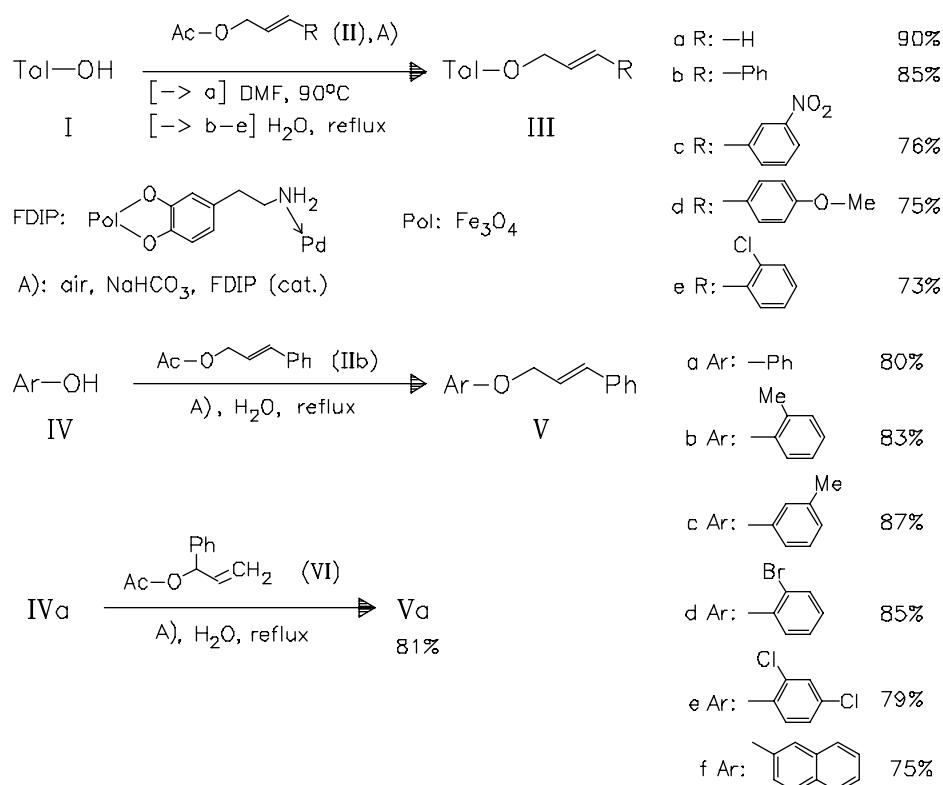


Phenol ethers
Q 0270

25- 069

DOI: 10.1002/chin.201225069

O-Allylation of Phenols with Allylic Acetates in Aqueous Media Using a Magnetically Separable Catalytic System. — Cinnamyl acetates undergo coupling with a variety of phenols to produce the corresponding allyl aryl ethers. The branched allylic acetate (**VI**) is used with equal efficiency to afford the linear allyl aryl ether (**Va**). This simple procedure utilizes a magnetically separable and easily recyclable heterogeneous palladium catalyst in the presence of a mild base in water under an open atmosphere, precluding the requirement of an inert atmosphere and organic solvents. — (SAHA, A.; LEAZER*, J.; VARMA, R. S.; *Green Chem.* 14 (2012) 1, 67-71, <http://dx.doi.org/10.1039/c1gc16174a>; Natl. Risk Manage. Res. Lab., US Environ. Prot. Agency, Cincinnati, OH 45268, USA; Eng.) — H. Hoennerscheid



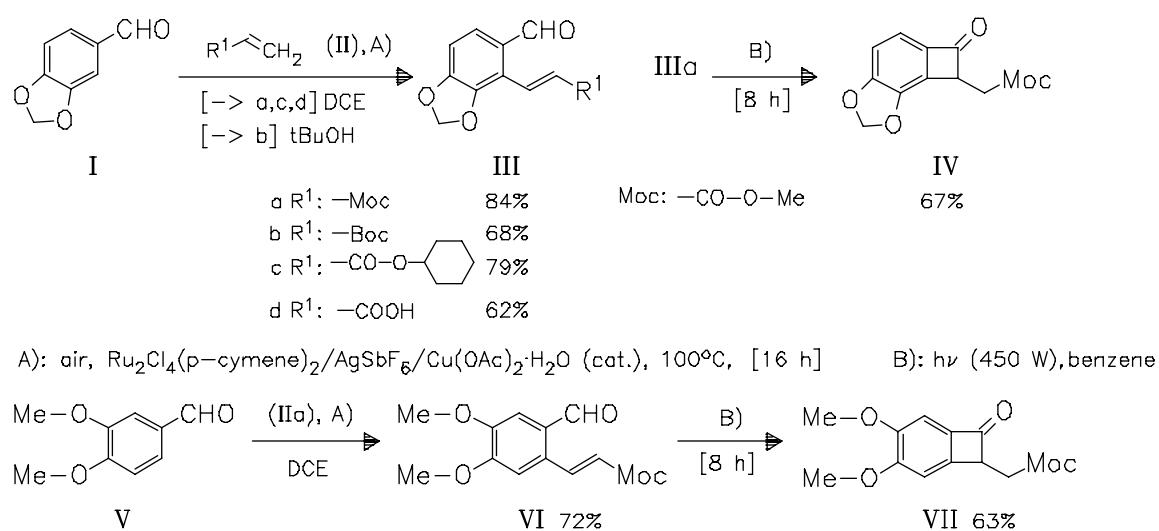
Aldehydes

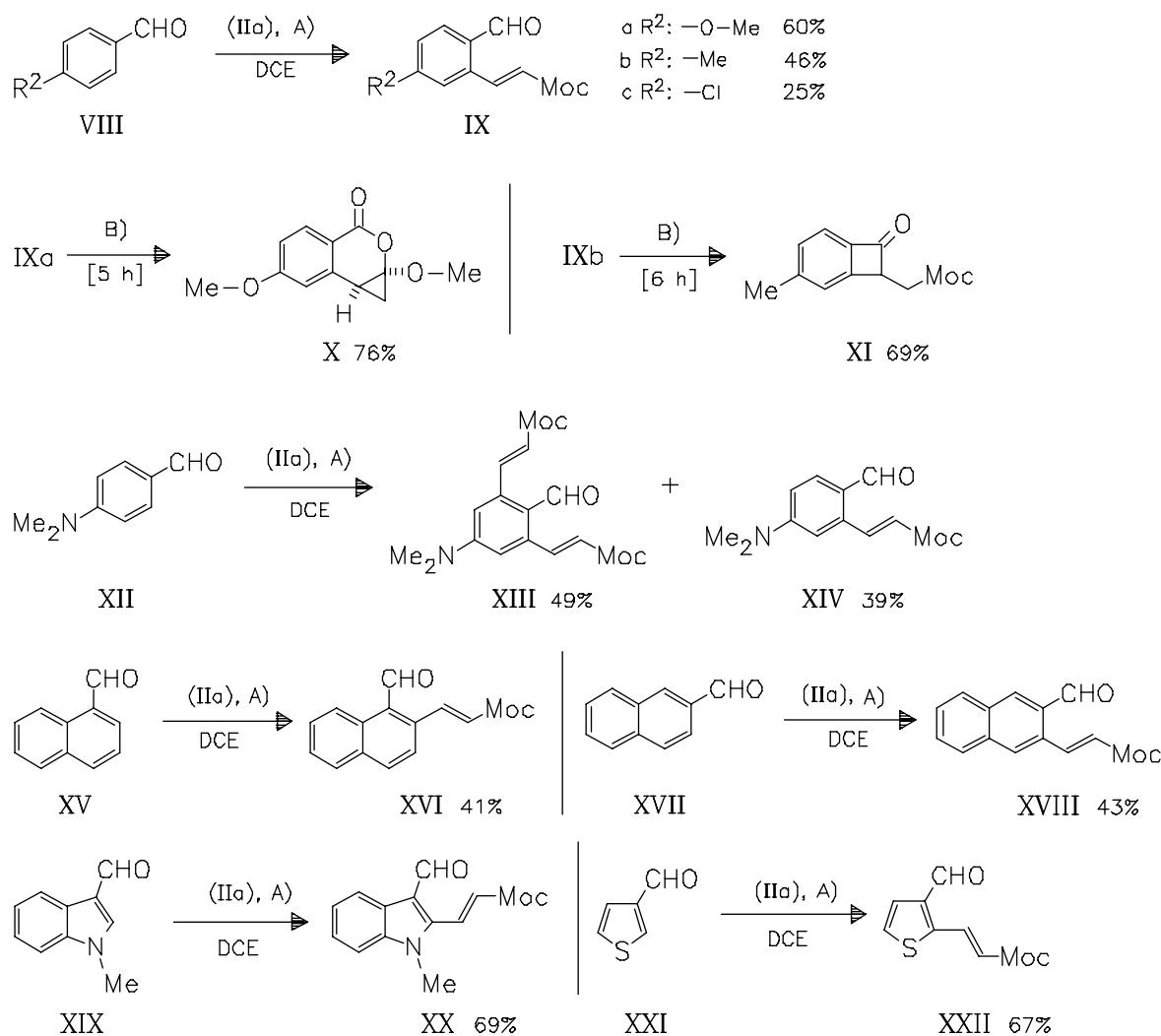
Q 0320

25- 070

DOI: 10.1002/chin.201225070

Highly Regio- and Stereoselective Ruthenium(II)-Catalyzed Direct ortho-Alkenylation of Aromatic and Heteroaromatic Aldehydes with Activated Alkenes under Open Atmosphere. — The process gives substituted alkene derivatives in high yield without side reactions such as decarbonylation of aldehydes, hydroacylation of aldehydes with alkenes or oxidation of aldehydes to acids. The products are further converted into unusual four-membered cyclic ketones or polysubstituted isochromanone derivatives via photochemical rearrangement. — (PADALA, K.; JEGANMOHAN*, M.; Org. Lett. 14 (2012) 4, 1134-1137, <http://dx.doi.org/10.1021/o13000684>; Dep. Chem., Indian Inst. Sci. Educ. & Res., Pune 411 021, India; Eng.) — Bartels



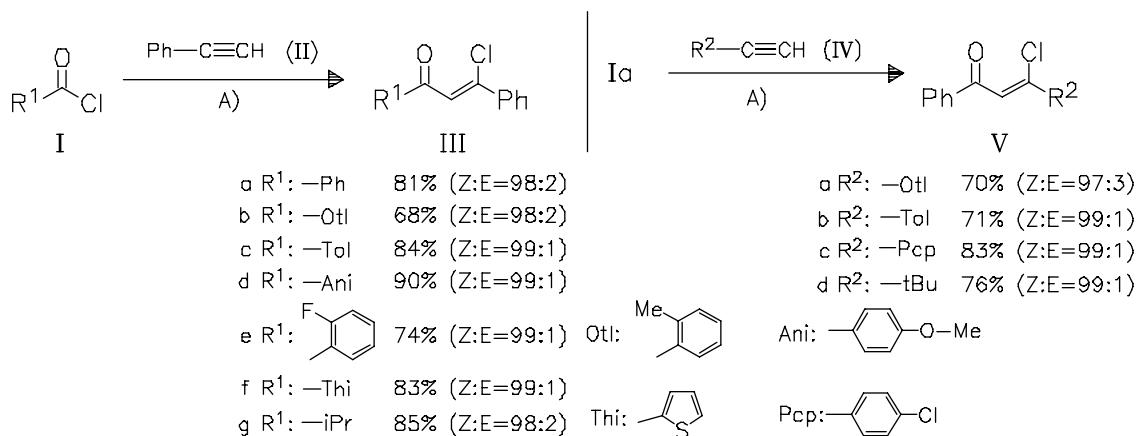
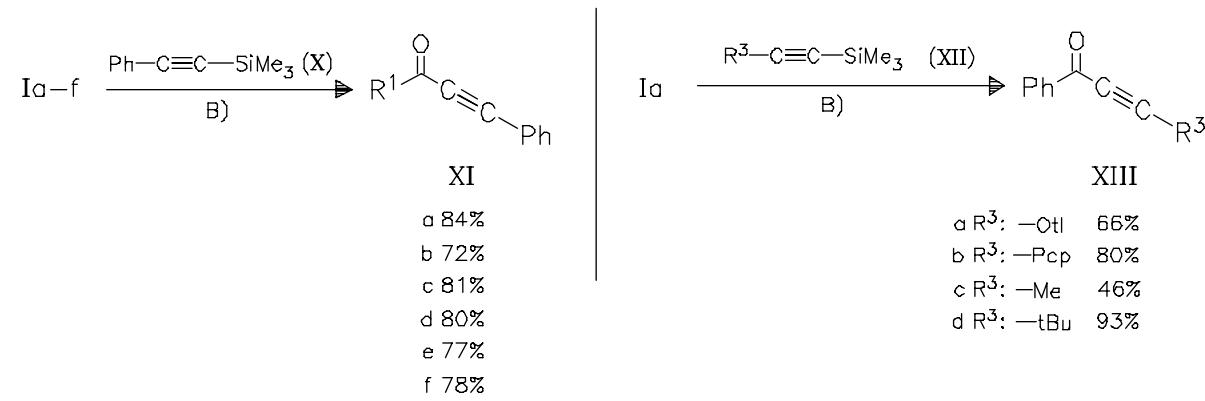
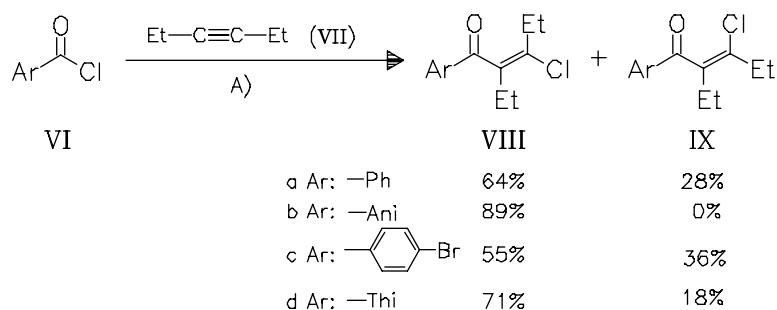


Ketones
Q 0350

25- 071

DOI: 10.1002/chin.201225071

Iron-Catalyzed Synthesis of β -Chlorovinyl and α,β -Alkynyl Ketones from Terminal and Silylated Alkynes with Acid Chlorides. — (GANDEEPAN, P.; PARTHASARATHY, K.; SU, T.-H.; CHENG*, C.-H.; *Adv. Synth. Catal.* 354 (2012) 2-3, 457-468, <http://dx.doi.org/10.1002/adsc.201100670>; Dep. Chem., Natl. Tsing Hua Univ., Hsinchu 30013, Taiwan; Eng.) — Nuesgen

A): FeCl₃ (cat.), CHCl₃, 0°C, [15 h]B): FeCl₃ (cat.), Me-NO₂, -15°C, [6 h]

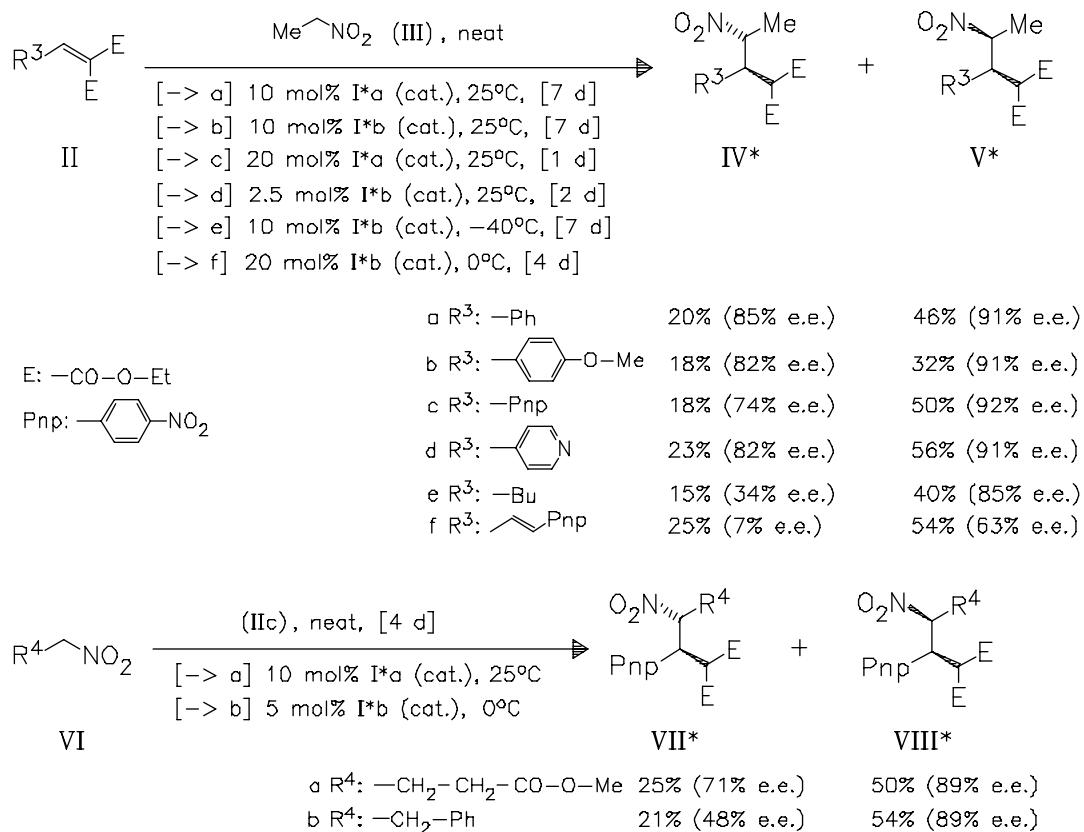
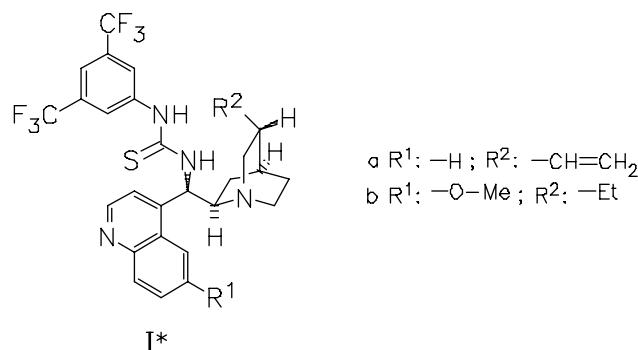
Nitrocarboxylic acids and esters

Q 0435

DOI: 10.1002/chin.201225072

25- 072

Enantioselective Conjugate Addition of Nitroalkanes to Alkylidenemalonates Promoted by Thiourea-Based Bifunctional Organocatalysts. — (CHIARUCCI, M.; LOMBARDO, M.; TROMBINI, C.; QUINTAVALLA*, A.; *Adv. Synth. Catal.* 354 (2012) 2-3, 364-370, <http://dx.doi.org/10.1002/adsc.201100732>; Dip. Chim. "G. Ciamician", Univ. Bologna, I-40126 Bologna, Italy; Eng.) — Nuesgen



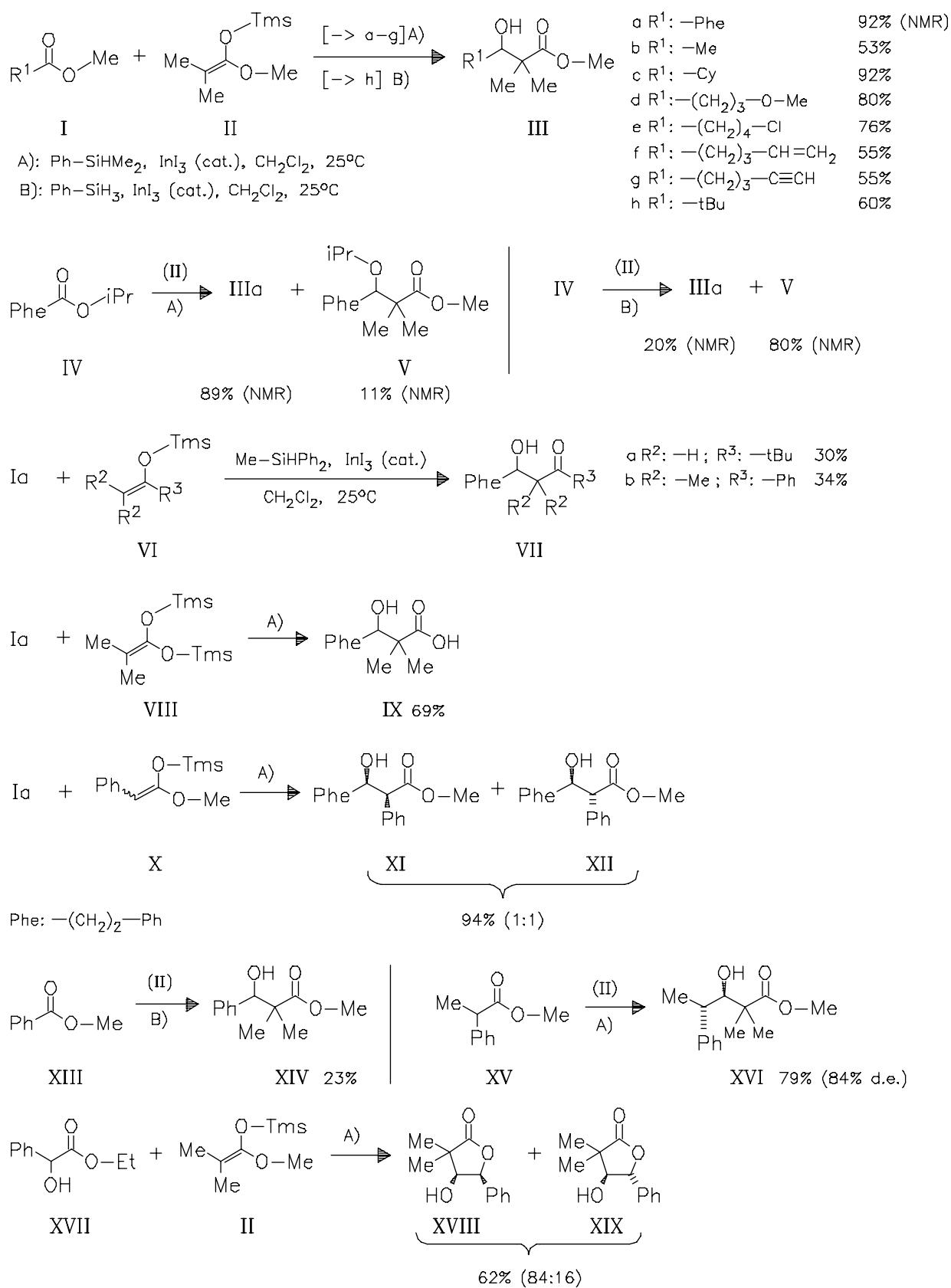
Hydroxycarboxylic acids (ether carboxylic acids) and esters

Q 0450

DOI: 10.1002/chin.201225073

25- 073

Direct Use of Esters in the Mukaiyama Aldol Reaction: A Powerful and Convenient Alternative to Aldehydes. — The method is compatible with many functional groups. In addition, the replacement of unstable and difficult to handle aldehydes with the corresponding esters is demonstrated — (INAMOTO, Y.; NISHIMOTO, Y.; YASUDA, M.; BABA*, A.; Org. Lett. 14 (2012) 4, 1168-1171, <http://dx.doi.org/10.1021/o13001443>; Dep. Appl. Chem., Fac. Eng., Osaka Univ., Suita, Osaka 565, Japan; Eng.) — Bartels



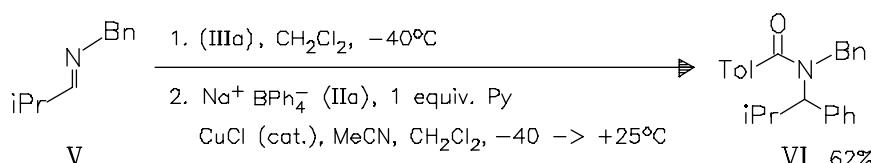
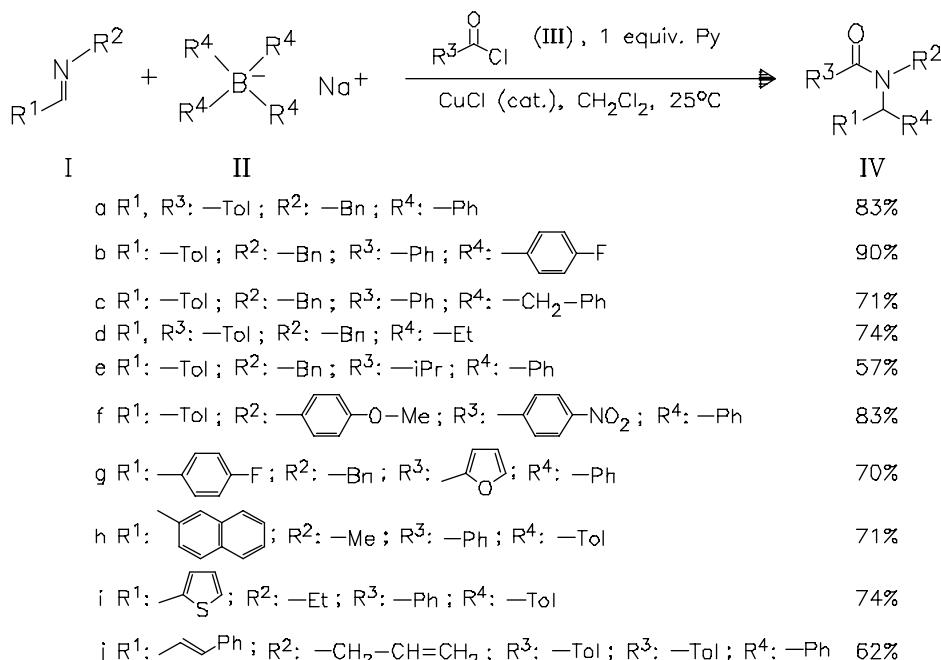
Carboxylic amides

Q 0490

25- 074

DOI: 10.1002/chin.201225074

Copper-Catalyzed Petasis-Type Reaction: A General Route to α -Substituted Amides from Imines, Acid Chlorides, and Organoboron Reagents. — (MORIN, M. S. T.; LU, Y.; BLACK, D. A.; ARNDTSEN*, B. A.; J. Org. Chem. 77 (2012) 4, 2013-2017, <http://dx.doi.org/10.1021/jo202339v>; Dep. Chem., McGill Univ., Montreal, Que. H3A 2K6, Can.; Eng.) — Jannicke



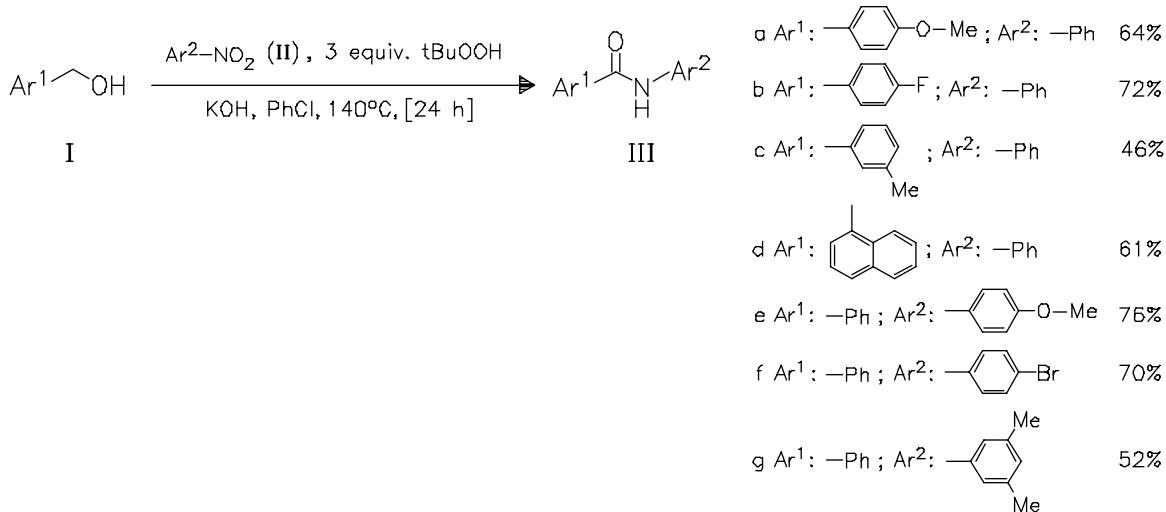
Carboxylic amides

Q 0490

25- 075

DOI: 10.1002/chin.201225075

Peroxide-Mediated Transition-Metal-Free Direct Amidation of Alcohols with Nitroarenes. — The reaction shows very good selectivity: amides are formed as the major products, and only trace amounts of imine by-products are obtained in most cases. The reaction tolerates a wide range of functionalities. The peroxide and the solvent have a significant impact on the reaction yield. — (XIAO, F.; LIU, Y.; TANG, C.; DENG*, G.-J.; Org. Lett. 14 (2012) 4, 984-987, <http://dx.doi.org/10.1021/o1203211k>; Coll. Chem., Xiangtan Univ., Xiangtan, Hunan 411105, Peop. Rep. China; Eng.) — Bartels



Carboxylic acid esters

Q 0530

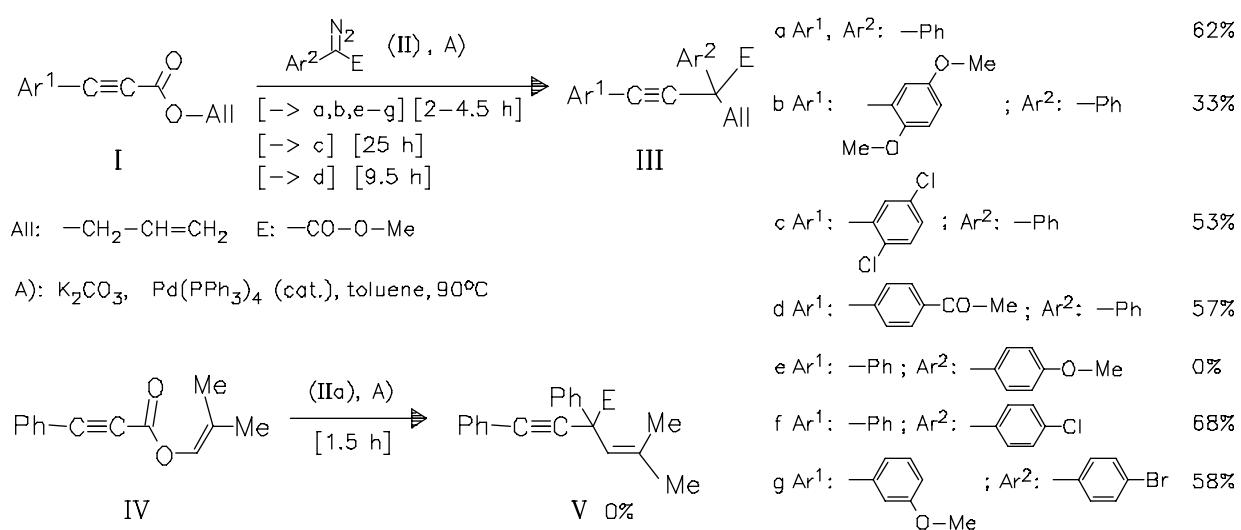
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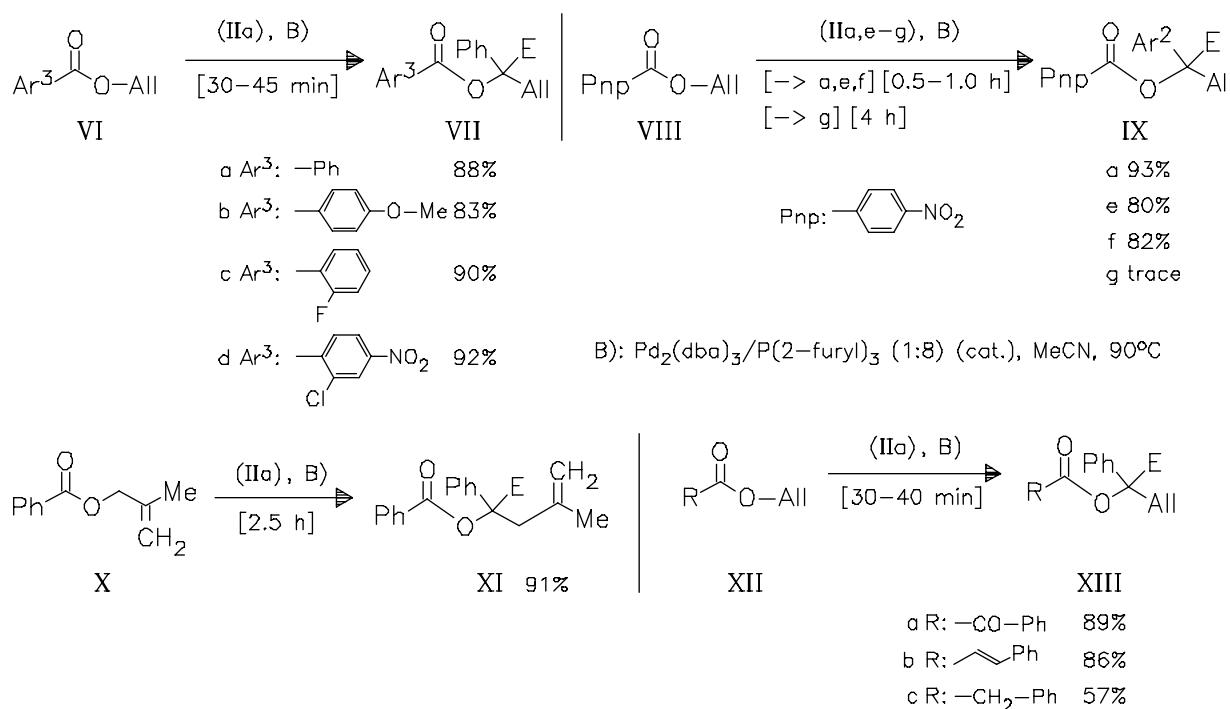
25- 076

Palladium-Catalyzed Divergent Reactions of α -Diazocarbonyl Compounds with Allylic Esters: Construction of Quaternary Carbon Centers.

Allyl arylpropiolates react with the diazo compounds to give 1,5-enynes (III) bearing an all-carbon quaternary center via palladium-catalyzed decarboxylation and migratory insertion. Under similar conditions, allyl benzoates as well as allylic esters (XII) afford ester derivatives bearing an O-substituted quaternary carbon center. — (CHEN, Z.-S.; DUAN, X.-H.; ZHOU, P.-X.; ALI, S.; LUO, J.-Y.; LIANG*, Y.-M.; Angew. Chem., Int. Ed. 51 (2012) 6, 1370-1374, <http://dx.doi.org/10.1002/anie.201106619> ; State Key Lab.

Appl. Org. Chem., Lanzhou Univ., Lanzhou, Gansu 730000, Peop. Rep. China; Eng.)
— Klein





Carboxylic acid esters

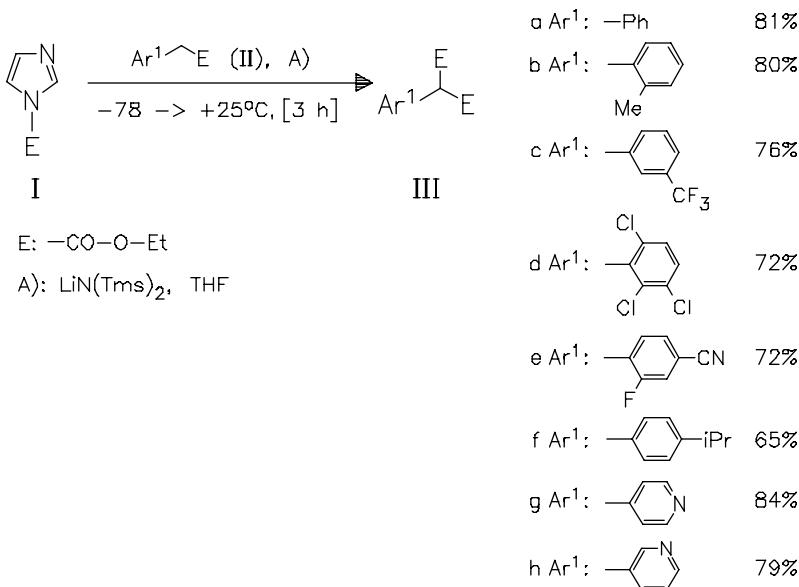
Q 0530

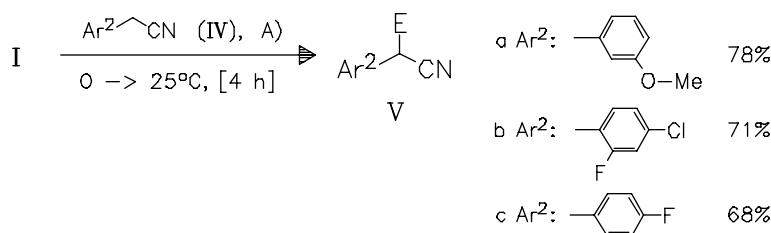
DOI: 10.1002/chin.201225077

25- 077

An Efficient Method for the Preparation of Mono α-Aryl Derivatives of Diethyl Malonate and Ethyl Cyanoacetate Using Ethyl-1-imidazole Carbamate (EImC).

— A simple approach to the title compounds, which are required as synthons of heterocycles, becomes possible by treatment of arylacetic esters (II) and nitriles (IV) with reagent (I). The method includes the synthesis of sterically hindered aryl derivatives. — (BEHERA, M.; RAGAVAN*, R. V.; SAMBAIAH, M.; ERUGU, B.; REDDY, J. R. K.; MUKKANTI, K.; YENNAM, S.; Tetrahedron Lett. 53 (2012) 9, 1060-1062, <http://dx.doi.org/10.1016/j.tetlet.2011.12.067>; GVK Biosci., IDA, Hyderabad 500 076, India; Eng.) — Mais





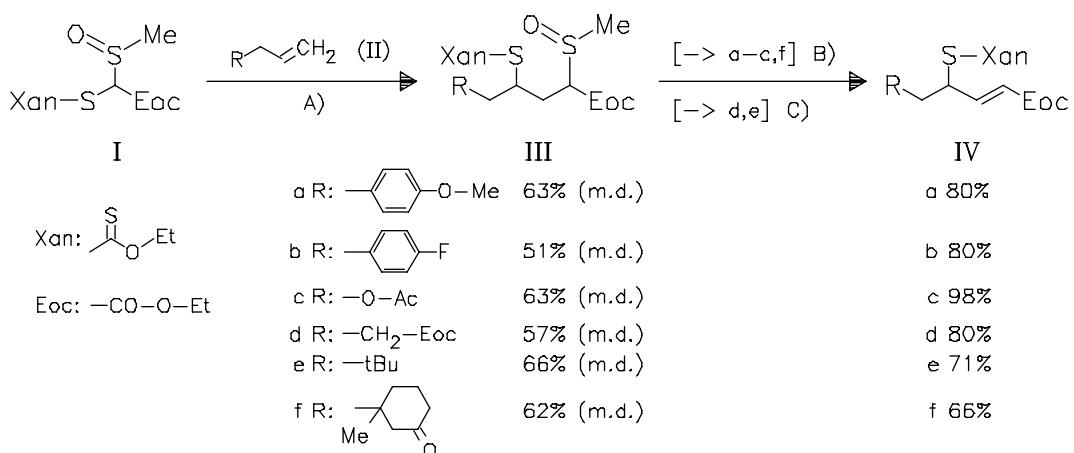
Carboxylic acid esters

Q 0530

DOI: 10.1002/chin.201225078

25- 078

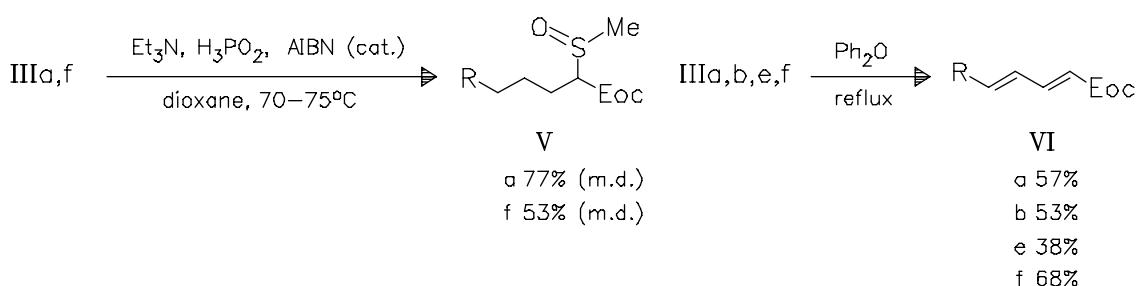
A Convenient Conversion of Terminal Alkenes into Homologous Unsaturated and Doubly Unsaturated Esters. — The synthesis of unsaturated and doubly unsaturated esters in only 2 steps is possible by the application of a radical xanthate transfer process from easily accessible and commercially available starting materials. The α,β -unsaturated esters are obtained by xanthate transfer with sulfoxide (I) and terminal alkenes followed by syn-elimination. A double elimination of both the sulfoxide and the xanthate demonstrates the synthesis of $\alpha,\beta,\gamma,\delta$ -unsaturated esters. The latter products may not be easily accessible via more conventional methods. — (HAWKINS, B.; PADDOCK, V. L.; TOELLE, N.; ZARD*, S. Z.; Org. Lett. 14 (2012) 4, 1020-1023, <http://dx.doi.org/10.1021/o1203387r>; Lab. Synth. Org., CNRS, Ec. Polytech., F-91128 Palaiseau, Fr.; Eng.) — Bartels

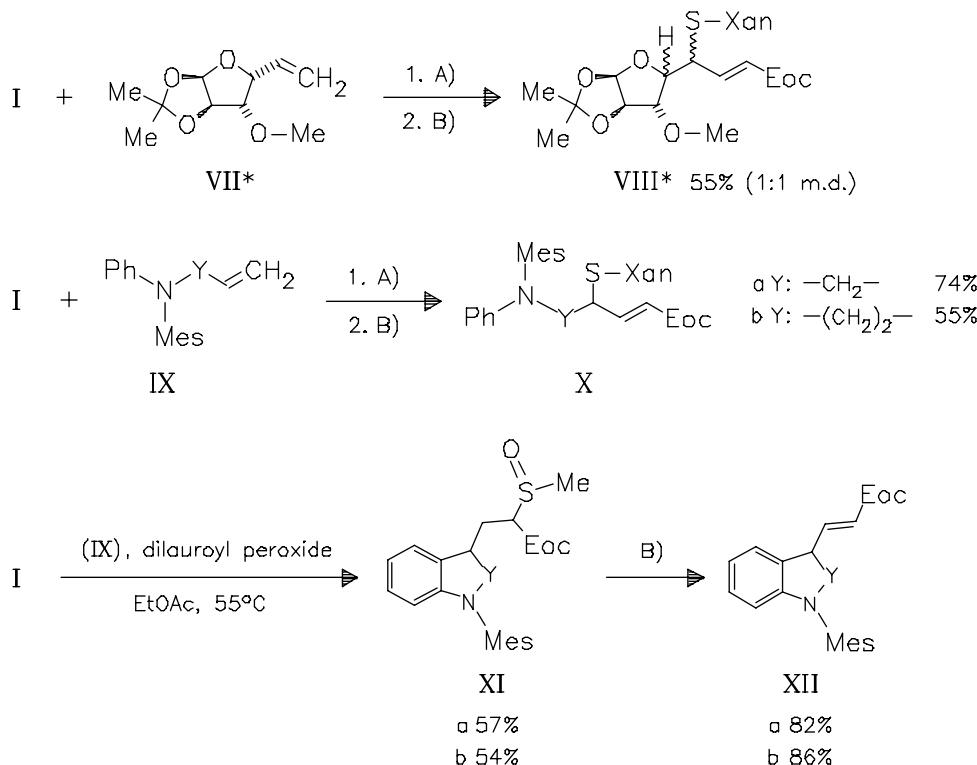


A): dilauroyl peroxide, EtOAc, 70–75°C

B): toluene, reflux

C): microwaves, toluene, 190°C, [30–45 min]





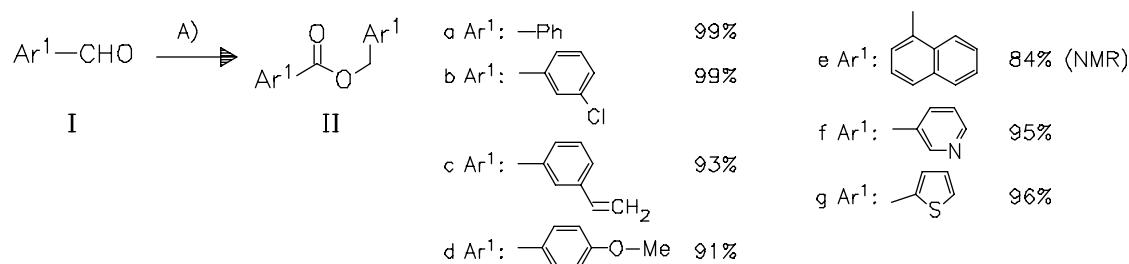
Carboxylic acid esters

Q 0530

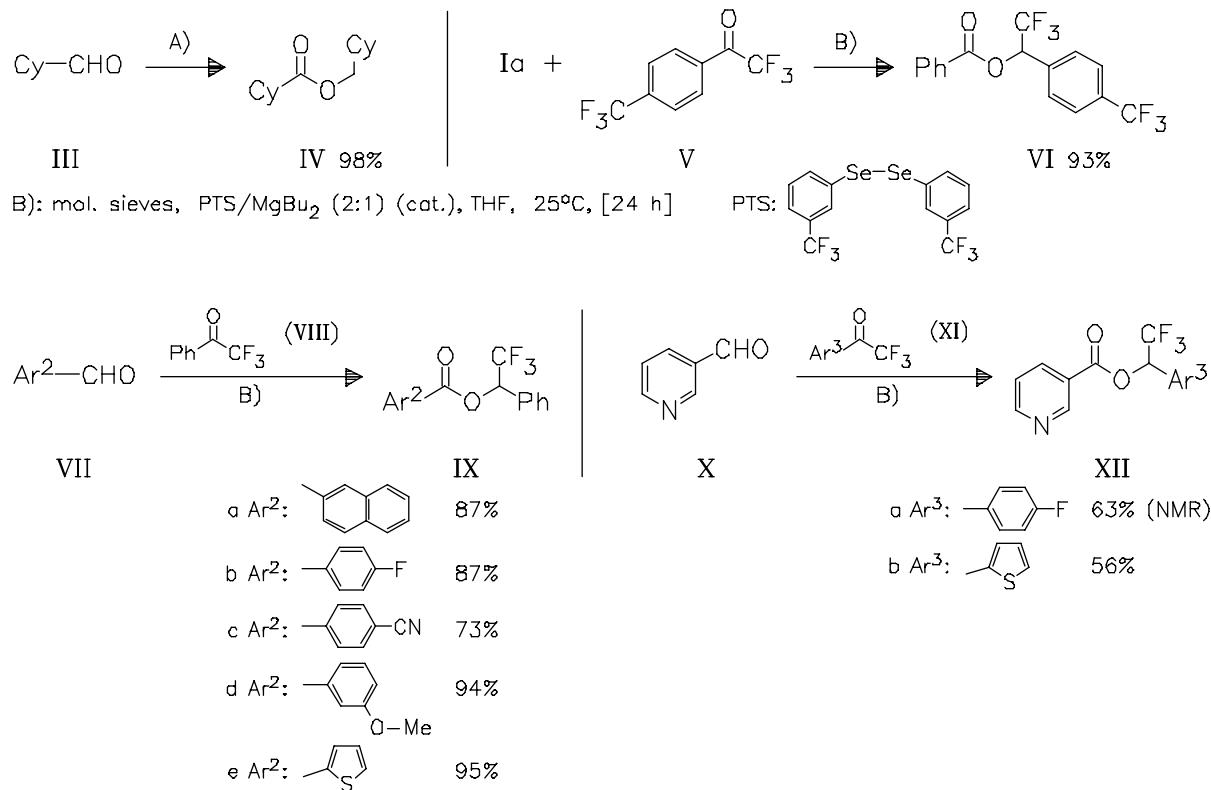
DOI: 10.1002/chin.201225079

25- 079

Selenide Ions as Catalysts for Homo- and Crossed-Tishchenko Reactions of Expanded Scope.— Selenide ions are superior to previously reported thiolate analogues and promote the disproportionation of aldehydes with increased reaction rates and broader scope at lower loadings and temperature. Thus, high yields of products derived from the disproportionation of a hitherto problematic hindered aliphatic aldehyde and heterocyclic substrates are achieved. Additionally, improved catalyst performance is also observed in the aryl selenide mediated crossed intermolecular Tishchenko reaction. — (CURRAN, S. P.; CONNON*, S. J.; Org. Lett. 14 (2012) 4, 1074-1077, <http://dx.doi.org/10.1021/o1203439g>; Cent. Synth. Chem. Biol., Trinity Coll., Univ. Dublin, Dublin 2, Ire.; Eng.) — Bartels



A): mol. sieves, $\text{Bn}-\text{Se}-\text{Se}-\text{Bn}/\text{MgBu}_2$ (2:1) (cat.), THF, 25°C , [24 h]



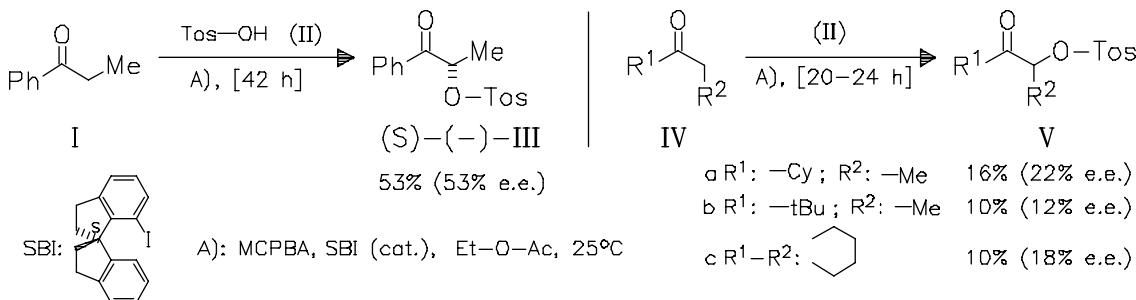
Sulfonic acids and esters

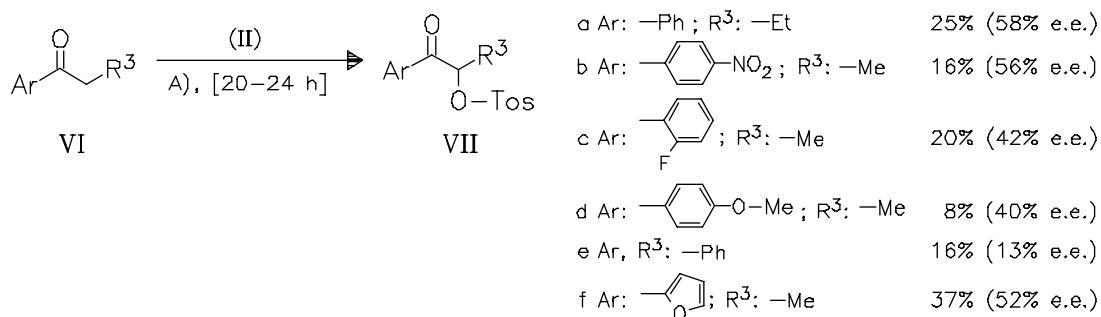
Q 0550

DOI: 10.1002/chin.201225080

25- 080

Enantioselective α -Tosyloxylation of Ketones Catalyzed by Spirobiindane Scaffold Based Chiral Iodoarenes. — A series of enantiomerically pure spirobiindane is prepared and investigated as catalysts in the tosyloxylation reaction of ketone (I) using MCPBA as a stoichiometric oxidant. Under the optimal conditions, a variety of aromatic, aliphatic, and cyclic ketones is tested. — (YU, J.; CUI, J.; HOU, X.-S.; LIU, S.-S.; GAO, W.-C.; JIANG, S.; TIAN, J.; ZHANG*, C.; Tetrahedron: Asymmetry 22 (2011) 23, 2039-2055, <http://dx.doi.org/10.1016/j.tetasy.2011.12.003>; State Key Lab. Elem.-Org. Chem., Nankai Univ., Tianjin 300071, Peop. Rep. China; Eng.) — Klein





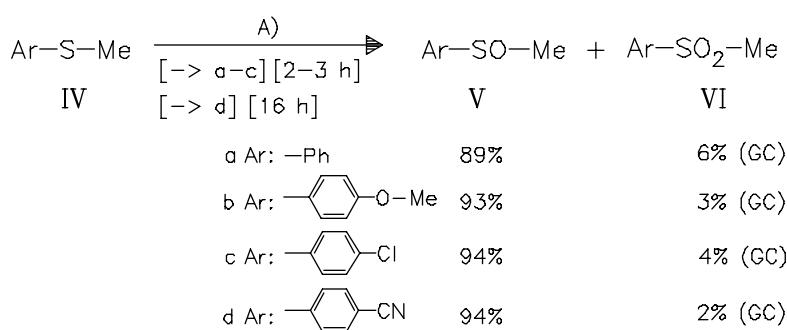
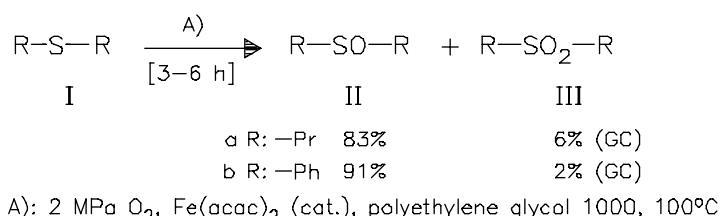
Sulfoxides

Q 0600

25- 081

DOI: 10.1002/chin.201225081

Iron-Catalyzed Selective Oxidation of Sulfides to Sulfoxides with the Polyethylene Glycol/O₂ System. — Aliphatic and aromatic sulfides are transformed into the corresponding sulfoxides with high selectivity by using molecular oxygen as the oxidant in polyethylene glycol in the presence of Fe(acac)₂ as the catalyst. Polyethylene glycol shows an essential effect on the reaction and is considered to play a crucial role in stabilizing the Fe(IV)-oxo species formed in situ, which is supposed to be responsible for sulfide oxidation. — (LI, B.; LIU, A.-H.; HE*, L.-N.; YANG, Z.-Z.; GAO, J.; CHEN, K.-H.; *Green Chem.* 14 (2012) 1, 130-135, <http://dx.doi.org/10.1039/c1gc15821j>; State Key Lab., Inst. Elem.-org. Chem., Nankai Univ., Tianjin 300071, Peop. Rep. China; Eng.) — H. Hoennerscheid



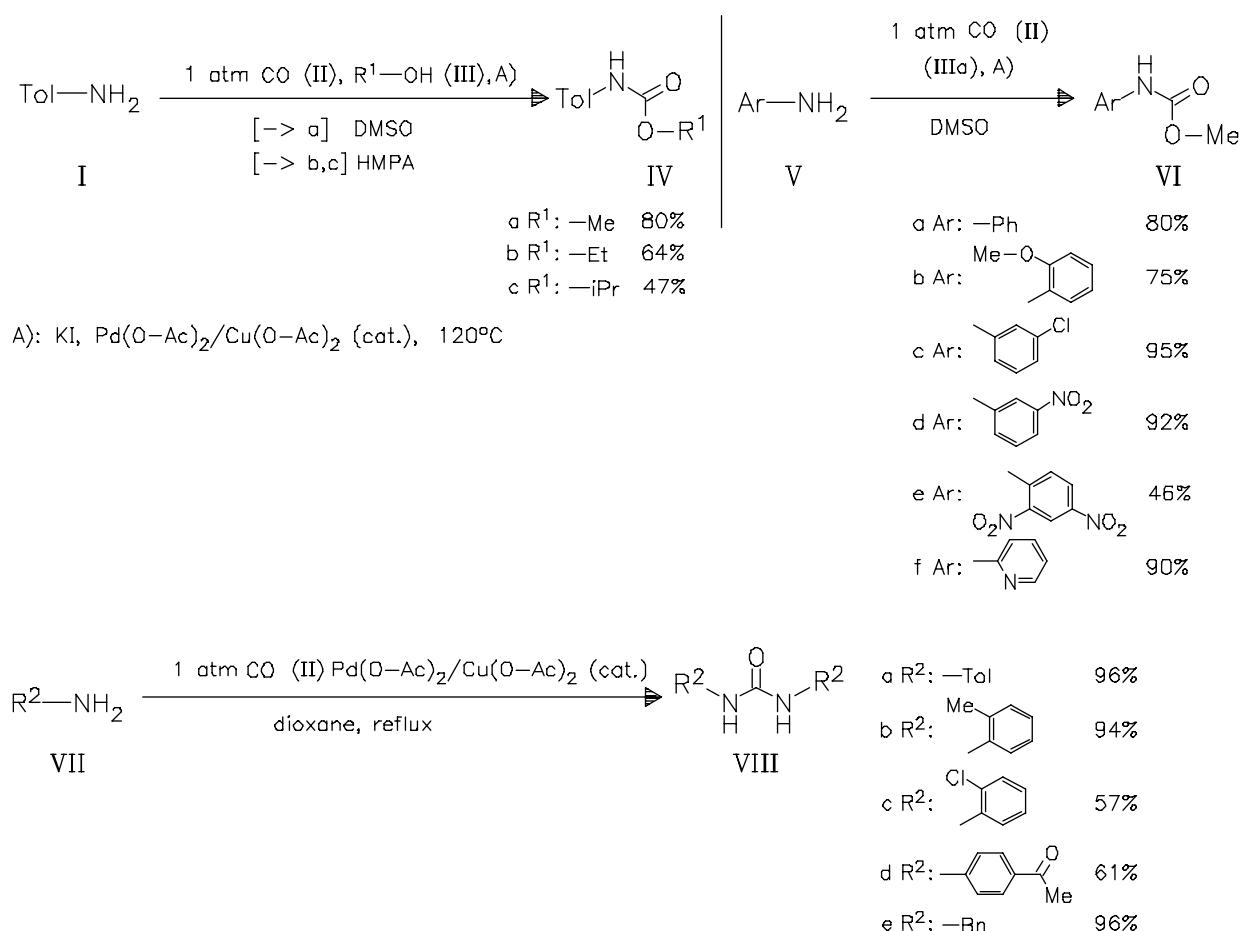
Carbamic acid derivatives

Q 0630

25- 082

DOI: 10.1002/chin.201225082

Palladium-Catalyzed Carbonylation of Amines: Switchable Approaches to Carbamates and N,N'-Disubstituted Ureas. — (GUAN*, Z.-H.; LEI, H.; CHEN, M.; REN, Z.-H.; BAI, Y.; WANG, Y.-Y.; *Adv. Synth. Catal.* 354 (2012) 2-3, 489-496, <http://dx.doi.org/10.1002/adsc.201100545>; Dep. Chem. Mater. Sci., Northwest. Univ., Xian, Shaanxi 710069, Peop. Rep. China; Eng.) — Nuesgen



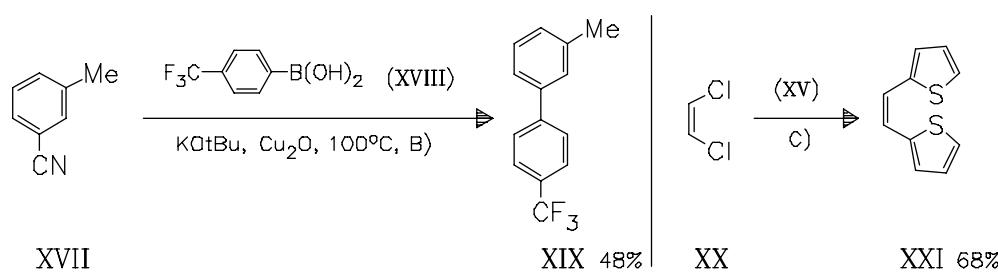
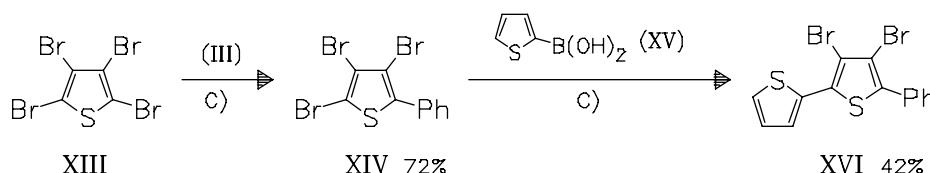
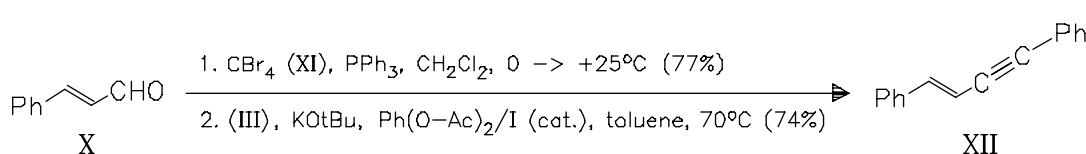
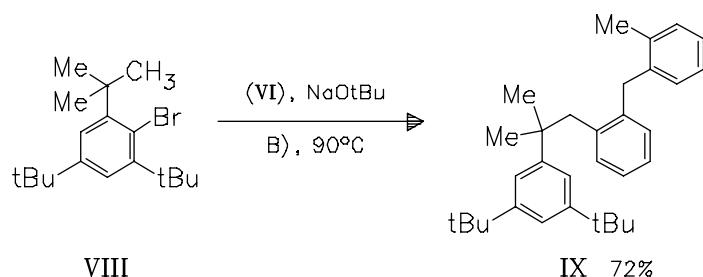
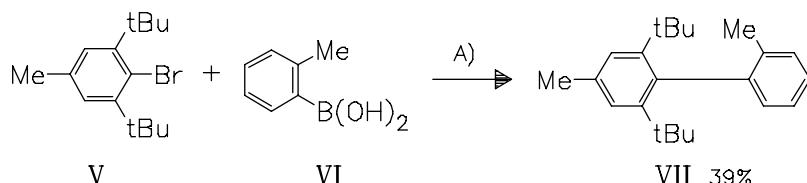
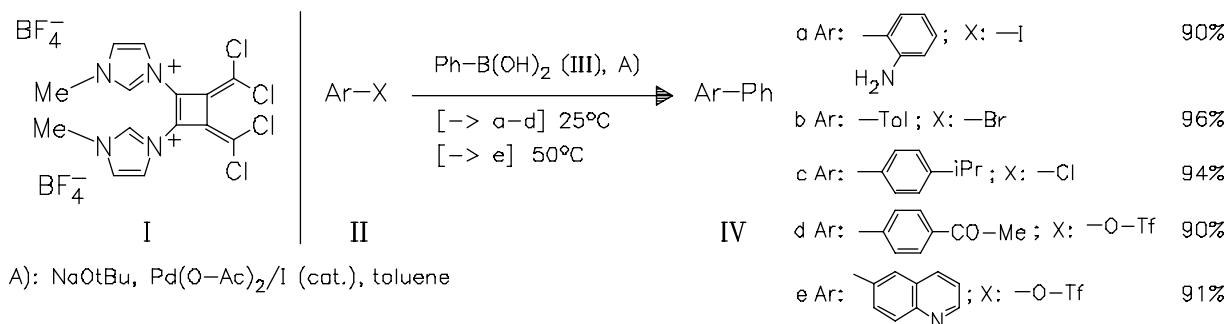
Polyphenyl derivatives

Q 0700

25- 083

DOI: 10.1002/chin.201225083

A Cyclobutene-1,2-bis(imidazolium) Salt as Preligand for Palladium-Catalyzed Cross-Coupling Reactions: Properties and Applications. — The title salt forms mono- and bis-carbenes on treatment with bases, which serve as efficient ligands in room-temperature Suzuki—Miyaura reactions, C—C couplings to form sterically extremely hindered biaryls, selective thiophene arylations and couplings with vinylic chlorides. The catalyst is less active in nickel-catalyzed couplings and when nitriles are used as substrates. The sequence of Corey—Fuchs-type reaction and tandem Suzuki—Miyaura cross-coupling/dehydrobromination gives the alkyne (XII). — (RAHIMI, A.; PAPAI, I.; MADARASZ, A.; GJIKAJ, M.; NAMYSLO, J. C.; SCHMIDT*, A.; Eur. J. Org. Chem. 2012, 4, 754–763, <http://dx.doi.org/10.1002/ejoc.201101378>; Inst. Org. Chem., TU Clausthal, D-38678 Clausthal-Zellerfeld, Germany; Eng.) — Kieslich

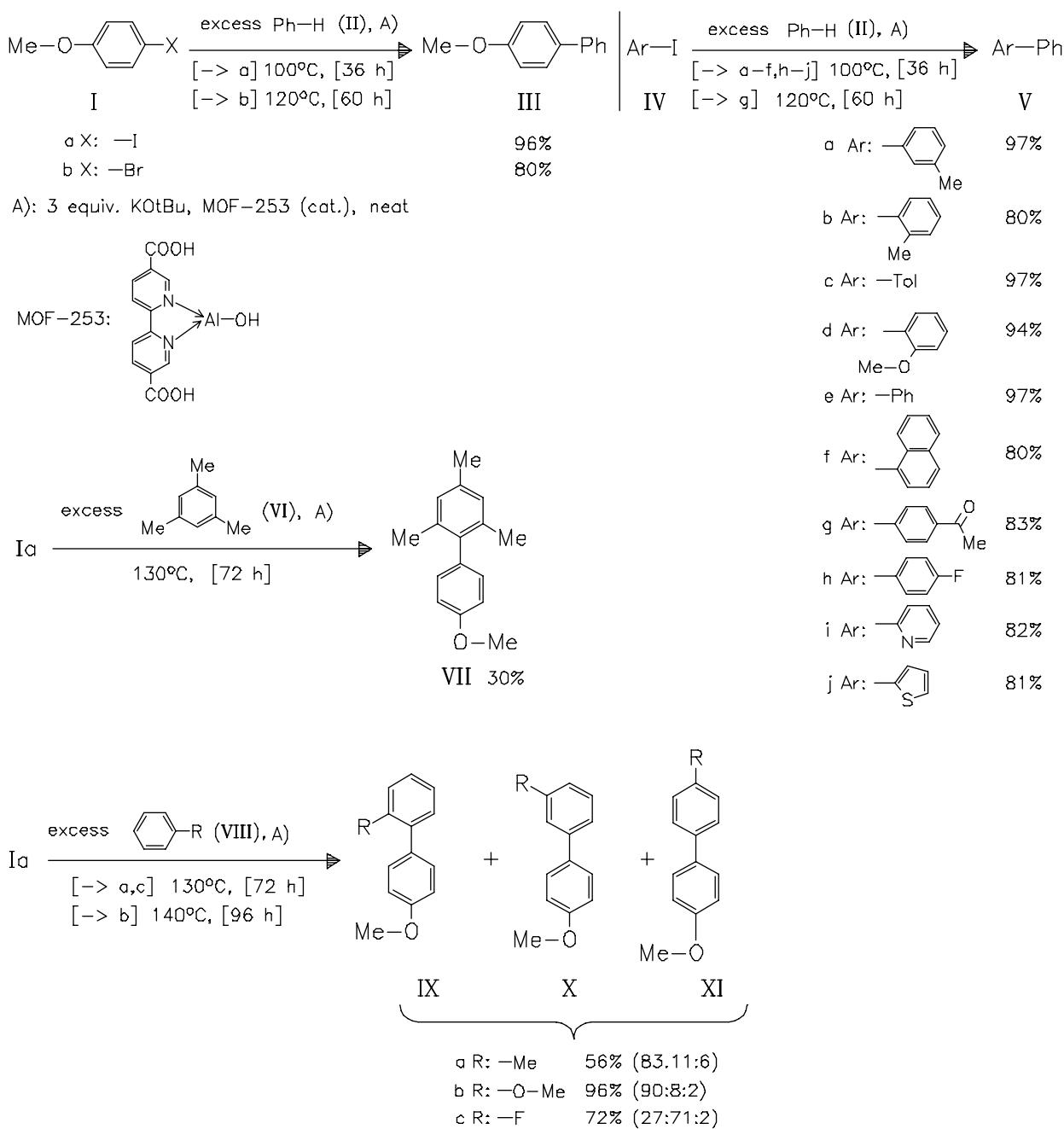


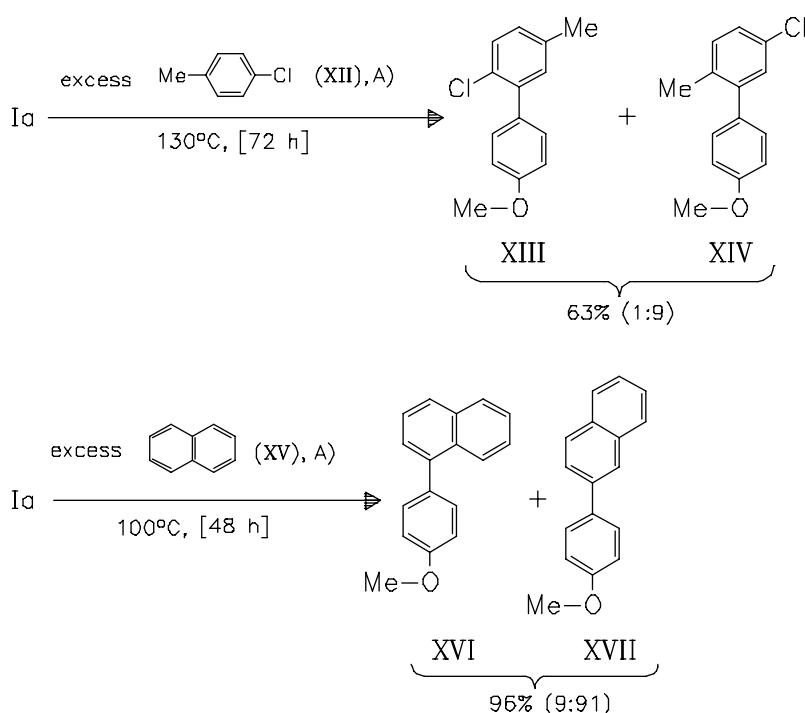
Polyphenyl derivatives

Q 0700

25- 084

Transition-Metal-Free Highly Chemo- and Regioselective Arylation of Unactivated Arenes with Aryl Halides over Recyclable Heterogeneous Catalysts. — A novel heterogeneous catalysis system based on a metal-organic framework (MOF-253) demonstrating excellent chemo- and regioselectivity in the title reaction is presented. — (LIU, H.; YIN, B.; GAO, Z.; LI*, Y.; JIANG, H.; Chem. Commun. (Cambridge) 48 (2012) 14, 2033–2035, <http://dx.doi.org/10.1039/c2cc16790e>; Sch. Chem. Chem. Eng., South China Univ. Technol., Guangzhou, Guangdong 510640, Peop. Rep. China; Eng.) — D. Singer





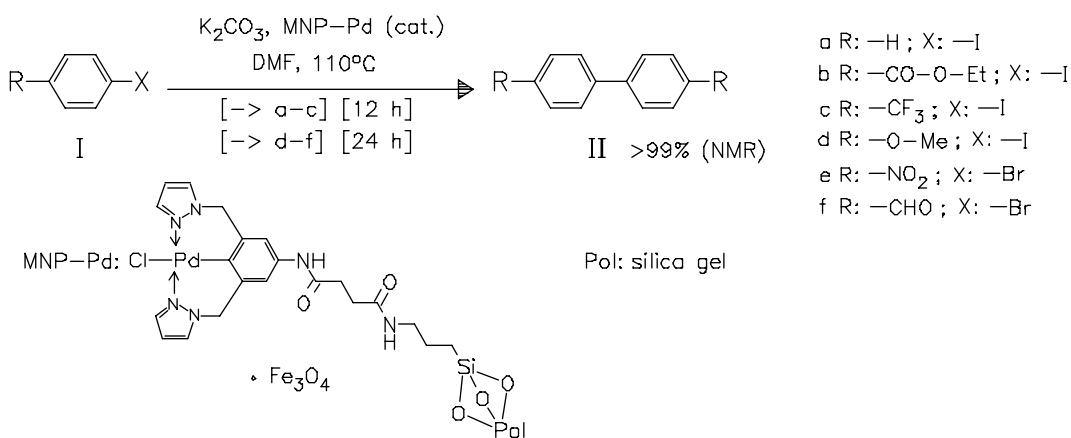
Polyphenyl derivatives

Q 0700

DOI: 10.1002/chin.201225085

25- 085

The Role of Magnetic Nanoparticles (MNP) as Reducing Agents in an MNP-Supported Pd—Catalyst for the Reductive Homocoupling of Aryl Halides. — The catalyst exhibits good activity in the synthesis of compounds (II). It can be reused for 5 times, subsequently the yield decreases dramatically. — (ZHENG, J.; LIN, S.; JIANG, B.-W.; MARDER*, T. B.; YANG, Z.; Can. J. Chem. 90 (2012) 1, 138-144, <http://dx.doi.org/10.1139/v11-133>; Dep. Chem., Univ. Durham, Durham DH1 3LE, UK; Eng.) — C. Gebhardt



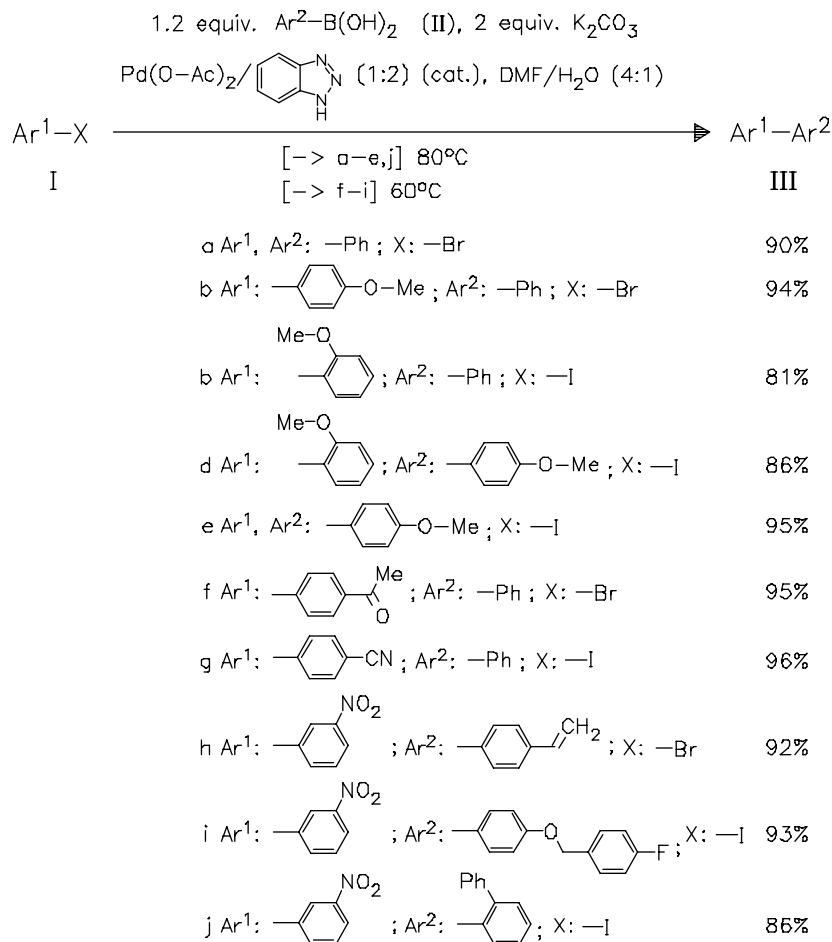
Polyphenyl derivatives

Q 0700

25- 086

DOI: 10.1002/chin.201225086

Benzotriazole: An Efficient, Inexpensive and Phosphine-Free Ligand for the Palladium-Catalyzed Suzuki—Miyaura Reaction. — (JHA, R. R.; CHAUDHARY, R.; CHANDRA, R.; VERMA*, A. K.; J. Indian Chem. Soc. 88 (2011) 8, 1187–1194; Dep. Chem., Univ. Delhi, Delhi 110 007, India; Eng.) — R. Langenstrassen



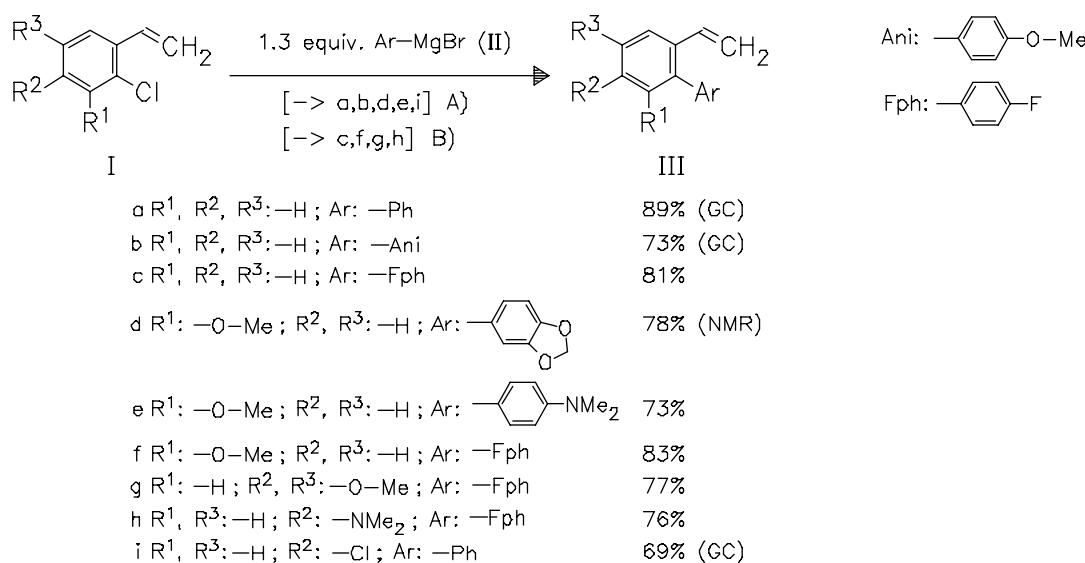
Polyphenyl derivatives

Q 0700

25- 087

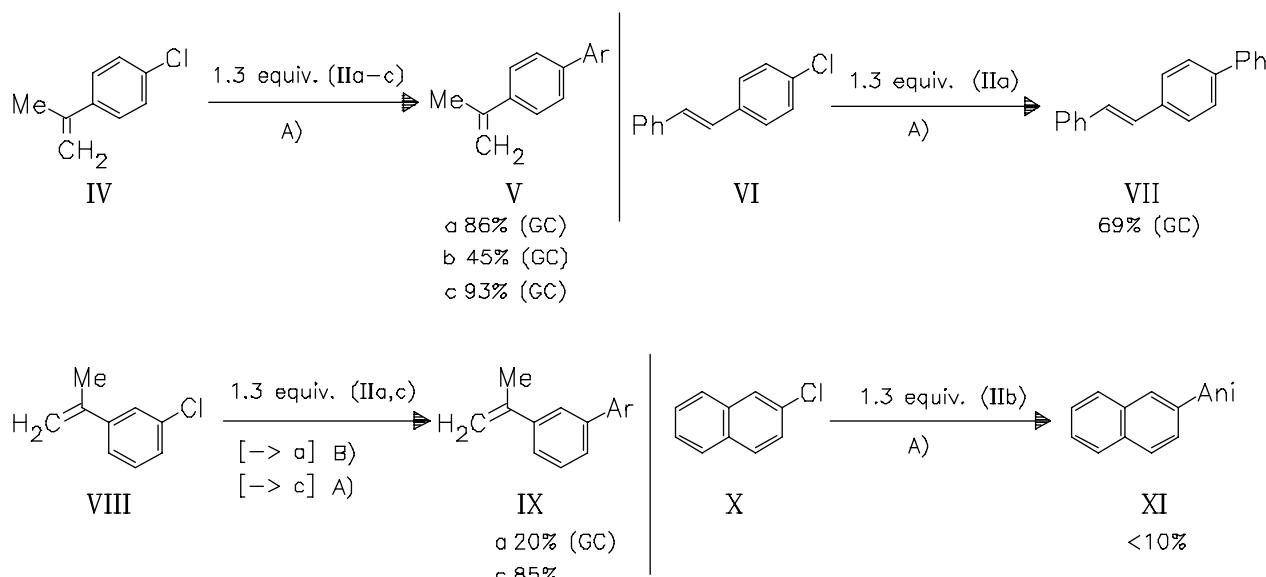
DOI: 10.1002/chin.201225087

Chlorostyrenes in Iron-Catalyzed Biaryl Coupling Reactions. — The coupling of chlorostyrenes with arylmagnesium bromides requires only mild conditions and tolerates various functional groups. No competitive reactions of the vinyl group are observed. — (GUELAK, S.; JACOBI VON WANGELIN*, A.; Angew. Chem., Int. Ed. 51 (2012) 6, 1357–1361, <http://dx.doi.org/10.1002/anie.201106110>; Inst. Org. Chem., Univ. Regensburg, D-93053 Regensburg, Germany; Eng.) — Klein



A): Fe(acac)₃ (cat.), THF/NMP (10:1), 30°C, [slow addition of Grignard species]

B): Fe(acac)₃ (cat.), THF/NMP (10:1), 30°C, [rapid addition of Grignard species]



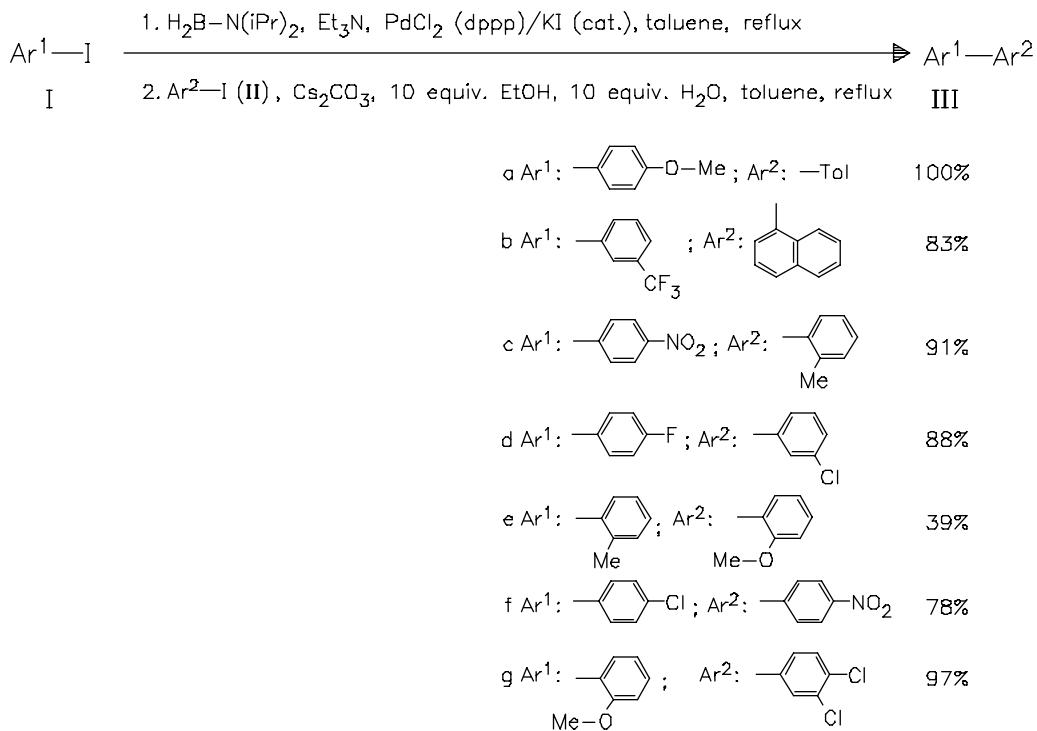
Polyphenyl derivatives

Q 0700

25- 088

DOI: 10.1002/chin.201225088

Aminoborylation/Suzuki—Miyaura Tandem Cross Coupling of Aryl Iodides as Efficient and Selective Synthesis of Unsymmetrical Biaryls. — Sequential borylation of a first aryl iodide (I) using a dialkylaminoborane followed by a Suzuki—Miyaura cross coupling of second aryl iodide (II) affords unsymmetrical biaryls, in an efficient and practical manner. The tandem coupling shows a wide range of applicability. — (MARCIASINI, L.; RICHY, N.; VAULTIER, M.; PUCHEAULT*, M.; Chem. Commun. (Cambridge) 48 (2012) 10, 1553–1555, <http://dx.doi.org/10.1039/c1cc14605j>; Inst. Sci. Mol., Univ. Bordeaux, F-33405 Talence, Fr.; Eng.) — M. Paetzel



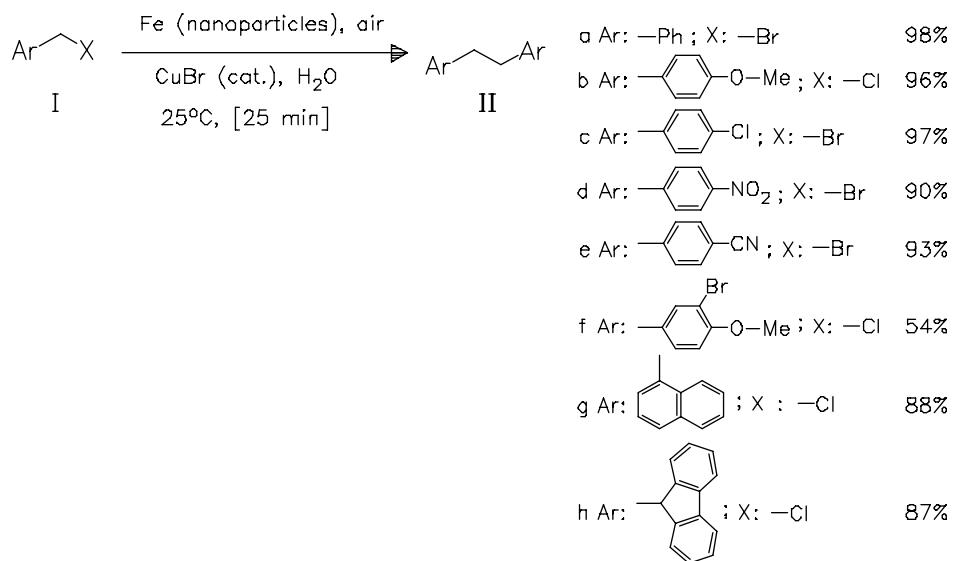
Polyphenylalkane derivatives

Q 0720

DOI: 10.1002/chin.201225089

25- 089

Iron Nanoparticle-Promoted Cu(I)-Catalyzed Homocoupling of Arylmethyl Halides for the Synthesis of 1,2-Diarylethylenes. — (SHEKARRIZ*, M.; ADIB, M.; BIABANI, T.; TAGHIPOOR, S.; J. Chem. Res. 36 (2012) 1, 29-30, <http://dx.doi.org/10.3184/174751912x13252619521880>; Res. Inst. Petrol. Ind., Tehran, Iran; Eng.) — C. Cyrus



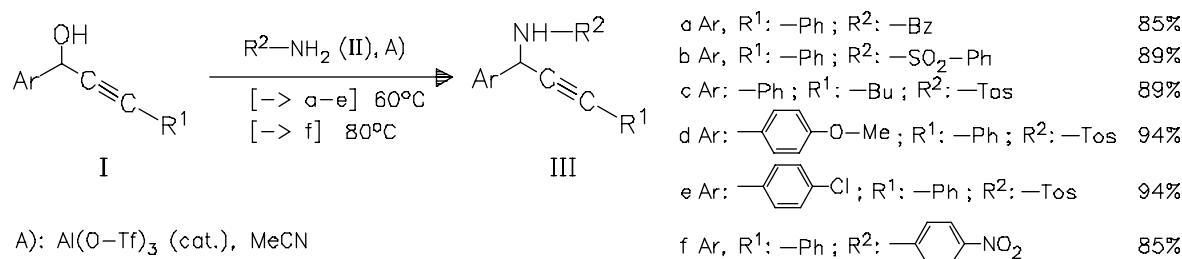
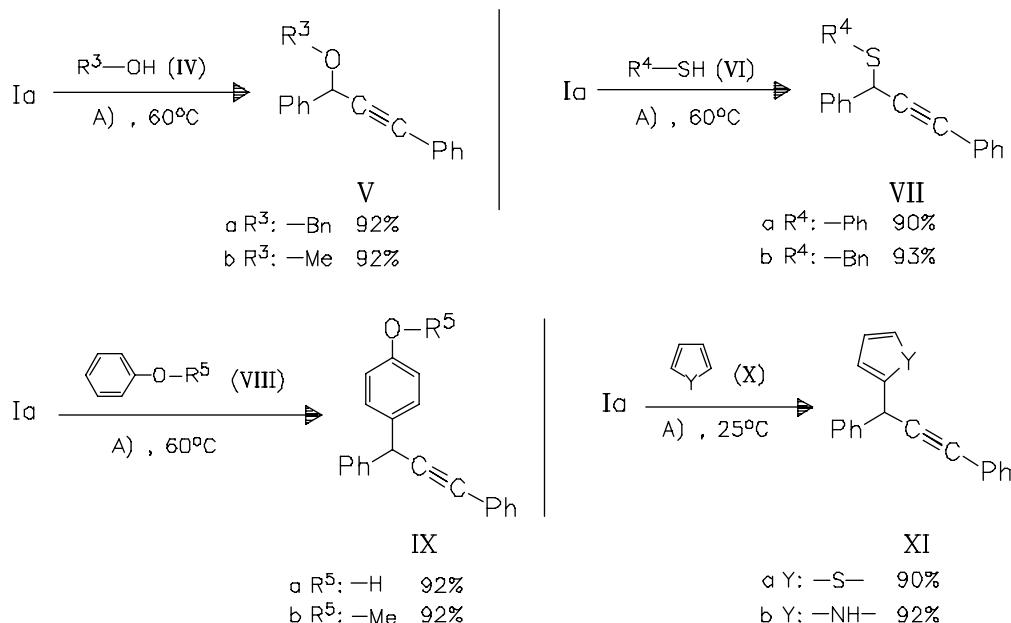
Polyphenylalkyne derivatives

Q 0750

25- 090

DOI: 10.1002/chin.201225090

Al(OTf)₃: An Efficient Recyclable Catalyst for Direct Nucleophilic Substitution of the Hydroxy Group of Propargylic Alcohols with Carbon- and Heteroatom-Centered Nucleophiles to Construct C—C, C—O, C—N and C—S Bonds. — Independent of the nucleophile used, the reactions are finished within a few hours. — (GOHAIN, M.; MARAIS, C.; BEZUIDENHOUDT*, B. C. B.; Tetrahedron Lett. 53 (2012) 9, 1048–1050, <http://dx.doi.org/10.1016/j.tetlet.2011.12.060>; Dep. Chem., Univ. Free State, Bloemfontein 9300, S. Afr.; Eng.) — Mais

A): Al(O-Tf)₃ (cat.), MeCN

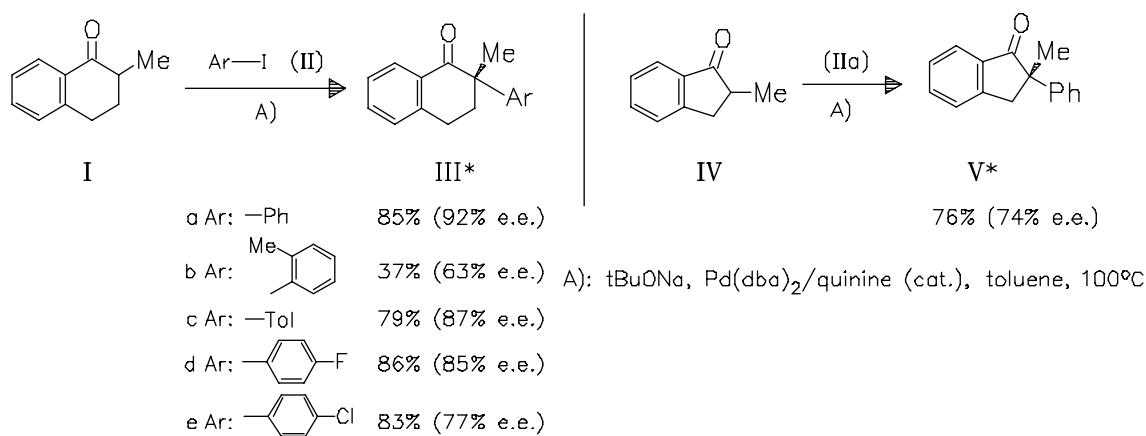
Oxo compounds

Q 0900

25- 091

DOI: 10.1002/chin.201225091

Enantioselective α -Arylation of Cyclic Ketones Catalyzed by a Combination of an Unmodified Cinchona Alkaloid and a Palladium Complex. — (RICHTER, C.; RANGANATH, K. V. S.; GLORIUS*, F.; Adv. Synth. Catal. 354 (2012) 2-3, 377–382, <http://dx.doi.org/10.1002/adsc.201100669>; Org.-Chem. Inst., Westfael. Wilhelms Univ., D-48149 Muenster, Germany; Eng.) — Nuesgen



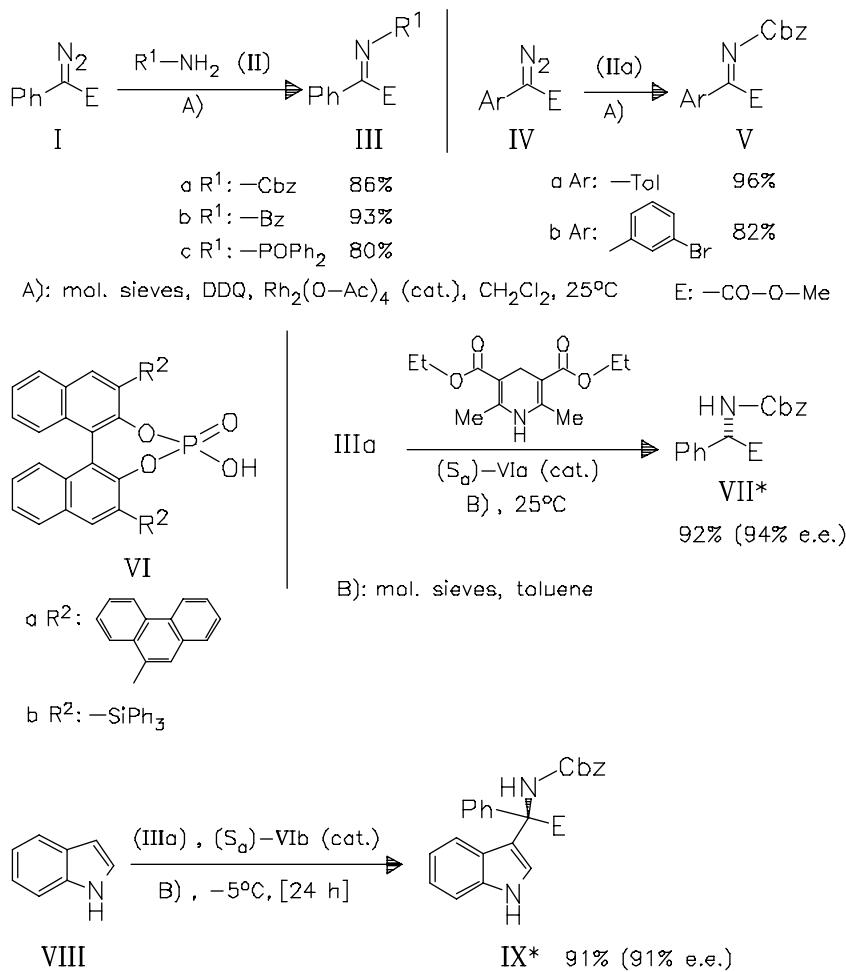
Carbonyl derivatives

Q 0930

DOI: 10.1002/chin.201225092

25- 092

A Novel Method for Synthesizing N-Alkoxy carbonyl Aryl α -Imino Esters and Their Applications in Enantioselective Transformations. — (QIAN, Y.; JING, C.; ZHAI, C.; HU*, W.-H.; *Adv. Synth. Catal.* 354 (2012) 2-3, 301-307, <http://dx.doi.org/10.1002/adsc.201100615>; Dep. Chem., East China Norm. Univ., Shanghai 200062, Peop. Rep. China; Eng.) — Nuesgen



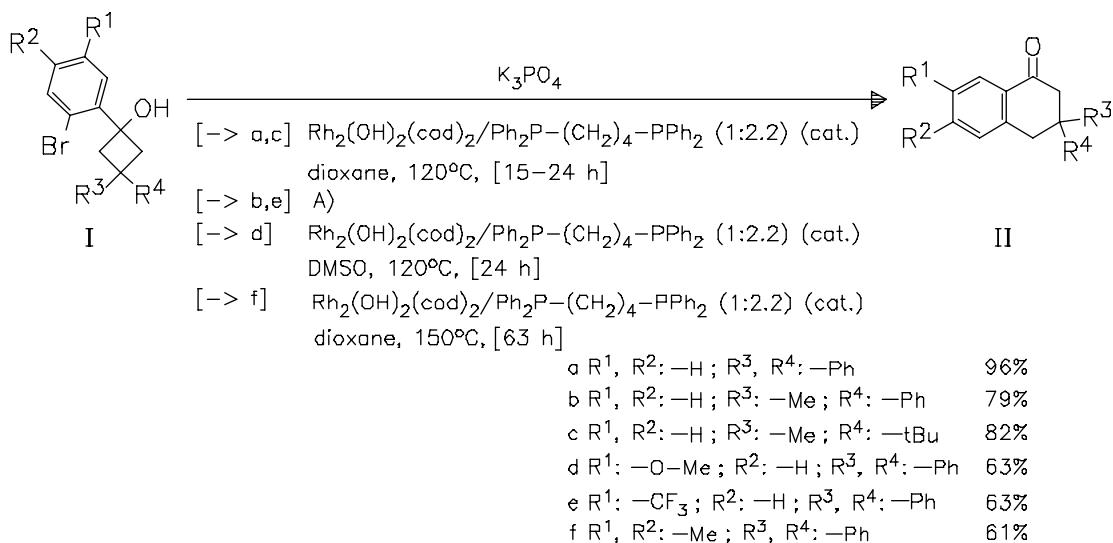
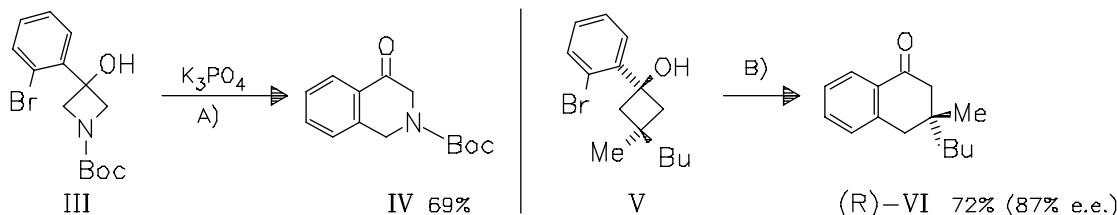
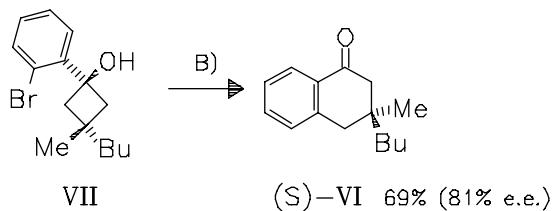
Other naphthalene derivatives

Q 1020

DOI: 10.1002/chin.201225093

25- 093

Synthesis of 3,3-Disubstituted α -Tetralones by Rhodium-Catalyzed Reaction of 1-(2-Haloaryl)cyclobutanols. — The asymmetric version of the title reaction affords chiral α -tetralones bearing an asymmetric quaternary carbon at the 3-position. — (ISHIDA, N.; SAWANO, S.; MURAKAMI*, M.; Chem. Commun. (Cambridge) 48 (2012) 14, 1973-1975, <http://dx.doi.org/10.1039/c2cc16907j>; Dep. Synth. Chem. Biol. Chem., Kyoto Univ., Katsura, Kyoto 615, Japan; Eng.) — D. Singer

A): $\text{Rh}_2(\text{OH})_2(\text{cod})_2/\text{BINAP}$ (1:2:2) (cat.), dioxane, 120°C, [24 h]B): K_3PO_4 , $\text{Rh}_2(\text{OH})_2(\text{cod})_2/(R)-p\text{-tolBINAP}$ (1:2:2) (cat.), dioxane, 120°C, [24 h]

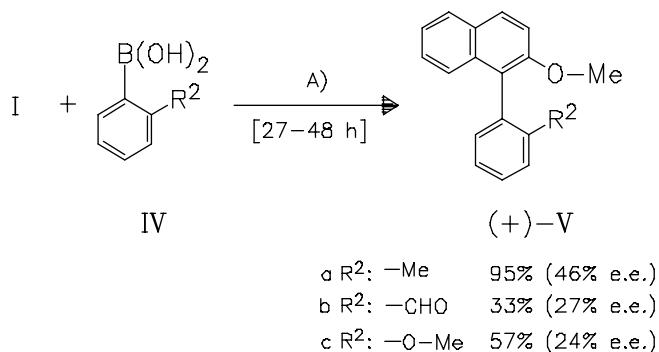
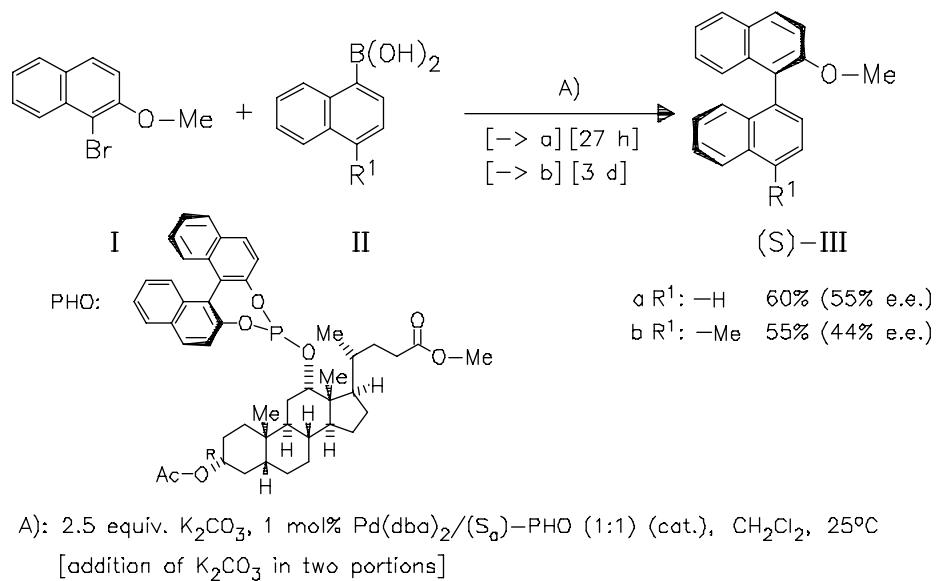
Other naphthalene derivatives

Q 1020

25- 094

DOI: 10.1002/chin.201225094

Deoxycholic Acid Derived Monophosphites as Chiral Ligands in the Asymmetric Suzuki—Miyaura Cross-Coupling. — The choice and amount of base are crucial for the outcome of the coupling reactions. Under optimized conditions, enantiomerically enriched biaryl derivatives are obtained from naphthyl bromide (I) and arylboronic acids. The presence of a methoxy group at the ortho-position to bromine is mandatory for the enantioselectivity of the reaction. — (JUMDE, V. R.; IULIANO*, A.; *Tetrahedron: Asymmetry* 22 (2011) 24, 2151–2155, <http://dx.doi.org/10.1016/j.tetasy.2011.12.006>; Dip. Chim. Chim. Ind., Univ. Pisa, I-56126 Pisa, Italy; Eng.) — Klein



Fluorene derivatives

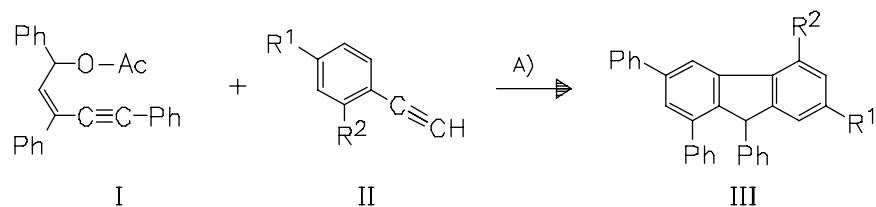
Q 1060

25- 095

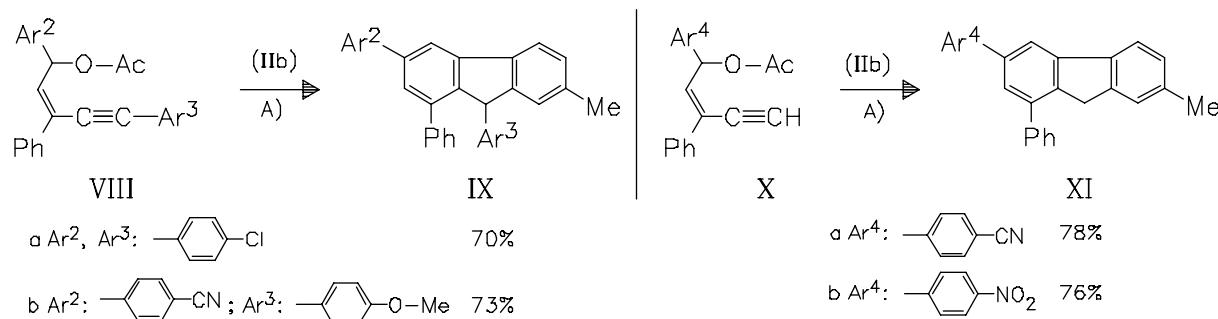
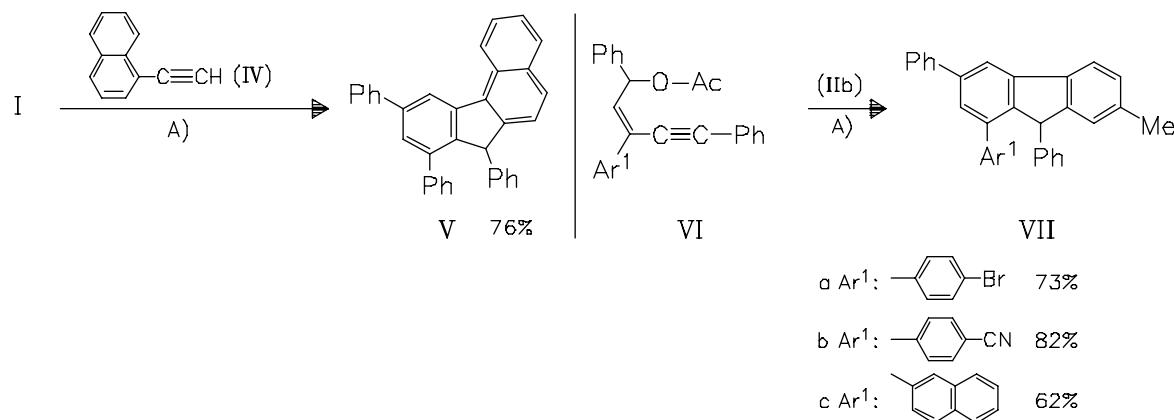
DOI: 10.1002/chin.201225095

Bi(III)-Catalyzed Intermolecular Reactions of (Z)-Pent-2-ene-4-ynyl Acetates with Ethynylarenes for the Construction of Multisubstituted Fluorene Skeletons

Through a Cascade Electrophilic Addition/Cycloisomerization Sequence. — It provides a straightforward approach to multisubstituted fluorenes and related compounds. — (WANG, X.-C.; YAN, R.-L.; ZHONG, M.-J.; LIANG*, Y.-M.; *J. Org. Chem.* 77 (2012) 4, 2064–2068, <http://dx.doi.org/10.1021/jo202607z>; State Key Lab. Appl. Org. Chem., Lanzhou Univ., Lanzhou, Gansu 730000, Peop. Rep. China; Eng.) — Jannicke



A): BiBr ₃ /bipy (1:2) (cat.), MeNO ₂ , 80°C	a R ¹ , R ² : -H	69%
	b R ¹ : -Me ; R ² : -H	78%
	c R ¹ , R ² : -Me	61%
	d R ¹ : -F ; R ² : -H	51%



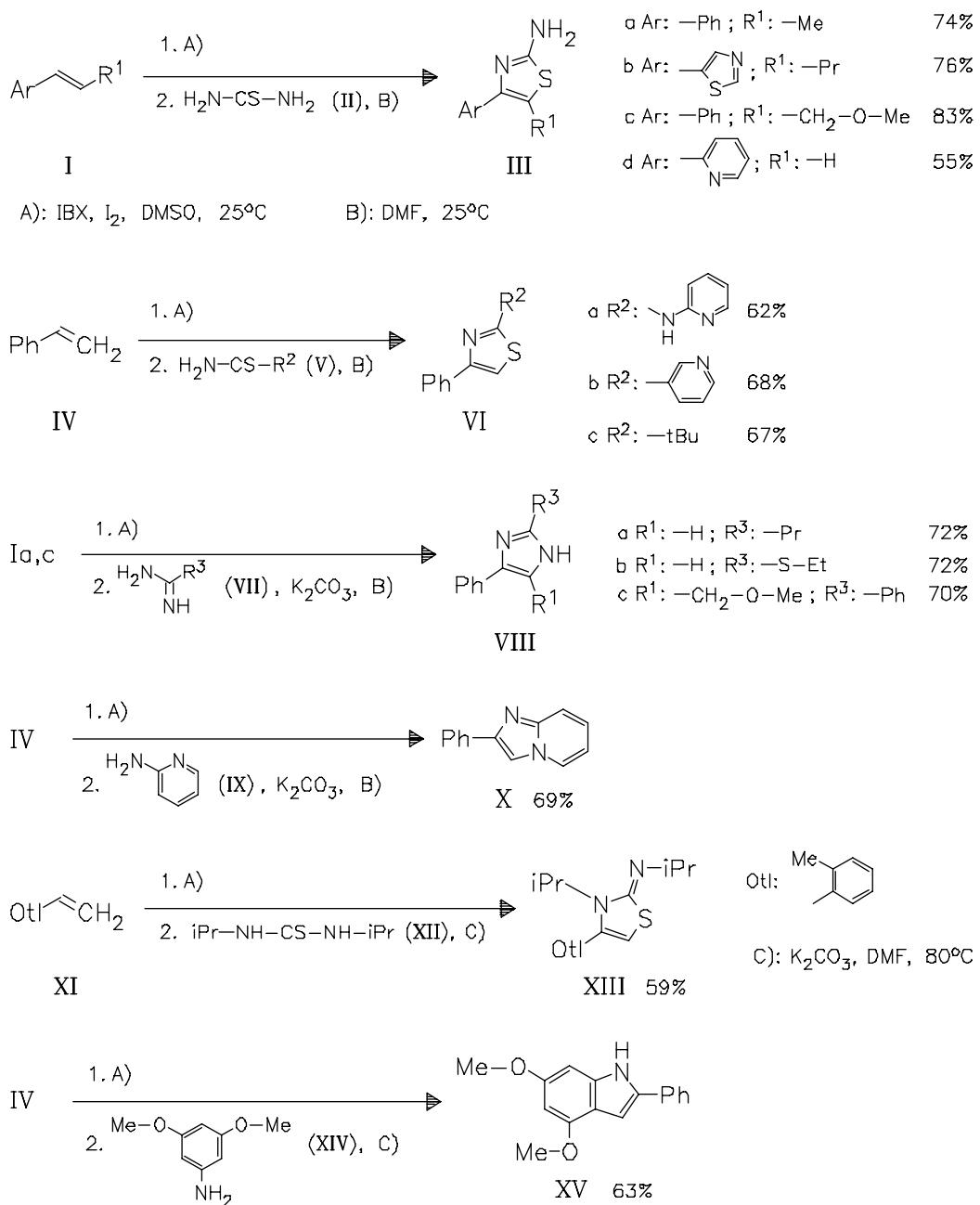
Heterocyclic Compounds

General

R 0010

25- 096

Direct Preparation of Thiazoles, Imidazoles, Imidazopyridines and Thiazolidines from Alkenes. — (DONOHOE*, T. J.; KABESHOV, M. A.; RATHI, A. H.; SMITH, I. E. D.; Org. Biomol. Chem. 10 (2012) 5, 1093–1101, <http://dx.doi.org/10.1039/c1ob06587d>; Dep. Chem., Univ. Oxford, Oxford OX1 3TA, UK; Eng.) — Nuesgen



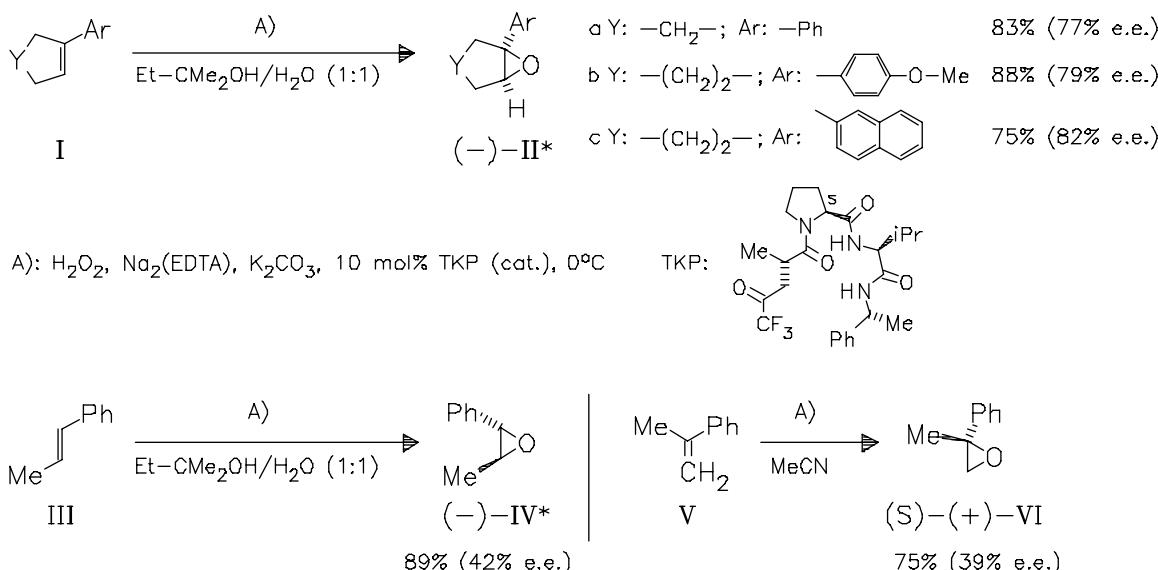
Oxirane derivatives

R 0030

25- 097

DOI: 10.1002/chin.201225097

A Peptide-Embedded Trifluoromethyl Ketone Catalyst for Enantioselective Epoxidation. — A peptide-based catalyst for the asymmetric epoxidation of alkenes is designed. Its use allows the synthesis of substrates for which current methods give only poor selectivity. — (ROMNEY, D. K.; MILLER*, S. J.; Org. Lett. 14 (2012) 4, 1138-1141, <http://dx.doi.org/10.1021/o13000712>; Dep. Chem., Yale Univ., New Haven, CT 06520, USA; Eng.) — Bartels



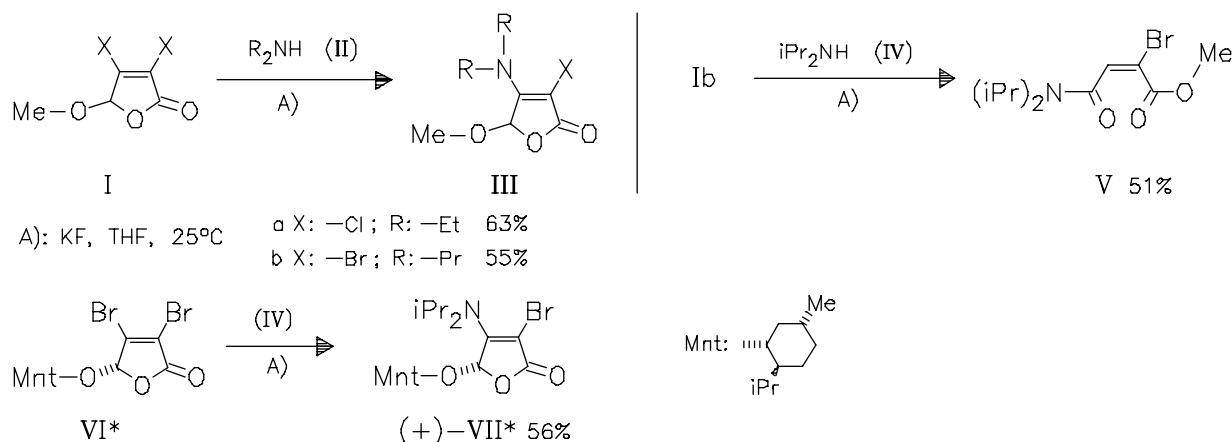
Furan derivatives

R 0060

25- 098

DOI: 10.1002/chin.201225098

Reaction of 5-Alkoxy-3,4-dihalo-2(5H)-furanones with Secondary Amines: Expected versus Unanticipated Products and Their Preliminary Bioactivity Investigations. — The unusual behavior of 5-methoxy-3,4-dihalo-2(5H)furanones (I) in the reaction with diisopropylamine is studied and a possible mechanism for the formation of ring opening products (V) is proposed. — (MO, Y.-Q.; WANG*, Z.-Y.; MEI, W.-J.; FU, J.-H.; TAN, Y.-H.; LUO, S.-H.; Monatsh. Chem. 143 (2012) 3, 443-453, <http://dx.doi.org/10.1007/s00706-011-0594-3>; Dep. Chem., South China Norm. Univ., Guangzhou 510006, Peop. Rep. China; Eng.) — H. Haber



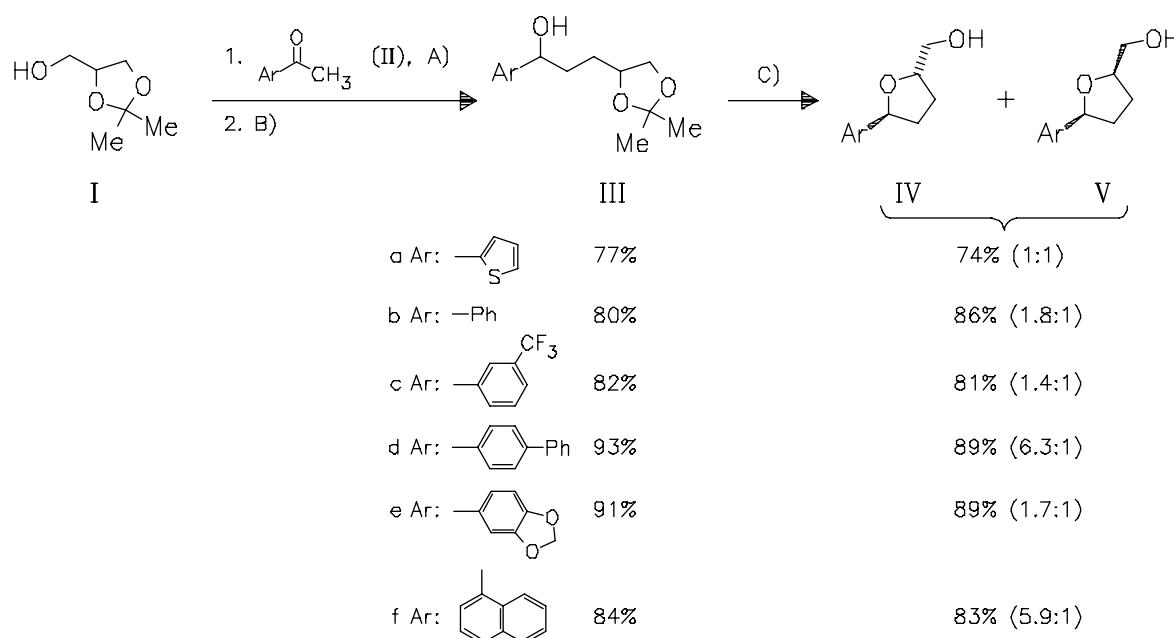
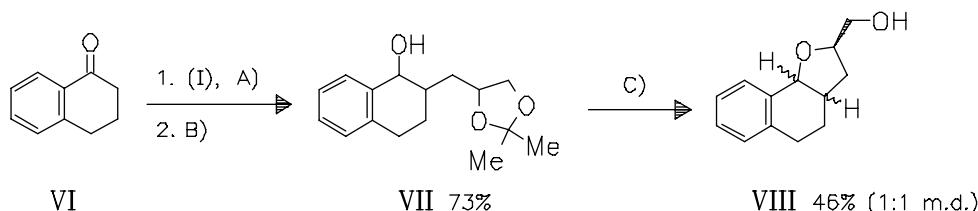
Furan derivatives

R 0060

25- 099

DOI: 10.1002/chin.201225099

Effective Synthesis of 2,5-Disubstituted Tetrahydrofurans from Glycerol by Catalytic Alkylation of Ketones. — The iridium-catalyzed α -alkylation of ketones (II) and (VI) followed by reduction and application of a Fe(III)-mediated deprotection/cyclization methodology affords an isomeric mixture of tetrahydrofurans (IV)/(V) and (VIII). Easily accessible acetophenones as well as solketal (I), a readily available derivative of the bulk chemical glycerol, are used in the atom-economic transfer hydrogenation reaction, in which water is the only by-product. In addition, a more practical, one-pot, three-step procedure without chromatographic purification of any of the intermediates, furnishes (Vb) in an overall yield of 59%. — (RUEPING*, M.; PHAPALE, V. B.; Green Chem. 14 (2012) 1, 55-57, <http://dx.doi.org/10.1039/c1gc15764g>; Inst. Org. Chem., RWTH Aachen, D-52074 Aachen, Germany; Eng.) — H. Hoennerscheid

A): $\text{LiOH}\cdot\text{H}_2\text{O}$, $\text{Ir}_2\text{Cl}_2(\text{cod})_2/\text{PPh}_3$ (cat.), toluene, 110°C B): NaBH_4 , MeOH, 10°C C): FeCl_3 , CH_2Cl_2 , 25°C 

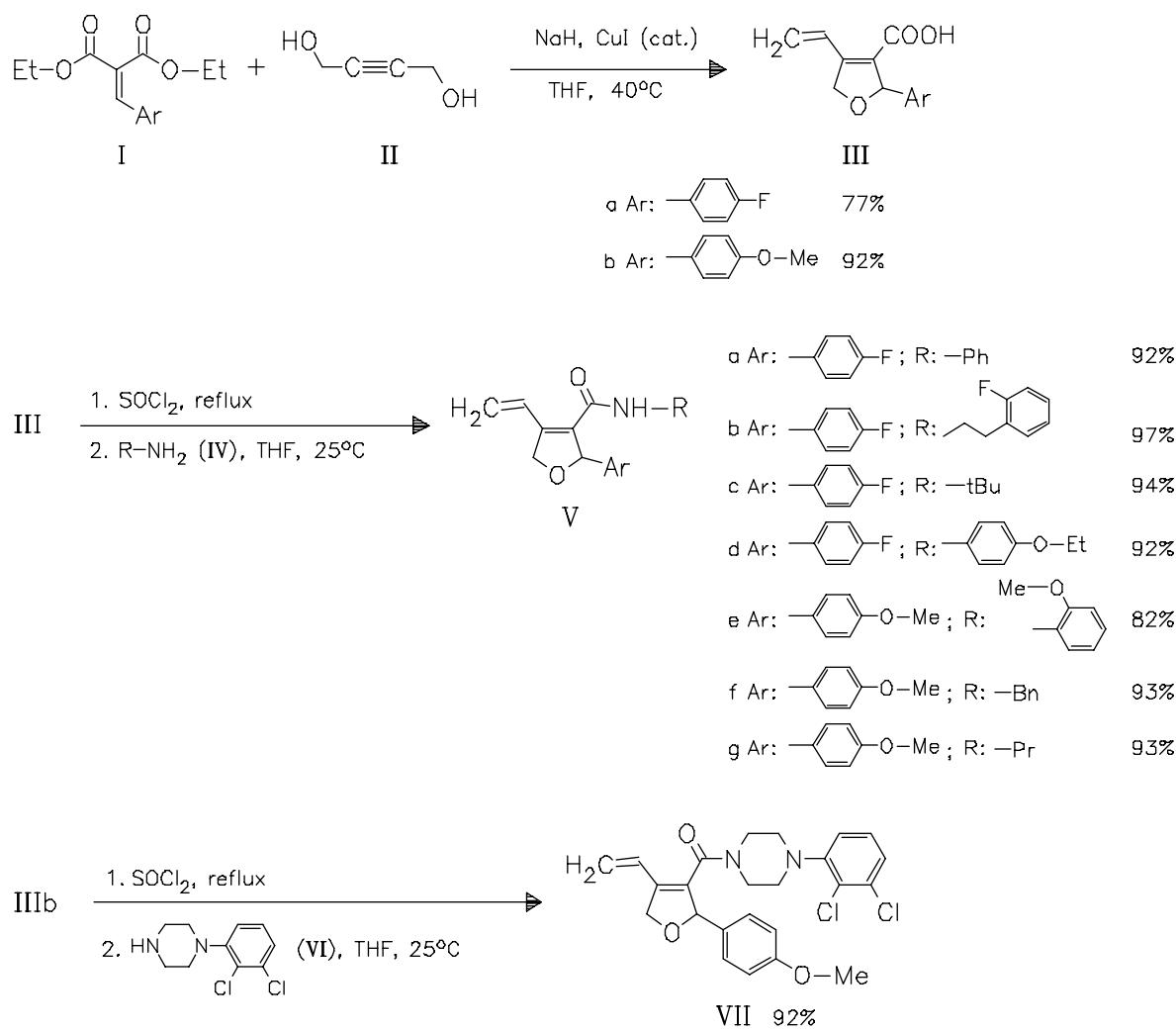
Furan derivatives

R 0060

25- 100

DOI: 10.1002/chin.201225100

Synthesis of Novel 2,5-Dihydrofuran Derivatives and Evaluation of Their Anticancer Activity. — Among the novel dihydrofuran derivatives, compound (VII) exhibits the highest activity against four human cancer cell lines. — (ZHANG, Y.; ZHONG, H.; WANG, T.; GENG, D.; ZHANG, M.; LI*, K.; Eur. J. Med. Chem. 48 (2012) 69-80, <http://dx.doi.org/10.1016/j.ejmech.2011.11.036>; Dep. Med. Chem., Sch. Pharm., Second Mil. Med. Univ., Shanghai 200433, Peop. Rep. China; Eng.) — K. Woydowski



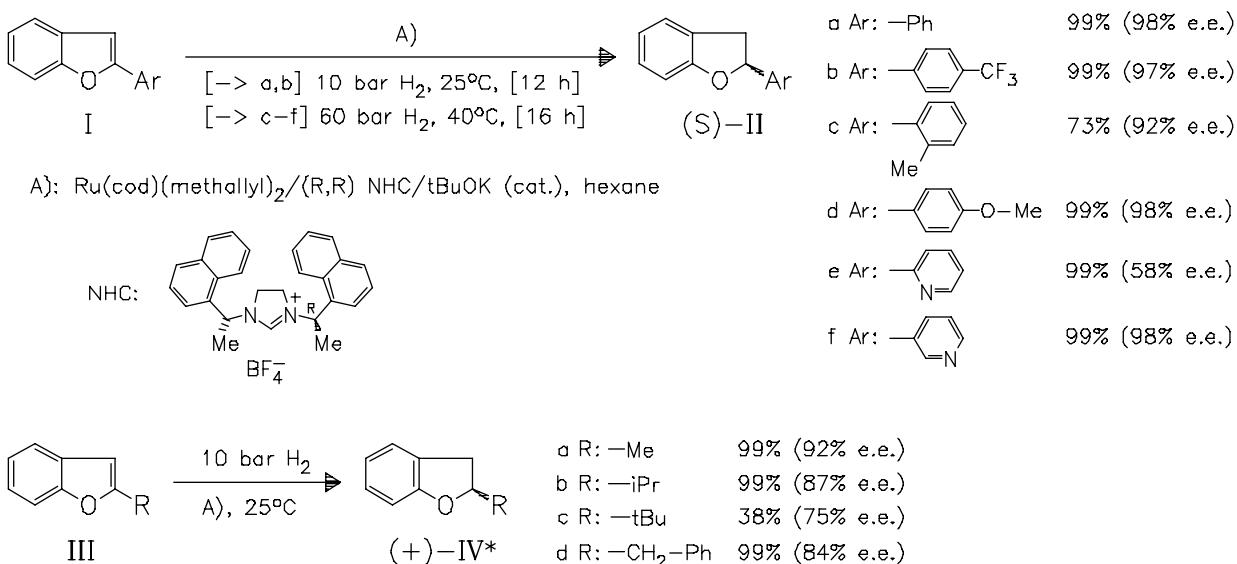
Benzofuran derivatives

R 0070

25- 101

DOI: 10.1002/chin.201225101

Ruthenium NHC Catalyzed Highly Asymmetric Hydrogenation of Benzofurans. — (ORTEGA, N.; URBAN, S.; BEIRING, B.; GLORIUS*, F.; Angew. Chem., Int. Ed. 51 (2012) 7, 1710-1713, <http://dx.doi.org/10.1002/anie.201107811>; Org.-Chem. Inst., Westfael. Wilhelms Univ., D-48149 Muenster, Germany; Eng.) — C. Gebhardt



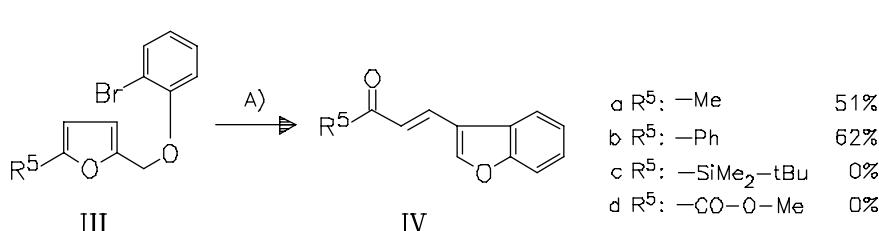
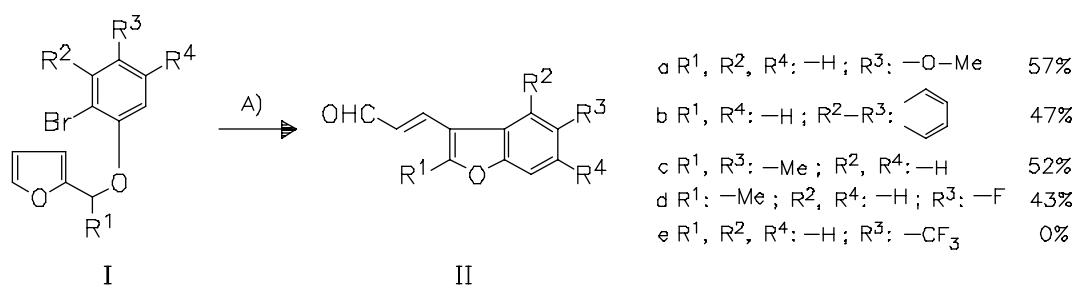
Benzofuran derivatives

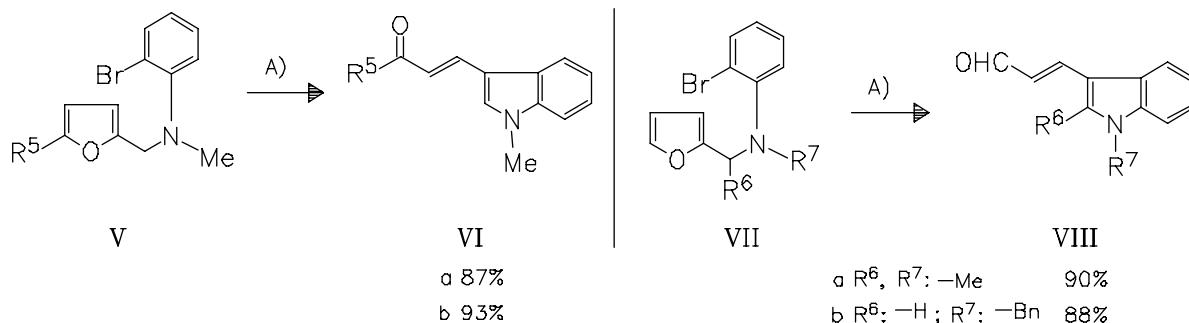
R 0070

DOI: 10.1002/chin.201225102

25- 102

A Novel Entry to Functionalized Benzofurans and Indoles via Palladium(0)-Catalyzed Arylative Dearomatization of Furans. — The protocol involves palladium-catalyzed dearomatizing intramolecular arylation of the furan part, ring-opening, and a β -hydride elimination sequence. — (YIN*, B.; CAI, C.; ZENG, G.; ZHANG, R.; LI, X.; JIANG, H.; Org. Lett. 14 (2012) 4, 1098-1101, <http://dx.doi.org/10.1021/o1300008d>; Sch. Chem. Chem. Eng., South China Univ. Technol., Guangzhou, Guangdong 510640, Peop. Rep. China; Eng.) — Bartels





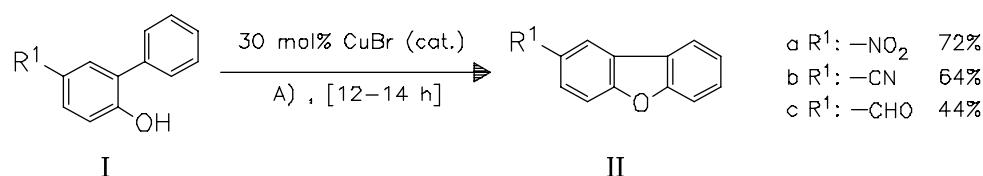
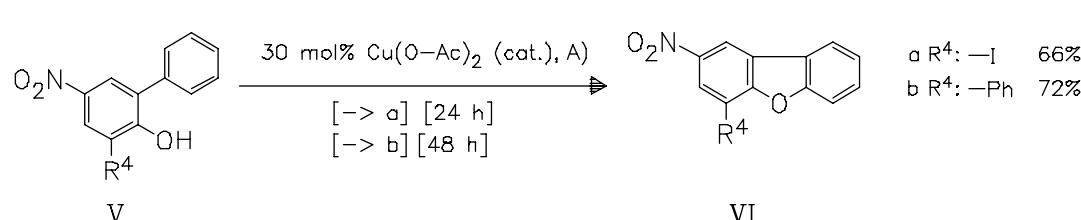
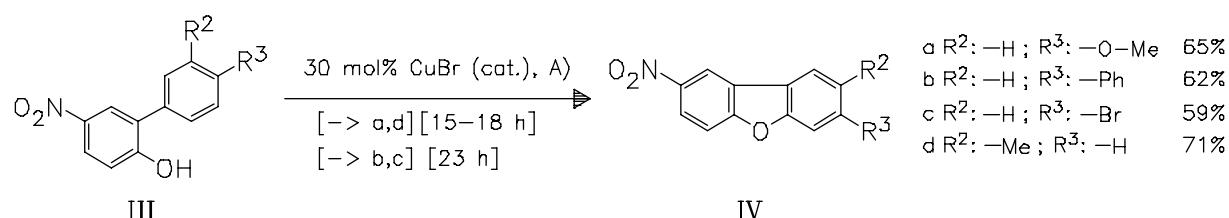
Dibenzofuran derivatives

R 0080

DOI: 10.1002/chin.201225103

25- 103

Cu-Catalyzed Oxidative C(sp²)—H Cycloetherification of o-Arylphenols for the Preparation of Dibenzofurans. — The alternative method for the synthesis of dibenzofurans is characterized by a simple reaction system and inexpensive Cu-salts as catalysts. The presence of a strong para-electron-withdrawing group on the phenol is essential for the success. — (ZHAO, J.; WANG, Y.; HE, Y.; LIU, L.; ZHU*, Q.; Org. Lett. 14 (2012) 4, 1078-1081, <http://dx.doi.org/10.1021/o1203442a>; State Key Lab. Respir. Dis., Guangzhou Inst. Biomed. Health, Chin. Acad. Sci., Guangzhou 510530, Peop. Rep. China; Eng.) — Bartels

A): air, PivOH, Cs₂CO₃, DMSO, 140°C

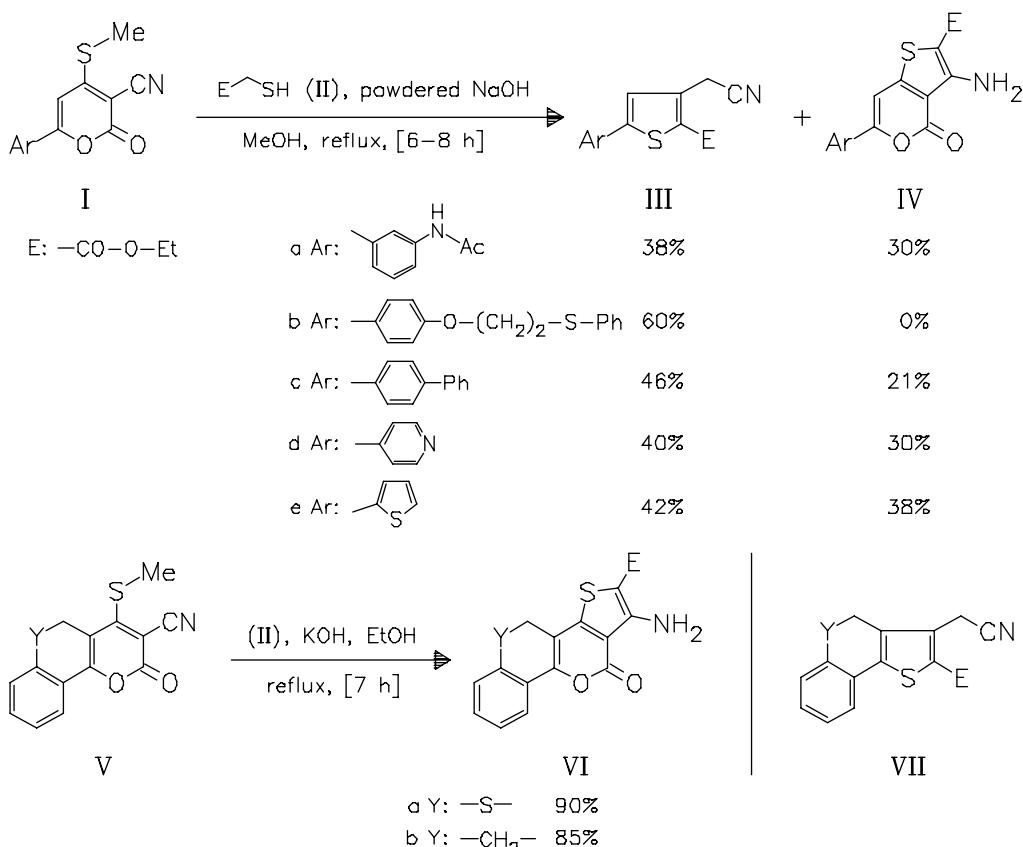
Thiophene derivatives

R 0090

25- 104

Synthesis of Thiophenes and Pyranone-Fused Thiophenes by Base-Induced Inter and Intramolecular C—S and C—C Bond Formation: A Non-Catalytic Approach.

Treatment of lactones (I) and (V) with thioglycolate under basic conditions yields non-fused thiophenes (III) as well as pyranone-fused thiophenes (IV) and (VI). In the latter case, the expected second product of type (VII) is not observed. Thiophenes (III) are formed by attack of a mercaptide ion at C-6 of the lactone followed by ring closure and elimination of carbon dioxide and methyl mercaptan. — (MISHRA, P.; MAURYA, H. K.; KUMAR, B.; TANDON*, V. K.; RAM, V. J.; Tetrahedron Lett. 53 (2012) 9, 1056-1059, <http://dx.doi.org/10.1016/j.tetlet.2011.12.066>; Dep. Chem., Lucknow Univ., Lucknow 226 007, India; Eng.) — Mais



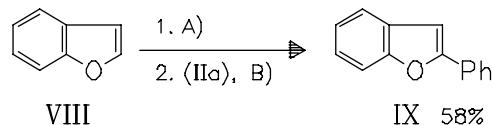
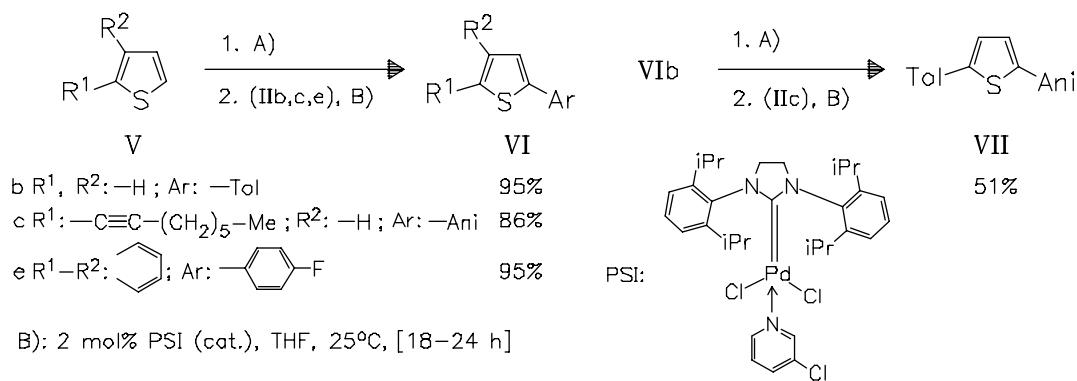
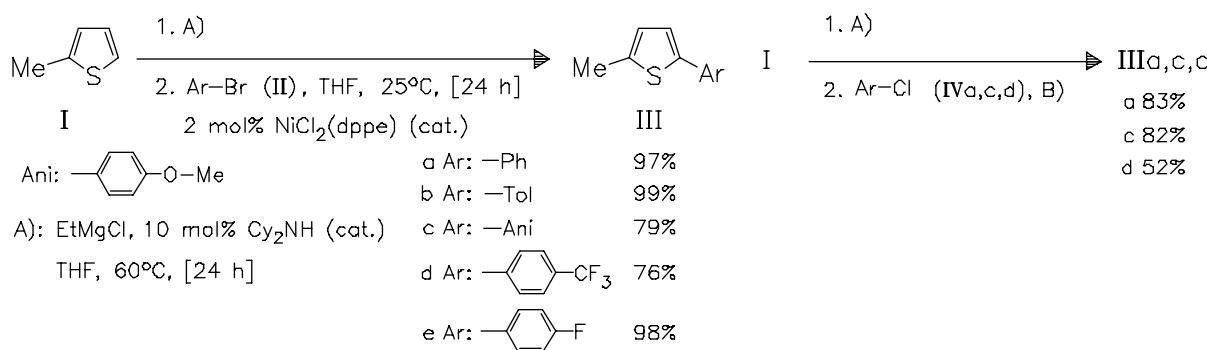
Thiophene derivatives

R 0090

25- 105

Generation of Metalated Thiophenes with Grignard Reagent and Catalytic Secondary Amine for the Cross-Coupling Reaction with Aryl Halides.

Thiophenes and benzofuran are metalated in 2-position under conditions A), followed by Ni- or Pd-catalyzed cross-coupling with aryl halides. The method is also applied to the synthesis of an unsymmetrically substituted 2,5-diarylthiophene (VII). — (TANAKA, S.; TANAKA, D.; SUGIE, A.; MORI*, A.; Tetrahedron Lett. 53 (2012) 9, 1173-1176, <http://dx.doi.org/10.1016/j.tetlet.2011.12.108>; Dep. Chem. Sci. Eng., Fac. Eng., Kobe Univ., Nada, Kobe 657, Japan; Eng.) — Mais



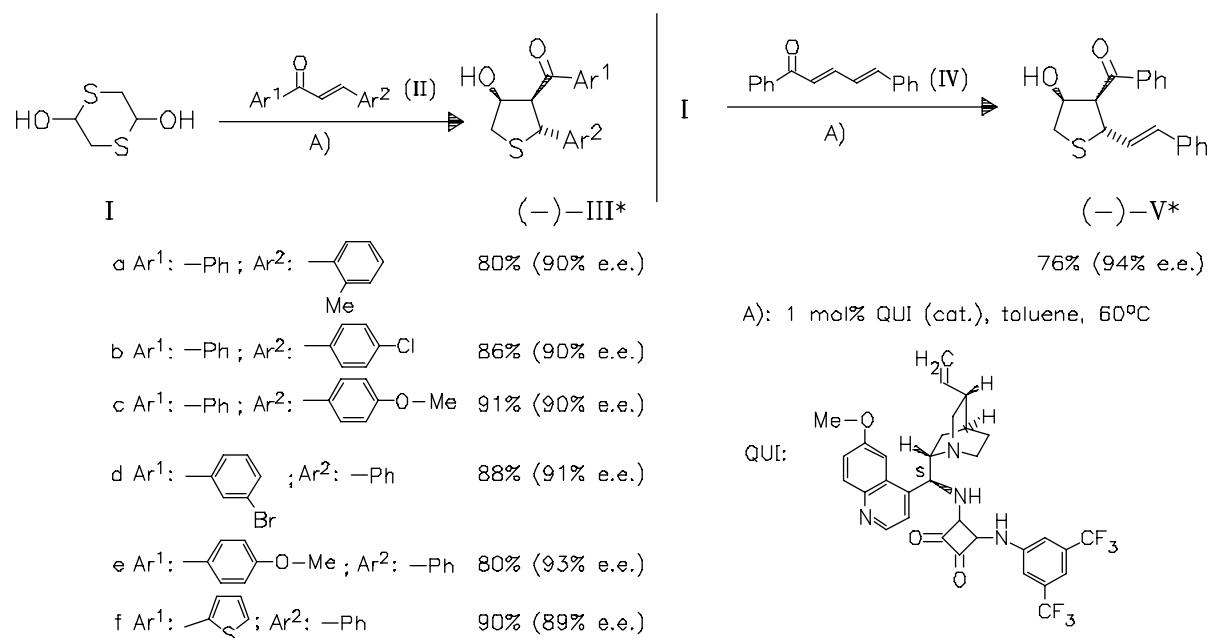
Thiophene derivatives

R 0090

DOI: 10.1002/chin.201225106

25- 106

Hydrogen-Bond-Mediated Cascade Reaction Involving Chalcones: Facile Synthesis of Enantioenriched Trisubstituted Tetrahydrothiophenes. — Target compounds with three stereogenic centers are directly obtained from commercially available materials with a low catalyst loading. The synthetic potential of this chemistry is demonstrated by the functional diversity of the products and a gram-scale synthesis. — (LING, J.-B.; SU, Y.; ZHU, H.-L.; WANG, G.-Y.; XU*, P.-F.; Org. Lett. 14 (2012) 4, 1090–1093, <http://dx.doi.org/10.1021/o12034959>; State Key Lab. Appl. Org. Chem., Coll. Chem. Eng., Lanzhou Univ., Lanzhou, Gansu 730000, Peop. Rep. China; Eng.) — Bartels



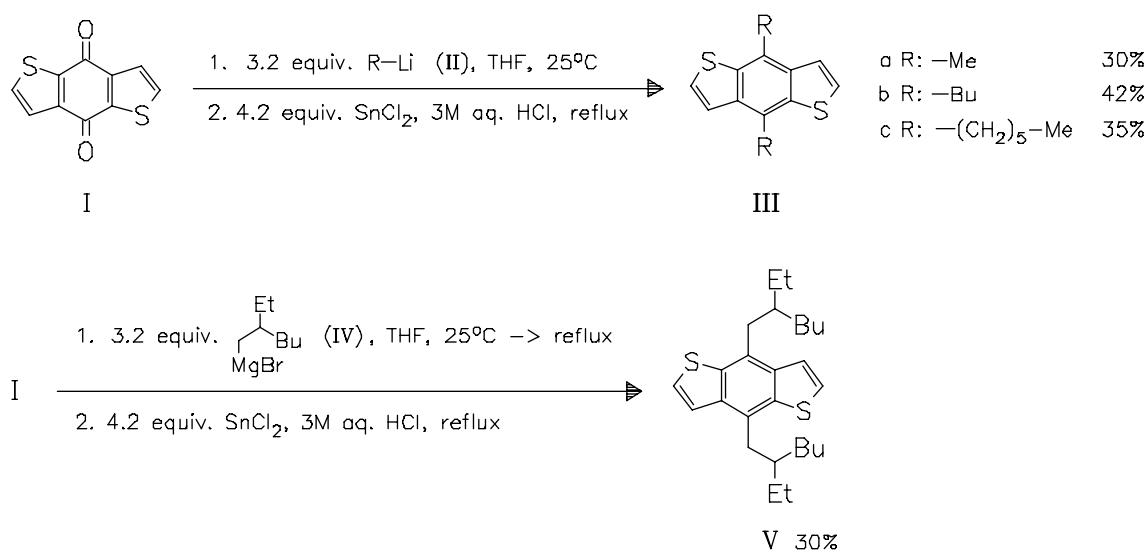
Benzothiophene derivatives

R 0100

DOI: 10.1002/chin.201225107

25- 107

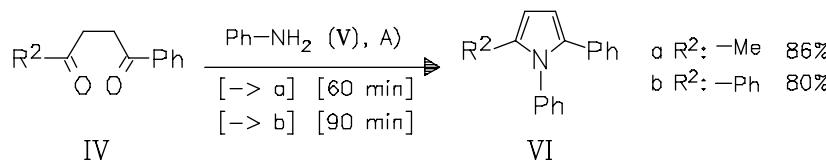
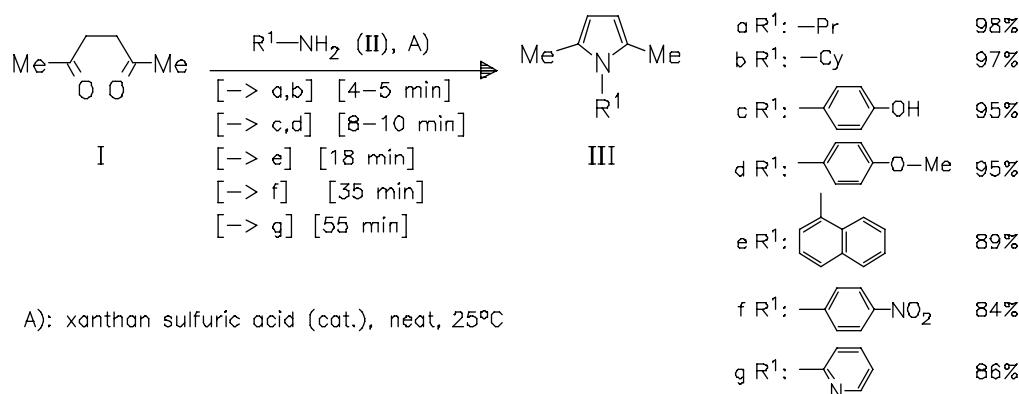
One-Pot Synthesis of 4,8-Dialkylbenzo[1,2-b:4,5-b']dithiophenes. — A simple two-step procedure is elaborated for the preparation of dialkylated benzodithiophenes (**III**) and (**V**) from dione (**I**). The stabilized HOMO levels of the title compounds suggest that they are promising building blocks for use in organic photovoltaics. — (PAPPENFUS*, T. M.; SEIDENKRANZ, D. T.; REINHEIMER, E. W.; *Heterocycles* 85 (2012) 2, 355-364, <http://dx.doi.org/10.3987/com-11-12390>; Div. Sci. Math., Univ. Minn., Morris, MN 56267, USA; Eng.) — R. Staver



Pyrrole derivatives
R 0120

25- 108

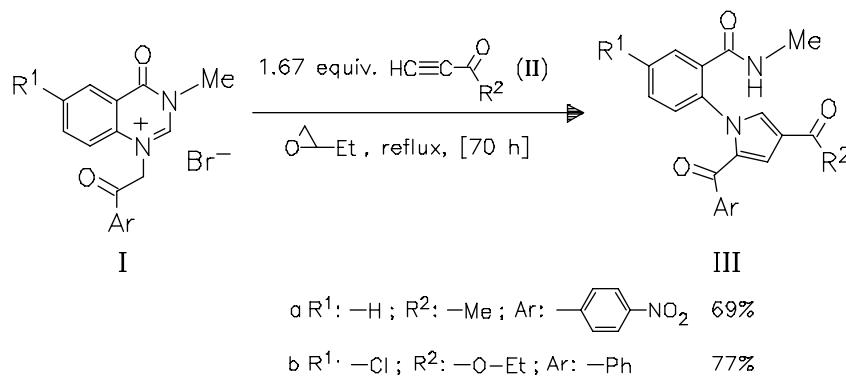
Xanthan Sulfuric Acid as an Efficient, Green, Biodegradable, and Recyclable Solid Acid Catalyst for One-Pot Synthesis of N-Substituted Pyrroles under Solvent-Free Conditions at Room Temperature. — High yields of trisubstituted pyrroles (III) and (VI) are achieved in short reaction times (4–90 min) using the biopolymer-based sulfuric acid as catalyst. The catalyst can be recovered and reused for at least four runs without significant loss of activity. — (RAHMATPOUR, A.; Monatsh. Chem. 143 (2012) 3, 491–495, <http://dx.doi.org/10.1007/s00706-011-0604-5>; Div. Polym. Sci. Technol., Res. Inst. Petrol. Ind., Tehran 14665, Iran; Eng.) — H. Haber



Pyrrole derivatives
R 0120

25- 109

New Pyrroles (III) from Quinazolinium N1-Ylides and Acetylenic Dipolarophiles. — (CAIRA*, M. R.; DUMITRASCU, F.; GEORGESCU, E.; GEORGESCU, F.; POPA, M. M.; Rev. Roum. Chim. 56 (2011) 8, 771–776; Dep. Chem., Univ. Cape Town, Rondebosch 7700, Cape Town, S. Afr.; Eng.) — R. Langenstrassen

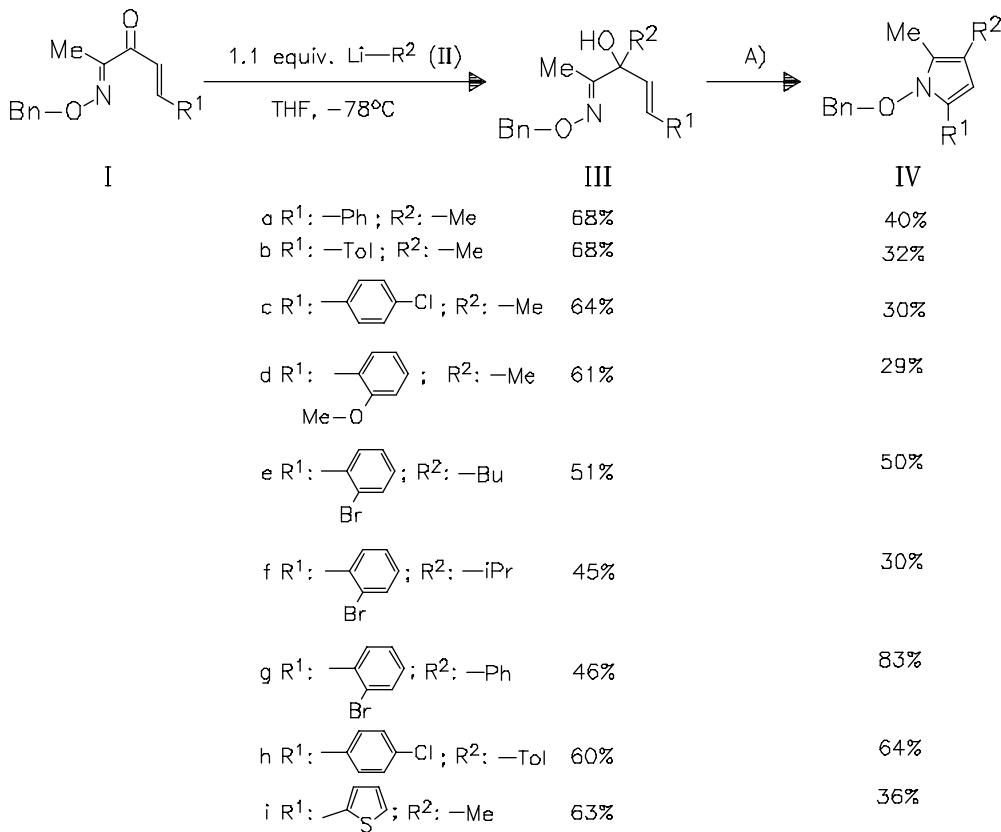


Pyrrole derivatives

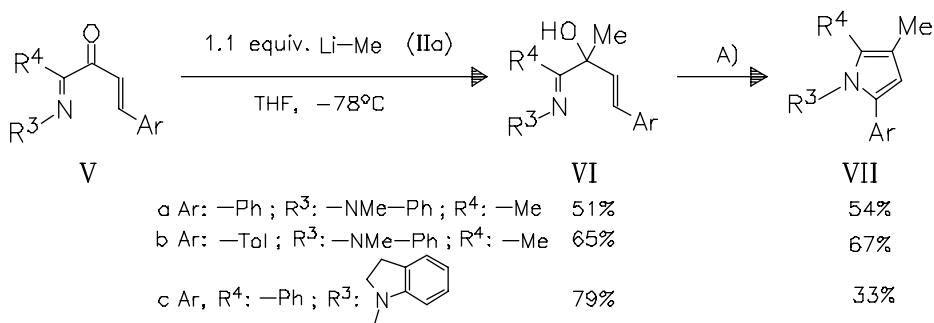
R 0120

25- 110

Synthesis of Pyrroles Through a 4π -Electrocyclic Ring-Closure Reaction of 1-Aza-pentadienyl Cations. — (NARAYAN, R.; FROEHLICH, R.; WUERTHWEIN*, E.-U.; J. Org. Chem. 77 (2012) 4, 1868–1879, <http://dx.doi.org/10.1021/jo202477h>; Org.-Chem. Inst., Westfael. Wilhelms Univ., D-48149 Muenster, Germany; Eng.) — Jannicke



A): 2 equiv. TfOH, CH₂Cl₂, -10°C, [0.025M alcohol solution]

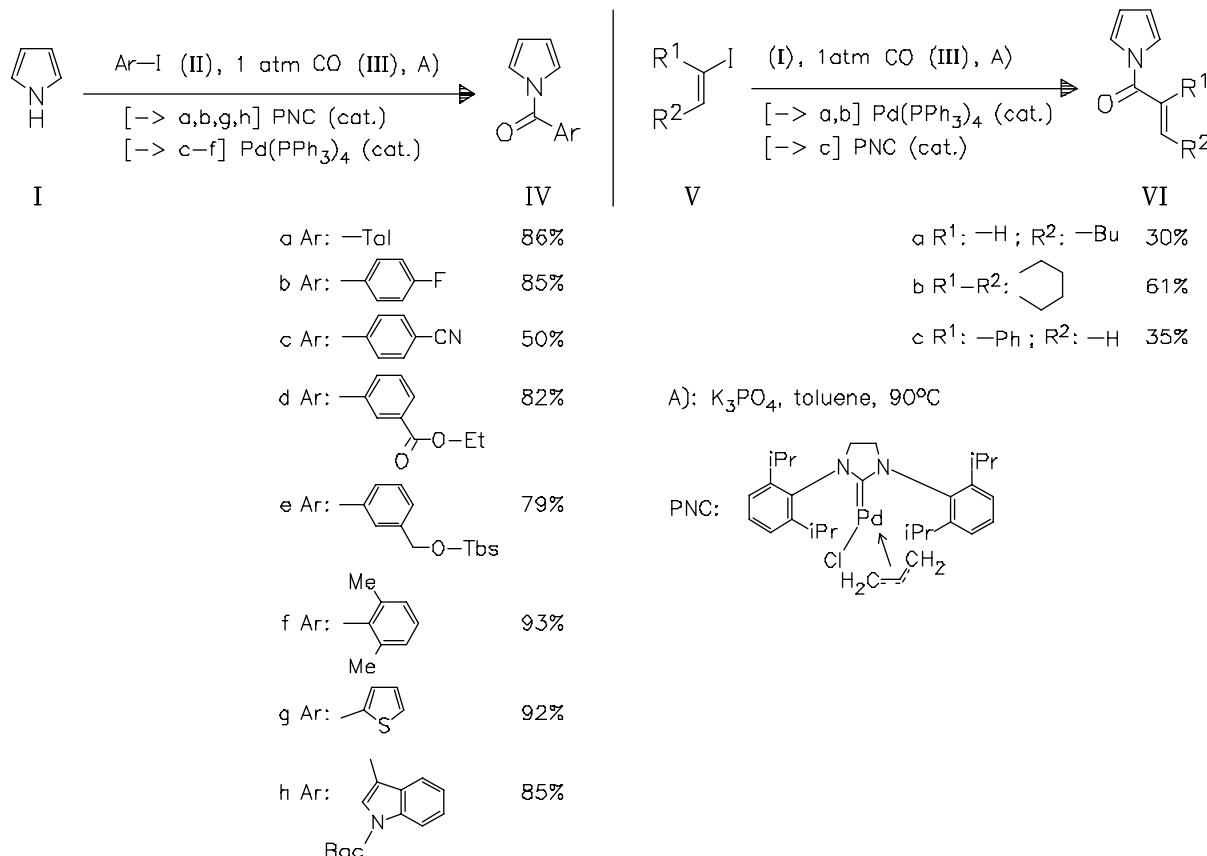


Pyrrole derivatives
R 0120

DOI: 10.1002/chin.201225111

25- 111

Synthesis of Acyl Pyrroles via Palladium-Catalyzed Carbonylative Amination of Aryl and Alkenyl Iodides.—(HO, S.; BONDARENKO, G.; ROSA, D.; DRAGISIC, B.; ORELLANA*, A.; J. Org. Chem. 77 (2012) 4, 2008-2012, <http://dx.doi.org/10.1021/jo2022444>; Dep. Chem., York Univ., North York, Toronto, Ont. M3J 1P3, Can.; Eng.) — Jannicke

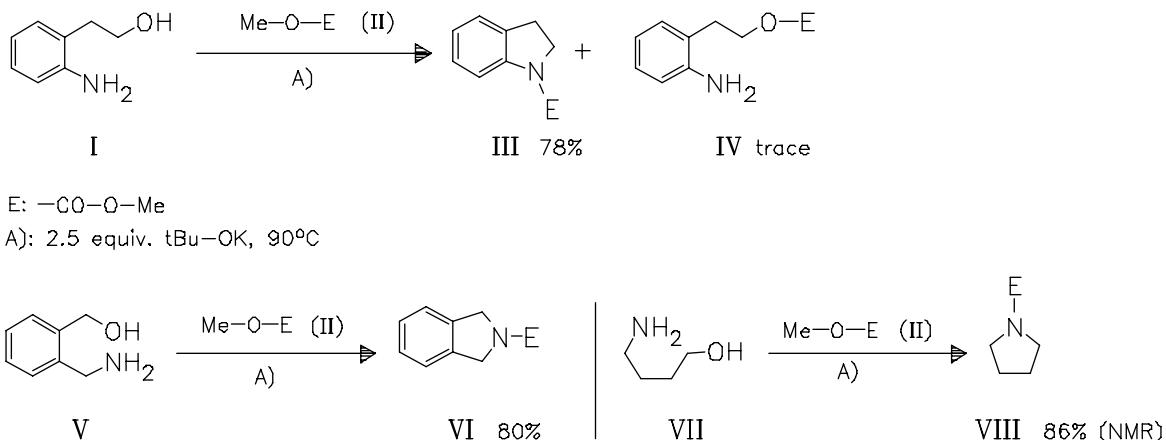


Pyrrole derivatives
R 0120

DOI: 10.1002/chin.201225112

25- 112

5-Membered N-Heterocyclic Compounds by Dimethyl Carbonate Chemistry.—A dimethyl carbonate-promoted intramolecular cyclization of aliphatic and aromatic 1,4-amino alcohols (I), (V), and (VII) is achieved in the presence of a base to afford the corresponding 5-membered aza-cyclic molecules. This one-pot and green procedure provides good product yields and does not require a chlorinated solvent or reagent.—(ARICO, F.; TONIOLO, U.; TUNDO*, P.; Green Chem. 14 (2012) 1, 58-61, <http://dx.doi.org/10.1039/c1gc15698e>; Dip. Sci. Ambientali, Univ. Ca' Foscari, I-30123 Venezia, Italy; Eng.) — H. Hoennerscheid



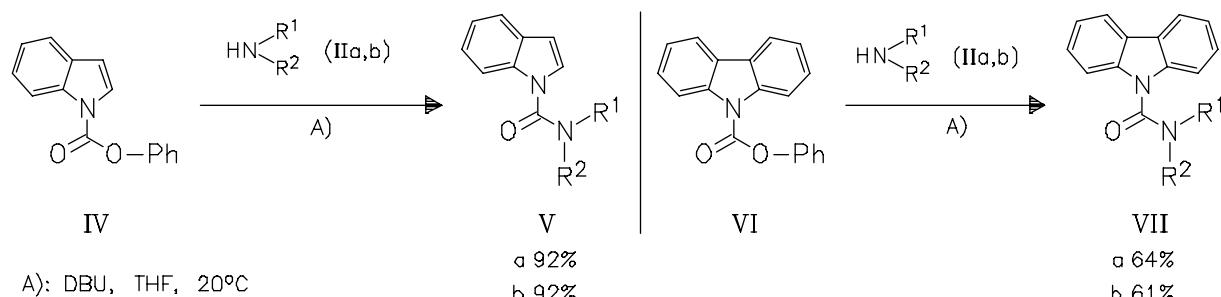
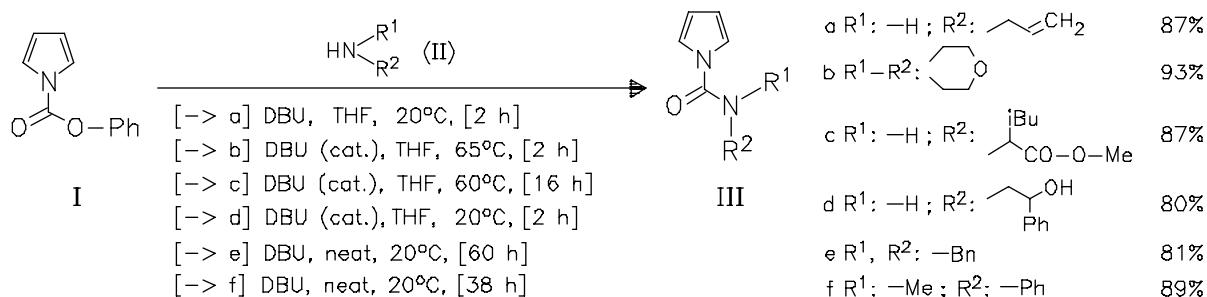
Pyrrole derivatives

R 0120

DOI: 10.1002/chin.201225113

25- 113

A Simple Direct Phosgeneless Route to N-Heteroaryl Unsymmetrical Ureas. — The approach to ureas (III), (V), and (VII) involves the direct reaction of N-phenoxy-carbonyl derivatives of pyrrole, indole, and carbazole, (I), (IV), and (VI), with amines (II) in the presence of an amidine base under very mild conditions. The route avoids multistep procedures and toxic phosgene or its derivatives. — (CARAFA, M.; MELE, V.; QUARANTA*, E.; Green Chem. 14 (2012) 1, 217-225, <http://dx.doi.org/10.1039/c1gc15984d>; Dip. Chim., Univ. Bari, I-70126 Bari, Italy; Eng.) — H. Hoennerscheid

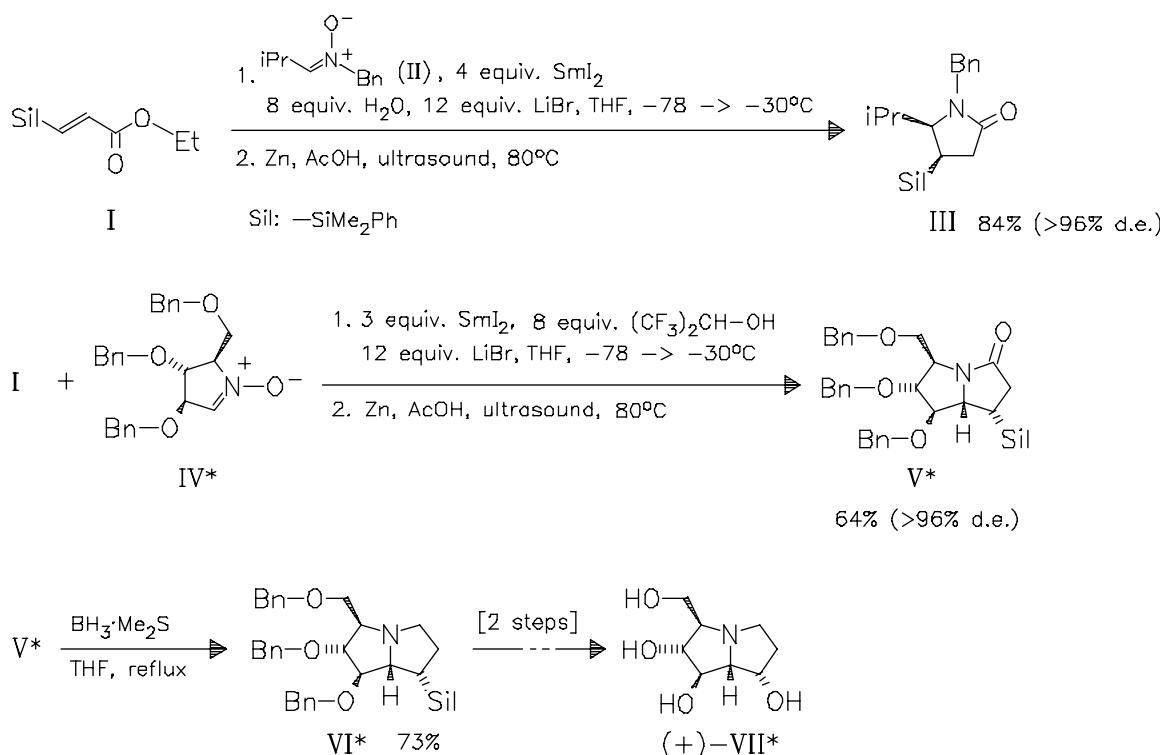


Pyrrole derivatives
R 0120

25- 114

DOI: 10.1002/chin.201225114

SmI₂-Mediated Cross-Coupling of Nitrones with β-Silyl Acrylates: Synthesis of (+)-Australine. — The process affords the coupling products with nearly complete diastereoselection and can be used as key step in a new synthesis of (+)-australine (VII). — (GILLES, P.; PY*, S.; Org. Lett. 14 (2012) 4, 1042-1045, <http://dx.doi.org/10.1021/ol203396s>; Dep. Chim. Mol., Univ. Joseph Fourier, F-38041 Grenoble, Fr.; Eng.) — Bartels

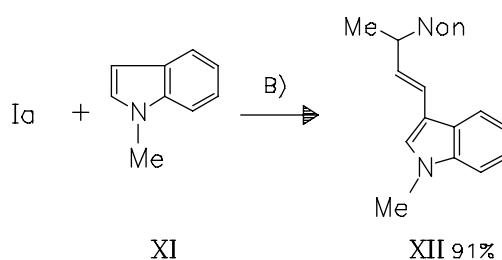
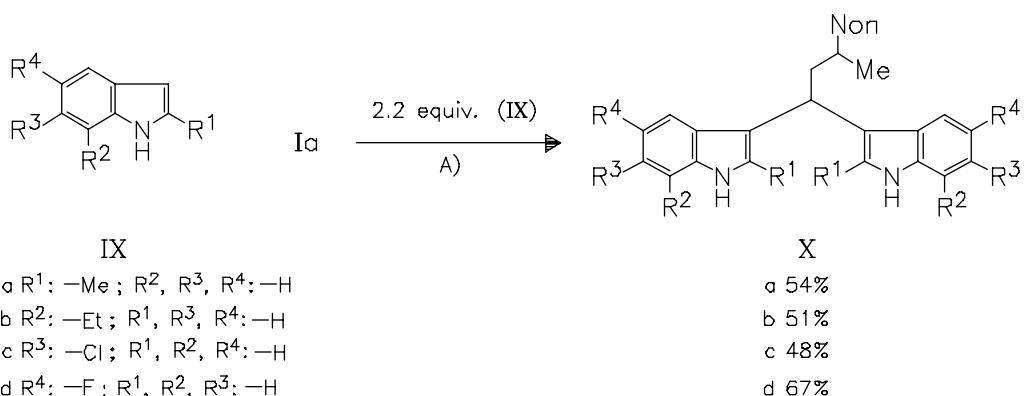
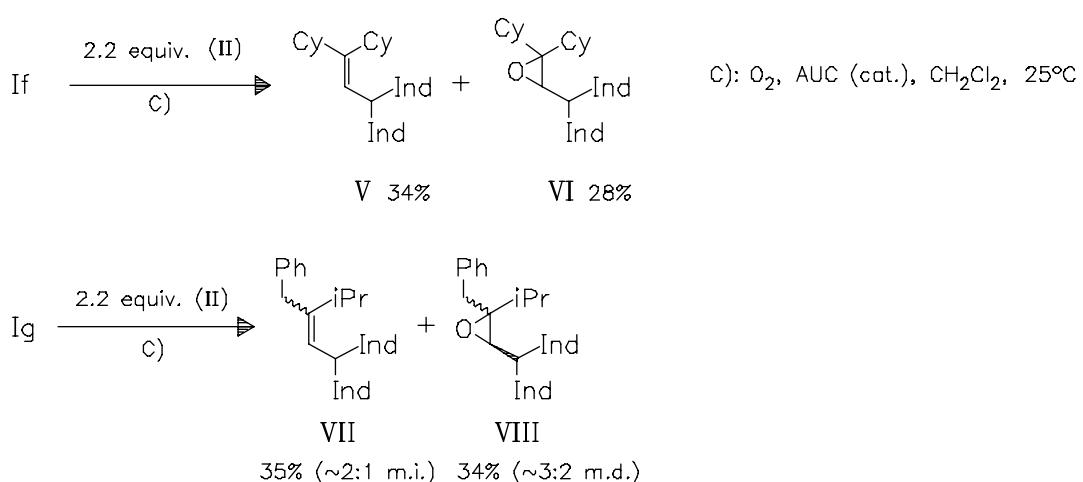
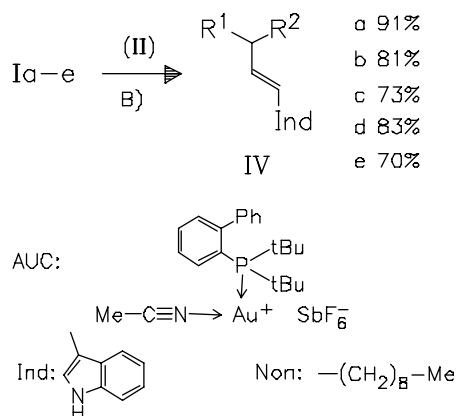
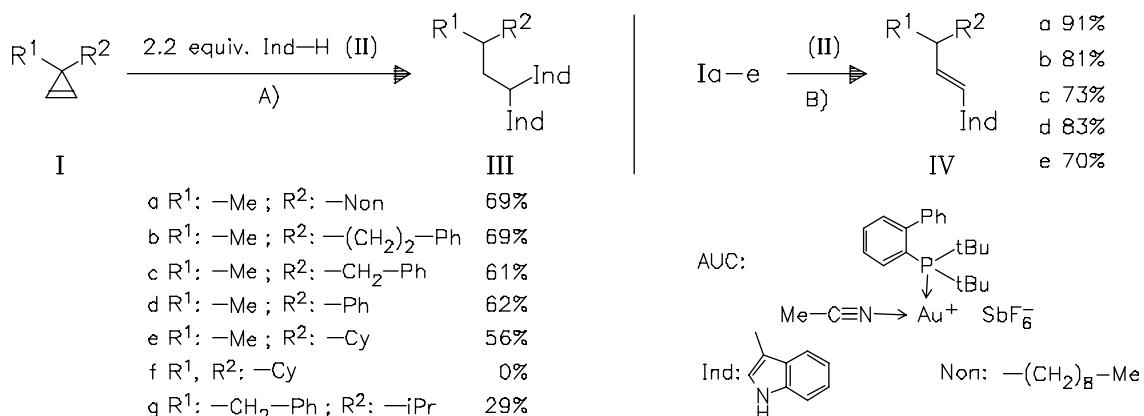


Indole derivatives
R 0140

25- 115

DOI: 10.1002/chin.201225115

Divergent Outcomes of Gold(I)-Catalyzed Indole Additions to 3,3-Disubstituted Cyclopropenes. — The reaction leads to bis-indolylalkanes or (E)-vinylindoles depending on the conditions used. Starting from cyclopropenes bearing 2 sterically bulky substituents, unprecedented oxidation takes place giving bis-indolylalkenes which are accompanied by epoxides. — (YOUNG, P. C.; HADFIELD, M. S.; ARROWSMITH, L.; MACLEOD, K. M.; MUDD, R. J.; JORDAN-HORE, J. A.; LEE*, A.-L.; Org. Lett. 14 (2012) 3, 898-901, <http://dx.doi.org/10.1021/ol203418u>; Sch. Eng. Phys. Sci., Heriot-Watt Univ., Edinburgh EH14 4AS, UK; Eng.) — Jannicke

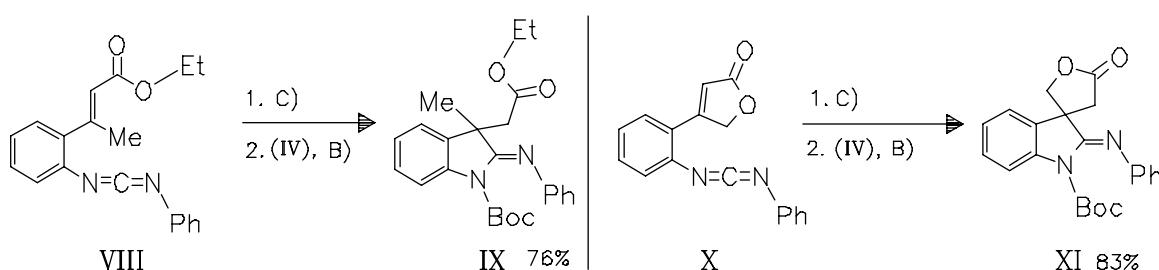
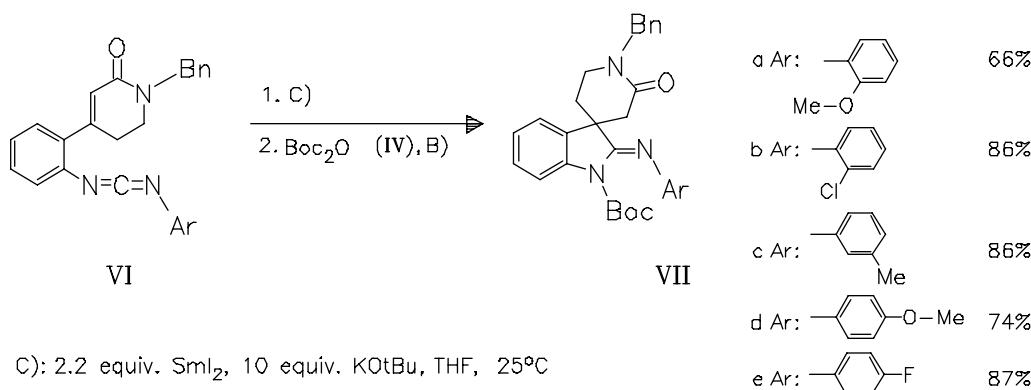
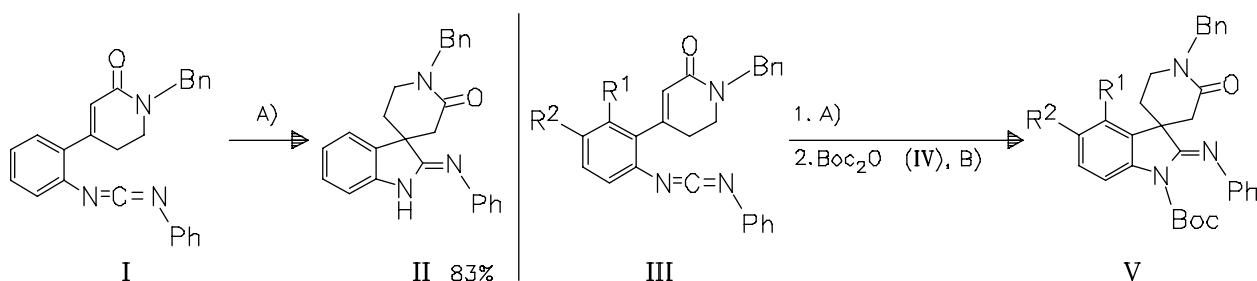


Indole derivatives
R 0140

25- 116

DOI: 10.1002/chin.201225116

Synthesis of 2-Iminoindolines via Samarium Diiodide Mediated Reductive Cyclization of Carbodiimides. — A synthetic method for the preparation of 2-iminoindolines via SmI_2 -mediated reductive cyclization of carbodiimides bearing unsaturated carbonyl groups such as lactams or esters (cyclic or acyclic) is described. — (ISHIDA, T.; TSUKANO, C.; TAKEMOTO*, Y.; Chem. Lett. 41 (2012) 1, 44-46, <http://dx.doi.org/10.1246/cl.2012.44>; Grad. Sch. Pharm. Sci., Kyoto Univ., Sakyo, Kyoto 606, Japan; Eng.) — D. Singer

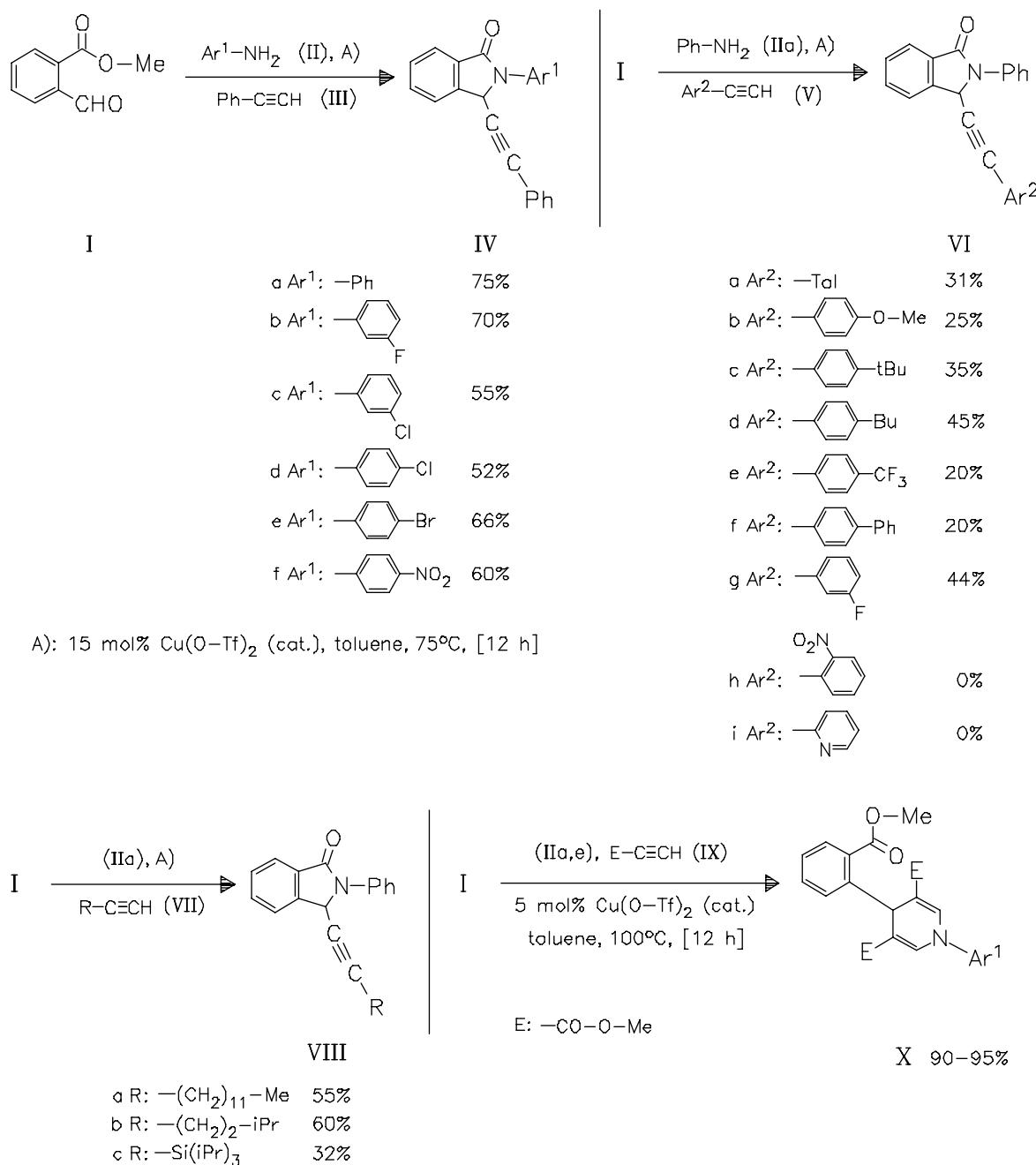


Isoindole derivatives

R 0140

25- 117

Development of a Copper(II)-Catalyzed Three-Component Tandem Synthesis of Isoindolinone Derivatives. — An efficient and simple one-pot synthesis of the title compounds is developed from inexpensive starting materials. ortho-Substituted anilines and acetylenes (Vh,i) do not react. The use of propiolates such as (IX) produces exclusively a 1,4-dihydropyridine system. — (SUN, L. X.; ZENG, T.; JIANG, D.; DAI, L.-Y.; LI*, C.-J.; Can. J. Chem. 90 (2012) 1, 92-99, <http://dx.doi.org/10.1139/v11-108>; Dep. Chem., McGill Univ., Montreal, Que. H3A 2K6, Can.; Eng.) — C. Gebhardt



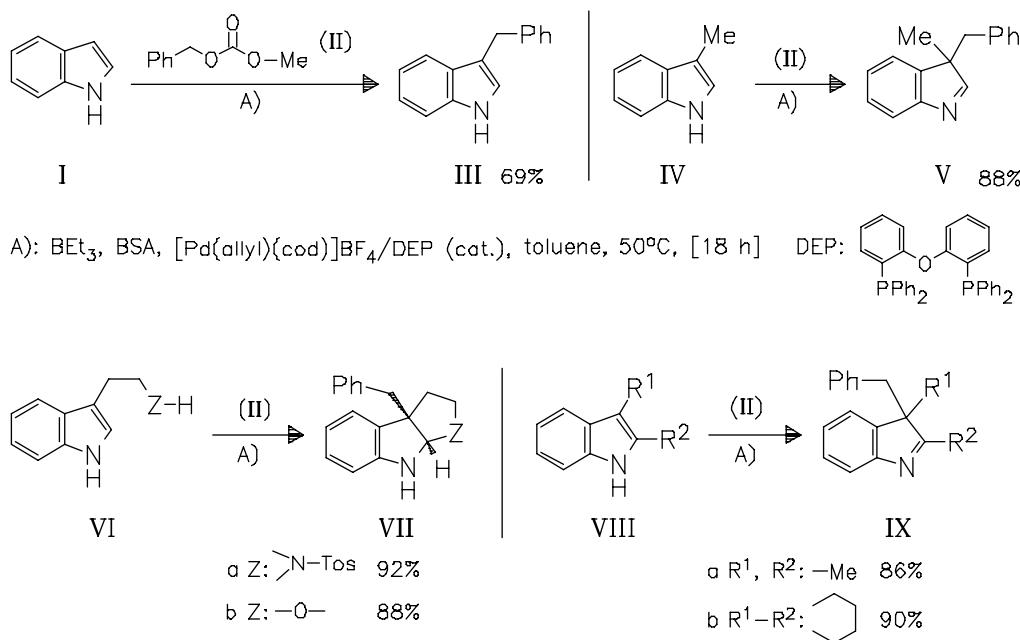
Indole derivatives

R 0140

25- 118

DOI: 10.1002/chin.201225118

Palladium-Catalyzed C3-Benzylation of Indoles. — (ZHU, Y.; RAWAL*, V. H.; J. Am. Chem. Soc. 134 (2012) 1, 111-114, <http://dx.doi.org/10.1021/ja2095393>; Dep. Chem., Univ. Chicago, Chicago, IL 60637, USA; Eng.) — Nuesgen



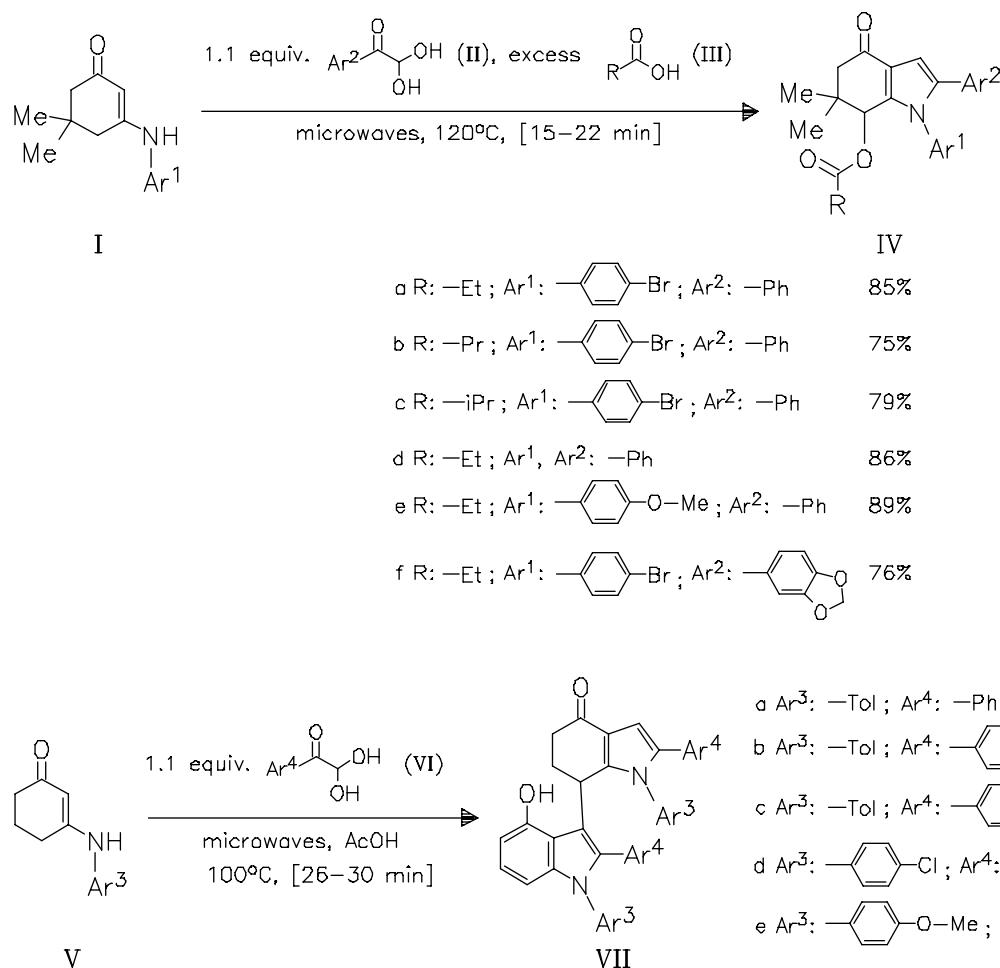
Indole derivatives

R 0140

25- 119

DOI: 10.1002/chin.201225119

A Multi-Component Domino Reaction for the Direct Access to Polyfunctionalized Indoles via Intermolecular Allylic Esterification and Indolation. — A chemo- and regioselective synthesis of the title compounds (IV) and (VII) is presented from very common and easily accessible inexpensive starting materials. In this fast reaction, water is the major by-product which makes work-up convenient. — (JIANG, B.; YI, M.-S.; SHI, F.; TU*, S.-J.; PINDI, S.; McDOWELL, P.; LI, G.; Chem. Commun. (Cambridge) 48 (2012) 6, 808-810, <http://dx.doi.org/10.1039/c1cc15913e>; Sch. Chem. Chem. Eng., Xuzhou Norm. Univ., Xuzhou 221009, Peop. Rep. China; Eng.) — C. Gebhardt



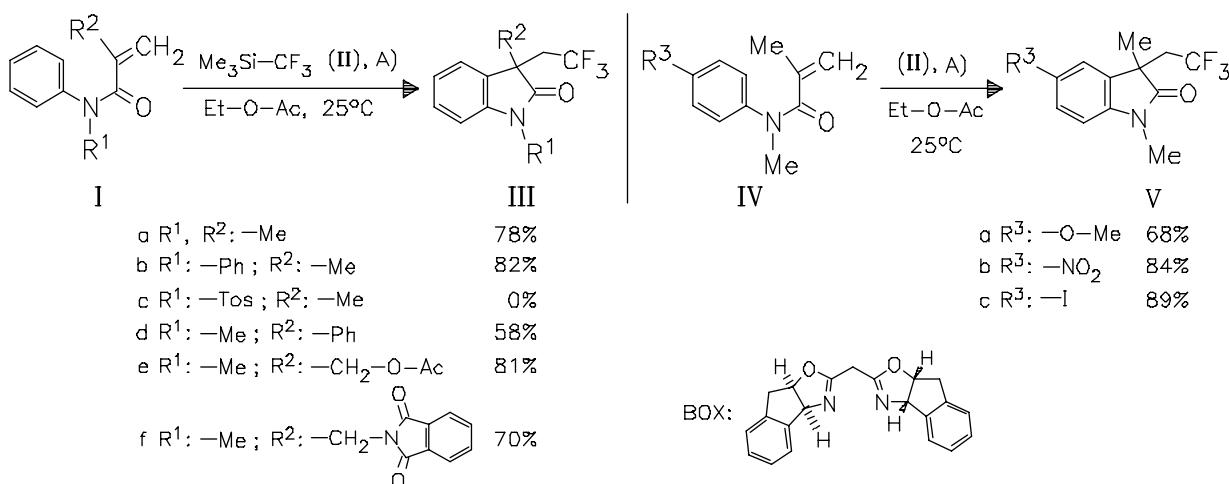
Indole derivatives

R 0140

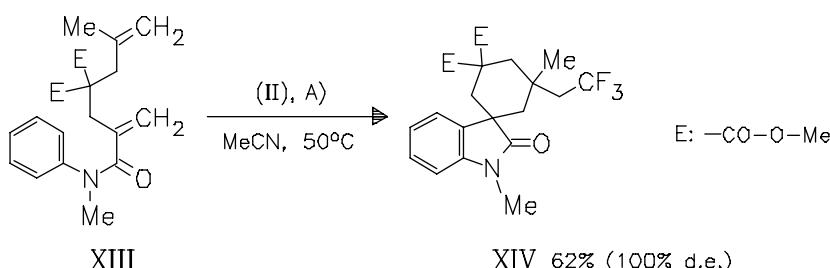
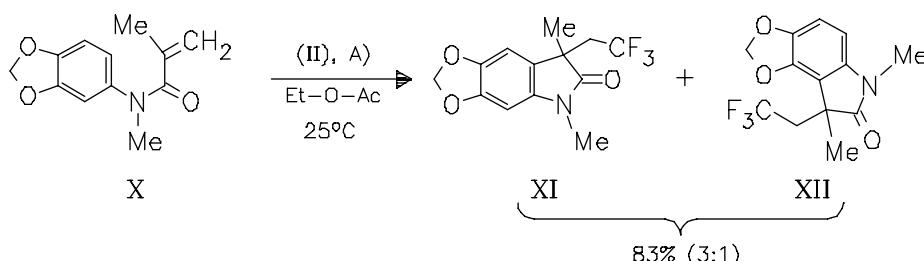
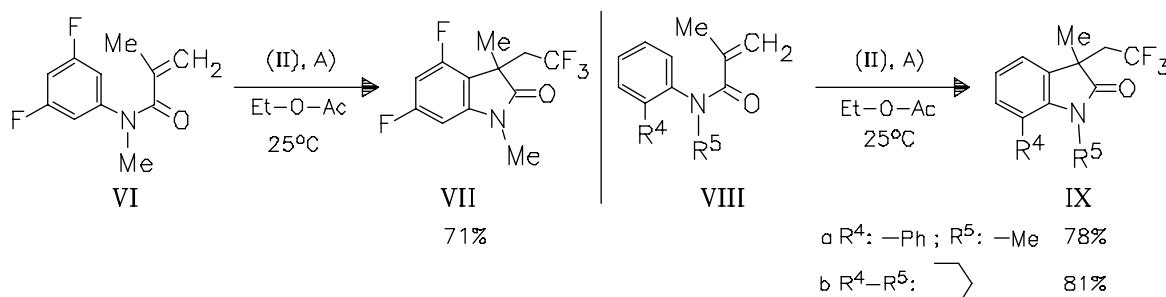
DOI: 10.1002/chin.201225120

25- 120

Palladium-Catalyzed Oxidative Aryltrifluoromethylation of Activated Alkenes at Room Temperature. — A variety of trifluoromethylated oxindoles is prepared by the title reaction of N-aryl acrylamide derivatives with TmsCF₃ using PhI(OAc)₂ as oxidant. — (MU, X.; WU, T.; WANG, H.-Y.; GUO, Y.-L.; LIU*, G.; J. Am. Chem. Soc. 134 (2012) 2, 878-881, <http://dx.doi.org/10.1021/ja210614y>; State Key Lab. Organomet. Chem., Shanghai Inst. Org. Chem., Chin. Acad. Sci., Shanghai 200032, Peop. Rep. China; Eng.) — Klein



A): Ph-I(O-Ac)₂, CsF, Pd(OAc)₂/BOX/Yb(O-Tf)₃ (1:1.5:2) (cat.)



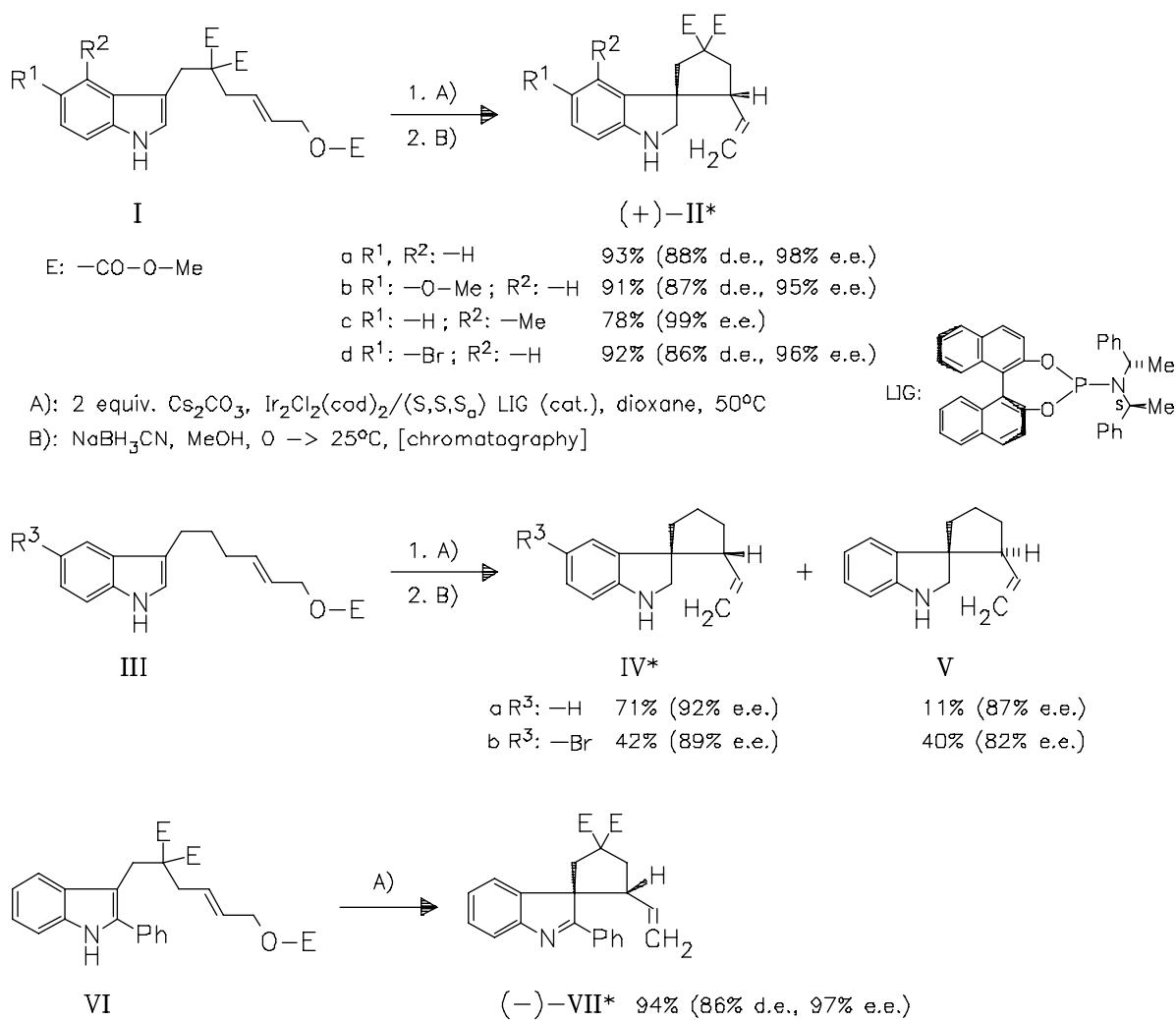
Indole derivatives

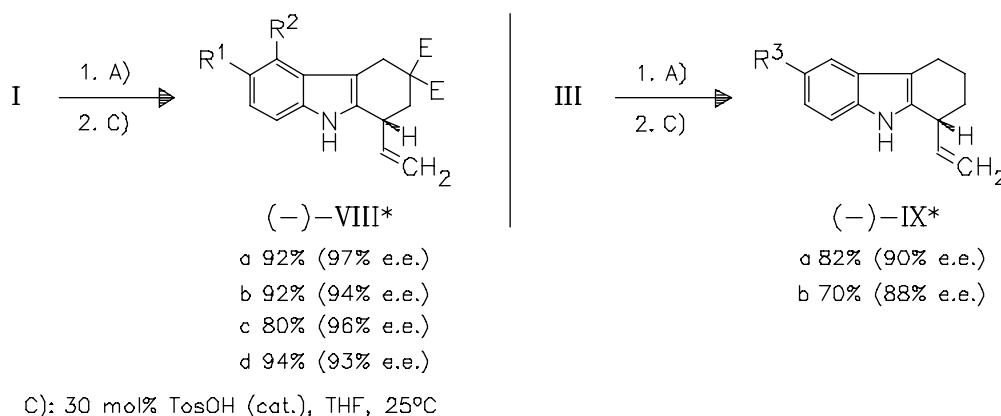
R 0140

25- 121

DOI: 10.1002/chin.201225121

Enantioselective Synthesis of Spiro Cyclopentane-1,3'-indoles and 2,3,4,9-Tetrahydro-1H-carbazoles by Iridium-Catalyzed Allylic Dearomatization and Stereospecific Migration.—In some cases, the imine functionality of the indolenines, which are obtained from the allylic dearomatization, causes purification difficulties. Therefore, a reduction step is added to afford the stable compounds (II) and (IV). Furthermore, a novel stereospecific migration of indolenines to the title compounds (VII) and (VIII) is presented.—(WU, Q.-F.; ZHENG, C.; YOU*, S.-L.; Angew. Chem., Int. Ed. 51 (2012) 7, 1680–1683, <http://dx.doi.org/10.1002/anie.201107677>; State Key Lab. Organomet. Chem., Shanghai Inst. Org. Chem., Chin. Acad. Sci., Shanghai 200032, Peop. Rep. China; Eng.) — C. Gebhardt





Indole derivatives

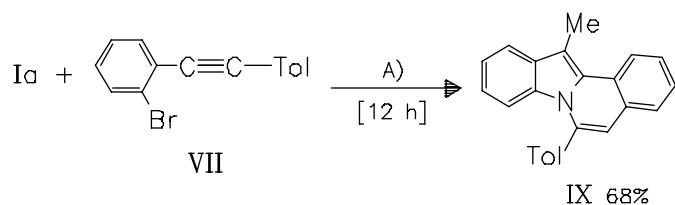
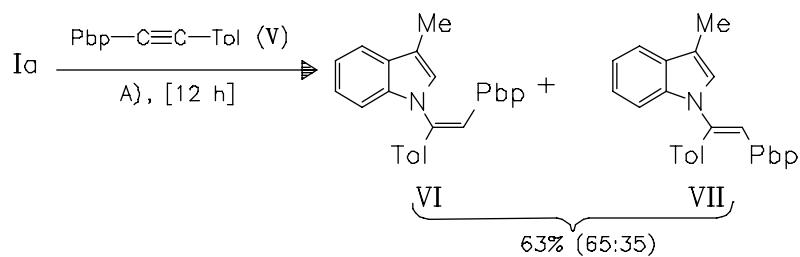
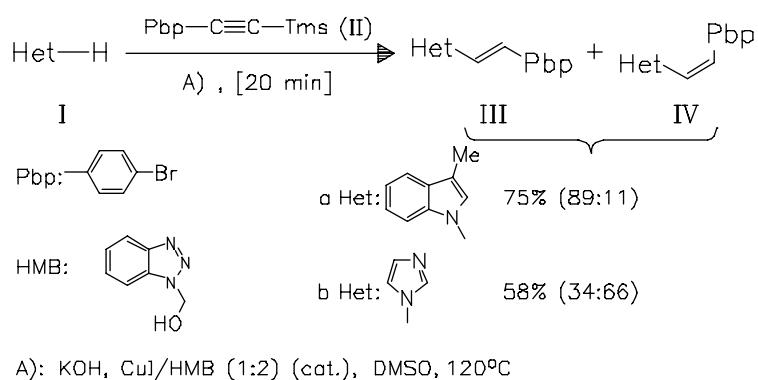
R 0140

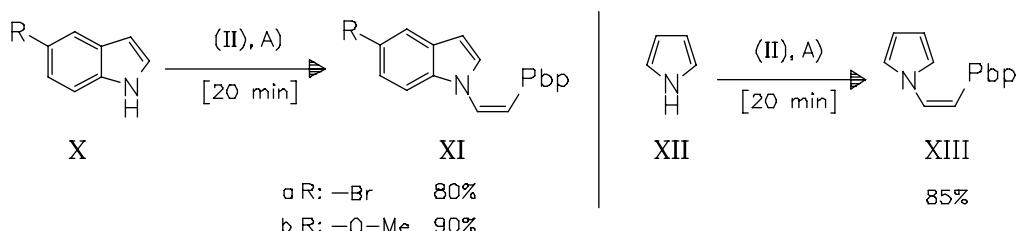
DOI: 10.1002/chin.201225122

25- 122

Regioselective Preferential Nucleophilic Addition of N-Heterocycles onto Halo-arylalkanes over N-Arylation of Aryl Halides. — The work demonstrates that the reaction of N-heterocycles with halo-substituted arylalkynes affords hydroamination products and not the desired N-arylation products. A mechanistic pathway is discussed.

— (JOSHI, M.; TIWARI, R.; VERMA*, A. K.; Org. Lett. 14 (2012) 4, 1106-1109, <http://dx.doi.org/10.1021/o1203491p>; Synth. Org. Chem. Res. Lab., Univ. Delhi, Delhi 110 007, India; Eng.) — Bartels





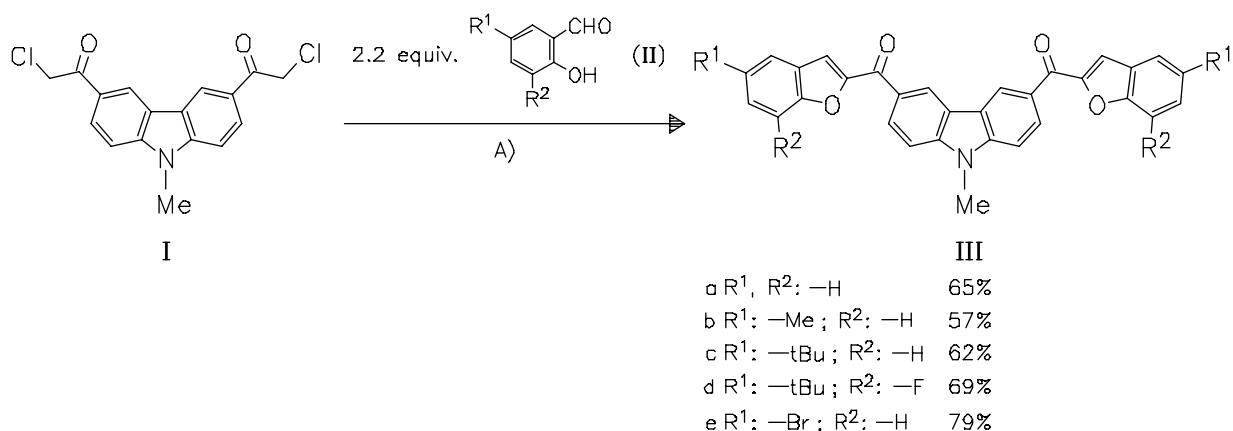
Carbazole derivatives

R 0150

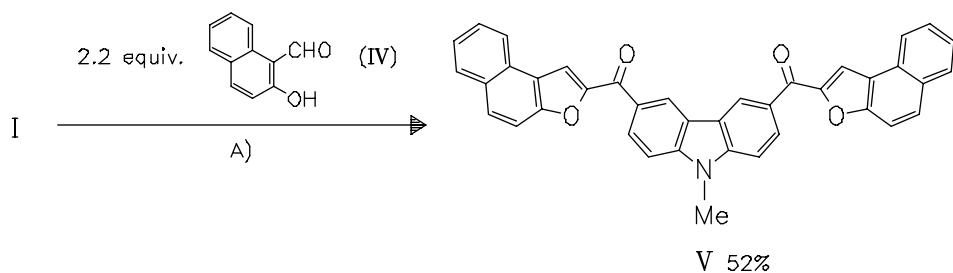
DOI: 10.1002/chin.201225123

25- 123

PEG-400-Promoted and Ultrasound-Assisted Rap—Stoermer Reaction for Efficient Synthesis of Benzofuran-2-yl(carbazoly)methanone Derivatives. — (LI, Y.; YAN, Y.; GAO*, W.; *Heterocycles* 85 (2012) 2, 421–429, <http://dx.doi.org/10.3987/com-11-12385>; Inst. Superfine Chem., Bohai Univ., Jinzhou 121000, Peop. Rep. China; Eng.) — R. Staver



A): ultrasound, 4 equiv. K_2CO_3 , polyethylene glycol 400 (cat.), MeCN, 70°C , [4–5 h]

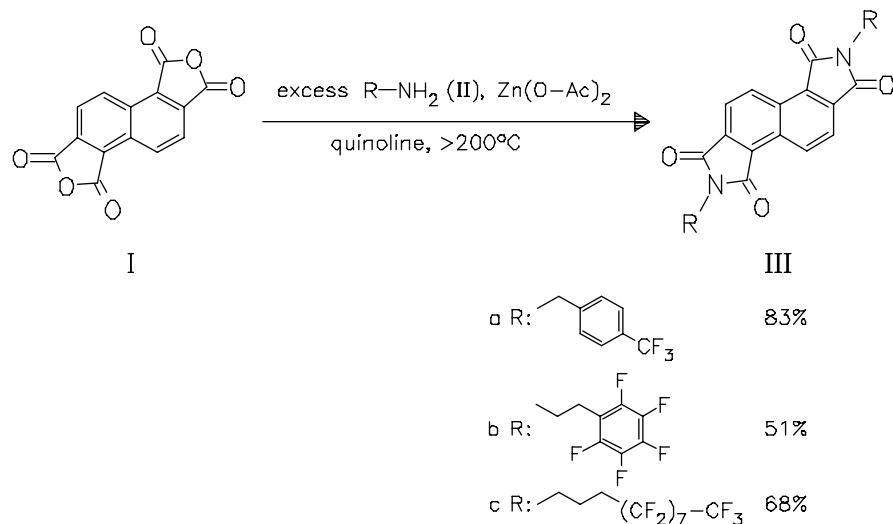


Fused pyrrole derivatives R 0160

DOI: 10.1002/chin.201225124

25- 124

Angular-Shaped Naphthalene Tetracarboxylic Diimides for n-Channel Organic Transistor Semiconductors.—(CHEN, S.-C.; ZHANG, Q.; ZHENG*, Q.; TANG, C.; LU, C.-Z.; Chem. Commun. (Cambridge) 48 (2012) 9, 1254-1256, <http://dx.doi.org/10.1039/c2cc15733k>; State Key Lab. Struct. Chem., Fujian Inst. Res. Struct. Matter, Chin. Acad. Sci., Fujian, Fuzhou 350002, Peop. Rep. China; Eng.) — M. Paetzel

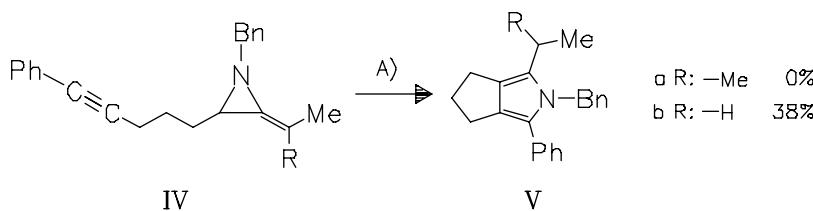
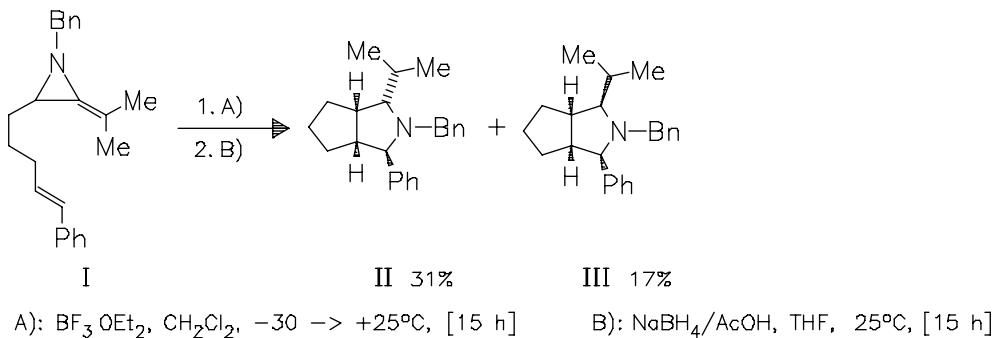


Fused pyrrole derivatives R 0160

DOI: 10.1002/chin.201225125

25-125

Lewis Acid Promoted Intramolecular (3 + 2) "Cycloadditions" of Methylenearaziridines with Alkene and Alkyne Acceptors. — (GRIFFIN, K.; MONTAGNE, C.; HOANG, C. T.; CLARKSON, G. J.; SHIPMAN*, M.; Org. Biomol. Chem. 10 (2012) 5, 1032-1039, <http://dx.doi.org/10.1039/c1ob06578e> ; Dep. Chem., Univ. Warwick, Coventry CV4 7AL, UK; Eng.) — Nuesgen



Fused pyrrole derivatives

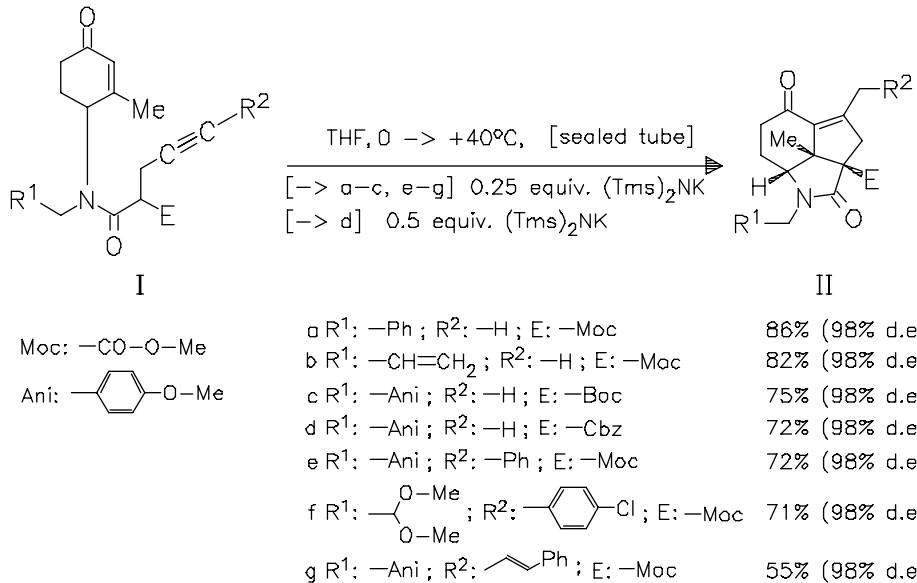
R 0160

25- 126

Alkali Base Initiated Michael Addition/Alkyne Carbocyclization Cascades. —

The new cascade reaction proceeds in the presence of substoichiometric quantities of alkali metal base. It takes place under mild conditions and gives access to stereochemically defined, tricyclic structures in good yields and high stereoselectivity. —

(KOURRA, C.; KLOTTER, F.; SLADOJEVICH, F.; DIXON*, D. J.; Org. Lett. 14 (2012) 4, 1016-1019, <http://dx.doi.org/10.1021/o12033674>; Chem. Res. Lab., Dep. Chem., Univ. Oxford, Oxford OX1 3TA, UK; Eng.) — Bartels



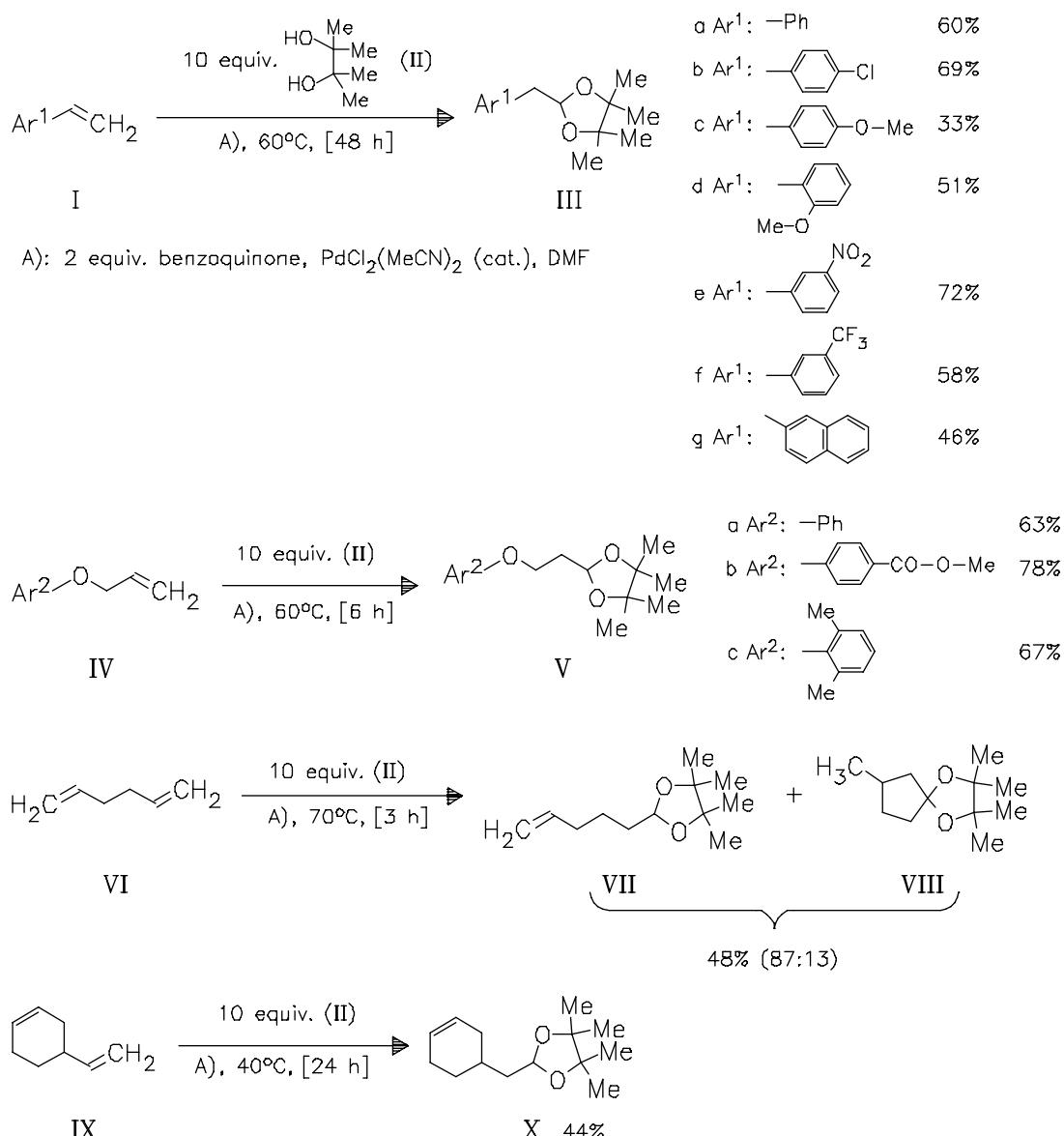
Dioxole derivatives

R 0170

25- 127

DOI: 10.1002/chin.201225127

Palladium-Catalyzed Synthesis of Terminal Acetals via Highly Selective anti-Markovnikov Nucleophilic Attack of Pinacol on Vinylarenes, Allyl Ethers, and 1,5-Dienes. — In the presented reaction, the sterical bulkiness of pinacol (II) controls the regioselectivity in an anti-Markovnikov manner. The reaction of 2- and 4-vinylpyridines does not proceed. α -Methylstyrene gives not the desired product and remains unreacted. Other dienes such as diethyl diallylmalonate and 1,7-octadiene result in no formation of terminal acetals. — (YAMAMOTO, M.; NAKAOKA, S.; URA*, Y.; KATAOKA, Y.; Chem. Commun. (Cambridge) 48 (2012) 8, 1165-1167, <http://dx.doi.org/10.1039/c2cc16561a>; Dep. Chem., Fac. Sci., Nara Women's Univ., Nara 630, Japan; Eng.) — C. Gebhardt



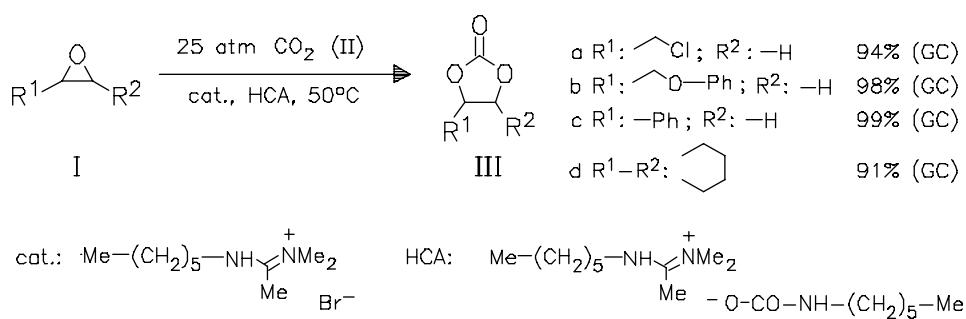
Dioxole derivatives

R 0170

DOI: 10.1002/chin.201225128

25- 128

Syntheses of Cyclic Carbonates with Amidinium Halide Catalysts in Reusable, Reversible, Room-Temperature Ionic Liquids or Acetonitrile. — Reaction between epoxides (**I**) and carbon dioxide (**II**) in room temperature ionic liquids and in the presence of an amidinium halide catalyst occurs cleanly to provide the cyclic carbonates (**III**), exclusively. The ionic liquids are obtained *in situ* by exposing equimolar mixtures of an N'-alkyl-N,N-dimethylacetamidine and an aliphatic amine to carbon dioxide. The products are easily separated from the reaction mixtures, and the ionic liquid/catalyst systems can be reused with the same or different epoxide substrates. Noteworthy, the temperatures and required carbon dioxide pressures are lower than in most other solvent/catalyst systems. — (YU, T.; WEISS*, R. G.; Green Chem. 14 (2012) 1, 209-216, <http://dx.doi.org/10.1039/c1gc16027c>; Dep. Chem., Georgetown Univ., Washington, DC 20057, USA; Eng.) — H. Hoennerscheid



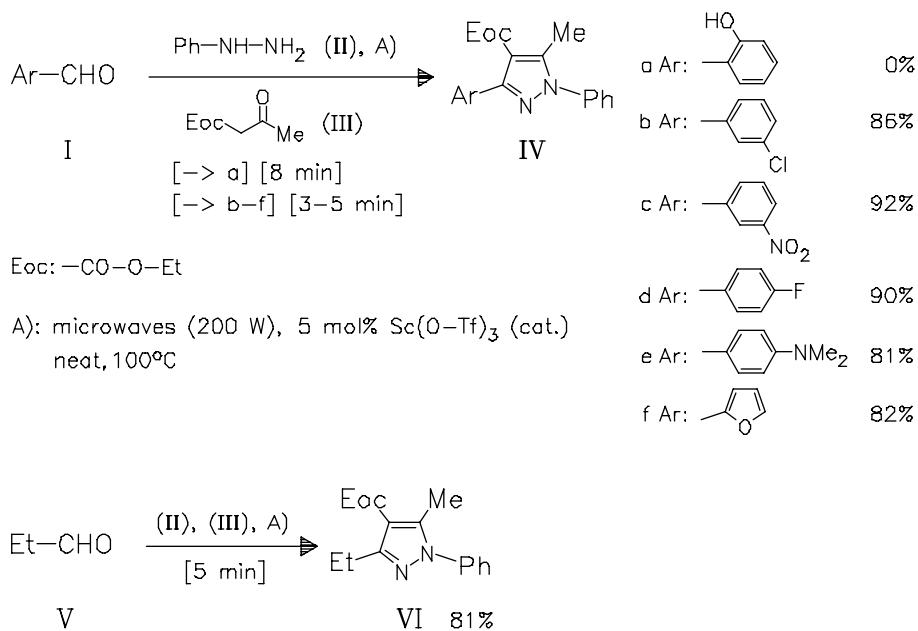
Pyrazole derivatives

R 0180

DOI: 10.1002/chin.201225129

25- 129

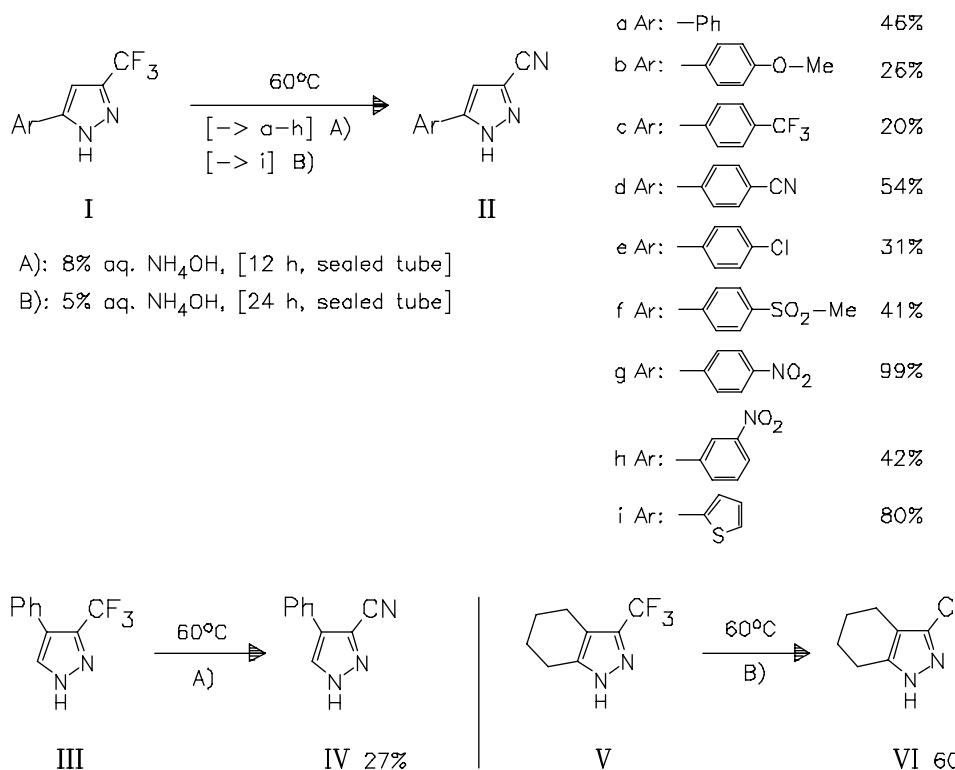
Sc(OTf)₃-Catalyzed, Solvent-Free Domino Synthesis of Functionalized Pyrazoles under Controlled Microwave Irradiation. — Optimized conditions are developed for the three-component reaction to give highly functionalized pyrazoles for drug development. — (KUMARI, K.; RAGHUVANSHI, D. S.; JOUKOV, V.; SINGH*, K. N.; Tetrahedron Lett. 53 (2012) 9, 1130-1133, <http://dx.doi.org/10.1016/j.tetlet.2011.12.094> ; Dep. Chem., Fac. Sci., Banaras Hindu Univ., Varanasi 221 005, India; Eng.) — Mais



Pyrazole derivatives

R 0180

25- 130

Synthesis of 3-Cyanopyrazoles from 3-Trifluoromethylpyrazoles via Direct Amonolysis Reaction. — (YAN, T.; CHEN, Y.; WANG, J.; XIE, Y.; YANG*, C.;Heterocycles 85 (2012) 2, 431-439, <http://dx.doi.org/10.3987/com-11-12399>; State Key Lab. Drug Res., Shanghai Inst. Mater. Med., Chin. Acad. Sci., Shanghai 200031, Peop. Rep. China; Eng.) — R. Staver

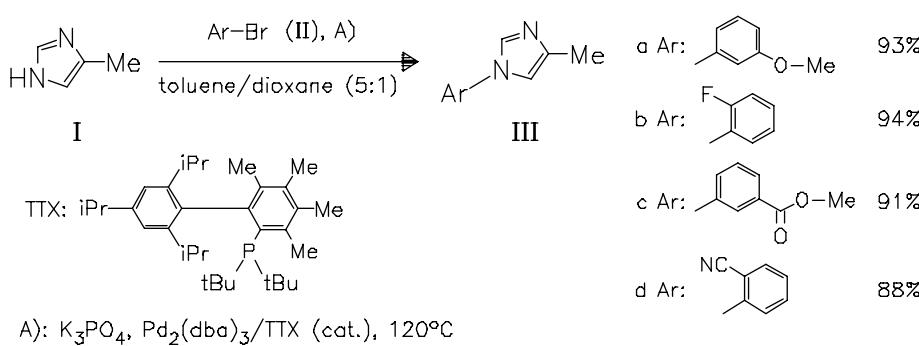
Imidazole derivatives

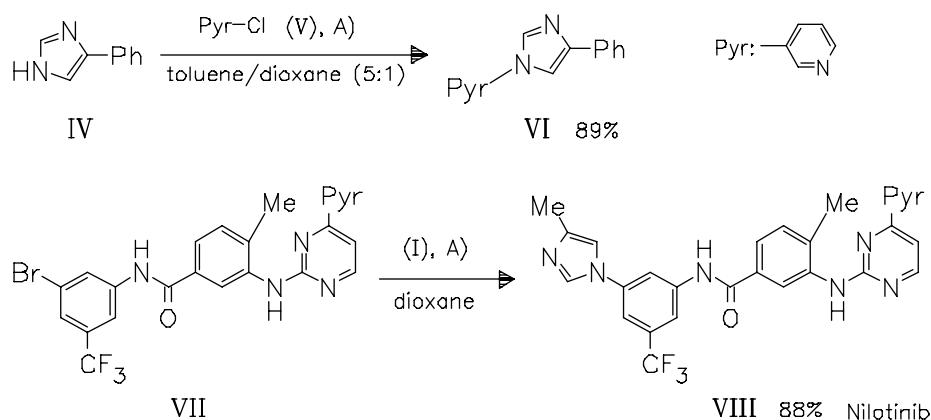
R 0190

25- 131

Completely N¹-Selective Palladium-Catalyzed Arylation of Unsymmetric Imidazoles: Application to the Synthesis of Nilotinib. — (UEDA, S.; SU, M.;

BUCHWALD*, S. L.; J. Am. Chem. Soc. 134 (2012) 1, 700-706,

<http://dx.doi.org/10.1021/ja2102373>; Dep. Chem., MIT, Cambridge, MA 02139, USA; Eng.) — Nuesgen



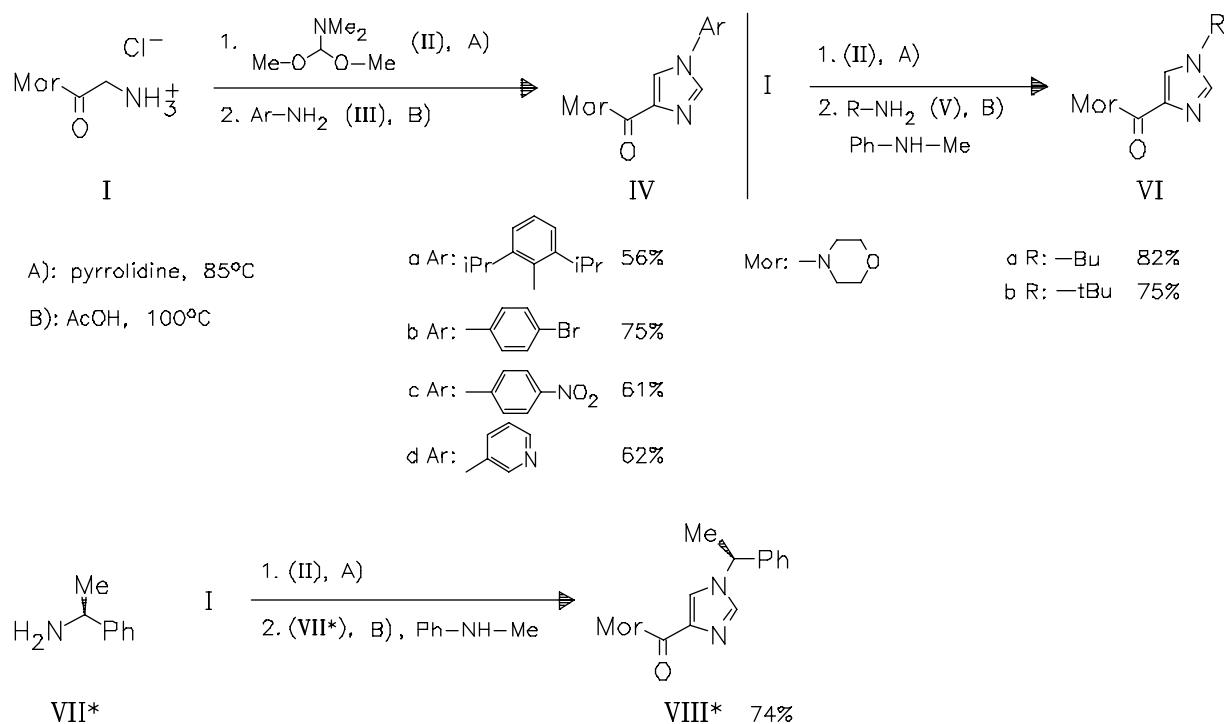
Imidazole derivatives

R 0190

DOI: 10.1002/chin.201225132

25- 132

Regioselective Synthesis of 1,4-Disubstituted Imidazoles. — (SCHMIDT*, M. A.; EASTGATE, M. D.; Org. Biomol. Chem. 10 (2012) 5, 1079-1087, <http://dx.doi.org/10.1039/c1ob06690k>; Chem. Dev., Bristol-Myers Squibb Co., New Brunswick, NJ 08903, USA; Eng.) — Nuesgen



Imidazole derivatives

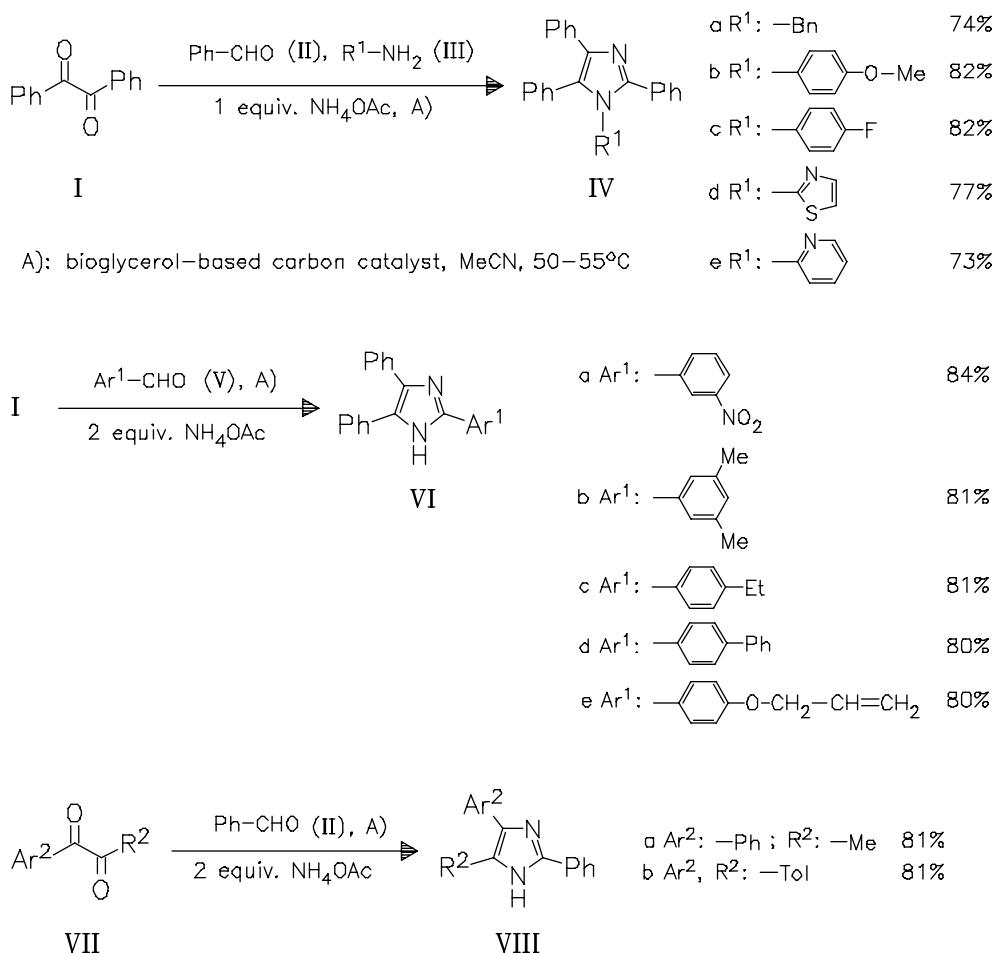
R 0190

DOI: 10.1002/chin.201225133

25- 133

A Novel Bioglycerol-Based Recyclable Carbon Catalyst for an Efficient One-Pot

Synthesis of Highly Substituted Imidazoles. — The catalyst is prepared by thermolysis of a mixture of glycerol and concentrated sulfuric acid. It is successfully applied to the multicomponent synthesis of a series of tri- and tetrasubstituted imidazole derivatives. — (RAMESH, K.; MURTHY, S. N.; KARNAKAR, K.; NAGESWAR*, Y. V. D.; VIJAYALAKHSHMI, K.; DEVI, B. L. A. P.; PRASAD, R. B. N.; Tetrahedron Lett. 53 (2012) 9, 1126-1129, <http://dx.doi.org/10.1016/j.tetlet.2011.12.092>; Org. Chem. Div., Indian Inst. Chem. Technol., Hyderabad 500 607, India; Eng.) — Mais



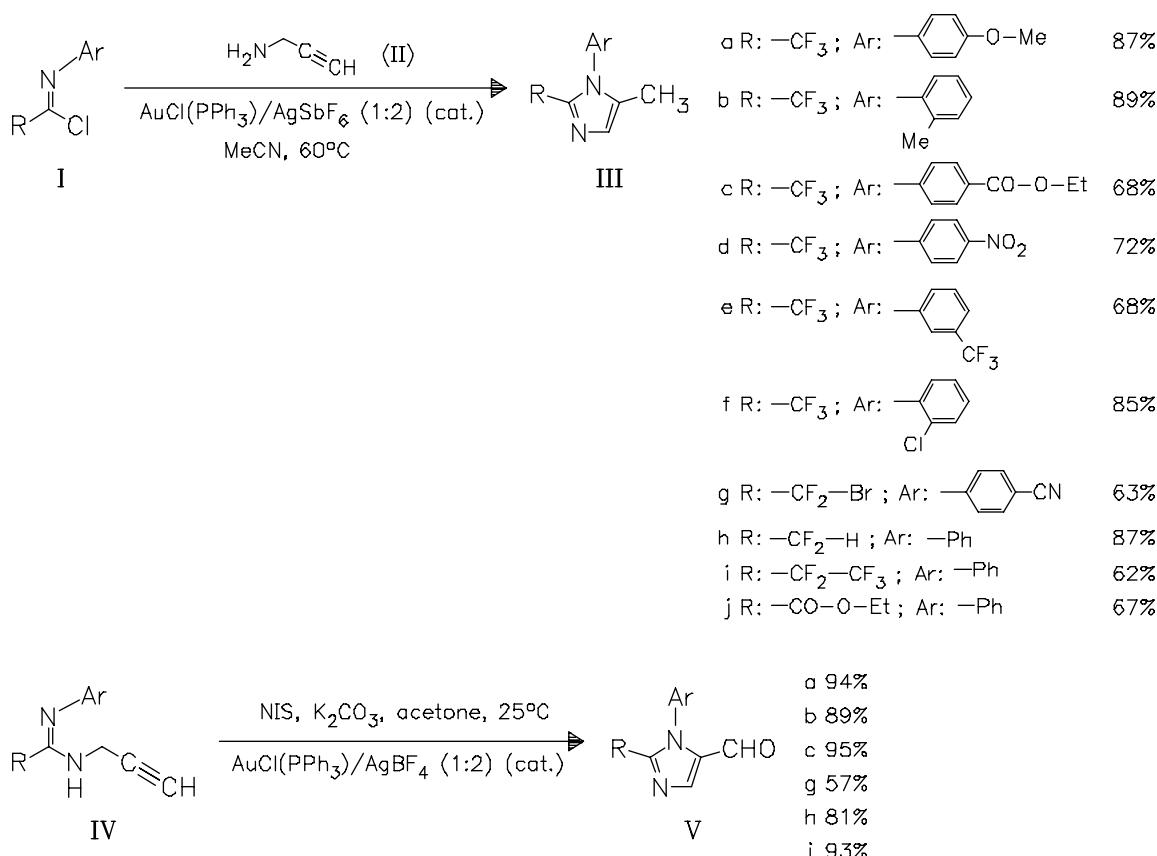
Imidazole derivatives

R 0190

25- 134

DOI: 10.1002/chin.201225134

Au(I)-Catalyzed Intramolecular Hydroamination of the Fluorinated N'-Aryl-N-propargyl Amidines: Mild Conditions for the Synthesis of 2-Fluoroalkyl Imidazole Derivatives. — The title reaction affords 2-fluoroalkyl 5-methyl imidazoles (III) or, in the presence of NIS, 2-fluoroalkyl imidazole-5-carbaldehydes (V). The method is also suitable for nonfluorinated substrates. — (LI, S.; LI, Z.; YUAN, Y.; PENG, D.; LI, Y.; ZHANG, L.; WU*, Y.; Org. Lett. 14 (2012) 4, 1130-1133, <http://dx.doi.org/10.1021/o13000525>; State Key Lab. Organofluorine Chem., Shanghai Inst. Org. Chem., Chin. Acad. Sci., Shanghai 200032, Peop. Rep. China; Eng.) — Bartels



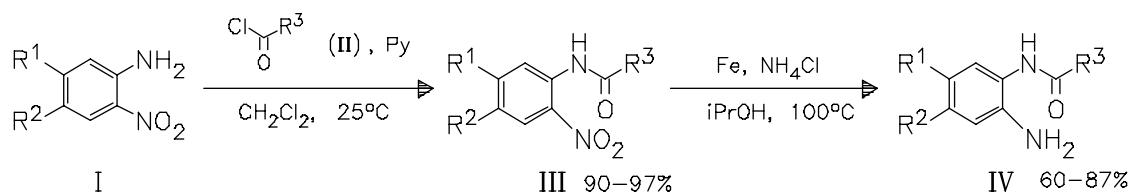
Benzimidazole derivatives

R 0200

25- 135

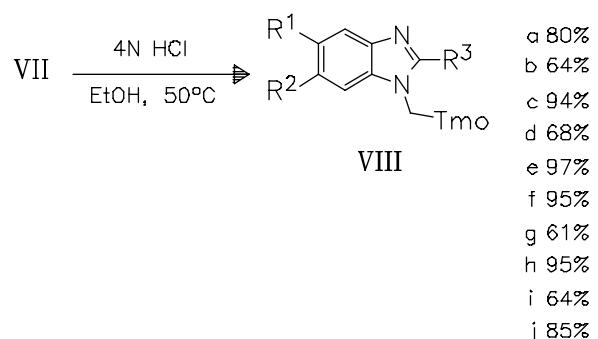
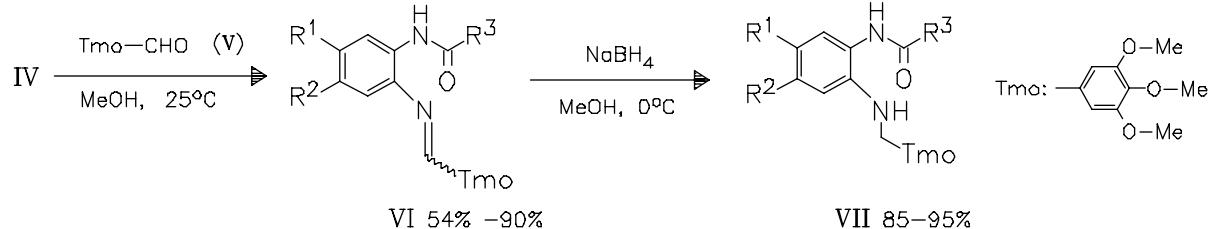
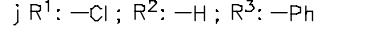
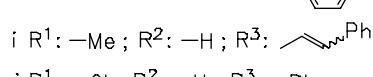
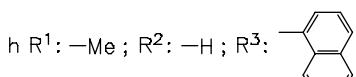
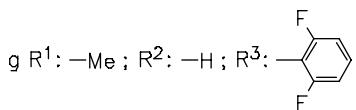
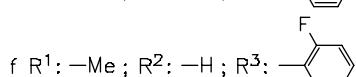
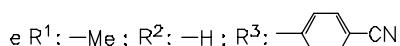
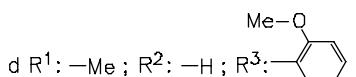
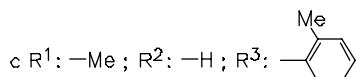
DOI: 10.1002/chin.201225135

Synthesis and Bioevaluation of Novel 3,4,5-Trimethoxybenzylbenzimidazole Derivatives that Inhibit Helicobacter pylori-Induced Pathogenesis in Human Gastric Epithelial Cells. — Among the title compounds (VIII) (28 examples) synthesized, compound (VIIIIf) is found to be the most potent one in the inhibition of H. pylori growth and pathogenesis of host cells. The compound inhibits H. pylori adhesion and invasion of gastric epithelial cells. — (LAI*, C.-H.; et al.; Eur. J. Med. Chem. 48 (2012) 244-254, <http://dx.doi.org/10.1016/j.ejmec.2011.12.021>; Grad. Inst. Basic Sci., Sch. Med., China Med. Univ., Taichung 40402, Taiwan; Eng.) — H. Toeppel



a R¹: -H ; R²: -Me ; R³:

b R¹: -H; R²: -Cl; R³: -Ph

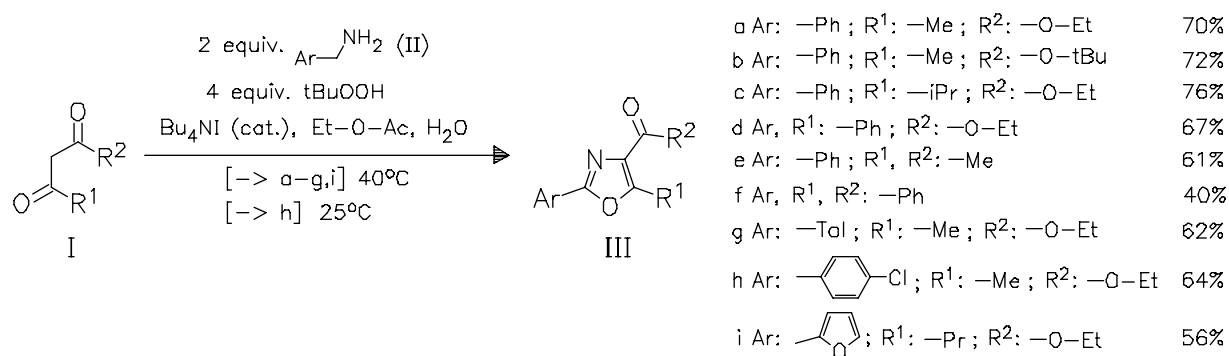


Oxazole derivatives

R 0220

25- 136

Metal-Free, Organocatalytic Cascade Formation of C—N and C—O Bonds Through Dual sp^3 C—H Activation: Oxidative Synthesis of Oxazole Derivatives. — (XIE, J.; JIANG, H.; CHENG, Y.; ZHU*, C.; *Chem. Commun. (Cambridge)* 48 (2012) 7, 979–981, <http://dx.doi.org/10.1039/c2cc15813b>; State Key Lab. Coord. Chem., Nanjing Univ., Nanjing 210093, Peop. Rep. China; Eng.) — C. Gebhardt

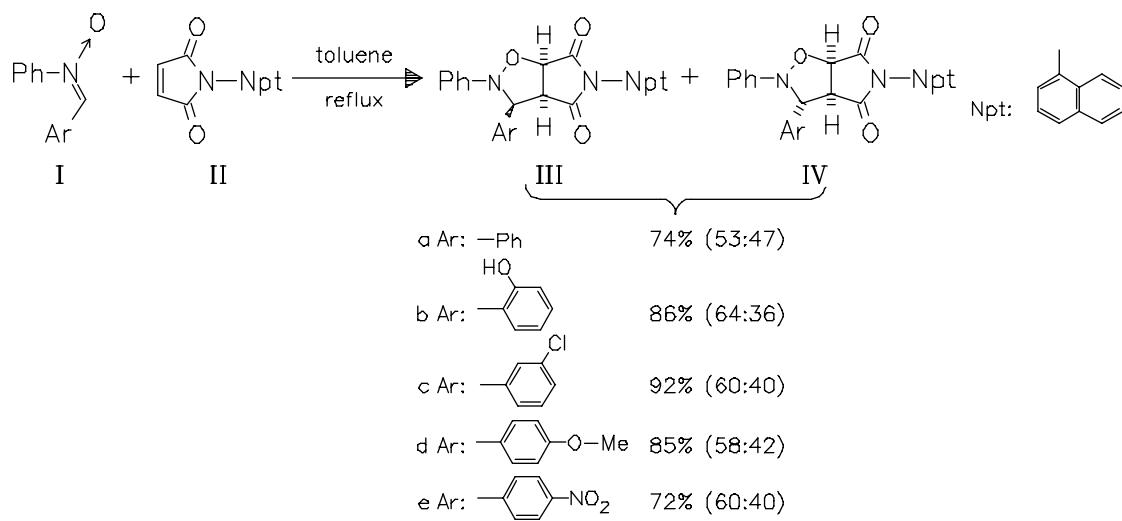


Isoxazole derivatives

R 0240

25- 137

Synthesis and Evaluation of Hexahydropyrrolo[3,4-d]isoxazole-4,6-diones and anti-Stress Agents. — Compound (IIIa) exhibits significant anti-stress activity in immobilization induced acute stress in mice. — (BADRU, R.; ANAND, P.; SINGH*, B.; *Eur. J. Med. Chem.* 48 (2012) 81–91, <http://dx.doi.org/10.1016/j.ejmech.2011.11.037>; Dep. Chem., Punjab Univ., Chandigarh 160 014, India; Eng.) — K. Woydowski



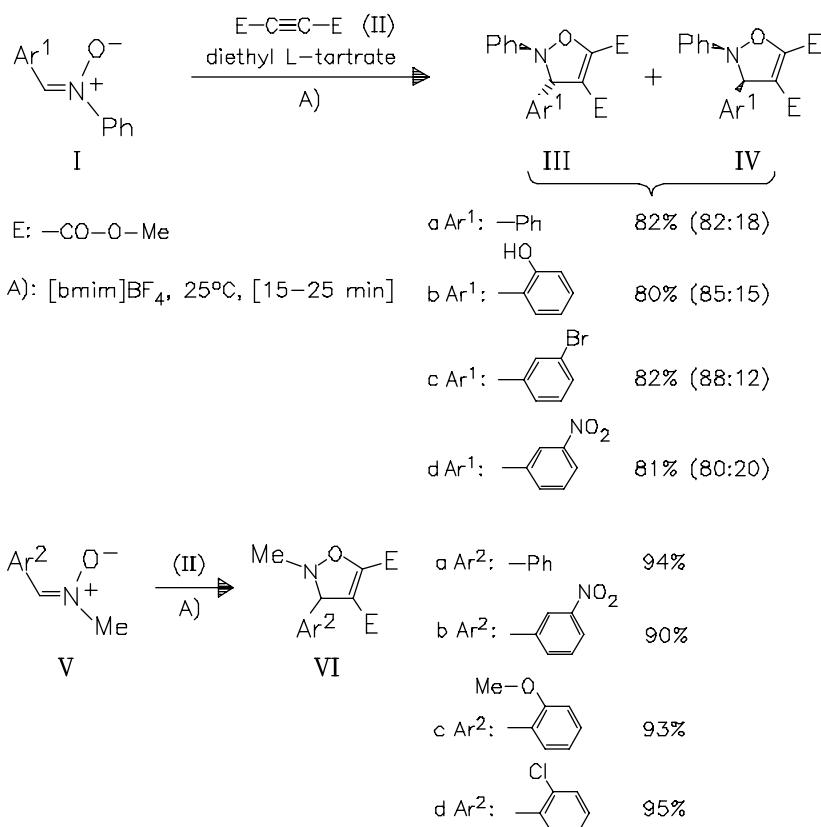
Isoxazole derivatives

R 0240

25- 138

DOI: 10.1002/chin.201225138

Reaction of N-(Phenyl and Methyl)-C-arylnitrones with DMAD in Ionic Liquid: Efficient Synthesis of Δ^4 -Isoxazolines. — Diastereomeric mixtures of N-phenylisoxazolines (III) and (IV) are formed due to high inversion energy barrier of the nitrogen. Diastereoselectivity is low but can be improved by addition of diethyl L-tartrate to the reaction mixture. — (VALIZADEH*, H.; VESALLY, E.; DINPARAST, L.; J. Heterocycl. Chem. 49 (2012) 1, 106-110, <http://dx.doi.org/10.1002/jhet.682>; Dep. Chem., Islamic Azad Univ., Marvdasht, Iran; Eng.) — G. Mueller



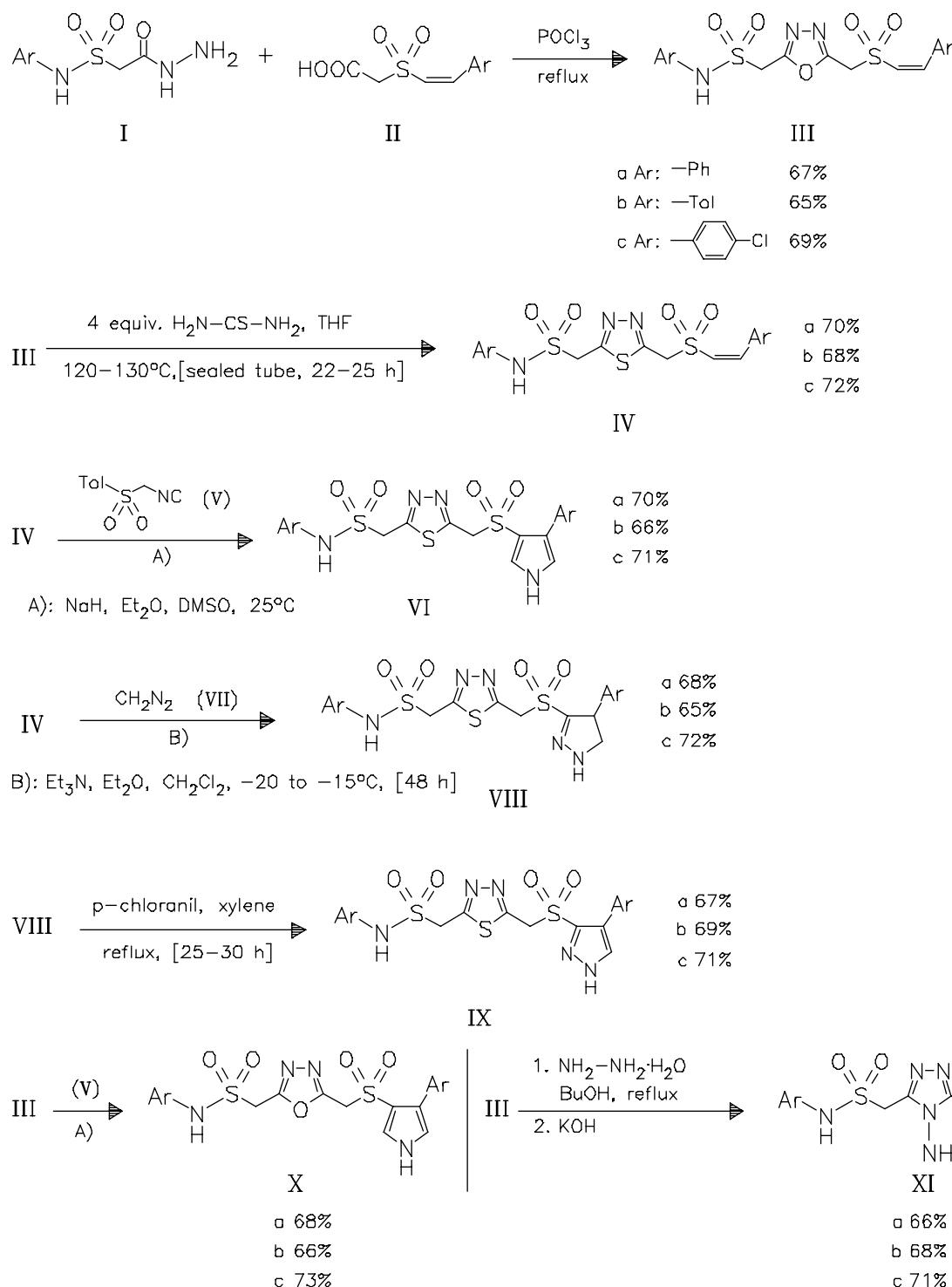
Triazole derivatives

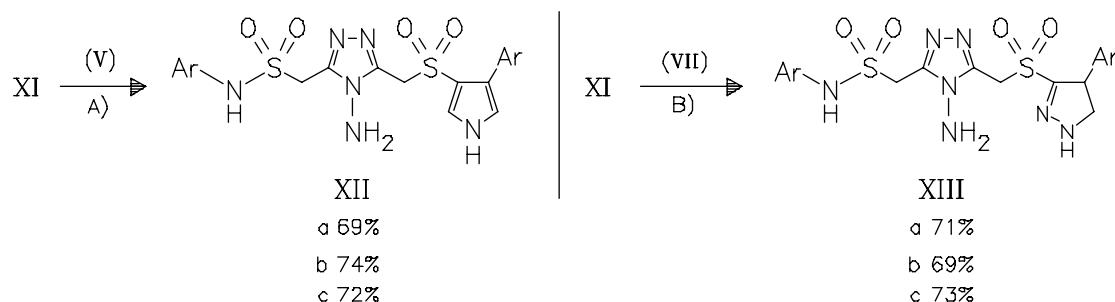
R 0280

25- 139

DOI: 10.1002/chin.201225139

Synthesis and Antimicrobial Activity of Pyrrolyl/Pyrazolyl Arylaminosulfonyl-methyl 1,3,4-Oxadiazoles, 1,3,4-Thiadiazoles and 1,2,4-Triazoles. — Title compounds such as (VI), (VIII), (IX), (X), (XII) and (XIII) are synthesized starting with cyclocondensation of hydrazide (I) and carboxylic acid (II). The intermediates and products are tested for their antimicrobial activity. Compound (XIc) is the most potent agent. — (PADMAJA*, A.; MURALIKRISHNA, A.; RAJASEKHAR, C.; PADMAVATHI, V.; Chem. Pharm. Bull. 59 (2011) 12, 1509-1517; Dep. Chem., Sri Venkateswara Univ., Tirupati 517 502, India; Eng.) — R. Langenstrassen





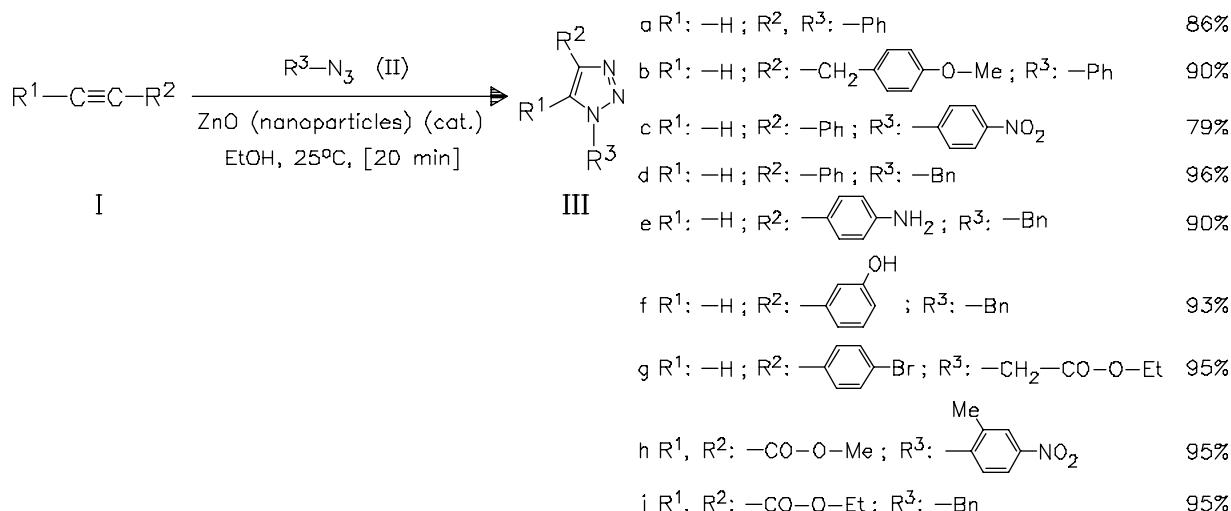
Triazole derivatives

R 0280

DOI: 10.1002/chin.201225140

25- 140

ZnO Nanoparticles: Efficient and Versatile Reagents for Synthesis of 1,4-Disubstituted 1,2,3-Triazoles — [21 examples]. — (SADEGHI*, B.; HASSANABADI, A.; KAMALI, M.; J. Chem. Res. 36 (2012) 1, 9–11, <http://dx.doi.org/10.3184/174751912x13247429490396>; Dep. Chem., Islamic Azad Univ., Yazd, Iran; Eng.) — C. Cyrus



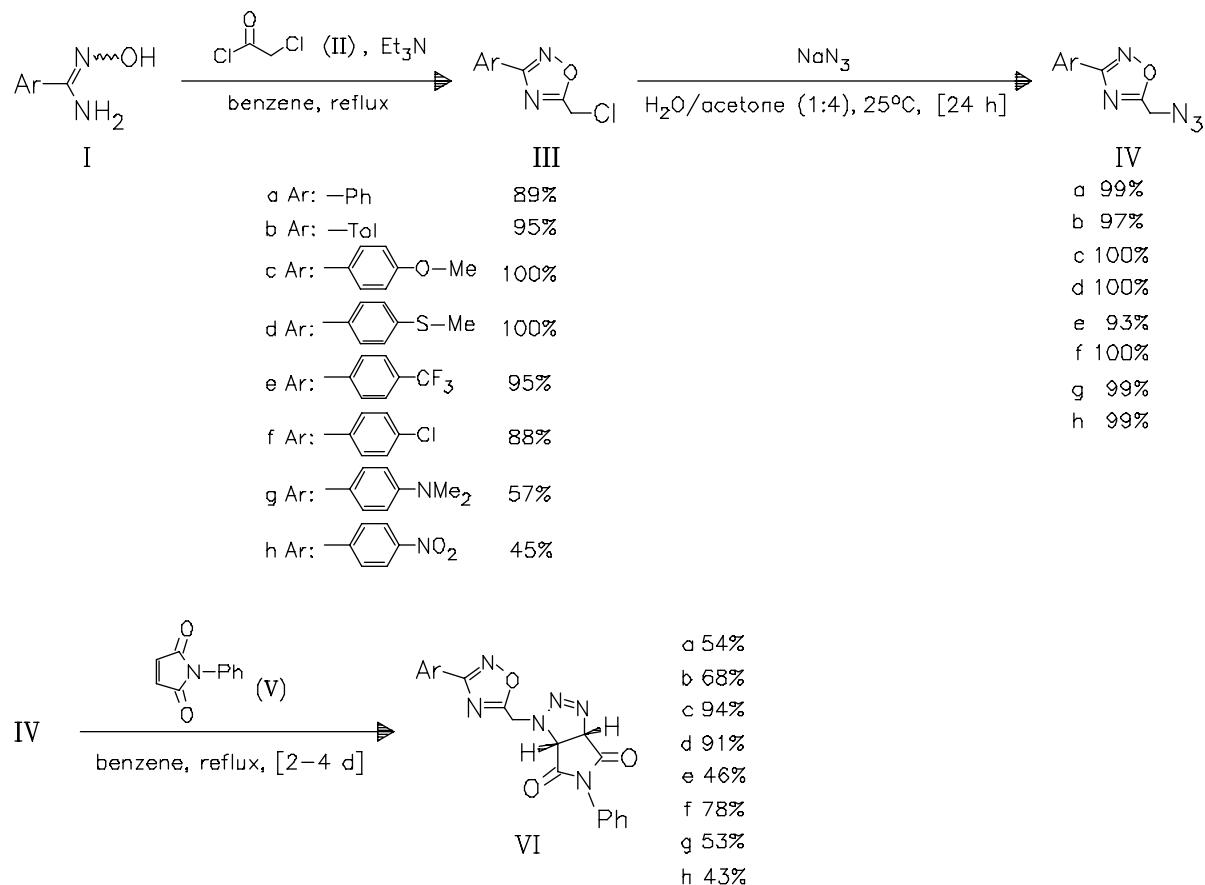
Oxadiazole derivatives

R 0290

DOI: 10.1002/chin.201225141

25- 141

Synthesis and anti-Protozoal Activity of Novel Dihydropyrrolo[3,4-d][1,2,3]triazoles. — An efficient synthetic approach for the synthesis of novel oxadiazolylpyrrolotriazoles (VI) (11 examples) via 1,3-dipolar cycloaddition of organic azides bearing a substituted-phenyl-1,2,4-oxadiazole ring and N-phenylmaleimide is presented. Compounds (VI) are screened for their antiprotozoal activity as well as for their general cytotoxicity. The most interesting compound (VIh) displays a strong antiprotozoal activity and no toxic potential even at high concentrations. — (DUERUEST*, Y.; KARAKUS, H.; KAISER, M.; TASDEMIR, D.; Eur. J. Med. Chem. 48 (2012) 296–304, <http://dx.doi.org/10.1016/j.ejmech.2011.12.028>; Dep. Chem., Abant Izzet Baysal Univ., TR-14280 Bolu, Turk.; Eng.) — H. Toeppel



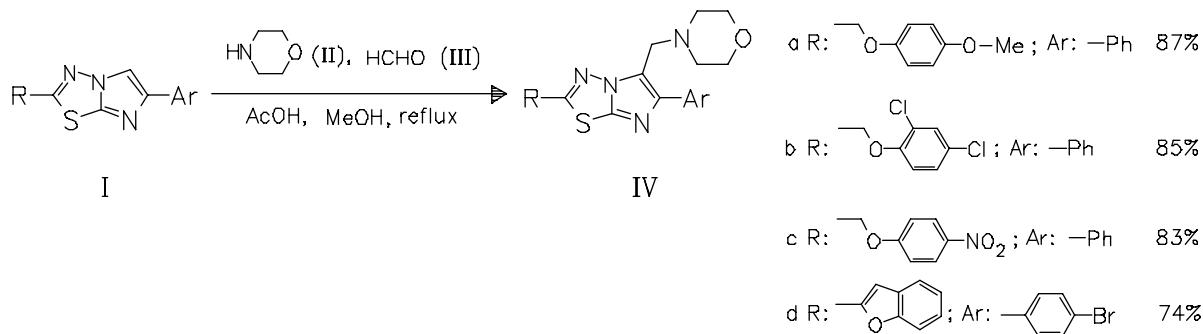
Thiadiazole derivatives

R 0300

DOI: 10.1002/chin.201225142

25- 142

Synthesis and X-Ray Characterization of 2,5,6-Trisubstituted Imidazo[2,1-b][1,3,4]thiadiazole Derivatives (IV).—(DA, Y.-X.; ZHU, J.-H.; ZHANG, Z.; JIA, X.-D.; YANG, C.-X.; QUAN*, Z.-J.; *J. Heterocycl. Chem.* 49 (2012) 1, 102-105, <http://dx.doi.org/10.1002/jhet.678>; Key Lab. Eco-Environ.-Related Polym. Mater., Min. Educ., Lanzhou Univ., Lanzhou, Gansu 730070, Peop. Rep. China; Eng.) — G. Mueller

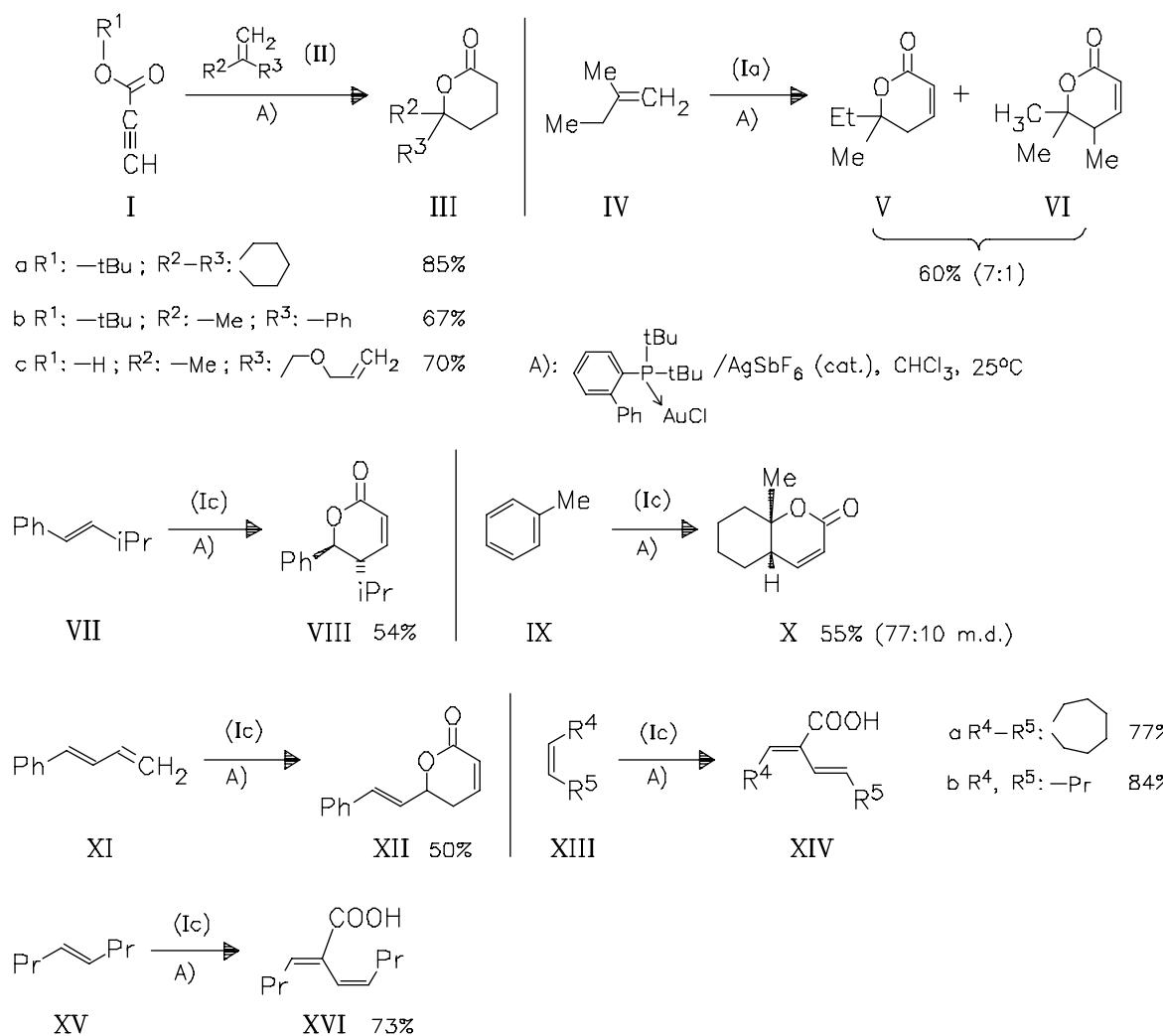


Pyran derivatives
R 0340

DOI: 10.1002/chin.201225143

25- 143

Gold-Catalyzed Intermolecular Reactions of Propiolic Acids with Alkenes: [4 + 2] Annulation and Enyne Cross Metathesis. — (YEOM, H.-S.; KOO, J.; PARK, H.-S.; WANG, Y.; LIANG, Y.; YU, Z.-X.; SHIN*, S.; *J. Am. Chem. Soc.* 134 (2012) 1, 208-211, <http://dx.doi.org/10.1021/ja210792e>; Dep. Chem., Hanyang Univ., Seoul 133-791, S. Korea; Eng.) — Nuesgen

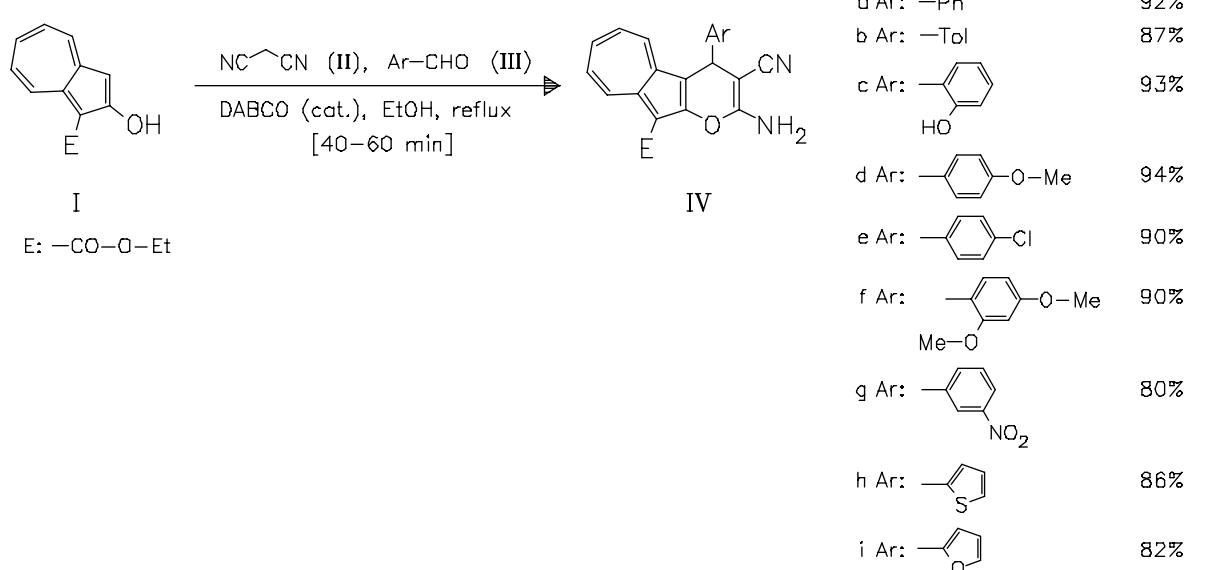


Pyran derivatives
R 0340

DOI: 10.1002/chin.201225144

25- 144

An Efficient One-Pot Synthesis of 1-Amino-3-cyano-4-aryl-10-ethoxycarbonyl-azuleno[2,1-b]pyrans — [via DABCO-catalyzed three-component condensation of 2-hydroxyazulenecarboxylate (I) with malononitrile and aromatic aldehydes; 14 examples]. — (WANG*, D.-L.; FENG, S.-S.; CUI, Q.-T.; YU, J.-Y.; *Heterocycles* 85 (2012) 2, 441-448, <http://dx.doi.org/10.3987/com-11-12406>; Coll. Chem. Chem. Eng., Bohai Univ., Jinzhou 121000, Peop. Rep. China; Eng.) — R. Staver



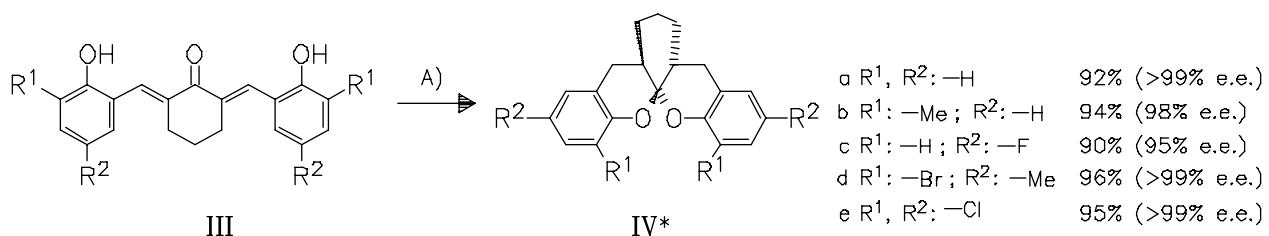
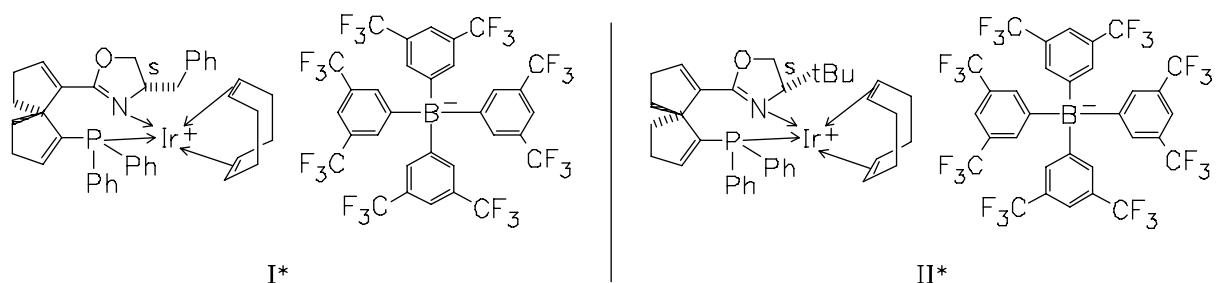
Benzopyran derivatives

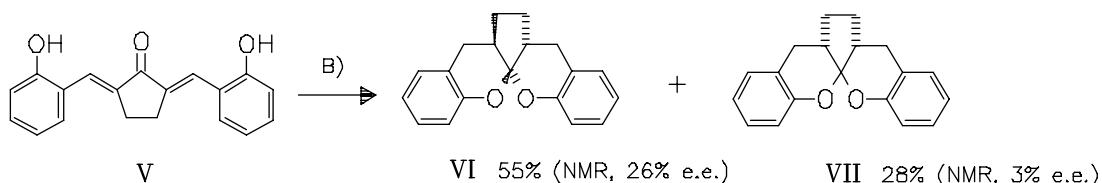
R 0350

25- 145

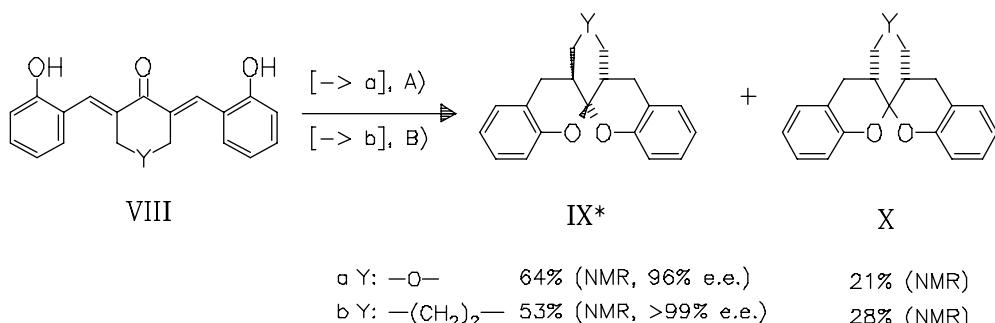
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Catalytic Asymmetric Synthesis of Aromatic Spiroketal by SpinPhox/Iridium(I)-Catalyzed Hydrogenation and Spiroketalization of α,α' -Bis(2-hydroxyarylidene) Ketones. — (WANG, X.; HAN, Z.; WANG*, Z.; DING, K.; Angew. Chem., Int. Ed. 51 (2012) 4, 936-940, <http://dx.doi.org/10.1002/anie.201106488>; State Key Lab. Organomet. Chem., Shanghai Inst. Org. Chem. Chin. Acad. Sci., Shanghai 200032, Peop. Rep. China; Eng.) — Klein

A): 50 atm H₂, (S₀)-I* (cat.), CH₂Cl₂, 25°C, [24 h]



B): 50 atm H₂, (R_d)-II* (cat.), CH₂Cl₂, 25°C, [24 h]



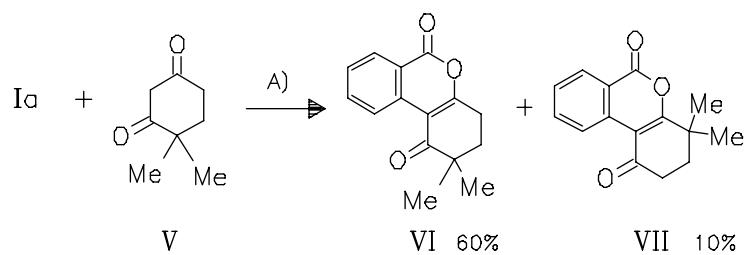
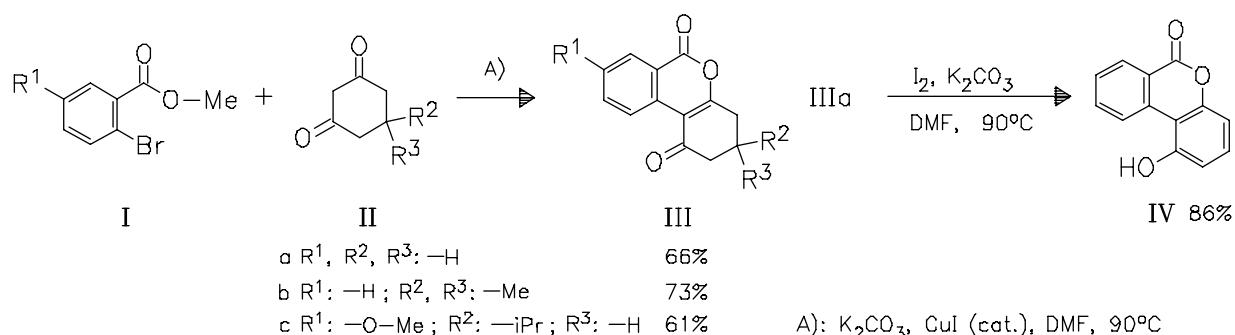
Benzopyran derivatives

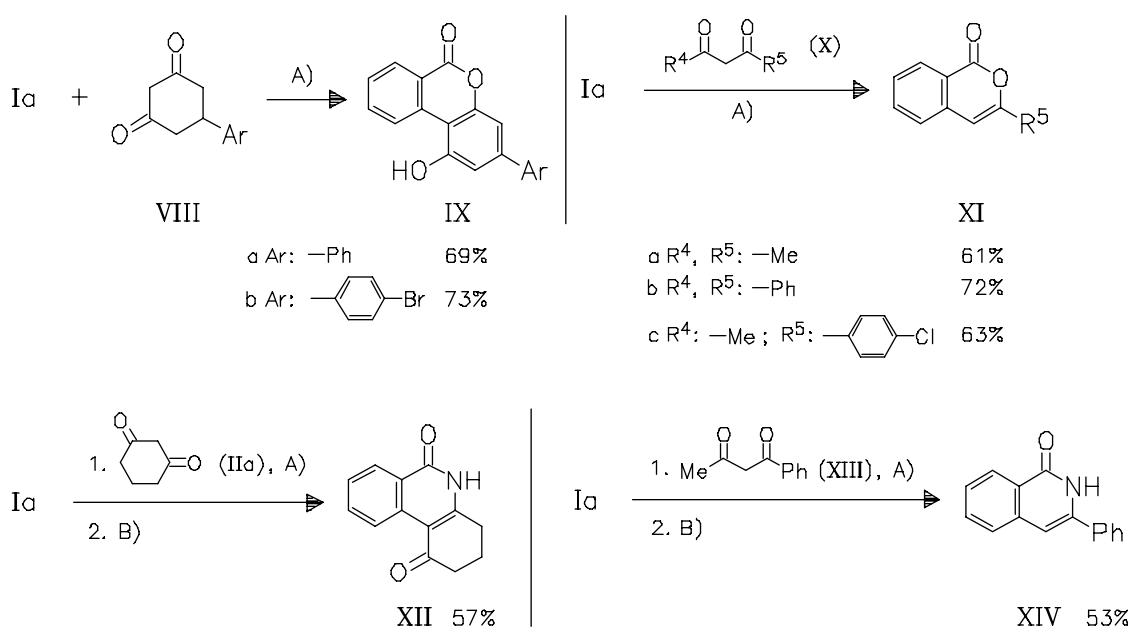
R 0350

DOI: 10.1002/chin.201225146

25- 146

Tandem Reactions Leading to Benzo[c]chromen-6-ones and 3-Substituted Isocoumarins. — (FAN*, X.; HE, Y.; CUI, L.; GUO, S.; WANG, J.; ZHANG, X.; Eur. J. Org. Chem. 2012, 4, 673-677, <http://dx.doi.org/10.1002/ejoc.201101559>; Sch. Chem. Environ. Sci., Henan Norm. Univ., Xinxiang, Henan 453007, Peop. Rep. China; Eng.) — Kieslich





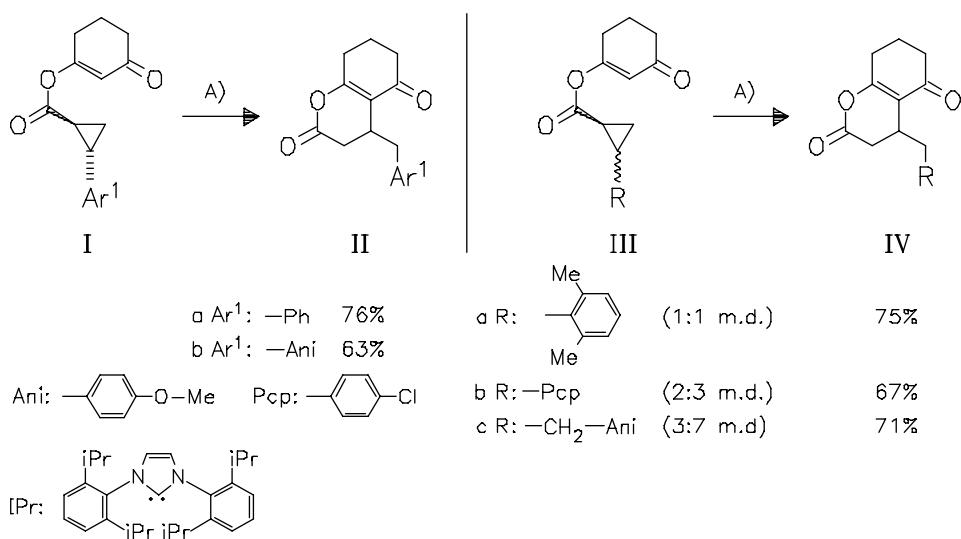
Benzopyran derivatives

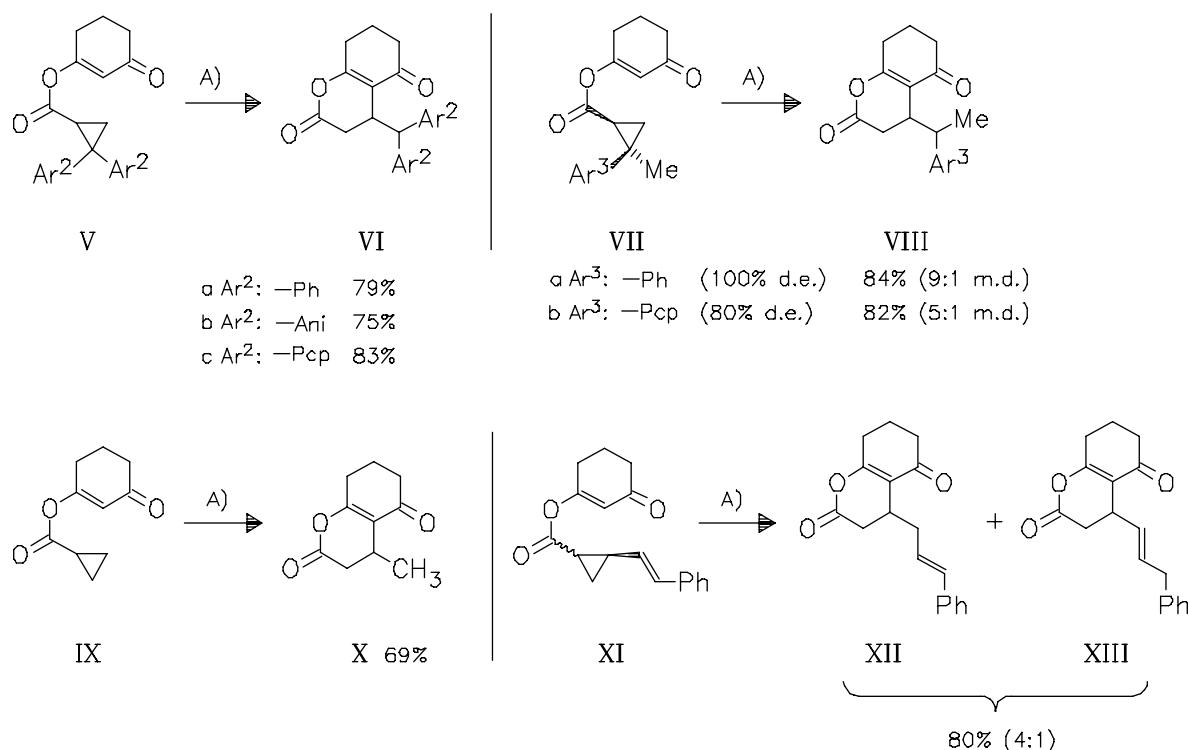
R 0350

DOI: 10.1002/chin.201225147

25- 147

N-Heterocyclic Carbene Cascade Catalysis: Dual Broensted/Lewis Base Rearrangement of Cyclopropyl Enol Esters to Dihydropyranones. — The scope and mechanistic studies implicate that the title reaction proceeds via a novel electrocyclic cyclopropane rearrangement followed by an anionic oxy Claisen-rearrangement. — (CANDISH, L.; LUPTON*, D. W.; Chem. Sci. 3 (2012) 2, 380-383, <http://dx.doi.org/10.1039/c1sc00666e>; Sch. Chem., Monash Univ., Clayton, Victoria 3800, Australia; Eng.) — Klein

A): 10 mol% iPr₂C₆H₃N=C=C-N(C₆H₃H₅iPr₂)₂ (cat.), toluene, 130°C, [sealed tube, 14 h]



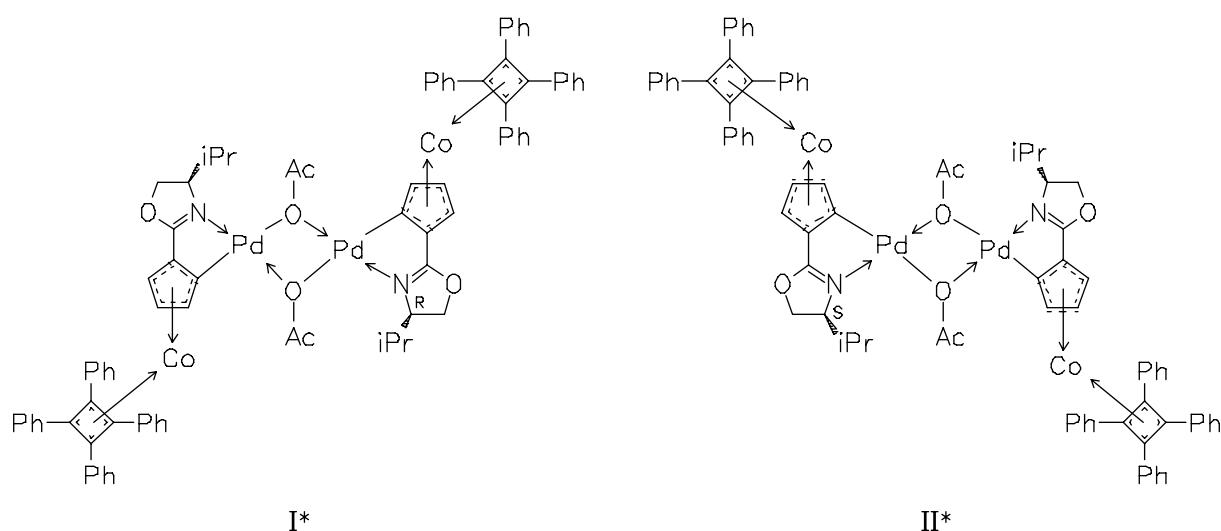
Benzopyran derivatives

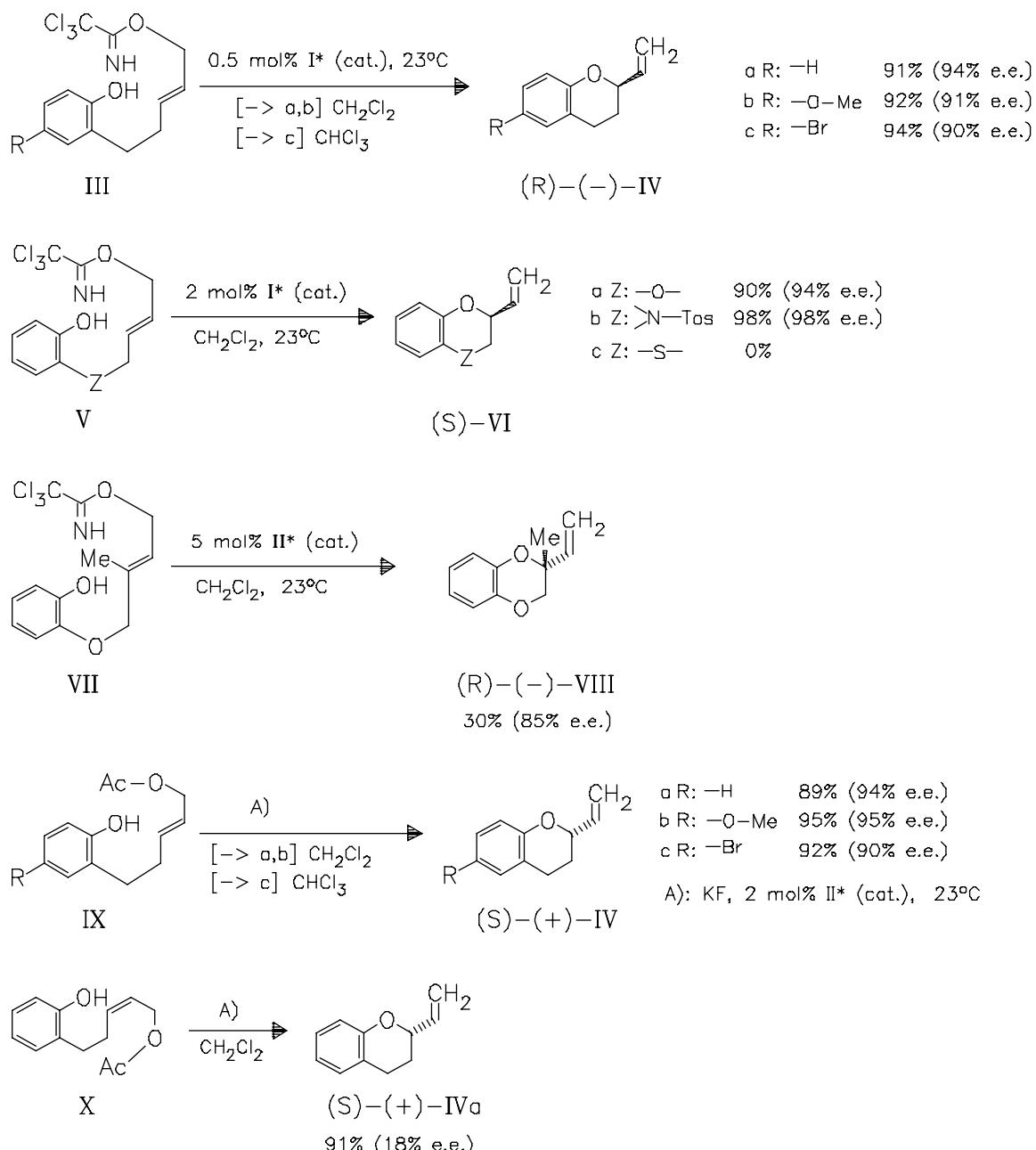
R 0350

DOI: 10.1002/chin.201225148

25- 148

Palladium(II)-Catalyzed Enantioselective Synthesis of 2-Vinyl Oxygen Heterocycles.—Catalysts (I) and (II) efficiently promote the enantioselective rearrangement of (E)-alkenylated phenols to 2-vinyl oxygen heterocycles. The reaction of the corresponding (Z)-isomers proceeds with low enantioselectivity. —(CANNON, J. S.; OLSON, A. C.; OVERMAN*, L. E.; SOLOMON, N. S.; *J. Org. Chem.* 77 (2012) 4, 1961-1973, <http://dx.doi.org/10.1021/jo202553a>; Dep. Chem., Univ. Calif., Irvine, CA 92697, USA; Eng.)—Jannicke





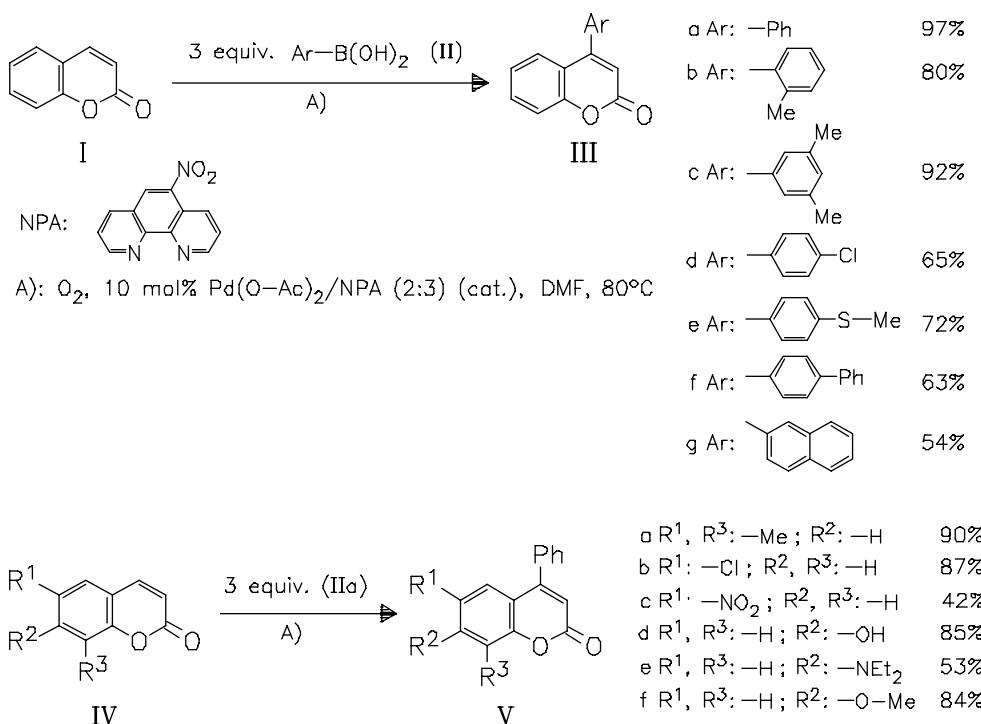
Benzopyran derivatives

R 0350

DOI: 10.1002/chin.201225149

25- 149

Palladium-Catalyzed Oxidative Heck Coupling Reaction for Direct Synthesis of 4-Arylcoumarins Using Coumarins and Arylboronic Acids. — (LI*, Y.; QI, Z.; WANG, H.; FU, X.; DUAN, C.; J. Org. Chem. 77 (2012) 4, 2053-2057, <http://dx.doi.org/10.1021/jo202577m>; State Key Lab. Fine Chem., Dalian Univ. Technol., Dalian 116024, Peop. Rep. China; Eng.) — Jannicke



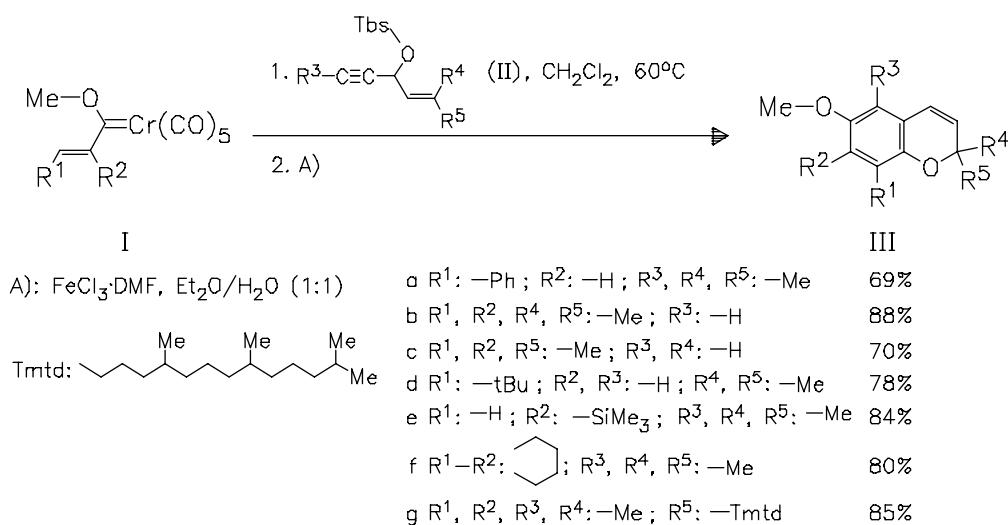
Benzopyran derivatives

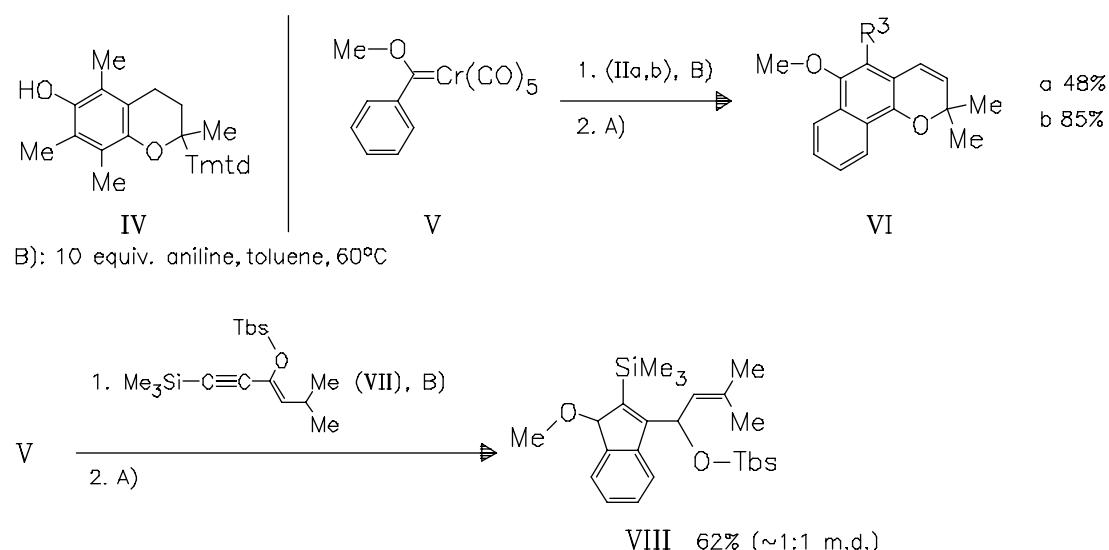
R 0350

25- 150

DOI: 10.1002/chin.201225150

Simultaneous Synthesis of Both Rings of Chromenes via a Benzannulation/o-Quinone Methide Formation/Electrocyclization Cascade.—The reaction of an α,β -unsaturated Fischer carbene complex of chromium with a propargyl ether bearing an alkenyl group on the propargylic carbon affords the desired chromenes, including chromene (IIIg), which is transformed to vitamin E (IV). By employing an aryl carbene complex, lapachenole (VIa) and 5-methyllapachenole (VIb) are prepared. An alternative approach to lapachenole using trimethylsilyl enyne (VII) gives only the five-membered ring product (VIII). — (MAJUMDAR, N.; KORTHALS, K. A.; WULFF*, W. D.; J. Am. Chem. Soc. 134 (2012) 2, 1357-1362, <http://dx.doi.org/10.1021/ja210655g>; Dep. Chem., Mich. State Univ., East Lansing, MI 48824, USA; Eng.) — Klein





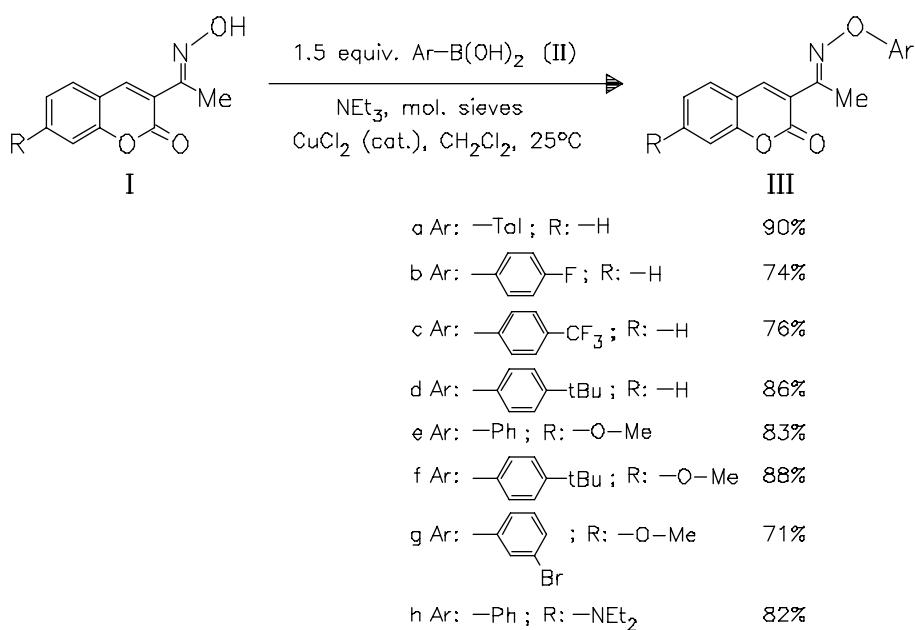
Benzopyran derivatives

R 0350

25- 151

DOI: 10.1002/chin.201225151

A New Strategy for the One-Pot Synthesis of (Aryloxyimino)ethylcoumarins Promoted by CuCl₂. — (PAL, G.; BHATTACHARYYA, P.; MEDDA, A.; DAS*, A. R.; J. Chem. Res. 36 (2012) 1, 5-8, <http://dx.doi.org/10.3184/174751912x13247245983221>; Dep. Chem., Univ. Calcutta, Kolkata 700 009, India; Eng.) — C. Cyrus

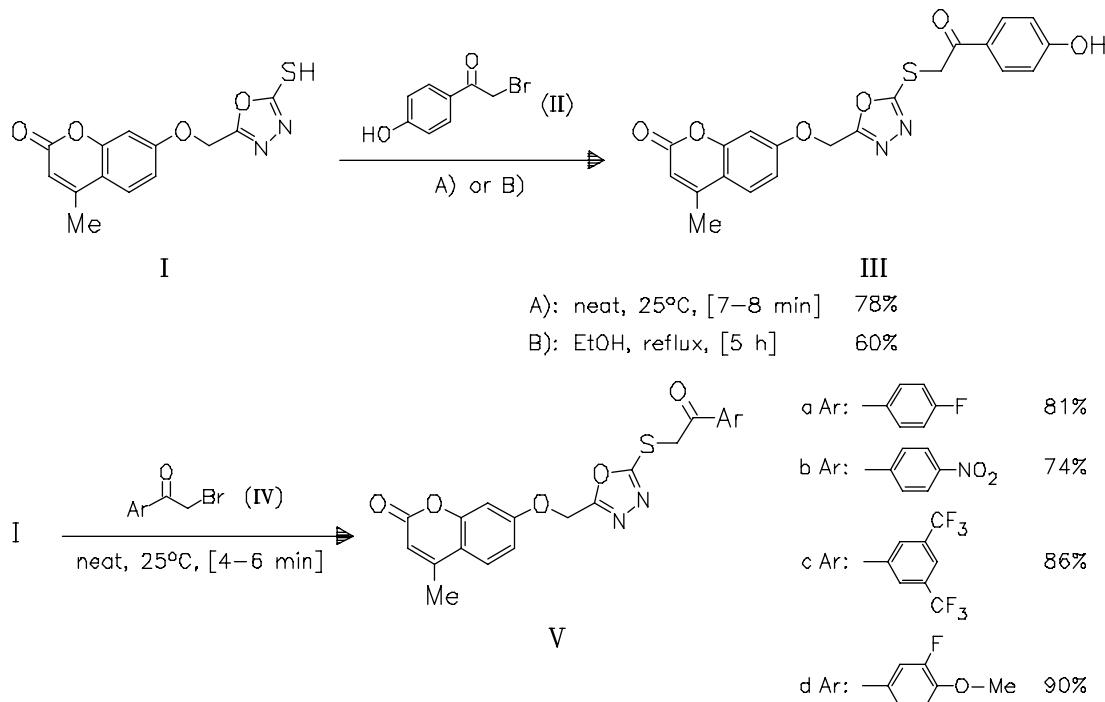


Benzopyran derivatives

R 0350

25- 152

Synthesis and Biological Evaluation of New Thiosubstituted Oxadiazole Derivatives of Coumarin under Solvent-Free Conditions. — Compounds (III), (Va) and (Vd) exhibit good antifungal as well as antibacterial activities. — (BOBADE*, V. D.; PATIL, S. V.; GAIKWAD, N. D.; J. Chem. Res. 36 (2012) 1, 25-28, <http://dx.doi.org/10.3184/174751912x13256103292351>; Dep. Chem., HPT Arts RYK Sci. Coll., Nasik 422 005, India; Eng.) — C. Cyrus

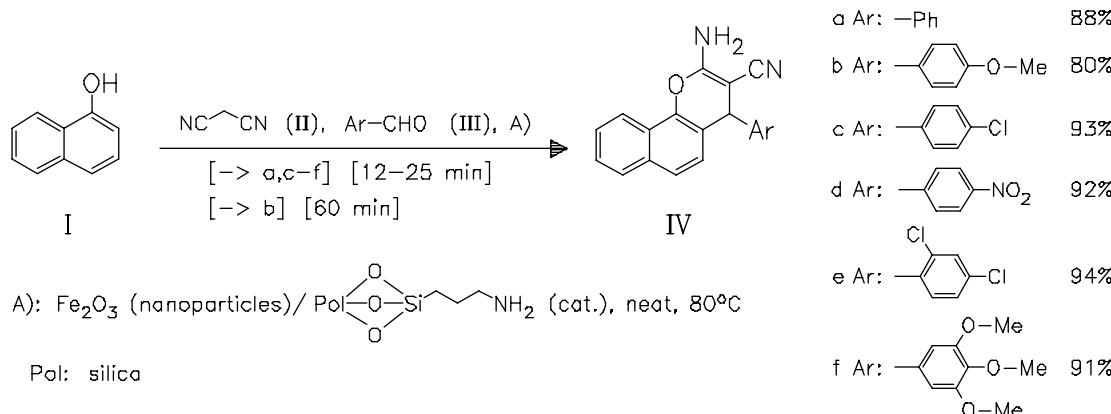


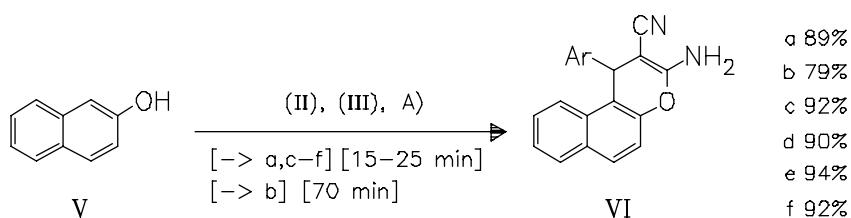
Benzopyran derivatives

R 0350

25- 153

Basic Magnetic Nanoparticles as Efficient Catalysts for the Preparation of Naphthopyran Derivatives. — The amino-coated magnetic nanoparticles can be easily recovered by magnetic decantation and reused four times without significant loss of their catalytic activity. — (YARAHMADI, H.; SHATERIAN*, H. R.; J. Chem. Res. 36 (2012) 1, 49-51, <http://dx.doi.org/10.3184/174751912x13264750348839>; Dep. Chem., Fac. Sci., Sistan & Baluchestan Univ., Zahedan, Iran; Eng.) — C. Cyrus





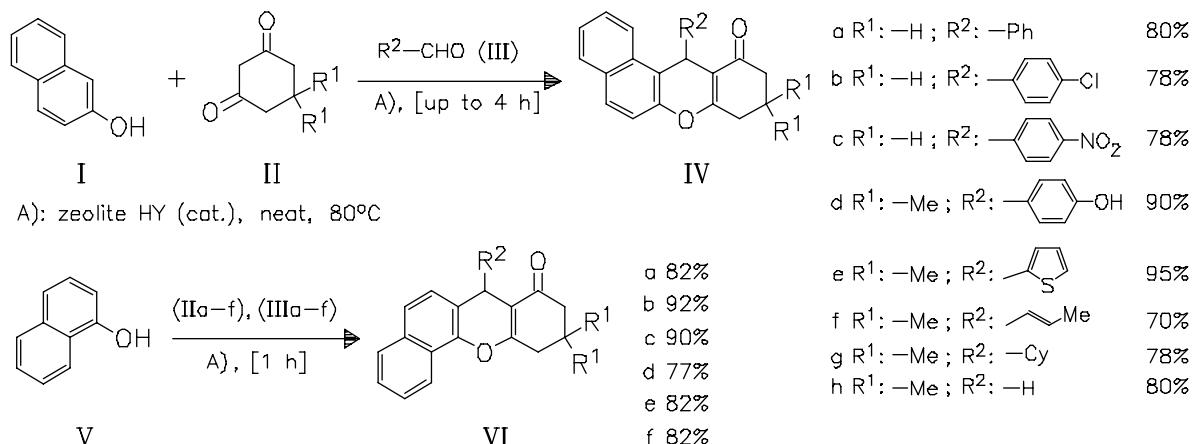
Xanthene derivatives

R 0360

DOI: 10.1002/chin.201225154

25- 154

A Multicomponent, Solvent-Free, One-Pot Synthesis of Benzoxanthenones Catalyzed by HY Zeolite: Their Antimicrobial and Cell Imaging Studies. — A simple and rapid procedure including naphthols (I) and (V) affords a broad spectrum of title compounds. The results concerning their activity are presented. — (RAMA, V.; KANAGARAJ, K.; PITCHUMANI*, K.; Tetrahedron Lett. 53 (2012) 9, 1018-1024, <http://dx.doi.org/10.1016/j.tetlet.2011.10.143>; Sch. Chem., Madurai Kamaraj Univ., Madurai 625 021, Tamil Nadu, India; Eng.) — Mais



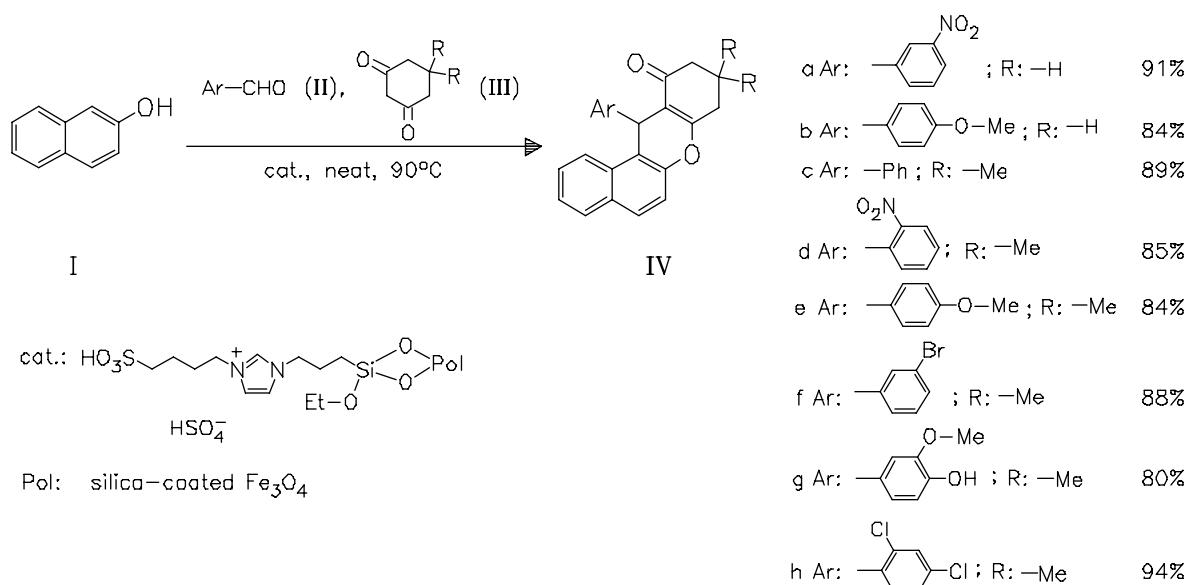
Xanthene derivatives

R 0360

DOI: 10.1002/chin.201225155

25- 155

A Magnetic Nanoparticle Supported Dual Acidic Ionic Liquid: A "Quasi-homogeneous" Catalyst for the One-Pot Synthesis of Benzoxanthenes. — The three-component condensation of naphthol (I), aldehyde (II), and dimedone (III) is catalyzed by action of a "quasi-homogeneous" catalyst, due to a combination of nano-support features and flexible imidazolium linkers. The active sites of the magnetic nanoparticle supported dual acidic ionic liquid are more free and have good "solubility" in the reaction system to facilitate the condensation. The catalyst can be separated by use of a magnetic force and reused without any significant loss of activity after six runs. — (ZHANG, Q.; SU, H.; LUO*, J.; WEI, Y.; Green Chem. 14 (2012) 1, 201-208, <http://dx.doi.org/10.1039/c1gc16031a>; Sch. Chem. Eng., Nanjing Univ. Sci. Technol., Nanjing 210094, Peop. Rep. China; Eng.) — H. Hoennerscheid

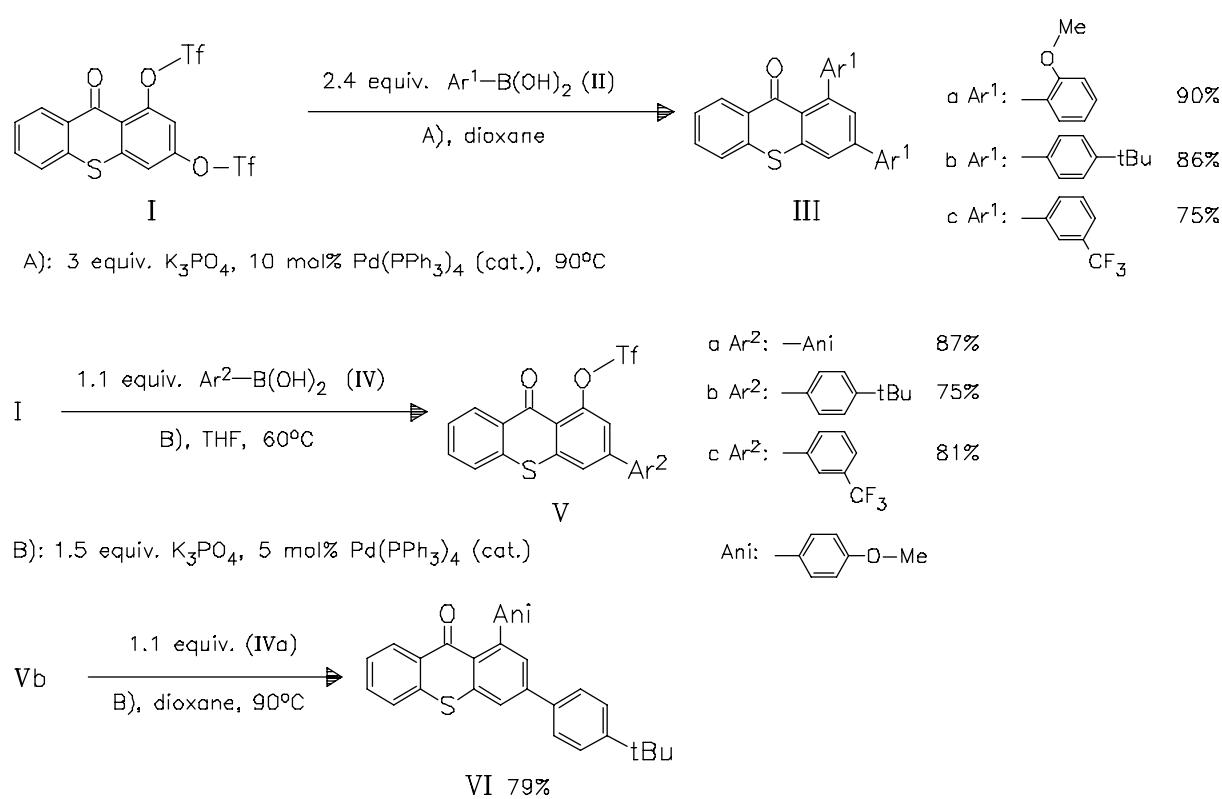


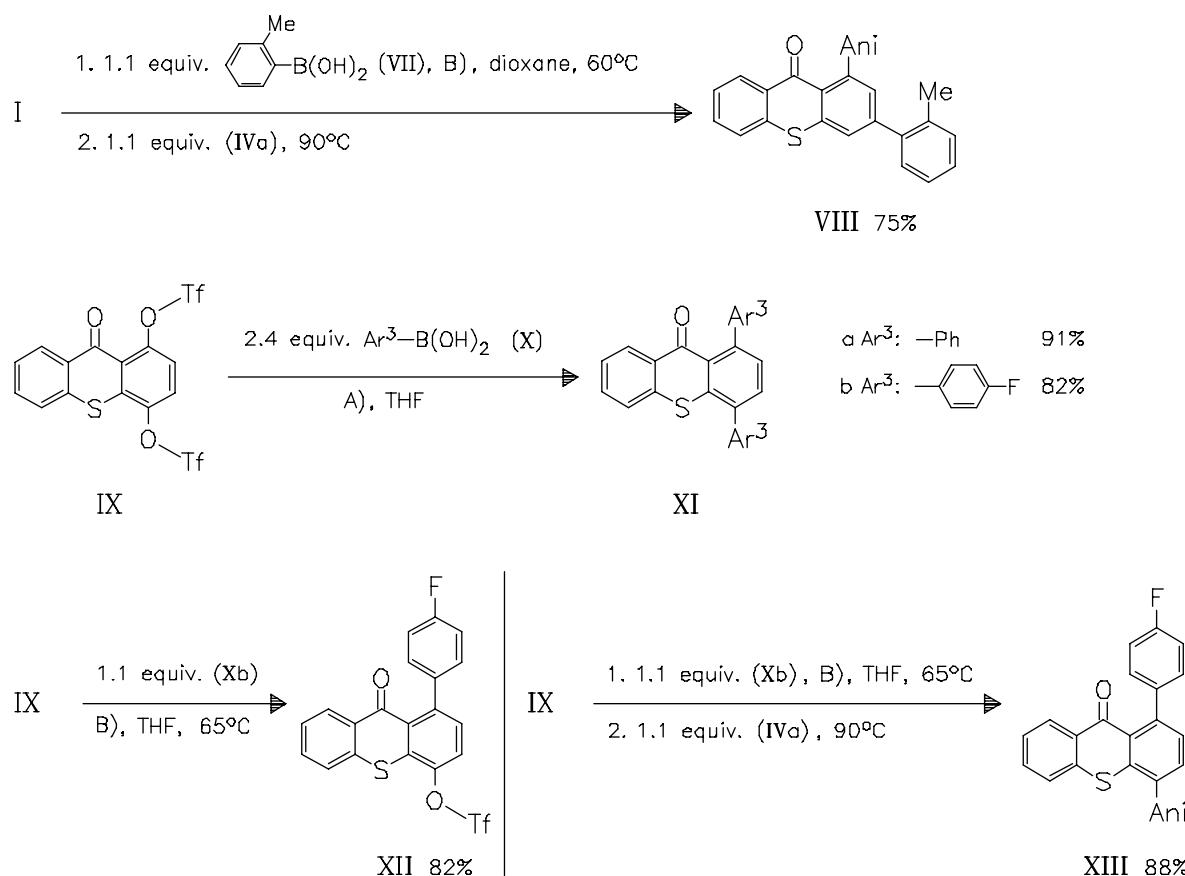
Thiopyran derivatives
R 0370

DOI: 10.1002/chin.201225156

25- 156

Suzuki—Miyaura Reactions of the Bis(triflates) of 1,3- and 1,4-Dihydroxythioxanthone. Electronic and Steric Effects on the Site-Selectivity. — A convenient and regioselective method for the synthesis of a variety of arylated thioxanthones is presented. — (ZINAD, D. S.; FEIST, H.; VILLINGER, A.; LANGER*, P.; Tetrahedron 68 (2012) 2, 711-721, <http://dx.doi.org/10.1016/j.tet.2011.10.095>; Inst. Chem., Univ. Rostock, D-18059 Rostock, Germany; Eng.) — C. Gebhardt





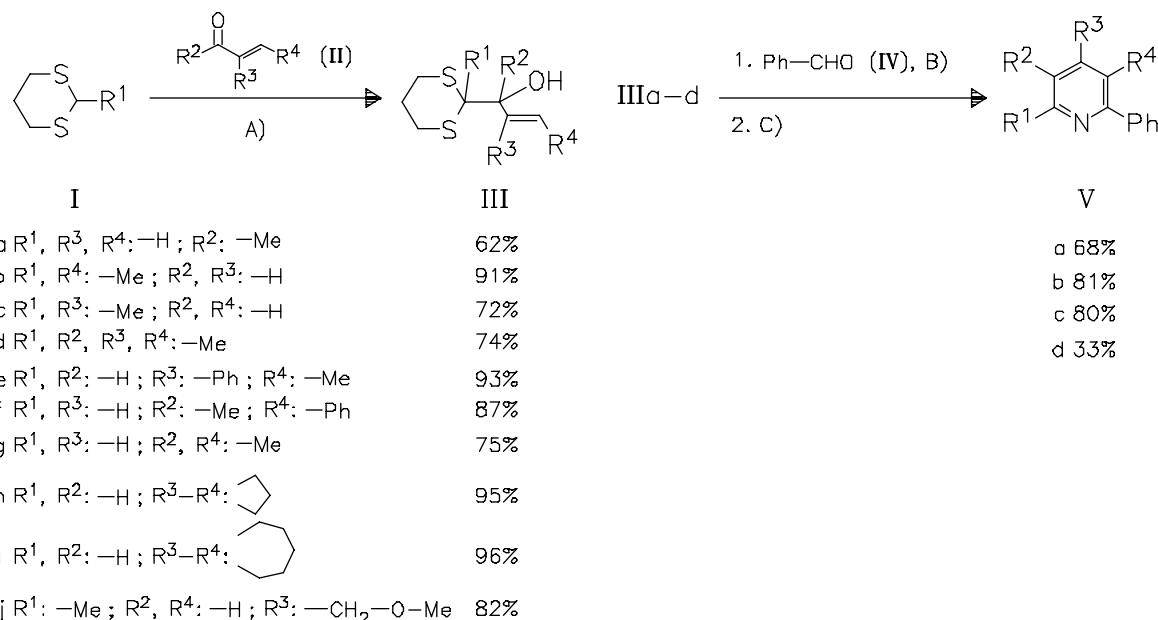
Pyridine derivatives

R 0380

25- 157

DOI: 10.1002/chin.201225157

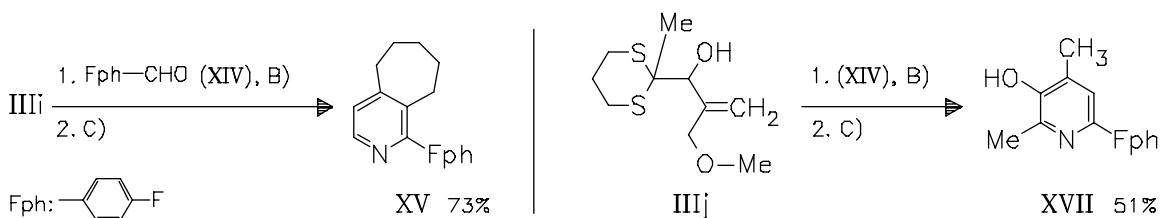
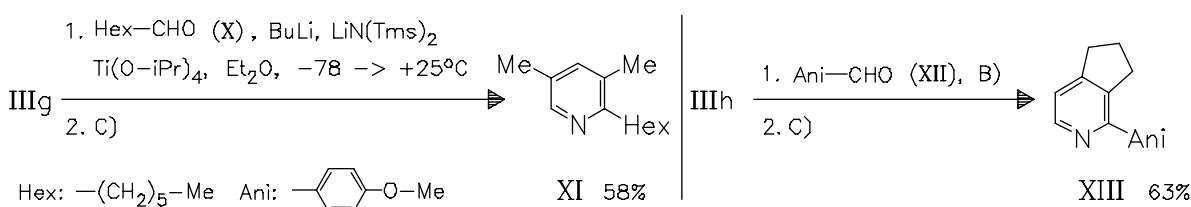
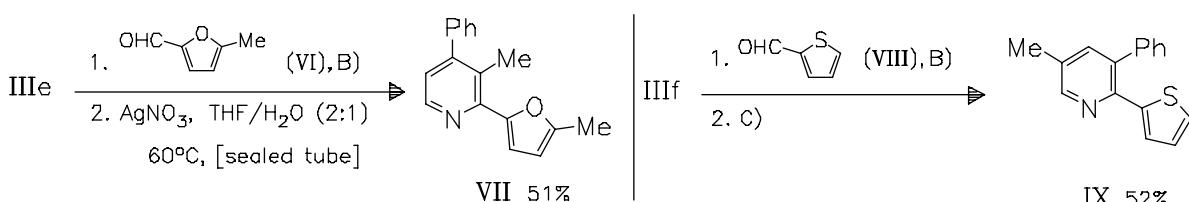
Three-Component Coupling Sequence for the Regiospecific Synthesis of Substituted Pyridines. — The de novo synthesis proceeds through the nucleophilic addition of a dithiane anion to an α,β -unsaturated aldehyde or ketone, followed by the Ti-mediated carbometalation of the lithium alkoxides derived from the resulting alcohols (III) with Tms-imines (generated *in situ* by the low-temperature reaction of $\text{LiN}(\text{Tms})_2$ with an aldehyde), and the $\text{Hg}(\text{II})$ - or $\text{Ag}(\text{I})$ -mediated ring closure. — (CHEN, M. Z.; MICALIZIO*, G. C.; J. Am. Chem. Soc. 134 (2012) 2, 1352-1356, <http://dx.doi.org/10.1021/ja2105703>; Dep. Chem., Scripps Res. Inst., Jupiter, FL 33458, USA; Eng.) — Klein



A): BuLi, THF, -20 → -78°C

B): BuLi, LiN(Tms)₂, Ti(O-iPr)₄, -MgCl, Et₂O, -78 > +25°C

C): HgO, $\text{BF}_3 \cdot \text{OEt}_2$, 1N aq. HCl, THF, 100°C, [sealed tube]



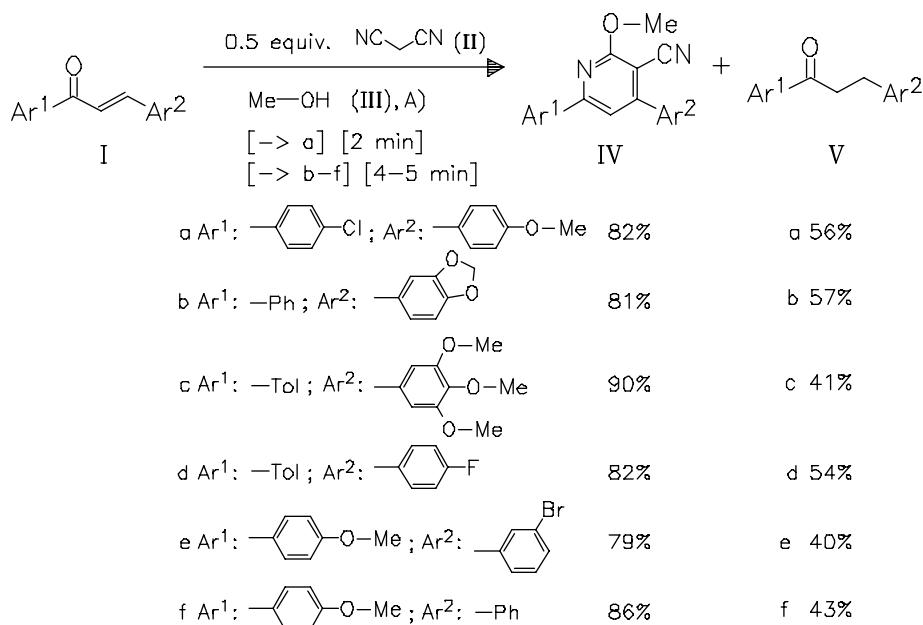
Pyridine derivatives

R 0380

25- 158

Synthesis of Polysubstituted Pyridines under Combined Microwave and Ultrasound Irradiation: K_2CO_3 -Promoted Tandem Addition/Cyclization/Hydrogen Shift Process.

The multicomponent reaction, efficiently achieved under optimized conditions A), allows an interesting access to pyridine structures of type (IV). — (FENG, H.; LI, Y.; VAN DER EYCKEN, E. V.; PENG, Y.; SONG*, G.; *Tetrahedron Lett.* 53 (2012) 9, 1160-1162, <http://dx.doi.org/10.1016/j.tetlet.2011.12.103>; Shanghai Key Lab. Chem. Biol., East China Univ. Sci. Technol., Shanghai 200237, Peop. Rep. China; Eng.) — Mais



A): 1.5 equiv. K_2CO_3 , microwaves (100 W), ultrasound (50 W), neat, reflux

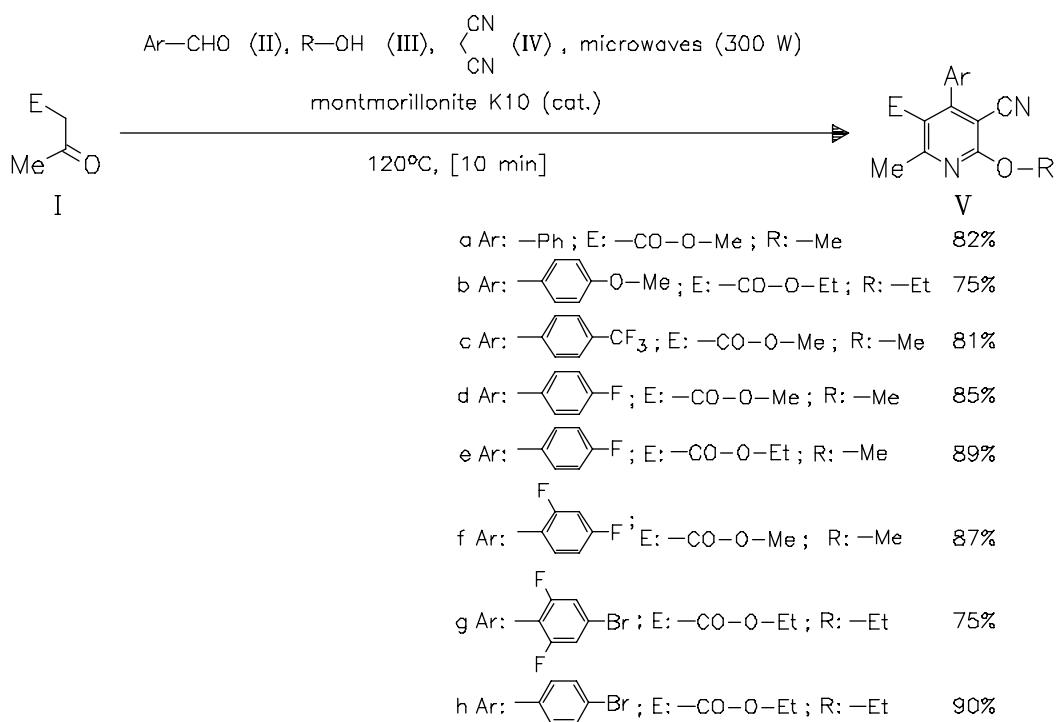
Pyridine derivatives

R 0380

25- 159

Montmorillonite K-10 Mediated Green Synthesis of Cyano Pyridines: Their Evaluation as Potential Inhibitors of PDE4.

Functionalized cyanopyridines (V) (18 examples) are efficiently obtained in a chemo- and regioselective four-component reaction of β -keto ester, arylaldehyde, malononitrile, and an alcohol using montmorillonite K10 as efficient and reusable catalyst. Some of the cyanopyridines synthesized show PDE4 inhibitory activity in vitro and good interactions with PDE4B protein in silico. — (REDDY, T. R.; REDDY, G. R.; REDDY, L. S.; JAMMULA, S.; LINGAPPA, Y.; KAPAVARAPU, R.; MEDA, C. L. T.; PARSA, K. V. L.; PAL*, M.; *Eur. J. Med. Chem.* 48 (2012) 265-274, <http://dx.doi.org/10.1016/j.ejmech.2011.12.024>; Inst. Life Sci., Univ. Hyderabad, Hyderabad 500 046, India; Eng.) — H. Toeppel



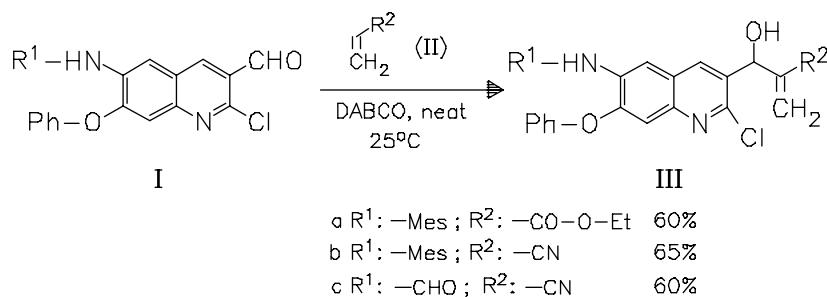
Quinoline derivatives

R 0410

DOI: 10.1002/chin.201225160

25- 160

Design and Synthesis of Novel Cytotoxic Agents Based on Combined Framework of Quinoline and Nimesulide. — Among a variety of nimesulide-derived Morita—Baylis—Hillman adducts (III), derivative (IIIc) shows the highest in vitro activity against human prostate cancer cell lines. — (REDDY, L. V.; KETHAVATH, M.; NAKKA, M.; BEEVI, S. S.; MANGAMOORI, L. N.; MUKKANTI, K.; PAL*, S.; J. Heterocycl. Chem. 49 (2012) 1, 80–87, <http://dx.doi.org/10.1002/jhet.801>; Dep. Chem., MNR Postgrad. Coll., Kukupally, Hyderabad 500 072, India; Eng.) — G. Mueller

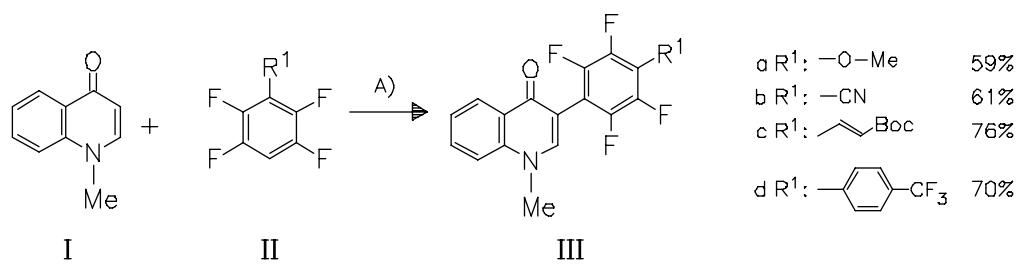


Quinoline derivatives

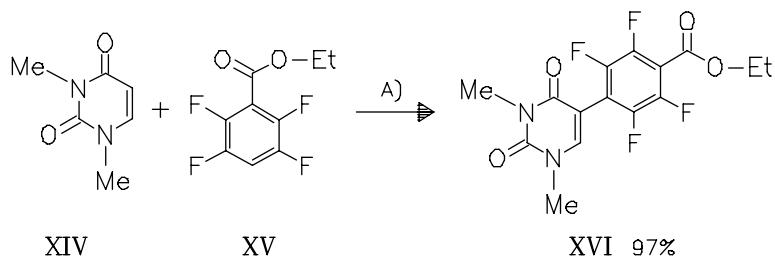
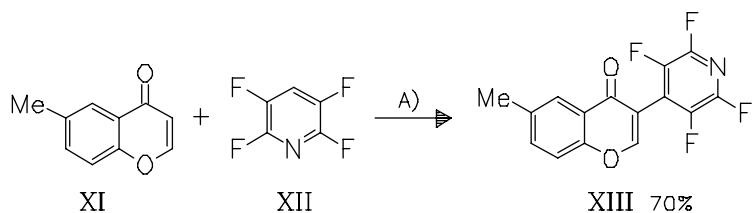
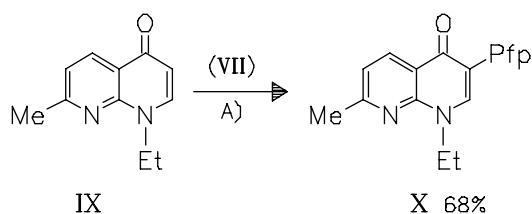
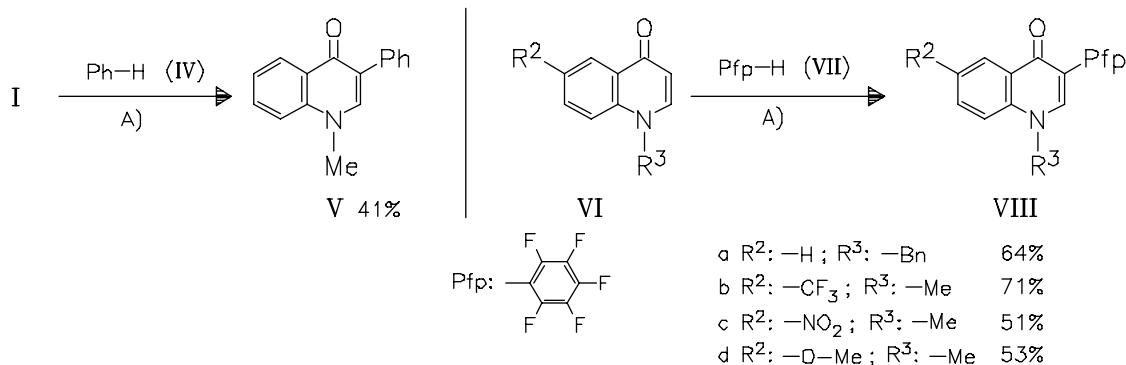
R 0410

25- 161

Pd-Catalyzed Dehydrogenative Cross-Coupling of Polyfluoroarenes with Heteroatom-Substituted Enones.— This reaction provides a rapid access to a wide range of α -fluoroarylated enones, which are of interest in life science. — (CHEN, F.; FENG, Z.; HE, C.-Y.; WANG, H.-Y.; GUO, Y.-L.; ZHANG*, X.; Org. Lett. 14 (2012) 4, 1176-1179, <http://dx.doi.org/10.1021/o1300240k>; State Key Lab. Organofluorine Chem., Shanghai Inst. Org. Chem., Chin. Acad. Sci., Shanghai 200032, Peop. Rep. China; Eng.) — Bartels



A): iPr-S-iPr, Ag₂CO₃, Pd(O-Ac)₂ (cat.), dioxane, 140°C

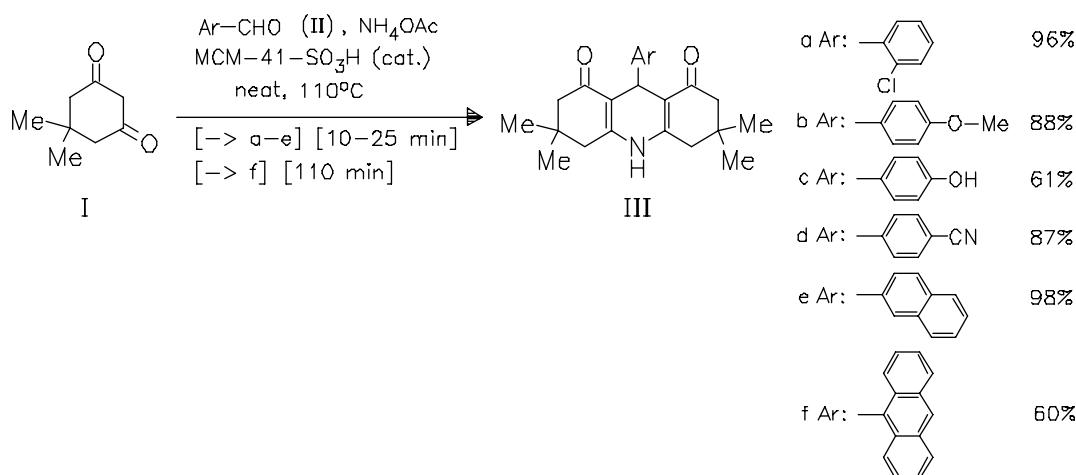


Acridine derivatives

R 0430

25- 162

MCM-41-SO₃H as a Nanoreactor for the One-Pot, Solvent-Free Synthesis of 1,8-Dioxo-9-aryl Decahydroacridines. — Cyclocondensation of dimedone (I) with aromatic aldehydes and ammonium acetate proceeds in short reaction times with high yields in the presence of MCM-41-SO₃H catalyst. — (ROSTAMIZADEH*, S.; AMIRAHMADI, A.; SHADJOU, N.; AMANI, A. M.; J. Heterocycl. Chem. 49 (2012) 1, 111-115, <http://dx.doi.org/10.1002/jhet.692>; Dep. Chem., K. N. Toosi Univ. Technol., Tehran, Iran; Eng.) — G. Mueller

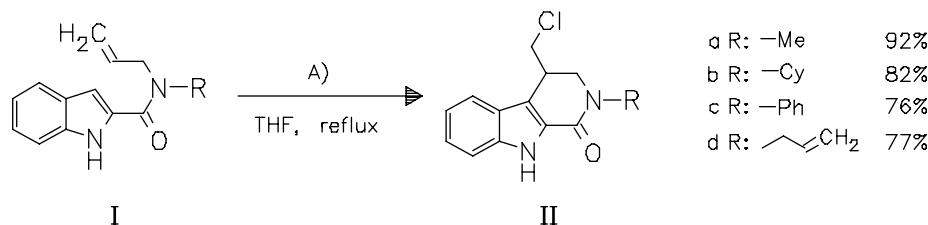


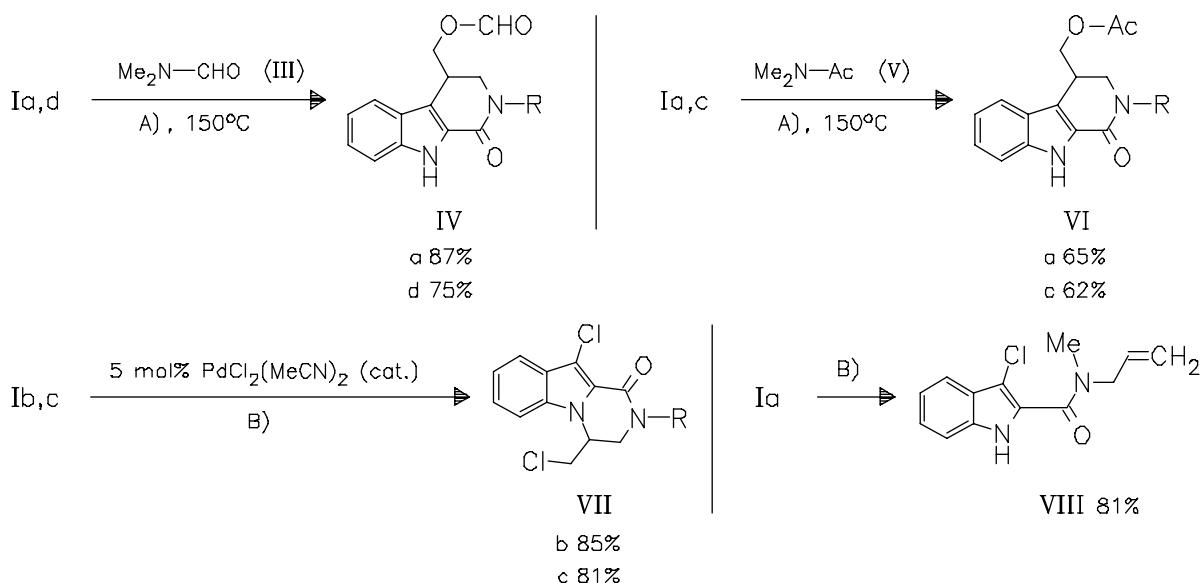
Fused pyridine derivatives

R 0450

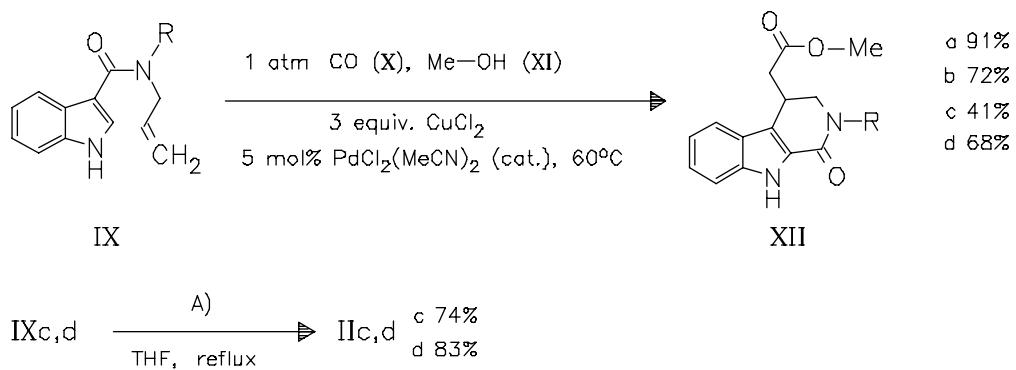
25- 163

Palladium(II)/Copper Halide/Solvent Combination for Selective Intramolecular Domino Reactions of Indolecarboxylic Acid Allylamides: An Unprecedented Arylation/Esterification Sequence. — Indolylallylamides (I) and (IX) undergo intramolecular oxidation reactions in the presence of PdCl₂(MeCN)₂ and CuCl₂ to produce functionalized β-carbolinones (II). Using DMF or DMA, esterification and carboesterification result in formation of (IV) and acetates (VI), respectively. Chloro compounds are not observed under these conditions. Pyrazino[1,2-a]indole products (VII) are only formed from 2-indolylallylamides (I) by an unusual aminohalogenation/halogenation sequence. In the absence of the catalyst, chlorination proceeds instead to give (VIII). Formation of β-carbolinones (II) from allylamides (IX) proceeds via spiro intermediates. — (BROGGINI*, G.; BARBERA, V.; BECCALLI, E. M.; BORSINI, E.; GALLI, S.; LANZA, G.; ZECCHI, G.; Adv. Synth. Catal. 354 (2012) 1, 159-170, <http://dx.doi.org/10.1002/adsc.201100614>; Dip. Sci. Chim. Ambientali, Univ. Insubria, I-22100 Como, Italy; Eng.) — S. Adam

A): 3 equiv. CuCl₂, 5 mol% PdCl₂(MeCN)₂ (cat.)



B): 5 equiv. CuCl₂, 1 equiv. K₂CO₃, MeCN, reflux



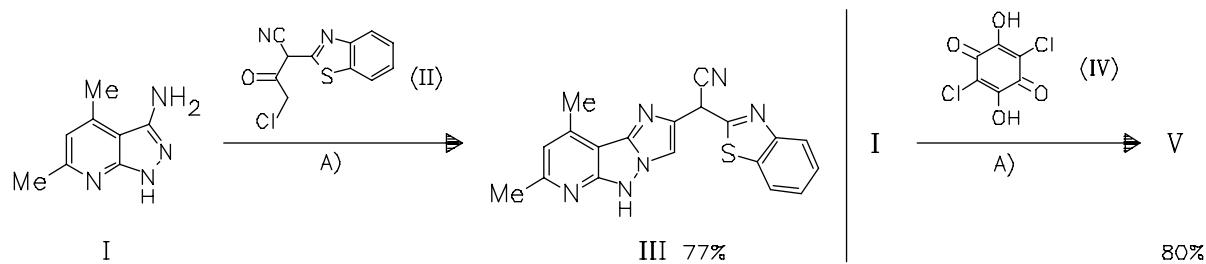
Fused pyridine derivatives R 0450

DOI: 10.1002/chin.201225164

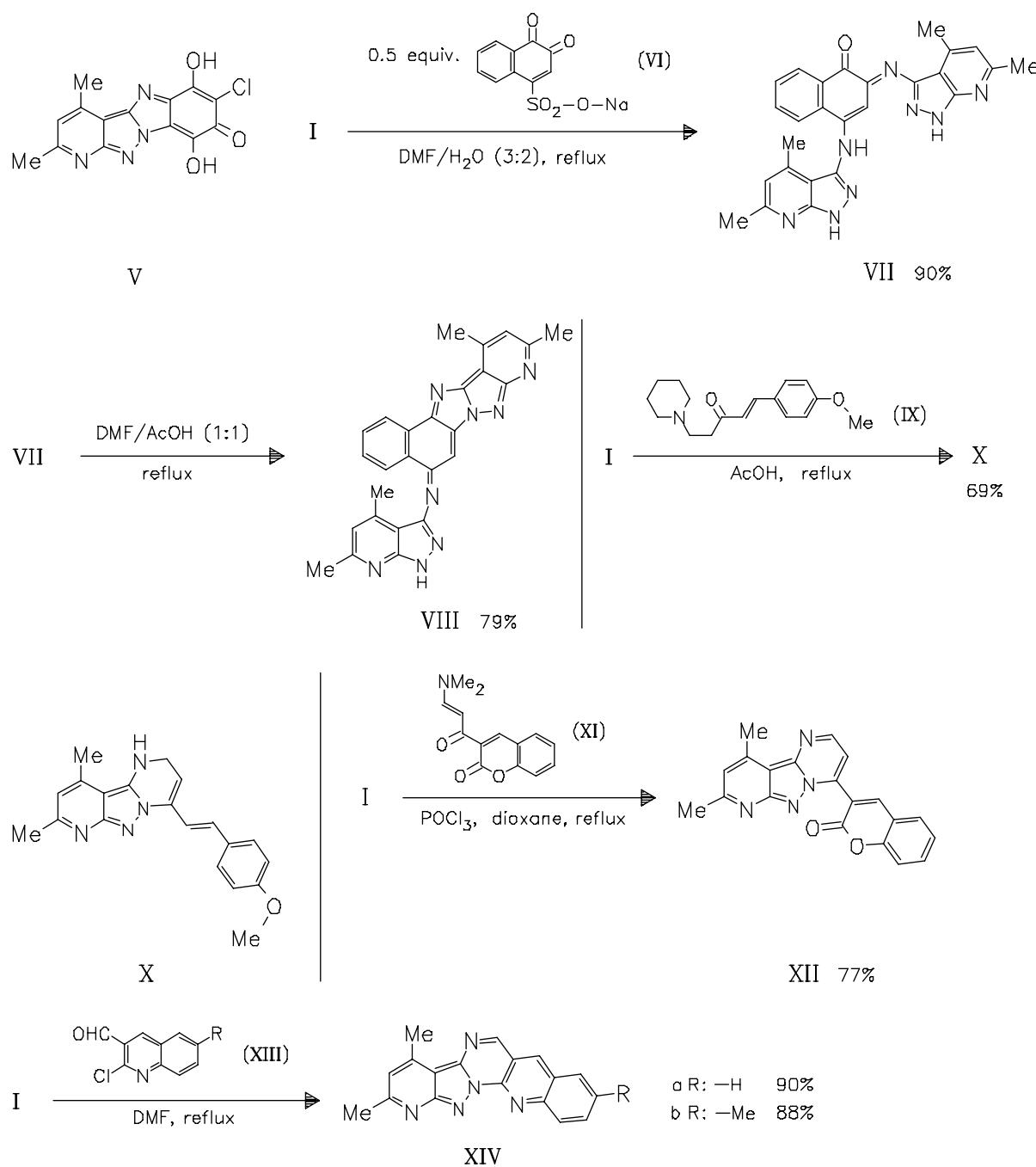
25- 164

Synthesis and Antioxidant Evaluation of Some New Pyrazolopyridine Derivatives.

— A variety of new fused heterocycles containing pyrazolopyridine systems are synthesized starting from enamine (I). Compounds (I), (III), (V) and (X) show moderate to high antioxidant activity, and compounds (I), (VII), (VIII) (XII) and (XIV) are shown to have the ability to protect DNA from the damage induced by bleomycin. — (GOUDA, M. A.; Arch. Pharm. (Weinheim, Ger.) 345 (2012) 2, 155-162, <http://dx.doi.org/10.1002/ardp.201100171>; Fac. Sci., Mansoura Univ., Mansoura 35516, Egypt; Eng.) — R. Langenstrassen



A): DMF/AcOH (10:1), reflux



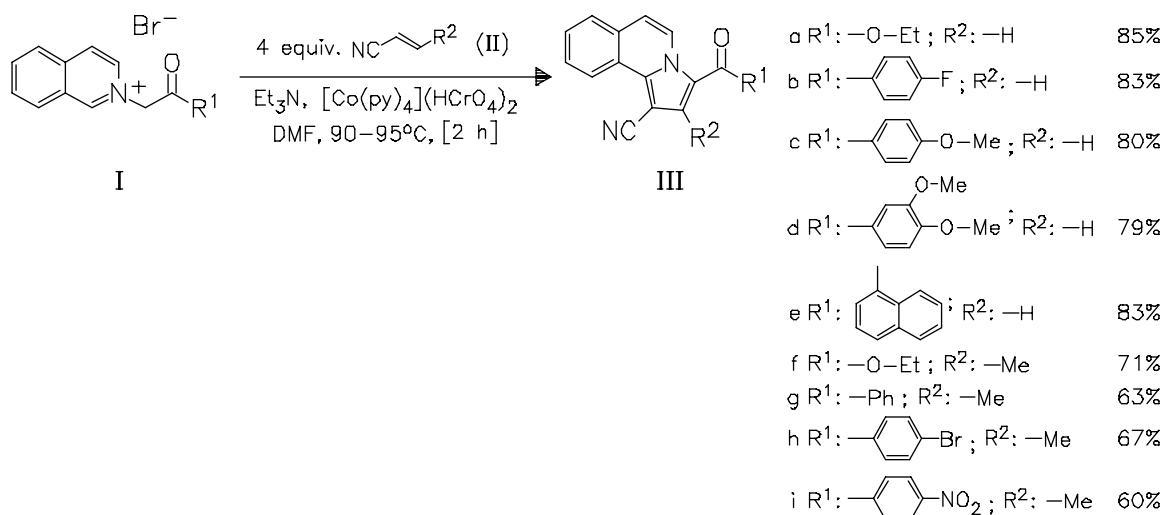
Fused pyridine derivatives

R 0450

25- 165

DOI: 10.1002/chin.201225165

Pyrrolo[2,1-a]isoquinoline Derivatives via 1,3-Dipolar Cycloaddition of Isoquinolinium N-Ylides (II). — (GEORGESCU, E.; DUMITRESCU, D.; GEORGESCU, F.; DRAGHICI, C.; DUMITRASCU*, F.; Rev. Roum. Chim. 56 (2011) 7, 691-695; Nenitzescu Cent. Org. Chem., Roum. Acad., RO-060023 Bucharest, Rom.; Eng.) — R. Langenstrassen



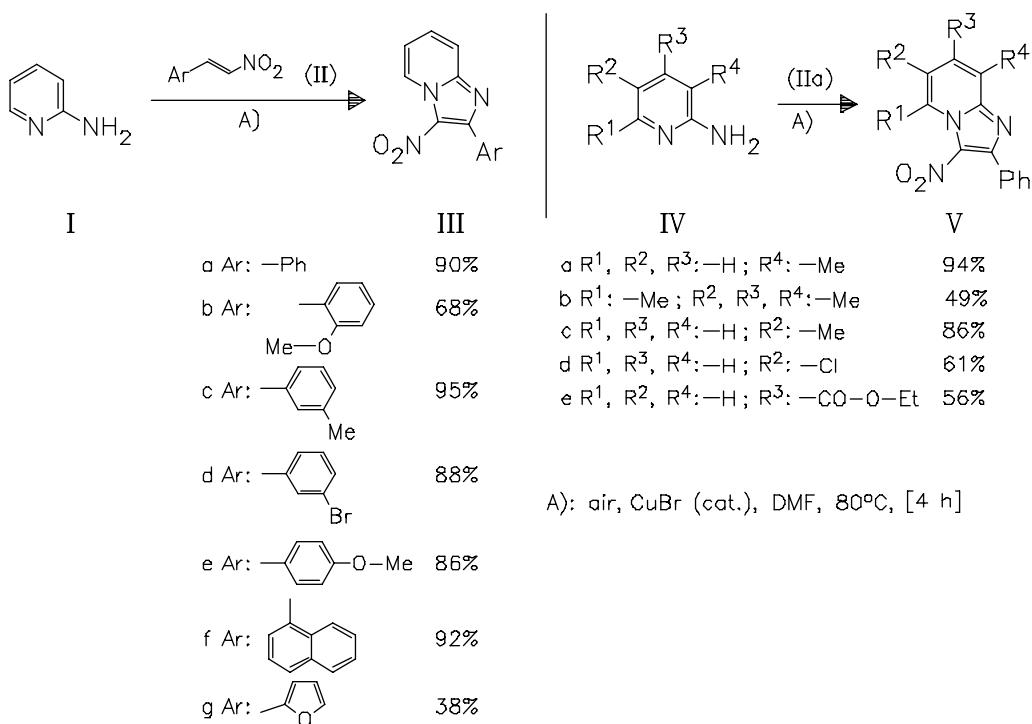
Fused pyridine derivatives

R 0450

DOI: 10.1002/chin.201225166

25- 166

Cu(I)-Catalyzed Synthesis of Imidazo[1,2-a]pyridines from Aminopyridines and Nitroolefins Using Air as the Oxidant. — (YAN*, R.-L.; YAN, H.; MA, C.; REN, Z.-Y.; GAO, X.-A.; HUANG*, G.-S.; LIANG, Y.-M.; *J. Org. Chem.* 77 (2012) 4, 2024–2028, <http://dx.doi.org/10.1021/jo202447p>; State Key Lab. Appl. Org. Chem., Lanzhou Univ., Lanzhou, Gansu 730000, Peop. Rep. China; Eng.) — Jannicke

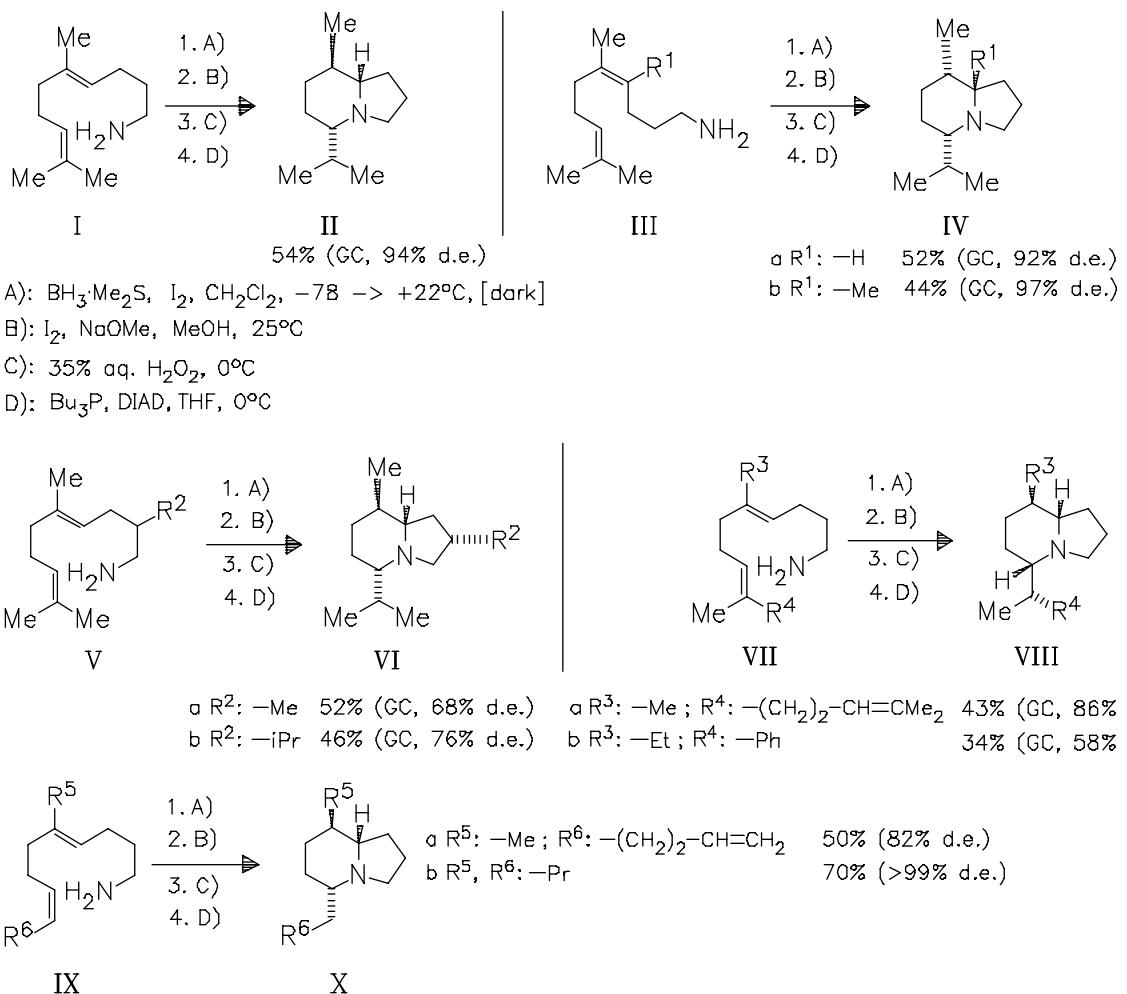


Fused pyridine derivatives
R 0450

DOI: 10.1002/chin.201225167

25- 167

A Stereoselective Hydroamination Transform to Access Polysubstituted Indolizidines. — The indolizines are accessed from simple dieneamines by an intramolecular, diastereo-, regio-, and chemoselective directed hydroboration/oxidative migration strategy. The syntheses of dart frog poison indolizines 207A (Xa) and 223J (Xb) via this method require less steps than previously reported routes. — (PRONIN, S. V.; TABOR, M. G.; JANSEN, D. J.; SHENVI*, R. A.; J. Am. Chem. Soc. 134 (2012) 4, 2012-2015, <http://dx.doi.org/10.1021/ja211090n>; Dep. Chem., Scripps Res. Inst., San Diego, La Jolla, CA 92037, USA; Eng.) — Klein

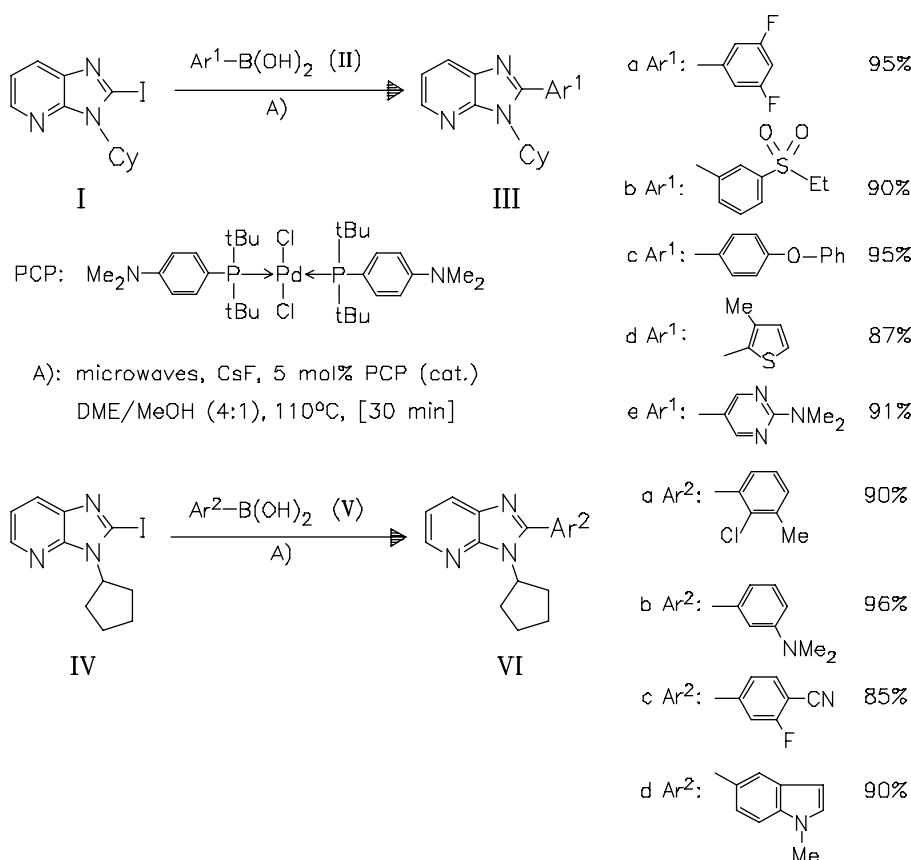


Fused pyridine derivatives
R 0450

DOI: 10.1002/chin.201225168

25- 168

Microwave-Enhanced Suzuki Coupling: A Diversity-Oriented Approach to the Synthesis of Highly Functionalized 3-Substituted-2-aryl/heteroaryl Imidazo[4,5-b]pyridines. — A modified approach using (A^{-ta} phos) $2PdCl_2$ as optimal catalyst allows the synthesis of various title compounds from iodo precursors (I) and (IV) for medicinal studies. — (SAJITH, A. M.; MURALIDHARAN*, A.; Tetrahedron Lett. 53 (2012) 9, 1036-1041, <http://dx.doi.org/10.1016/j.tetlet.2011.12.051>; Sch. Chem. Sci., Kannur Univ., Kannur 670 327, Kerala, India; Eng.) — Mais



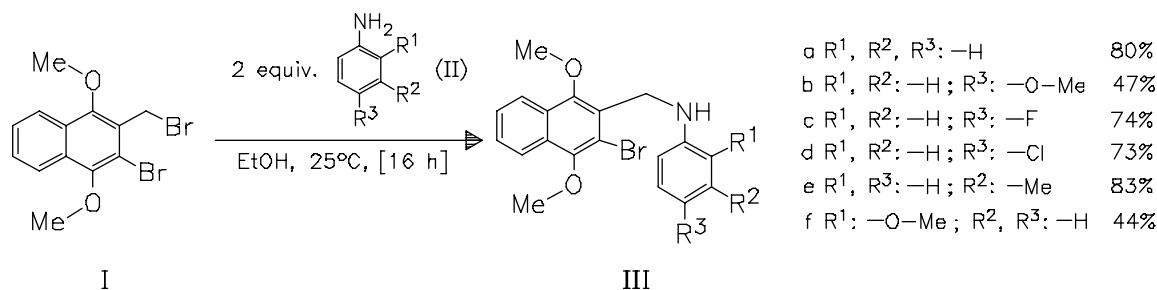
Fused pyridine derivatives

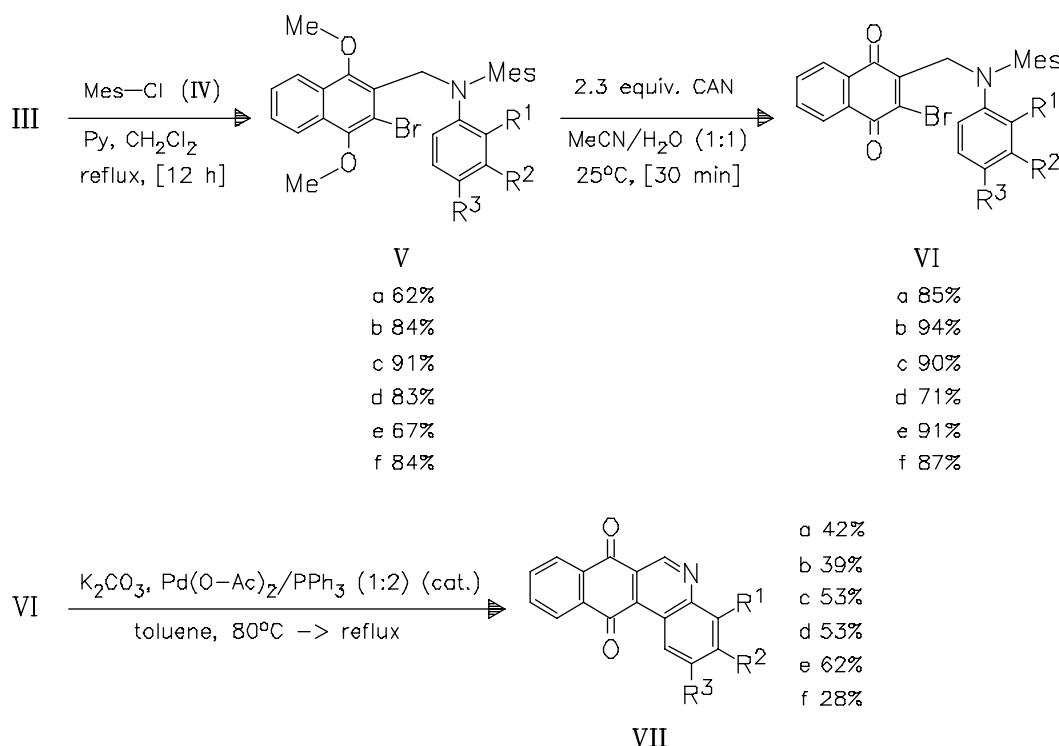
R 0450

DOI: 10.1002/chin.201225169

25- 169

Straightforward Palladium-Mediated Synthesis and Biological Evaluation of Benzo[j]phenanthridine-7,12-diones as Antituberculosis Agents. — A variety of benzo[*j*]phenanthridines (**VII**) (8 examples) is prepared by palladium-catalyzed intramolecular cyclization of bromides (**VI**). Derivatives (**VII**) demonstrate antimicrobial activity against *Mycobacterium tuberculosis* at micromolar to submicromolar concentration. Dione (**VIIe**) shows the strongest antitubercular activity and lowest cytotoxicity among the compounds tested. — (HUYGEN*, K.; et al.; Eur. J. Med. Chem. 48 (2012) 57-68, <http://dx.doi.org/10.1016/j.ejmech.2011.11.033>; Serv. Immunol., O.D. Commun. Infect. Dis., Sci. Inst. Publ. Health, B-1180 Ukkel, Belg.; Eng.) — R. Staver





Fused pyridine derivatives

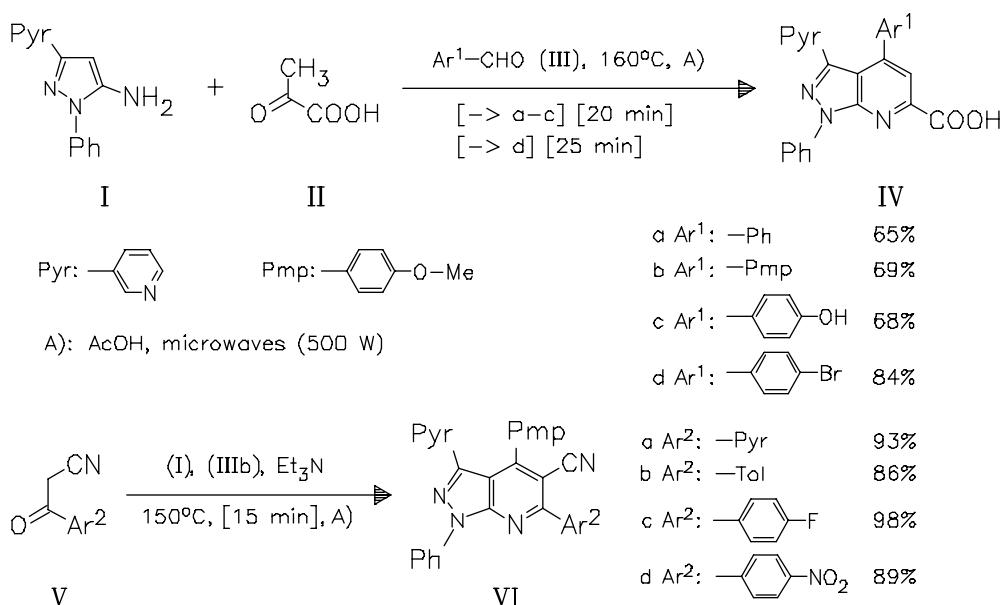
R 0450

DOI: 10.1002/chin.201225170

25- 170

Synthesis of Pyrazolo[3,4-b]pyridines under Microwave Irradiation in Multi-Component Reactions and Their Antitumor and Antimicrobial Activities. Part 1.

— Most synthesized compounds (IV) and (VI) exhibit antimicrobial activity, while compounds (VIa) and (VIc) show significant activity against HEPG2 human liver cancer cell line. — (EL-BORAI, M. A.; RIZK*, H. F.; ABD-AAL, M. F.; EL-DEEB, I. Y.; Eur. J. Med. Chem. 48 (2012) 92–96, <http://dx.doi.org/10.1016/j.ejmech.2011.11.038>; Dep. Chem., Fac. Sci., Tanta Univ., Tanta 31527, Egypt; Eng.) — K. Woydowski

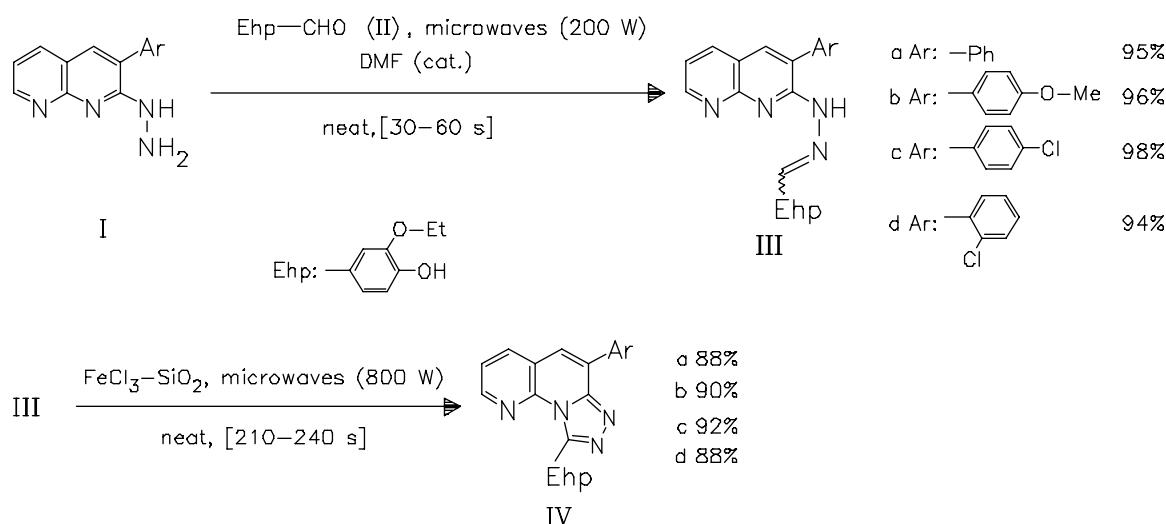


Fused pyridine derivatives

R 0450

25- 171

Synthesis of 6-Aryl-9-(4-hydroxy-3-ethoxyphenyl)-1,2,4-triazolo[4,3-a][1,8]naphthyridines (IV) under Microwave Irradiation. — (MOGILAIAH*, K.; JAGADEESHWAR, K.; RAO, A. N.; Indian J. Chem., Sect. B: Org. Chem. Incl. Med. Chem. 51 (2012) 2, 398-401; Dep. Chem., Kakatiya Univ., Warangal 506 009, India; Eng.) — H. Toeppel

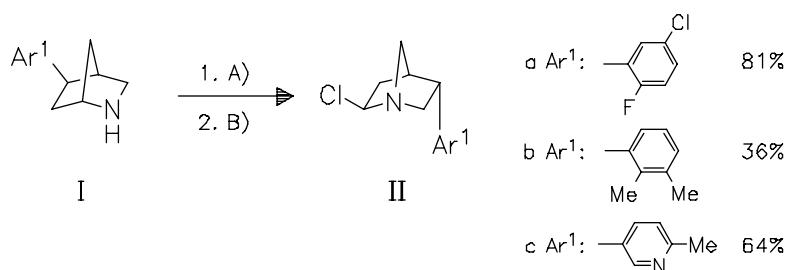


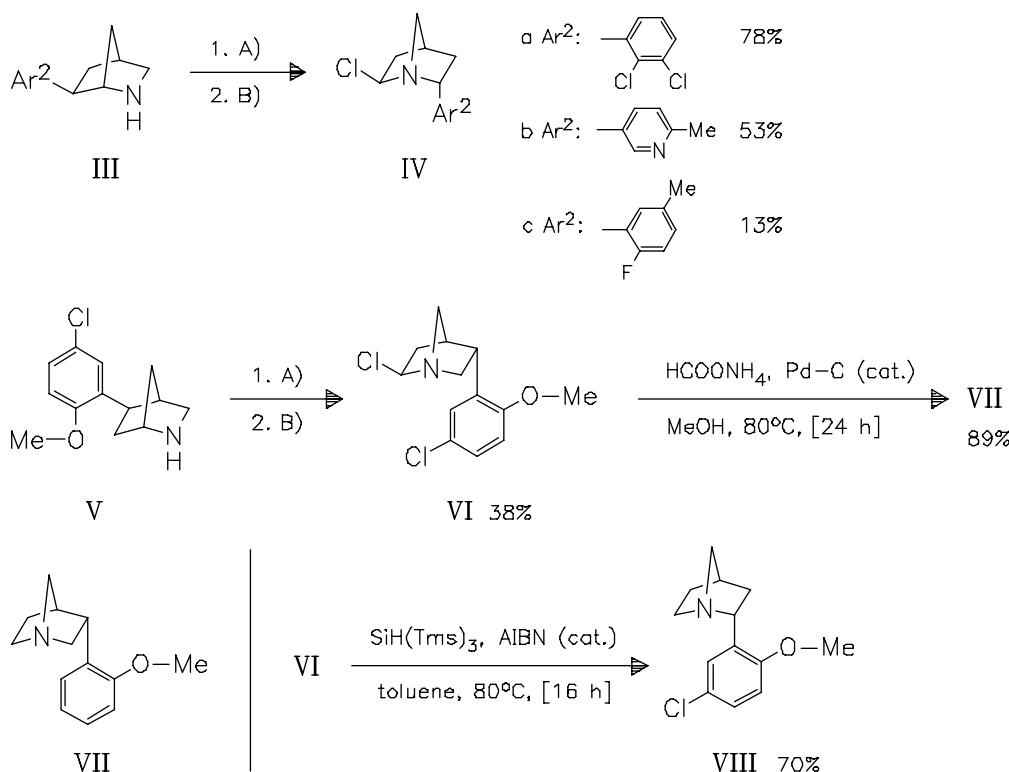
Pyridine derivatives with bridges

R 0460

25- 172

Substituted Azabicyclo[2.2.1]heptanes via Nitrenium Ion Rearrangement. — N-Chlorination of exo-arylated bicyclic substrates and subsequent AgNO_3 -mediated nitrenium ion rearrangement produces endo-arylated products, which represent the skeleton of pharmaceutically important alkaloid systems. Dehalogenation of (VI) via transfer hydrogenation causes overreduction, whereas radical dechlorination affords the expected product (VIII). — (PIOTROWSKI*, D. W.; ROLPH, M.; WEI, L.; Tetrahedron Lett. 53 (2012) 9, 1009-1012, <http://dx.doi.org/10.1016/j.tetlet.2011.12.065>; Pfizer Global Res. Dev., Groton, CT 06340, USA; Eng.) — Mais

A): aq. NaOCl , $\text{Et}_2\text{O}/\text{tBuOH}$, -10°C , [up to 3 h]B): AgNO_3 , MeCN, 25°C



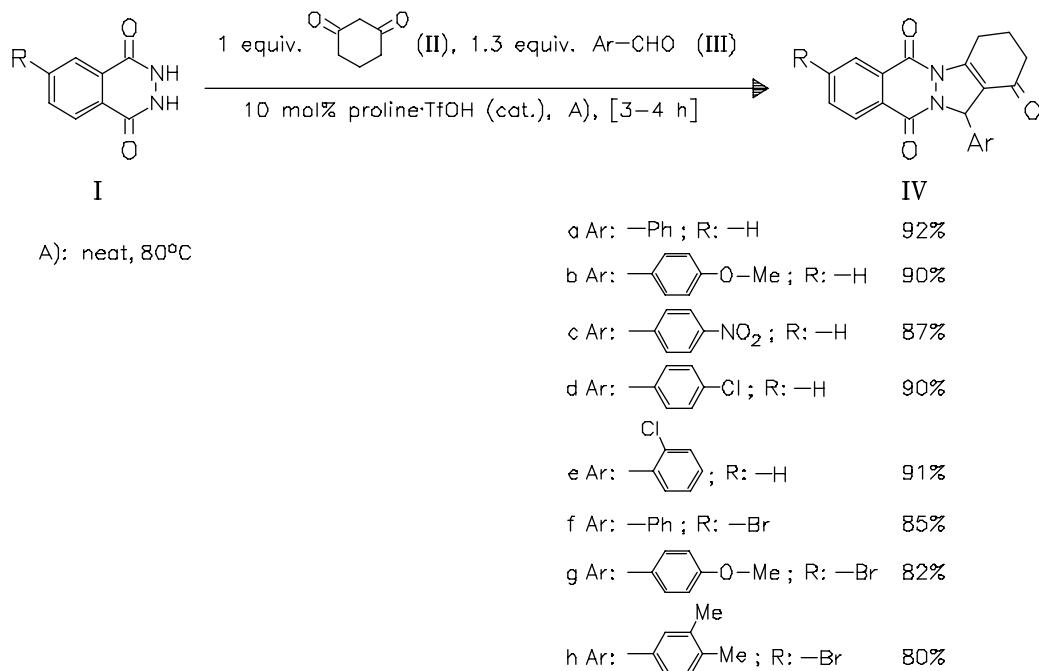
Pyridazine derivatives

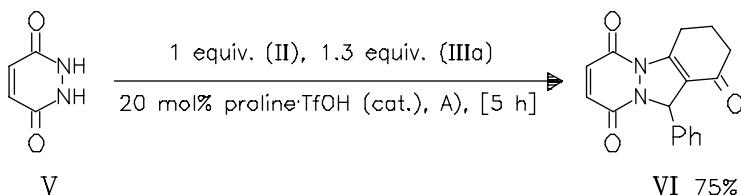
R 0500

DOI: 10.1002/chin.201225173

25- 173

Synthesis of 1*H*-Indazolo[2,1-*b*]phthalazine-triones Catalyzed by Proline Triflate under Solvent-Free Conditions. — (SHI, X.; LI, J.; ZHONG, W.; LI*, J.; *J. Chem. Res.* 36 (2012) 1, 17-20, <http://dx.doi.org/10.3184/174751912x13251821462738> ; Key Lab. Pharm. Eng. Minist. Educ., Coll. Pharm. Sci., Zhejiang Univ. Technol., Hangzhou 310014, Peop. Rep. China; Eng.) — C. Cyrus





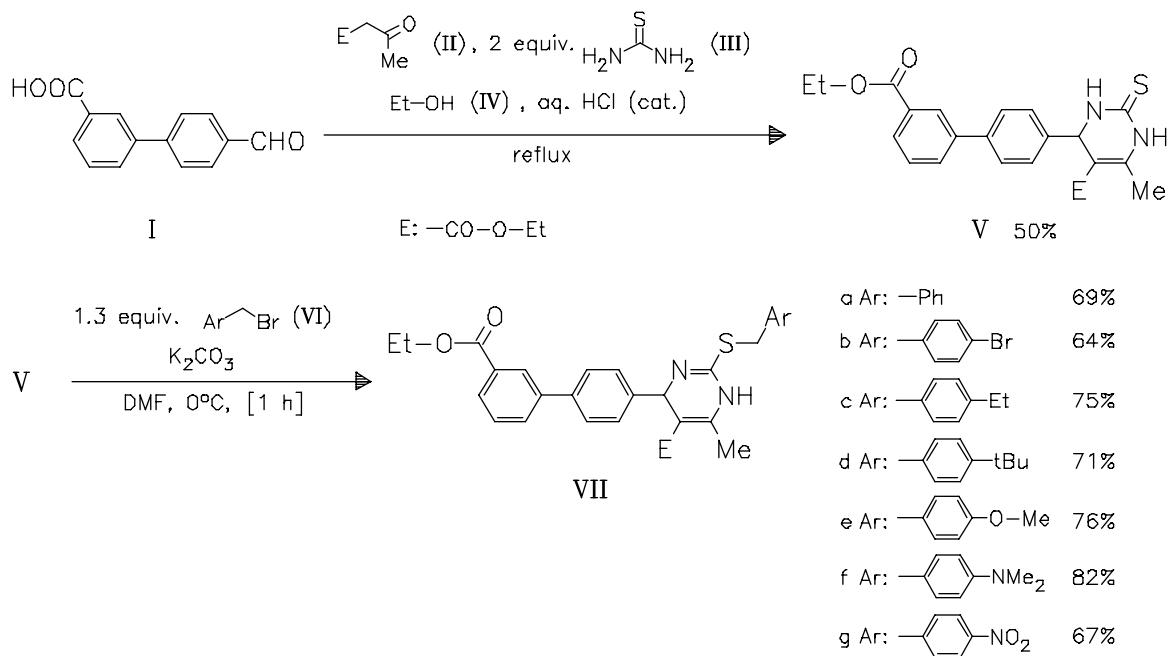
Pyrimidine derivatives

R 0510

DOI: 10.1002/chin.201225174

25- 174

Synthesis and Biological Activity of Ethyl 2-(Substituted benzylthio)-4-(3'-(ethoxycarbonyl)biphenyl-4-yl)-6-methyl-1,4-dihydropyrimidine-5-carboxylate Derivatives. — Title compounds (VII), synthesized starting from aldehyde (I) via a multicomponent reaction, are found to possess good to excellent antifungal (compared to amphotericin) and antibacterial (compared to ciprofloxacin) activity. — (MADDILA, S.; JONNALAGADDA*, S. B.; Arch. Pharm. (Weinheim, Ger.) 345 (2012) 2, 163-168, <http://dx.doi.org/10.1002/ardp.201100133>; Sch. Chem., Univ. KwaZulu-Natal, Durban 4041, S. Afr.; Eng.) — R. Langenstrassen



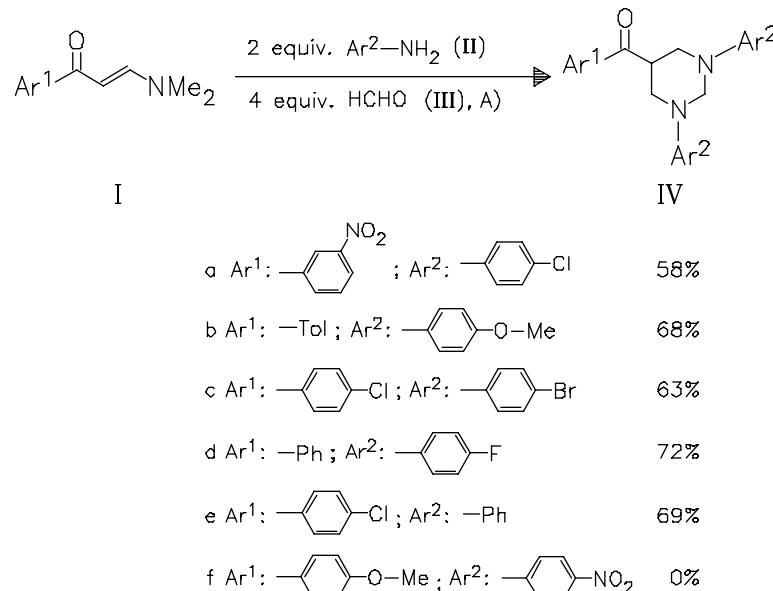
Pyrimidine derivatives

R 0510

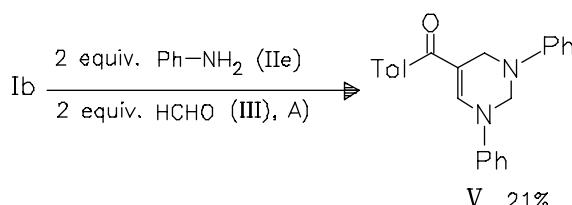
DOI: 10.1002/chin.201225175

25- 175

Facile Catalyst-Free Pseudo Five-Component Domino Reactions in the Expedient Synthesis of 5-Aroyl-1,3-diarylhexahydropyrimidines. — The reaction conditions are optimized, especially with respect to the stoichiometric ratio of the reactants. — (MUTHUSARAVANAN, S.; PERUMAL*, S.; ALMANSOUR, A. I.; Tetrahedron Lett. 53 (2012) 9, 1144-1148, <http://dx.doi.org/10.1016/j.tetlet.2011.12.097>; Dep. Org. Chem., Madurai Kamaraj Univ., Madurai 625 021, Tamil Nadu, India; Eng.) — Mais



A): DMF, 120°C, [5–6 h]



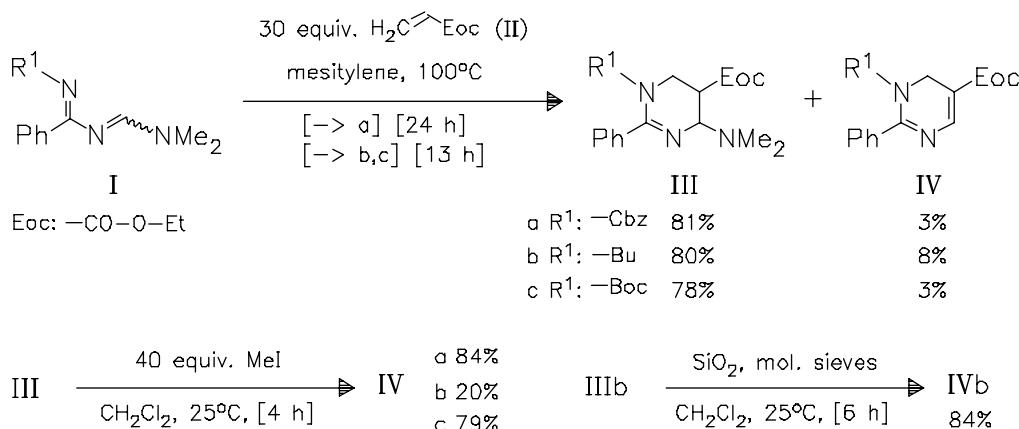
Pyrimidine derivatives

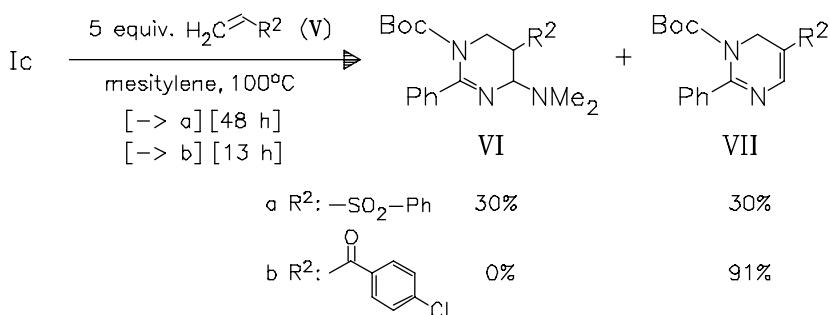
R 0510

DOI: 10.1002/chin.201225176

25- 176

Construction of Dihydropyrimidine Skeleton Using 1,2,4-Trisubstituted-1,3-diaza-1,3-butadienes.— Cyclization of substrates (**I**) with activated olefins results in formation of tetrahydropyrimidines together with varying ratios of 1,6-dihydropyrimidines. The elimination of the -NMe₂ group can be promoted by MeI or SiO₂. — (CHO*, H.; NISHIMURA, Y.; YASUI, Y.; YAMAGUCHI, M.; Tetrahedron Lett. 53 (2012) 9, 1177-1179, <http://dx.doi.org/10.1016/j.tetlet.2011.12.111>; Grad. Sch. Sci., Tohoku Univ., Aoba, Sendai 980, Japan; Eng.) — Mais





Pyrimidine derivatives

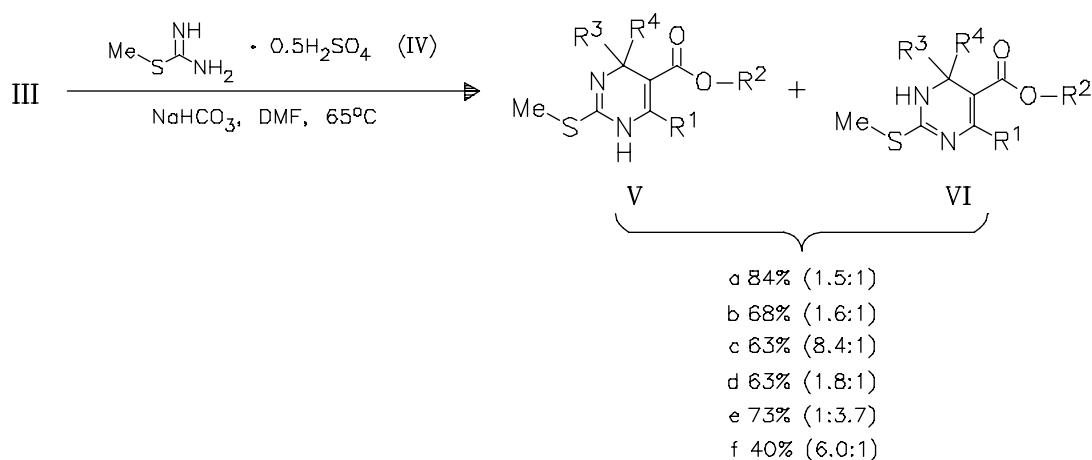
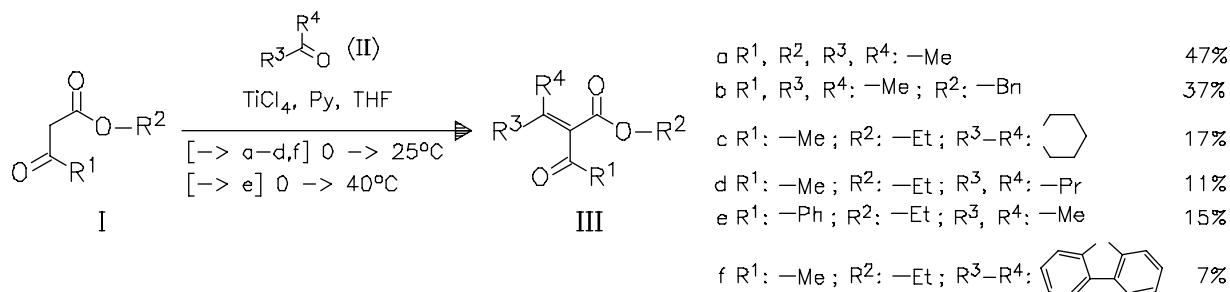
R 0510

DOI: 10.1002/chin.201225177

25- 177

Synthetic Studies on Novel 1,4-Dihydro-2-methylthio-4,4,6-trisubstituted Pyrimidine-5-carboxylic Acid Esters and Their Tautomers. — Title compounds (V) and (VI) are synthesized by Atwal—Biginelli cyclocondensation of oxoesters (III), obtained by the Lehnert procedure for the Knoevenagel-type condensation with S-methylisothiourea salt (IV). — (NISHIMURA*, Y.; OKAMOTO, Y.; IKUNAKA, M.; OHYAMA, Y.; Chem. Pharm. Bull. 59 (2011) 12, 1458–1466; Dep. Pharm. Chem., Fac. Pharm., Yasuda Women's Univ., Hiroshima 731, Japan; Eng.) —

R. Langenstrassen

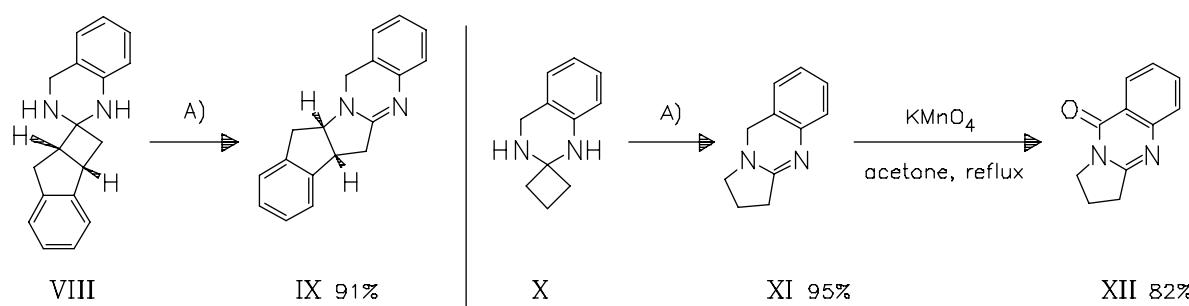
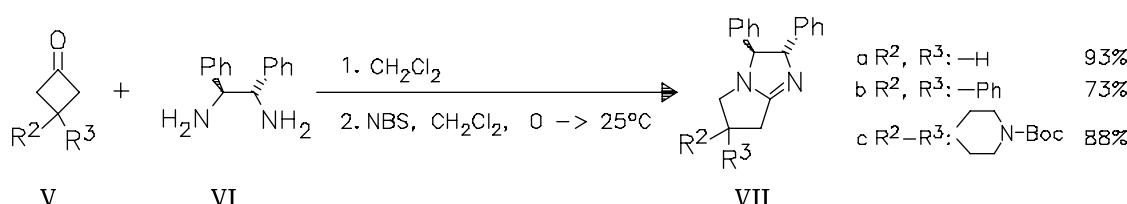
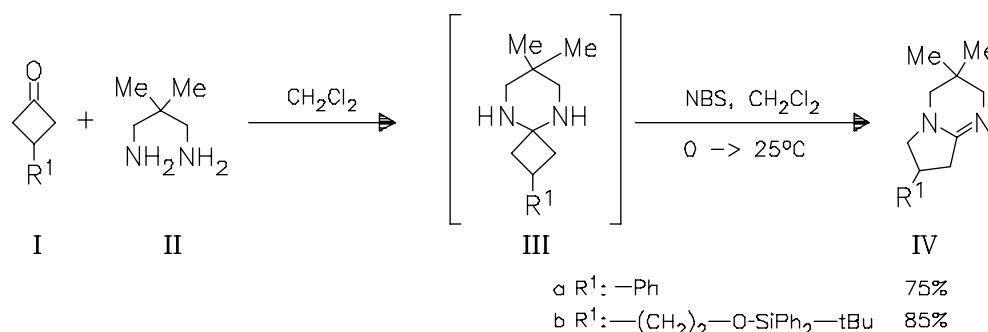


Fused pyrimidine derivatives
R 0515

DOI: 10.1002/chin.201225178

25- 178

Oxidative Rearrangement of Spiro Cyclobutane Cyclic Amines: Efficient Construction of Bicyclic Amidines. — Treatment of spirocyclic cyclobutane amines like (III) with NBS or NCS allows a new and efficient access to bicyclic amidines and related compounds. The derivative (XI) can be converted into the alkaloid deoxyvasicine (XII). — (MURAI, K.; KOMATSU, H.; NAGAO, R.; FUJIOKA*, H.; Org. Lett. 14 (2012) 3, 772-775, <http://dx.doi.org/10.1021/o1203313n>; Grad. Sch. Pharm. Sci., Osaka Univ., Suita, Osaka 565, Japan; Eng.) — Jannicke

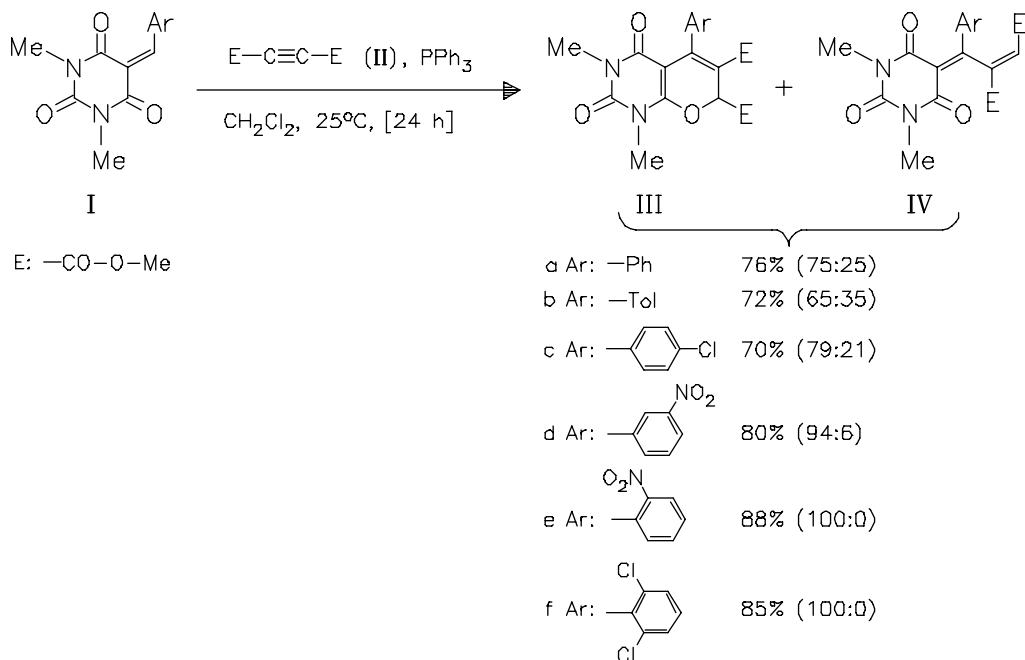
A): NCS, CH_2Cl_2 , $0 \rightarrow 25^\circ\text{C}$

Fused pyrimidine derivatives
R 0515

DOI: 10.1002/chin.201225179

25- 179

One-Pot Synthesis of 2H-Pyrano[2,3-d]pyrimidine Derivatives. — A new synthetic strategy for 2H-pyrano[2,3-d]pyrimidines (III) is described including proposal of a possible reaction mechanism. The by-products (IV) are formed stereoselectively which is in accordance with the suggested mechanism. — (BAYAT, M.; BAYAT*, Y.; ASAYES, S. S.; Monatsh. Chem. 143 (2012) 3, 479-483, <http://dx.doi.org/10.1007/s00706-011-0602-7>; Dep. Chem., Fac. Sci., Imam Khomeini Int. Univ., Qazvin, Iran; Eng.) — H. Haber



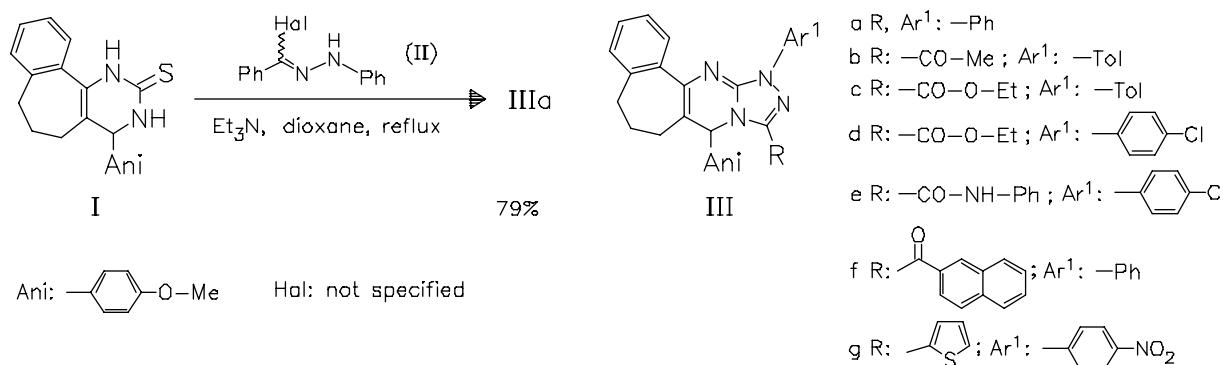
Fused pyrimidine derivatives

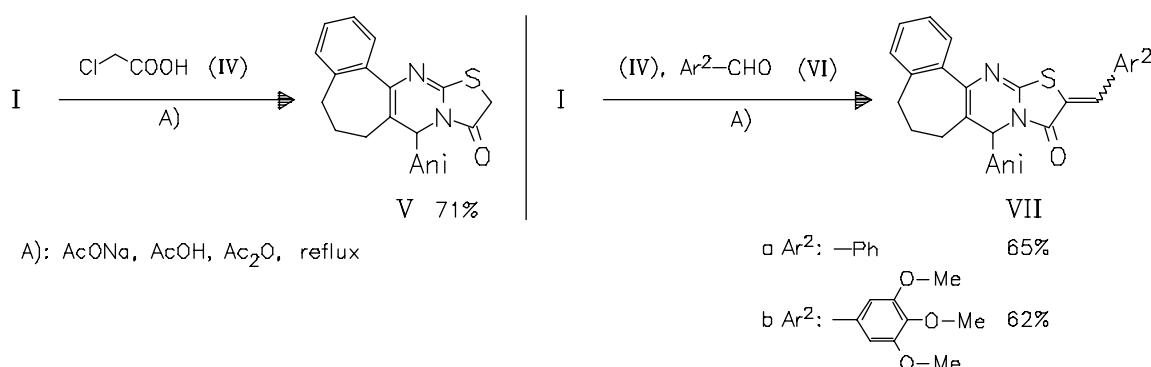
R 0515

25- 180

DOI: 10.1002/chin.201225180

Hydrazoneoyl Halides as Precursors for New Fused Heterocycles of 5α-Reductase Inhibitors. — Fused heterocycles (III), (V), and (VII) are synthesized by reaction of thione (I) or its methyl derivative with hydrazoneoyl halides of type (II). All products show good 5α-reductase inhibitor activity. — (FARGHALY*, T. A.; GOMHA, S. M.; ABBAS, E. M. H.; ABDALLA, M. M.; Arch. Pharm. (Weinheim, Ger.) 345 (2012) 2, 117-122, <http://dx.doi.org/10.1002/ardp.201100212>; Dep. Chem., Fac. Sci., Cairo Univ., Giza 12613, Egypt; Eng.) — R. Langenstrassen





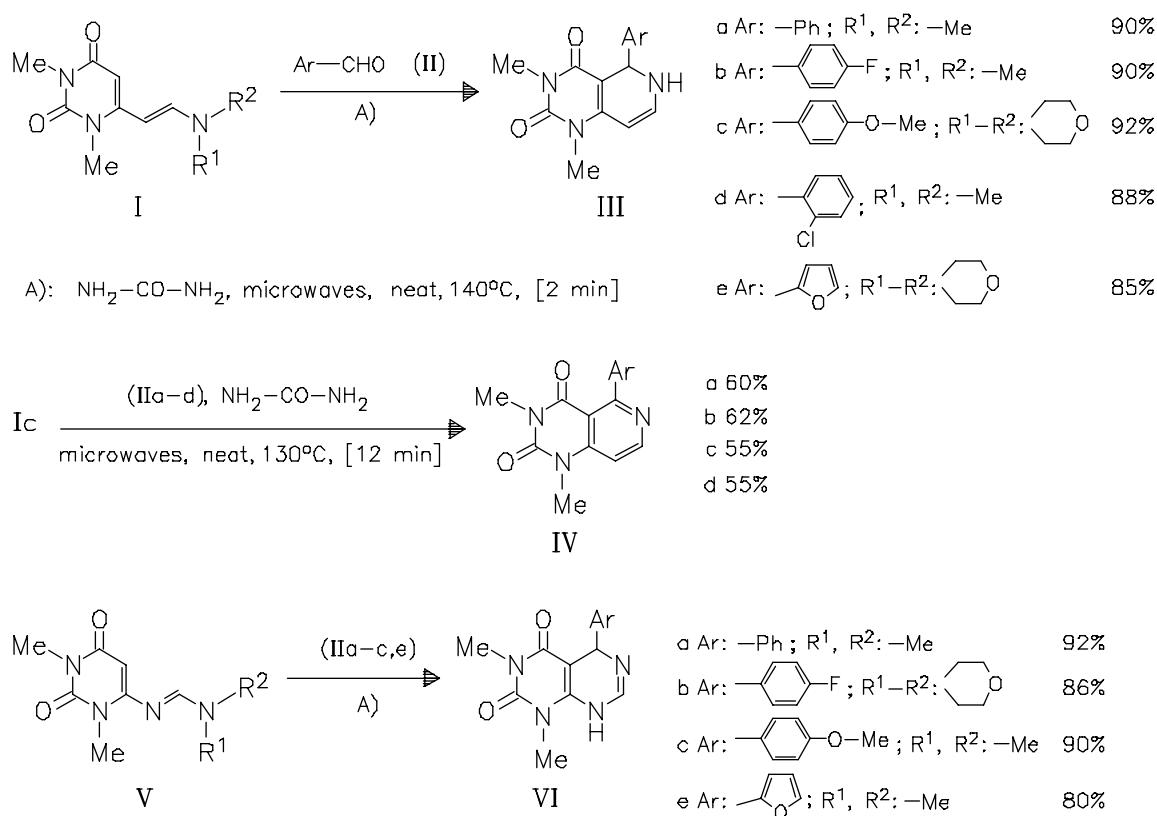
Fused pyrimidine derivatives

R 0515

DOI: 10.1002/chin.201225181

25- 181

Microwave-Promoted Catalyst- and Solvent-Free Aza-Diels—Alder Reaction of Aldimines with 6-[2-(Dimethylamino)vinyl]-1,3-dimethyluracil. — The title reaction allows an efficient access to pyridopyrimidines of type (III) and (IV). Starting from amino uracil derivatives like (V), pyrimidopyrimidines are available. — (SARMA, R.; SARMAH, M. M.; PRAJAPATI*, D.; J. Org. Chem. 77 (2012) 4, 2018–2023, <http://dx.doi.org/10.1021/jo202346w>; Med. Chem. Div., North-East Inst. Sci. Technol., Jorhat 785 006, India; Eng.) — Jannicke

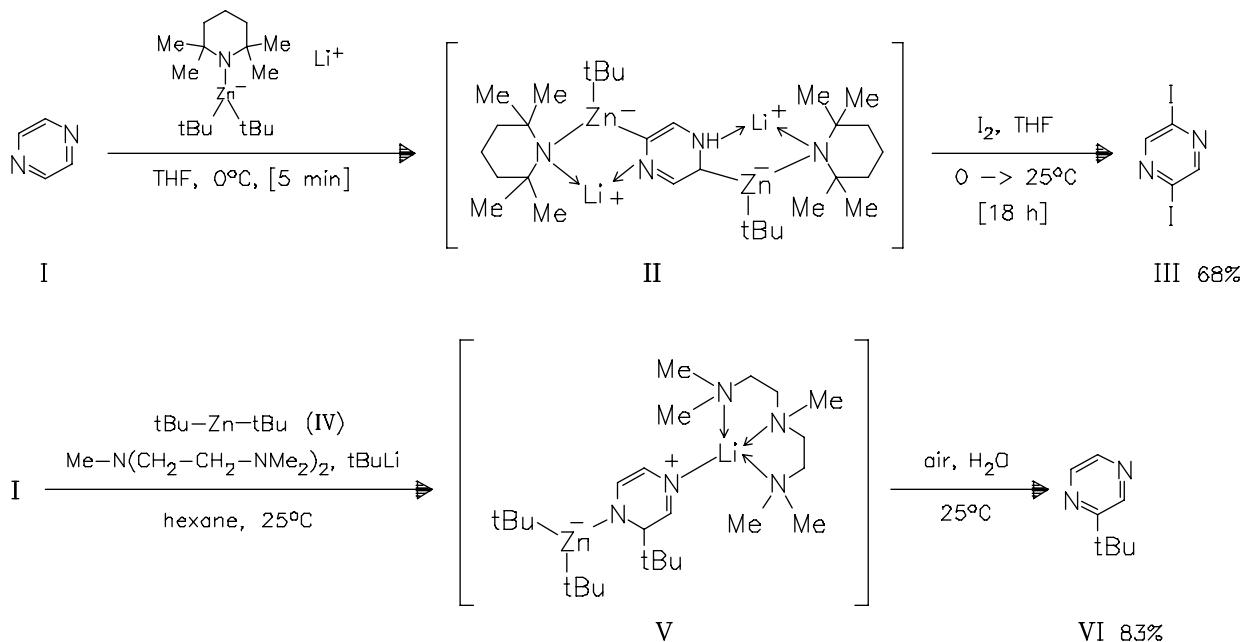


Pyrazine derivatives

R 0550

25- 182

New Lithium-Zincate Approaches for the Selective Functionalization of Pyrazine: Direct Dideprotozincation vs. Nucleophilic Alkylation. — Two new bimetallic approaches for the selective 2,5-dideprotozincation and chemoselective room temperature C-H alkylation of pyrazine are presented. — (BAILLIE, S. E.; BLAIR, V. L.; BLAKEMORE, D. C.; HAY, D.; KENNEDY, A. R.; PRYDE, D. C.; HEVIA*, E.; *Chem. Commun. (Cambridge)* 48 (2012) 14, 1985–1987, <http://dx.doi.org/10.1039/c2cc16959b>; WestCHEM Dep. Pure Appl. Chem., Univ. Strathclyde, Glasgow G1 1XL, UK; Eng.) — D. Singer

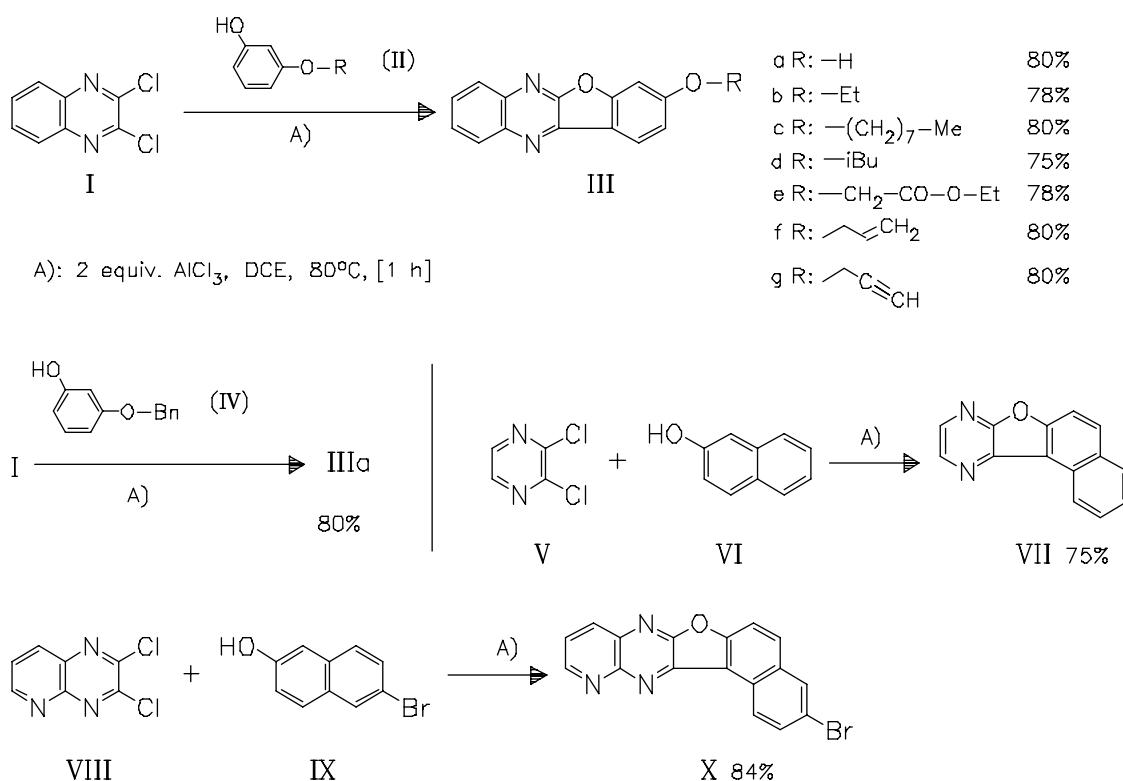


Pyrazine derivatives

R 0550

25- 183

AlCl₃-Induced C-Arylation/Cyclization in a Single Pot: A New Route to Benzo-furan- Fused N-Heterocycles of Pharmacological Interest. — The AlCl₃-mediated cyclocondensation of 2,3-dichloropyrazine derivatives with 2-naphthol or resorcinol monoalkyl ethers offers a direct synthesis of various polycyclic bis-fused furan derivatives. Debenzylation takes place in the case of substrate (IV). Some of the products are tested for their PDE4B inhibitory potential with Rolipram as the reference compound and the tetracycle (VII) is found to be the most efficient one. — (KUMAR, K. S.; ADEPU, R.; KAPAVARAPU, R.; RAMBABU, D.; KRISHNA, G. R.; REDDY, C. M.; PRIYA, K. K.; PARSA, K. V. L.; PAL*, M.; *Tetrahedron Lett.* 53 (2012) 9, 1134–1138, <http://dx.doi.org/10.1016/j.tetlet.2011.12.096>; Inst. Life Sci., Univ. Hyderabad, Hyderabad 500 046, India; Eng.) — Mais



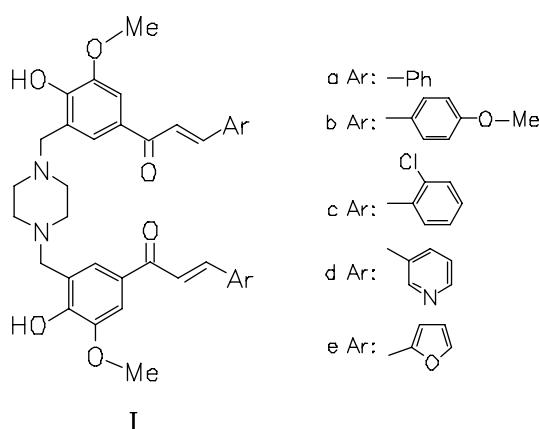
Pyrazine derivatives

R 0550

25- 184

DOI: 10.1002/chin.201225184

Preparation of a Series of Novel Bichalcones Linked with a 1,4-Dimethylenepiperazine Moiety and Examination of Their Cytotoxicity. — Among the new bichalcones synthesized (15 examples), derivatives (Ia) and (Id) display significant cytotoxicity against 25 human tumor cell lines. — (REDDY, M. V. B.; CHEN, S.-S.; LIN, M.-L.; CHAN, H.-H.; KUO, P.-C.; WU*, T.-S.; Chem. Pharm. Bull. 59 (2011) 12, 1549-1554 ; Dep. Chem., Natl. Cheng Kung Univ., Tainan 70101, Taiwan; Eng.) — C. Cyrus



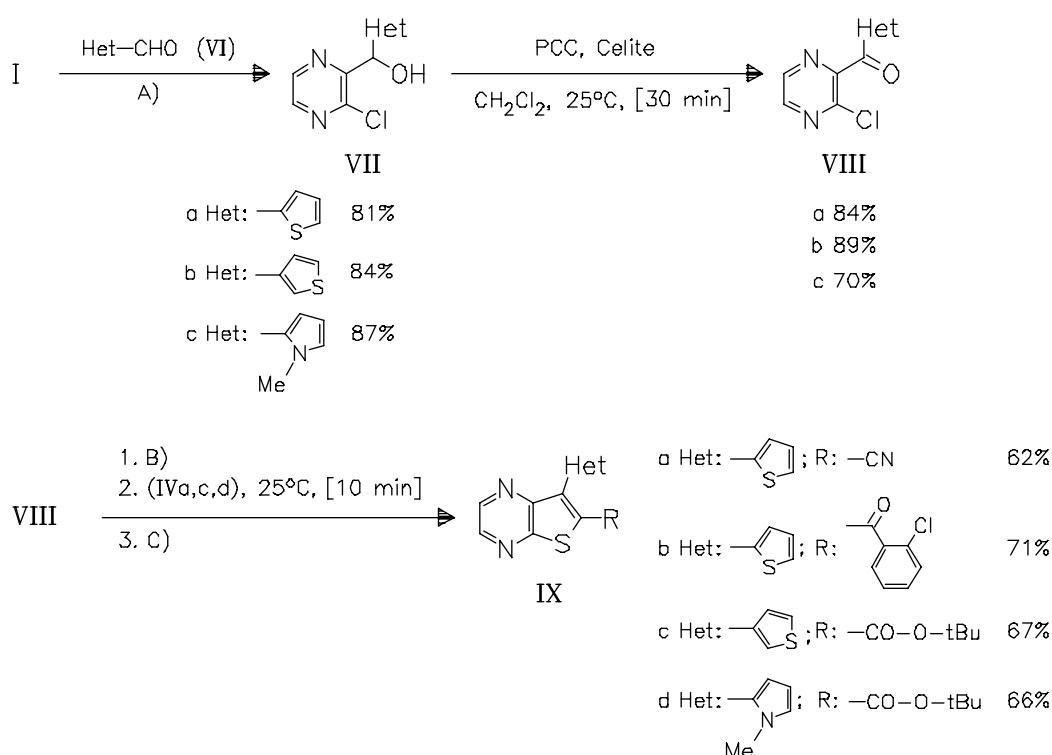
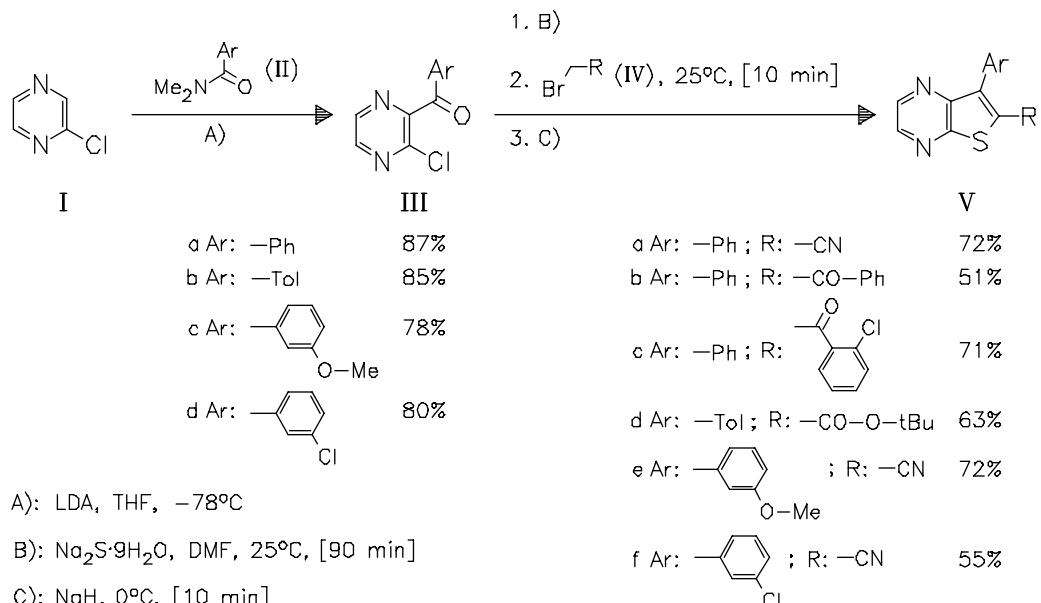
Pyrazine derivatives

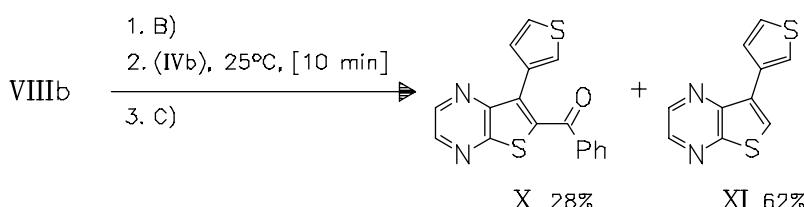
R 0550

25- 185

A Facile Synthesis of 6-Substituted 7-Arylthieno[2,3-b]pyrazines from 2-Chloropyrazine.

— A three-step one-pot procedure is elaborated for the conversion of ketones (III) and (VIII) into corresponding thienopyrazines (V) and (IX). The synthesis of derivative (X) is accompanied by formation of monosubstituted thienopyrazine (XI). — (KOBAYASHI*, K.; SUZUKI, T.; Heterocycles 85 (2012) 2, 403-411, <http://dx.doi.org/10.3987/com-11-12407>; Dep. Chem. Biotechnol., Grad. Sch. Eng., Tottori Univ., Koyama, Tottori 680, Japan; Eng.) — R. Staver





Oxazine derivatives

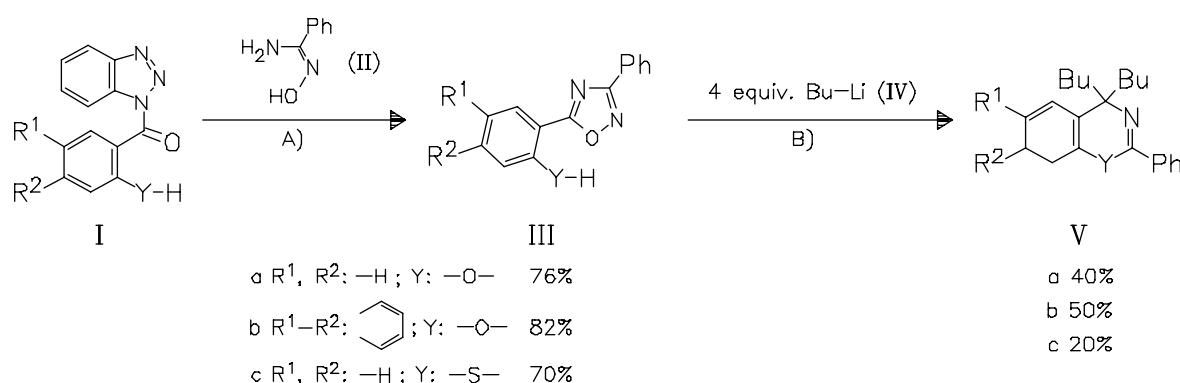
R 0595

DOI: 10.1002/chin.201225186

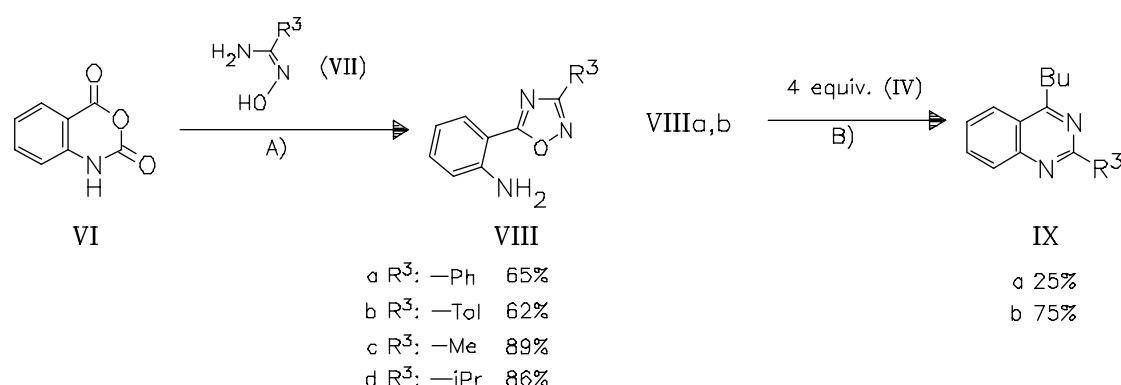
25- 186

Synthesis of Benzoxazines, Quinazolines and 4H-Benzo[e][1,3]thiazine by

ANRORC Rearrangements of 1,2,4-Oxadiazoles. — 1,2,4-Oxadiazoles bearing an aryl group with a nucleophilic substituent at the ortho-position react with BuLi via addition reaction, ring opening, and ring closing to give the title heterocycles in moderate yields. — (DRAGHICI, B.; EL-GENDY, B. E.-D. M.; KATRITZKY*, A. R.; *Synthesis* 2012, 4, 547-550, <http://dx.doi.org/10.1055/s-0031-1289673>; Cent. Heterocycl. Compd., Univ. Fla., Gainesville, FL 32611, USA; Eng.) — Mais

A): iPr₂N-Et, DMF, reflux, [6 h]

B): hexanes, THF, -78 → +25°C



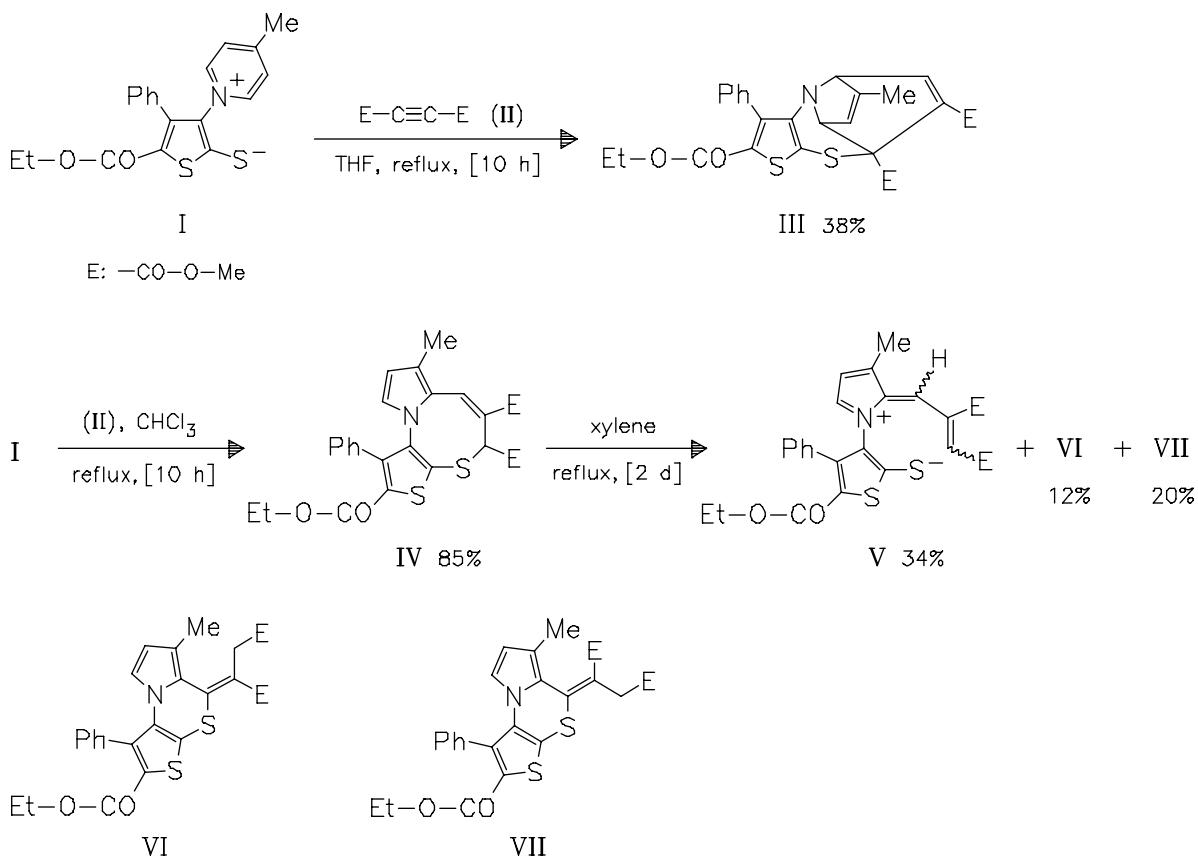
Thiazine derivatives

R 0610

25- 187

Preparation of New Nitrogen-Bridged Heterocycles. Part 75. Novel Rearrangements of a 8aH-Pyrido[1,2-d]thieno[2',3'-b][1,4]thiazepine Derivative. — The reaction of thiolate (I) with alkyne (II) in THF gives rise to tetracyclic derivative (III), whilst the reaction in chloroform leads to pyrrolothienothiazocene (IV). The thienothiazocene suffers thermal rearrangements to (thiazinopyrrolylidene)succinates. — (KAKEHI*, A.; ITOH, K.; SUGA, H.; OHKUBO, Y.; KOBAYASHI, A.; NISHI, T.; *Heterocycles* 85 (2012) 2, 305-312, <http://dx.doi.org/10.3987/com-11-12398>; Dep. Chem. Mater. Eng., Fac. Eng., Shinshu Univ., Wakasato, Nagano 380, Japan; Eng.)

— R. Staver

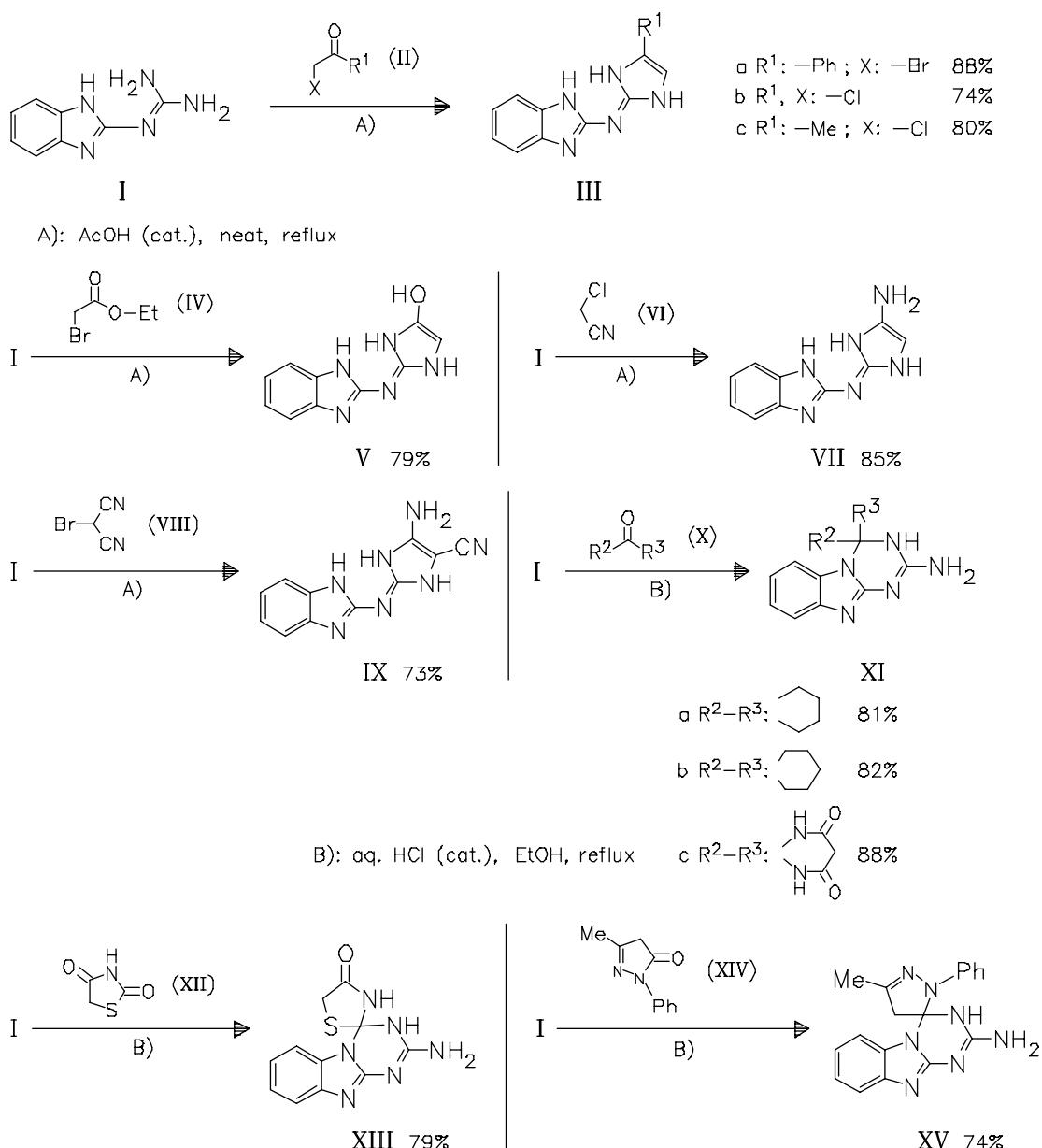


Triazine derivatives

R 0655

25- 188

Synthesis and Biological Activity of Dihydroimidazole and 3,4-Dihydrobenzo[4,5]imidazo[1,2-a][1,3,5]triazines. — A variety of new dihydroimidazole and benzimidazotriazine derivatives is synthesized by acid-catalyzed reaction of 2-guanidinothiobenzimidazole (I) with active halogenated methylene compounds or ketones, respectively. Most of these compounds show high antibacterial activities. — (SOLIMAN*, A. M.; MOHAMED, S. K.; EL REMAILY, M. A. A.; ABDEL GHANY, H.; *Eur. J. Med. Chem.* 47 (2012) 138-142, <http://dx.doi.org/10.1016/j.ejmech.2011.10.034>; Dep. Chem., Fac. Sci., Sohag Univ., Sohag 82524, Egypt; Eng.) — D. Singer



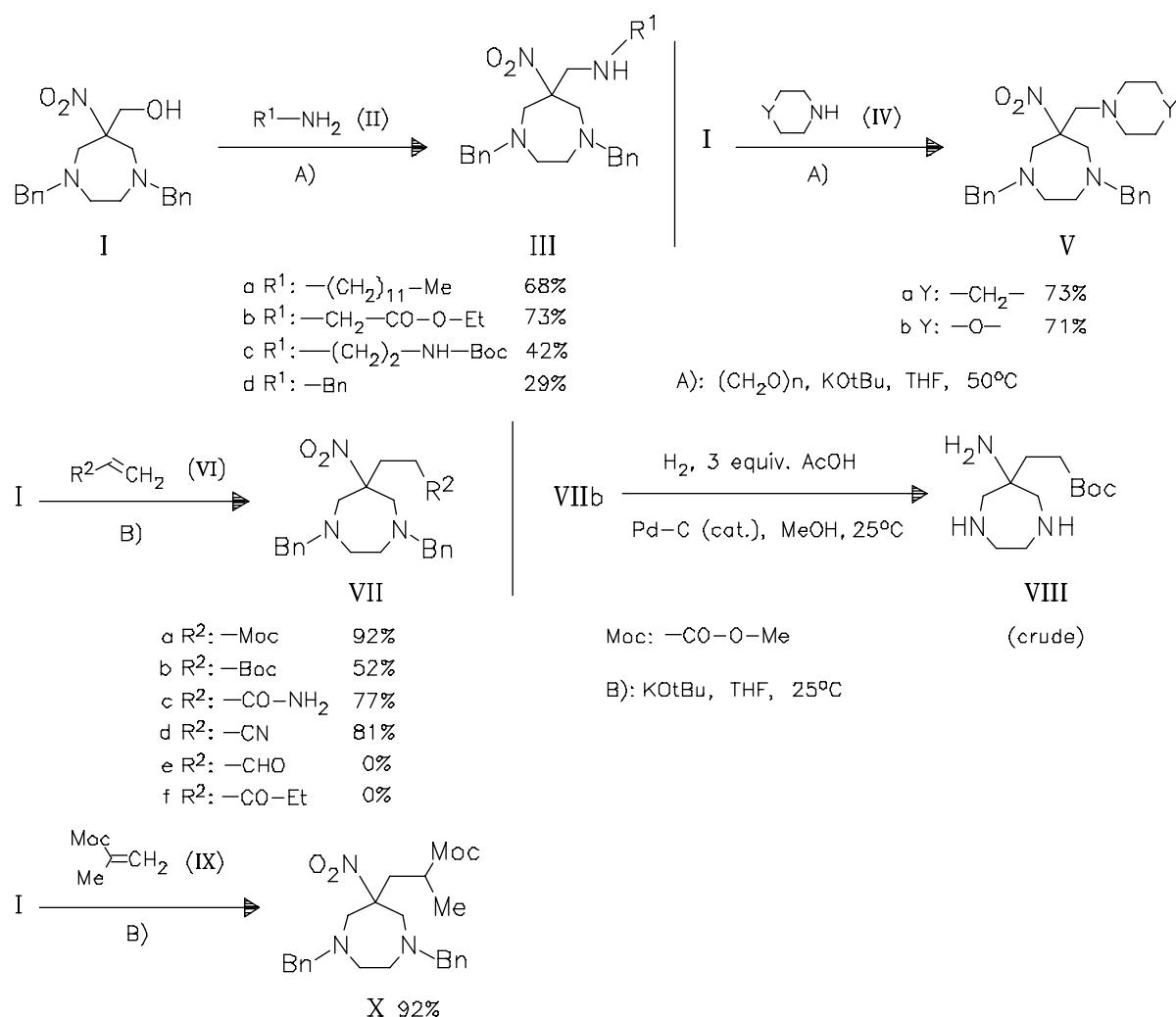
Multi-membered N-heterocycles

R 0690

DOI: 10.1002/chin.201225189

25- 189

Synthesis of 6-Substituted 6-Nitroperhydro-1,4-diazepines via Novel Tandem Retro-Henry and Mannich/Michael Reactions. — Reduction of the nitro group allows formation of the corresponding amino derivatives. — (MARTINELLI, J.; GUGLIOTTA, G.; TEI*, L.; Org. Lett. 14 (2012) 3, 716-719, <http://dx.doi.org/10.1021/ol203101s>; Dip. Sci. Innovazione Tecnol., Univ. Piemonte Orientale "Amedeo Avogadro", I-15100 Alessandria, Italy; Eng.) — Jannicke



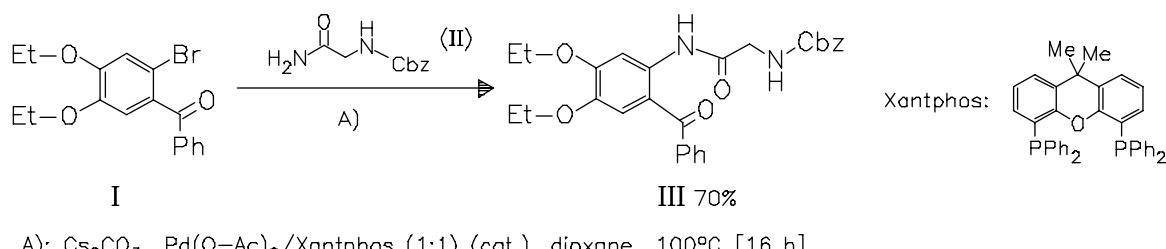
Multi-membered N-heterocycles

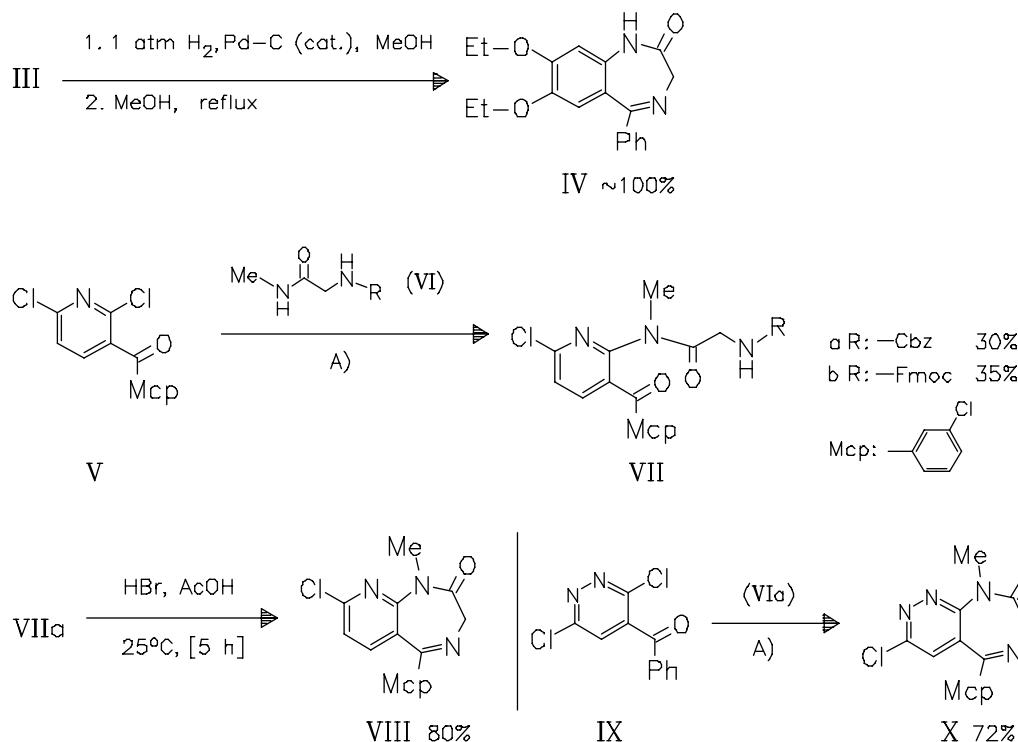
R 0690

DOI: 10.1002/chin.201225190

25- 190

Novel Access to 1,4-Benzodiazepin-2-ones via the Buchwald Reaction and Application to the Synthesis of Novel Heterocyclics. — A two-step sequence is presented for the synthesis of biologically interesting title compounds via Buchwald reaction of benzophenone or benzoyl azine derivatives with amides followed by cyclocondensation. For substrate (IX), the diazepin-2-one ring is formed spontaneously during the Buchwald reaction. — (SALOME*, C.; SCHMITT, M.; BOURGUIGNON, J.-J.; Tetrahedron Lett. 53 (2012) 9, 1033-1035, <http://dx.doi.org/10.1016/j.tetlet.2011.12.045>; Lab. Innovation Ther., Fac. Pharm., F-67401 Illkirch, Fr.; Eng.) — Mais





Multi-membered N-heterocycles

R 0690

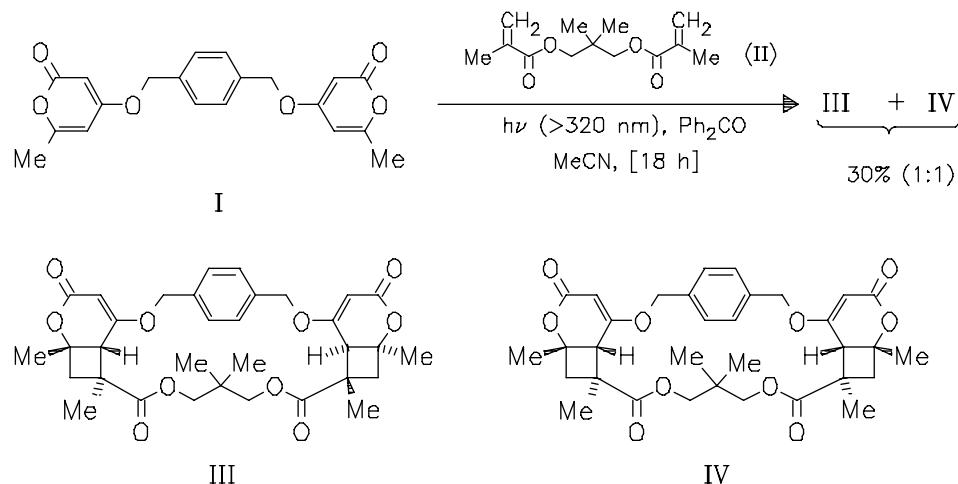
DOI: 10.1002/chin.201225191

25- 191

One-Pot Synthesis of Macrocyclic Di- and Tetralactones Using [2 + 2] Photocyclo-addition Reactions of Di-2-pyrone with α,ω -Diolefins — [5 examples]. —

(ZHANG, H. M.; KAWABATA, K.; MIYAUCHI, H.; SHIMO*, T.; *Heterocycles* 85 (2012) 2, 333-343, <http://dx.doi.org/10.3987/com-11-12378>; Dep. Chem., Biotechnol. Chem. Eng., Kagoshima Univ., Korimoto, Kagoshima 890, Japan; Eng.)

— R. Staver



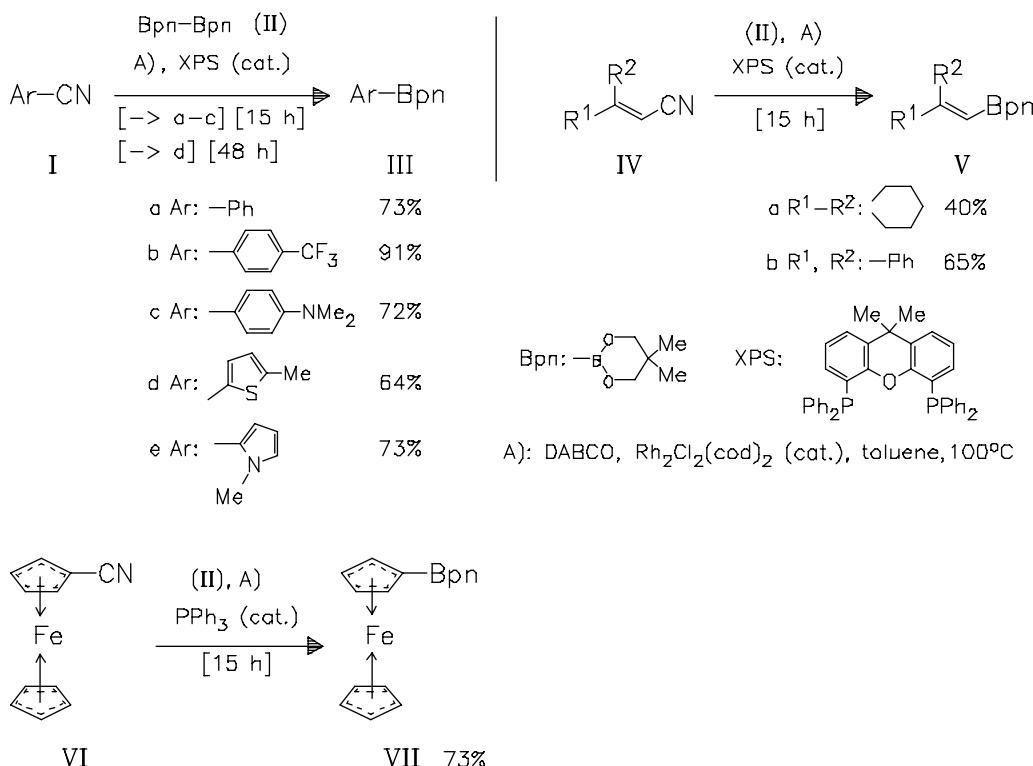
Organoelement Compounds

Organo-boron compounds

S 0040

25- 192

Rhodium(I)-Catalyzed Borylation of Nitriles Through the Cleavage of Carbon—Cyano Bonds. — (TOBISU*, M.; KINUTA, H.; KIA, Y.; REMOND, E.; CHATANI, N.; J. Am. Chem. Soc. 134 (2012) 1, 115–118, <http://dx.doi.org/10.1021/ja2095975>; Dep. Appl. Chem., Fac. Eng., Osaka Univ., Suita, Osaka 565, Japan; Eng.) — Nuesgen

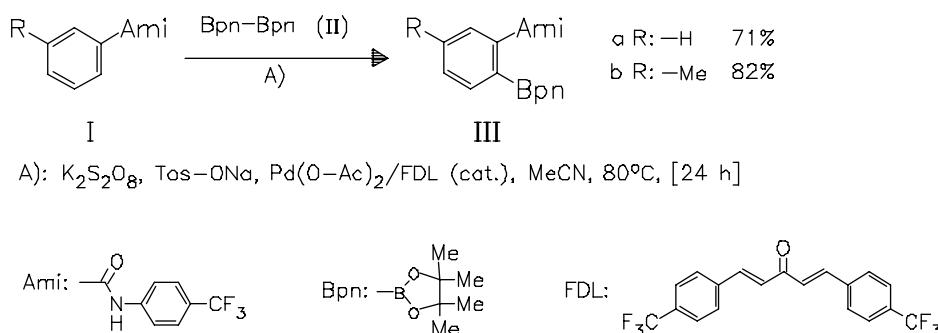


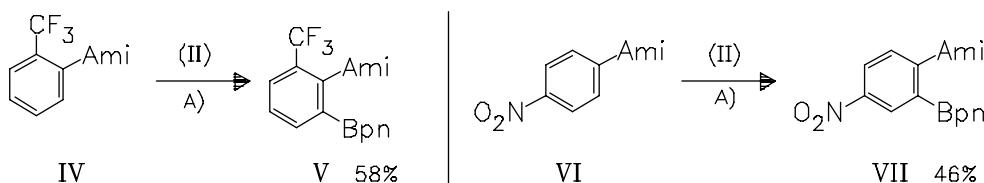
Organo-boron compounds

S 0040

25- 193

Pd-Catalyzed Oxidative ortho-C—H Borylation of Arenes. — (DAI, H.-X.; YU*, J.-Q.; J. Am. Chem. Soc. 134 (2012) 1, 134–137, <http://dx.doi.org/10.1021/ja2097095>; Dep. Chem., Scripps Res. Inst., San Diego, La Jolla, CA 92037, USA; Eng.) — Nuesgen





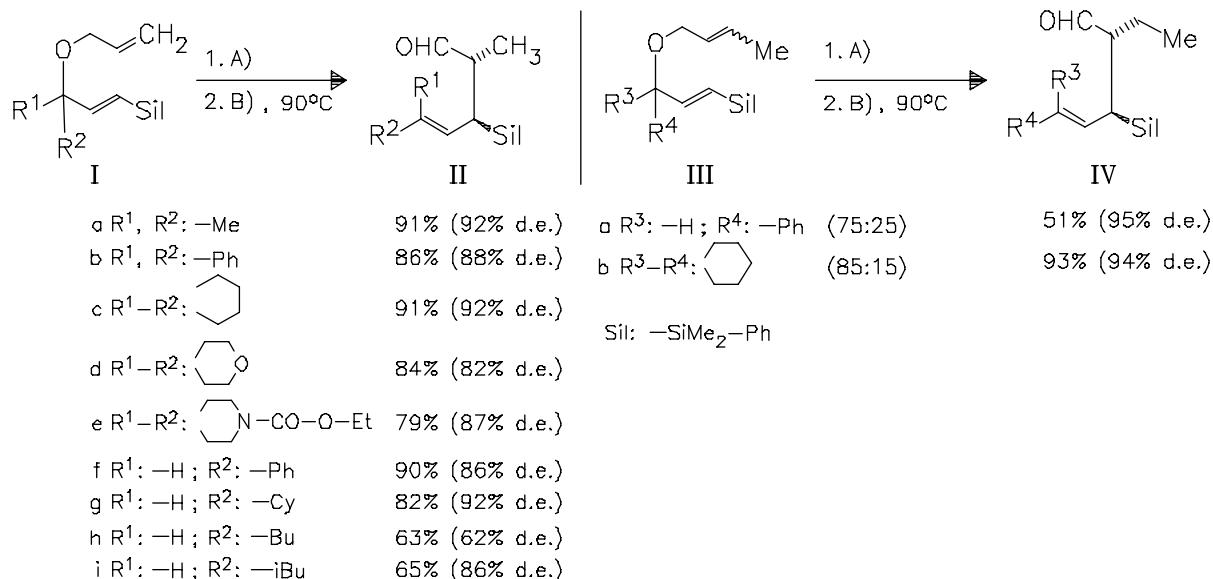
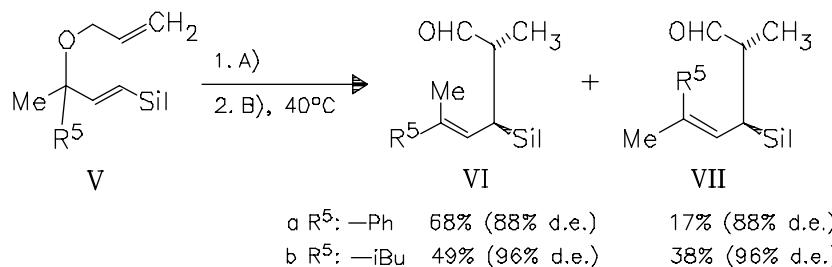
Organosilicon compounds

S 0060

DOI: 10.1002/chin.201225194

25- 194

Domino Alkene-Isomerization—Claisen Rearrangement Strategy to Substituted Allylsilanes. — (MC LAUGHLIN, M. G.; COOK*, M. J.; *J. Org. Chem.* 77 (2012) 4, 2058–2063, <http://dx.doi.org/10.1021/jo202560g>; Sch. Chem. Eng., Queen's Univ., Belfast BT9 5AG, UK; Eng.) — Jannicke

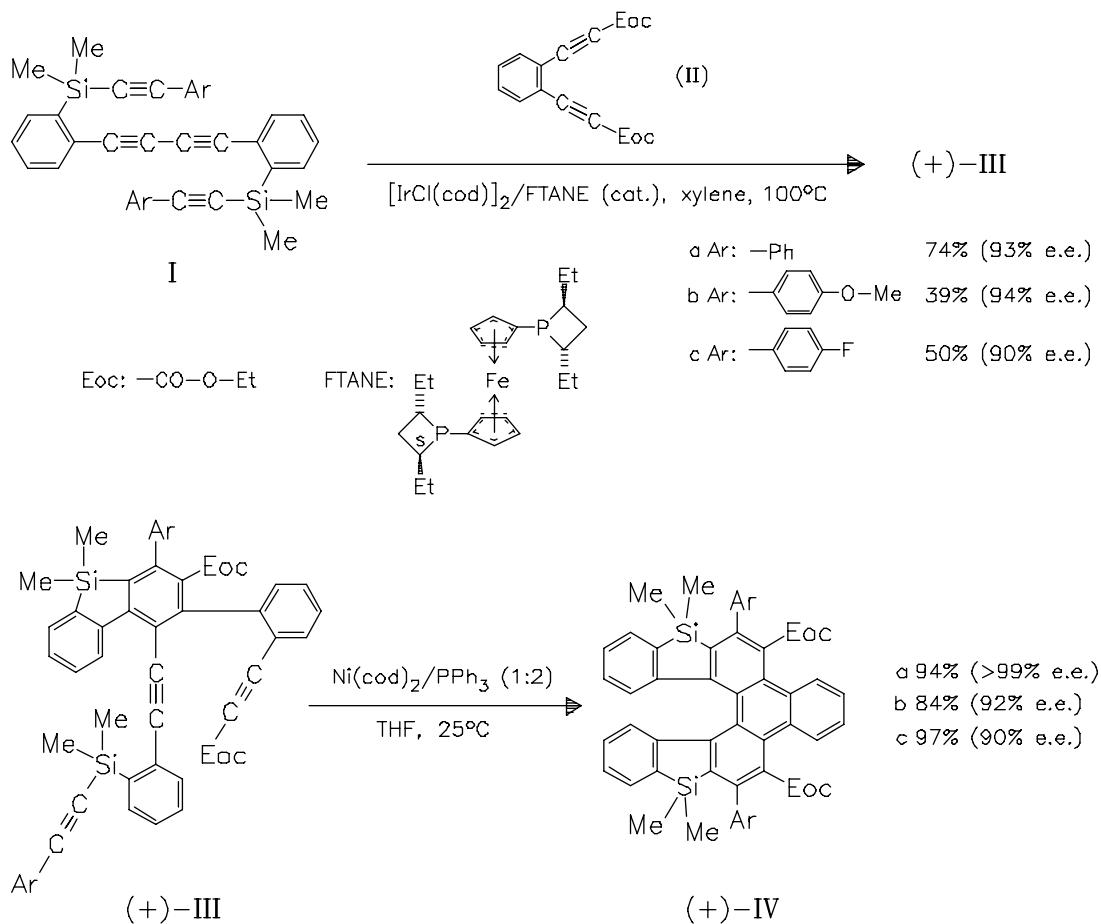
A): $\text{Ir}_2\text{Cl}_2(\text{cyclooctene})_4/\text{PCy}_3/\text{NaBPh}_4$ (1:6:2) (cat.), PhCl/acetone (20:1), 25°CB): PPh_3 (cat.), PhCl/acetone (20:1)

Organo-silicon compounds
S 0060

25- 195

Highly Enantioselective Synthesis of Silahelicenes Using Ir-Catalyzed [2 + 2 + 2] Cycloaddition.

The first synthesis of silahelicenes (IV), which have helical chirality including silole moieties, is reported. Intermolecular Ir-catalyzed enantioselective [2 + 2 + 2] cycloaddition and subsequent Ni-mediated intramolecular stereospecific [2 + 2 + 2] cycloaddition provide highly enantioenriched title compounds (IV). — (SHIBATA*, T.; UCHIYAMA, T.; YOSHINAMI, Y.; TAKAYASU, S.; TSUCHIKAMA, K.; ENDO, K.; Chem. Commun. (Cambridge) 48 (2012) 9, 1311-1313, <http://dx.doi.org/10.1039/c1cc16762f>; Dep. Chem. Biochem., Sch. Adv. Sci. Eng., Waseda Univ., Shinjuku, Tokyo 169-8555, Japan; Eng.) — M. Paetzel

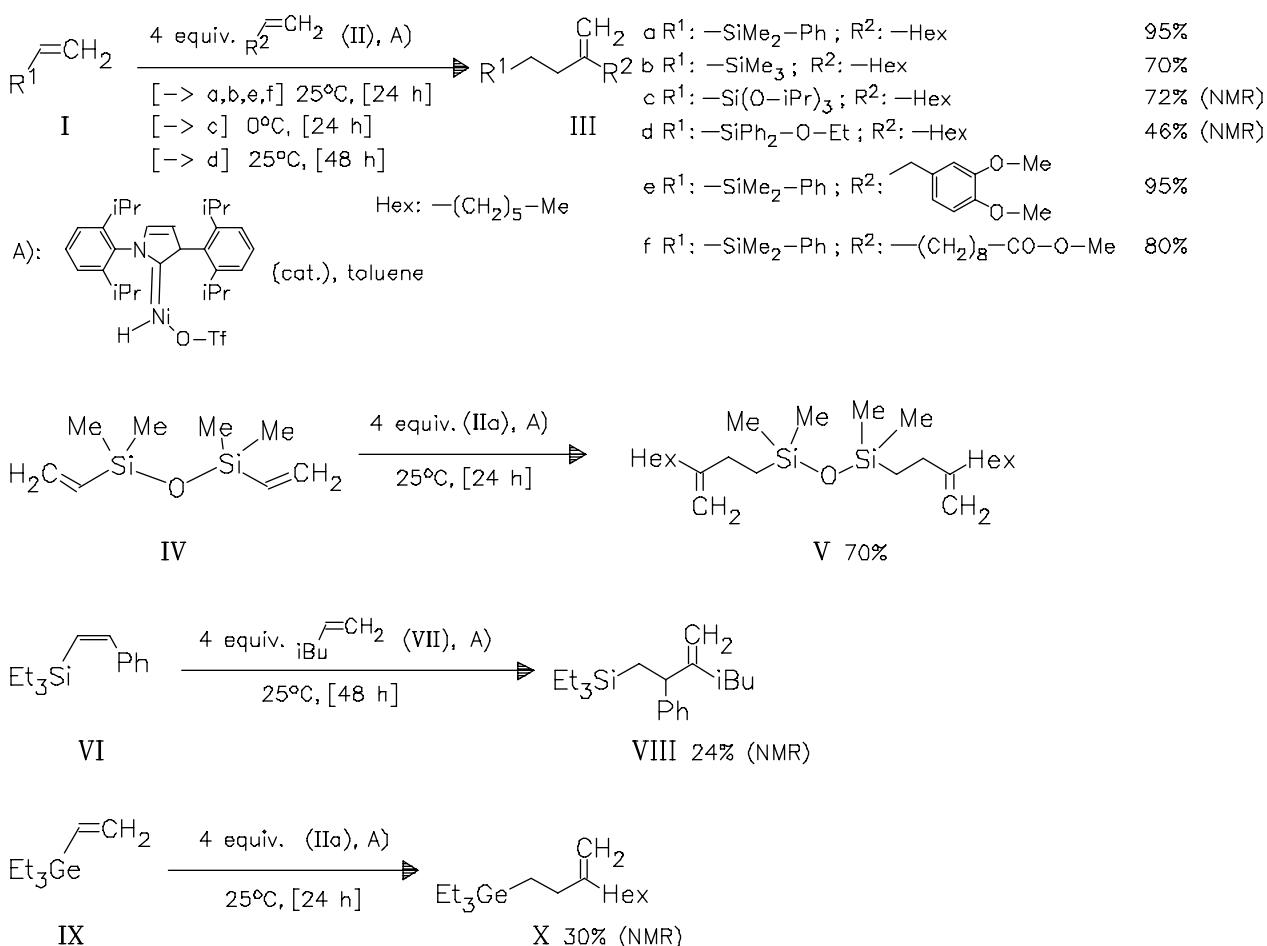


Organo-silicon compounds
S 0060

25- 196

Shuffle off the Classic β -Si Elimination by Ni-NHC Cooperation: Implication for C—C Forming Reactions Involving Ni-Alkyl- β -silanes

Via cooperation of an NHC, Si substituents and metal center, β -Si elimination is attenuated revealing a new way to attain a high amount of Ni- β -SiR₃. The scope of this transformation is illustrated by a head-to-tail vinylsilane- α -olefin hydroalkenylation. — (HO*, C.-Y.; HE, L.; Chem. Commun. (Cambridge) 48 (2012) 10, 1481-1483, <http://dx.doi.org/10.1039/c1cc14593b>; Dep. Chem., Chin. Univ. Hong Kong, Hong Kong, Peop. Rep. China; Eng.) — M. Paetzel

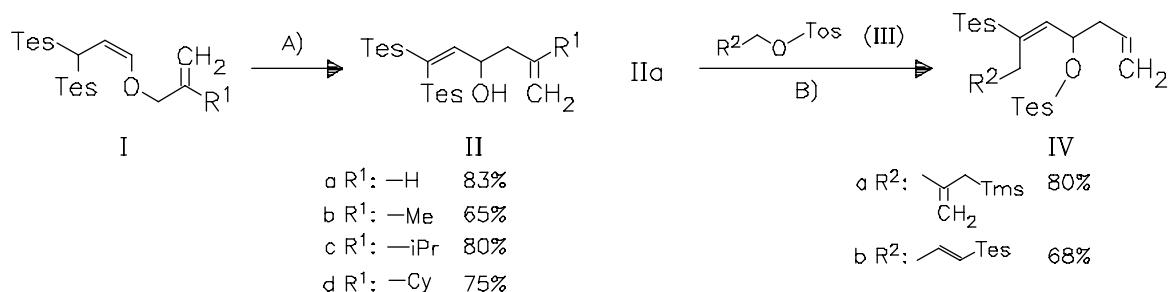


Organosilicon compounds
S 0060

DOI: 10.1002/chin.201225197

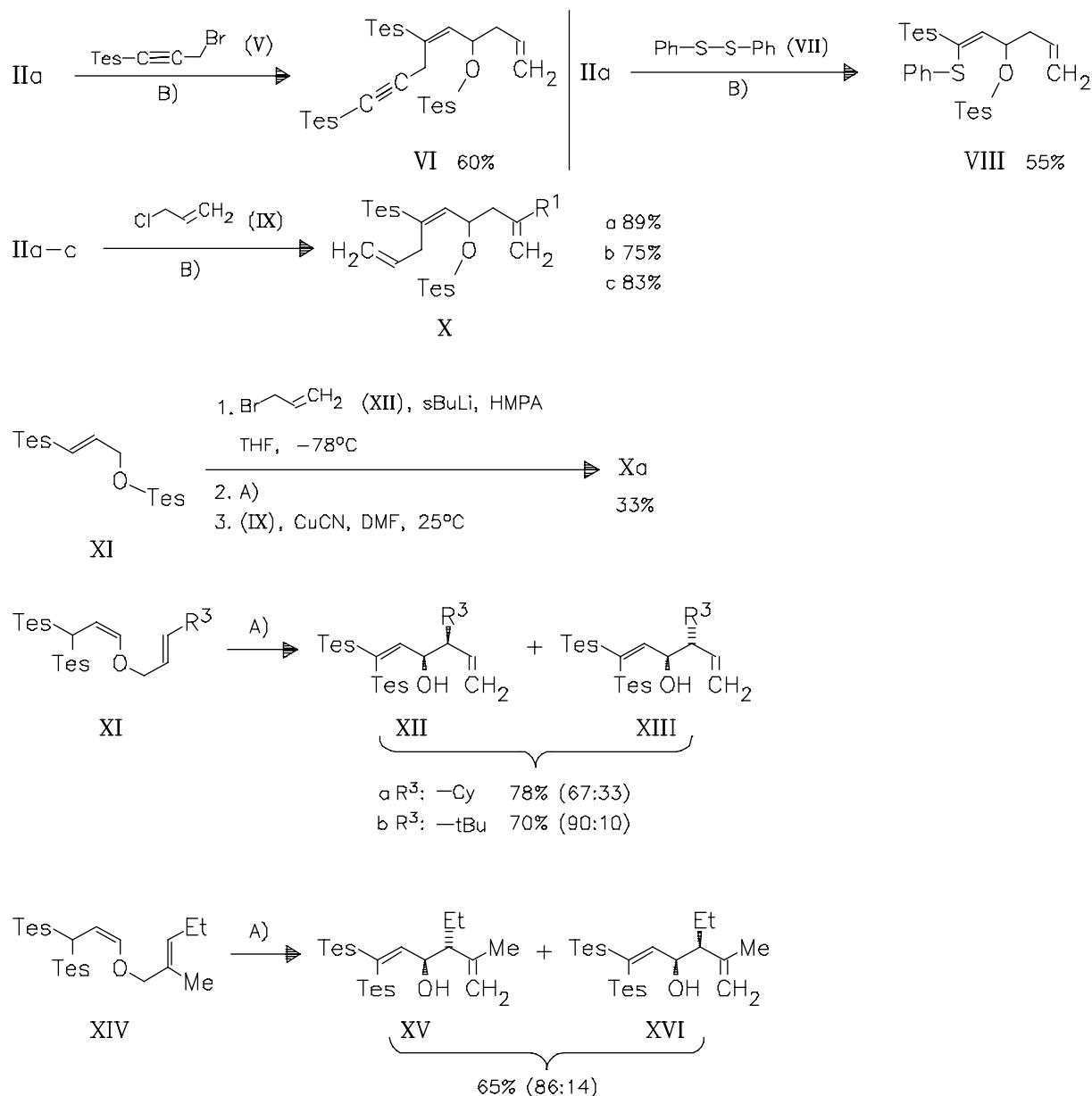
25- 197

[1,5]-Anion Relay/[2,3]-Wittig Rearrangement of 3,3-Bis(silyl) Allyl Enol Ethers: Synthesis of Useful Vinyl Bis(silane) Species. — A new strategy to trisubstituted vinylsilanes is developed: the vinyl bissilanes can be transformed into trisubstituted vinylsilanes through a [1,4]-Brook rearrangement/alkylation protocol using different electrophiles. — (SUN, X.; LEI, J.; SUN, C.; SONG*, Z.; YAN, L.; Org. Lett. 14 (2012) 4, 1094–1097, <http://dx.doi.org/10.1021/o1300004b>; Dep. Med. Chem., West China Univ. Med. Sci., Chengdu, Sichuan 610041, Peop. Rep. China; Eng.) — Bartels



A): 3 equiv. tBu-OLi, 3 equiv. HMPA, THF, -78°C

B): tBu-OLi, CuCN, DMF/THF (5:3), 25°C



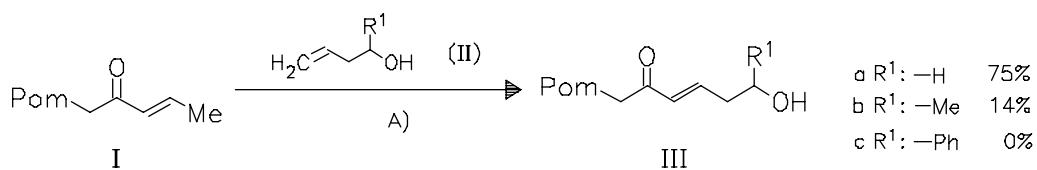
Organophosphorus compounds

S 0080

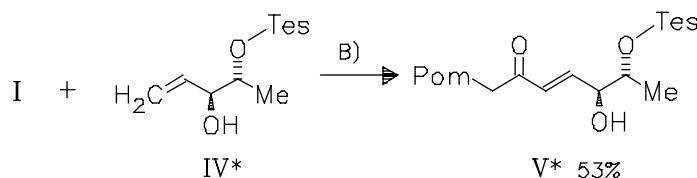
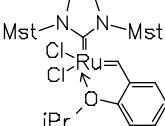
DOI: 10.1002/chin.201225198

25- 198

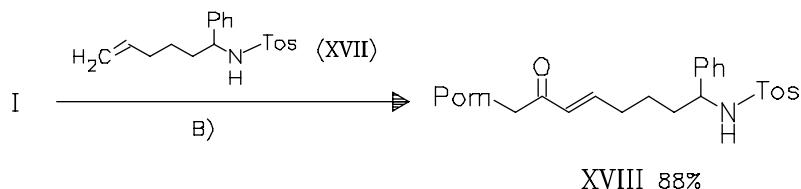
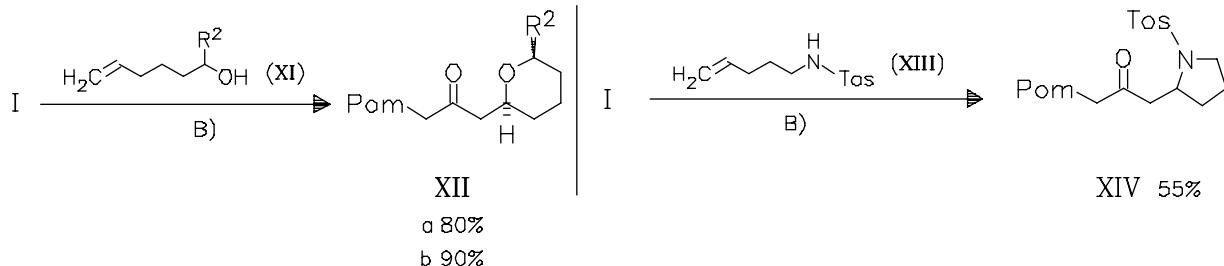
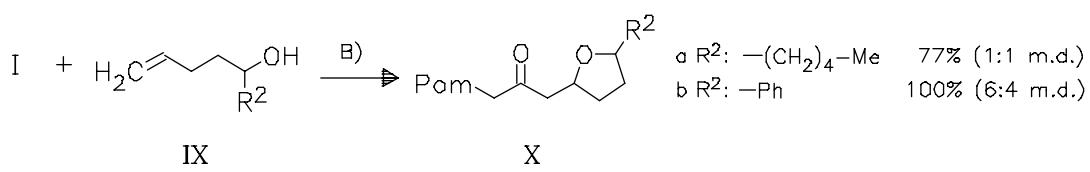
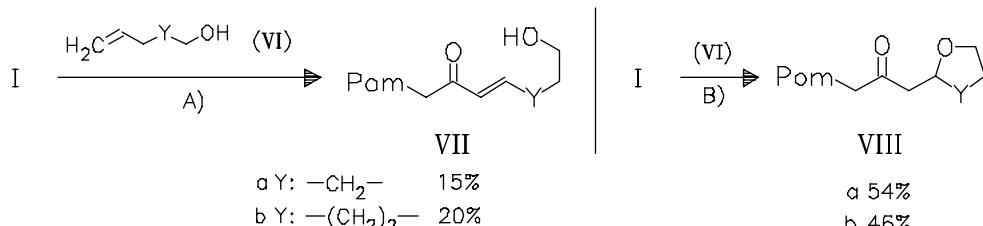
(E)-Dimethyl 2-Oxopent-3-enylphosphonate: An Excellent Substrate for Cross-Metathesis — Easy Access to Functionalized Heterocycles. — (COCHET, T.; ROCHE, D.; BELLOSTA*, V.; COSSY, J.; Eur. J. Org. Chem. 2012, 4, 801-809, <http://dx.doi.org/10.1002/ejoc.201101398>; Lab. Chim. Org., CNRS, Ec. Super. Phys. Chim. Ind., F-75231 Paris, Fr.; Eng.) — Kieslich



A): HGC (cat.), CH_2Cl_2 , 25°C, [16 h] HGC:



B): microwaves, HGC (cat.), CH_2Cl_2 , 100°C, [15 min, 2 cycles]

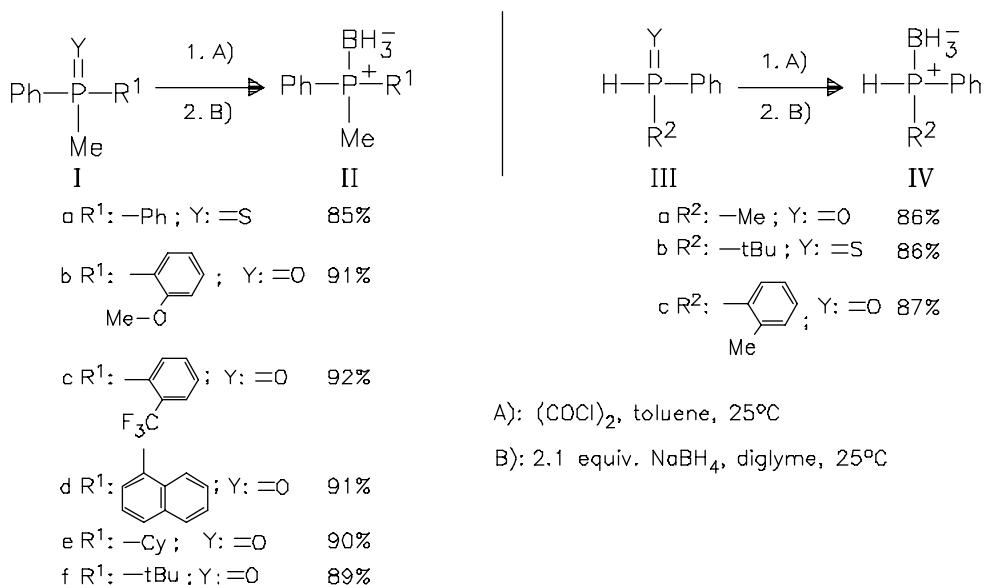
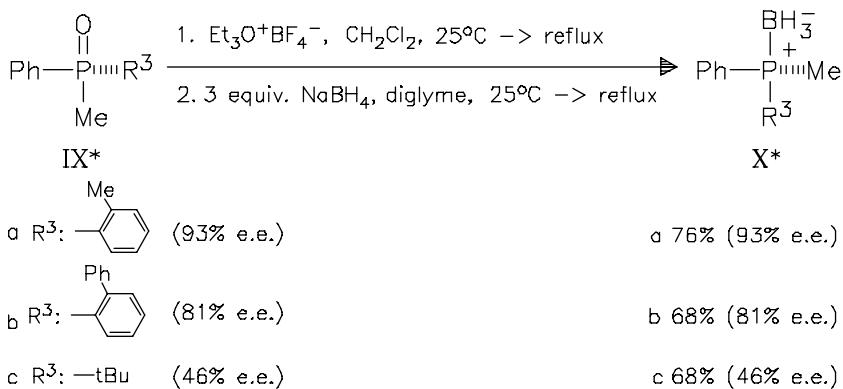
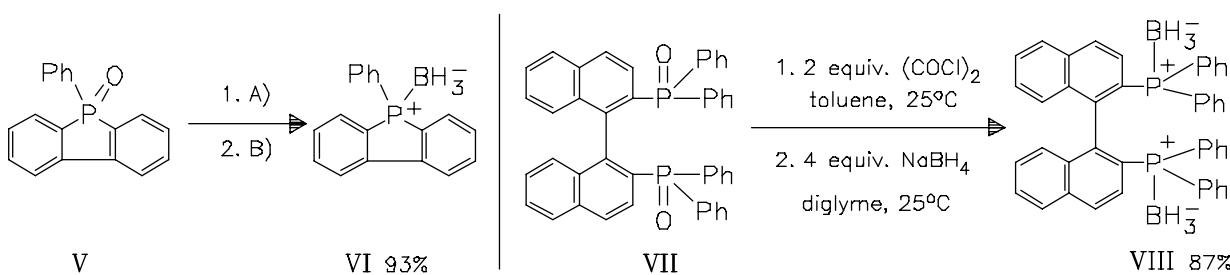


Organo-phosphorus compounds
S 0080

DOI: 10.1002/chin.201225199

25- 199

Simple Unprecedented Conversion of Phosphine Oxides and Sulfides to Phosphine Boranes Using Sodium Borohydride. — The advantages over other common reduction methods are the milder reaction conditions, the easier to handle reagents and the significantly expanded substrate scope. — (RAJENDRAN, K. V.; GILHEANY*, D. G.; Chem. Commun. (Cambridge) 48 (2012) 6, 817-819, <http://dx.doi.org/10.1039/c1cc14856g>; Cent. Synth. Chem. Biol., Univ. Coll., Dublin 4, Ire.; Eng.) — C. Gebhardt

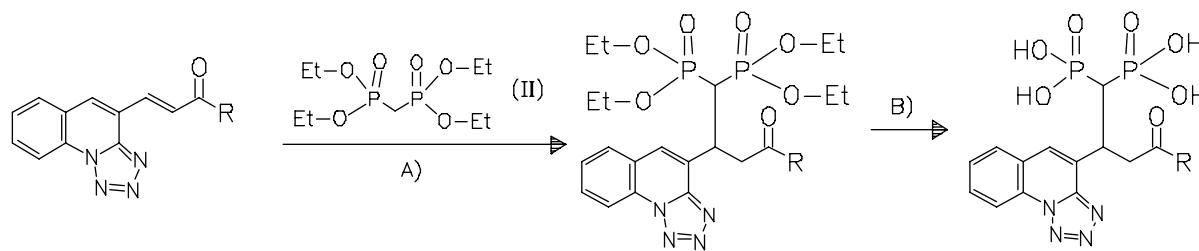
A): (COCl)₂, toluene, 25°CB): 2.1 equiv. NaBH₄, diglyme, 25°C

Organo-phosphorus compounds
S 0080

DOI: 10.1002/chin.201225200

25- 200

Elaborating on Efficient Antiproliferation Agents of Cancer Cells and Antiinflammatory-Based N-Bisphosphonic Acids.— Quinoline based bisphosphonates [(III), (VI), (IX), and (XII)] and corresponding phosphonic acids [(IV), (VII), (X), and (XIII)] are synthesized via Michael addition and hydrolysis. The products show remarkable antitumor activity against breast and prostate cancer and a moderate effect on ovarian cancer and melanoma. Only compounds (IV) and (X) show sensitivity against leukemia, brain and lung cancer cells. Moreover, many of them show marked antiinflammatory activity. — (ABDOU*, W. M.; KHIDRE, R. E.; KAMEL, A. A.; Arch. Pharm. (Weinheim, Ger.) 345 (2012) 2, 123-136, <http://dx.doi.org/10.1002/ardp.201100080>; Chem. Ind. Div., Natl. Res. Cent., Dokki, Cairo 12622, Egypt; Eng.) —
R. Langenstrassen



I

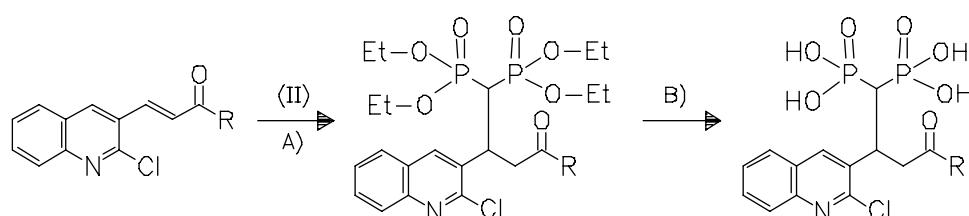
III

IV

a R: -Ph	75%	a 86%
b R:	72%	b 91%
c R:	72%	c 72%
d R:	70%	d 86%

A): EtONa, EtOH, 0°C → reflux

B): conc. aq. HCl, reflux

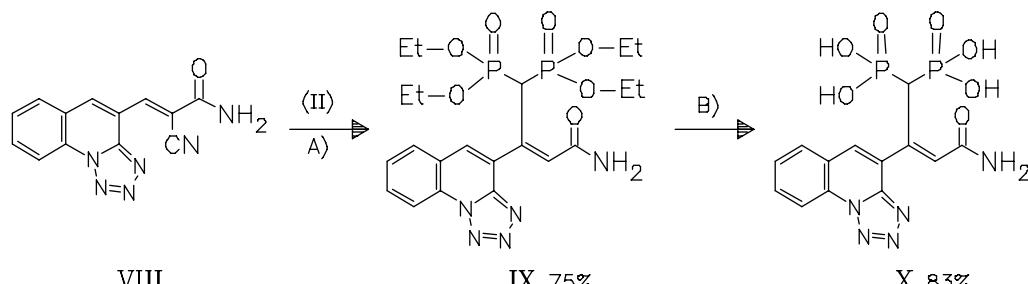


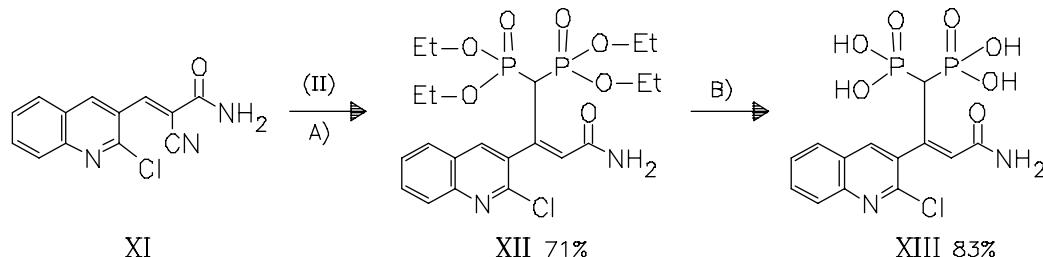
V

VI

VII

a 74%	a 82%
b 72%	b 78%
c 72%	c 84%
d 73%	d 83%



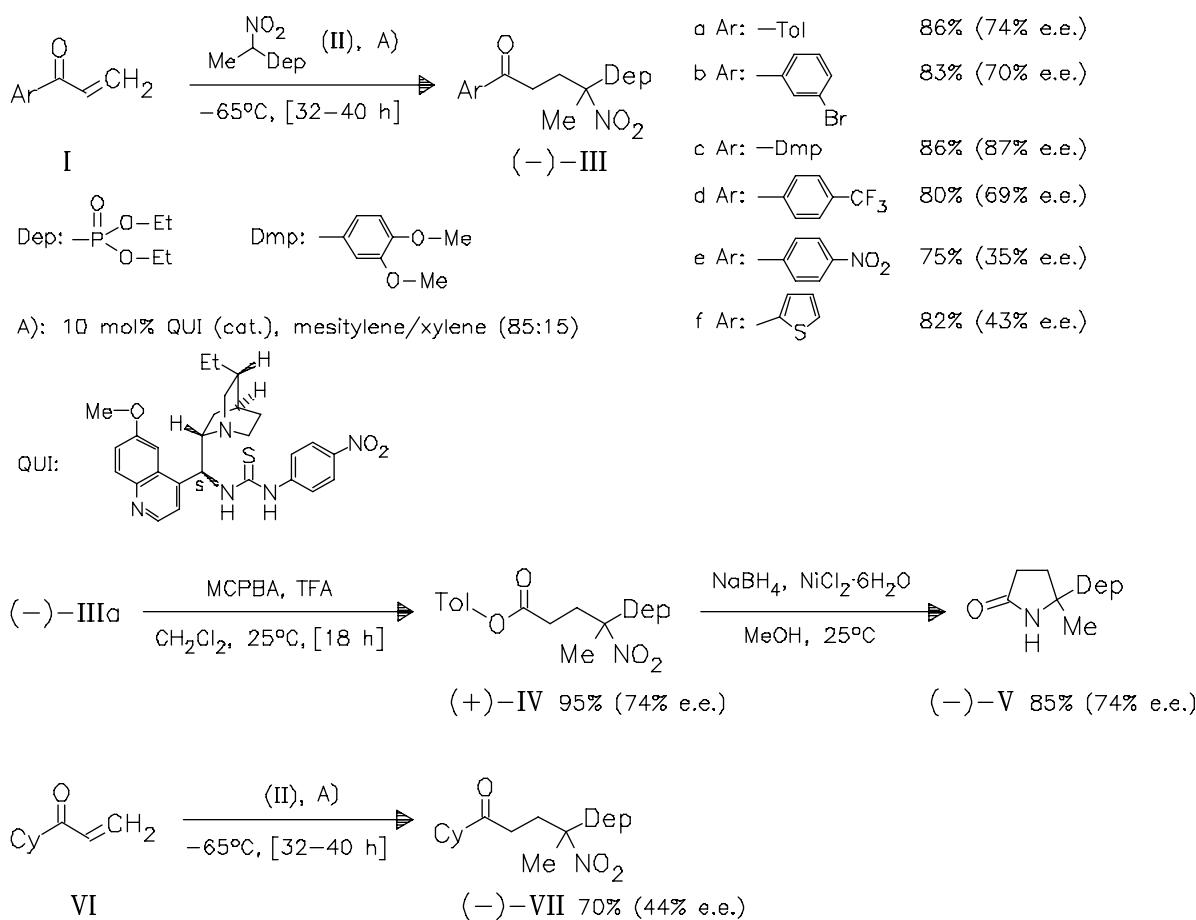


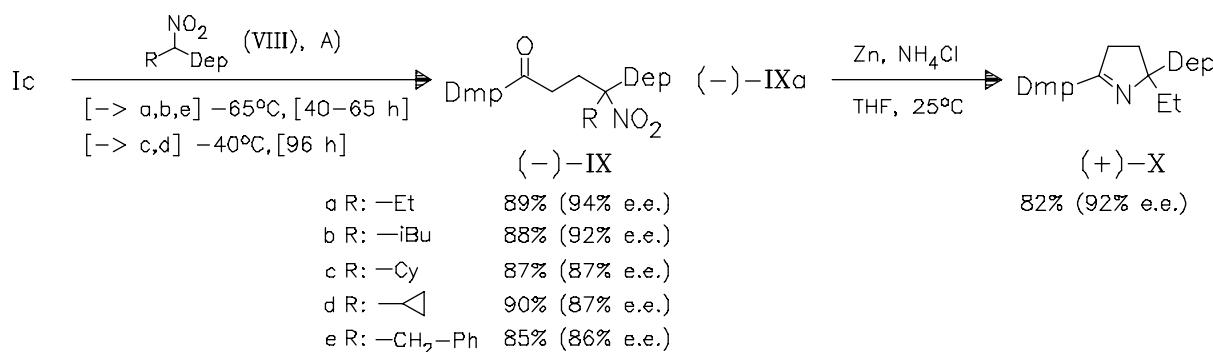
Organo-phosphorus compounds
S 0080

DOI: 10.1002/chin.201225201

25- 201

Enantioselective Synthesis of Quaternary α -Aminophosphonates via Conjugate Addition of α -Nitrophosphonates to Enones. — The reaction proceeds in the presence of a new alkaloid-derived thiourea catalyst. The scope of enones and nitrophosphonates investigated suggests that electron-rich aryl vinyl ketones (I) are excellent substrates. Selected transformations of the quaternary aminophosphonates are also reported. — (BERA, K.; NAMBOOTHIRI*, I. N. N.; Org. Lett. 14 (2012) 4, 980-983, <http://dx.doi.org/10.1021/o1203132h>; Dep. Chem., Indian Inst. Technol., Mumbai 400 076, India; Eng.) — Bartels





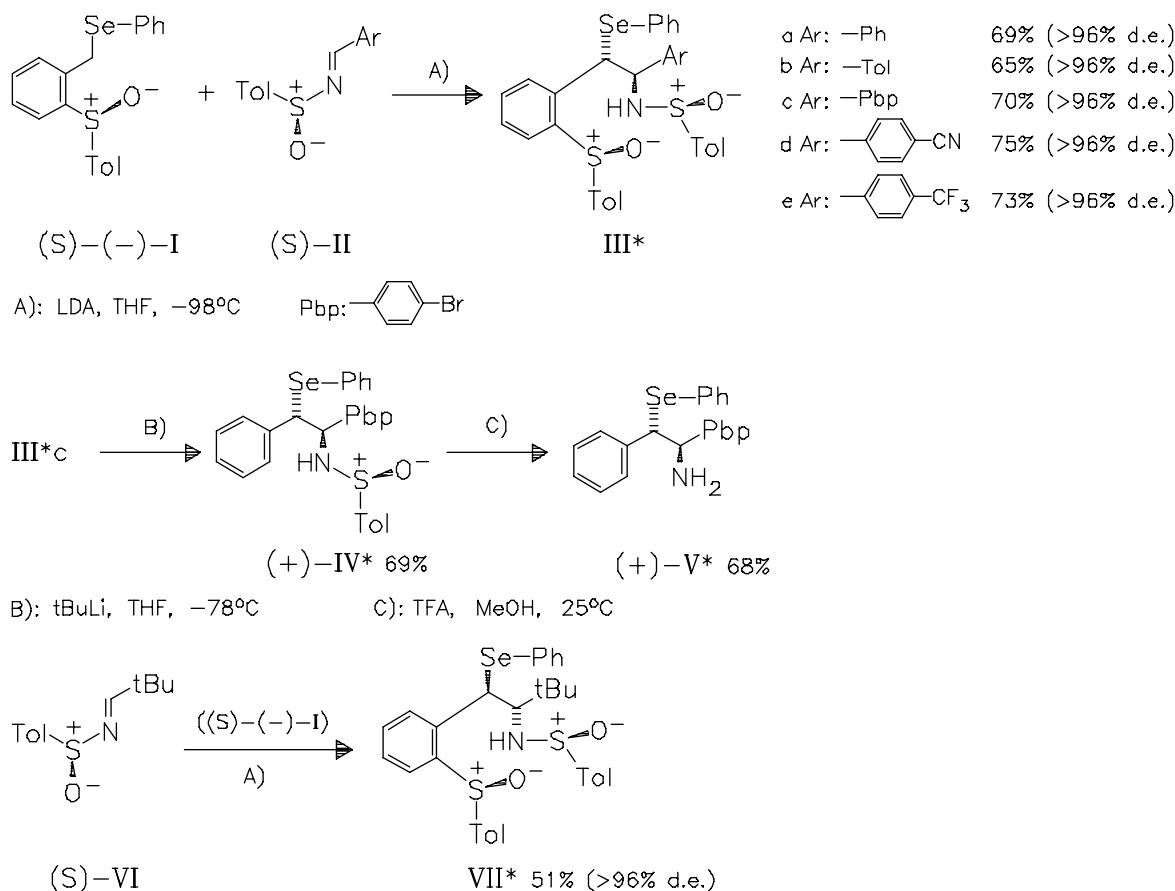
Organoselenium compounds

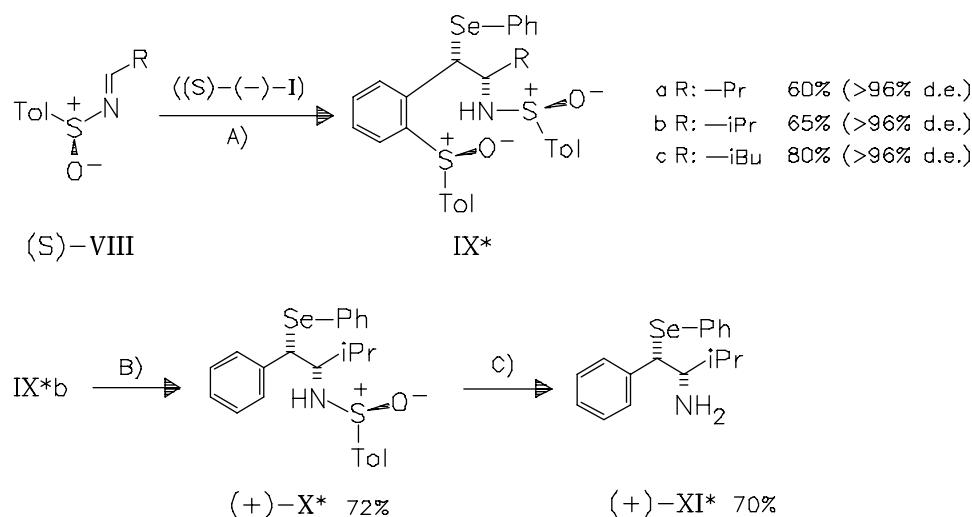
S 0130

25- 202

DOI: 10.1002/chin.201225202

Synthesis of Enantiomerically Pure anti-1,2-Diaryl and syn-1, 2-Alkylaryl vic-Selenoamines. — Treatment of selenide (I) with the sulfinylarylimines (II) allows highly stereoselective formation of anti-1,2-diaryl selenoamines. The reaction with aliphatic (S)-sulfinylimines provides the corresponding syn-adducts, with exception of the bulky tBu derivative (VI) which yields the anti-isomer (VII). — (GARCIA RUANO*, J. L.; TORRENTE, E.; ALONSO, I.; RODRIGUEZ, M.; MARTIN-CASTRO, A. M.; DEGL'INNOCENTI, A.; FRATESCHI, L.; CAPPERUCCI, A.; *J. Org. Chem.* 77 (2012) 4, 1974-1982, <http://dx.doi.org/10.1021/jo202611v>; Dep. Quim. Org., Univ. Auton., Cantoblanco, E-28049 Madrid, Spain; Eng.) — Jannicke





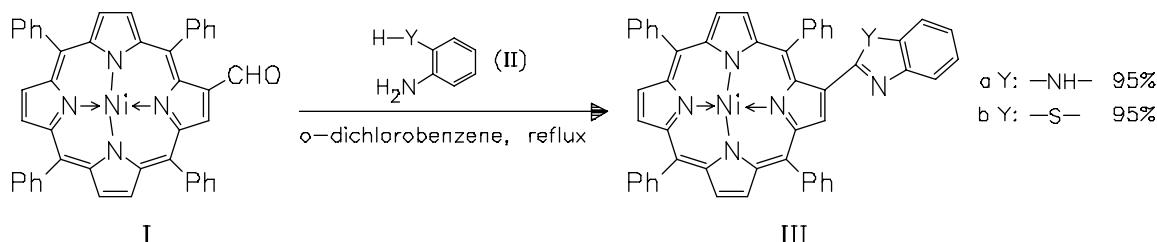
Organic-nickel compounds

S 7300

DOI: 10.1002/chin.201225203

25- 203

An Efficient Synthetic Approach to Novel Nickel(II) 2-Benzazolo-5,10,15,20-tetraphenylporphyrins. — (SHARMA, S.; NATH*, M.; *J. Heterocycl. Chem.* 49 (2012) 1, 88-92, <http://dx.doi.org/10.1002/jhet.664>; Dep. Chem., Univ. Delhi, Delhi 110 007, India; Eng.) — G. Mueller



Natural Products

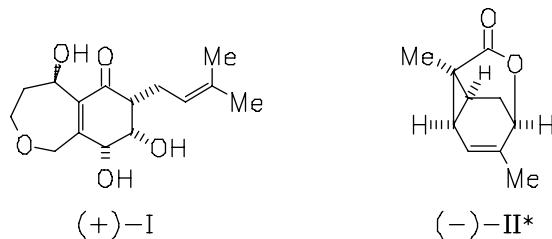
Terpenes

U 0200

DOI: 10.1002/chin.201225204

25- 204

Two New Terpenoids from Endophytic Fungus *Periconia* sp. F-31. — The two new terpenoids, (+)-periconone A (I) and (-)-2-caren-4,8-olide (II), display low antitumor activities against six human tumor cell lines. — (GE, H.-L.; ZHANG, D.-W.; LI, L.; XIE, D.; ZOU, J.-H.; SI, Y.-K.; DAI*, J.; *Chem. Pharm. Bull.* 59 (2011) 12, 1541-1544; Inst. Materia Med., Chin. Acad. Med. Sci., Beijing 100050, Peop. Rep. China; Eng.) — C. Cyrus

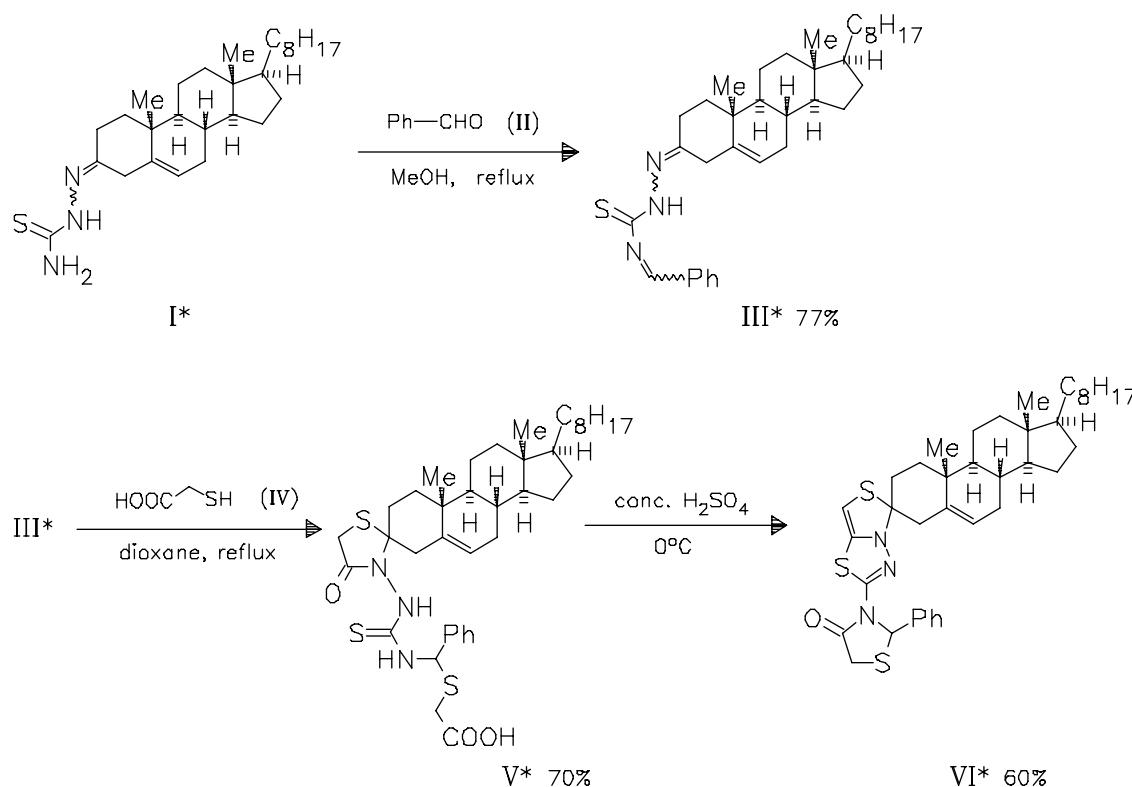


Steroids
U 0300

25- 205

DOI: 10.1002/chin.201225205

Facile Synthesis of Steroidal Complex (VI) Having Three Heterocyclic Moieties. — (SHAMSUZZAMAN*; SIDDIQUI, T.; ALAM, M. G.; Indian J. Chem., Sect. B: Org. Chem. Incl. Med. Chem. 51 (2012) 2, 370-373 ; Dep. Chem., Aligarh Muslim Univ., Aligarh 202 002, India; Eng.) — H. Toeppel

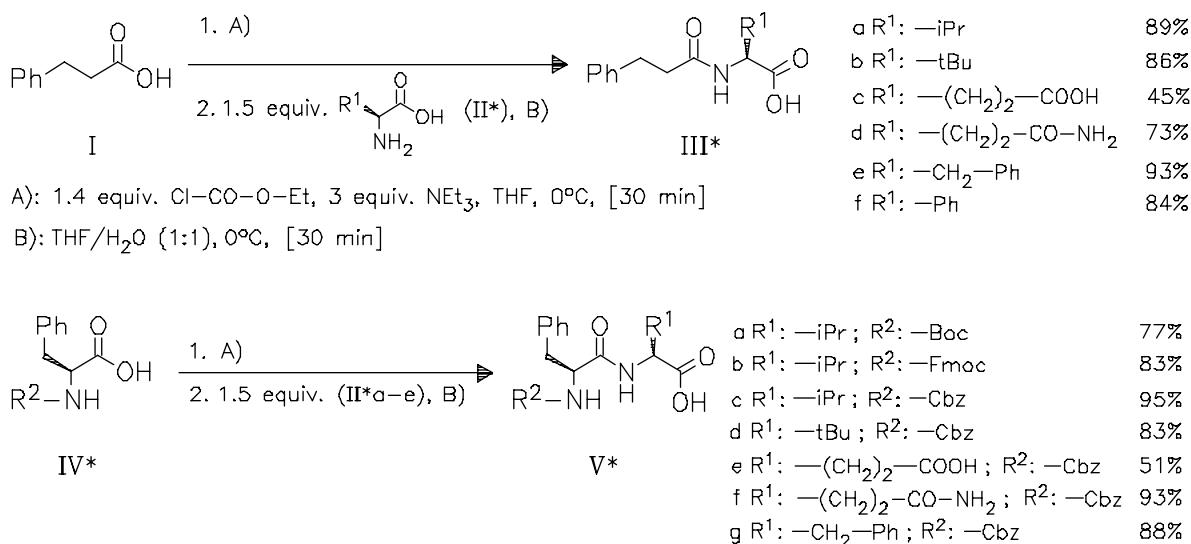


Peptides
U 0400

25- 206

DOI: 10.1002/chin.201225206

Convenient Peptide Synthesis Without Protection of C-Terminals. — A convenient protocol for the condensation of carboxylic acids with unprotected α -amino acids via activation by ethyl chloroformate and triethylamine is presented. — (NOGUCHI, T.; TEHARA, N.; UESUGI, Y.; JUNG, S.; IMAI*, N.; Chem. Lett. 41 (2012) 1, 42-43, <http://dx.doi.org/10.1246/cl.2012.42> ; Fac. Pharm., Chiba Inst. Sci., Choshi, Chiba 288, Japan; Eng.) — D. Singer



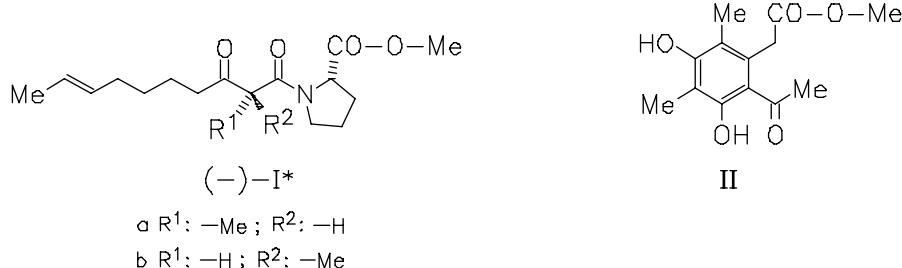
Amino acids

U 0400

25- 207

DOI: 10.1002/chin.201225207

Tumonoic Acids K and L, Novel Metabolites from the Marine-Derived Fungus *Penicillium citrinum* — [isolation, structure and cytotoxicity of new ester (II) and epimeric tumonoic acids (I) as well as nine known compounds]. — (CHEN*, L.; HUANG, K.; ZHONG, P.; HU, X.; FANG, Z.-X.; WU, J.-L.; ZHANG, Q.-Q.; *Heterocycles* 85 (2012) 2, 413-419, <http://dx.doi.org/10.3987/com-11-12380>; Coll. Chem. Eng., Fuzhou Univ., Fuzhou 350002, Fujian, Peop. Rep. China; Eng.) — R. Staver



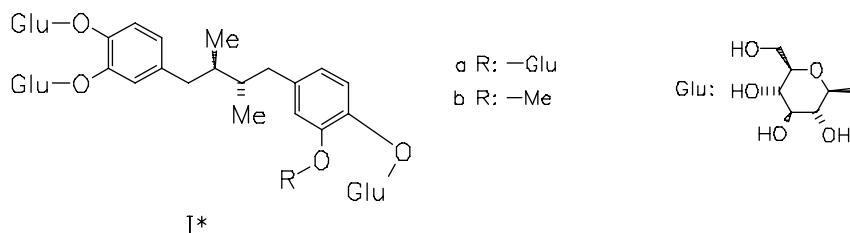
Carbohydrates

U 0500

25- 208

DOI: 10.1002/chin.201225208

Larrealignans A and B, Novel Lignan Glycosides from the Aerial Parts of *Larrea tridentata*. — Title compounds (I) are found to show no cytotoxic activity. However, their aglycones show moderate cytotoxicity against human leukemia cells. — (YOKOSUKA*, A.; MATSUO, Y.; JITSUMO, M.; ADACHI, K.; MIMAKI, Y.; *Chem. Pharm. Bull.* 59 (2011) 12, 1467-1470; Dep. Med. Pharmacogn., Sch. Pharm., Tokyo Univ. Pharm. Life Sci., Hachioji, Tokyo 192-03, Japan; Eng.) — R. Langenstrassen

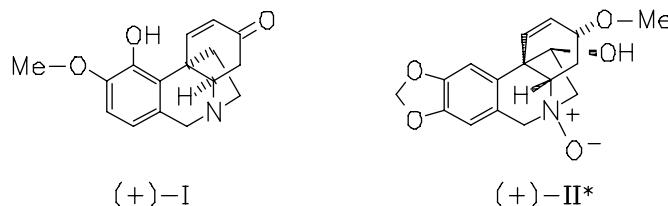


Alkaloids
U 0600

25- 209

DOI: 10.1002/chin.201225209

Two New Alkaloids from *Crinum asiaticum* var. *sinicum*. — [isolation and structure determination of two new alkaloids, seco-isopowellaminone (I), and crinamine N-oxide (II)]. — (KOGURE, N.; KATSUTA, N.; KITAJIMA, M.; TAKAYAMA*, H.; Chem. Pharm. Bull. 59 (2011) 12, 1545-1548 ; Fac. Pharm. Sci., Chiba Univ., Yayoi, Chiba 260, Japan; Eng.) — C. Cyrus

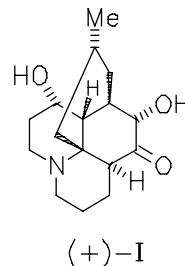


Alkaloids
U 0600

25- 210

DOI: 10.1002/chin.201225210

A New Lycopodine Alkaloid from *Huperzia serrata* — [isolation and structure elucidation of 6 α ,11 α -dihydroxylycopodine (I)]. — (SHAN, W.-G.; REN, F.-Y.; YING, Y.-M.; TONG, C.-P.; ZHAN*, Z.-J.; J. Chem. Res. 36 (2012) 1, 15-16, <http://dx.doi.org/10.3184/174751912x13249872110014> ; Coll. Pharm. Sci., Zhejiang Univ. Technol., Hangzhou 310014, Peop. Rep. China; Eng.) — C. Cyrus

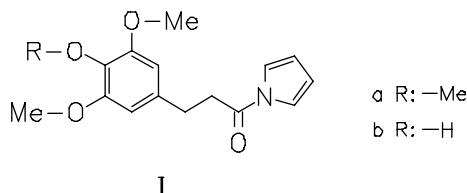


Alkaloids
U 0600

25- 211

DOI: 10.1002/chin.201225211

First Total Synthesis of Two New Amide Alkaloids (I) from *Piper boehmeriaefolium*. — (SHAN*, S.-J.; ZHANG, H.; WANG, X.-D.; J. Chem. Res. 36 (2012) 1, 56-57, <http://dx.doi.org/10.3184/174751912x13263881939640> ; Sch. Pharm. Chem. Eng., Guangdong Pharm. Univ., Zhongshan 528458, Peop. Rep. China; Eng.) — C. Cyrus

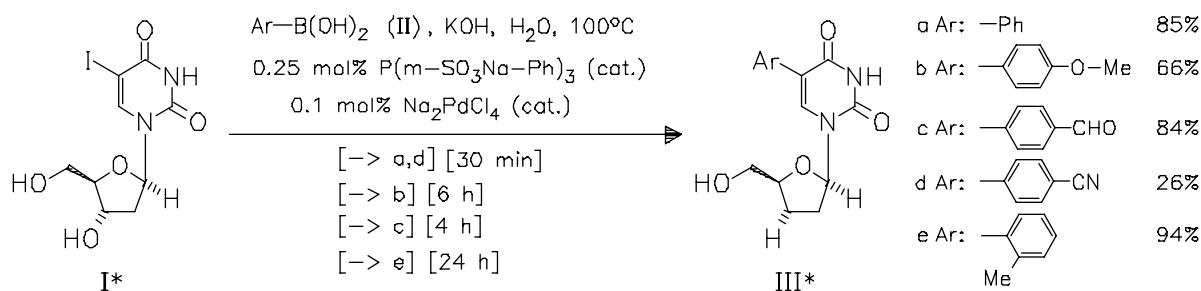


Nucleic acids
U 0700

25- 212

Highly Effective Synthesis of C-5-Substituted 2'-Deoxyuridine Using

Suzuki—Miyaura Cross-Coupling in Water. — Target compounds bearing various aryl groups at the 5-position are prepared under very low catalyst loadings. — (SARTORI, G.; ENDERLIN, G.; HERVE, G.; LEN*, C.; *Synthesis* 2012, 5, 767-772, <http://dx.doi.org/10.1055/s-0031-1289709>; ESCOM-UTC, Cent. Rech. R., F-60205 Compiegne, Fr.; Eng.) — Mais



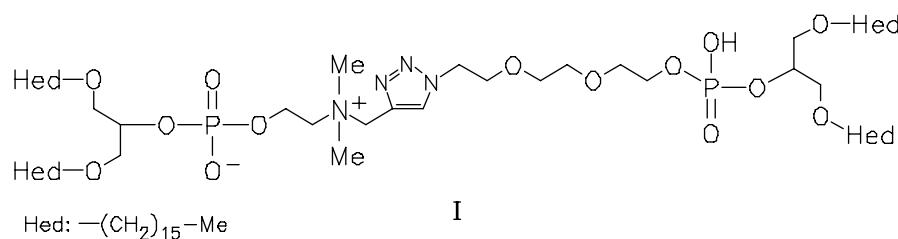
Lipids
U 0750

25- 213

DOI: 10.1002/chin.201225213

Clickosomes — Using Triazole-Linked Phospholipid Connectors to Fuse Vesicles.

— Two complementary artificial diether phospholipids are synthesized and subjected to the Huisgen-Sharpless click reaction. The resulting lipid (I) can bridge the membranes of large unilamellar vesicles and cause their aggregation and ultimately their fusion. — (LOOSLI, F.; DOVAL, D. A.; GRASSI, D.; ZAFFALON, P.-L.; FAVARGER, F.; ZUMBUEHL*, A.; *Chem. Commun. (Cambridge)* 48 (2012) 10, 1604-1606, <http://dx.doi.org/10.1039/c2cc16827h>; Dep. Org. Chem., Univ. Geneva, CH-1211 Geneva 4, Switz.; Eng.) — M. Paetzel



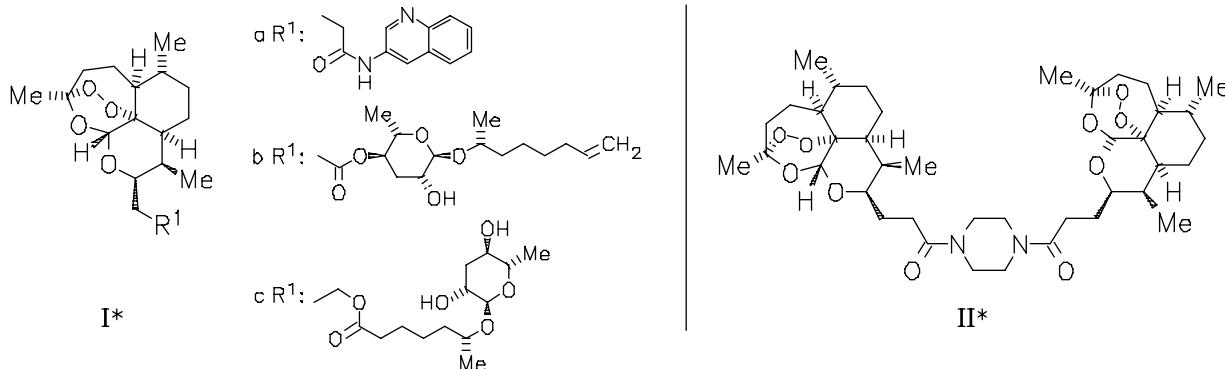
Lipids
U 0750

25- 214

DOI: 10.1002/chin.201225214

Discovery of Artemisinin-Glycolipid Hybrids as anti-Oral Cancer Agents.

Title compounds such as (I) and (II) show exceptional anticancer activity, particularly against oral carcinoma cancer cell lines. — (RICCI, J.; KIM, M.; CHUNG, W.-Y.; PARK, K.-K.; JUNG*, M.; Chem. Pharm. Bull. 59 (2011) 12, 1471-1475 ; Dep. Chem., Yonsei Univ., Seoul 120-749, S. Korea; Eng.) — R. Langenstrassen



Other natural products

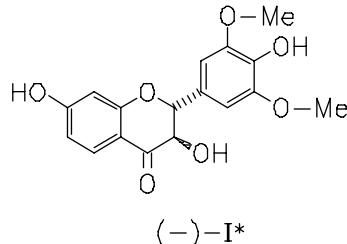
U 0800

25- 215

DOI: 10.1002/chin.201225215

Polyphenols from Sophora yunnanensis, and Their Inhibitory Effects on Nitric Oxide Production.

Sophorayunnanol (I) is isolated from the roots of *Sophora yunnanensis* along with eight known polyphenols. — (DAIKONYA, A.; KITANAKA*, S.; Chem. Pharm. Bull. 59 (2011) 12, 1567-1569 ; Sch. Pharm., Nihon Univ., Funabashi, Chiba 274, Japan; Eng.) — H. Toeppel



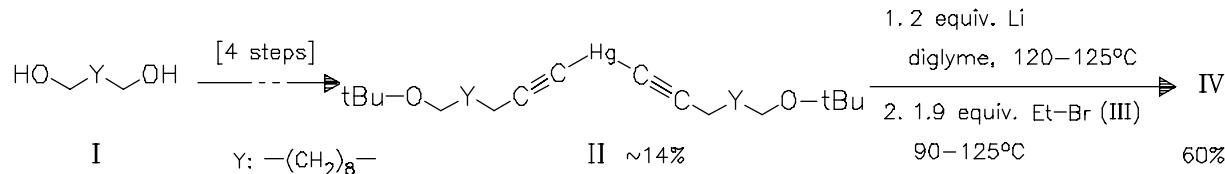
Pheromones
U 1280

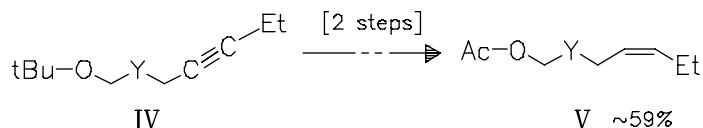
25- 216

DOI: 10.1002/chin.201225216

Exo- and Endohormones. Part 24. A Convenient Synthesis of (Z)-11-Tetradecen-1-yl Acetate, Component of Lepidoptera Insect Sex Pheromone.

Title compound (V) is synthesized starting from diol (I) using the lithiation and subsequent alkylation of di(t-butoxy-dodecyne)mercury (II) as the key step. — (GANSCA*, L.; ANDREICA, A.; CIOTLAUS, I.; MAXIM, S.; OPREAN, I.; Rev. Roum. Chim. 56 (2011) 7, 705-709 ; "Raluca Ripan" Inst. Res. Chem., Babes-Bolyai Univ., RO-400294 Cluj-Napoca, Rom.; Eng.) — R. Langenstrassen





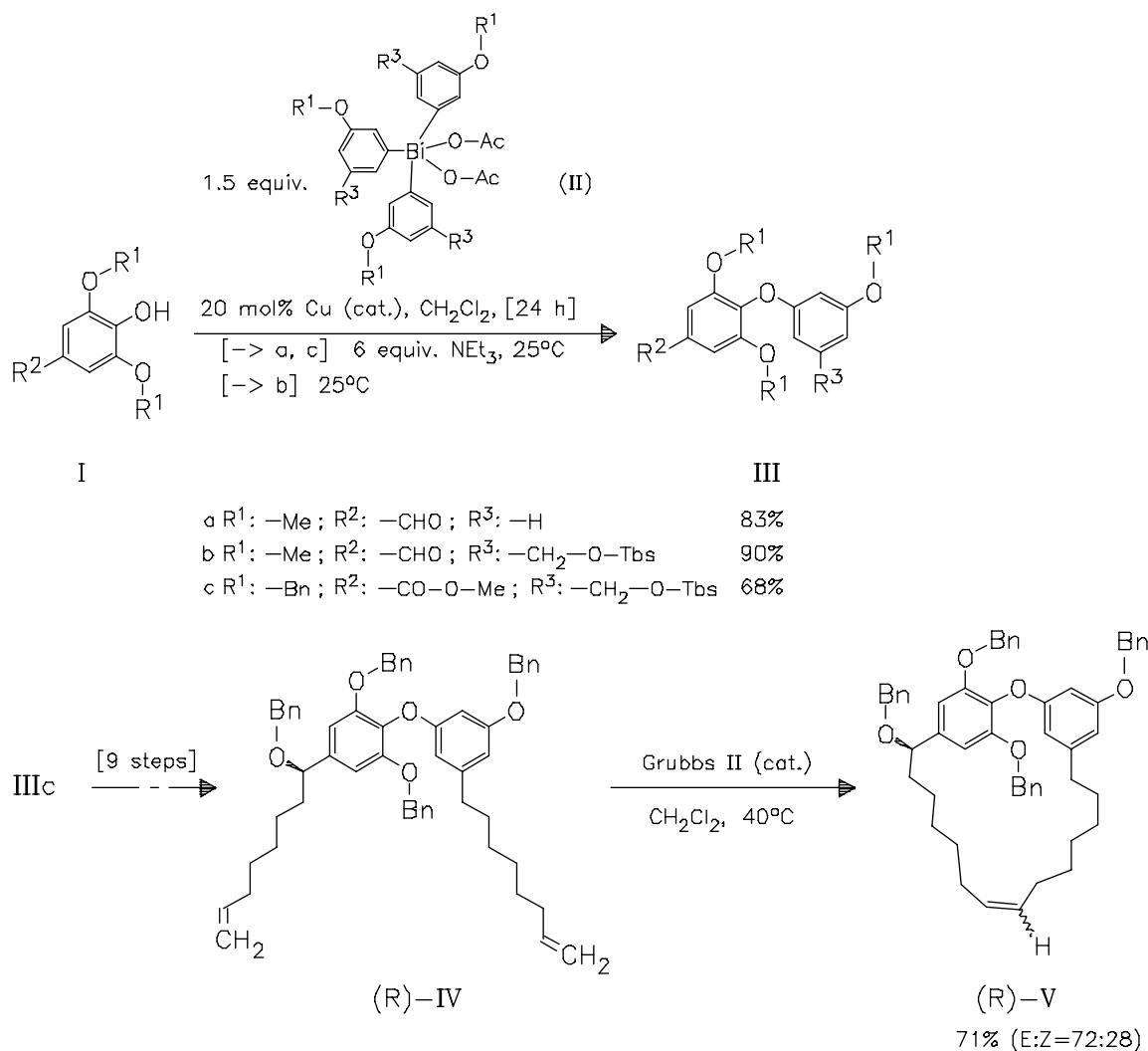
Other bioactive products

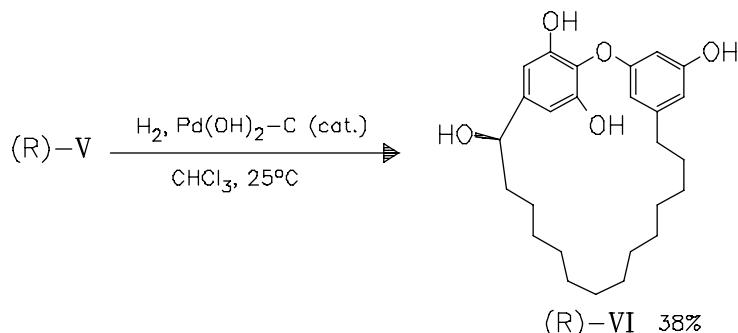
U 1300

25- 217

DOI: 10.1002/chin.201225217

The First Total Synthesis of Gravicyclic. — An efficient assembly of highly functionalized biaryl ethers (III) via Cu-catalyzed O-arylation of suitably protected pyrogallol derivatives (I) using triaryl bismuth (V) diacetate is developed and applied to the total synthesis of gravicyclic (VI). — (UEDA, K.; SATO*, I.; HIRAMA, M.; Chem. Lett. 41 (2012) 1, 87-89, <http://dx.doi.org/10.1246/cl.2012.87>; Res. Anal. Cent. Giant Mol., Grad. Sch. Sci., Tohoku Univ., Sendai, Miyagi 980, Japan; Eng.) — D. Singer





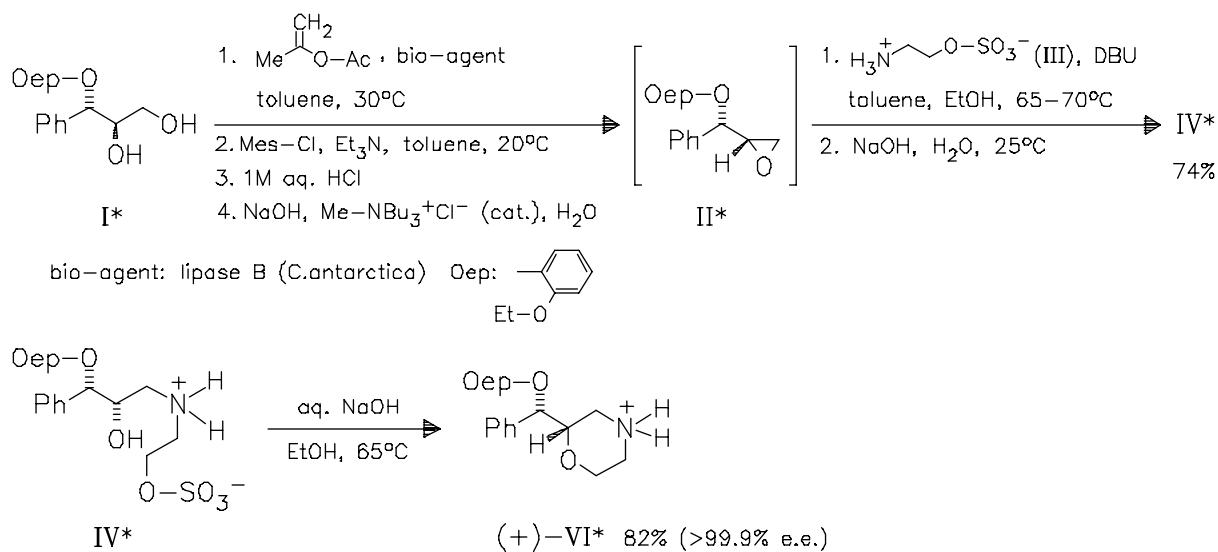
Other bioactive products

U 1300

DOI: 10.1002/chin.201225218

25- 218

The Use of Environmental Metrics to Evaluate Green Chemistry Improvements to the Synthesis of (S,S)-Reboxetine Succinate. — The initial route to reboxetine (V), isolated as succinate, is based on a classical resolution approach generating high levels of waste. Replacing this route by an enantiospecific approach involve Sharpless epoxidation of cinnamyl alcohol to generate chiral diol (I), an enzymatic step to selectively protect the primary alcohol group, and a new method of chiral morpholine construction as the key steps. These improvements generate more than 90% less waste than the original Pharmacia process, with an almost five-fold increase in overall yield. — (HARRIS*, L. J.; et al.; *Green Chem.* 14 (2012) 1, 123-129, <http://dx.doi.org/10.1039/c1gc15921f>; Sandwich Lab., Pfizer Global Res. Dev., Sandwich, Kent CT13 9NJ, UK; Eng.) — H. Hoennerscheid



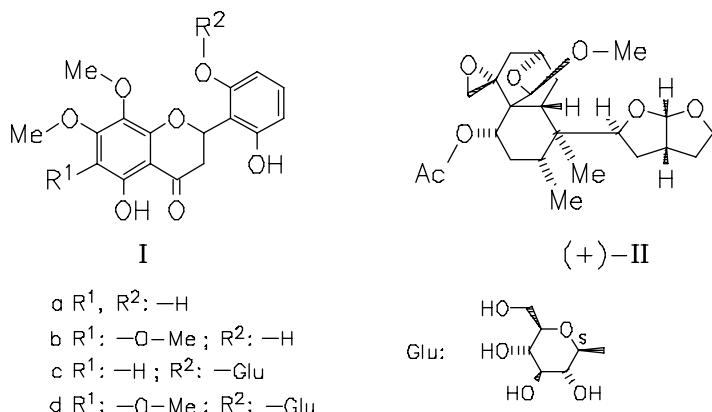
Other bioactive products

U 1300

DOI: 10.1002/chin.201225219

25- 219

Constituents of Lagochilus leiacanthus (Labiatae). — Two new flavones (Ia), (Ib), their 2'-O- β -D-glucosides and 15-demethoxyscupolin (II) are isolated from the whole title herb. Flavones (Ia) and (Ib) show inhibitory activity on the release of β -hexosaminidase. — (FURUKAWA, M.; SUZUKI, H.; MAKINO, M.; OGAWA, S.; IIDA*, T.; FUJIMOTO, Y.; *Chem. Pharm. Bull.* 59 (2011) 12, 1535-1540; Dep. Chem., Coll. Human. Sci., Nihon Univ., Setagaya, Tokyo 156, Japan; Eng.) — R. Langenstrassen



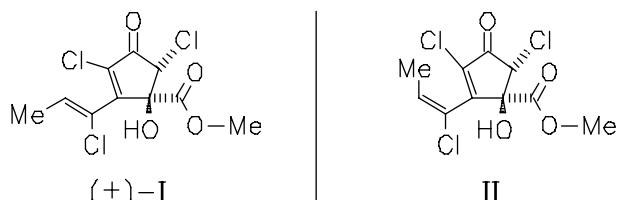
Other bioactive products

U 1300

DOI: 10.1002/chin.201225220

25- 220

Palmaenones A and B, Two New Antimicrobial Chlorinated Cyclopentenones from Discomycete *Lachnum palmae* — [isolation and structure elucidation]. — (MATSUMOTO, T.; HOSOYA, T.; TOMODA, H.; SHIRO, M.; SHIGEMORI*, H.; Chem. Pharm. Bull. 59 (2011) 12, 1559-1561 ; Grad. Sch. Life Environ. Sci., Univ. Tsukuba, Tsukuba, Ibaraki 305, Japan; Eng.) — H. Toeppel



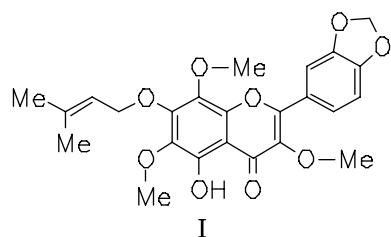
Other bioactive products

U 1300

DOI: 10.1002/chin.201225221

25- 221

A New Flavone from the Melicope patulinervia (Merr. & Chun) Huang. — A new flavone (I) is isolated together with three known flavones. Compound (I) shows high activities against *Fusarium graminearum* Schw, *Exerohilum turicum* and, especially, *Botrytis cinerea* Pers. — (LIU, T.; LIAO, H.; YUAN*, K.; ZHANG, Y.; J. Chem. Res. 36 (2012) 1, 31-33,
<http://dx.doi.org/10.3184/174751912x13252506428852> ; State Key Lab. Subtrop. Silvicult., Zhejiang Agric. Forest. Univ., Lin'an 311300, Peop. Rep. China; Eng.) — C. Cyrus



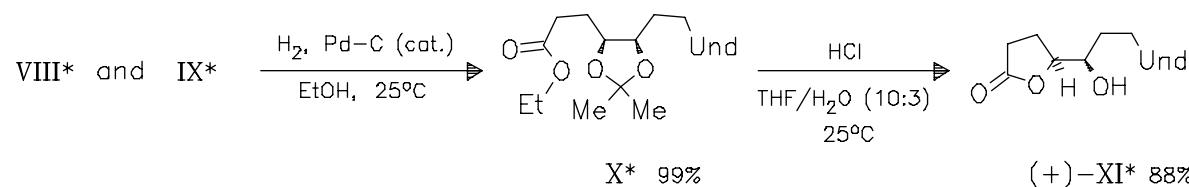
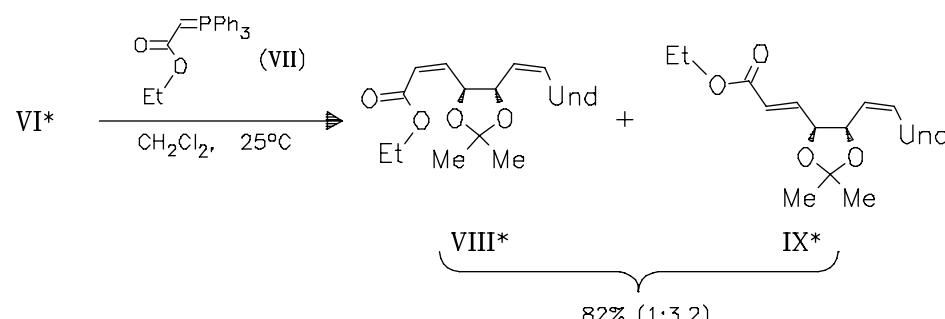
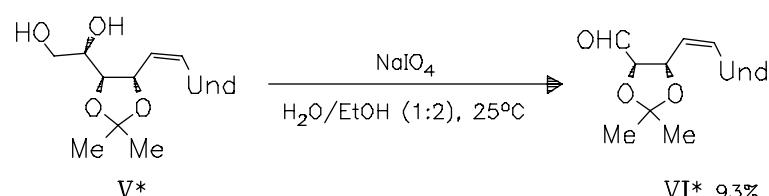
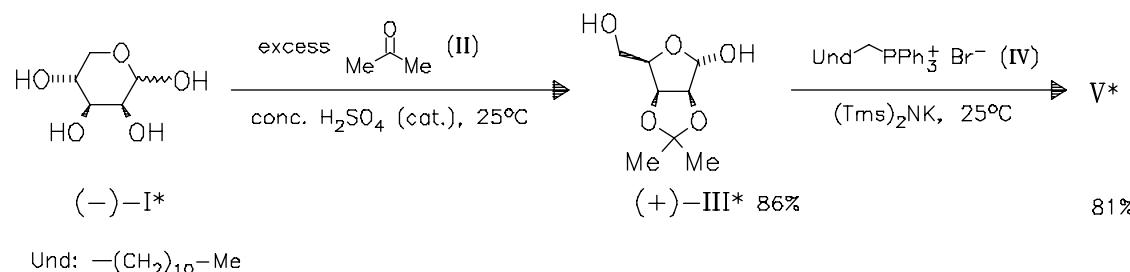
Other bioactive products

U 1300

25- 222

DOI: 10.1002/chin.201225222

Asymmetric Synthesis of (-)-Muricatacin's Analogue (4S,5R)-5-Hydroxy-4-octadecanolide (XI) Exhibiting the Cytotoxicity Against Esophageal Cancer Cells. — (TSAI*, Y.-F.; HUANG, C.-C.; LIN, S.-H.; SU, P.-M.; CHEN, Y.-J.; WU, T.-Y.; *Heterocycles* 85 (2012) 2, 299-304, <http://dx.doi.org/10.3987/com-11-12397>; Dep. Chem., Chung Yuan Christian Univ., Chungli 320, Taiwan; Eng.) — R. Staver



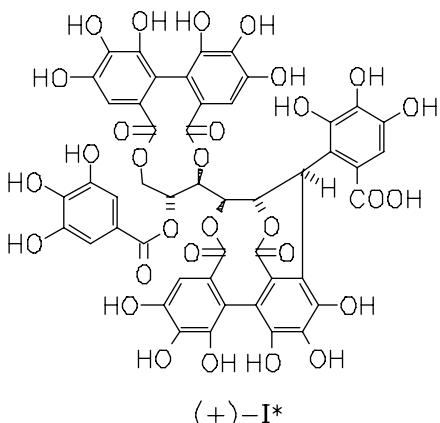
Other bioactive products

U 1300

25- 223

DOI: 10.1002/chin.201225223

Hydrolysable Tannins Isolated from *Syzygium aromaticum*: Structure of a New C-Glucosidic Ellagitannin and Spectral Features of Tannins with a Tergalloyl Group — [isolation and structure elucidation of novel tannin, aromatinin A (I)]. — (BAO, L.-M.; EERDUNBAYAER; NOZAKI, A.; TAKAHASHI, E.; OKAMOTO, K.; ITO, H.; HATANO*, T.; *Heterocycles* 85 (2012) 2, 365-381, <http://dx.doi.org/10.3987/com-11-12392>; Dep. Nat. Prod. Chem., Okayama Univ., Okayama 700, Japan; Eng.) — R. Staver



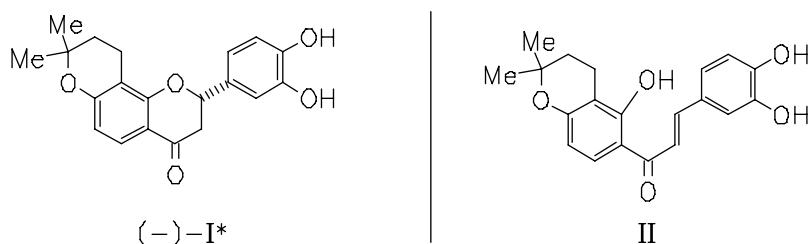
Other bioactive products

U 1300

25- 224

DOI: 10.1002/chin.201225224

Potent Antioxidant and Lipoxygenase Inhibitory Flavanone and Chalcone from Erythrina mildbraedii Harms (Fabaceae) of Cameroon. — The new flavanone, mildbone (I), and the new chalcone, mildbenone (II), show significant antioxidant and moderate lipoxygenase inhibitory activities. — (ALI*, M. S.; ALI, M. I.; AHMED, G.; AFZA, N.; LATEEF, M.; IQBAL, L.; WAFFO, A. F. K.; AHMED, Z.; Z. Naturforsch., B: Chem. Sci. 67 (2012) 1, 98-102 ; H. E. J. Res. Inst. Chem., Univ. Karachi, Karachi 75270, Pak.; Eng.) — H. Toeppel



Other Subjects

Nanotechnology

V 1505

25- 225

DOI: 10.1002/chin.201225225

Morphology Controlled Synthesis of LiV₂O₅/Ag Nanocomposite Nanotubes with Enhanced Electrochemical Performance. — Uniformly embedded Ag nanoparticles in orthorhombic nanotubes of LiV₂O₅ are hydrothermally synthesized from aqueous mixtures of LiNO₃, AgNO₃, NH₄VO₃, and HNO₃ (autoclave, 80 °C, 24 h). The samples are characterized by XRD, HRTEM, FESEM, and electrochemical measurements. The composite nanotubes exhibit an excellent morphology with good crystallinity, and may act as exceptional contender for supercapacitors in electronic applications. — (DIGGIKAR, R. S.; DHAVALA, V. M.; SHINDE, D. B.; KANBARGI, N. S.; KULKARNI, M. V.; KALE*, B. B.; RSC Adv. 2 (2012) 8, 3231-3233, <http://dx.doi.org/10.1039/c2ra01289h> ; Div. Phys. Chem., Natl. Chem. Lab., Pune 411 008, India; Eng.) — W. Pewestorf

Reviews

Inorganic chemistry

Z 0100

25- 226

Photocatalytic Reduction of CO₂ with H₂O on Various Titanium Oxide Photocatalysts — [16 refs.]. — (MORI, K.; YAMASHITA, H.; ANPO*, M.; RSC Adv. 2 (2012) 8, 3165-3172, <http://dx.doi.org/10.1039/c2ra01332k>; Dep. Appl. Chem., Grad. Sch. Eng., Osaka Prefect. Univ., Sakai, Osaka 599, Japan; Eng.) — W. Pewestorf

DOI: 10.1002/chin.201225226

Inorganic chemistry

Z 0100

25- 227

A Review on Synthesis, Characterization and Industrial Applications of Flyash Zeolites — [132 refs.]. — (JHA, B.; SINGH, D. N.; J. Mater. Educ. 33 (2011) 1-2, 65-132; Dep. Civil Eng., Indian Inst. Technol., Mumbai 400 076, India; Eng.) — Schramke

DOI: 10.1002/chin.201225227

Inorganic chemistry

Z 0100

25- 228

Rare Earth Elements and Permanent Magnets (Invited) — [10 refs.]. — (DENT, P. C.; J. Appl. Phys. 111 (2012) 7, 07A721, 1-6; Electron Energy Corp., Landisville, PA 17538, USA; Eng.) — Schramke

DOI: 10.1002/chin.201225228

Inorganic chemistry

Z 0100

25- 229

Emergent Magnetic Monopoles, Disorder, and Avalanches in Artificial Kagome Spin Ice (Invited) — [38 refs.]. — (HUEGLI, R. V.; DUFF, G.; O'CONCHUIR, B.; MENGOTTI, E.; HEYDERMAN, L. J.; RODRIGUEZ, A. F.; NOLTING, F.; BRAUN, H. B.; J. Appl. Phys. 111 (2012) 7, 07E103, 1-5; Sch. Phys., Trinity Coll., Dublin, Ire.; Eng.) — Schramke

DOI: 10.1002/chin.201225229

Inorganic chemistry

Z 0100

25- 230

GaN Based Nanorods for Solid State Lighting — [focus on GaN nanorod growth conditions and growth mechanisms; 143 refs.]. — (LI, S.; WAAG, A.; J. Appl. Phys. 111 (2012) 7, 071101, 1-23; Inst. Halbleitertech., TU Braunschweig, D-38106 Braunschweig, Germany; Eng.) — Schramke

DOI: 10.1002/chin.201225230

Coordination chemistry

Z 0150

25- 231

A Method for Topological Analysis of High Nuclearity Coordination Clusters and Its Application to Mn Coordination Compounds — [46 refs.]. — (KOSTAKIS, G. E.; BLATOV, V. A.; PROSERPIO, D. M.; Dalton Trans. 41 (2012) 15, 4634-4640; Inst. Nanotech., Forschungszent. Karlsruhe, D-76344 Eggenstein, Germany; Eng.) — Lindner

DOI: 10.1002/chin.201225231

Coordination chemistry

Z 0150

25- 232

PCP-Bridged Chalcogen-Centered Anions: Coordination Chemistry and Carbon-Based Reactivity — [88 refs.]. — (CHIVERS, T.; KONU, J.; THIRUMOORTHI, R.; Dalton Trans. 41 (2012) 15, 4283-4295 ; Dep. Chem., Univ. Calgary, Calgary, Alberta T2N 1N4, Can.; Eng.) — Lindner

DOI: 10.1002/chin.201225232

Coordination chemistry

Z 0150

25- 233

Metal Complexes of Monocarbon Carbonanes: A Neglected Area? — [30 refs.]. — (MCGRATH, T. D.; Comments Inorg. Chem. 32 (2011) 1, 5-13 ; Dep. Chem. Biochem., Baylor Univ., Waco, TX 76798, USA; Eng.) — Lindner

DOI: 10.1002/chin.201225233

Organic chemistry

Z 0200

25- 234

Organic Reactions in Subcritical and Supercritical Water — [85 refs.]. — (KUS, N. S.; Tetrahedron 68 (2012) 4, 949-958, <http://dx.doi.org/10.1016/j.tet.2011.10.070> ; Dep. Chem., Fac. Arts Sc., Univ. Mersin, TR-33343 Mersin, Turk.; Eng.) — Klein

DOI: 10.1002/chin.201225234

Organic chemistry

Z 0200

25- 235

Light-Harvesting Hybrid Assemblies — [69 refs.]. — (RAO, K. V.; DATTA, K. K. R.; ESWARAMOORTHY, M.; GEORGE*, S. J.; Chem. Eur. J. 18 (2012) 8, 2184-2194, <http://dx.doi.org/10.1002/chem.201103601> ; New Chem. Unit, Jawaharlal Nehru Cent. Adv. Sci. Res., Bangalore 560 064, India; Eng.) — C. Gebhardt

DOI: 10.1002/chin.201225235

Organic chemistry

Z 0200

25- 236

Dienamine Catalysis: An Emerging Technology in Organic Synthesis — [114 refs.]. — (RAMACHARY*, D. B.; REDDY, Y. V.; Eur. J. Org. Chem. 2012, 5, 865-887, <http://dx.doi.org/10.1002/ejoc.201101157> ; Sch. Chem., Univ. Hyderabad, Hyderabad 500 046, India; Eng.) — S. Adam

DOI: 10.1002/chin.201225236

Organic chemistry

Z 0200

25- 237

New Directions in Ketene Chemistry: The Land of Opportunity — [85 refs.]. — (ALLEN, A. D.; TIDWELL*, T. T.; Eur. J. Org. Chem. 2012, 6, 1081-1096, <http://dx.doi.org/10.1002/ejoc.201101230> ; Dep. Chem., Univ. Toronto, Toronto, Ont. M5S 3H6, Can.; Eng.) — S. Adam

DOI: 10.1002/chin.201225237

Organic chemistry

Z 0200

25- 238

Olefin Cross-Metathesis for the Synthesis of Heteroaromatic Compounds. — [52 refs.]. — (DONOHUE*, T. J.; BOWER, J. F.; CHAN, L. K. M.; Org. Biomol. Chem. 10 (2012) 7, 1322-1328, <http://dx.doi.org/10.1039/c2ob06659a> ; Dep. Chem., Univ. Oxford, Oxford OX1 3TA, UK; Eng.) — C. Gebhardt

DOI: 10.1002/chin.201225238

Organic chemistry
Z 0200

25- 239

Peptide and Glycopeptide Dendrimer Apple Trees as Enzyme Models and for Biomedical Applications. — [84 refs.]. — (REYMOND*, J.-L.; DARBBRE, T.; Org. Biomol. Chem. 10 (2012) 8, 1483-1492, <http://dx.doi.org/10.1039/c2ob06938e> ; Dep. Chem. Biochem., Univ. Bern, CH-3012 Bern, Switz.; Eng.) — Klein

DOI: 10.1002/chin.201225239

Organic chemistry
Z 0200

25- 240

Combined Coinage Metal Catalysis for the Synthesis of Bioactive Molecules — [73 refs.]. — (KRAUSE*, N.; et al.; J. Organomet. Chem. 704 (2012) 1-8, <http://dx.doi.org/10.1016/j.jorgancem.2012.01.008> ; Org. Chem. II, TU Dortmund, D-44227 Dortmund, Germany; Eng.) — Lindner

DOI: 10.1002/chin.201225240

Organic chemistry
Z 0200

25- 241

Transition-Metal-Catalyzed Functionalization of Propargylic Alcohols and Their Derivatives — [ca. 150 refs.]. — (BAUER, E. B.; Synthesis 2012, 8, 1131-1151, <http://dx.doi.org/10.1055/s-0031-1290503> ; Dep. Chem. Biochem., Univ. Mo., St. Louis, MO 63121, USA; Eng.) — Lindner

DOI: 10.1002/chin.201225241

Organic chemistry
Z 0200

25- 242

Functionalized Cyclodextrins as First and Second Coordination Sphere Ligands for Aqueous Organometallic Catalysis — [46 refs.]. — (HAPIOT*, F.; BRICOUT, H.; TILLOY, S.; MONFLIER, E.; Eur. J. Inorg. Chem. 2012, 10, 1571-1578, <http://dx.doi.org/10.1002/ejic.201101316> ; Univ. Lille, F-59000 Lille, Fr.; Eng.) — Lindner

DOI: 10.1002/chin.201225242

Organic chemistry
Z 0200

25- 243

Functional Porous Organic Polymers for Heterogeneous Catalysis — [65 refs.]. — (ZHANG, Y.; RIDUAN, S. N.; Chem. Soc. Rev. 41 (2012) 6, 2083-2094, <http://dx.doi.org/10.1039/c1cs15227k> ; Inst. Bioeng. Nanotechnol., Singapore 138669, Singapore; Eng.) — Lindner

DOI: 10.1002/chin.201225243

Organic chemistry
Z 0200

25- 244

Recent Developments in Metal Catalyzed Asymmetric Addition of Phosphorus Nucleophiles. — [48 refs.]. — (ZHAO, D.; WANG*, R.; Chem. Soc. Rev. 41 (2012) 6, 2095-2108, <http://dx.doi.org/10.1039/c1cs15247e> ; Dep. Biochem. Mol. Biol., Sch. Life Sci., Lanzhou Univ., Lanzhou 730000, Peop. Rep. China; Eng.) — Lindner

DOI: 10.1002/chin.201225244

Organic chemistry
Z 0200

25- 245

Amidines, Isothioureas, and Guanidines as Nucleophilic Catalysts — [66 refs.]. — (TAYLOR*, J. E.; BULL, S. D.; WILLIAMS, J. M. J.; Chem. Soc. Rev. 41 (2012) 6, 2109-2121, <http://dx.doi.org/10.1039/c2cs15288f>; Dep. Chem., Univ. Bath, Bath BA2 7AY, UK; Eng.) — Lindner

DOI: 10.1002/chin.201225245

Organic chemistry
Z 0200

25- 246

Fluorinated Amino Acids: Compatibility with Native Protein Structures and Effects on Protein—Protein Interactions — [245 refs.]. — (SALWICZEK*, M.; NYAKATURA, E. K.; GERLING, U. I. M.; YE, S.; KOKSCH, B.; Chem. Soc. Rev. 41 (2012) 6, 2135-2171, <http://dx.doi.org/10.1039/c1cs15241f>; Inst. Chem., FU Berlin, D-14195 Berlin, Germany; Eng.) — Lindner

DOI: 10.1002/chin.201225246

Organic chemistry
Z 0200

25- 247

Toxicity of Nanomaterials — [286 refs.]. — (SHARIFI, S.; BEHZADI, S.; LAURENT, S.; FORREST, M. L.; STROEVE, P.; MAHMOUDI*, M.; Chem. Soc. Rev. 41 (2012) 6, 2323-2343, <http://dx.doi.org/10.1039/c1cs15188f>; Natl. Cell Bank, Pasteur Inst. Iran, Tehran, Iran; Eng.) — Lindner

DOI: 10.1002/chin.201225247

Organic chemistry
Z 0200

25- 248

Vinyl Carbonates, Vinyl Carbamates, and Related Monomers: Synthesis, Polymerization, and Application — [88 refs.]. — (HUSAR, B.; LISKA*, R.; Chem. Soc. Rev. 41 (2012) 6, 2395-2405, <http://dx.doi.org/10.1039/c1cs15232g>; Inst. Angew. Synth. Chem., Tech. Univ., A-1060 Wien, Austria; Eng.) — Lindner

DOI: 10.1002/chin.201225248

Organic chemistry
Z 0200

25- 249

Low-Loading Asymmetric Organocatalysis — [194 refs.]. — (GIACALONE*, F.; GRUTTADAURIA, M.; AGRIMENTO, P.; NOTO, R.; Chem. Soc. Rev. 41 (2012) 6, 2406-2447, <http://dx.doi.org/10.1039/c1cs15206h>; Dip. Chim. Org. "E. Paterno", Univ. Palermo, I-90128 Palermo, Italy; Eng.) — Lindner

DOI: 10.1002/chin.201225249

Organic chemistry
Z 0200

25- 250

Gold Catalysis in Total Synthesis — An Update — [about 50 refs.]. — (RUDOLPH, M.; HASHMI*, A. S. K.; Chem. Soc. Rev. 41 (2012) 6, 2448-2462, <http://dx.doi.org/10.1039/c1cs15279c>; Org.-Chem. Inst., Ruprecht-Karls-Univ., D-69120 Heidelberg, Germany; Eng.) — Lindner

DOI: 10.1002/chin.201225250

Organic chemistry
Z 0200

DOI: 10.1002/chin.201225251

25- 251

Transition Metal-Catalyzed N-Arylations of Amidines and Guanidines — [200 refs.]. — (RAUWS, T. R. M.; MAES*, B. U. W.; Chem. Soc. Rev. 41 (2012) 6, 2463-2497, <http://dx.doi.org/10.1039/c1cs15236j>; Lab. Org. Synth., Univ. Antwerp, B-2020 Antwerpen, Belg.; Eng.) — Lindner

Organic chemistry
Z 0200

DOI: 10.1002/chin.201225252

25- 252

Transfer Hydrogenation with Hantzsch Esters and Related Organic Hydride Donors — [ca. 150 refs.]. — (ZHENG, C.; YOU*, S.-L.; Chem. Soc. Rev. 41 (2012) 6, 2498-2518, <http://dx.doi.org/10.1039/c1cs15268h>; State Key Lab. Organomet. Chem., Shanghai Inst. Org. Chem., Chin. Acad. Sci., Shanghai 200032, Peop. Rep. China; Eng.) — Lindner

Organic chemistry
Z 0200

DOI: 10.1002/chin.201225253

25- 253

Silver-Catalyzed Fluorination Reactions — [29 refs.]. — (XU, T.; LIU*, G.; Synlett 2012, 7, 955-958, <http://dx.doi.org/10.1055/s-0031-1290506>; State Key Lab. Organomet. Chem., Shanghai Inst. Org. Chem., Chin. Acad. Sci., Shanghai 200032, Peop. Rep. China; Eng.) — Lindner

Organic chemistry
Z 0200

DOI: 10.1002/chin.201225254

25- 254

Efficient H—D Exchange Reactions Using Heterogeneous Platinum-Group Metal on Carbon—H₂—D₂O System — [ca. 100 refs.]. — (SAWAMA, Y.; MONGUCHI, Y.; SAJIKI*, H.; Synlett 2012, 7, 959-972, <http://dx.doi.org/10.1055/s-0031-1289696>; Lab. Org. Chem., Gifu Pharm. Univ., Gifu 501-11, Japan; Eng.) — Lindner

Organic chemistry
Z 0200

DOI: 10.1002/chin.201225255

25- 255

Silicon-Bridged Biaryls: Molecular Design, New Synthesis, and Luminescence Control — [ca. 100 refs.]. — (SHIMIZU*, M.; HIYAMA, T.; Synlett 2012, 7, 973-989, <http://dx.doi.org/10.1055/s-0031-1290566>; Dep. Mater. Chem., Grad. Sch. Eng., Kyoto Univ., Nishikyo, Kyoto 615, Japan; Eng.) — Lindner

Organic chemistry
Z 0200

DOI: 10.1002/chin.201225256

25- 256

Copper-Catalyzed Cycloisomerizations of Enynols and Their Esters — [about 50 refs.]. — (FEHR, C.; Synlett 2012, 7, 990-1006, <http://dx.doi.org/10.1055/s-0031-1290657>; Corp. R&D Div., Firmenich SA, CH-1211 Geneva 8, Switz.; Eng.) — Lindner

Organic chemistry
Z 0200

25- 257

Heterogeneous versus Homogeneous Palladium Catalysts for Cross-Coupling Reactions — [75 refs.]. — (PAGLIARO*, M.; PANDARUS, V.; CIRIMINNA, R.; BELAND, F.; CARA, P. D.; ChemCatChem 4 (2012) 4, 432-445, <http://dx.doi.org/10.1002/cctc.201100422>; CNR, Ist. Stud. Mater. Nanostrutt., I-90146 Palermo, Italy; Eng.) — Lindner

DOI: 10.1002/chin.201225257

Organic chemistry
Z 0200

25- 258

Ruthenium and Rhodium-Catalyzed Carbonylation Reactions — [about 100 refs.]. — (WU, X.-F.; NEUMANN, H.; ChemCatChem 4 (2012) 4, 447-458, <http://dx.doi.org/10.1002/cctc.201200069>; Leibniz-Inst. Katal., Univ. Rostock, D-18059 Rostock, Germany; Eng.) — Lindner

DOI: 10.1002/chin.201225258

Organic chemistry
Z 0200

25- 259

Medicinal Chemistry of α -Hydroxy- β -amino Acids — [303 refs.]. — (ZIORA, Z.; SKWARCZYNSKI, M.; KISO, Y.; Amino Acids, Pept. Proteins Org. Chem. 4 (2011) 189-245; Cent. Integr. Preclin. Drug Dev.-Pharm., Univ. Queensland, Brisbane, Queensland 4072, Australia; Eng.) — Lindner

DOI: 10.1002/chin.201225259

Organic chemistry
Z 0200

25- 260

Sulfated Polysaccharides as Specific Biologically Active Materials — [43 refs.]. — (MUSCHIN, T.; HAN, S.; ISHIMURA, H.; YOSHIDA, T.; Trends Glycosci. Glycotechnol. 23 (2011) 134, 292-305; Dep. Biotechnol. Environ. Chem., Kitami Inst. Technol., Hokkaido 090, Japan; Eng.) — Lindner

DOI: 10.1002/chin.201225260

Organic chemistry
Z 0200

25- 261

Selenocarbonyls — [156 refs.]. — (MURAI, T.; Organoselenium Chem. 2012, 257-285; Dep. Chem., Fac. Eng., Gifu Univ., Gifu 501, Japan; Eng.) — Lindner

DOI: 10.1002/chin.201225261

Organic chemistry
Z 0200

25- 262

Nucleophilic Selenium — [282 refs.]. — (IWAOKA, M.; Organoselenium Chem. 2012, 53-109; Dep. Chem., Sch. Sci., Tokai Univ., Hiratsuka, Kanagawa 259-12, Japan; Eng.) — Lindner

DOI: 10.1002/chin.201225262

Organic chemistry
Z 0200

25- 263

Transition Metal Catalyzed Element—Boryl Additions to Unsaturated Organic Compounds — [143 refs.]. — (SUGINOME, M.; OHMURA, T.; Boronic Acids (2nd Ed.) 1 (2011) 171-212; Dep. Synth. Chem. Biol. Chem., Grad. Sch. Eng., Kyoto Univ., Nishikyo, Kyoto 615, Japan; Eng.) — Lindner

DOI: 10.1002/chin.201225263

Organic chemistry
Z 0200

25- 264

DOI: 10.1002/chin.201225264

Metal-Catalyzed Borylation of C—H and C—Halogen Bonds of Alkanes, Alkenes, and Arenes for the Synthesis of Boronic Esters — [300 refs.]. — (ISHIYAMA, T.; MIYAZURA, N.; Boronic Acids (2nd Ed.) 1 (2011) 135-169 ; Div. Chem., Grad. Sch. Eng., Hokkaido Univ., Sapporo 060, Japan; Eng.) — Lindner

Organic chemistry
Z 0200

25- 265

DOI: 10.1002/chin.201225265

Pharmaceutical Importance and Synthetic Strategies for Imidazolidine-2-thione and Imidazole-2-thione Derivatives — [57 refs.]. — (SAVJANI, J. K.; GAJJAR, A. K.; Pak. J. Biol. Sci. 14 (2011) 24, 1076-1089 ; Dep. Pharm. Chem., Inst. Pharm., Nirma Univ., Gujarat, Patan, India; Eng.) — Lindner

Organic chemistry
Z 0200

25- 266

DOI: 10.1002/chin.201225266

Functionalization of Fluorinated Aromatics by Nickel-Mediated C—H and C—F Bond Oxidative Addition: Prospects for the Synthesis of Fluorine-Containing Pharmaceuticals — [202 refs.]. — (JOHNSON, S. A.; HATNEAN, J. A.; DOSTER, M. E.; Prog. Inorg. Chem. 57 (2012) 255-352 ; Dep. Chem. Biochem., Univ. Windsor, Windsor, Ont. N9B 3P4, Can.; Eng.) — Lindner

Organic chemistry
Z 0200

25- 267

DOI: 10.1002/chin.201225267

Mononuclear Cyclophanes — [93 refs.]. — (SHINMYOZU, T.; SHIBAHARA, M.; Sci. Synth. 45b (2009) 1267-1310 ; Inst. Mater. Chem. Eng., Kyushu Univ., Higashi, Fukuoka 812, Japan; Eng.) — Lindner

Organic chemistry
Z 0200

25- 268

DOI: 10.1002/chin.201225268

Pyrenes, Circulenes, and Other Condensed Acenes — [166 refs.]. — (CHANG, C.-S.; WU, Y.-T.; Sci. Synth. 45b (2009) 955-1015 ; Dep. Chem., Natl. Cheng Kung Univ., Tainan 70101, Taiwan; Eng.) — Lindner

Organic chemistry
Z 0200

25- 269

DOI: 10.1002/chin.201225269

Syntheses of Pentalenes, s-Indacenes, as-Indacenes, Azulenes, and Heptalenes, and Their Benzo Derivatives — [223 refs.]. — (ABOU-HADEED, K.; HANSEN, H.-J.; Sci. Synth. 45b (2009) 1043-1114 ; Org.-Chem. Inst., Univ. Zuerich, CH-8057 Zuerich, Switz.; Eng.) — Lindner

Organic chemistry
Z 0200

25- 270

DOI: 10.1002/chin.201225270

Oligosaccharide—Cyclodextrin Conjugates: Synthesis and Biological Affinity Towards Lectins — [98 refs.]. — (SMILJANIC, N.; YOCKOT, D.; CENDRET, V.; FRANCOIS-HEUDE, M.; MOREAU, V.; DJEDAINI-PILARD, F.; Carbohydr. Chem. 37 (2012) 374-397 ; Lab. Glucides, Univ. Picardie Jules Verne, F-80039 Amiens, Fr.; Eng.) — Lindner

Organic chemistry
Z 0200

25- 271

DOI: 10.1002/chin.201225271

Metal Complexes of Penicillins and Cephalosporins — [104 refs.]. — (ALEKSEEV, V. G.; Pharm. Chem. J. (Engl. Transl.) 45 (2012) 11, 679-697 ; Tver State Univ., Tver 170100, Russia; Eng.) — Lindner

Organic chemistry
Z 0200

25- 272

DOI: 10.1002/chin.201225272

4-(2-Hydroxy-and-aminoaryl)-1,2,3-thia-and-selenadiazoles: Synthesis, Reactivity and Applications in Heterocyclic Chemistry — [26 refs.]. — (ANDROSOV, D. A.; PETROV, M. L.; Trends Heterocycl. Chem. 15 (2011) 61-69 ; Dep. Org. Chem., St. Petersburg State Technol. Inst., St. Petersburg 190013, Russia; Eng.) — Lindner

Physical chemistry
Z 0225

25- 273

DOI: 10.1002/chin.201225273

The Crucial Role of H-Bonding in the Mechanisms of Reactions with Diamines in Aprotic Solvents — [51 refs.]. — (ALVARO, C. E. S.; NUDELMAN, N. S.; Trends Org. Chem. 15 (2011) 95-107 ; Dep. Quim., Fac. Ing., Univ. Nac. Comahue, 1400 Buenos Aires, Neuquen, Argent.; Eng.) — Lindner

Biochemistry
Z 0250

25- 274

DOI: 10.1002/chin.201225274

Pectin Rhamnogalacturonan II: The "Small Stem with Four Branches" in the Primary Cell Walls of Plants — [70 refs.]. — (YAPO, B. M.; Int. J. Carbohydr. Chem. 964521 (2011) 11 pp ; Unit Train. Res. Food Sci. Technol., Univ. Abobo-Adjame, Abidjan, Cote d'Ivoire; Eng.) — Lindner

Applied chemistry
Z 0300

25- 275

DOI: 10.1002/chin.201225275

Green Sample Preparation Methods — [187 refs.]. — (BENDICHO, C.; LAVILLA, I.; PENA, F.; COSTAS, M.; RSC Green Chem. Ser. 13 (2011) 63-106 ; Dep. Quim. Anal. Aliment., Fac. Quim., Univ. Vigo, E-36310 Vigo, Spain; Eng.) — Lindner

Applied chemistry
Z 0300

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DOI: 10.1002/chin.201225276

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