2021년 11월 23일 (2021년 6호, 통권 54호)

유기화학분과 소식지

대한화학회 유기화학분과회
Http://kcsorganic.org/

2021년도 유기화학분과회 행사 일정

01 2월 4일
제 40회 유기화학분과회 심포지엄 및 정기총회
온라인

02 4월 21-23일
대한화학회 제 127회 춘계 학술대회
수원 컨벤션센터

03 6월 28-29일
제 21회 유기화학분과회 하계 워크샵
페어필드바이메리어트 송도 비치

04 10월 13-15일
대한화학회 제 128회 학술발표회
부산 벡스코(BEXCO)

05 **12월 3일**
제 247회 유기화학 세미나
고려대학교(서울캠퍼스)

대한화학회 유기화학분과회 회원 여러분께

2020년 12월 3일(금요일) 고려대학교 서울캠퍼스에서 제247회 유기화학 세미나가 개최됩니다. **이충환(가천대학교), 서성은(아주대학교), 강호웅(충북대학교), 이기성(국민대학교), 이용호(고려대학교) 신입 회원들의 강연**과 **제 11회 젊은 유기화학자상 수상자인 김도경(경희대학교), 조승환(POSTECH) 회원의 수상기념 강연**으로 한 해를 마무리하는 알찬 교류의 장이 될 것입니다. 그리고 김태규(연세대학교) 회원의 한국연구재단 "분야별 지원체계 고도화" 정책에 대한 설명과 경보제약 CTO(황재택)의 홍보발표도 함께 진행될 예정입니다. 대한화학회 유기화학분과회 회원들의 많은 참여를 기대하겠습니다. 구체적인 일정은 아래와 같습니다.

일시 : 2021년 12월 3일(금), 13:00-18:00

장소 : 고려대학교 서울캠퍼스 아산이학관 633호

주관 : 대한화학회 유기화학분과회　　후원 : 세진시아이

2021년 유기화학분과회 운영진 드림

제247회 유기화학 세미나 일정표

13:20-13:30	Opening Remarks	**장석복** (대한화학회 유기화학분과회 회장, KAIST, IBS)

Session I

좌장: 이민희

13:30-13:50	**이충환** (가천대학교)	Synthetic Studies of Curcusones A–D and an Unexpected Ireland–Claisen Rearrangement Cascade
13:50-14:10	**서성은** (아주대학교)	Late-Stage C(sp^3)–H Functionalization of Pharmaceutically Relevant Benzylic Compounds
14:10-14:30	**강호웅** (충북대학교)	Vanadium-Catalyzed Atroposelective Coupling of Phenols and Its Synthetic Application
14:30-14:45	**김태규** (연세대학교)	한국연구재단 "분야별 지원체계 고도화" 정책

14:45-15:10 Photo Session & Coffee Break

Session II

좌장: 천철홍

15:10-15:30	**이기성** (국민대학교)	Synthesis of The Novel Multifunctional MOFs for CO_2 Capture and Simultaneously Infrared Detection
15:30-15:50	**이용호** (고려대학교)	Harnessing reversibility in catalytic carbonylation and halogenation reactions
15:50-16:05	**황재택** (경보제약 CTO)	The Insight of Kyongbo Pharmaceutical Co., Ltd.

16:05-16:30 Coffee Break

Session III

좌장: 강은주

제11회 젊은 유기화학자상 수상기념 세션

16:30-17:00	**김도경** (경희대학교)	Glioblastoma-Overcoming: Fluorescent Probe & Drug Delivery System
17:00-17:30	**조승환** (POSTECH)	Catalytic Chemo- and Stereoselective Transformations of gem-Diborylalkanes and (Diborylmethyl)metallic Species

제 11회 젊은 유기화학자상 수상자

김도경 (Dokyoung Kim)

경희대학교 의과대학

Email: dkim@khu.ac.kr

Tel: 02-961-0297

Education

Ph.D. (2014)	Department of Chemistry, POSTECH (Prof. Kyo Han Ahn)
B.S. (2006)	Department of Chemistry, Soongsil University

Position

2017 – present	Assistant Professor, College of Medicine, Kyung Hee University
2014 – 2017	Post-doc., Department of Chemistry, UCSD (Prof. Michael J. Sailor)

Representative Publications

1. J. M. An, H. Moon, P. Verwilst, J. Shin, B. M. Kim, C.K. Park, J. S. Kim, S. G. Yeo, H. Y. Kim, D. Kim*, “Human Glioblastoma Visualization: Triple Receptor-targeting Fluorescent Complex of Dye, SIWV Tetra-peptide, and Serum Albumin Protein” *ACS Sensors* **2021**, *6*, 2270.

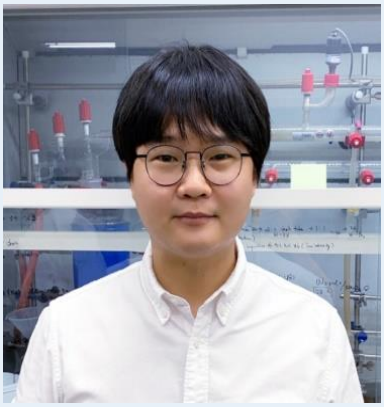
2. N. H. Kim, B. W. Kim, H. Moon, H. Yoo, R. H. Kang, J. K. Hur, Y. Oh, B. M. Kim, D. Kim*, “AIEgen-based Nanoprobe for the ATP Sensing and Imaging in Cancer Cells and Embryonic Stem Cells” *Analytica Chimica Acta* **2021**, *1152*, 338269.

3. R. H. Kang, Y. Kim, J. H. Kim, N. H. Kim, H. M. Ko, S.-H. Lee, I. Shim, J. S. Kim, H. J. Jang, D. Kim*, “Self-activating Therapeutic Nanoparticle: A Targeted Tumor Therapy using ROS Self-generation and Switch-on Drug Release” *ACS Applied Materials & Interfaces* **2021**, *13*, 30359.

4. J. M. An, S. Kang, E. Huh, Y. Kim, D. Lee, H. Jo, V. J. Kim, J. Y. Lee, Y. S. Dho, Y, Jung, J. K. Hur, C. Park, J. Jung, Y. Huh, J.-L. Ku, S. Kim, T. Chowdhury, J. S. Kang, M. S. Oh, C.-K. Park, D. Kim*, “Penta-fluorophenol: A Smiles rearrangement-inspired cysteine-selective fluorescent probe for imaging of human glioblastoma" *Chemical Science*, **2020**, *11*, 5658.

5. H. H. J. Moon, Y. Jung, Y. Kim B. W. Kim, J. G. Choi, N. H. Kim, M. S. Oh, S. Park, B. M. Kim, D. Kim*, “High Stability of a Donor-Acceptor Type Oxazepine-Containing Fluorophore and Its Applications in Cellular Imaging of Two-Photon Deep Tissue Imaging” *Organic Letters* **2019**, *21*, 3877.

제 11회 젊은 유기화학자상 수상자



조승환 (Seung Hwan Cho)

포항공과대학교 (POSTECH) 화학과

Email: seunghwan@postech.ac.kr

Tel: 054-279-2340

Education

Ph.D. (2011)	Department of Chemistry, KAIST (Prof. Sukbok Chang)
B.S. (2005)	Department of Chemistry, KAIST

Position

2014 – present	Assistant/Associate Professor, Department of Chemistry, POSTECH
2012 – 2014	Post-doc., Department of Chemistry, UC Berkeley (Prof. John F. Hartwig)

Representative Publications

1. Kim, M.; Park, B.; Shin, M.; Kim, S.; Kim, J.; Baik, M.-H.*; Cho, S. H.* "Copper-Catalyzed Enantiotopic-Group-Selective Allylation of *gem*-Diborylalkanes" *J. Am. Chem. Soc.* **2021**, *143*, 1069.

2. Jo, W.; Baek, S.-y.; Hwang C.; Heo, J.; Baik, M.-H.*; Cho, S. H.* "$ZnMe_2$-Mediated, Direct Alkylation of Electron Deficient N-Heteroarenes with 1,1-Diborylalkanes: Scope and Mechanism" *J. Am. Chem. Soc.* **2020**, *142*, 13235.

3. Lee, Y.; Cho, S. H.* "Generation and Application of (Diborylmethyl)zinc(II) Species: Access to Enantioenriched *gem*-Diborylalkanes by an Asymmetric Allylic Substitution" *Angew. Chem. Int. Ed.* **2018**, *57*, 12930.

4. Kim, J.; Ko, K.; Cho, S. H.* "Diastereo- and Enantioselective Synthesis of b-Aminoboronate Esters by Copper(I)-Catalyzed 1,2-Addition of 1,1-Bis[(pinacolato)boryl]alkanes to Imines" *Angew. Chem. Int. Ed.* **2017**, *56*, 11584.

5. Lee, Y.; Baek, S.-y.; Park, J.; Kim, S.-T.; Tussupbayev, S.; Kim, J.; Baik, M.-H.*; Cho, S. H.* "Chemoselective Coupling of 1,1-Bis[(pinacolato)boryl]alkanes for the Transition-Metal-Free Borylation of Aryl and Vinyl Halides: A Combined Experimental and Theoretical Investigation" *J. Am. Chem. Soc.* **2017**, *139*, 976.

제247회 유기화학 세미나 공문

KCS 대한화학회 KOREAN CHEMICAL SOCIETY

2021년 유기화학분과회

문서번호: 유기화학분과 2021-045
시행일자: 2021. 12. 3
수　　신: 대한화학회 유기화학분과회 회원
제　　목: 제247회 유기화학 세미나 참석 요청

1. 회원 여러분의 무궁한 발전을 기원합니다.
2. 대한화학회 유기화학분과회에서는 다음과 같이 고려대학교에서 제 247회 유기화학 세미나를 개최하오니 많은 참석을 부탁드립니다.

- 다　음 -

- 일 시: 2021년 12월 3일 (금) 13:00 - 18:00
- 장 소: 고려대학교 아산이학관 633호
- 참가등록비: 20,000원

대한화학회 유기화학분과회

회장 장 석 복

대한화학회 제 128회 추계 학술대회

"대한화학회 제 128회 추계 학술대회가 2021년 10월 13일(수)부터 10월 15일(금)까지 2박 3일 동안 부산 BEXCO에서 개최되었습니다. 이번 학술대회는 코로나-19에 따른 정부의 사회적 거리두기 방침을 준수하면서 대면으로 진행되었습니다. 이번 학술발표회는 국내외 제약사 소속의 연사로 구성된 심포지엄(Current Trends in Medicinal and Process Chemistry)을 포함하여 4개의 심포지엄(Current Trends in New Reactions and Methodology, Current Trends in Chemical Biology and Bioorganic Chemistry, Oral Presentations of Young Scholars in Organic Division, SRC 특별 심포지엄)과 장세희 학술상 수상 강연으로 구성하였습니다. 장세희 학술상을 수상하신 성균관대 약학과 김인수 회원님께 다시 한번 진심으로 축하드립니다.

장세희 학술상 시상식 및 수상 강연 (성균관대 김인수 교수)

대한화학회 제 128회 추계 학술대회

[심포지엄 I] Current Trends in New Reactions and Methodology

심포지엄 I 좌장
정원진 (GIST)

이필호 (강원대)

Title: Functionalization of *o*-Carboranes

이영호 (POSTECH)

Title: Pd-catalyzed Asymmetric Decarboxylative Addition of β-Keto Acids to Alkoxy- and Amidoallenes

홍승우 (KAIST)

Title: Investigation of Regioselective C–H Functionalization of Heteroarene

이홍근 (서울대)

Title: A Unified Synthetic Strategy to Introduce Heteroatoms via Controlled Functionalization of Alkyl Organometallic Reagents

대한화학회 제 128회 추계 학술대회

[심포지엄 II] Current Trends in Medicinal and Process Chemistry

심포지엄 II 좌장 : 김혜진 (KRICT)

김대식 (Eisai)
Title: Discovery of E7766, a Macrocycle-Bridged STING Agonist with Pan-Genotypic Activity

이태교 (Pfizer)
Title: Streamlined Synthesis of a Bicyclic Amine Moiety Using an Enzymatic Amidation and Identification of a Novel Solid Form

공종락 (Merck)
Title: Development of Biocatalytic Manufacturing Processes for an HIV Agent Islatravir and a Covid-19 Antiviral Molnupiravir

Panel Discussion : 한수봉 (KRICT), 한태동 (동아ST), 정철근 (Merck), 임연희 (Merck)

대한화학회 제 128회 추계 학술대회

[심포지엄 III] Current Trends in Chemical Biology and Bioorganic Chemistry

심포지엄 I 좌장
박종민 (강원대)

장영태 (POSTECH)

Title: New Chemical Approach for Live Cell Distinction through Lipid in Cell Membrane

서지원 (GIST)

Title: Effect of Molecular Chameleonicity on the Membrane Permeability of Macrocyclic Peptide Cyclosporin O Derivatives

기정민 (UNIST)

Title: Chemical Toolbox for Studying Histidine and Arginine Phosphorylation

김은하 (아주대)

Title: Aggregation-Induced Emission Luminogen for Bioimaging Based on an Indolizine Molecular Framework

대한화학회 제 128회 추계 학술대회

[구두발표] Oral Presentations for Young Scholars in Organic Division

구두발표 좌장
배한용 (성균관대)

이유림
(이화여대)

박지용
(KAIST)

아쉬와니 쿠마르
(한양대)

오병민
(아주대)

이미정
(KRICT)

강규민
(KAIST)

강은수
(부산대)

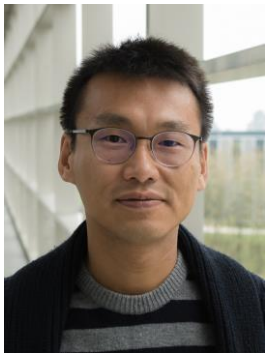
남정승
(UNIST)

박시준
(성균관대)

아이만 사다프
(한양대)

신입회원 소개

이용호



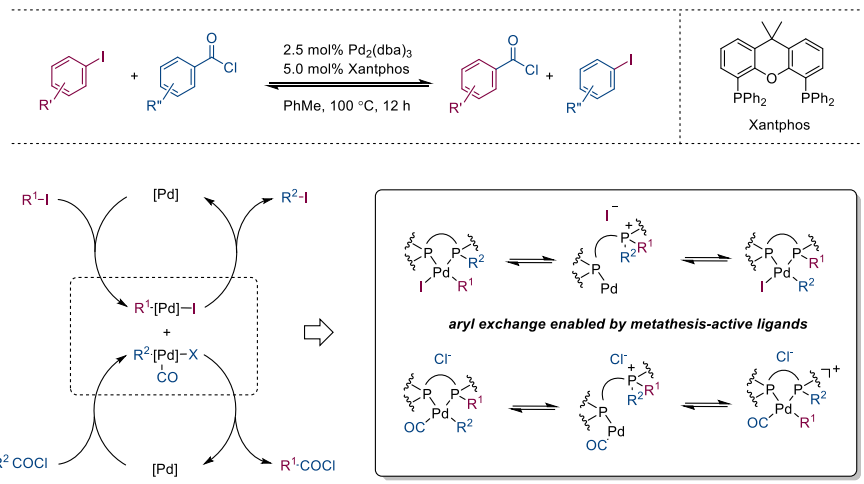
고려대학교 조교수
Email: yholee@korea.ac.kr
2021.09 – 현재: 고려대학교, 화학과
2021.04 – 2021.07: ETH Zürich, 화학과, 박사후연구원 (지도교수: Peter Chen)
2018.07 – 2021.03: ETH Zürich, 화학과, 박사 (지도교수: Bill Morandi)
2015.08 – 2018.06: Max-Planck-Institut für Kohlenforschung, 화학과, 박사중퇴 (지도교수: Bill Morandi)
2005.01 – 2015.07: LG Chem, 석유화학연구소, 연구원
2003.02 – 2005.02: 고려대학교, 화학과, 석사 (지도교수: 이상원)
1999.03 – 2003.02: 고려대학교, 화학과, 학사

대표 논문

- Lee, Y. H.; Denton, E. H.; Morandi, B. Palladium-catalysed carboformylation of alkynes using acid chlorides as a dual carbon monoxide and carbon source. *Nat. Chem.* **2021**, *13*, 123–130.
- Lee, Y. H.; Denton, E. H.; Morandi, B. Modular cyclopentenone synthesis through the catalytic molecular shuffling of unsaturated acid chlorides and alkynes. *J. Am. Chem. Soc.* **2020**, *142*, 20948–20955.
- Lee, Y. H.; Morandi, B. Palladium-catalyzed intermolecular aryliodination of internal alkynes. *Angew. Chem. Int. Ed.* **2019**, *58*, 6444–6448.
- Lee, Y. H.; Morandi, B. Transition metal-mediated metathesis between P–C and M–C bonds: beyond a side reaction. *Coord. Chem. Rev.* **2019**, *386*, 96–118.
- Lee, Y. H.; Morandi, B. Metathesis-active ligands enable a catalytic functional group metathesis between aroyl chlorides and aryl iodides. *Nat. Chem.* **2018**, *10*, 1016–1022.

Metathesis-active ligands enable a catalytic functional group metathesis between aroyl chlorides and aryl iodides

Lee, Y. H.; Morandi, B. *Nat. Chem.* **2018**, *10*, 1016–1022.



하나의 기능 그룹을 다른 기능 그룹으로 전환하는 고전적인 접근 방식에서는 원하는 화합물을 비가역적으로 생성하기 위해 반응성이 높은 시약을 사용해야 합니다. 불행히도 이것은 역변환이 필요할 경우 완전히 새로운 촉매와 시약의 설계를 필요로 한다는 것을 의미합니다. 본 연구는 새로운 개념의 단일 결합 복분해 반응으로 두 종류의 별개의 화학 결합에 대한 치환기를 교환하는 것을 보여주는 것으로, 가역적 작용기 상호 전환의 새로운 개념을 설명합니다. 이 새로운 전략은 단일 촉매 시스템을 사용하여 두 가지 매우 어려운 반응 (chlorocarbonylation & decarbonaylative iodination)을 독성 CO 가스의 사용 또는 배출없이 가능하게 합니다.

국내 연구 동향_연구실 소개

Organic Chemistry Laboratory [서울대학교 이철범 교수 연구실]

이철범 (Chulbom Lee)

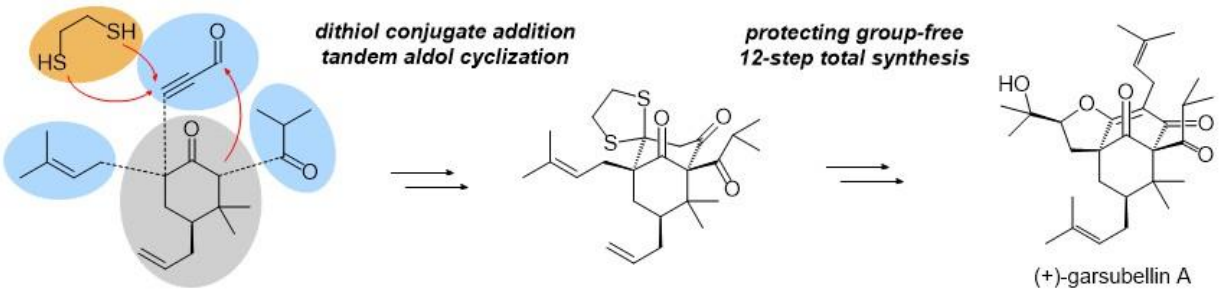
서울대학교 화학부
Email: chulbom@snu.ac.kr
Tel: 02-880-4346
홈페이지: http://cbleegroup.snu.ac.kr/

1. Jang, D.; Choi, M.; Chen, J.; Lee, C.* 'Enantioselective Total Synthesis of (+)-Garsubellin A' *Angew. Chem. Int. Ed.* **2021**, *60*, 22735-22739.
2. Kim, D,-K.; Um, H,-S.; Park, H.; Kim, S.; Choi, J.; Lee, C.* 'Silyloxymethanesulfinate as a sulfoxylate equivalent for the modular synthesis of sulfones and sulfonyl derivatives' *Chem. Sci.* **2020**, *11*, 13071-13078.
3. Roh, S. W.; Choi, K.; Lee, C.* 'Transition Metal Vinylidene- and Allenylidene-Mediated Catalysis in Organic Synthesis' *Chem. Rev.* **2019**, *119*, 4293-4356.
4. Choi, K.; Park, H.; Lee, C.* 'Rhodium-Catalyzed Tandem Addition-Cyclization-Rearrangement of Alkynylhydrazones with Organoboronic Acids' *J. Am. Chem. Soc.* **2018**, *140*, 10407-10411.

우리 연구실에서는 분자의 입체화학을 조절하면서 동시에 복잡한 골격구조를 구축할 수 있는 독창적이고 효율적인 유기반응 및 합성전략을 개발하기 위한 연구를 수행하고 있습니다. 특히 전이금속 비닐리딘 착화합물이 매개하는 새로운 촉매반응과 유기황화합물의 반응성을 창의적으로 활용하는 연쇄반응 개발에 초점을 둔 연구가 활발히 진행되고 있습니다. 이러한 합성방법론 개발연구를 바탕으로 독특한 분자구조와 유용한 생리활성을 지닌 천연물 타겟을 효율적으로 합성하는 전략 개발연구도 병행하고 있습니다.

Enantioselective Total Synthesis of (+)-Garsubellin A

Angew. Chem. Int. Ed. **2021**, *60*, 22735-22739. DOI: 10.1002/anie.202109193



Garsubellin A는 terpene 및 polyketide 생합성경로가 복합되어 유래된 meroterpene으로서 이른바 polycyclic polyprenylated acylphloroglucinol (PPAP) 계열의 대표적 천연물입니다. 1997년 Fukuyama 그룹에 의해 일본 오키나와 섬의 방풍림을 이루는 *Garcinia subelliptica* (복나무)에서 추출되었는데, 신경전달물질 아세틸콜린 (acetylcholine)을 생합성하는 콜린 아세틸기전이효소 (choline acetyltransferase)를 발현 시키는 생리활성을 지녀서 알츠하이머병의 증상완화제 개발에 쓰일 수 있으리라는 기대를 받았습니다. Garsubellin A의 구조적 특징으로는 입체중심을 가지는 4차 탄소가 다리목에 위치하는 [3.3.1] 이중고리와 추가적으로 접합된 THF 고리가 있습니다. 이러한 도전적인 분자 구조와 더불어 독특한 생리활성의 잠재 활용성 때문에 garsubellin A 전합성 연구가 전 세계적으로 활발히 진행되었습니다. 그러나 라세미 형태의 전합성 4건만이 이루어 졌을 뿐 절대 입체화학은 밝혀지지 않은 상태였습니다. 본 연구에서는 garsubellin A의 비대칭 전합성을 최초로 완료하였고 이를 통해서 자연에서 어떤 거울상 형태로 유래하는지 밝혀냈습니다. 입체선택적으로 곁가지들이 도입된 6각 고리 케톤을 효율적으로 확보하여 1,2-에테인다이티올 이중 첨가반응과 자발적으로 진행되는 후속 알돌 고리화 반응을 통해 [3.3.1] 이중고리 골격을 구축하였습니다. 마지막 단계에서는 에폭시화 반응과 황 작용기 제거 반응을 연계하여 THF 접합 구조를 손쉽게 구축할 수 있었습니다. 보호기를 사용하지 않는 12 단계의 간결한 합성루트로 (+) 및 (–)-garsubellin A를 모두 합성하였으며, 전합성으로 얻어진 비천연 거울상의 생리 활성과 작용 기작에 대한 후속 연구를 계획하고 있습니다.

국내 연구 동향_연구실 소개

감염병치료제 연구센터 산하 신약개발 연구실 [한국화학연구원 곽재성 박사 연구실]

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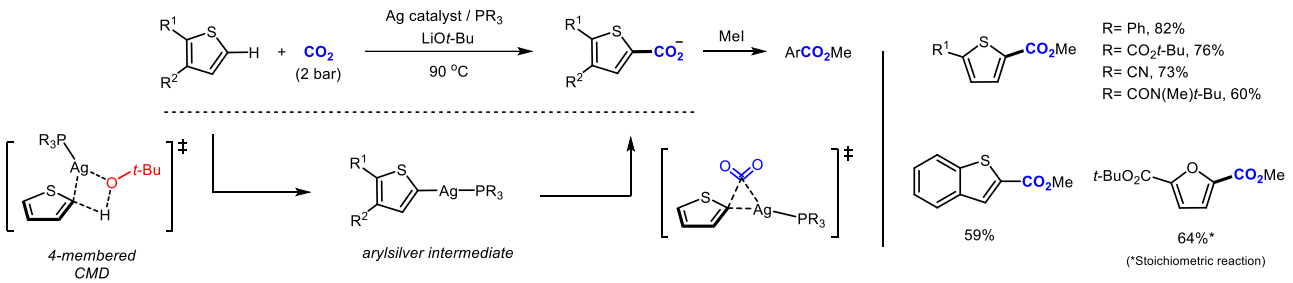
1. Ha, H.; Choi, H. J.; Park, H.; Gwon, Y.; Lee, J.; Kwak, J.; Kim, M; Jung, B. *Eur. J. Org. Chem.* **2021**, 1136.
2. Lee, M.; Hwang, Y. K.; Kwak, J. *Organometallics* **2021**, *40*, 3136.

저희 연구실에서는 항생제 저항을 극복할 수 있는 새로운 약물 개발을 수행하고 있습니다. 그리고 항암제의 주요 타겟중 하나인 Kinase 저해제 개발도 부수적으로 수행하고 있습니다. 약물 개발과 더불어서 약리활성을 가지는 다양한 화합물의 효율적인 합성법 개발에도 노력을 기울이고 있습니다.

Ag(I)-Catalyzed C–H Carboxylation of Thiophene Derivatives
Jaesung Kwak *et al. Organometallics* **2021**, *40*, 3136



대표적인 온실가스인 이산화탄소는 인류가 산업활동을 시작한 이후로 꾸준히 증가하고 있고 이는 현재 심각한 기후문제를 야기하고 있습니다. 이러한 문제를 해결하기 위한 한가지 방안으로 이산화탄소를 활용하여 고부가가치를 가지는 화합물을 합성하는 접근이 있습니다. 저희 연구원에서는 이러한 문제인식을 바탕으로 방향족 화합물의 C–H carboxylation 반응 개발을 수행하였습니다. 기존의 C–H carboxylation 반응은 Au 또는 Cu를 이용한 반응들이 보고된 바가 있었고, 이러한 촉매시스템은 기본적으로 높은 basicity를 가지는 metal-base species의 direct metalation을 통해 진행됩니다. 생성된 arylmetal species의 CO_2 insertion을 통해 해당 카복실산 화합물을 형성합니다. 기존 합성법의 가장 큰 제약은 pK_a가 상대적으로 높고 전자가 풍부한 헤테로고리 화합물에 대해서는 반응성이 없다는 점입니다. 최근에 밝혀진 연구결과에 따르면 C–H 활성화 반응에서 자주 사용되는 silver reagent는 substrate의 C–H 활성화에 직접 관여하여 arylsilver 중간체를 형성하는 것으로 알려졌습니다. 이를 바탕으로 저희 연구실에서는 thiophene이 silver에 의해서 arylsilver 중간체를 형성하는 것을 확인하였고, 이 중간체에서 CO_2 insertion이 효율적으로 일어나는 것을 발견하였습니다. 최적화 과정을 통해서 10 mol%의 Ag_2CO_3, 20 mol%의 PAd_2nBu, 1 당량의 LiO-*t*Bu를 이용하는 촉매 반응을 개발할 수 있었으며 다양한 작용기를 가지는 thiophene 유도체에서도 문제 없이 진행되는 것을 확인하였습니다. 추가의 메커니즘 연구를 통해서 실제로 arylsilver 중간체가 반응 중에 생성되는 것을 확인하였고, *tert*-butoxide의 필수적인 역할에 대해서도 증명할 수 있었습니다.

공지사항

분과회비 납부 안내

유기화학분과회 연회비는 3만원입니다. 분과회비 납부방법은 아래와 같습니다.

1. 대한화학회 홈페이지를 통한 납부

대한화학회 홈페이지에 로그인 후, 바로가기 서비스의 분과회비 납부를 선택하시면 됩니다. 납부방법으로 신용카드, 계좌이체, 또는 무통장 입금이 선택 가능합니다. 결제 후 증빙서류는 본인이 직접 출력 하실 수 있습니다.
(결제 페이지 http://new.kcsnet.or.kr/pay_select, 로그인 후 사용 가능)

2. 현장결제

유기화학분과회 행사(분과회 총회, 하계 워크샵 및 유기화학세미나) 시 현금으로 직접 결제 가능합니다. 결제 후 증빙서류로 유기화학분과회 회장 명의의 간이 영수증이 발행됩니다.

3. 계좌이체

유기화학분과회 운영계좌로 이체도 가능합니다 (우체국, 503656-02-159286, 예금주:이선우). 이체 시 보내신 분의 성함 혹은 핸드폰 번호를 반드시 남겨주시고, 김은경 실장님께 이메일 (jesus6294@hanmail.net)로, 1) 성함, 2) 소속, 3) 이메일, 4) 핸드폰번호를 보내주시기 바랍니다. 증빙이 필요하신 경우, 유기화학분과회 회장 명의의 간이 영수증이 발행됩니다.

납부자 명단 (2021년 11월 21일 기준, 176명 납부)

Jean Bouffard	강경태	강동진	강성민	강은주	강택	강호웅	고민섭	고혜민	공영대
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김기태	김도경	김민	김범진	김병문	김병선	김병수	김상희	김성희	김성곤
김성국	김연수	김영미	김용주	김원석	김윤경	김은하	김인수	김재녕	김재현
김정곤	김종훈	김주현	김지민	김진호	김철재	김태정	김필호	김학중	김현우 (KAIST)
김현우 (이화여대)	김환명	김훈영	김희권	류도현	문봉진	민선준	박보영	박성준	박승범
박정민	박정수	박종민	박종운	박지훈	박찬필	박철민(UNIST)	방은경	배한용	백무현
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신인재	신인지	심재호	심태보	안덕근	안양수	양시경	양정운	오경수	오종훈
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이인환	이재인	이정규	이정태	이준석	이준희	이충환	이필호	이혁	이현수
이효준	이희봉	이희윤	임상민	임지우	임창수	임현석	임희남	장두옥	장석복
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홍성유	홍순혁	홍승우	홍종인	황길태	황승준				

공지사항

BKCS 인용 참여 회원 논문 접수

2021년 회원님들의 적극적인 동학불코캠페인 참여로 BKCS 인용지수가 작년 0.61에서 올해 0.97로 향상되었으며 내년에는 1.5 정도가 될 것으로 예상하고 있습니다. 올해 BKCS를 적극적으로 인용하신 회원님들께 유기화학분과회에서는 작은 선물을 준비하고 있습니다. 올해 출간하신 논문 중에서 BKCS를 인용한 논문의 Pdf 파일을 유기화학분과 총무부회장 이메일로 보내주시면 연말까지 정리하여 2022년 2월 유기화학분과정기총회 때 작은 선물을 준비 하겠습니다.
많은 참여 부탁 드립니다.

기한 : 12월 31일까지
제출서류: BKCS 인용한 논문 pdf 파일
보낼곳: 이선우 (전남대. sunwoo@chonnam.ac.kr)

뉴스레터 발행 안내

2021년도 유기화학분과회 뉴스레터는 격월(홀수 달)로 발행됩니다. 뉴스레터에는 유기분과 회원들의 소식이나 학술대회 및 세미나 안내 및 참가 후 소감, 만평 등 유기화학분과회 활동과 관련된 다양한 소식들을 수록하고자 합니다. 회원님들 주위에 작은 소식들을 알고 계시면 분과회 운영위원에게 연락주시길 바랍니다. 소식들은 분과 모든 회원들과 공유하도록 하겠습니다. 유기화학분과회 뉴스레터는 분과회원들에게 e-mail 로 보내드리고 있으며, 유기화학분과회 홈페이지 게시판에도 공지가 될 예정입니다. 회원 여러분들의 관심과 적극적인 뉴스 제보를 부탁 드립니다. (담당: 이민희(숙명여대) 회원, minheelee@sookmyung.ac.kr)

- 대한민국을 빛낸 유기화학자: 2020년 유기분과 소식지에서 게재하였던 올해도 이어서 진행. (A4 한 장 분량, 게재를 원하시는 회원(지인 또는 제자 등) 이 직접 원고 작성)
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- 회원들과 연관된 소식들: 학회, 연구비 신청, 홍보, 수상 등
- 신입 회원 소개

공지사항

광고 및 후원 모집

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(광고 및 후원 담당: 전남대 이선우 총무 부회장, sunwoo@chonnam.ac.kr)

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			후보 추천	시상식
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	▲기초과학 분야에서 훌륭한 연구업적을 이룩한 인사			
2	**대한민국학술원상**	대한민국학술원 http://www.nas.go.kr	당해년도 11월	차년도 9월
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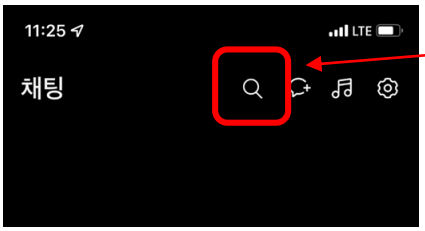
유기화학분과회는 홈페이지를 운영하고 있습니다(http://kcsorganic.org/).
신입 회원은 회원 가입하셔서 연락 정보를 입력해 주십시오. 이메일, 전화번호, 연구실 홈페이지 등의 개인정보 수정은 회원님께서 로그인 후 my page에서 직접 하실 수 있습니다.
(홈페이지 담당: 한국화학연구원 곽재성 운영위원, jkwak@krict.re.kr)

공지사항

유기화학 분과회 카카오톡 채널 개설 가입 안내

효율적인 소식 전달을 위하여 유기화학 분과회 카카오톡 채널을 개설하였습니다. 기존에 제공하던 메일링 서비스에 추가하여 카카오톡 채널을 통한 소식을 전달할 예정입니다. 아래 가입 방법을 참고하여 채널 가입을 하시기 바랍니다.

1. 사용하시는 스마트폰 또는 PC에서 "유기화학분과회" 입력 후 검색



"**유기화학분과회**" 입력

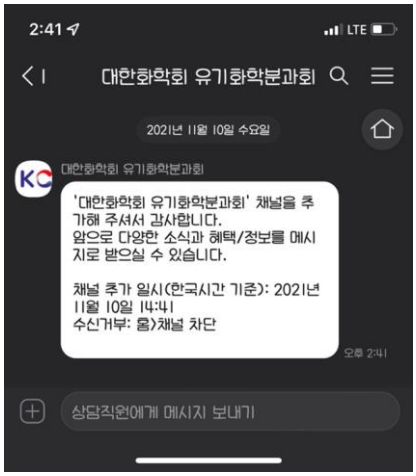
2. 왼쪽 그림과 같이 채널에 " 대한화학회 유기화학분과회" 항목이 뜨면 오른쪽에 채널 추가 버튼을 클릭

버튼 클릭

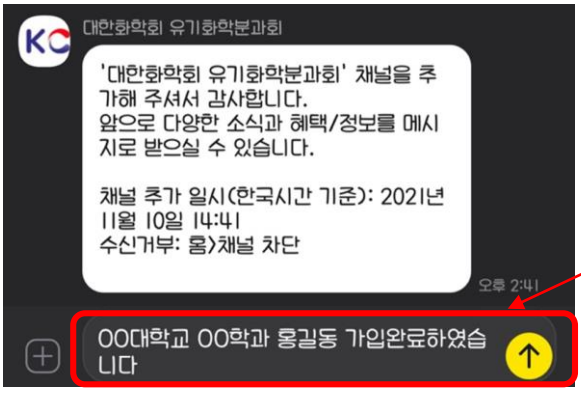
3. 팝업 안내창에서 "채널추가" 버튼 클릭

버튼 클릭

4. 유기화학분과회에서 채널 추가 안내 문자 발송



5. (중요) 소속 및 이름을 채팅창에 적어서 전송
****인증을 위한 필수 과정입니다****



작성 후 전송

공지사항

AsianJOCs 10th Anniversary Virtual Symposium

date: November 23, 2021 at 5:00-7:00 PM (한국시간), 9:00-11:00 AM CET
Register: https://register.gotowebinar.com/register/5170743481390249l0?source=Editorial+Board

AsianJOCs 10th Anniversary Virtual Symposium		
5:00 – 5:35 PM	Keiji Maruoka, Dörthe Mellmann	Welcome from Co-Chair Keiji Maruoka and AsianJOC Deputy Editor Dörthe Mellmann featuring the milestones in *AsianJOCs* development in the past 10 years
5:35 – 6:00 PM	**Sungwoo Hong**	**Radical-Mediated Regioselective C–H Functionalization of Heteroarenes**
6:00 – 6:25 PM	Namrata Rastogi	Organo-Photoredox Mediated Reactions of Diazo Compounds
6:25 – 6:50 PM	Hirohisa Ohmiya	Radical-Mediated Carbene Catalysis
6:50 – 7:00 PM		Closing Remarks

공지사항

독창적 신약소재 화합물 합성연구 과제 공모

공모 안내 및 서식파일 다운로드:

https://drive.google.com/file/d/1je5hPmGW51TyZS_351cdM_xKGV6wP1Fb/view?usp=sharing

한국화학연구원(한국화합물은행)에서는 신약개발연구 및 BT연구에 활용할 수 있는 독창적 신약소재 화합물 라이브러리 합성연구를 수행할 연구팀을 다음과 같이 공모합니다.

1. 지원기간 및 규모

□ 지원기간

○ 지원기간: 1년 이내(2022년은 과제 협약일로부터 2022년 12월 31일까지)

○ 연차평가를 통해 1년 단위로 계속지원 가능(2021년 우수성과자 우대)

□ 지원규모

○ 지원연구비 총액 : 5억원 이내

○ 확보예정 화합물 라이브러리 총 개수: 약 2,500개

○ **화합물 개수** 및 **화합물 골격구조의 독창성, 신규성, 다양성, 약물가능성**에 따라 과제당 1천만원 ~ 10천만원 예정(제안화합물 구조와 개수에 연계)

2. 추진일정(예정)

□ 과제신청서 접수 : 2021년 10월 25일 ~ 2021년 11월 30일

□ 신청과제 선정 심의 : 2021년 12월 1일 ~ 2022년 1월 15일

□ 선정과제 통보 및 협약 : 2022년 1월 16일 ~ 2022년 1월 30일

(한국화학연구원 내부 행정절차로 인해 지연될 수 있음)

□ 과제시작 : 2022년 2월 1일(협약 완료 후 연구비 지급)

3. 신청서접수 및 문의처

□ 접수처

E-mail 접수: chembank@krict.re.kr (한국화합물은행 운영위원회)

□ 문의처

○ 한국화합물은행 센터장: 이선경(leesk@krict.re.kr, 042-860-7148)

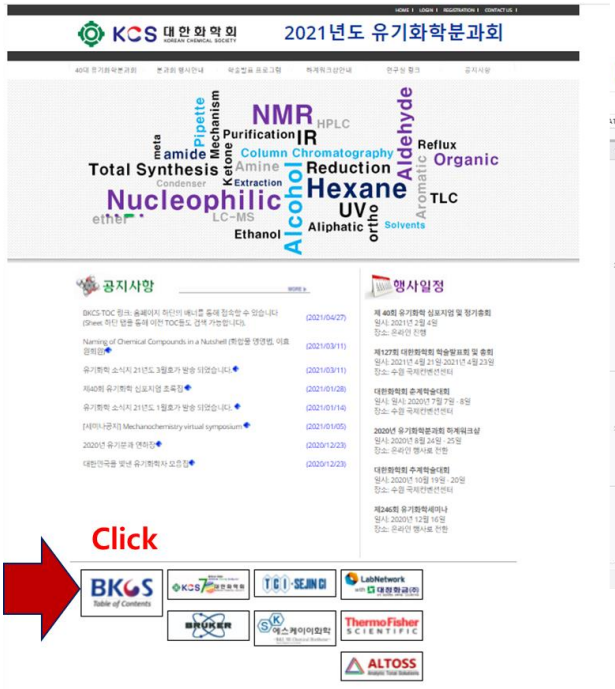
○ 이현규(leehk@krict.re.kr, 042-860-7016)

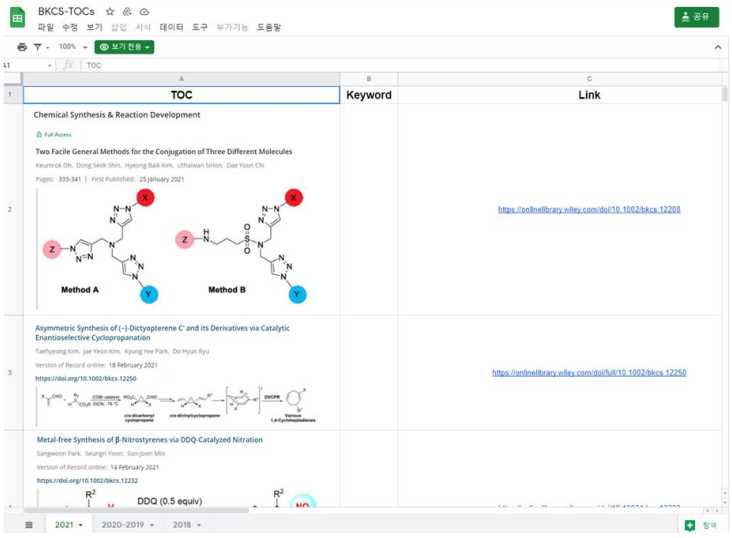
○ 황순희(chembank@krict.re.kr, 042-860-7190)

동학 불코(Bull. Korean Chem. Soc.) 캠페인

BKCS TOC 정리 자료: 유기화학분과회 홈페이지에서 바로 가기로 이용 가능

유기분과회 홈페이지에서 아래쪽 광고 배너에 BKCS Table of Contents 항목을 신설하였습니다. 배너를 클릭하시면 엑셀파일로 2021년 BKCS 유기분야 TOC가 정리되어 있으며, 2020-2019 및 2018년도 자료도 바로 보실 수 있습니다. 많은 인용 부탁 드립니다.





동학 불코(Bull. Korean Chem. Soc.) 캠페인

2021년도 대한화학회 유기분과에서는 대한화학회 학술지(Bulletin of the Korean Chemical Society; BKCS)의 Impact Factor 향상을 위해서 동학 불코 캠페인을 진행하고 있습니다. 지난 1월호 뉴스레터에 이어 7월호에서도 지난 2년간 BKCS에 발표된 유기분야 관련 논문과 연구분야를 정리하여 소식지 뒤부분에 실었습니다. 뿐만 아니라, BKCS 특별호(special issue on "Chemical Synthesis & Reaction Development")에 실린 논문의 graphic abstract를 첨부하였습니다. 또한 BKCS 표지가 2021년 2월부터 바뀌었으며, 3월호 cover graphic으로 김민 회원(충북대)께서 발표하신 논문이 선정되었습니다. 유기분과 회원분들이 발표하시는 논문에서 BKCS 발표 논문을 1년에 2-3번 정도만 인용하신다면 2년 후 BKCS Impact Factor가 많이 올라 갈수 있으리라 기대합니다.

유기화학 분야 BKCS 발표 논문 리스트 (2019. 1 이후)

연번	게재연월	연구분야	키워드	논문 제목	교신저자
1	2019-01	Org. Synthesis	Reboxetine; Diastereomer; Tandem reaction; One-pot	Synthesis of (S,S)-Reboxetine	고수영
2	2019-01	Org Rxn - Zn	Active zinc; Hydrosilylation; Reduction of aldehyde; Ligand-free Silanes	Ligand-Free Hydrosilylation of Aldehydes Mediated by Highly Active Zinc Metal	김승회
3	2019-01	Org. Photovoltaics	Organic photovoltaic cell; Organic photovoltaics; Non-fullerene acceptor; Barbituric acid	Non-fullerene Small Molecule Acceptors Containing Barbituric Acid (BAR) End Groups for Use in High-Performance OPVs	임은희
4	2019-01	Org Rxn - BuLi Cat.	Catalyzed hydroboration; n-Butyllithium; Aldehydes and ketones; Pinacolborane	n-Butyllithium (1 mol%)-catalyzed hydroboration of aldehydes and ketones with pinacolborane (HBpin)	안덕근
5	2019-01	PET Film	PET; Photochemical reaction; SI-ARGET ATRP; Non-specific binding	Developing Low Fouling on PET Film via Surface-Initiated ARGET ATRP of Carboxybetaine under Air Condition	홍대화
6	2019-01	Org Rxn-Cyclization	Thioaurones; Condensation; Debenzylation; 5-Exo cyclization	Novel Synthesis of Thioaurones by the Regioselective Cyclization of 1-(2-Benzylthio)phenyl-3-phenyl-2-propyn-1-ones Derived from Thiosalicylic Acid	이재인
7	2019-01	Polymerization	Thermally expandable microspheres; Cinnamonitrile; Diethyl fumarate; New crosslinking agent	Suspension polymerization of thermally expandable microspheres using cinnamonitrile and diethyl fumarate as crosslinking agents	안덕근
8	2019-01	Bio	Inflammation; 3,6-dihydroxyflavone; TLR1 TLR2 Antagonist	3,6-dihydroxyflavone: A potent inhibitor with anti-inflamatory activity targeting Toll like receptor 2	김양미
9	2019-02	Org. Rxn-Microwave	9H-Carbazole; H/D exchange; Microwave; Organic light-emitting material; 2-Phenylpyridine	Microwave-assisted efficient H/D exchange method of 9H-carbazole and 2-phenylpyridine as organic light emitting materials.	임춘우
10	2019-02	Medi & Life	Neural stem cell Astrocyte; Small molecule; Chirality; 1,3,4-oxadiazine	Novel Chiral 1,3,4-Oxadiazole Derivatives Inducing Astrocyte Differentiation of Rat Fetal Neural Stem Cells	민경훈
11	2019-02	Photonic Switch	Photonic switch; Aluminum; Morpholino-anthracene; Combinational photonic logic circuit; Image-guided fluorogenic tracking	Al^{3+}-morpholine-appended anthracene ensemble as a dual photonic switch for H2PO4- and CN- ions and its biological applications	김홍석
12	2019-02	Fluorescent Probe	Excited-state intramolecular hydrogen transfer; Intramolecular charge transfer; Dansyl-thiazole conjugate; Cu^{2+} I^-	Highly selective fluorescent probe based on 2-(2'-dansylamidophenyl)thiazole for sequential sensing of copper(II) and iodide ions	김홍석
13	2019-02	Organo Catalyst	Carbon dioxide; Mild condition; Guanidinium ; Organocatalyst	Guanidinium-based organocatalyst for CO2 utilization under mild conditions	김해조
14	2019-02	Org Photovol Cell	Porphyrin; band gap; organic photovoltaic cell	Synthesis and Band Gap Analysis of Designed Porphyrin Derivatives Containing Electron Donating and Accepting Group	황광진
15	2019-03	Synth. Method	Vilsmeier–Haack reaction; N-(1-chlorovinyl)formamide; Z/E isomers 2-phenoxyethanamide derivatives; Regioselective	Synthesis of E/Z N-(1-chlorovinyl)formamide using Vilsmeier-Haack reaction	신동수
16	2019-03	Synth. Method	SiO_2-based condensation; β-enamino ester; 4-hydroxypyridine-2(1H)-one	Silica gel mediated synthesis of β-enamino esters and its application for the synthesis of indeno 4-hydroxypyridin-2(1H)-ones	송민수

동학 불코(Bull. Korean Chem. Soc.) 캠페인

연번	게재연월	연구분야	키워드	논문 제목	교신저자
17	2019-03	Synth.-Alkylation	Tetrahydroisoquinoline; methopholine homolaudanosine; dysoxyline	Succinct syntheses of methopholine, (±)-homolaudanosine, and (±)-dysoxyline via metal-free one-pot double alkylation on 1-methyl-3,4-dihydroisoquinolines	김필호
18	2019-03	Polymerization	Poly(α-olefin); Cationic polymerization; Aluminum chloride; Lubricant	Studies on Poly α-Olefin Synthesis by AlCl3 Catalyzed Cationic Polymerization: Concentration Effect on Molecular Weight and Viscosity	김정곤
19	2019-04	Recognition-Anions	Dihydrogen phosphate; selective anion receptor; C-H hydrogen bonds; Polarization of C-H bond	Differential Recognition of Various Anions Utilizing Aromatic C-H Hydrogen Bonding	강종민
20	2019-04	Polymerization	Graft-polymerization; Polystyrene; Polyurethane	The graft-polymerization of polystyrene using 3-isopropenyl-α,α-dimethylbenzyl isocyanate onto polyurethane to modify the tensile and shape memory characteristics	전병철
21	2019-05	Copper Catalysis	Modified chitosan; Biopolymer; Copper-catalyzed ipso-hydroxylation; Arylboronic acids	Chemically Modified-Chitosan as a Biopolymer Support in Copper-Catalyzed ipso-Hydroxylation of Arylboronic Acids in Water	김승회
22	2019-05	Org. Photovoltaic	Organic photovoltaics; Organic solar cell; Nonfullerene; Rhodanine; Barbituric acid	A Nonfullerene Acceptor Containing Rhodanine and Barbituric Acid End Groups for Use in Organic Photovoltaic Devices	임은희
23	2019-05	Nanophotosensitizer	Photodynamic therapy; Nanophotosensitizer; Chlorine6; CD44 Redox-sensitive	Redox and CD44 dual-responsive nanophotosensitizer composed of chlorin e6-conjugated hyaluronic acid via disulfide linkage for targeted photodynamic treatment of cancer cells	정영일
24	2019-05	Cross Coupling	Indazole; Diversity; microwave; Transition metal; Coupling reaction	Microwave-assisted transition metal-catalyzed coupling approach to indazole diversity	염을균
25	2019-06	pH Sensing	Covalent immobilization; Ratiometric pH sensor; Fluorescent membrane; Low pH value	A Fluorescent Optode Membrane Covalently Immobilized with a Donor-Acceptor Conjugated Dye for pH Sensing under Extremely Acidic Conditions	김형진
26	2019-06	Hetero Pd Catalyst	Noncovalent immobilization; Heterogeneous catalysis; Palladium; Suzuki reaction	Noncovalent immobilization of palladium complex onto reduced graphene oxide: A highly efficient and recyclable catalyst for Suzuki reaction	진명종
27	2019-06	Medicinal Chem	Farnesyl acetone derivatives; Anti-platelet aggregation; Blood circulation; Marine natural product	Synthesis of substituted farnesyl acetone derivatives and their inhibitory activity against platelet aggregation	이석준
28	2019-06	Fluorescent probe	Fluorescent probe; Acrylamide-based Michael addition; Photo-induced electron transfer; Cysteine; Homocysteine	Acrylamide-coumarin-benzaldehyde as a turn-on fluorescent probe providing an enhanced water solubility for detection of cysteine and homocysteine	이민희
29	2019-06	Medicinal Chem	Tryptamine–triazole hybrid compounds; Cholinesterase inhibitory activity; Alzheimer's disease; Molecular docking calculation; Molecular dynamics simulation	Tryptamine-Triazole Hybrid Compounds for Selective Butyrylcholinesterase Inhibition	박정호
30	2019-06	Organo Catalyst	Friedel–Crafts reaction; Furan; Sulfamidate; Phosphoric acid; Organocatalysis	Asymmetric Phosphoric Acid-Catalyzed Aza-Friedel–Crafts Reaction of Furan with Cyclic N-Sulfimines	김성곤
31	2019-06	Pd Catalysis-Heck	Decarboxylative coupling; Heck reaction Vinyl sulfide; Acrylic acid	Decarboxylative Heck-Type Reactions of Thioacrylic Acid with Aryl Bromides	이선우
32	2019-07	Bio Synthesis	chiral compound; glycerol derivative; hydroxycinnamic acid	Biological synthesis of chiral p-coumaroyl glycerol	안중훈
33	2019-07	Aromatic-Hammett	Heterocyclic compounds; Indices of aromaticity; Hammett equation	Studies of NMR Chemical Shifts of Chalcone Derivatives of Five-membered Monoheterocycles and Determination of Aromaticity Indices	한인숙
34	2019-07	Thiazole-Solar Cells	Polymer solar cells; Thiazole-based polymers; Quinoxaline-based copolymers	Visible to near-infrared-absorbing polymers containing bithiazole and 2,3-didodecyl-6,7-difluoroquinoxaline derivatives for polymer solar cells	진영읍

동학 불코(Bull. Korean Chem. Soc.) 캠페인

연번	게재연월	연구분야	키워드	논문 제목	교신저자
35	2019-07	Copper Catalysis	Aminonaphthalene; Dipolar cycloaddition; Ketenimine; Cyclization; Copper	Copper(I)-Catalyzed Cyclization Reactions of Ethyl (E)-a-Ethynyl-b-aryl-a,b-unsaturated Esters with N-Sulfonyl Azides: Synthesis of 1-Aminonaphthalene, 3-Aminobenzofuran, and 3-Aminothiobenzofuran Derivatives	이필호
36	2019-07	Total Synthesis	Baphicacanthin A; Phenoxazinone; Total synthesis; Global hydrogenolysis/hydrogenation	The First Synthesis of Baphicacanthin A, a Natural Phenoxazinone Alkaloid Derived from Baphicacanthus cusia	한영택
37	2019-07	Nat. Prot Isolation	Bacillus velezensis GH1-13; Biocontrol agent; Cyclic lipopeptide; Secondary metabolite; Surfactin	Structure and Mechanism of Surfactin Peptide from Bacillus velezensis Antagonistic to Fungi Plant Pathogens	이철원
38	2019-07	Asymmetric [3+3]	Cycloaddition; Asymmetric catalysis; Donor–acceptor aziridine; Tetrahydroisoquinoline	Enantioselective Catalytic [3+3] Cycloaddition of Donor–Acceptor Aziridines with m-N,N-Dialkylaminophenyl Methylidenemalonates	김성곤
39	2019-07	5-exo Cyclization	(Z)-Aurone o-(Alkynon-1-yl)phenols; Thallium(I) acetate; 5-exo Cyclization	Efficient Synthesis of (Z)-Aurones by the Thallium(I) acetate-Catalyzed 5-exo Cyclization of o-(Alkynon-1-yl)phenols	이재인
40	2019-08	MedChem-S&A	Diabetes; Decursinol; FoxO-1; Blood glucose reduction efficacy; Angelica gigas	Synthesis and biological evaluation of Decursinol derivatives as FoxO-1 inhibitors in HepG2 cells	유국현
41	2019-08	Fluorescent Sensor	Rhodamine B; 2H-benzo[b][1,4]oxazin-3(4H)-one; Proton detection ; Fluorescence; UV–Vis absorption	Novel Rhodamine B and 2H-benzo[b][1,4]oxazin-3(4H)-one Derived Fluorescent Sensor for Low pH Value Detection	신동수
42	2019-08	Pd Catalysis	Alkoxyallene acetals; Pd-catalyzed addition; Stereoselective; Azacycle Sugar	Stereoselective Construction of N,O- and O,O-Acetals by Pd-Catalyzed Addition of Heteroatoms to Alkoxyallene	하현준
43	2019-08	MedChem-S&R	Clitocybin; Antioxidant; Oxidative stress ; Natural product	Synthesis of Clitocybins A, B, C and their Biological Evaluation for Antioxidant Activities	이상구
44	2019-08	Lewis Base Catalysis	Vinyl epoxide; Kinetic resolution; Lewis base catalysis; Epoxide opening; Chlorine	Cooperative Stereocontrol by Proximal and Distal Chlorine Substituents in the Chiral Lewis Base-Catalyzed Kinetic Resolution of cis-Vinyl Epoxide	정원진
45	2019-09	Asymmetric Synth	1,3,3-Trinitroazetidine; Asymmetric synthesis; High-energy materials; Sensitivity	Synthesis of Enantiopure 2-Alkyl-1,3,3-Trinitroazetidines	조창우
46	2019-09	Chiral Resolution	3,5-dibromo-2-pyrone; Diels–Alder reaction; Chiral resolution; Diastereomeric salt	Chiral Resolution of Racemic 2-Pyrone Diels-Alder Cycloadduct by Diastereomeric Salt Formation	조천규
47	2019-09	Mechanochemistry	Mechanochemical synthesis; Polydiphenylamine; Eutectic liquid	Mechanochemical Synthesis of Polydiphenylamine Derivatives from a Supramolecular Eutectic Liquid of Diphenylamine with Benzophenone	박치영
48	2019-10	S_NAr Reaction	Aromatic nucleophilic substitution; N,N,N′,N′-tetramethyl thiourea; Urea; 2,4-dimethoxynitrobenzene	Novel effect of thiourea/urea additives on the aromatic nucleophilic substitution of 2,4-dimethoxynitrobenzene	민경훈
49	2019-10	Cu-free Cyanation	tert-butyl isocyanide; Metal-free; Aryl nitrile; Aniline; Solvent-free; Cyanation	Cyanation of Anilines to Aryl Nitrile Using tert-Butyl Isocyanide: A Simple and Copper-Free Procedure	Poh Wai Chia
50	2019-10	Hydroboration Rxn	Hydroboration; Lithium tert-butoxide; Aldehydes; Ketones; Esters; Pinacolborane (HBpin)	Lithium tert-butoxide catalyzed hydroboration of carbonyl compounds	안덕근
51	2019-10	Physical Organic	Aminolysis; Bronsted-plot; Hammett plot; Yukawa-Tsuno plot	Reactions of 2,4-dinitrophenyl 5-substituted-2-thiophenecarboxylates with R2NH/R2NH2+ in 20 mol% DMSO(aq). Effects of 5-thienyl substituent and leaving group on the reaction mechanism	변상용
52	2019-10	Organo Catalysis	Reductive amination; Aldehydes; N,N′-diphenyl-S-benzylisothiouronium iodide	Direct Reductive Amination of Aldehydes using Hantzsch Ester Promoted by N,N′-Diphenyl-S-benzylisothiouronium Iodide as an Organocatalyst	김택현
53	2019-10	Chemosensors	Chemosensor; Thiazole; Zn^{2+} ion; Excited-state intramolecular proton transfer; Specific binding	Thiazole-Based Orange-Emitting Excited-State Intramolecular Proton Transfer Chemosensors for Selective and Ratiometric Sensing of Zn2+ Ions	박상혁

동학 불코(Bull. Korean Chem. Soc.) 캠페인

연번	게재연월	연구분야	키워드	논문 제목	교신저자
54	2019-11	Pd Cat.-Microwave	Heteroannulation; Internal alkyne; Palladium; 5,6,7-trisubstituted Pyrrolo[2,3-d]pyrimidine; Microwave	Microwave-assisted synthesis of 5,6,7-trisubstituted pyrrolo[2,3-d]pyrimidines via palladium-catalyzed heteroannulation with internal alkynes	염을균
55	2019-11	Fluorescence prob	Imidazolium; Aggregation-induced emission; Fluorescence probe; Cell imaging	The studies on the fluorescence behaviors and applications for two D-π-A type imidazolium analogues	Chao Gao
56	2019-11	Synthetic Method	Sulfonylation; Indole; Iodination; Thiosulfonate; Multifunctionalization	Multifunctionalization of Indoles: Synthesis of 3-Iodo-2-sulfonyl Indoles	장혜영
57	2019-12	Enzymatic Reaction	(+)-endo-Brevicomin l-Tartaric acid; Enzyme reaction; Inversion chiral center; Total synthesis	Chiral Synthesis of Natural (+)-endo-Brevicomin with Enzymatic Reaction from L-Tartaric Acid	서영배
58	2019-12	Organic solar cells	Polymer; Photovoltaic cells; Thieno[2,3-b]indole (2-TI); Electron-deficient unit; Organic solar cells (OSCs)	Syntheses and Properties of Conjugated Polymers Containing Thieno[2,3-b]indole with Different Electron Deficient Units	서홍석
59	2019-12	Photo-catalysis	Semipinacol-type rearrangement; Sulfinic acids; Photoredox process	Photocatalytic synthesis of b-sulfonated cyclopentanones via sulfonylation and semipinacol-type rearrangement cascades of vinyl cyclobutanols	김대영
60	2019-12	Synthetic Method	Allylation; Borane; Diastereoselectivity; Enantioselectivity; Diazoalkene	A Novel Synthesis of (E)-2-Alkenylborane from Chiral Borane and Diazoalkene: Asymmetric Alkenylboration of Aldehydes	김지민
61	2020-01	Pt Catalysis-[3+2]	Bisannulation; Platinum catalysis; [3 + 2] Cyclization; 3,6-Dialkynylnaphthalen-2,7-dicarboxaldehyde; Platinum-carbenoid	Bisannulation of Platinum-bound Isochromeno[6,7-g]isochromene-2,9-diium derived from 3,6-dialkynylnaphthalene-2,7-dicaboxaldehyde with Cyclohexene	오창호
62	2020-02	Photocatalysis	Addition reaction; Photosensitizer; N-α-Trimethylsilyl-N-alkylglycinates; Azomethine ylide; Pyrrole; Enamino-ester	Photosensitizer-Catalyzed Addition Reactions of N-α-Trimethylsilyl-N-Alkylglycinates to Dimethyl Acetylenedicarboxylate	조대원
63	2020-02	Continu Flow Chem	Continuous flow chemistry; High-energy materials; 1-Methyl-3,5-dinitro-1,2,4-triazole	Efficient and Safe Synthesis of 1-methyl-3,5-dinitro-1,2,4-triazole using Continuous Flow Chemistry	배세원
64	2020-02	Surface functional	Surface functionalization; Polymeric coating; SI-ARGET ATRP; “Click” chemistry	Binding Capability and Non–biofouling Efficacy of Poly[2–(methacryloyloxy)ethyl–4–pentynoate–co–oligo(ethylene glycol) methacrylate] Films on Gold Surfaces	이정규
65	2020-02	Synth Method	1,2,4-thiadiazole; Primary thioamide; Calcium hypochlorite; Oxidative dimerization	Expedient synthesis of 1,2,4-thiadiazoles from primary thioamides using calcium hypochlorite in dichloromethane	이기승
66	2020-03	Syn-phosphoamidate	PMO; PMO dimer; Diastereoselective synthesis; Lithium bromide	Diastereoselective Synthesis of Phosphorodiamidate Morpholino Dimers	전근호
67	2020-03	Metal-free-azide	Phosphorylation; Vinyl azides; β-Ketophophine oxides; Metal-free coupling; Radical process	Transition metal-free phosphorylation of vinyl azides: A convenient synthesis of b-ketophosphine oxides	김대영
68	2020-03	Continu Flow Chem	Microreactor; Continuous flow synthesis; Graphene oxide; Palladium catalyst	Droplet-Based Continuous Flow Synthesis of Palladium Supported on Reduced Graphene Oxide	박찬필
69	2020-03	Copper Catalysis	Selenylation; Semipinacol-type rearrangement; Alkenyl cyclobutanols; Diselenides	Copper-Promoted Synthesis of b-Selenylated Cyclopentanones via Selenylation and 1,2-Alkyl Migration Sequences of Vinyl Cyclobutanols	김대영
70	2020-04	C-H Activation	Isocoumarin; phosphaisocoumarin; C-H activation; metal catalyst	Synthetic Methods of Isocoumarins and Phosphaisocoumarins through C-H Activation	이필호
71	2020-04	[18F]-Fluorination	[^{18}F]F-DOPA Fluorination; Quantum chemistry; Diaryl iodonium salt	Toward the Robust Synthesis of [18F]F-dopa: Quantum Chemical Analysis of SNAr cold Fluorination of Diaryl Iodonium Salt by 19F-	이성열
72	2020-04	Synth Method	Thioflavanones; Condensation; 6-Endo cyclization	New Synthesis of Thioflavanones by the Regioselective Cyclization of 1-(2-Benzylthio)phenyl-3-phenyl-2-propen-1-ones with Hydrobromic Acid	이재인
73	2020-04	Med-S&R	N-Arylsulfonylimidazolidinone; N-Arylsulfonyllactam; Anticancer activity; Antimitotic agent	Structure activity relationship of 4-phenyl-1-(1-acylindolin-5-ylsulfonyl)pyrrolidin-2-ones on anticancer activity	정상헌
74	2020-05	Horner–W–E Rxn	Chlorophyll a; Chlorin Cyanochlorin; Allomerization; Horner–Wadsworth–Emmons reaction	Efficient Synthesis of Long-Wavelength Absorbing Cyanochlorophyll a Derivatives via Stereoselective Horner–Wadsworth–Emmons Reaction	윤일

동학 불코(Bull. Korean Chem. Soc.) 캠페인

연번	게재연월	연구분야	키워드	논문 제목	교신저자
75	2020-05	Med-S&R	Niche chemistry; Valproic acid; Antiepileptic	Synthesis and Antiepileptic activity Evaluation of Valproic acid Derivatives by Niche Chemistry	정대일
76	2020-05	Orgno-Catalysis	Asymmetric catalysis; Organocatalysis o-Quinone methides; 2-amino-4H-chromene	Enantioselective Organocatalytic Michael Addition and Ring Closure Cascade of o-Quinone Methides with Nitriles	김대영
77	2020-06	Cp*Rh(III), N-H	Phosphoryl amide; Rhodium(III); N-H insertion; Diazoester; α-Phosphoryl amino ester	Rhodium(III)-Catalyzed N-H Insertion Reaction of Phosphoryl Amides α-Aryl Diazoesters for the Synthesis of α-Phosphoryl Amino Esters	이필호
78	2020-06	C-H Functionalization	Transient directing group; Traceless directing group; Temporary directing group; C–H activation; C–H functionalization	Transient Directing Group-assisted C–H Bond Functionalization of Aliphatic Amines: Strategies for Efficiency and Site-selectivity	김민
79	2020-07	Fluorescence probe	Fluorescent probe; Mercury ions; Aggregation-induced emission; Intramolecular charge transfer	A simple fluorescence turn-on probe for the detection of Hg 2+ ion in aqueous solution and soil with AIE and ICT mechanisms	Chao, Gao
80	2020-07	Bismuth Catalysis	Bismuth; Catalysis; Pyranocoumarin; Furocoumarin; Regioselectivity	Regioselective Bismuth-Catalyzed Synthesis of Pyranocoumarins and Furocoumarins from 4-Hydroxycoumarins and Propargyl Alcohols	이필호
81	2020-07	Fluorescent sensor	Sol–gel film; Covalent immobilization; Fluorescence sensor; Low pH	Sol-gel-based fluorescent sensor for measuring pH values in acidic environments	김형진
82	2020-07	Synt Method	Acylation; Alkoxycarbonylation; Dehydration; Dehydrosulfurization; (Thio)carbonyl transfer	Synthesis and Versatile Utilization of 2-Pyridyl and Pyrimidyl-Related Reagents	이재인
83	2020-07	Annulation-[4+3]	Annulation; Azaoxyallyl cation; Benzodiazepinone; Catalyst-free	Facile synthesis of functionalized 1,4-benzodiazepine-3-one-5-acetates via [4+3]-annulation of azaoxyallyl cations with 2-aminophenyl α,β-unsaturated esters	김성곤
84	2020-08	DABCO-Catalysis	DABCO-catalyzed; Quaternary stereogenic centers; Functionalized cyclohexanones; Solvent-free conditions	DABCO-Catalyzed the Synthesis of Densely Functionalized Cyclohexanones in a Benign Manner	Lashkari, Mojtaba
85	2020-08	18F-fluorination	^{18}F-fluorination; ^{18}F-D_2-deprenyl PET imaging; Neuroinflammation; Positron emission tomography	Optimization of the synthesis of 18F-D2-deprenyl with mild 18F-fluorination and minimum precursor input for PET imaging of neuroinflammation	오승준
86	2020-08	Copper Catalysis	Hetroary-aryl ether; Ligand free; Copper catalyst; O-arylation; Microwave heating	Diversification of heteroaryl-aryl ether via ligand-free, copper-catalyzed O-arylation under microwave heating	염을균
87	2020-09	Dehydrosulfuration	Dehydrosulfurative coupling; Azolation; Azolylpyrimidine; Pyrimidine; 3,4-Dihydropyrimidine-1H-2-thione	Oxidative Dehydrosulfurative Azolation of 3,4-Dihydropyrimidin-1H-2-thiones	손정훈
88	2020-09	Microwave Rxn	Condensation; Acetophenone; Pyrazoline	Microwave Assisted Synthesis and Molecular Docking Study of Heteroaromatic Chalcone Derivatives as potential Antibacterial Agents	Farooq, Saba
89	2020-09	Explosive Chem	Explosives; Primary explosives; Green explosives; Bisnitropyrazoles	Bis(4-azido-3,5-dinitro-1H-pyrazol-1-yl)methane as a new green primary explosive	김영규
90	2020-09	Metal-Free Syn	Dihydro[1,3]oxazine; Intramolecular hydrogen bonding; Metal-free synthesis	Efficient Metal-Free Synthesis of Dihydro[1,3]oxazines Assisted by Intramolecular Hydrogen Bonding	윤일
91	2020-10	Cat-hydroboration	Catalyzed hydroboration; Lithium bromide; Chemoselective reduction; Pinacolborane (HBpin)	Lithium bromide/HBpin: A mild and effective catalytic system for the selective hydroboration of aldehydes and ketones	안덕근
92	2020-12	PTC Rxn	Ionic liquid; Fluorination; Phase transfer catalyst; Pyrene; Graphene oxide	Pyrene-tagged alcoholic ionic liquids as phase transfer catalysts for nucleophilic fluorination	김동욱
93	2020-12	Synth. Method		Choline hydroxide as a versatile medium for catalyst-free O-functionalization of phenols	김승회
94	2021-01	Fluorescent probe	Fluorescent probe; Indolizine; Fluoride sensor; Bioimaging	Fluorescent fluoride sensor based on indolizine core skeleton for bioimaging	김은하
95	2021-01	Real-time monitor	NQO1 enzyme; Trimethyl lock quinone-functionalized coumarin; Real-time monitoring; Fluorescence imaging probe	Trimethyl lock quinone-functionalized coumarin for real-time monitoring of NQO1 activity in the live cells	이민희

동학 불코(Bull. Korean Chem. Soc.) 캠페인

연번	게재연월	연구분야	키워드	논문 제목	교신저자
96	2021-01	Chemical detection	Chemical accidents, Hazardous materials, Spectroscopy, Detection platforms, Safety management policies	On-Site Detection for Hazardous Materials in Chemical Accidents	주상우
97	2021-01	SEM imaging	Metal salts, Aliphatic acid, SEM, Fibrous morphology	Scanning Electron Microscopy Morphology of Metal Salts of Saturated Aliphatic Acids: Sodium Ion Results Branched Fibrous Image	강민수
98	2021-01	drug synthesis	Biurets, Synthesis, Layered double hydroxides catalyst, HIV-1 protease inhibitor, Molecular docking	Synthesis of Biuret Derivatives as Potential HIV-1 Protease Inhibitors Using (LDHs-g-HMDI-Citric Acid), as a Green Recyclable Catalyst	Adibpour, Neda
99	2021-01	Synth. Method	8-cyclo-1,5,3,7-Diazadiphosphocine, [4 + 2] cycloaddition, Hetero-aromatic amine, Dienophiles, Hypophosphorous acid	Synthesis of Novel 8-cyclo-1,5,3,7-Diazadiphosphocine Derivatives Via [4 + 2] Cycloaddition	정대일
100	2021-01	Total synthesis	Total synthesis, 4',6'-dimethoxy-2'-hydroxy-3',5'-dimethylchalcone, Phloroglucinol, Claisen–Schmidt condensation, Benzaldehyde	Total Syntheses of 4',6'-Dimethoxy-2'-Hydroxy-3',5'-Dimethylchalcone Derivatives	박광용
101	2021-01	Two-Photon probes	Nonmelanoma skin cancer, Squamous cell carcinoma, Two-photon microscopy, Enzyme activity	Analyzing Nonmelanoma Skin Cancer Using Enzyme-Activatable Two-Photon Probes	김환명
102	2021-01	Fluorescent chemosensor	Fluorescent chemosensor, Zn2+ detection, Pyrophosphate detection	Fluorescent Chemosensors for Zn2+ and Pyrophosphate	윤주영
103	2021-01	Fluorophore design		Liposomal-Encapsulated Near-Infrared Fluorophore Based on π-Extended Dipolar Naphthalene Platform and Its Imaging Applications in Human Cancer Cells	김도경
104	2021-01	Supramolecular chemistry	Calix[4]pyrrole, Anion recognition, Bicarbonate	Bicarbonate Recognition Features of a Naphthobipyrrole-strapped Calix[4]pyrrole	김성국
105	2021-01	Fluorescent probe	Fluorescence, Palladium, Depropargylation, Ratiometric, Electronic effect	Electronic Effects on the Depropargylation Process in the Reaction-based Fluorescent Detection of Palladium Species: Benzocoumarin-based Ratiometric Sensing Systems	안교한
106	2021-01	Colorimetric probe	Polydiacetylenes, PDAs sensors, Colorimetric sensor, Fluorescent sensor, Cadmium sensor	Polydiacetylenes Functionalized with Chelidamic Acid and 2,2'-Dipicolylamine for Colorimetric Responses to Cadmium Ions	이송이
107	2021-02	Colorimetric probe		Naked-Eye Detection of Fluoride Ions Using a Reaction-based Colorimetric Probe	배세원
108	2021-02	Anion receptors	anion receptor, dihydrogen phosphate, oxoanion of phosphorus, phosphinates	Anion Receptors Selective for Oxoanions of Phosphorus and the Importance of Partial Charge	강종민
109	2021-02	Synth. Method	Nucleophilic substitution, Asymmetric synthesis, Dynamic resolution, Heterocycles, Chiral auxiliary	Divergent Reactions of 2-Aminophenol with α-Bromoacetate: Asymmetric Synthesis of Two Regioisomeric 1,4-Benzoxazinones	박용선
110	2021-02	Synth. Method	Palladium, Cyclization, Iodonium ylide, Benzofuran, CH activation	Construction of Diverse Dihydrodibenzofuranones by Migration/Intramolecular Arylation of Iodonium Ylides	이용록
111	2021-02	Colorimetric probe	Polydiacetylenes, PDAs sensors, Colorimetric sensor, Fluorescent sensor, Cadmium sensor	Polydiacetylenes Containing 2-Picolylamide Chemosensor for Colorimetric Detection of Cadmium Ions	이송이
112	2021-02	ROS sensor	Dihydrofluorescein, Endoplasmic reticulum-targeting, Fluorescent chemosensors, Glibenclamide, Reactive oxygen species, ER stress	Endoplasmic Reticulum Targeting Reactive Oxygen Species Sensor Based on Dihydrofluorescein: Application of Endoplasmic Reticulum Stress	김태우
113	2021-02	Synth. Method	Conjugation chemistry, Bioconjugation, Tripodal conjugation, Click reaction	Two Facile General Methods for the Conjugation of Three Different Molecules	지대윤
114	2021-03	Flow chemistry	Continuous flow synthesis, Indoles, Formylation, Solid clogging	C3-Formylation of Indoles in Continuous Flow	박찬필

동학 불코(Bull. Korean Chem. Soc.) 캠페인

연번	게재연월	연구분야	키워드	논문 제목	교신저자
115	2021-03	Organocatalyst	Organocatalyst, Calix[4]-2-methylresorcinarene, Sulfonic acid, Biodiesel, Methyl palmitate	Preliminary Investigation of Organocatalyst Activity Based on C-Arylcalix[4]-2-Methylresorcinarene Sulfonic Acid Materials for Biodiesel Production	Jumina
116	2021-03	Materials chemistry	Energetic ionic liquids, High-energy materials, Dinitroimidazolium cation, Meerwein's reagents	Novel 4,5-Dinitro-N,N′-dialkylimidazolium Cations as Candidates for High-energy Materials	김영규
117	2021-03	Synth. Method	Spirooxindoles, 1,3-Oxathiolane-2-thione, Isatin-derived propargylic alcohols, Carbon disulfide	Synthesis of Spirooxindoles Bearing 1,3-Oxathiolane-2-thione Moiety From Isatin-Derived Propargylic Alcohols	김재녕
118	2021-03	Organocatalyst		Remarkable Differences in Reactivity between Cyanide and N-Heterocyclic Carbenes in Ring-Closing Reactions of 4-(2-Formylphenoxy)but-2-Enoate Derivatives	천철홍
119	2021-03	Natural products	Securinega alkaloids, Computational chemistry, DP4+ probability analysis, Stereochemical analysis, Ground-state conformation	Calculation-Assisted Stereochemical Analysis of Securingine A	한순규
120	2021-03	Pd catalysis	Pyrazole, Alkyne, Oxygen, Palladium, C–H activation	Palladium-catalyzed Aerobic Benzannulation of Pyrazoles with Alkynes	주정민
121	2021-03	Pd catalysis	Palladium, triNHC, Carbonylation, α-Ketoamides, N-heterocyclic carbene	Pd(triNHC)-catalyzed Double Carbonylation of Aryliodides With Amines: The Effect of triNHC Ligands	장혜영
122	2021-03	C-H activation	CH activation, Diazo Meldrum's acid, 2-(1-Cycloalkenyl)pyridine, Rhodium • Quinolizinone	Synthesis of Quinolizinones from Rhodium-Catalyzed CH Activation Reaction of 2-(1-Cycloalkenyl)pyridines with Diazo Meldrum's Acids	이필호
123	2021-03	Cross-coupling	Palladium, Negishi coupling, Allylboronate ester, gem-diborylalkane, Cross-coupling	Pd-Catalyzed Negishi Cross-Coupling of Vinyl Bromides with Diborylmethylzinc Chloride	조승환
124	2021-03	ROMP	Ring-opening metathesis polymerization, Green chemistry, Green solvent, Ruthenium alkylidene	Study of Green Solvents for Ruthenium Alkylidene Mediated Ring-Opening Metathesis Polymerization	김정곤
125	2021-03	Photoredox catalysis	Allylation, α-Bromocarbonyl compounds, Visible-light, Photoredox catalysis, SET	Visible-Light Photoredox-Catalyzed α-Allylation of α-Bromocarbonyl Compounds Using Allyltrimethylsilane	우상국
126	2021-03	Electrochemical synthesis	Electrochemical oxidation, Sulfonylation, Vinyl cyclobutanols, β-Sulfonated cyclopentanones, Semipinacol rearrangement	Electrochemical Oxidative Arylsulfonylation and 1,2-Alkyl Shift Sequences of Alkenyl Cyclobutanols for the Synthesis of β-Sulfonated Cyclopentanones	김대영
127	2021-03	Pd catalysis	Homocoupling, Dimerization, Decarboxylation, Propiolic acid, Palladium	Palladium-Catalyzed Decarboxylative Homodimerization of Propiolic Acids: Synthesis of 1,3-Enynes	이선우
128	2021-03	Total synthesis	Norabietane, Abietane, Copper catalysis, Organometallic reactions, Stereoselective cyclization, Organic synthesis	One-Step Synthesis of Norabietane Core and its Alkylation to Abietane Analogs	오창호
129	2021-03	Pd catalysis	Annulative coupling, Chiral ligand, Enantioselectivity, Heterocycles, Palladium	Pd-Catalyzed Asymmetric Synthesis of 3,4-Dihydroisoquinolinones From N-Ts-Benzamides and 1,3-Dienes	윤소원
130	2021-03	Synth. Method		Metal-free Synthesis of β-Nitrostyrenes via DDQ-Catalyzed Nitration	민선준
131	2021-03	Synth. Method	Reductive elimination, High-valent pathway, C–C bond formation, Metallacycle, Methylation	Oxidatively Induced Reductive Elimination for Methyl Group Transfer via Isolable Transmetalation Complexes	장석복
132	2021-03	Synth. Method	Benzochromones, Diazo compound, Wolff-rearrangement, Annulation, Pyranoquinolines	In(III)-Catalyzed O-Annulation of Cyclic Diazodicarbonyls with 2-Naphthol, 6-Quinolinol, β-Tetralone, and 9-Phenanthrol to Access Diverse Benzochromones	이용록
133	2021-03	Synth. Method	Dual catalysis, Rhodium catalyst, Palladium catalyst, Indolin-2-ones, Benzofuran-2-ones	Dual Rh(II)/Pd(0) Relay Catalysis for One-Pot Synthesis of α-Quaternary Allylated Indolin-2-ones and Benzofuran-2-ones	이상기

동학 불코(Bull. Korean Chem. Soc.) 캠페인

연번	게재연월	연구분야	키워드	논문 제목	교신저자
134	2021-03	Ruthenium catalysis	Carbonylation, CH functionalization, Isocyanates, Ruthenium, Quinazolinones	Ruthenium(II)-Catalyzed CH/NH Carbonylative Cyclization of 2-Aryl Quinazolinones with Isocyanates as CO Surrogates	김인수
135	2021-03	photochemical synthesis	Hofmann–Löffler–Freytag reaction, Visible light, Cyclic ethers, Metal free	Visible Light-Induced Intramolecular C–O Bond Formation via 1,5-Hydrogen Atom Transfer Strategy	홍승우
136	2021-04	Synth. Method	(1-Methyl)-2-phenyl-4-quinolones, (N-Methyl)isatoic anhydride, Acyl substitution, 6-endo Cyclization	An Efficient Synthesis of (1-Methyl)-2-phenyl-4-quinolones from (N-Methyl)isatoic Anhydride	이재인
137	2021-04	Lewis acids methodology	carbocyclization, vinyloxirane, Lewis acid, stereoselectivity, musellarin	Stereoselective Carbocyclization of Vinyloxiranes Catalyzed by Lewis Acids: Construction of the Musellarin Tricyclic Core	김지민
138	2021-04	N-aromatic zwiterions	Heterocyclic compound, Dearomatization, Organometal reagent, Chelation, Regioselectivity	Chelation-driven Regioselective 1,2-Dearomatizations of N-Aromatic Zwitterions	유은정
139	2021-04	total synthesis	cis-Cyclopropane, Enantioselectivity, Lewis acid catalyst, Rearrangement, 1,4-Cycloheptadiene	Asymmetric Synthesis of (−)-Dictyopterene C' and its Derivatives via Catalytic Enantioselective Cyclopropanation	류도현
140	2021-04	total synthesis	Durantanin, Oligosaccharide, Apiose, Total synthesis, Hydroalkoxylation	A Convergent Synthesis of the Tetrasaccharide Fragment of the Purported Structure of Durantanin I	이영호
141	2021-04	copper catalysis	Copper, Cascade catalysis, Allene, 3-Hydroxypyrrolidine, Protodeborylation	Diastereoselective Reductive Cyclization of Allene-Tethered Ketoamines via Copper-Catalyzed Cascade Carboboronation and Protodeborylation	조은진
142	2021-04	oligonucleotide chemistry	DNA-encoded library, Pyrrolo[2,3-d]pyrimidines, Privileged scaffold, DNA-compatible	Synthesis of a DNA-Encoded Library of Pyrrolo[2,3-d]pyrimidines	임현석
143	2021-04	copper catalysis	Allyl sulfones, Aromatic amines, Copper catalyst, Hydroamination, Regioselectivity	Copper-catalyzed Regioselective Hydroaminations of Allylic Sulfones With Aromatic Amines	이윤미
144	2021-05	iron catalysis	Iron(III)–phenanthroline complex, Iminium, Oxidative Povarov reaction, Oxygen, Tetrahydroquinoline	Fe(III)-catalyzed Oxidative Povarov Reaction with Molecular Oxygen Oxidant	강은주
145	2021-06	Synth. Method	Mannich reaction, Microwave, Trifluoroethylamine, Trifluoroethyl derived tertiary amine, Trifluoroethyl derived secondary amine	Mannich Reaction as a Key Strategy for the Synthesis of Trifluoroethyl Derived Tertiary and Secondary Amine	Yu, Jiangang
146	2021-06	Synth. Method	Hexahydrotriazine, Sym-triazine, Cytotoxic activity, Cyclocondensation, Pharmaceutical activity	Synthesis and Cytotoxic Activity of Hexahydro-1,3,5-triazine Derivatives through Ring Condensation	송주현
147	2021-06	Synth. Method	2-Alkylthiochroman-4-ones, Thioflavanones, Cyclodehydration, 1,4-Addition, Friedel–Crafts acylation	Synthetic Approaches to 2-Alkylthiochroman-4-ones and Thioflavanones	이재인
148	2021-06	Pd catalysis	N-hydroxyindoles, Umpolung, Hydroxylamine, Electrophilic cyclization	Synthesis of N-Hydroxyindole Derivatives via Pd-Catalyzed Electrophilic Cyclization	신승훈
149	2021-06	polymerization chemistry	Polymer, Polymer organic light-emitting diodes, Acyclic diene metathesis polymerization, Copolymer, Spirobifluorene	Synthesis of Conjugated Copolymer Containing Spirobifluorene Skeleton by Acyclic Diene Metathesis Polymerization for Polymer Light-Emitting Diode Applications	홍석원
150	2021-07	Synth. Method	Benzoallene ether, Bromoamination, Benzoxazinone, Vinylbromide, Heck reaction, Suzuki reaction	Bromoamination of a Benzoallene Ether and the Subsequent Palladium-catalyzed Coupling Reactions to Benzoxazinone Derivatives Containing Conjugated Substituents	김건철

동학 불코(Bull. Korean Chem. Soc.) 캠페인

연번	게재연월	연구분야	키워드	논문 제목	교신저자
151	2021-07	Mechanism studies	Aminolysis, Brönsted plot, Hammett plot, Yukawa-Tsuno plot, Addition–elimination mechanism, 4-Nitrophenyl 5-substituted Furan-2-carboxylates	Reactions of 4-Nitrophenyl 5-substituted Furan-2-carboxylates with R2NH/R2NH2+ in 20 mol% DMSO(aq): Effect of Aryl Group on the Acyl-Transfer Reaction	변상용
152	2021-07	Synth. Method	N-Methoxy-N-methylamides, Acyl substitution, Coupling agents, Aminocarbonylation, N,O-Dimethylcarbamoylation	Synthetic Approaches to N-Methoxy-N-methylamides	이재인
153	2021-07	Asymmetric synthesis	Biaryl diols, Asymmetric synthesis, Dynamic kinetic resolution, Ruthenium catalyst, Lipase	Asymmetric Synthesis of Biaryl Diols via Dynamic Kinetic Resolution	김만주
154	2021-08	industrial chemistry	Crude oil, Hydrodesulfurization, Adsorption, Oxidative-desulfurization, Biodesulfurization	Science and Technology Progress on the Desulfurization Process of Crude Oil	Jumina
155	2021-08	Flow chemistry	Continuous flow synthesis, Cyclopropane, Phase transfer catalyst, Slug flow, Dichlorocarbene	Synthesis of gem-Dichlorocyclopropanes Using Liquid–Liquid Slug Flow	박찬필
156	2021-08	Synth. Method	Horner–Wadsworth–Emmons olefination, α,β-Unsaturated esters, Lithium diisobutyl-t-butoxyaluminum hydride, Triethyl phosphonoacetate, Ester	A One-Pot Synthesis of α,β-Unsaturated Esters From Esters	안덕근
157	2021-08	18F-fluorination	ApoPep-1, ApoPep-7, Apoptosis, Florine-18 labeled ApoPep-1, Oligopeptide fluorine-18 labeling method	Direct Fluorination Strategy for the Synthesis of Fluorine-18 Labeled Oligopeptide—[18F]ApoPep-7	지대윤

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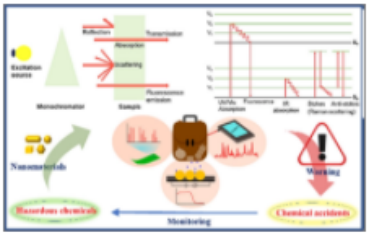
BKCS Special Issue on “Chemosensors and Imaging Probes”

On-Site Detection for Hazardous Materials in Chemical Accidents

Nguyễn Hoàng Ly, Ho Hyun Kim, Sang-Woo Joo

Pages: 4-16 | First Published: 25 November 2020

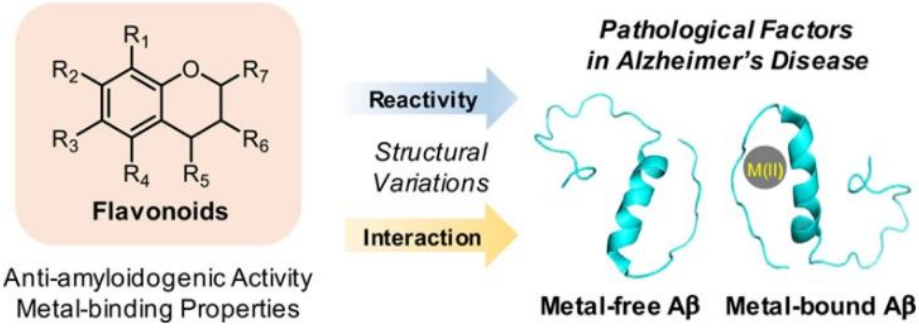


On-site detection for hazardous materials in chemical accidents

Reactivity of Flavonoids Containing a Catechol or Pyrogallol Moiety with Metal-Free and Metal-Associated Amyloid-β

Seongmin Park, Yelim Yi, Mi Hee Lim

Pages: 17-24 | First Published: 13 December 2020

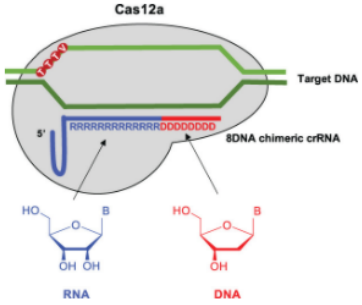


Reactivity of Flavonoids Containing a Catechol or Pyrogallol Moiety with Metal-Free and Metal-Associated Amyloid-β

Chimeric crRNAs Retaining Activity of Cas12a with Potential to Improve Specificity

Jihyun Park, Jaewoo Choi, Men Thi Hoai Duong, Hee-Chul Ahn, Seung Woo Hong, Gil Tae Hwang, Jinsu An, Hak Suk Chung, Dae-Ro Ahn

Pages: 87-90 | First Published: 30 September 2020



RNA residues in the guide region of crRNA for Cas12a can be partially replaced by DNA.

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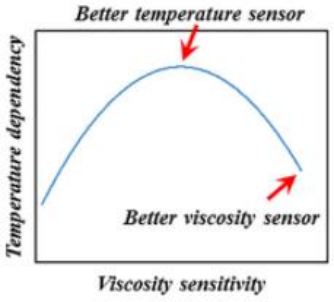
A Systematic Study on the Relationship Between Viscosity Sensitivity and Temperature Dependency of BODIPY Rotors

Xiao Liu, Weijie Chi, Antonio de J Gómez-Infante, Eduardo Peña-Cabrera, Xiaogang Liu, Young-Tae Chang

Pages: 91-94 | First Published: 02 November 2020

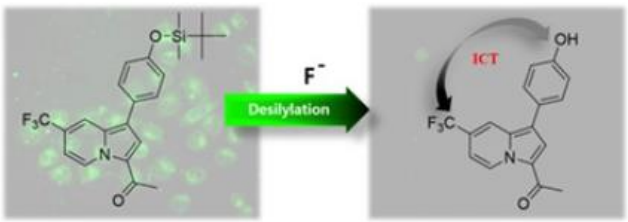


Different functions of molecular rotors based on viscosity sensitivity and temperature dependence.

Fluorescent Fluoride Sensor Based on Indolizine Core Skeleton for Bioimaging

Hyungi Kim, Minchul Shin, Eunha Kim

Pages: 95-98 | First Published: 30 October 2020

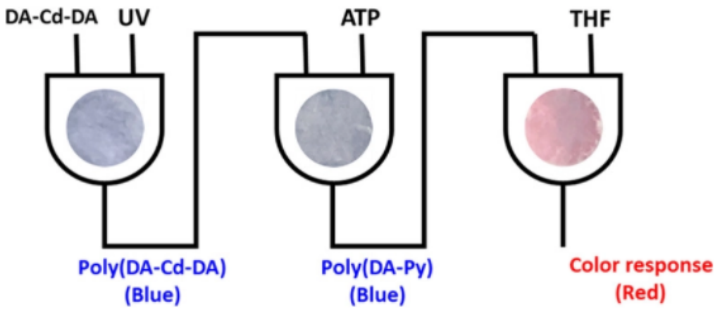


Schematic representation of fluoride anion sensing with Silyl-KIz in live cell

A Polydiacetylene-based Colorimetric Adenosine Triphosphate Sensor: A Molecular Protecting Approach

Hyunjeong Shin, Jong Pil Lee, Jong-Man Kim

Pages: 99-102 | First Published: 16 November 2020



A colorimetric polydiacetylene (PDA) sensor for the detection of ATP was developed based on a molecular protection strategy.

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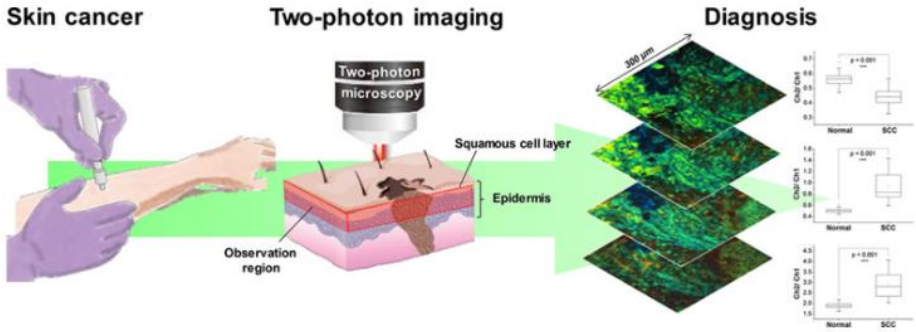
Analyzing Nonmelanoma Skin Cancer Using Enzyme-Activatable Two-Photon Probes

Chang Su Lim, Jee Woong Choi, You Chan Kim, Hwan Myung Kim

Pages: 103-106 | First Published: 20 November 2020



In this study, we attempted to diagnose nonmelanoma skin cancer (NMSC) more accurately by two-photon microscopy imaging deep inside of skin tissue using a two-photon probes that can detect three enzyme activities.

Fluorescent Chemosensors for Zn^{2+} and Pyrophosphate

Jeewon Chung, Kunemadihalli Mathada Kotraiah Swamy, Jin A Kim, Youngmee Kim, Sung-Jin Kim, Juyoung Yoon

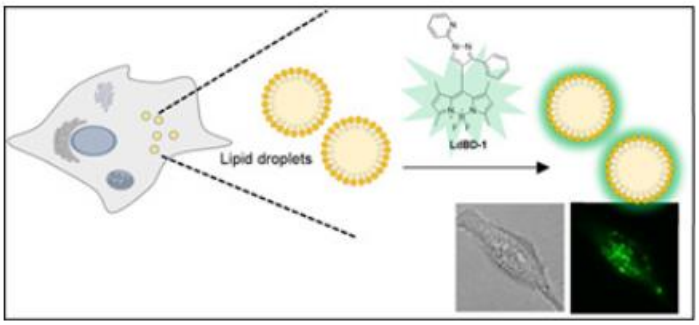
Pages: 107-110 | First Published: 03 December 2020

Dual functions of napthoimidazole and naphthoimidazolium in the pre-organized binding site were successfully applied to selectively detect Zn^{2+} and PPi via selective fluorescent changes.

A Pyridinyl-Pyrazole BODIPY as Lipid Droplets Probe

Dhiraj P. Murale, Md Mamunul Haque, Kyung Tae Hong, Jun-Seok Lee

Pages: 111-114 | First Published: 04 January 2021



A schematics for pyridinyl-pyrazole BODIPY for ipid droplet imagings.

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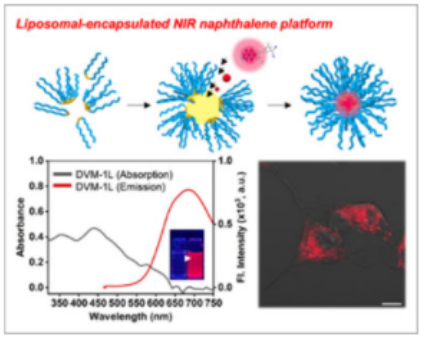
BKCS Special Issue on “Chemosensors and Imaging Probes”

Liposomal-Encapsulated Near-Infrared Fluorophore Based on π-Extended Dipolar Naphthalene Platform and Its Imaging Applications in Human Cancer Cells

Yuna Jung, Byeong Wook Kim, Junyang Jung, B. Moon Kim, Dokyoung Kim

Pages: 115-118 | First Published: 10 December 2020

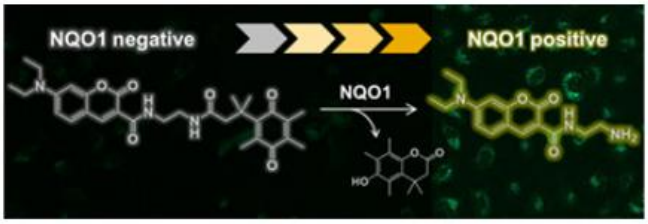


A new near-infrared emitting liposomal nano-formulation was developed, which has a dipolar dye in the core and demonstrated for human cancer cells' fluorescence imaging.

Trimethyl Lock Quinone-Functionalized Coumarin for Real-time Monitoring of NQO1 Activity in the Live Cells

Sun Young Park, Shin A Yoon, Min Hee Lee

Pages: 119-123 | First Published: 03 November 2020

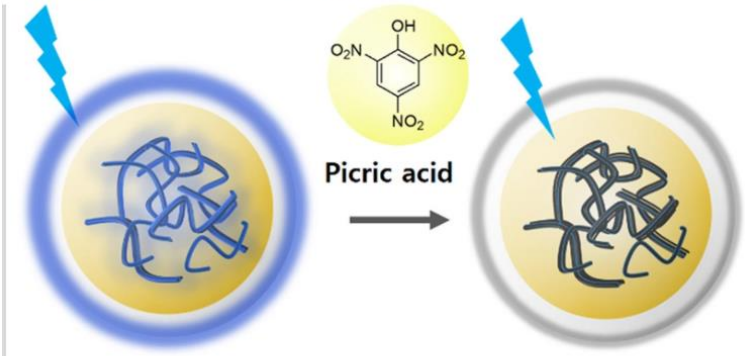


The developed trimethyl lock quinone-functionalized coumarin is biocompatible, easily penetrates living cells, and shows a fluorescence turn-on in response to NQO1 activity in the cell environments

Synthesis of Melamine-Formaldehyde Microcapsules Containing Polyfluorene for Fluorescent Detection of Picric Acid in Aqueous Medium

Geun Tae Pak, Hyunchul Kim, Taek Seung Lee

Pages: 124-129 | First Published: 05 November 2020



Fluorescent microcapsules could sensitively and selectively detect picric acid, which is one of the dangerous explosive compounds.

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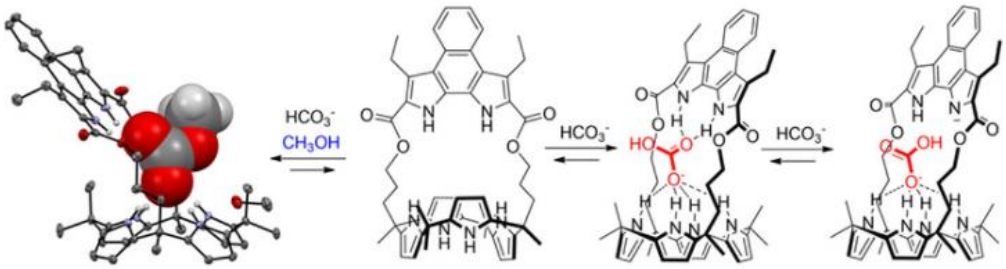
BKCS Special Issue on “Chemosensors and Imaging Probes”

Bicarbonate Recognition Features of a Naphthobipyrrole-strapped Calix[4]pyrrole

Ju Hyun Oh, Ju Ho Yang, Han-Byeol Choi, Sung Kuk Kim

Pages: 130-134 | First Published: 27 November 2020

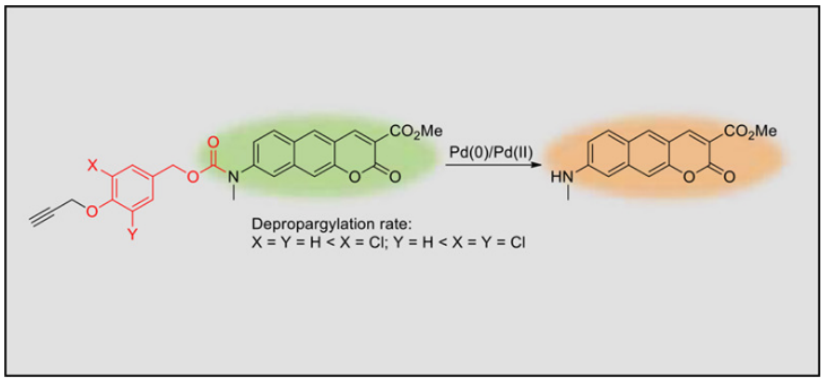


The naphthobipyrrole-strapped calix[4]pyrrole binds the bicarbonate anion with high affinity via two sequent interaction modes.

Electronic Effects on the Depropargylation Process in the Reaction-based Fluorescent Detection of Palladium Species: Benzocoumarin-based Ratiometric Sensing Systems

Seo Won Cho, Ye Jin Reo, Sourav Sarkar, Kyo Han Ahn

Pages: 135-139 | First Published: 29 December 2020

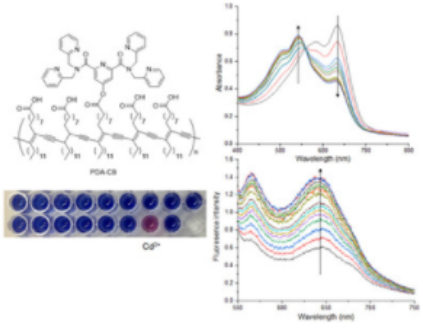


The fluorescence detection of Pd(0)/Pd(II) through depropargylation reaction proceeds faster as the self-immolative moiety became more electron-deficient, as evaluated with three benzocoumarin-based aryl propargyl ether-type, ratiometric signaling probes.

Polydiacetylenes Functionalized with Chelidamic Acid and 2,2'-Dipicolylamine for Colorimetric Responses to Cadmium Ions

Thanh Chung Pham, Hyun Sung Kim, Songyi Lee

Pages: 140-143 | First Published: 15 December 2020



A novel polydiacetylene-linked ligand derived from the reaction between chelidamic acid and bis(pyridin-2-ylmethyl)amine (PDA-CB) showed excellent selectivity and sensitivity for Cd^{2+} ions compared with other metal ions, including Zn^{2+}.

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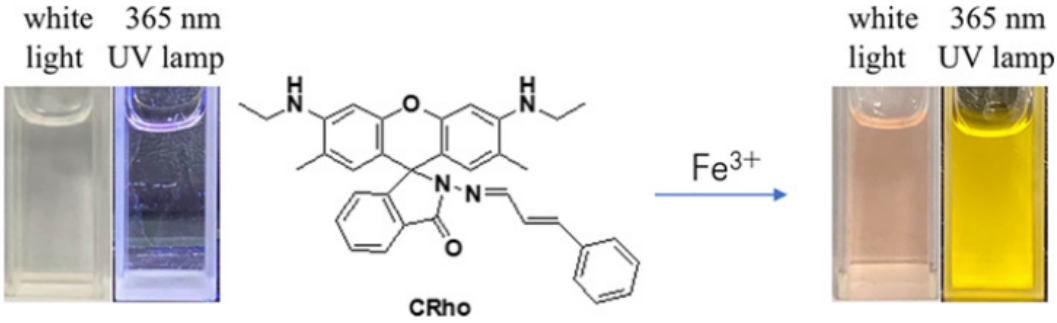
BKCS Special Issue on "Chemosensors and Imaging Probes"

A Selective Fluorescent Probe for Ferric Ion Based on Rhodamine 6G

Yuting Wang, Yen Leng Pak, Qingling Xu

Pages: 262-264 | First Published: 20 December 2020

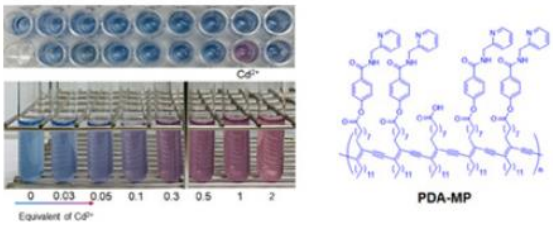


Development of a highly selective and sensitive fluorescent turn-on probe **CRho** for ferric ion detection in water/acetonitrile based on rhodamine 6G and Schiff base.

Polydiacetylenes Containing 2-Picolylamide Chemosensor for Colorimetric Detection of Cadmium Ions

Yong Kyun Kim, Thanh Chung Pham, Jaewon Kim, Chaeeon Bae, Yeonghwan Choi, Min Hee Jo, Songyi Lee

Pages: 265-269 | First Published: 04 December 2020

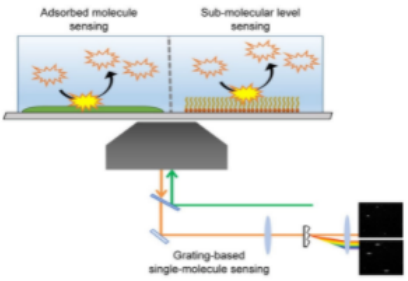


Polydiacetylenes containing Schiff base chemosensor for dual-channel detection of cadmium ions
This article describes the preparation and analysis of Cd^{2+}-sensing polydiacetylene-based chemosensors (PDA-MP).

Single-Molecule Sensing by Grating-based Spectrally Resolved Super-Resolution Microscopy

Geun-ho Kim, Jinkyoung Chung, Hyunbum Park, Doory Kim

Pages: 270-278 | First Published: 16 December 2020



Single-molecule polarity sensing experiment by combining a grating-based spectrally resolved super-resolution fluorescence microscopy and a solvatochromic dye

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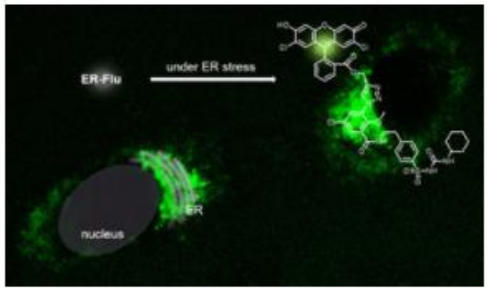
BKCS Special Issue on “Chemosensors and Imaging Probes”

Endoplasmic Reticulum Targeting Reactive Oxygen Species Sensor Based on Dihydrofluorescein: Application of Endoplasmic Reticulum Stress

Hoa Thi Le, Hye-Ryeong Jo, Se-Yun Oh, Jinwook Jung, Young Gi Kim, Chulhun Kang, Tae Woo Kim

Pages: 279-285 | First Published: 18 December 2020



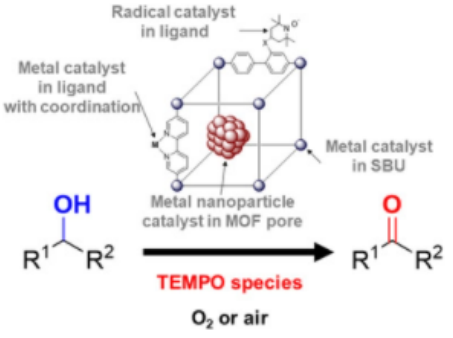
ER-targeting fluorogenic ROS chemosensor (ER-Flu) was synthesized based on modular approach. ER-Flu's cellular localization at the ER was confirmed by confocal colocalization experiments. ER-Flu generated strong fluorescence under ER stress. ER-Flu can be applied to monitor ER redox environment in live cells.

BKCS Special Issue on “Metal-Organic Frameworks”

Strategies in Metal–Organic Framework-based Catalysts for the Aerobic Oxidation of Alcohols and Recent Progress

Jooyeon Lee, Seungpyo Hong, Jonghyeon Lee, Seongwoo Kim, Jinho Kim, Min Kim

Pages: 359-368 | First Published: 20 January 2021



We summarize the performance of MOF-based catalysts for the aerobic oxidation of alcohols based on the position of the catalytic species and the type of functionalization. Indeed, recent advances in MOF-based catalysts for aerobic oxidation are discussed in terms of catalytic efficiency and substrate size discrimination.

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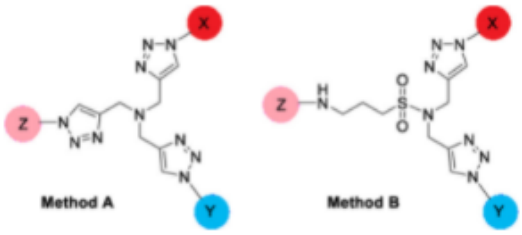
BKCS Special Issue on "Chemical Synthesis & Reaction Development"

Two Facile General Methods for the Conjugation of Three Different Molecules

Keumrok Oh, Dong Seok Shin, Hyeong Baik Kim, Uthaiwan Sirion, Dae Yoon Chi

Pages: 333-341 | First Published: 25 January 2021

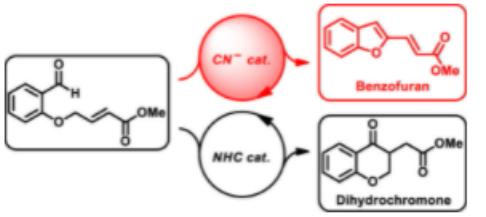


Method A uses three copper(I) catalyzed azide/alkyne 1,3-dipolar cycloadditions in series. Method B uses two copper(I) catalyzed azide/alkyne 1,3-dipolar cycloadditions and one conjugation reaction of amine and isothiocyanate.

Remarkable Differences in Reactivity between Cyanide and N-Heterocyclic Carbenes in Ring-Closing Reactions of 4-(2-Formylphenoxy)but-2-Enoate Derivatives

Eunjoon Park, Jina Park, Cheol-Hong Cheon

Pages: 483-485 | First Published: 15 November 2020

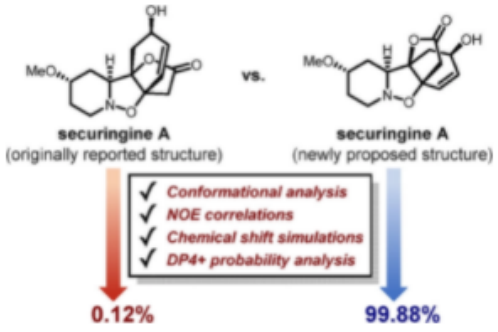


A different reactivity between cyanide and NHC with 4-(2-formylphenoxy) but-2-enoate derivatives is described.

Calculation-Assisted Stereochemical Analysis of Securingine A

Gyumin Kang, Mu-Hyun Baik, Sunkyu Han

Pages: 486-488 | First Published: 22 November 2020



Presented here is a plausible structural candidate of securingine A that was not considered thus far. The newly proposed structure of securingine A is consistent with experimental NOESY data. DP4+ probability analysis of computed ^{1}H and ^{13}C chemical shifts corroborates the viability of our newly proposed structure. We propose a biosynthetic scenario that interrelates the newly suggested structure of securingine A and securingine B.

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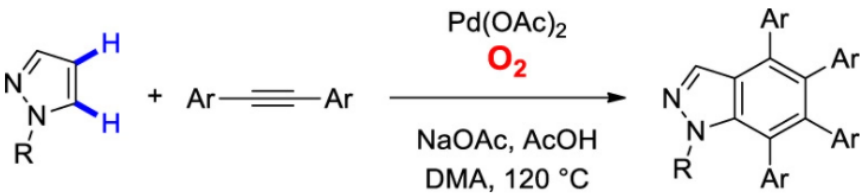
Palladium-catalyzed Aerobic Benzannulation of Pyrazoles with Alkynes

Jae Yeong Song, Jin Hyeok Jang, Shih-Ching Chuang, Jung Min Joo

Pages: 489-491 | First Published: 18 December 2020

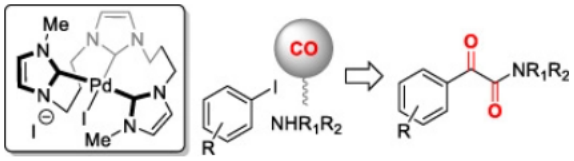


As an alternative to a stoichiometric metal oxidant, oxygen was used as an oxidant for Pd-catalyzed annulation reactions of pyrazoles with internal alkynes. The addition of sodium acetate and acetic acid was critical for stabilizing the Pd system. This green approach allowed the preparation of indazoles from readily available parent pyrazoles in a single step.

Pd(triNHC)-catalyzed Double Carbonylation of Aryliodides With Amines: The Effect of triNHC Ligands

Baji Shaik, Hye-Young Jang

Pages: 492-494 | First Published: 22 December 2020

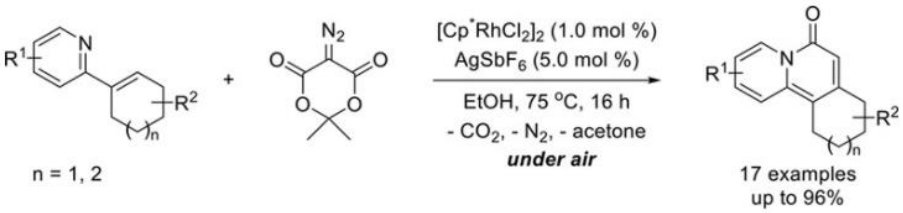


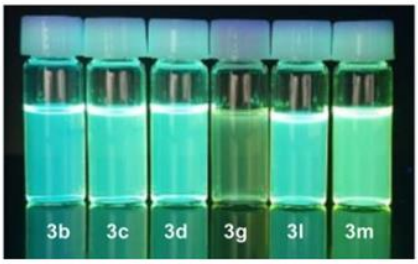
The Pd(triNHC) complex was synthesized and used for the carbonylative coupling of amine and aryl iodide. The electron-rich nature of palladium catalysts promoted the formation of α-ketoamides with good yields and selectivity.

Synthesis of Quinolizinones from Rhodium-Catalyzed C—H Activation Reaction of 2-(1-Cycloalkenyl)pyridines with Diazo Meldrum's Acids

Yonghyeon Baek, Ya Gob Kim, Phil Ho Lee

Pages: 495-498 | First Published: 07 February 2021





- Novel quinolizin-4-ones
- Low loading Rh-catalyst
- Fluorescent materials

$\lambda_{max, abs}$ (nm) : 391 to 393
$\lambda_{max, em}$ (nm) : 472 to 493
ϕ (%) : 7% - 24%

An efficient synthetic method for a broad range of quinolizin-4-one derivatives has been developed from Rh(III)-catalyzed C—H reaction of 2-(1-cycloalkenyl)pyridines with diazo Meldrum's acids using $AgSbF_6$ in ethanol.

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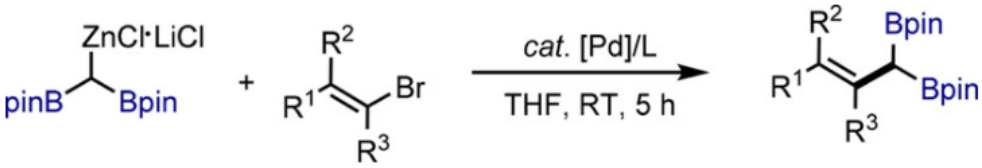
BKCS Special Issue on "Chemical Synthesis & Reaction Development"

Pd-Catalyzed Negishi Cross-Coupling of Vinyl Bromides with Diborylmethylzinc Chloride

Minjae Kim, Jun Hee Lee, Seung Hwan Cho

Pages: 499-501 | First Published: 04 January 2021

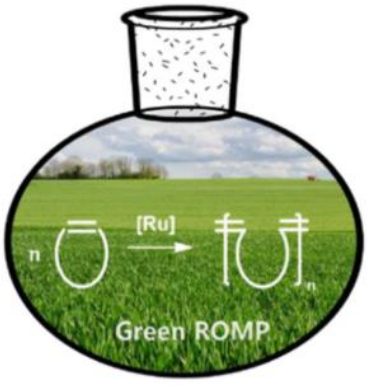


We have developed Pd-catalyzed Negishi cross-coupling of diborylmethylzinc chloride with vinyl bromides. The reaction shows a broad scope and an array of α-boryl-substituted allylic boronate esters are obtained in high efficiency.

Study of Green Solvents for Ruthenium Alkylidene Mediated Ring-Opening Metathesis Polymerization

Hyun Gyu Shin, Hyun Sub Lee, Eun Ji Hong, Jeung Gon Kim

Pages: 502-505 | First Published: 03 February 2021

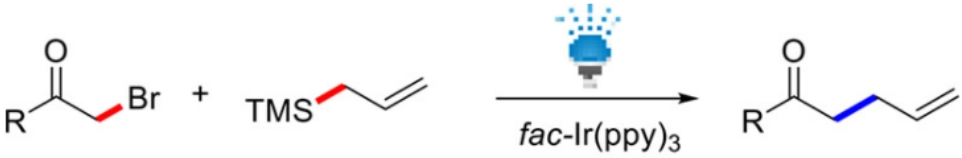


The use of green solvents in a Ru-ROMP is evaluated. Representative cyclic monomers were rapidly polymerized in environmentally safe and process friendly solvents. Among the selected green solvents, ROMP in dimethyl carbonate exhibited good reactivity and chain length control.

Visible-Light Photoredox-Catalyzed α-Allylation of α-Bromocarbonyl Compounds Using Allyltrimethylsilane

Arjun Gontala, Gwang Seok Jang, Sang Kook Woo

Pages: 506-509 | First Published: 15 January 2021



- High chemoselectivity
- 11 examples
- Up to 80% yield

Here we present allyltrimethylsilane as a novel allylation reagent in the photoredox-catalyzed α-allylation of carbonyl compounds such as ketones, esters, and amides. The reaction process shows good functional group tolerance and generates a good yield of the product.

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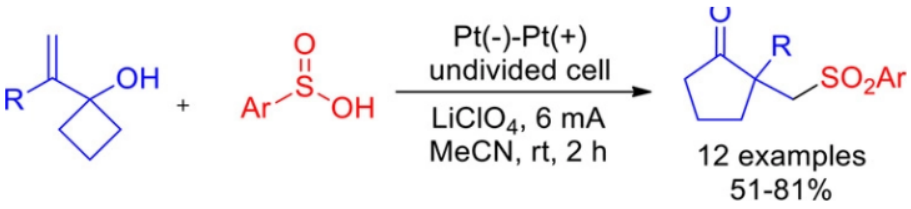
BKCS Special Issue on "Chemical Synthesis & Reaction Development"

Electrochemical Oxidative Arylsulfonylation and 1,2-Alkyl Shift Sequences of Alkenyl Cyclobutanols for the Synthesis of β-Sulfonated Cyclopentanones

Yebin Kim, Dae Young Kim

Pages: 510-513 | First Published: 11 January 2021

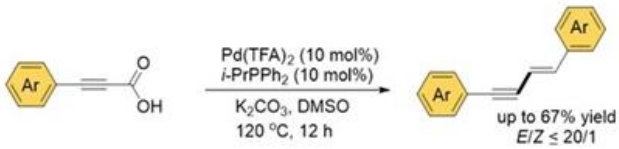


Electrochemical oxidative sulfonylation and 1,2-alkyl shift sequences of alkenyl cyclobutanols were developed that provide β-sulfonated cyclopentanones in moderate to good yields. This electrochemical system was demonstrated to be versatile and environmentally friendly and avoid the use of stoichiometric amount of chemical oxidants or reductants under mild reaction conditions.

Palladium-Catalyzed Decarboxylative Homodimerization of Propiolic Acids: Synthesis of 1,3-Enynes

Eunkyeong Seo, Jonghoon Oh, Sunwoo Lee

Pages: 514-516 | First Published: 20 January 2021

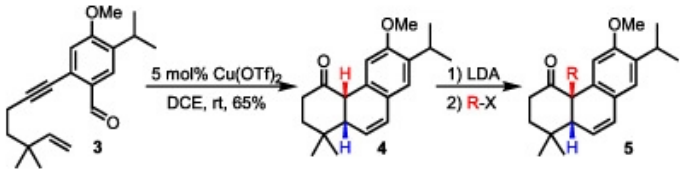


Aryl propiolic acids were transformed into 1,3-enynes via decarboxylative homodimerization.

One-Step Synthesis of Norabietane Core and its Alkylation to Abietane Analogs

Chaehyeon Seong, Juyeon Kang, Junseong Lee, Chang Ho Oh

Pages: 517-520 | First Published: 20 January 2021



Synthesis of norabietane core.

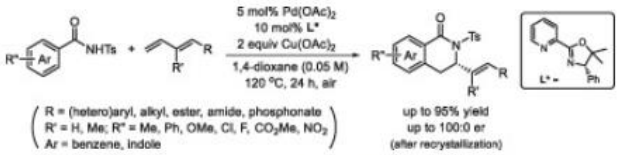
동학 불코(Bull. Korean Chem. Soc.) 캠페인

BKCS Special Issue on "Chemical Synthesis & Reaction Development"

Pd-Catalyzed Asymmetric Synthesis of 3,4-Dihydroisoquinolinones From *N*-Ts-Benzamides and 1,3-Dienes

Tae Kyun Kim, So Won Youn

Pages: 521-524 | First Published: 07 February 2021

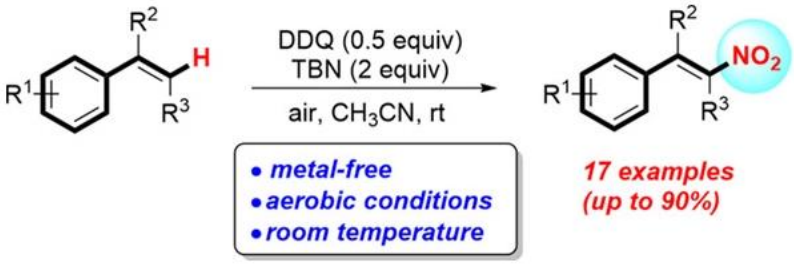


A Pd(II)-catalyzed asymmetric oxidative annulation of *N*-Ts-benzamides with 1,3-dienes using a chiral pyridine-oxazoline-type ligand for the regio- and stereoselective synthesis of chiral 3,4-dihydroisoquinolinones has been developed.

Metal-free Synthesis of β-Nitrostyrenes via DDQ-Catalyzed Nitration

Sangwoon Park, Seungri Yoon, Sun-Joon Min

Pages: 525-528 | First Published: 14 February 2021

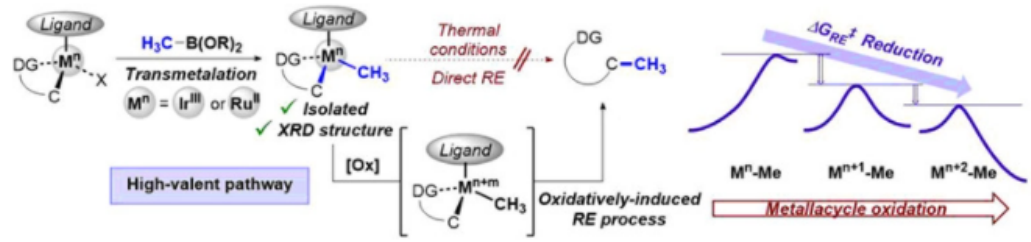


In this study, we have developed a facile synthesis of (*E*)-β-nitrostyrenes by using *tert*-butyl nitrite as a source of nitro group and DDQ as a key oxidant under aerobic condition. This process highlighted that a wide range of β-nitrostyrenes could be synthesized under mild metal-free reaction conditions at room temperature starting from readily available styrenes.

Oxidatively Induced Reductive Elimination for Methyl Group Transfer via Isolable Transmetalation Complexes

Jinwoo Kim, Seongho Jin, Dongwook Kim, Sukbok Chang

Pages: 529-532 | First Published: 04 February 2021



Detailed aspects on the oxidatively induced reductive elimination from isolated methyl iridium and ruthenium metallacycle species are investigated. The reduction of energy barrier for the reductive elimination process enabled desired C–C bond formation from Ir and Ru metal center under mild conditions.

동학 불코(Bull. Korean Chem. Soc.) 캠페인

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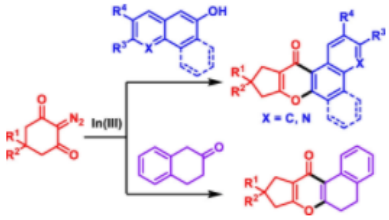
In(III)-Catalyzed *O*-Annulation of Cyclic Diazodicarbonyls with 2-Naphthol, 6-Quinolinol, β-Tetralone, and 9-Phenanthrol to Access Diverse Benzochromones

Shizuka Mei Bautista Maezono, Hari Datta Khanal, Priyanka Chaudhary, Ga Eul Park, Yong Rok Lee

Pages: 533-536 | First Published: 04 January 2021

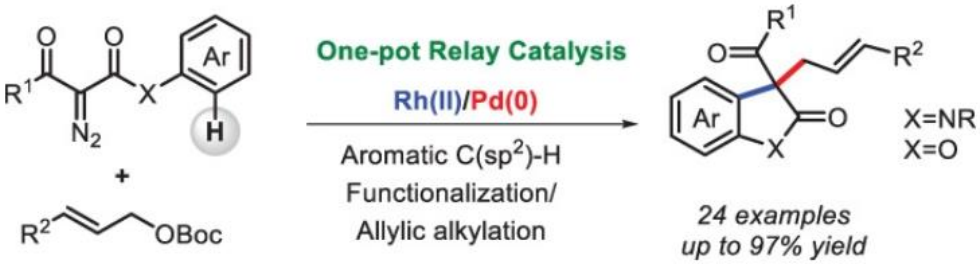


A facile synthetic pathway for the construction of diverse and functionalized benzochromones via In(III)-catalyzed *O*-annulation of cyclic diazodicarbonyls with 2-naphthols, 6-quinolinol, β-tetralone, and 9-phenanthrol is developed.

Dual Rh(II)/Pd(0) Relay Catalysis for One-Pot Synthesis of α-Quaternary Allylated Indolin-2-ones and Benzofuran-2-ones

Yu Lim Lee, Kyu Ree Lee, Zi Xuan, Sang-gi Lee

Pages: 537-541 | First Published: 04 January 2021

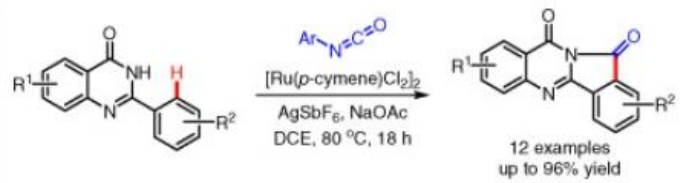


We have developed an efficient dual Rh(II)/Pd(0) relay catalysis for one-pot synthesis of α-quaternary allylated heterocyclic compounds. This reaction involves Rh(II)-catalyzed intramolecular aromatic C(sp^2)-H functionalization of α-diazo carbonyl compounds, followed by Pd(0)-catalyzed allylic alkylation of allyl carbonates. Various α-quaternary allylated indolin-2-ones and benzofuran-2-ones were synthesized in good to excellent yields (up to 97%).

Ruthenium(II)-Catalyzed C—H/N—H Carbonylative Cyclization of 2-Aryl Quinazolinones with Isocyanates as CO Surrogates

Jin Ho Choi, Hak Do Kim, Ju Young Kang, Taejoo Jeong, Prithwish Ghosh, In Su Kim

Pages: 542-547 | First Published: 25 January 2021



The C—H/N—H carbonylative cyclization of 2-aryl quinazolinones using aryl isocyanates as CO sources under ruthenium(II) catalysis is described.

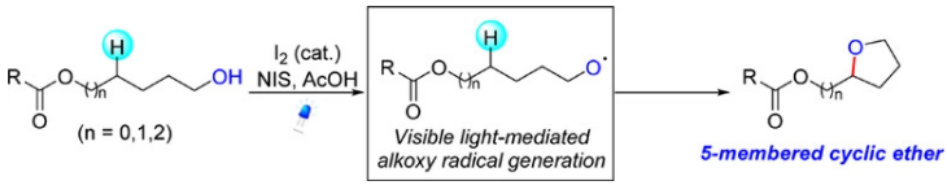
동학 불코(Bull. Korean Chem. Soc.) 캠페인

BKCS Special Issue on "Chemical Synthesis & Reaction Development"

Visible Light-Induced Intramolecular C—O Bond Formation via 1,5-Hydrogen Atom Transfer Strategy

Kiho Kim, Namhoon Kim, Sungwoo Hong

Pages: 548-552 | First Published: 31 January 2021

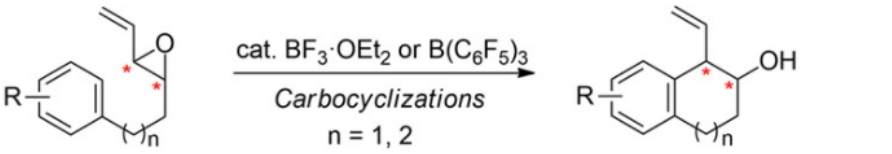


A visible-light-induced intramolecular C—O bond formation has been achieved by an alkoxy radical generated from an *in situ* formed O—I bond in the absence of an external photocatalyst. This practical synthetic method provides straightforward access to valuable five-membered cyclic ether scaffolds in a controllable and selective manner.

Stereoselective Carbocyclization of Vinyloxiranes Catalyzed by Lewis Acids: Construction of the Musellarin Tricyclic Core

Sehui Yang, Euijin Park, Jimin Kim

Pages: 667-670 | First Published: 02 February 2021



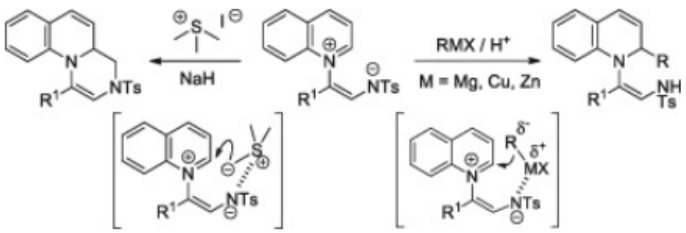
cis- or *trans* vinyl epoxides — *cis*- or *trans* homoallyl alcohols

A Lewis acid catalyzed cyclization from *cis*- or *trans* vinyl epoxides was developed to produce the allyl alcohol adduct as a single diastereomer. Use of $B(C_6F_5)_3$ as a catalyst turned out to be key for the stereoselective carbocyclization in the case of *cis* epoxides and seven-membered ring system. The synthetic utility of the method was demonstrated in the construction of tricyclic core in musellarin A and E with requisite stereochemistry from the *cis*- and *trans* homoallyl alcohols.

Chelation-driven Regioselective 1,2-Dearomatizations of N-Aromatic Zwitterions

Donguk Ko, Jiyoung Kim, Jiyoun Lee, Eun Jeong Yoo

Pages: 671-674 | First Published: 10 February 2021



Regioselective 1,2-dearomatizations of N-aromatic zwitterions and organometallic nucleophiles have been achieved by the chelation strategy leading to the proximity of substrates. It has also been observed that sulfonium ylide, which could strongly coordinate with nitrogen anions, was applicable as a nucleophile, leading to [5 + 1] cycloadditions.

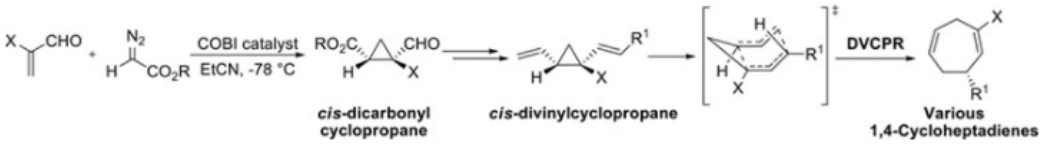
동학 불코(Bull. Korean Chem. Soc.) 캠페인

BKCS Special Issue on "Chemical Synthesis & Reaction Development"

Asymmetric Synthesis of (−)-Dictyopterene C' and its Derivatives via Catalytic Enantioselective Cyclopropanation

Taehyeong Kim, Jae Yeon Kim, Kyung Yee Park, Do Hyun Ryu

Pages: 675-678 | First Published: 18 February 2021

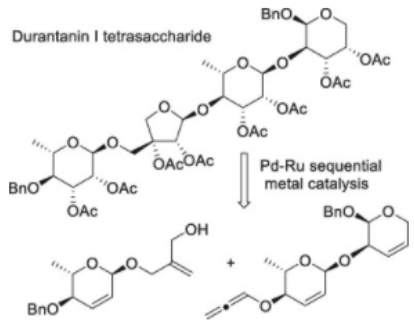


Chiral oxazaborolidinium ion-catalyzed enantioselective cyclopropanation was developed for the synthesis of optically active *cis*-dicarbonyl cyclopropanes. The chiral *cis*-cyclopropane was successfully applied to a convenient synthetic route to chiral 1,4-cycloheptadiene derivatives including (−)-dictyopterene C'.

A Convergent Synthesis of the Tetrasaccharide Fragment of the Purported Structure of Durantanin I

Keehwan Lee, Mijin Kim, Young Ho Rhee

Pages: 679-682 | First Published: 26 March 2021

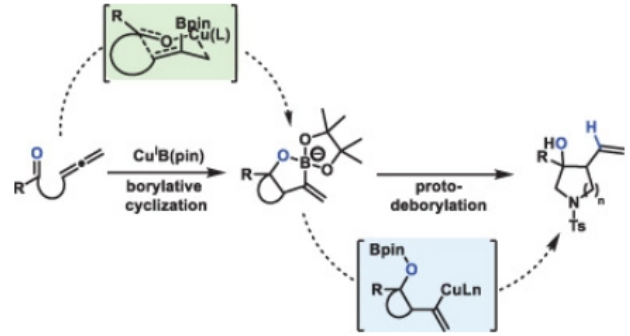


By using a sequential asymmetric metal catalysis, tetrasaccharide unit of durantanin I was synthesized. Notably, the convergent strategy rapidly assembles alkoxyallene and alcohol fragments to construct the apiofuranose ring. In addition, the flexibility of the synthesis is addressed by the preparation of a diastereomeric analog with the comparable efficiency to that of the naturally occurring structure.

Diastereoselective Reductive Cyclization of Allene-Tethered Ketoamines via Copper-Catalyzed Cascade Carboboronation and Protodeborylation

Muhammad Awais Ashraf, Shrikant D. Tambe, Eun Jin Cho

Pages: 683-690 | First Published: 08 February 2021



A copper-catalyzed cascade process has been developed for the synthesis of 3-hydroxypyrrolidine or 4-hydroxypiperidine derivatives in a highly diastereoselective manner.

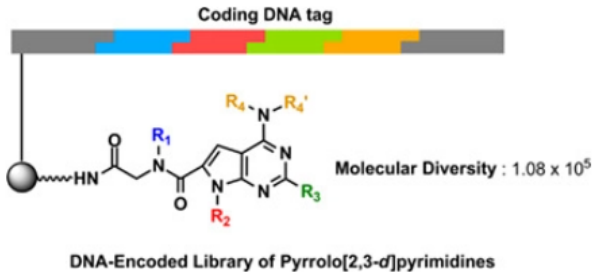
동학 불코(Bull. Korean Chem. Soc.) 캠페인

BKCS Special Issue on "Chemical Synthesis & Reaction Development"

Synthesis of a DNA-Encoded Library of Pyrrolo[2,3-*d*]pyrimidines

Jun Hyung Park, Hee Myeong Wang, Min Hyeon Shin, Hyun-Suk Lim

Pages: 691-698 | First Published: 08 February 2021

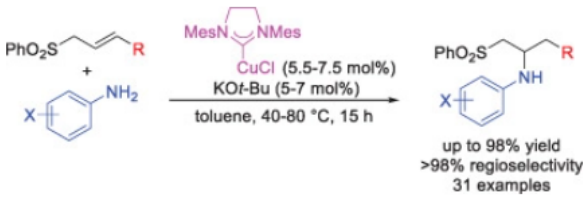


Solid-phase synthetic method for a DNA-encoded combinatorial library of tetra-substituted pyrrolo[2,3-*d*]pyrimidines (molecular diversity: 1.08×10^5) is described. This synthetic strategy was highly efficient and compatible with DNA, producing the desired pyrrolopyrimidines in excellent yields (70–92%) without DNA damage.

Copper-catalyzed Regioselective Hydroaminations of Allylic Sulfones With Aromatic Amines

Kundo Kim, Soohong Cho, Subin Park, Yunmi Lee

Pages: 699-708 | First Published: 11 March 2021

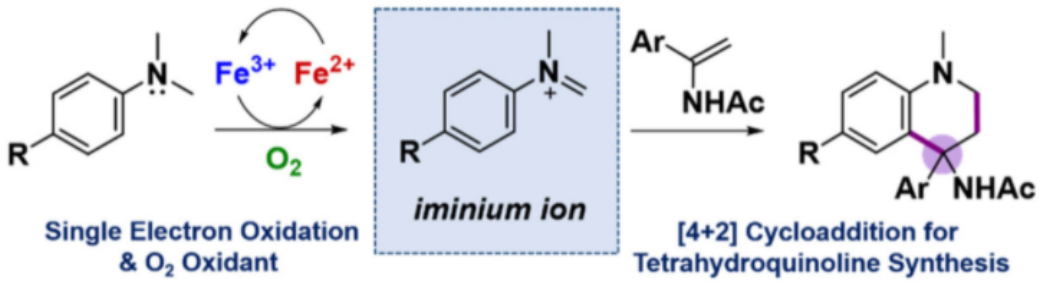


Copper-catalyzed hydroaminations of *β, γ*-unsaturated sulfones with aromatic amines promoted by an *N*-heterocyclic carbene ligand is described. A broad range of β-substituted β-amino sulfones was synthesized in good-to-excellent yields with complete regioselectivity.

Fe(III)-catalyzed Oxidative Povarov Reaction with Molecular Oxygen Oxidant

Du Yong Park, Joon Young Hwang, Eun Joo Kang

Pages: 798-801 | First Published: 05 April 2021



Oxidative Povarov reaction conducted under Fe(III)-phenanthroline catalysis. Oxidation step for iminium ion generation involved with nonirradiative single electron transfer between Fe(III) complex and dimethylaniline, and molecular oxygen participated as a terminal oxidant for regeneration of Fe(III) catalyst. Aryl iminium intermediate was reacted with electron-rich enamide to afford the *N*-heterocycle, tetrahydroquinoline.

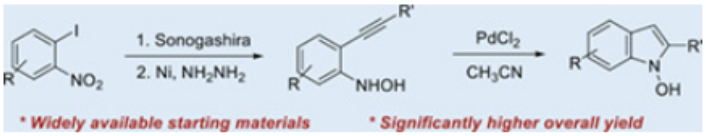
동학 불코(Bull. Korean Chem. Soc.) 캠페인

BKCS Special Issue on “Chemical Synthesis & Reaction Development”

Synthesis of *N*-Hydroxyindole Derivatives via Pd-Catalyzed Electrophilic Cyclization

Soo Min Oh, Seunghoon Shin

Pages: 925-928 | First Published: 12 May 2021

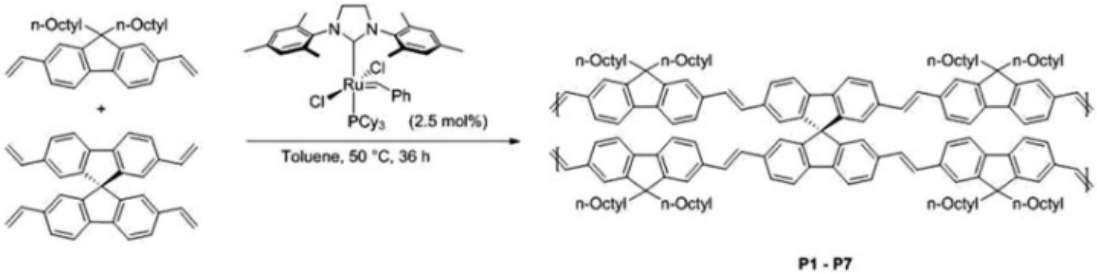


A synthetic protocol for the synthesis of C2-substituted *N*-hydroxyindoles has been developed which consists of Sonogashira coupling, partial reduction of the nitro group, and Larock cyclization. This protocol features superior generality and efficiency over conventional alternatives.

Synthesis of Conjugated Copolymer Containing Spirobifluorene Skeleton by Acyclic Diene Metathesis Polymerization for Polymer Light-Emitting Diode Applications

Seongwook Park, Soyeong Jeong, Changmuk Kang, Sukwon Hong

Pages: 929-933 | First Published: 29 April 2021



We report the activity of various types of ruthenium catalysts for acyclic diene metathesis (ADMET) polymerization. Additionally, we describe the synthesis of copolymers by ADMET copolymerization with divinylfluorene and tetravinylspirobifluorene. Polymers were analyzed for their physical and optical properties, and polymer light-emitting diode devices were fabricated. We were pleased to find that the more the spirobifluorene blocks were included, the better was the performance of the device.

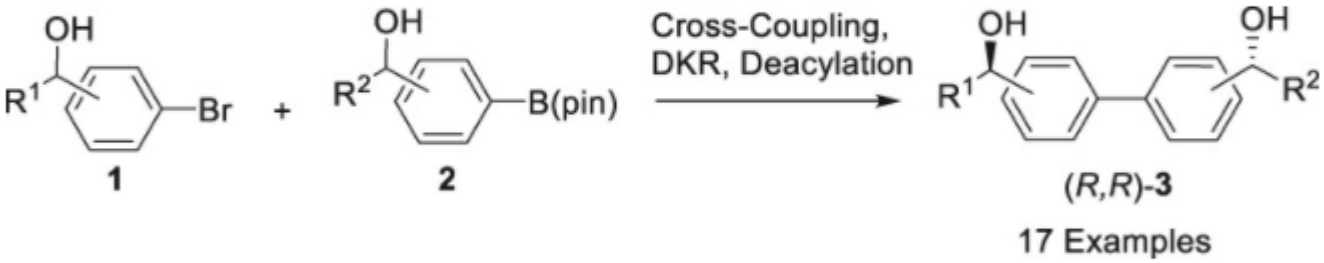
동학 불코(Bull. Korean Chem. Soc.) 캠페인

BKCS Special Issue on “Chemical Synthesis & Reaction Development”

Asymmetric Synthesis of Biaryl Diols via Dynamic Kinetic Resolution

Jeonghun Cho, Kyungwoo Kim, Jaiwook Park, Mahn-Joo Kim

Pages: 1028-1032 | First Published: 09 June 2021

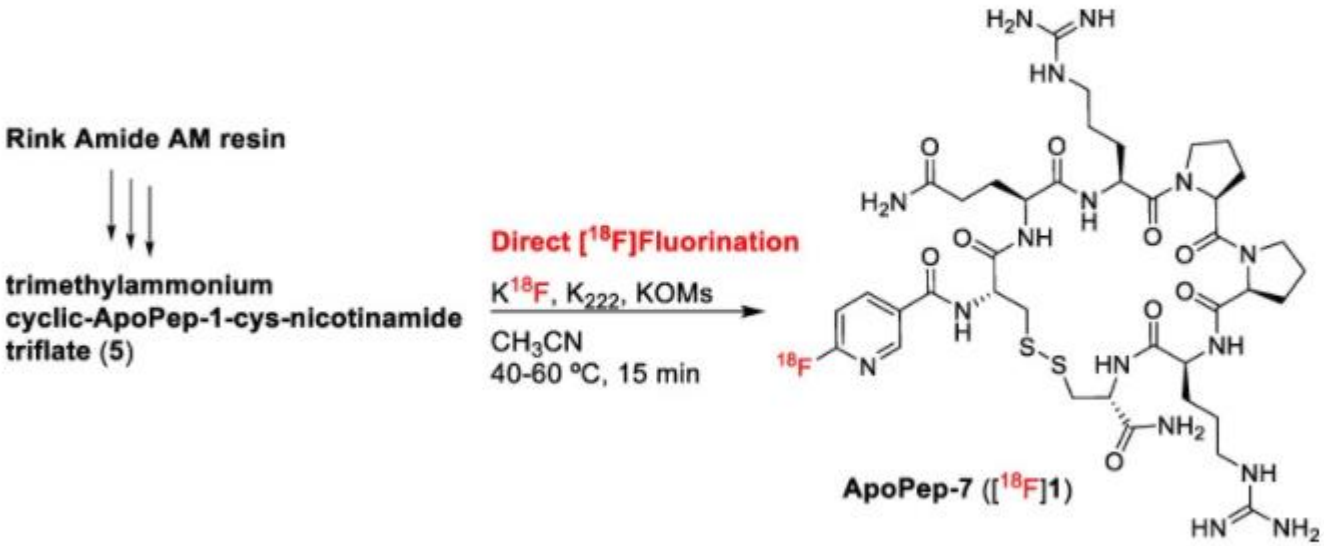


We have developed a protocol for the asymmetric synthesis of biaryl diol stereoisomers. Our synthetic procedure employs lipase/ruthenium-catalyzed DKR as the key step and provides (*R,R*)-stereoisomers.

Direct Fluorination Strategy for the Synthesis of Fluorine-18 Labeled Oligopeptide—[^{18}F]ApoPep-7

Keumrok Oh, Dae Yoon Chi

Pages: 1161-1166 | First Published: 06 July 2021



We described to develop a strategic method - direct [^{18}F]fluorination - for the preparation of fluorine-18 labeled oligopeptide, especially the ApoPep-1 derivative, ApoPep-7, for the development of PET radiopharmaceutical to imaging apoptosis.

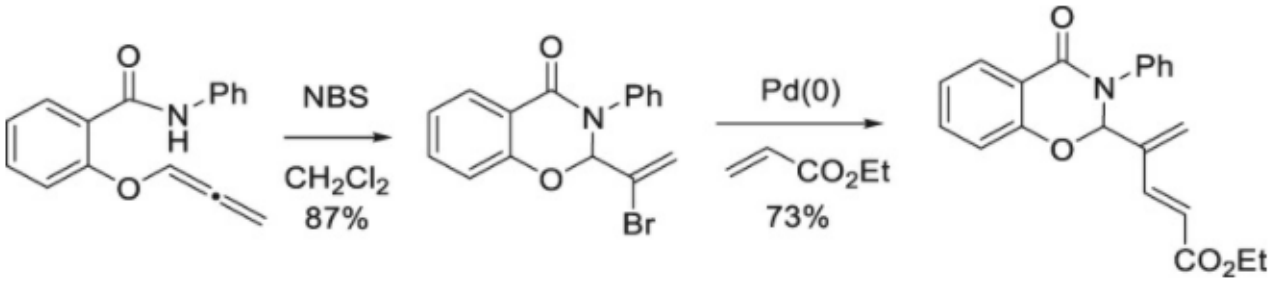
동학 불코(Bull. Korean Chem. Soc.) 캠페인

BKCS 7월호 유기화학분야 논문

Bromoamination of a Benzoallene Ether and the Subsequent Palladium-catalyzed Coupling Reactions to Benzoxazinone Derivatives Containing Conjugated Substituents

Kun Jung Lee, Guncheol Kim

Pages: 970-972 | First Published: 16 May 2021

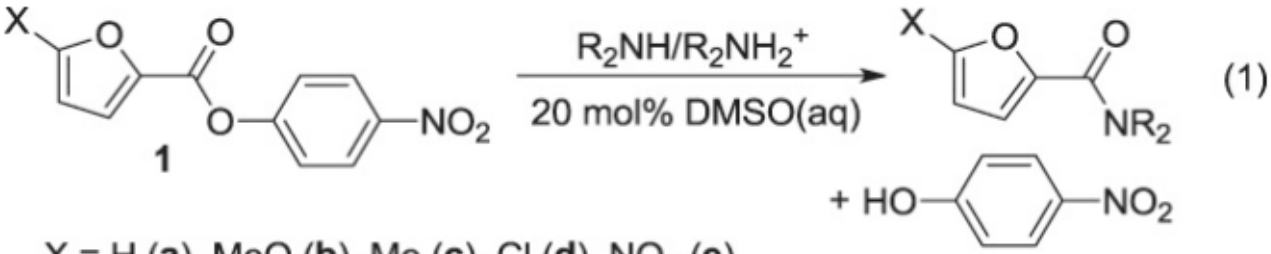


Bromoamination of the benzoallene ether with *N*-bromosuccinimide in methylene chloride provided the benzoxazinone vinylbromide in 87% yield. The subsequent palladium-catalyzed Heck reaction with ethyl acrylate yielded the conjugated diene substituent in 73%. The Suzuki coupling reaction of the benzoxazinone vinylbromide with arylboronic acids also afforded good yields of the benzoxazinone products attached by the corresponding styrene side chain.

Reactions of 4-Nitrophenyl 5-substituted Furan-2-carboxylates with $R_2NH/R_2NH_2^+$ in 20 mol% DMSO(aq): Effect of Aryl Group on the Acyl-Transfer Reaction

Sang Yong Pyun, Kyu Cheol Paik, Man So Han, Bong Rae Cho

Pages: 994-1000 | First Published: 09 May 2021



X = H (**a**), MeO (**b**), Me (**c**), Cl (**d**), NO_2 (**e**)
R_2NH = 1-formylpiperazine, morpholine, *N*-(2-hydroxyethyl)piperazine, piperazine, 3-methylpiperazine, piperidine

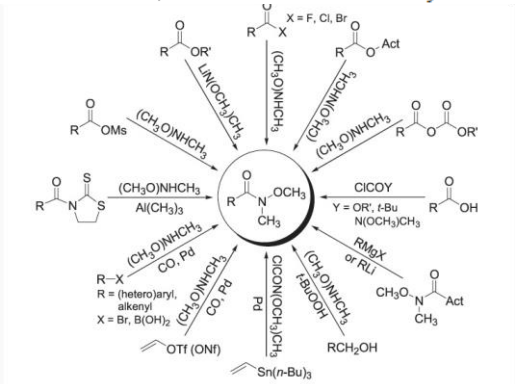
동학 불코(Bull. Korean Chem. Soc.) 캠페인

BKCS 7월, 8월호 유기화학분야 논문

Synthetic Approaches to *N*-Methoxy-*N*-methylamides

Jae In Lee, Hyun Park

Pages: 1001-1013 | First Published: 15 May 2021

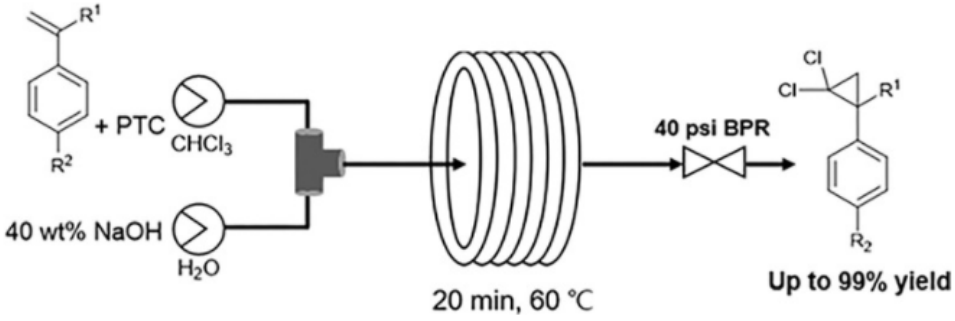


Various methods for the preparation of *N*-methoxy-*N*-methylamides

Synthesis of *gem*-Dichlorocyclopropanes Using Liquid–Liquid Slug Flow

Jong Won Lee, Yea Seul Jang, Jong Min Park, Chan Pil Park

Pages: 1089-1092 | First Published: 17 June 2021

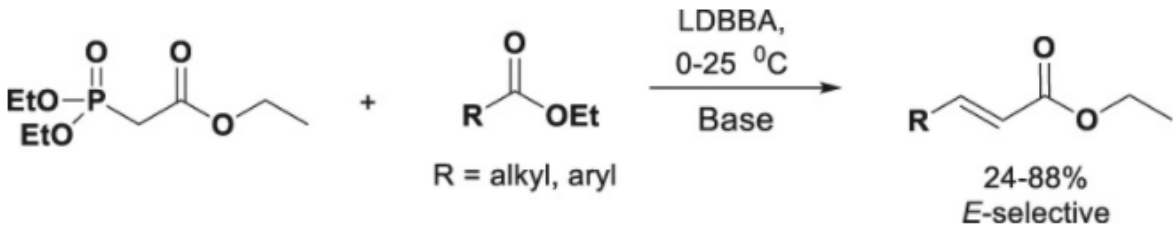


We established that the continuous flow dichlorocyclopropanation can be performed only with T-junctions and microtubes. When quaternary ammonium salts were used as phase transfer catalysts, precipitation and clogging in microchannels did not occur, and an excellent yield of up to 99% was obtained in 20 min.

A One-Pot Synthesis of *α,β*-Unsaturated Esters From Esters

Chang Whee Hong, Yong Jin Lee, Duk Keun An

Pages: 1121-1125 | First Published: 27 May 2021



This study demonstrated a one-pot method for the reductive HWE olefination of esters to α,β-unsaturated esters with phosphonate carbanion and LDBBA.

동학 불코(Bull. Korean Chem. Soc.) 캠페인

BKCS 9월호 유기화학분야 논문

Facile Direct Coupling Reactions of MOM-protected Benzylic Alcohols Using Aluminum Chloride

Tien Tan Bui, Hee-Kwon Kim

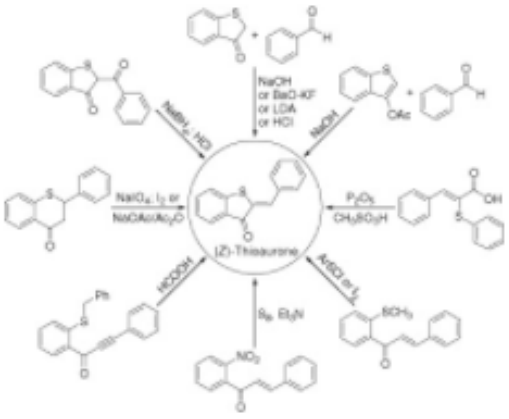
Pages: 1195-1198 | First Published: 30 July 2021

The direct formation of allylic compounds and azido compounds was successfully achieved from benzyl MOM ethers using catalytic amounts of aluminum chloride.

Synthetic Approaches to (*Z*)-Thioaurones

Jae In Lee

Pages: 1210-1219 | First Published: 22 June 2021



Typical methods for the preparation of (*Z*)-thioaurones.

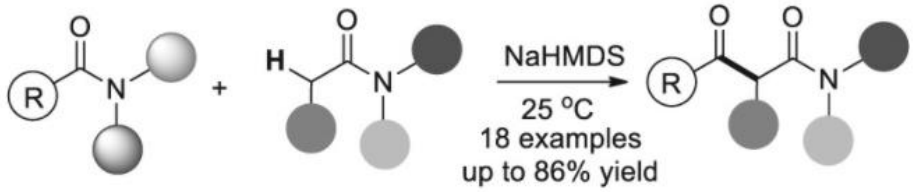
동학 불코(Bull. Korean Chem. Soc.) 캠페인

BKCS 10월호 유기화학분야 논문

Amides Activation: Transition Metal-Free Coupling Between C—N Activated Amides and Enolizable Amides

Devaneyan Joseph, Min Seok Oh, Aravindan Jayaraman, Sunwoo Lee

Pages: 1293-1295 | First Published: 26 July 2021

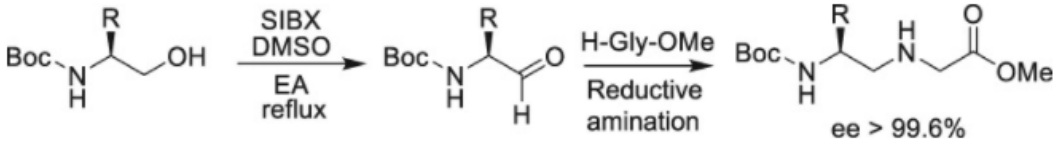


Two different amides reacted in the presence of NaHMDS to provide the corresponding β-ketoamides.

Synthesis and Characterization of Optically Pure Gamma-PNA Backbones by SIBX-Mediated Reductive Amination

Alagarsamy Periyalagan, Yong-Tae Kim, In Seok Hong

Pages: 1304-1309 | First Published: 20 July 2021



Three types of γ-backbones were synthesized with each optical purity of over 99.6% through a novel stabilized 2-iodoxybenzoic acid-mediated route. The optical purities were easily analyzed by C18 HPLC after derivatization a simple (*L*)-Fmoc-amino acid to the synthesized γ-backbones.

Insight into Fundamental Rules of Phenylenediamines Selective Monoacylation by the Comparisons of Kinetic Characteristics in Microreactor

Qilin Xu, Ji Ming Liu, Hongmiao Yao, Jinyang Zhao, Zhikuo Wang, Junli Liu, Jiadi Zhou, Zhiqun Yu, Weike Su

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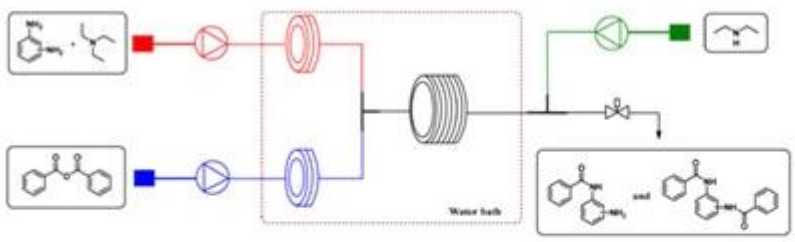

1. Reaction kinetics of *o*-DA/*p*-DA with BH was determined in a microreactor.
2. Chemical reactivities of DA were compared to reveal the effects of structure.
3. Monoacylation selectivity was compared to show the rules of consecutive reaction.

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KCS

Amides activation: Transition metal-free coupling between C-N activated amides and enolizable amides
by Lee, Sunwoo (sunwoo@chonnam.ac.kr)

WILEY-VCH

유기화학분과 소식지 퀴즈 /커피쿠폰 행사

2021년 유기화학 분과 소식지는 격월로 발행되어 분과 회원님들에게 유용한 정보를 제공하고자 노력하고 있습니다.

격월로 발간 되는 소식지의 열독을 권하고자 소식지 내용을 바탕으로 아래와 같이 퀴즈를 진행하고자 합니다.

해당 정답을 총무 부회장에게 11월 30일까지 이메일 (sunwoo@chonnam.ac.kr) 로 보내주시면 정답자 5명을 추첨하거나 선착순으로 선별하여 커피쿠폰을 발송해 드리겠습니다. 참고로 7월호는 9명에게, 9월호는 5명에게 스타벅스 커피 쿠폰 발송하였습니다.

지속적으로 응모해주시는 회원님들께는 연말에 별도의 상품을 제공할 예정이므로 회원님들의 많은 참여 부탁 드립니다.

퀴즈 1) 제247회 대한화학회 유기화학분과세미나가 고려대학교에서 개최됩니다. 5명의 신임연구자분들의 발표와 제11회 젊은 유기화학자 수상 강연이 있습니다. 제11회 젊은 유기화학자 수상자는 2명이 선정되었습니다. 선정되신 수상자는 어느 분인가요 ?

1) 장석복/이선우 2) 이필호/신승훈 3) 이덕형/문봉진 4) 김도경/조승환

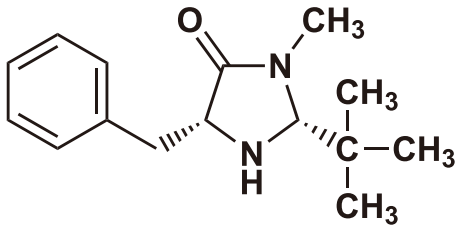
퀴즈 2) 유기화학분과회에서는 새로운 방식을 도입하여 회원님들께 소식을 전하고자 준비하고 있습니다. 유기화학분과회에서 회원님들께 새로운 소식을 받기 위해 가입을 권하는 것은 무엇입니까?

1) 네이버 블로거 2) 페이스북 3) 트위터 4) 카카오채널

퀴즈 3) 올해 BKCS 논문을 인용하신 회원님들의 논문을 접수 중에 있습니다. 올해 인용한 논문의 pdf파일을 총무부회장 이메일로 언제까지 제출해야 하나요 ?

1) 12월 3일 2) 12월 15일 3) 12월 25일 4) 12월 31일

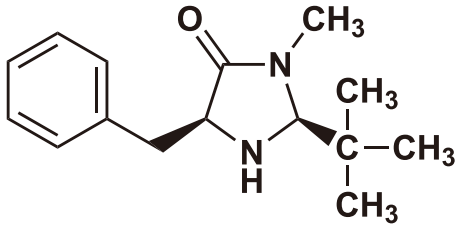
MacMillan Imidazolidinone Organocatalysts



(2*R*,5*R*)-(+)-2-*tert*-Butyl-3-methyl-5-benzyl-4-imidazolidinone

200mg / 1g

[B4137]



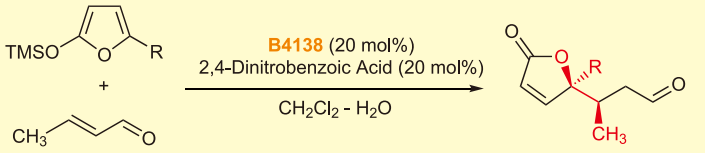
(2*S*,5*S*)-(-)-2-*tert*-Butyl-3-methyl-5-benzyl-4-imidazolidinone

200mg / 1g

[B4138]

Applications

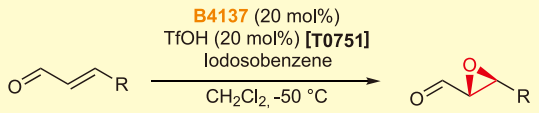
Enantioselective Mukaiyama–Michael Reaction



Y. ~93%
syn : *anti* = 1 : ~24, ~99% ee

S. P. Brown, N. C. Goodwin, D. W. C. MacMillan, *J. Am. Chem. Soc.* **2003**, *125*, 1192.

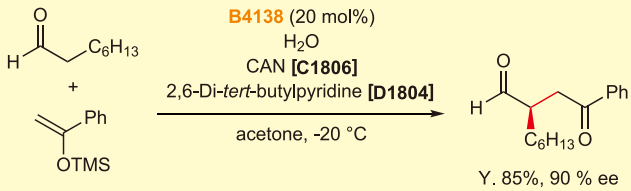
Asymmetric Epoxidation of α,β-Unsaturated Aldehydes



Y. ~94%, ~93% ee

S. Lee, D. W. C. MacMillan, *Tetrahedron* **2006**, *62*, 11413.

Asymmetric 1,3-Addition of Aldehydes



Y. 85%, 90 % ee

H.-Y. Jang, J.-B. Hong, D. W. C. MacMillan, *J. Am. Chem. Soc.* **2007**, *129*, 7004.

Related Products

Trifluoromethanesulfonic Acid (= TfOH)	10g / 25g / 250g	[T0751]
Cerium(IV) Diammonium Nitrate (= CAN)	50g / 500g	[C1806]
2,6-Di-*tert*-butylpyridine	5g / 25g	[D1804]

For further information please refer to our website at www.TCIchemicals.com. ▶▶▶ organocatalysts

YAMAZEN

야마젠 분취용 자동 중압 크로마토그래피 시스템(MPLC)

싱글

모 델 명 : AI-700X
타　　입 : 싱글 채널
한 번에 한 개 샘플 분리 정제 가능
펌프 유량 : 최대 300ml/min
최대 압력 : 1.5Mpa(217psi, 15bar)
검 출 기 : 듀얼파장·싱글파장 선택 가능
254nm/200~400nm/200~800nm
옵　　션 : ELSD, RI, TLC Image Reader

듀얼

모 델 명 : W-Prep2XY
타　　입 : 듀얼 채널
한 번에 두 개의 샘플 동시 분리 정제 가능
펌프 유량 : 최대 80ml/min
최대 압력 : 1.0Mpa(145psi, 10bar)
검 출 기 : 듀얼파장·싱글파장 선택 가능
254nm/200~400nm/200~800nm
옵　　션 : ELSD, RI, TLC Image Reader

싱글

모 델 명 : AI-580S
타　　입 : 싱글 채널
한 번에 한 개 샘플 분리 정제 가능
펌프 유량 : 최대 80ml/min
최대 압력 : 1.0Mpa(145psi, 10bar)
검 출 기 : 듀얼파장·싱글파장 선택 가능
254nm/200~400nm/200~800nm
옵　　션 : ELSD, RI, TLC Image Reader

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