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Graphical Abstracts/Chin Chem Lett 25 (2014) iii-xiv

Original articles

A concise formal stereoselective total synthesis of (–)-swainsonine

Xiao-Gang Wang^a, Ai-E Wang^{a,b}, Pei-Qiang Huang^{a,b}

^aDepartment of Chemistry, College of Chemistry and Chemical Engineering, and Fujian Provincial Key Laboratory of Chemical Biology, Xiamen University, Xiamen 361005, China

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Chinese Chemical Letters 25 (2014) 193

Chinese Chemical Letters 25 (2014) 197

The synthesis of unsaturated indolizidine (8R,8aS)-3, an advanced intermediate toward the synthesis of (-)-swainsonine (1), has been achieved in five steps from the versatile building block (R)-3-benzyloxyglutarimide 5, via Ley's-sulfone-based α -amidovinylation and the RCM reaction as the key steps.

Design, synthesis and insecticidal activity of spiro heterocycle containing neonicotinoid analogs

Nan-Yang Chen, Li-Ping Ren, Min-Ming Zou, Zhi-Ping Xu, Xu-Sheng Shao, Xiao-Yong Xu, Zhong Li

Shanghai Key Laboratory of Chemical Biology, School of Pharmacy, East China University of Science and Technology, Shanghai 200237,

In the pursuit of neonicotinoids with spiro heterocycles, three types of novel neonicotinoids with spirobenzofuranone, spirooxindole or spiroacenaphythylenone framework were designed and synthesized.

$$R_1$$
 NO_2 spiro heterocycle introduction R_1 NO_2 NO_2

Determination of tetraethyl ammonium by ion-pair chromatography with indirect ultraviolet detection using 4-aminophenol hydrochloride as background ultraviolet absorbing reagent

Chun-Miao Zou, Hong Yu, Miao-Yu Wang

College of Chemistry and Chemical Engineering, Harbin Normal University and Key Laboratory of Photonic and Electronic Bandgap Materials, Ministry of Education, Harbin 150025, China

Utilizing 4-aminophenol hydrochloride as background ultraviolet absorbing reagent, the determination of tetraethyl ammonium is achieved by ion-pair chromatography with indirect ultraviolet detection.

Chinese Chemical Letters 25 (2014) 201

iv Contents

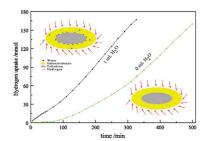
The promoting role of minor amount of water in solvent-free hydrogenation of halogenated nitrobenzenes

Jing-Hui Lyu, Xiao-Bo He, Chun-Shan Lu, Lei Ma, Qun-Feng Zhang, Feng Feng, Xiao-Nian Li, Jian-Guo Wang

Institute of Industrial Catalysis, College of Chemical Engineering and Materials Science, Zhejiang University of Technology, Hangzhou 310032, China

Minor amount of water has a significant role in enhancing the solvent-free hydrogenation of halogenated nitrobenzenes.

Chinese Chemical Letters 25 (2014) 205



Chinese Chemical Letters 25 (2014) 209

A facile synthesis of a novel energetic surfactant 1-amino-3-dodecyl-1,2,3-triazolium nitrate

Xiao-Hui Zhao, Zhi-Wen Ye

School of Chemical Engineering, Nanjing University of Science and Technology, Nanjing 210094, China

1-Amino-3-dodecyl-1,2,3-triazolium nitrate, as a novel energetic surfactant, has been synthesized in four steps, namely addition-elimination, cyclization, alkylation and metathesis.

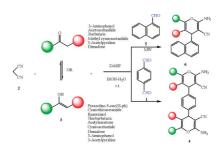
Highly efficient one-pot synthesis of dihydropyran heterocycles

Mohamed A. Ameen, Sara M. Motamed, Fathy F. Abdel-latif

Chemistry Department, Faculty of Science, El Minia University, El Minia 61511, Egypt

Diammonuim hydrogen phosphate and potassium carbonate-catalyzed one-pot synthesis of 1,4-phenylene-bis(2-amino-4*H*-pyran-3-carbonitrile) and 2-amino-4-aryl-4*H*-pyran-3-carbonitrile derivatives have been achieved by a three-component cyclocondensation of aldehydes, malononitrile, and different nucleophiles in aqueous medium in high yields.

Chinese Chemical Letters 25 (2014) 212



N-Heterocyclic carbene-catalyzed synthesis of acetyltributylcitrate *via* a transesterification reaction

Lin He, Hao Guo, Xiao-Wei Ma, Jie Zhang, Cheng-Zhi Gu, Wei Wang, Bin Dai

Key Laboratory for Green Processing of Chemical Engineering of Xinjiang Bingtuan and School of Chemistry and Chemical Engineering, Shihezi University, Shihezi 832000, China

N-Heterocyclic carbenes catalyzed the transesterification reaction of tributyl citrate with vinyl acetate to give a green plasticizer ATBC in high yield.

Chinese Chemical Letters 25 (2014) 215

+ HO
$$\begin{array}{c} CO_2Bu \\ CO_2Bu \\ CO_2Bu \\ \end{array}$$
 $\begin{array}{c} N \\ N \\ N \\ \end{array}$ R (15 mol%) $\begin{array}{c} O \\ U \\ W \\ \end{array}$ $\begin{array}{c} CO_2Bu \\ CO_2Bu \\ CO_2Bu \\ \end{array}$

ATBC, yield up to 81%

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