2021년 9월 16일 (2021년 5호, 통권 53호)

유기화학분과 소식지

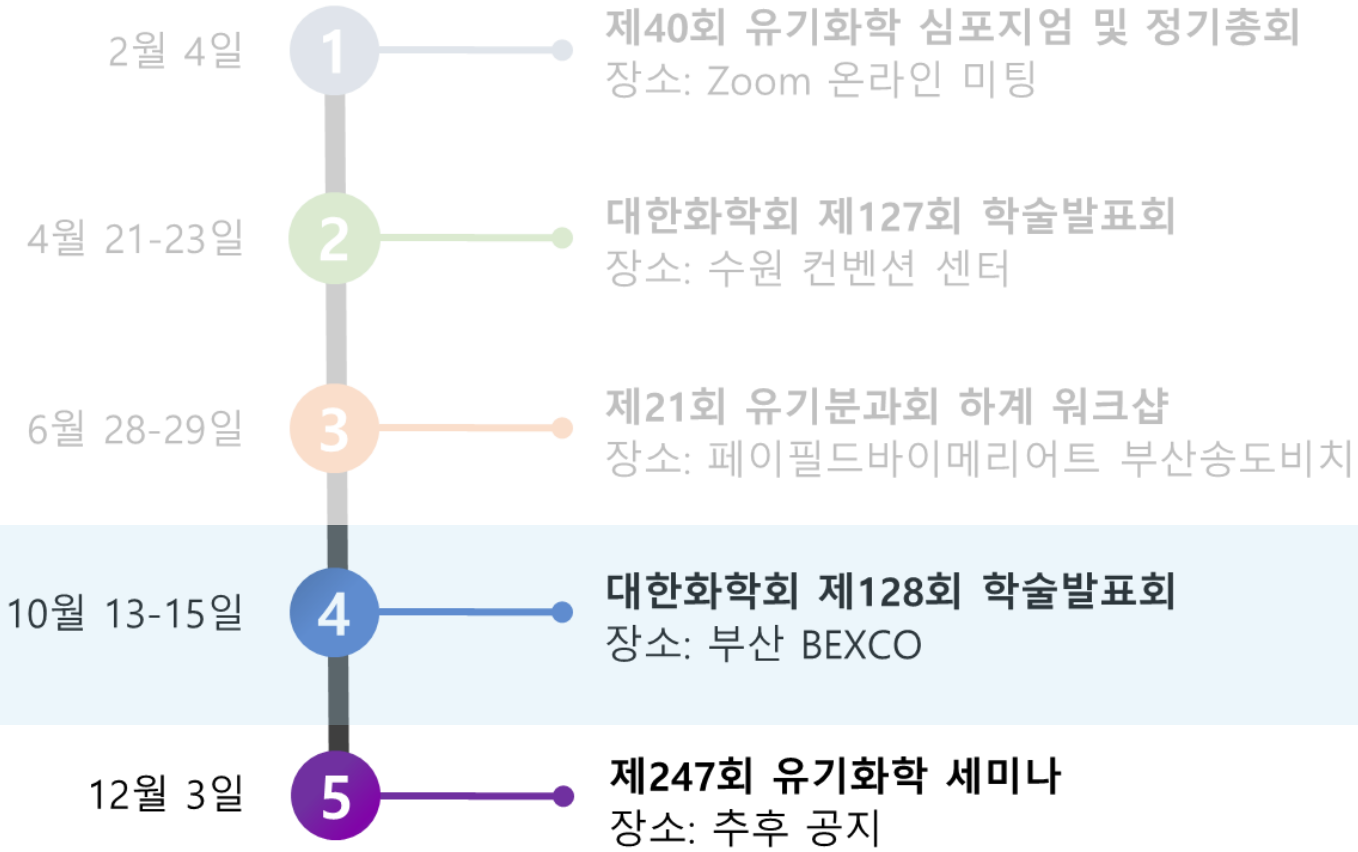
대한화학회 유기화학분과회
Http://kcsorganic.org/

제128회 대한화학회 학술발표회 총회 및 기기전시회

2021.10.13(Wed) ~ 15(Fri)

부산 벡스코(BEXCO)

대한화학회 제128회 학술발표회 참석 안내



[대한화학회 제128회 학술발표회]

대한화학회 제128회 학술발표회가 부산 벡스코(BEXCO)에서 개최됩니다. 이번 학술대회에서는 3개의 심포지엄과 1개의 구두 발표, 그리고 포스터 발표가 진행될 예정입니다. 아울러 장세희 학술상 수상자의 기념 강연이 진행될 예정입니다. 각 심포지엄의 주제 및 조직 책임자는 아래와 같습니다.

- [심포지엄 I] Current Trends in New Reaction and Methodology (정원진)
- [심포지엄 II] Current Trends in Medicinal and Process Chemistry (김혜진)
- [심포지엄 III] Current Trends in Chemical Biology and Bioorganic Chemistry (박종민)
- [구두발표] Oral Presentations for Young Scholars in Organic Division (배한용)

대한화학회 제128회 학술발표회

대 한 화 학 회
THE KOREAN CHEMICAL SOCIETY

02856 서울특별시 성북구 안암로 119 (안암동5가) 한국화학회관 4층 (http://www.kcsnet.or.kr)
(e-mail: office@kcsnet.or.kr; 전화 02-953-2095; 전송 02-953-2093)

문서번호 대한화학회 2021-총077 시행일자 2021. 7. 23

수 신 학교장 및 각 기관장

(경 유)

제 목 대한화학회 제128회 학술발표회, 총회 및 기기전시회 참가를 위한 회원 출장 의뢰

1. 귀 교(또는 기관)의 무궁한 발전을 기원합니다.

2. 대한화학회에서는 다음과 같이 제128회 학술발표회, 총회 및 기기전시회를 개최코자하오니 귀 교(또는 기관)에서 근무하는 본 학회 회원들이 참석할 수 있도록 편의를 도모하여 주시기 바랍니다.

- 다 음 -

■ 대회명 : 대한화학회 제128회 학술발표회, 총회 및 기기전시회
■ 일 시 : 2021년 10월 13~15일(수~금), 3일간
■ 장 소 : 부산 BEXCO
■ 행 사 : 총회, 기조강연, 기념강연, 심포지엄, 구두발표, 기기전시회.
■ 등록비

회원구분	사전등록		현장등록	
	A	B (연회비 면제)	A	B (연회비 면제)
종신회원	100,000원	-	120,000원	-
정회원	100,000원	170,000원	120,000원	190,000원
교육회원	60,000원	110,000원	70,000원	120,000원
학생회원				
비회원	-		250,000원	

※ 등록비에는 점심식사와 숙박비가 포함되지 않습니다.
※ 학부생: 학생증을 제시할 경우 참가비 면제.
(단, 초록 저자/공동저자/발표자는 참가비 납부 필요)
※ 만 65세 이상 회원: 참가비 면제.

대 한 화 학 회 장

대한화학회 제128회 학술발표회

10/14 (Thur.) 9:00-11:00

Oral Presentations for Young Scholars in Organic Division

좌장: 배한용 (성균관대)

09:00~09:12	이유림 (이화여대)	Catalyst-Controlled Divergent C(sp^3)—H/C(sp^2)—H Bond Functionalization of Diazo Compounds
09:12~09:24	박지용 (KAIST)	Understanding the Mechanisms of Photo-Activated [2 + 2] Cycloadditions Mediated by Chiral Organic and Transition-Metal Photocatalysts
09:24~09:36	아쉬와니 쿠마르 (한양대)	Naphthoquinolinedione-Based Probes with Chromofluorogenic Property for Sensitive Detection Hg^{2+} in Aqueous Solutions
09:36~09:48	오병민 (아주대)	Strategic Approach for Enhancing Sensitivity of Ammonia Gas Detection: Molecular Design Rule and Morphology Optimization for Stable Radical Anion Formation of Rylene Diimide Semiconductors
09:48~10:00	이미정 (KRICT)	Direct Carboxylation of Thiophene Derivatives via Ag(I)-Catalysis
10:00~10:12	강규민 (KAIST)	Synthesis of Dimeric High-Oxidation State Securinega Alkaloids
10:12~10:24	강은수 (부산대)	Ligand-Controlled Regioselective C–H Alkenylation at Sterically Unhindered Sites of (Hetero)arenes
10:24~10:36	남정승 (UNIST)	Spatially Resolved Interactome Mapping through Intracellular Protein-specific Photo-crosslinking in Live Cells
10:36~10:48	박시준 (성균관대)	Water-Driven Biomimetic Catalytic Enantioselective Protonation: Physical Origin of On-Water Effect
10:48~11:00	아이만 사다프 (한양대)	Scyllo-Inositol-Derived Amphiphilic Saccharides for Membrane Protein Study

10/14 (Thur.) 15:40-16:10

제24회 장세희 학술상 기념강연

좌장: 강은주 (경희대)

15:40~16:10	김인수 (성균관대)	C-H Allylation and Alkylation for the Construction and Functionalization of N-Heterocycles

대한화학회 제128회 학술발표회

10/14 (Thur.) 16:10-17:30

Session I: Current Trends in New Reactions and Methodology

좌장: 정원진 (GIST)

16:10~16:30	**이필호** (강원대)	Functionalization of *o*-Carboranes
16:30~16:50	**이영호** (POSTECH)	Pd-catalyzed Asymmetric Decarboxylative Addition of β-Keto Acids to Alkoxy- and Amidoallenes
16:50~17:10	**홍승우** (KAIST)	Investigation of Regioselective C–H Functionalization of Heteroarene
17:10~17:30	**이홍근** (서울대)	A Unified Synthetic Strategy to Introduce Heteroatoms via Controlled Functionalization of Alkyl Organometallic Reagents

10/15 (Fri.) 09:00-11:00

Session II: Current Trends in Medicinal and Process Chemistry

좌장: 김혜진 (KRICT)

09:00~09:25	**김대식** (Eisai)	Discovery of E7766, a Macrocycle-Bridged STING Agonist with Pan-Genotypic Activity
09:25~09:50	**이태교** (Pfizer)	Streamlined Synthesis of a Bicyclic Amine Moiety Using an Enzymatic Amidation and Identification of a Novel Solid Form
09:50~10:15	**공종락** (Merck)	Development of Biocatalytic Manufacturing Processes for an HIV Agent Islatravir and a Covid-19 Antiviral Molnupiravir
10:15~11:00		Panel Discussion **한수봉** (KRICT), **한태동** (동아ST), **정철근** (Merck), **임연희** (Merck)

10/15 (Fri.) 14:30-16:10

Session III: Current Trends in Chemical Biology and Bioorganic Chemistry

좌장: 박종민 (강원대)

14:30~14:55	**장영태** (POSTECH)	New Chemical Approach for Live Cell Distinction through Lipid in Cell Membrane
14:55~15:20	**서지원** (GIST)	Effect of Molecular Chameleonicity on the Membrane Permeability of Macrocyclic Peptide Cyclosporin O Derivatives
15:20~15:45	**기정민** (UNIST)	Chemical Toolbox for Studying Histidine and Arginine Phosphorylation
15:45~16:10	**김은하** (아주대)	Aggregation-Induced Emission Luminogen for Bioimaging Based on an Indolizine Molecular Framework

대한화학회 제128회 학술발표회

제24회 장세희 학술상 수상자 안내

유기화학분과회에서는 탁월한 논문을 발표하여 유기화학분야 및 분과회 발전에 공헌한 회원에게 장세희 학술상을 수여하고 있습니다. **제24회 장세희 학술상 수상자**로 **성균관대 약학대학 김인수 회원**이 선정되었습니다. 축하드립니다! 2021년 10월 14일(목) 오후 3시 40분에 수상자에게 상패와 부상이 수여될 예정이고 **"C-H Allylation and Alkylation for the Construction and Functionalization of N-Heterocycles"** 제목의 수상 강연이 있을 예정이니 회원 여러분의 많은 참여 바랍니다.

김인수 교수
(성균관대학교)

학력	
1994 ~ 2001	학사, 성균관대학교 약학대학
2001 ~ 2003	석사, 성균관대학교 약학대학 (지도교수: 정영훈)
2003 ~ 2006	박사, 성균관대학교 약학대학 (지도교수: 정영훈)

경력	
2007 ~ 2009	박사후 연구원, University of Texas at Austin (지도교수: Michael Krische)
2009 ~ 2012	조교수, 울산대학교 화학과
2012 ~ 2012	조교수, 경희대학교 약학대학
2012 ~ 2013	조교수, 성균관대학교 약학대학
2013 ~ 2018	부교수, 성균관대학교 약학대학
2018 ~ 현재	교수, 성균관대학교 약학대학

역대 장세희 학술상 수상자

1회 전철호 (연세대)	2회 김병현 (POSTECH)	3회 정낙철 (고려대)
4회 정규성 (연세대)	5회 지대윤 (인하대)	6회 안교한 (POSTECH)
7회 김만주 (POSTECH)	8회 이상기 (이화여대)	9회 이필호 (강원대)
10회 신인재 (연세대)	11회 조천규 (한양대)	12회 서홍석 (부산대)
13회 박승범 (서울대)	14회 이희승 (KAIST)	15회 김재녕 (전남대)
16회 최인성 (KAIST)	17회 류도현 (성균관대)	18회 이철범 (서울대)
19회 윤재숙 (성균관대)	20회 이선우 (전남대)	21회 문봉진 (서강대)
22회 홍순혁 (KAIST)	23회 홍석원 (GIST)	

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 9월 10일 기준, 171명 납부)

Jean Bouffard	강경태	강동진	강성민	강은주	강택	강호웅	고민섭	고혜민	공영대
곽재성	구상호	권민상	권선범	권용석	권용억	권용훈	권태혁	금교창	기정민
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	박정민
박정수	박종민	박종운	박지훈	박찬필	박철민(UNIST)	방은경	배한용	백무현	서성용
서성은	서지원	손정훈	손종우	송창식	송충의	신광민	신승훈	신인재	심재호
심태보	안덕근	안양수	양시경	양정운	오경수	오종훈	우상국	유은정	유자형
윤소원	윤재숙	윤정인	윤주영	윤창수	윤효재	이강문	이광호	이기성	이기연
이덕형	이동환	이민희	이상기	이선우	이성기	이성호	이송이	이안나	이안수
이용록	이원철	이윤미 (광운대)	이윤미 (연세대)	이은성	이은지	이인환	이재인	이정규	이정태
이준석	이준희	이충환	이필호	이현수	이효준	이희봉	이희윤	임상민	임지우
임창수	임현석	임희남	장두옥	장석복	장영태	장우동	장혜영	전병선	전철호
정규성	정병혁	정시원	정원진	조동규	조승환	조우경	조은진	조창우	조천규
주정민	지형민	천철홍	최기항	최성욱	최준원	최태림	추현아	하현준	한서정
한순규	한지훈	허정녕	홍대화	홍석원	홍성유	홍순혁	홍승우	홍종인	황길태
황승준									

공지사항

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)
- 국내 연구 동향 및 연구실 소개: 최근에 회원들의 그룹에서 발표한 논문을 회원이 직접 소개 (A4 한 장 분량, 연구실 사진, 연구 요약, 대표업적, 최근 우수 연구 결과 소개)
- 회원들과 연관된 소식들: 학회, 연구비 신청, 홍보, 수상 등
- 신입 회원 소개

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 뉴스레터 1월호에 이어 3월호에서도 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, 6월호 cover graphic으로 김민 회원(충북대), 홍석원 회원(GIST)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. 회원님들의 많은 관심과 참여를 적극 부탁드립니다!

홈페이지 회원 정보 수정

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

광고 및 후원 모집

유기화학분과회의 안정적인 운영을 위하여 광고업체 및 후원 연구실을 모집하고 있습니다. 매월 발행되는 뉴스레터에 기업체 광고 및 연구실 홍보 페이지를 수록 예정이며 기업 광고의 경우 유기화학분과회 홈페이지 하단의 배너광고를 무료로 제공하고 있습니다. 회원 여러분께 광고 및 후원 홍보에 대한 협조를 부탁 드립니다.
(광고 및 후원 담당: 전남대 이선우 총무 부회장, sunwoo@chonnam.ac.kr)

외부 시상 안내

아래와 같이 유기화학분과 회원들이 지원할 수 있는 여러 상이 있습니다. 시상 내역과 시행시기 확인 후 적극적인 추천과 지원을 통해 많은 회원들이 수상할 수 있기를 바랍니다.

번호	외부 시상명	주관단체 (웹사이트)	시행시기	
			후보 추천	시상식
1	**대한민국과학문화상(과학문화창달분야)**	한국과학창의재단 http://www.kofac.re.kr	당해년도 9월	당해년도 12월
	▲과학 문화 : 다양한 과학 활동으로 과학문화발전에 기여한 자			
2	**호암상(과학상)**	호암재단 www.hoamprize.org	당해년도 10월	차년도 6월
	▲기초과학 분야에서 탁월한 연구 업적을 이룩한 인사			
3	**수당상**	수당재단(기초과학분야) www.samyang.com	당해년도 12월	차년도 5월
	▲기초과학 분야에서 훌륭한 연구업적을 이룩한 인사			
4	**대한민국학술원상**	대한민국학술원 http://www.nas.go.kr	당해년도 11월	차년도 9월
	▲대한민국 국민으로서 학술연구 또는 저작이 매우 우수하여 학술발전에 현저한 공로가 있다고 인정된 자			

공지사항

제 45회 헤테로고리 화합물의 화학 심포지엄

-일 시 : 2021년 10월 30일 (토)
-장 소 : Online platform 'ZOOM'
-주 최 : 촉매유기반응연구단 (NCRL)
분자과학기반미래인재양성사업팀 (BK FOUR)
-후 원 : TCI·SEJIN CI, K-MediChem

시 간	일 정
09:40 ~ 09:50	인사말
09:50 ~ 10:00	축사
10:00 ~ 10:35	홍승우 교수 (KAIST 화학과)
10:35 ~ 11:10	권용훈 교수 (서울대학교 응용생물화학부)
11:10 ~ 11:45	조동규 교수 (인하대학교 화학과)
11:45 ~ 13:20	식사
13:20 ~ 13:55	김봉찬 박사 (LG 화학)
13:55 ~ 14:30	이광호 박사 (한국화학연구원)
14:30 ~ 14:45	휴식
14:45 ~ 15:20	이용록 교수 (영남대학교 화학공학부)
15:20 ~ 15:55	김만주 교수 (포항공과대학교 화학과)
15:55 ~ 16:10	종합토론 및 폐회식

Tel: 033-255-6477
heterocycle@kangwon.ac.kr
http://indium.kangwon.ac.kr

공지사항

2020년도 유기분과회에서 '대한민국을 빛낸 유기화학자' 책을 출간하였습니다.

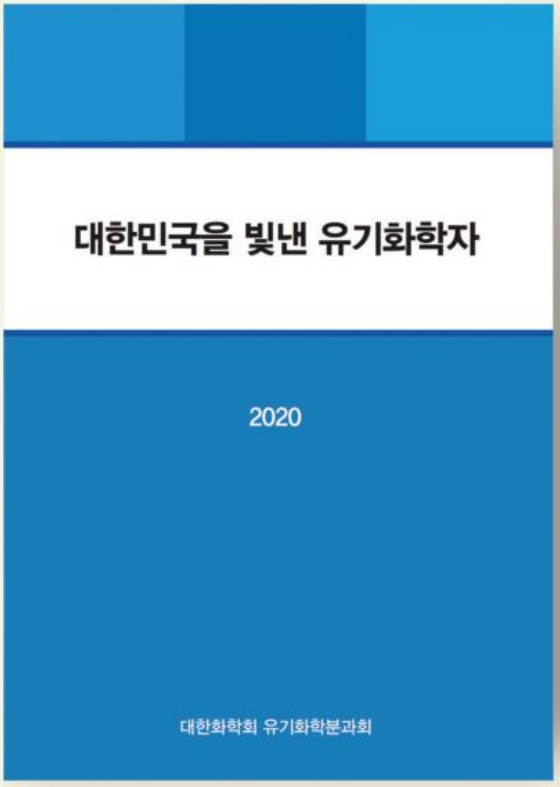
이달의 추천 도서 2

대한민국을 빛낸 유기화학자

고훈영 · 김재선 · 김필호 · 김홍석 · 김환명 · 박두환 · 신승훈 · 안진희 · 이덕형 · 이동환 · 故이우영 · 이창규 · 이필호 · 이현수 · 임상철 · 장석복 · 정규성 · 정봉영 · 조대원 · 최승룡 · 허정녕 · 홍승우 **지음**

자유아카데미 | 2020.12.25 **출간**

ISBN 9791158083007



추천의 글

강은주 | 경희대학교 응용화학과

대한화학회 유기화학분과회가 『대한민국을 빛낸 유기화학자』(자유아카데미刊)를 출간했다. 이 책은 2020년 유기화학분과회가 기획하여 만든 책으로 집필에는 고훈영 · 김재선 · 김필호 · 김홍석 · 김환명 · 박두환 · 신승훈 · 안진희 · 이덕형 · 이동환 · 故 이우영 · 이창규 · 이필호 · 이현수 · 임상철 · 장석복 · 정규성 · 정봉영 · 조대원 · 최승룡 · 허정녕 · 홍승우 박사가 참여했다.

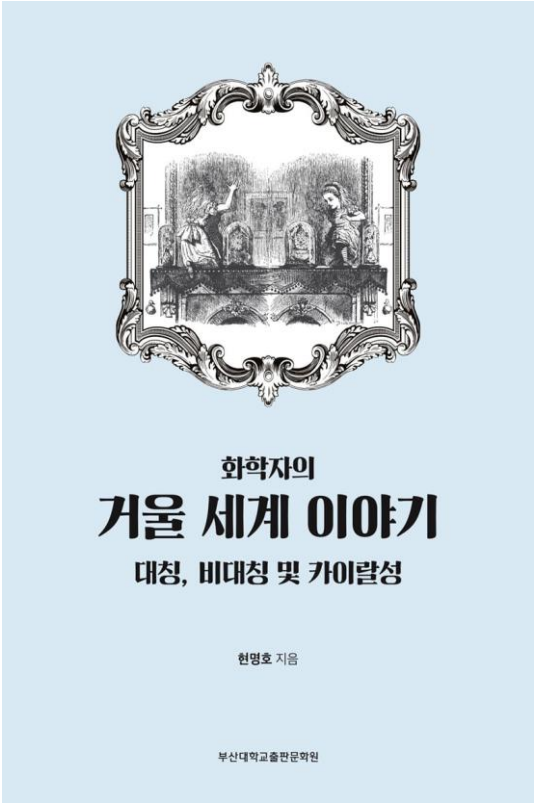
대한화학회는 1946년에 창립되었고 현재 12개의 분과회로 구성되어 있는 우리나라 이공계를 대표하는 학회로 이 중 1982년에 조직된 유기화학분과회는 연혁, 회원 수, 예산 등 모든 면에서 대한화학회를 대표하는 분과회 중의 하나이다. 유기화학분과회는 지난 40여 년간 성장과 발전을 거듭하였고 그간 세대교체가 몇 번 일어났다. 분과회에서는 그간 생성과정과 어려움에 대하여는 알려지지 않은 면이 많다고 생각하여 2020년 '이야기가 함께 하는 유기화학분과회' 라는 슬로건 아래 『대한민국을 빛낸 유기화학자』를 발간하였다. 그간 유기화학 분야 발전에 큰 기여를 하신 연구자 15분(故-장세희 서울대 교수: 초대 유기화학분과회장, 故-심상철 KAIST 교수: 과학기술 유공자, 故-윤능민 서강대 교수: 과학기술 유공자, 김동한 포항공대 교수, 김용해 KAIST 교수, 정봉영 고려대 교수, 이은 서울대 교수, 김성각 KAIST 교수, 김성수 인하대 교수, 서정헌 서울대 교수, 故-강석구 성균관대 교수, 김관수 연세대 교수, 조봉래 고려대 교수, 윤웅찬 부산대 교수, 김득준 서울대 교수) 들에 대한 발자취를 돌아볼 수 있었던 좋은 기회였다.

이외에도 『대한화학회 50년사』에 실렸던 『유기화학분과회 50년사』도 발췌하여 실었고 유기화학분과회의 대표적인 행사인 하계 워크숍의 유래는 물론 44회의 전통을 자랑하는 '헤테로고리 화합물 화학' 심포지엄에 대한 글도 실려 있어서 그 의미를 더하고 있다. 사료적 가치가 있는 사진들도 다수 실었고 내국인은 물론 외국인도 실명과 소속을 거의 다 밝혔으며 원로 교수님들에 대한 30-40대 사진을 흑백으로 보는 재미도 매우 크다.

유기화학분과회는 이 책이 화학을 전공하는 젊은 연구자, 대학원생, 그리고 앞으로 화학을 전공할 많은 학생들에게 자극과 격려와 길잡이가 되었으면 한다.

공지사항

현명호 교수님의 책 출간을 축하드립니다.



목차

책 소개

'카이랄성(chirality)'은 분자 혹은 사물이 그 거울상과 겹쳐지지 않아 서로 구별이 가능하게 되는 성질이다. '카이랄성'은 생명 현상과 밀접한 관계가 있을 뿐만 아니라 의약품의 카이랄성에서 보는 것처럼 건강 등 우리의 일상생활에도 많은 영향을 미친다. 그러나 일반 대중에게 '카이랄성'이라는 단어는 아직 생소하다. 이 책에서는 '카아랄성'의 의미와 중요성을 일반 대중들도 이해할 수 있도록 거울 세계의 이야기를 통하여 소개한다.

저자 현명호 교수님 소개

1951년 12월(음) 제주에서 태어나 1971년 2월 제주제일고등학교를 졸업하였다. 1975년 2월 서울대학교 문리과대학 화학과를 졸업하고 1977년 2월 한국과학원(현 KAIST) 화학과에서 이학석사 학위를 취득하였다. 1980년 8월 미국 일리노이대학교(University of Illinois at Urbana-Champaign) 화학과로 유학을 떠나 1984년 10월 박사학위를 취득하였다. 박사학위 취득 후 1985년 8월까지 미국 하버드대학교 화학과에서 박사 후 과정을 이수하고 귀국하였다. 1985년 9월부터 2017년 2월까지 부산대학교 화학과에서 교수로 재직하였으며 교수로 재직하는 동안 박사학위 수여자 13명과 석사학위 수여자 81명을 배출하였다. 분자의 카이랄성에 관한 연구와 태양전지 재료 화합물의 합성과 응용에 관한 연구 등으로 291편의 연구논문을 발표하였으며 21건의 특허를 등록하였다.

2003년 카이랄성에 관한 국제 심포지엄인 "Chitality 2006 (18th International Symposium on Chiral Discrimination: ISCD-18)"을 부산에 유치하여 2006년 6월까지 심포지엄 조직위원회 위원장직을 수행하였다. 매년 유럽과 미국, 일본에서 개최되었던 심포지엄은 2006년 6월 부산 해운대 그랜드 호텔에서 개최되었으며 22개 나라에서 400여명이 참가하여 성공적으로 마무리되었다. 수상실적으로는 1999년 대한화학회 학술진보상과 2003년 부산과학기술상 등이 있다. 지은 책으로는 『LC에 의한 광학이성질체의 분리: 키랄고정상법을 중심으로, 대우학술총서 자연과학 79』(민음사, 1992년) 등이 있다.

국내 연구 동향 _ 연구실 소개

TLC Laboratory [서울대학교 최태림 교수 연구실]

최태림 (Tae-Lim Choi)

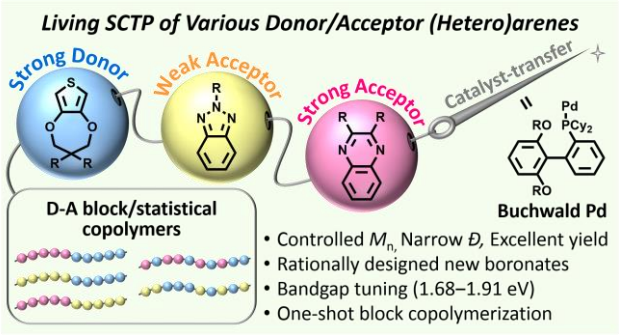
서울대학교 화학부 교수
Email: tlc@snu.ac.kr
Tel: 02-880-2635
홈페이지: https://tlc.snu.ac.kr/

1. Lee, J.; Kim, H.; Park, H.; Kim, T.; Hwang, S.-H.; Seo, D.; Chung, T. D.; Choi, T.-L.* 'Universal Suzuki-Miyaura Catalyst-Transfer Polymerization for Precision Synthesis of Strong Donor/Acceptor-Based Conjugated Polymers and Their Sequence Engineering' *J. Am. Chem. Soc.* **2021**, *143*, 11180-11190.
2. Noh, J.; Peterson, G. I.*; Choi, T.-L.* 'Mechanochemical Reactivity of Bottlebrush and Dendronized Polymers: Solid vs Solution States' *Angew. Chem. Int. Ed.* **2021**, *60*, 18651-18659.
3. Yang, S.; Kang, S.-Y.; Choi, T.-L.* 'Semi-conducting 2D rectangles with tunable length via uniaxial living crystallization-driven self-assembly of homopolymer' *Nat. Commun.* **2021**, *12*, 2602.
4. Rizzo, A.; Peterson, G. I.; Bhaumik, A.; Kang, C.; Choi, T.-L.* 'Sugar-Based Polymers from d-Xylose: Living Cascade Polymerization, Tunable Degradation, and Small Molecule Release' *Angew. Chem. Int. Ed.* **2021**, *60*, 849-855.

저희 연구실에서는 효율적인 유기 반응과 정교하게 디자인된 단량체를 사용하여 다양한 구조의 기능성 고분자를 합성하고, 그 성질을 분석하는 것을 목표로 하고 있습니다. 구체적으로는 기능성 고분자를 위한 새로운 합성법을 개발하고, 이를 통해 얻어진 고분자를 활용하여 나노구조체의 형성 및 그 모양을 조절하며, 나아가 이들을 태양전지나 트랜지스터와 같은 다양한 유기 전자재료에 활용하는 연구를 수행하고 있습니다.

Universal Suzuki-Miyaura Catalyst-Transfer Polymerization for Precision Synthesis of Strong Donor/Acceptor-Based Conjugated Polymers and Their Sequence Engineering

Tae-Lim Choi *et al., J. Am. Chem. Soc.* **2021**, *143*, 11180-11190.



2004년 Yokozawa와 McCullough 그룹에 의해 처음 보고된 촉매-이동 중합 (catalyst-transfer polymerization, CTP)은 분자량과 그 분산도가 조절된 공액고분자 (π-conjugated polymers)를 만들 수 있는 리빙중합법으로서, 고분자 합성 분야에 커다란 진보를 가져다 주었습니다. 하지만, 이후 다양한 촉매와 반응들을 활용한 CTP 방법들이 개발되어 왔음에도 불구하고 가용한 단량체들은 일부의 약한 전자 주개/받개 (donor/acceptor) 헤테로고리들만으로 매우 제한적이었으며, 이는 CTP의 활용 가능성을 크게 떨어뜨렸습니다. 최근 우리 연구실에서는 RuPhos-Pd와 같은 Buchwald Pd 촉매들의 뛰어난 촉매-이동 능력과 보로네이트 (boronate) 단량체의 반응성 및 안정성을 조절함으로써 분자량이 잘 조절된 폴리싸이오펜 (polythiophene)을 효율적으로 합성할 수 있는 Suzuki-Miyaura CTP (SCTP) 방법을 개발하였습니다. 이를 바탕으로 본 논문에서는 강한 주개인 3,4-propylenedioxythiophene (ProDOT)와 강한 받개인 quinoxaline (QX)을 포함하는 다양한 전자적 성질을 갖는 단량체들의 리빙 중합에 성공함으로써 지난 20년 가까이 제한되어 있던 CTP 단량체의 한계를 획기적으로 개선했습니다. 뿐만 아니라 광전자장치의 재료로서 사용될 수 있는 유용한 블록 공중합체와 랜덤 공중합체를 여러 주개/받개의 조합으로 정교하게 합성함으로써 SCTP의 활용도를 크게 높이는데 기여하였습니다. 본 연구실에서는 이러한 연구 결과들을 바탕으로 단량체의 종류를 더욱 넓히고, 주개-받개 공중합체의 순서를 조절하여 공액고분자의 광전자적 성질을 향상시키는 연구를 진행 중입니다.

국내 연구 동향 _ 연구실 소개

Asymmetric Organic Synthesis Laboratory [경북대학교 조창우 교수 연구실]

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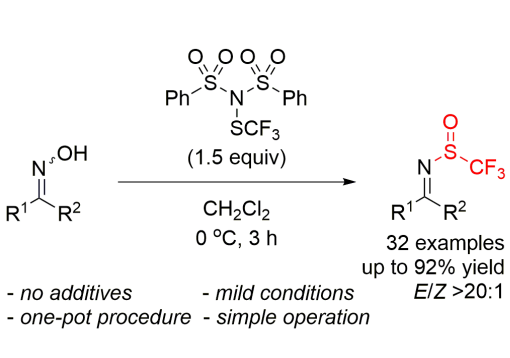
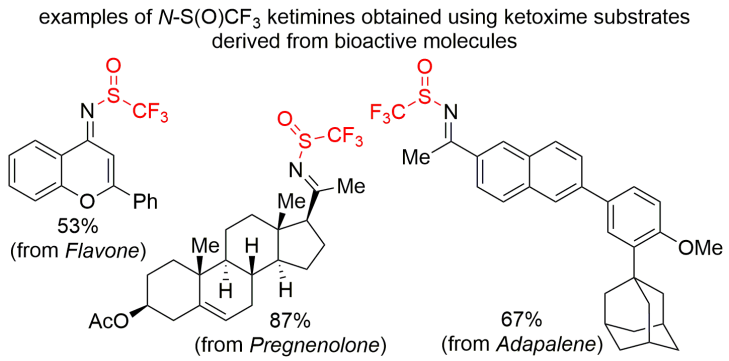
1. Kim, B.; Park, J.; Cho, C.-W.* 'Synthesis of *N*-Trifluoromethanesulfinyl Ketimines by Cascade Trifluoromethylthiolation/Rearrangement of Ketoximes' *Org. Lett.* **2021**, 23, 4603.
2. Yoo, J.†; Ha, H.-J.†; Kim, B.; Cho, C.-W.* 'Synthesis of α-Trifluoromethylthio-α,β-unsaturated Carbonyl Compounds by DABCO-Mediated Electrophilic Trifluoromethylthiolation with *N*-SCF_3-dibenzenesulfonimide' *J. Org. Chem.* **2020**, *85*, 7077. (†equal contribution)
3. Ha, H.-J.; Kim, B.; Kwon, K.; Kim, S. H.; Cho, C.-W.* 'Synthesis of TKX-50 via 2-Methoxyisopropyl-Protected Diazidoglyoxime as an Insensitive Intermediate' *Propellants Explos. Pyrotech.* **2021**, *46*, 732.

본 연구실은 비대칭 유기촉매반응 개발을 통한 유용한 키랄 화합물 합성을 연구하고 있습니다. 또한, 최근에는 생리활성 물질의 중요한 작용기로 많이 알려진 과불소기를 유기 화합물에 효과적으로 도입하는 반응을 개발하고 있으며, 테트라졸 관련 화합물의 합성법 개발 연구도 수행하고 있습니다.

Synthesis of *N*-Trifluoromethanesulfinyl Ketimines by Cascade Trifluoromethylthiolation/Rearrangement of Ketoximes

Chang-Woo Cho *et al. Org. Lett.* **2021**, *23*, 4603. DOI: 10.1021/acs.orglett.1c01338





불소를 포함한 작용기가 생리활성 화합물에 도입되면 그 화합물의 생물학적 이용가능성(bioavailability)을 증가시킬 수 있기 때문에 의약품과 농약 개발에 불소를 포함한 작용기들이 많이 연구되고 있습니다. 트리플루오로메탄설피닐[$S(O)CF_3$]기는 개선된 생리활성을 가지는 새로운 의약품과 농약 개발을 위한 불소를 포함한 작용기들 중의 하나입니다. 지금까지 $S(O)CF_3$기를 다양한 작용기를 가진 기질들에 도입하는 여러가지 반응들이 보고되었지만, *N*-$S(O)CF_3$ 케티민 합성은 보고된 바가 없습니다. 이에 본 연구실에서는 *N*-SCF_3-디벤젠술폰이미드를 친전자성 SCF_3 시약으로 사용하고 첨가제 없이 온화한 조건 하에서, *N*-unprotected 케티민보다 쉽게 합성할 수 있고 안정한 케톡심을 기질로 사용하여 *N*-$S(O)CF_3$ 케티민 생성물을 좋은 수율과 높은 *E* 선택성으로 합성하는 연속단계 친전자성 트리플루오로메틸싸이올화/라디칼 재배열 반응을 개발하였습니다. 이 연속단계반응은 생리활성 물질로부터 유도된 케톡심 기질들에도 잘 적용되어 상응하는 *N*-$S(O)CF_3$ 케티민 생성물들을 효과적으로 합성할 수 있었습니다.

국내 연구 동향 _ 연구실 소개

촉매 반응 연구실 (Laboratory of Sustainable Catalysis) [경상대학교 김주현 교수 연구실]

김주현 (Ju Hyun Kim)

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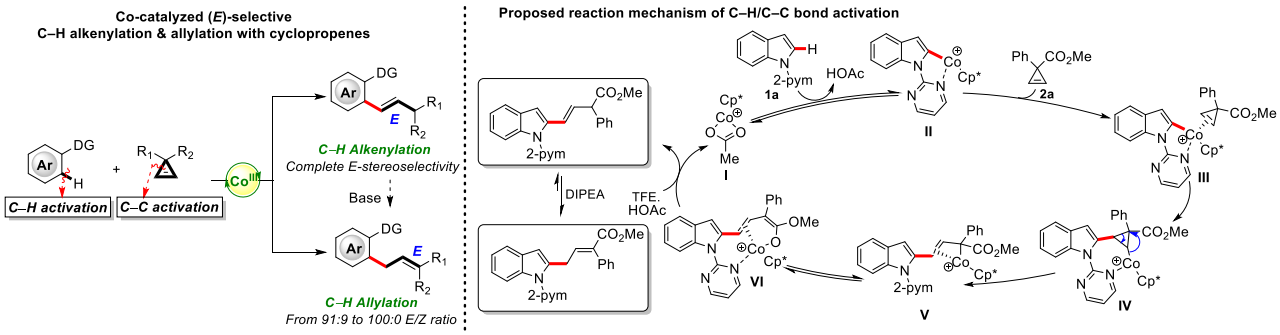
Email: juhyun@gnu.ac.kr
Tel: 055-772-1495
홈페이지:
https://gnulsc.wixsite.com/methodology

1. Kim, Y. L.; Park, S.-a.; Choi, S.-M.; Park, J.-U.; Kim, J. H.* 'Co^{III}-Catalyzed C–H Alkenylation and Allylation with Cyclopropenes via Sequential C–H/C–C Bond Activation' *Org. Lett.* **2021**, ASAP [DOI: 10.1021/acs.orglett.1c02219]
2. Park, J.-U.; Ahn, H.-I.; Cho, H.-J.; Xuan, Z.; Kim, J. H.* 'Asymmetric Synthesis of N-Fused 1,3-Oxazolidines via Pd-Catalyzed Decarboxylative (3+2) Cycloaddition' *Adv. Synth. Catal.* **2020**, *362*, 1836–1840.
3. Choi, S. Y.; Kim, H. D.; Park, J.-U.; Park, S.-a.; Kim, J. H.* 'Cp*Co(Ⅲ)-Catalyzed γ-Selective C–H Allylation/Hydroamination Cascade for the Synthesis of Dihydroisoquinolines' *Org. Lett.* **2019**, *21*, 10038–10042.

저희 연구실에서는 다양한 전이 금속 촉매 반응을 통하여 부산물을 최소화 하는 효율적, 위치 및 입체 선택적 유기 합성법을 개발하고 있습니다. 특히 자연적으로 풍부한 금속을 사용하여 유기 화합물의 기본 골격을 이루는 C–H, C–C 결합을 선택적으로 절단하는 C–H, C–C 결합 활성화 연구와, 촉매 시스템의 변화를 통하여 위치 및 입체 선택성을 제어하는 비대칭 분기형 촉매반응에 관한 연구를 중점적으로 수행하고 있습니다.

Co^{III}-Catalyzed C–H Alkenylation and Allylation with Cyclopropenes via Sequential C–H/C–C Bond Activation

Ju Hyun Kim *et al. Org. Lett.* **2021**, *ASAP*. DOI: 10.1021/acs.orglett.1c02219



부산물을 최소화 하는 친환경적 유기 합성 방법이 각광받음에 따라, 전이금속 촉매를 사용하여 유기화합물의 기본 골격을 이루는 C–H 결합 또는 C–C 결합을 선택적으로 절단하는 C–H, C–C 결합 활성화 연구가 광범위하게 수행되었습니다. 이 중 C–C 결합은 고유의 해리 에너지가 높아 선택적으로 결합을 절단하기 매우 어렵고, 최근 이를 극복하기 위한 전략으로 전이 금속 촉매 하 연속적 C–H/C–C 결합 활성화 방법에 관한 연구가 보고되었습니다. 이 논문에서는, 지구상 풍부한 3d 금속인 코발트 촉매 하 연속적인 C–H/C–C 결합 활성화 전략을 통해, 각 무리가 큰 삼각 고리 화합물인 사이클로프로펜 (54 kcal mol^{-1})을 결합 파트너로 사용하여 C–H 알켄화 및 C–H 알릴화 반응을 개발하였습니다. 메커니즘 연구를 통해 제안된 메커니즘은, 코발트 촉매 하 C–H 활성화를 통해 후 유도된 cobaltacycle이 사이클로프로펜의 알켄에 삽입되고, 이 후 생성된 C–Co 결합에 의한 *b*-탄소 절단과 protodemetalation을 거쳐 (*E*)-알켄 화합물이 생성되었습니다. 이 반응에서 사이클로프로펜은 3개 탄소를 제공하는 알켄화 시약으로 사용되었고, 사이클로프로펜의 3-탄소 synthon 으로서의 활용도를 극대화 하기 위해 다양한 조건에서 C–H 알릴화를 시도하였습니다. 그 결과, 과량의 염기 (DIPEA) 존재 하에서 생성된 알켄 화합물의 이중결합 이성질화가 진행되어 높은 (*E*)-입체선택성을 갖는 알릴 화합물이 합성되었습니다. 본 연구에서는 Co 촉매를 사용한 연속적 C–H/C–C 결합 활성화 전략을 통해, 사이클로프로펜을 C–H 알켄화 및 알릴화 시약으로 사용하였으며, 부산물이 없는 원자 경제적인 합성 전략을 개발하였고, 최적화 조건에서 다양한 기질에 적용하여 높은 효율 및 입체선택성을 확인 하였습니다.

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

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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

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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

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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

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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

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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

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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"

유기분과에서는 2021년도에 BKCS 에 "Chemical Synthesis & Reaction Development" 에 관한 주제로 특별호를 발간한데 이어, 김종승 회원(고려대)과 윤주영 회원(이화여대)이 guest editor로 하여 "Chemosensors and Imaging Probes"에 관한 특별호도 발간하였습니다. 해당 특별호가 발간될 수 있도록 도움주신 유기분과회원분들께 진심으로 감사드립니다(몇몇 논문은 현재도 심사 중으로 추후 업데이트 예정입니다). 이번 특별호에 실린 논문의 graphic abstract를 첨부하였습니다.

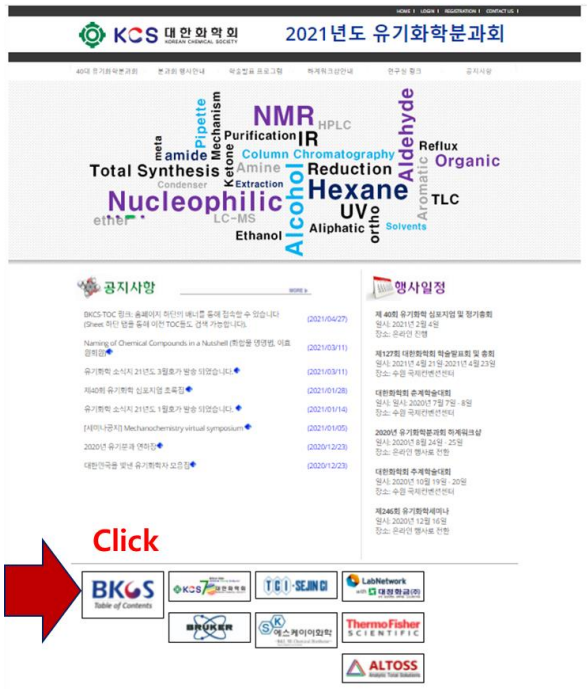
2021년도 대한화학회 유기분과에서는 BKCS의 impact Factor 향상을 위해서 동학 불코 캠페인을 진행하고 있습니다. 유기분과 회원분들이 발표하시는 논문에서 BKCS 발표 논문을 1년에 2-3번 정도만 인용하신다면 2년 후 BKCS Impact Factor가 많이 올라 갈수 있으리라 기대합니다. 회원님들의 많은 관심과 참여를 적극 부탁드립니다!

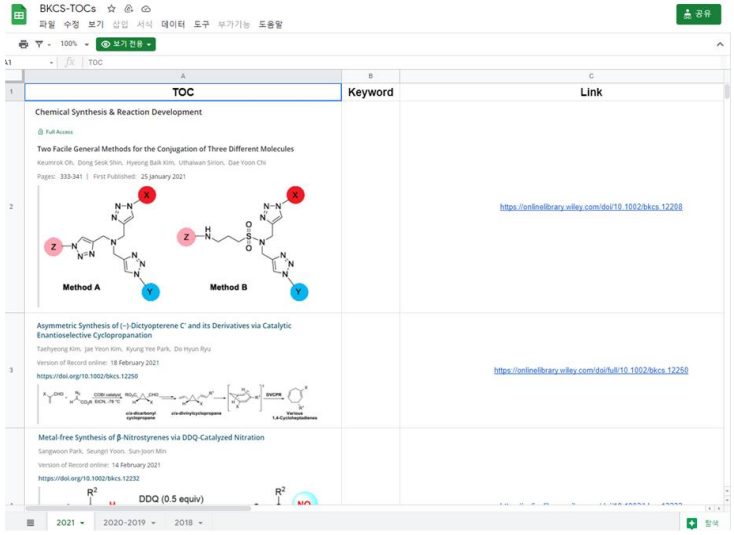
또한 2021년도 BKCS의 새로운 모습으로 탈바꿈하고 있습니다. 그 일환으로 BKCS 로고를 새로운 모습으로 단장하였습니다. 태극 문양과 대한화학회의 문양이 들어간 멋진 모습으로 바뀌었습니다. BKCS가 대한민국의 대표저널이 되는 그 날까지 회원 분들의 많은 관심을 부탁드립니다.

BKCS Bulletin of the Korean Chemical Society

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.





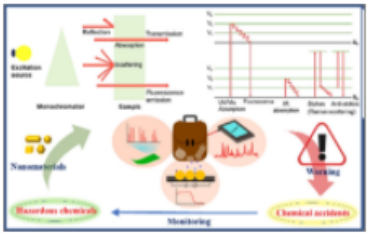
동학 불코(Bull. Korean Chem. Soc.) 캠페인

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

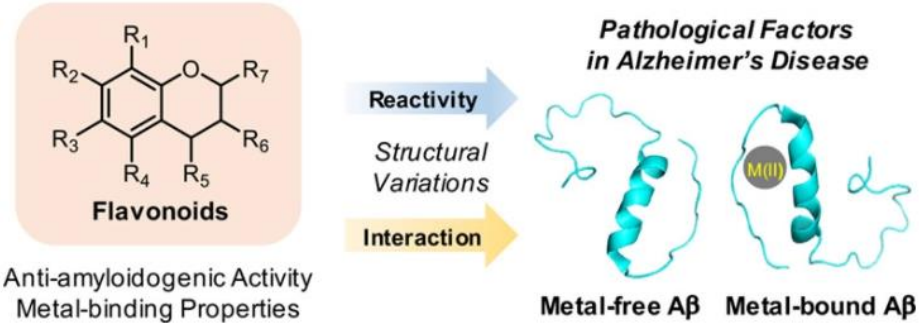


On-site detection for hazardous materials in chemical accidents

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

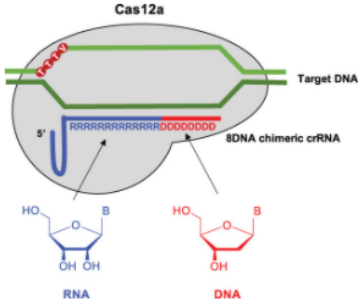


Reactivity of Flavonoids Containing a Catechol or Pyrogallol Moiety with Metal-Free and Metal-Associated Amyloid-β

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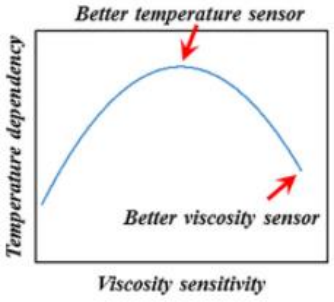
A Systematic Study on the Relationship Between Viscosity Sensitivity and Temperature Dependency of BODIPY Rotors

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

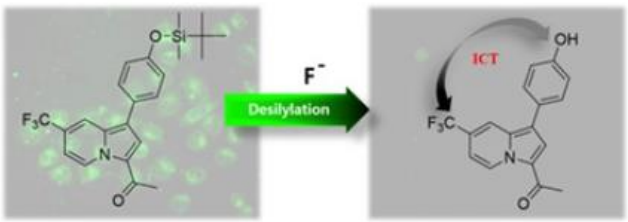


Different functions of molecular rotors based on viscosity sensitivity and temperature dependence.

Fluorescent Fluoride Sensor Based on Indolizine Core Skeleton for Bioimaging

Hyungi Kim, Minchul Shin, Eunha Kim

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

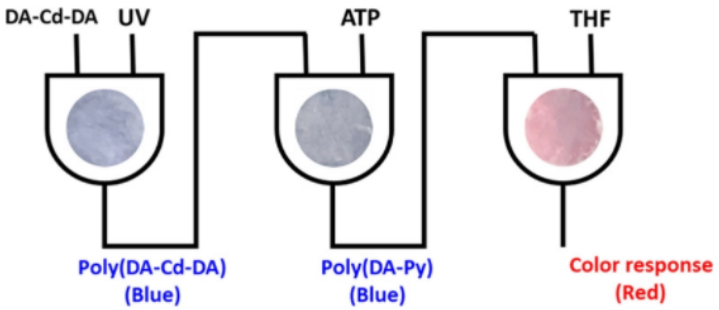


Schematic representation of fluoride anion sensing with Silyl-KIz in live cell

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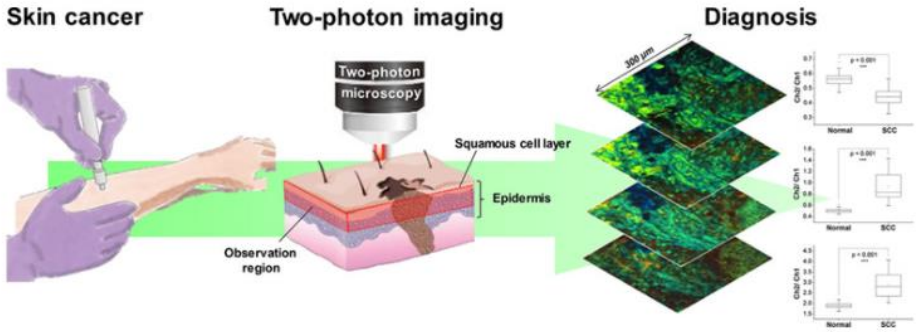
Analyzing Nonmelanoma Skin Cancer Using Enzyme-Activatable Two-Photon Probes

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

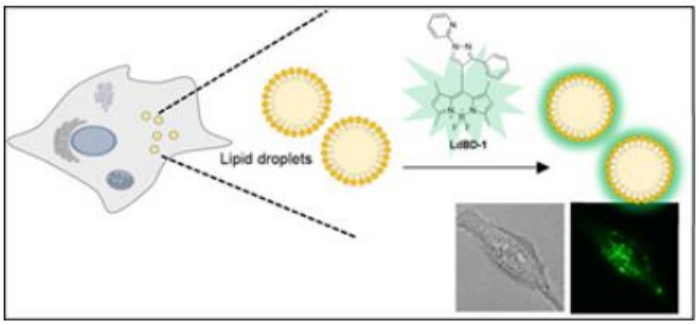
Pages: 107-110 | First Published: 03 December 2020

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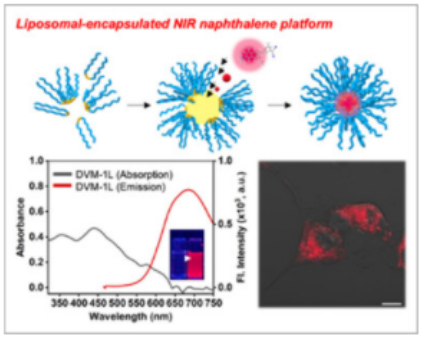
Liposomal-Encapsulated Near-Infrared Fluorophore Based on π-Extended Dipolar Naphthalene Platform and Its Imaging Applications in Human Cancer Cells

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

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

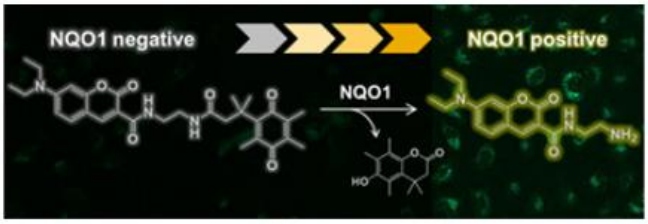


A new near-infrared emitting liposomal nano-formulation was developed, which has a dipolar dye in the core and demonstrated for human cancer cells' fluorescence imaging.

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

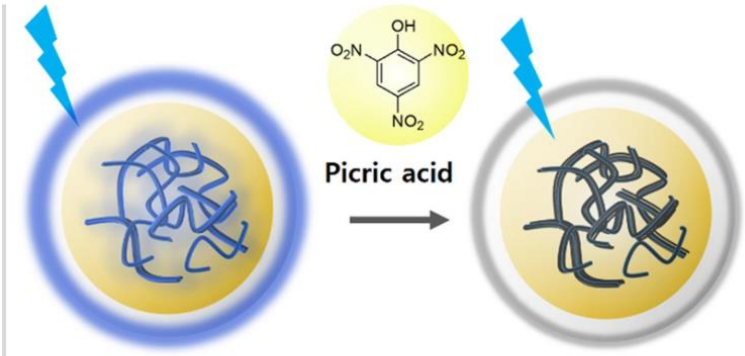


The developed trimethyl lock quinone-functionalized coumarin is biocompatible, easily penetrates living cells, and shows a fluorescence turn-on in response to NQO1 activity in the cell environments

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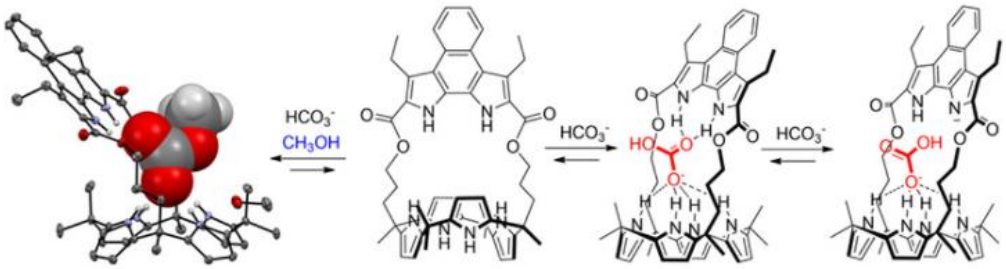
Bicarbonate Recognition Features of a Naphthobipyrrole-strapped Calix[4]pyrrole

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

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

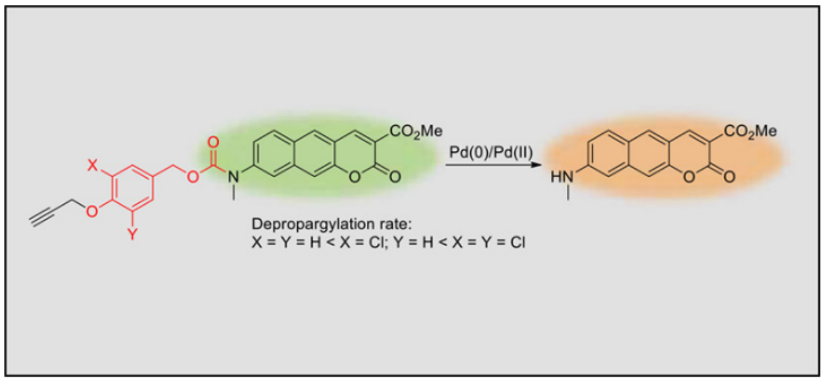


The naphthobipyrrole-strapped calix[4]pyrrole binds the bicarbonate anion with high affinity via two sequent interaction modes.

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

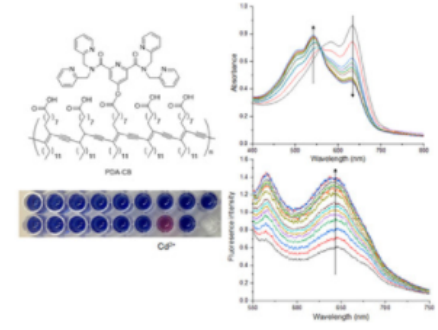


The fluorescence detection of Pd(0)/Pd(II) through depropargylation reaction proceeds faster as the self-immolative moiety became more electron-deficient, as evaluated with three benzocoumarin-based aryl propargyl ether-type, ratiometric signaling probes.

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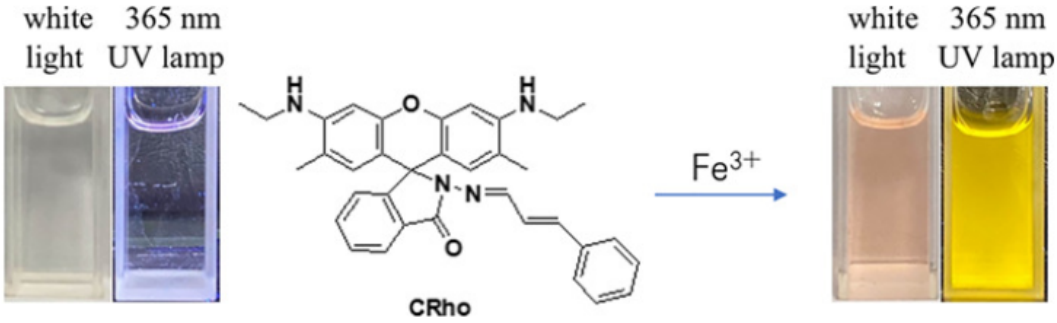
A Selective Fluorescent Probe for Ferric Ion Based on Rhodamine 6G

Yuting Wang, Yen Leng Pak, Qingling Xu

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

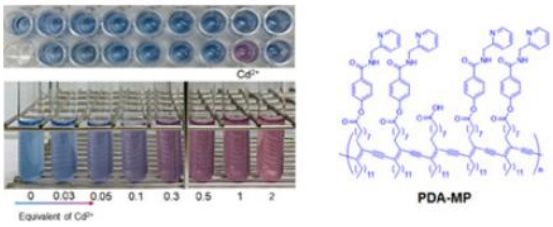


Development of a highly selective and sensitive fluorescent turn-on probe **CRho** for ferric ion detection in water/acetonitrile based on rhodamine 6G and Schiff base.

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

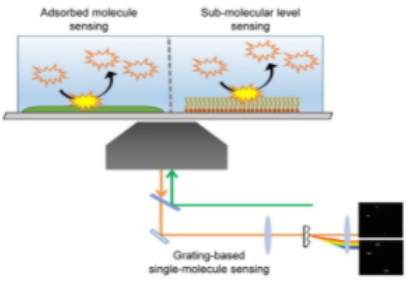


Polydiacetylenes containing Schiff base chemosensor for dual-channel detection of cadmium ions
This article describes the preparation and analysis of Cd^{2+}-sensing polydiacetylene-based chemosensors (PDA-MP).

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

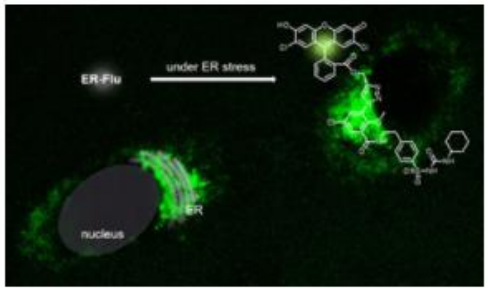
동학 불코(Bull. Korean Chem. Soc.) 캠페인

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



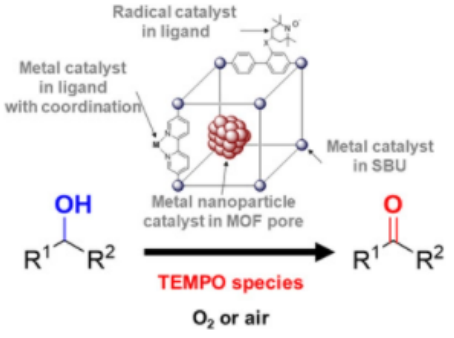
ER-targeting fluorogenic ROS chemosensor (ER-Flu) was synthesized based on modular approach. ER-Flu's cellular localization at the ER was confirmed by confocal colocalization experiments. ER-Flu generated strong fluorescence under ER stress. ER-Flu can be applied to monitor ER redox environment in live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

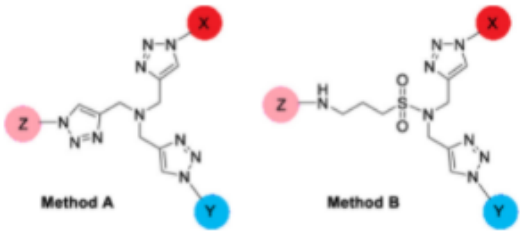
동학 불코(Bull. Korean Chem. Soc.) 캠페인

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

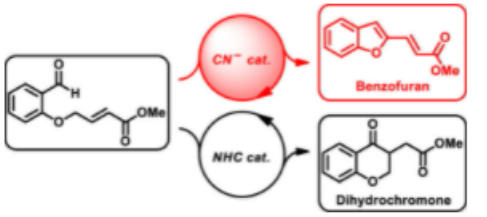


Method A uses three copper(I) catalyzed azide/alkyne 1,3-dipolar cycloadditions in series. Method B uses two copper(I) catalyzed azide/alkyne 1,3-dipolar cycloadditions and one conjugation reaction of amine and isothiocyanate.

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

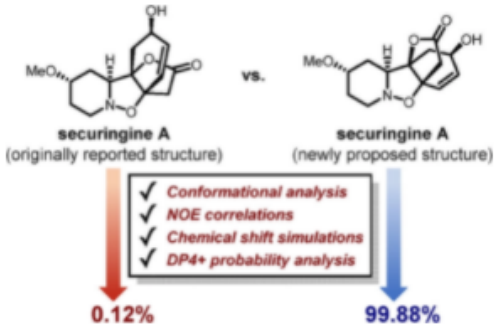


A different reactivity between cyanide and NHC with 4-(2-formylphenoxy) but-2-enoate derivatives is described.

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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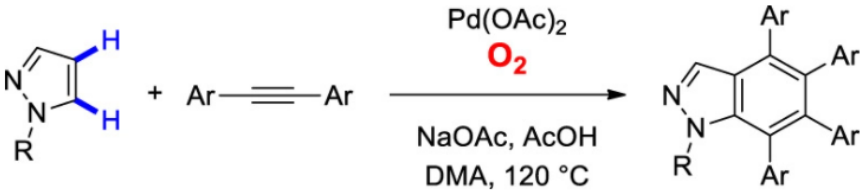
BKCS Special Issue on "Chemical Synthesis & Reaction Development"

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

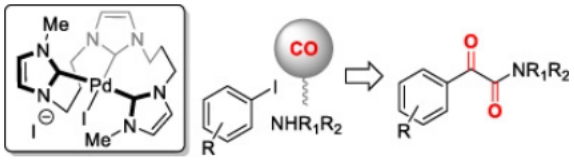


As an alternative to a stoichiometric metal oxidant, oxygen was used as an oxidant for Pd-catalyzed annulation reactions of pyrazoles with internal alkynes. The addition of sodium acetate and acetic acid was critical for stabilizing the Pd system. This green approach allowed the preparation of indazoles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

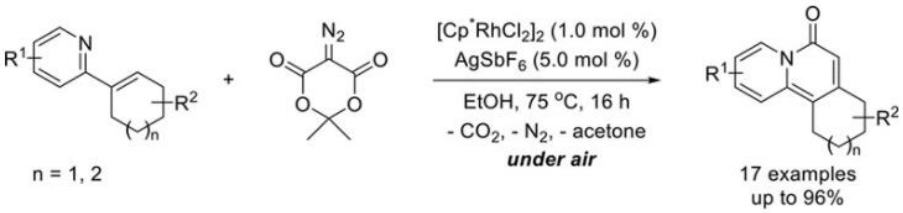


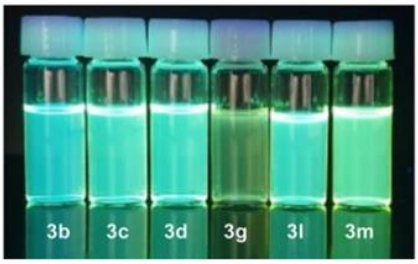
The Pd(triNHC) complex was synthesized and used for the carbonylative coupling of amine and aryl iodide. The electron-rich nature of palladium catalysts promoted the formation of α-ketoamides with good yields and selectivity.

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.

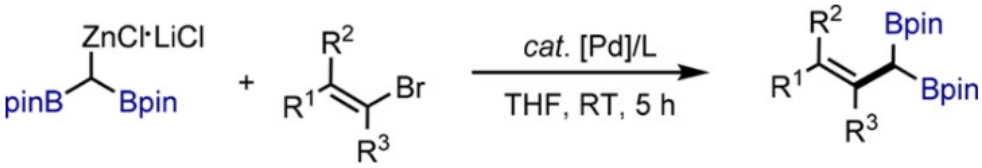
동학 불코(Bull. Korean Chem. Soc.) 캠페인

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

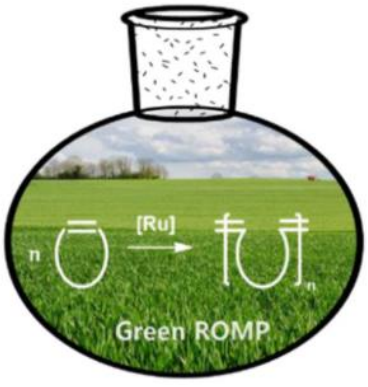


We have developed Pd-catalyzed Negishi cross-coupling of diborylmethylzinc chloride with vinyl bromides. The reaction shows a broad scope and an array of α-boryl-substituted allylic boronate esters are obtained in high efficiency.

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

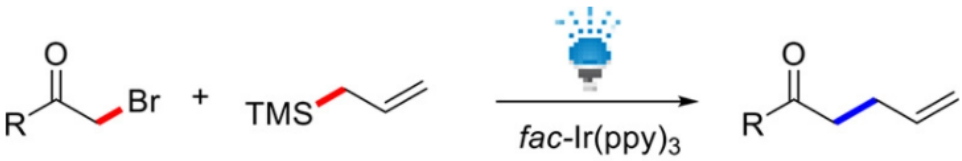


The use of green solvents in a Ru-ROMP is evaluated. Representative cyclic monomers were rapidly polymerized in environmentally safe and process friendly solvents. Among the selected green solvents, ROMP in dimethyl carbonate exhibited good reactivity and chain length control.

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.

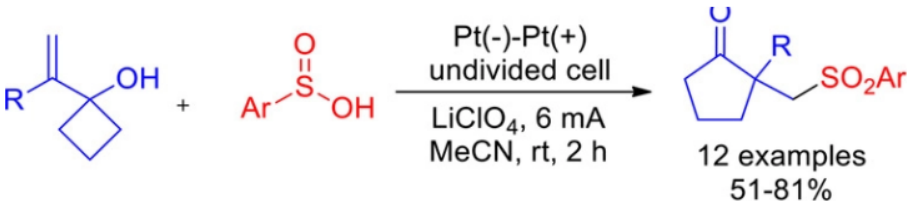
동학 불코(Bull. Korean Chem. Soc.) 캠페인

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

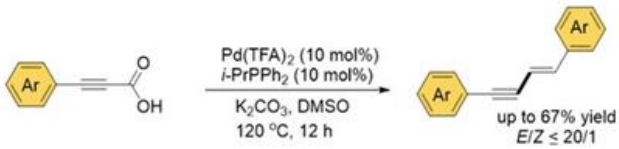


Electrochemical oxidative sulfonylation and 1,2-alkyl shift sequences of alkenyl cyclobutanols were developed that provide β-sulfonated cyclopentanones in moderate to good yields. This electrochemical system was demonstrated to be versatile and environmentally friendly and avoid the use of stoichiometric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

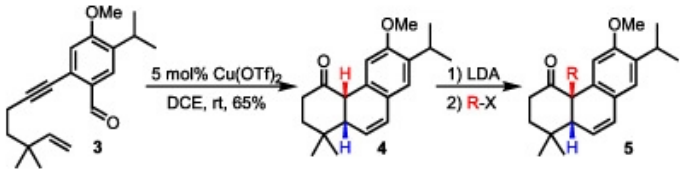


Aryl propiolic acids were transformed into 1,3-enynes via decarboxylative homodimerization.

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.

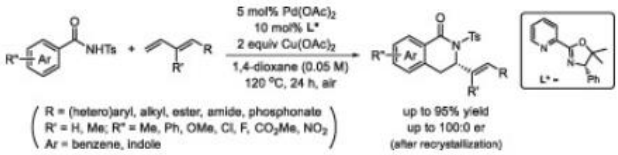
동학 불코(Bull. Korean Chem. Soc.) 캠페인

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

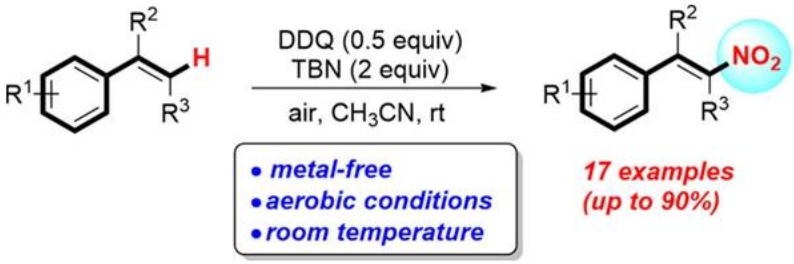


A Pd(II)-catalyzed asymmetric oxidative annulation of *N*-Ts-benzamides with 1,3-dienes using a chiral pyridine-oxazoline-type ligand for the regio- and stereoselective synthesis of chiral 3,4-dihydroisoquinolinones has been developed.

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

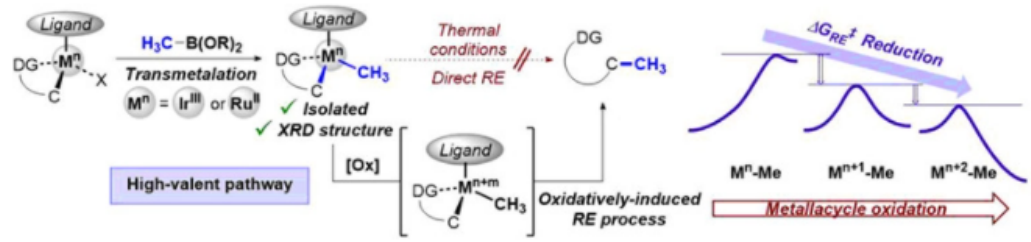


In this study, we have developed a facile synthesis of (*E*)-β-nitrostyrenes by using *tert*-butyl nitrite as a source of nitro group and DDQ as a key oxidant under aerobic condition. This process highlighted that a wide range of β-nitrostyrenes could be synthesized under mild metal-free reaction conditions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

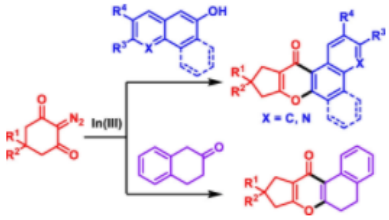
동학 불코(Bull. Korean Chem. Soc.) 캠페인

BKCS Special Issue on "Chemical Synthesis & Reaction Development"

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

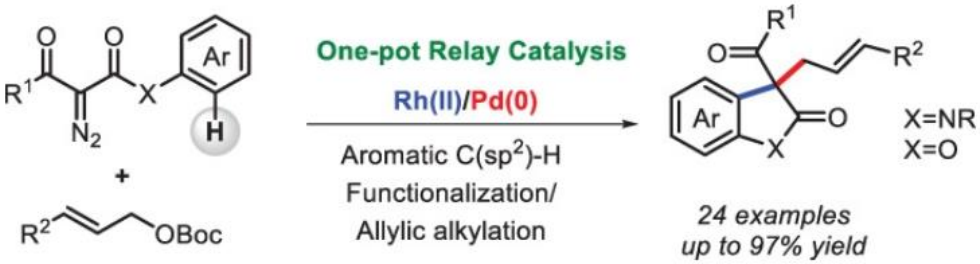


A facile synthetic pathway for the construction of diverse and functionalized benzochromones via In(III)-catalyzed *O*-annulation of cyclic diazodicarbonyls with 2-naphthols, 6-quinolinol, β-tetralone, and 9-phenanthrol is developed.

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

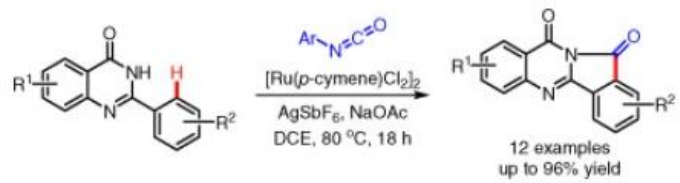


We have developed an efficient dual Rh(II)/Pd(0) relay catalysis for one-pot synthesis of α-quaternary allylated heterocyclic compounds. This reaction involves Rh(II)-catalyzed intramolecular aromatic C(sp^2)-H functionalization of α-diazo carbonyl compounds, followed by Pd(0)-catalyzed allylic alkylation 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.

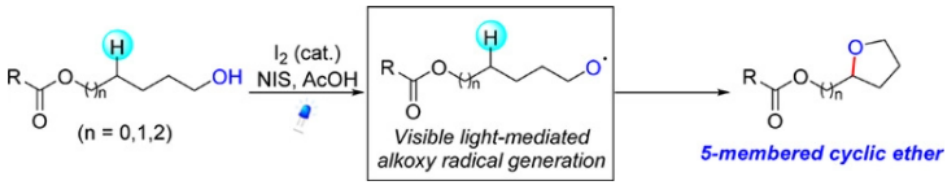
동학 불코(Bull. Korean Chem. Soc.) 캠페인

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

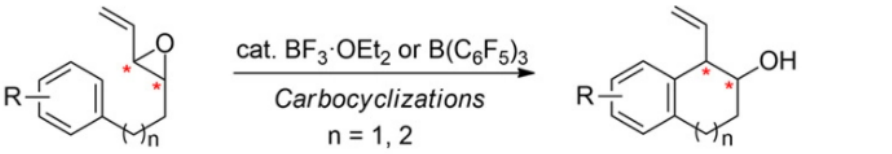


A visible-light-induced intramolecular C—O bond formation has been achieved by an alkoxy radical generated from an *in situ* formed O—I bond in the absence of an external photocatalyst. This practical synthetic method provides straightforward access to valuable five-membered cyclic ether scaffolds in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



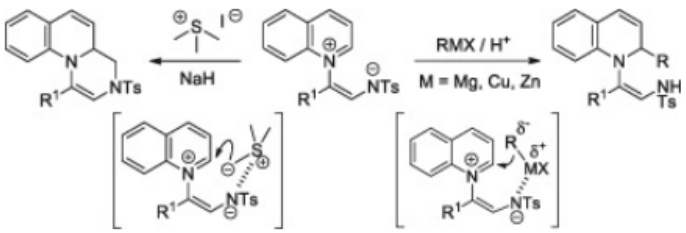
cis- or *trans* vinyl epoxides — *cis*- or *trans* homoallyl alcohols

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.

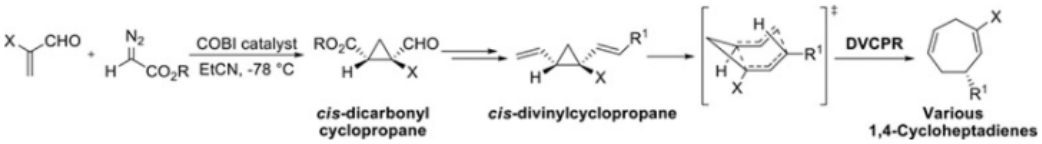
동학 불코(Bull. Korean Chem. Soc.) 캠페인

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

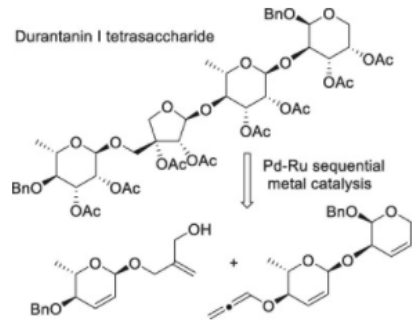


Chiral oxazaborolidinium ion-catalyzed enantioselective cyclopropanation was developed for the synthesis of optically active *cis*-dicarbonyl cyclopropanes. The chiral *cis*-cyclopropane was successfully applied to a convenient synthetic route to chiral 1,4-cycloheptadiene derivatives including (−)-dictyopterene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

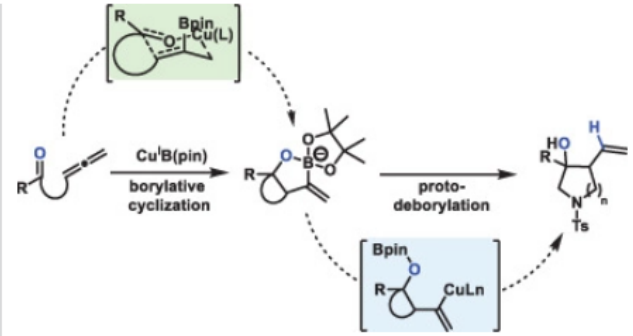


By using a sequential asymmetric metal catalysis, tetrasaccharide unit of durantanin I was synthesized. Notably, the convergent strategy rapidly assembles alkoxyallene and alcohol fragments to construct the apiofuranose ring. In addition, the flexibility of the synthesis is addressed by the preparation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

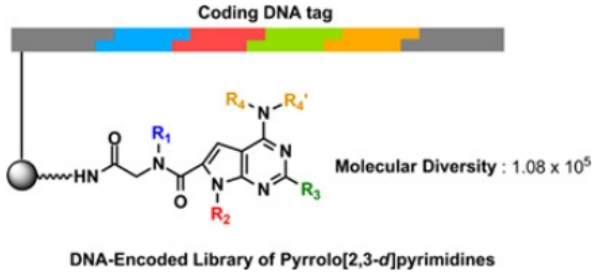
동학 불코(Bull. Korean Chem. Soc.) 캠페인

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

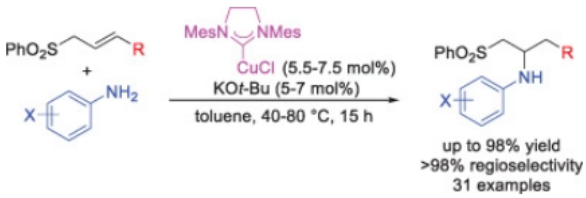


Solid-phase synthetic method for a DNA-encoded combinatorial library of tetra-substituted pyrrolo[2,3-*d*]pyrimidines (molecular diversity: 1.08×10^5) is described. This synthetic strategy was highly efficient and compatible with DNA, producing the desired pyrrolopyrimidines in excellent yields (70–92%) 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

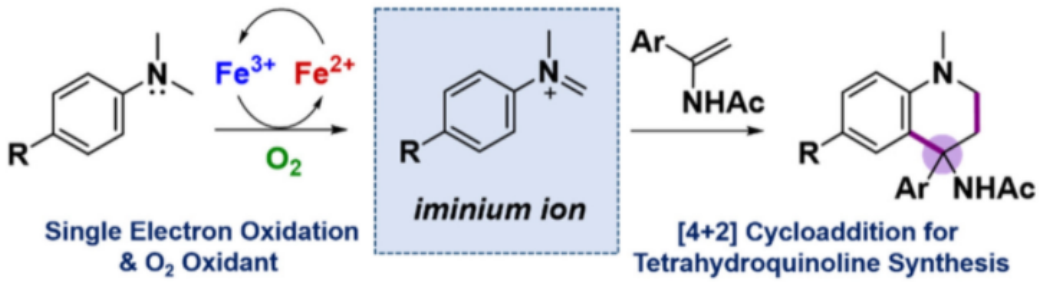


Copper-catalyzed hydroaminations of *β, γ*-unsaturated sulfones with aromatic amines promoted by an *N*-heterocyclic carbene ligand is described. A broad range of β-substituted β-amino sulfones was synthesized in good-to-excellent yields with complete regioselectivity.

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.

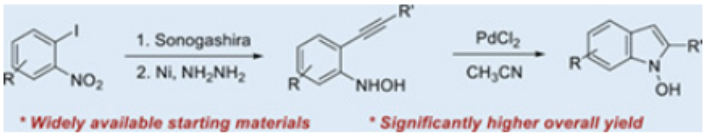
동학 불코(Bull. Korean Chem. Soc.) 캠페인

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

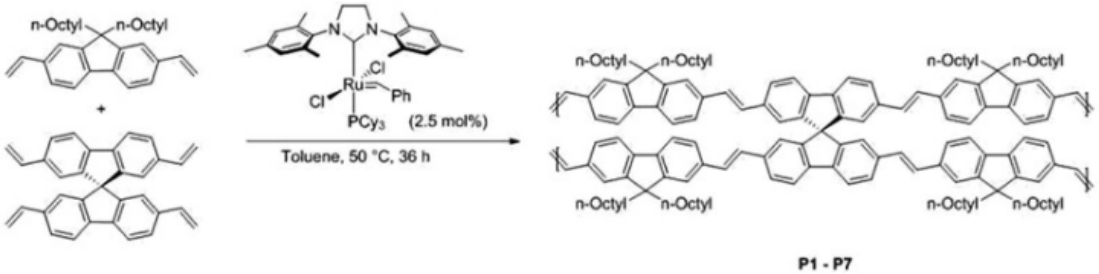


A synthetic protocol for the synthesis of C2-substituted *N*-hydroxyindoles has been developed which consists of Sonogashira coupling, partial reduction of the nitro group, and Larock cyclization. This protocol features superior generality and efficiency over conventional alternatives.

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.

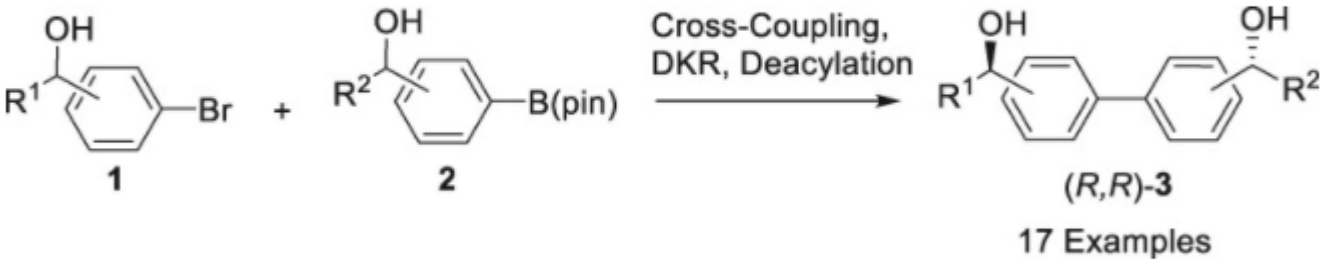
동학 불코(Bull. Korean Chem. Soc.) 캠페인

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

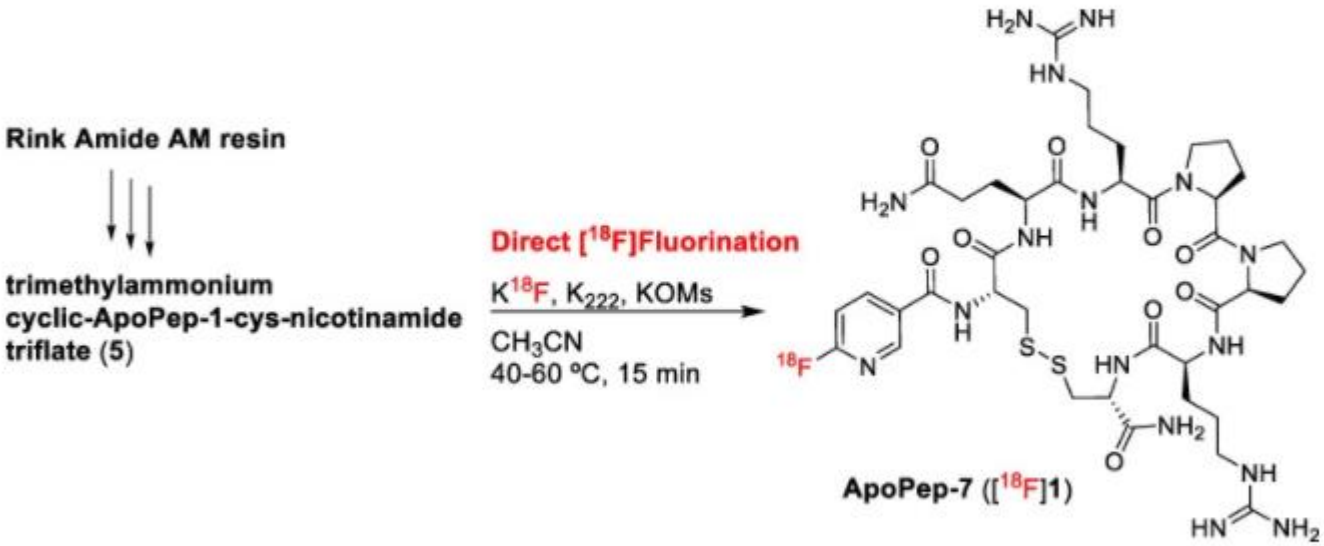


We have developed a protocol for the asymmetric synthesis of biaryl diol stereoisomers. Our synthetic procedure employs lipase/ruthenium-catalyzed DKR as the key step and provides (*R,R*)-stereoisomers.

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.

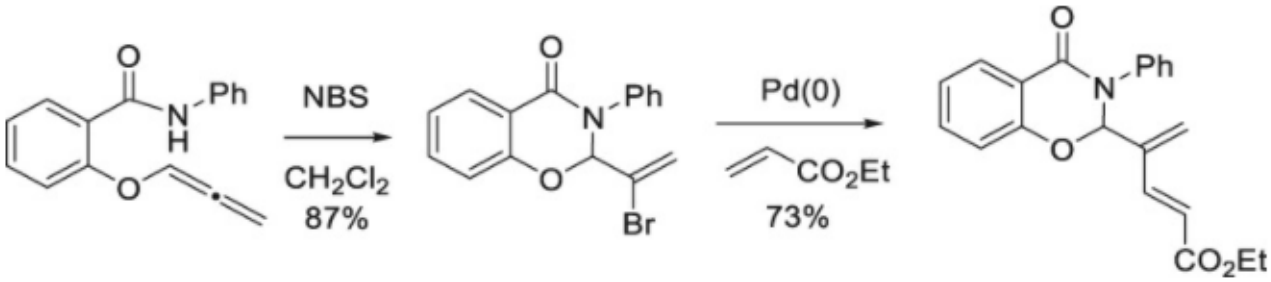
동학 불코(Bull. Korean Chem. Soc.) 캠페인

BKCS 7월, 8월호 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

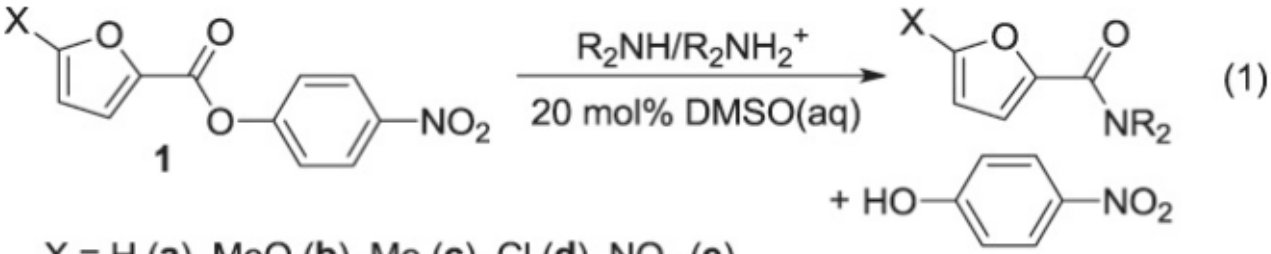


Bromoamination of the benzoallene ether with *N*-bromosuccinimide in methylene chloride provided the benzoxazinone vinylbromide in 87% yield. The subsequent palladium-catalyzed Heck reaction with ethyl acrylate yielded the conjugated diene substituent in 73%. The Suzuki coupling reaction of the benzoxazinone 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

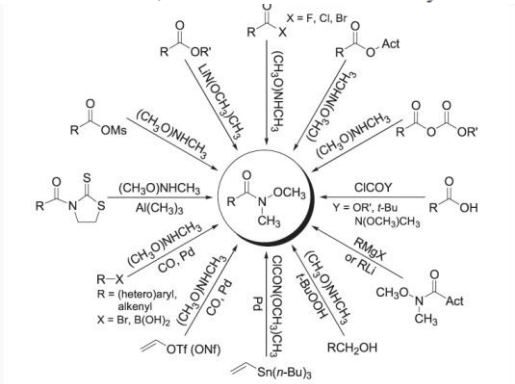
동학 불코(Bull. Korean Chem. Soc.) 캠페인

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

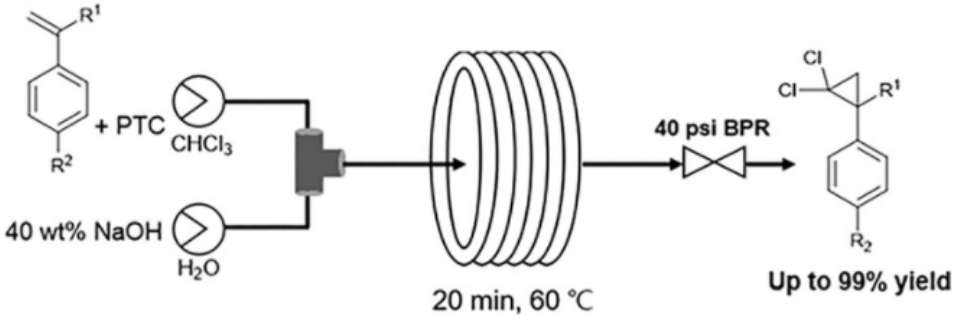


Various methods for the preparation of *N*-methoxy-*N*-methylamides

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

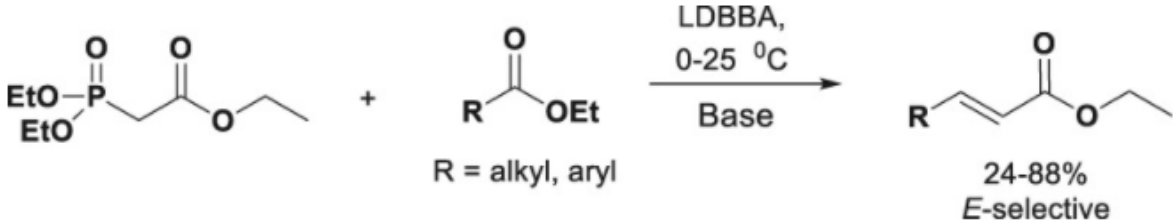


We established that the continuous flow dichlorocyclopropanation can be performed only with T-junctions and microtubes. When quaternary ammonium salts were used as phase transfer catalysts, precipitation and clogging in microchannels did not occur, and an excellent yield of up to 99% was obtained in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

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 9월 30일까지 이메일 (sunwoo@chonnam.ac.kr) 로 보내주시면 정답자 5명을 추첨하거나 선착순으로 선별하여 커피쿠폰을 발송해 드리겠습니다. 참고로 7월호 당첨자 9명에게는 스타벅스 커피 2잔 쿠폰 발송하였습니다.

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

퀴즈 1) 제128회 대한화학회 학술대회가 부산에서 개최됩니다. 10월14일 목요일 오전 10명의 젊은 과학자 구두 발표와 오후 장세희 학술상 (성균관대 김인수 교수) 수상 강연을 시작으로 세션 1이 목요일에 세션 2와 세션 3이 금요일 오전 오후까지 진행될 예정입니다. 수상강연자를 포함하여 세션 1, 2, 3 강연자는 모두 몇 명입니까?

1) 6명 2) 8명 3) 10명 4) 12명 5) 14 명

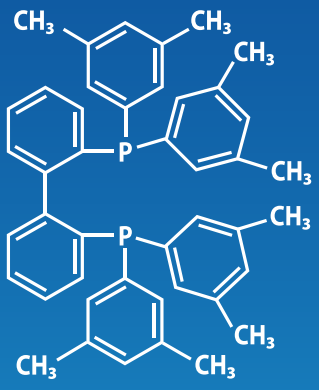
퀴즈 2) 9월 유기화학분과 소식지에 국내 연구 동향에서 연구실이 소개되고 있습니다. 아래 예시 중에서 해당 연구 기관이 아닌 곳은?

1) 경상대 2) 경북대 3) 서울대 4) 낙성대

퀴즈 3) 강원대 화학과 주최로 "헤테로고리화합물의 화학 심포지움"을 매년 2회 (봄/가을) 진행하고 있습니다. 올해 심포지움은 몇 회입니까?

1) 40회 2) 41회 3) 42회 4) 43회 5) 45회

Phosphine Ligand for Highly Regioselective C-H Borylation

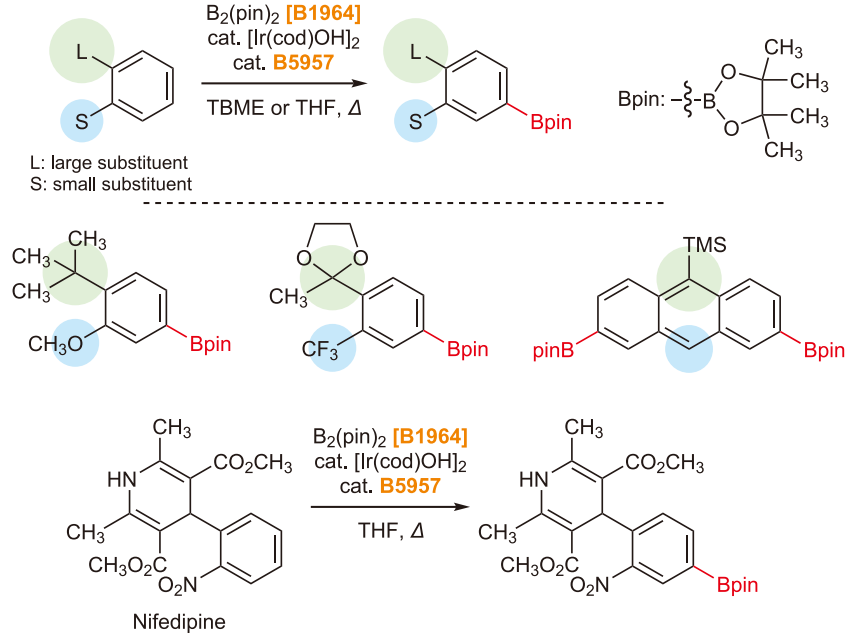


[B5957]

Advantages

- Forms an iridium complex to catalyze C-H borylation
- The C-H borylation proceeds in high yields and high regioselectivities.
- High tolerance of a variety of functional groups and applicable to the borylation at late stages

Applications



Reference Y. Saito, K. Yamanoue, Y. Segawa, K. Itami, *Chem* **2020**, *6*, 985. DOI: https://doi.org/10.1016/j.chempr.2020.02.004

2,2′-Bis[bis(3,5-dimethylphenyl)phosphino]-1,1′-biphenyl

100mg / 500mg [B5957]

Related Products

Bis(pinacolato)diboron (= $B_2(pin)_2$) 1g / 5g / 25g / 100g [B1964]