*学科带头人现状与需求*

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| **现有人员** | **目前学科方向** |
| 陆熙炎院士 | 过渡金属有机化学 |
| 戴立信院士 | 不对称催化 |
| 麻生明院士 | 过渡金属有机化学 |
| 丁奎岭院士 | 不对称催化 |
| 侯雪龙研究员 | 不对称催化 |
| 施敏研究员 | 过渡金属有机化学 |
| 唐勇研究员 | 主族金属有机化学，高分子化学 |
| 刘元红研究员 | 钛、锆金属有机化学，过渡金属催化 |
| 陈耀峰研究员 | 稀土金属有机化学 |
| 游书力研究员 | 过渡金属有机化学，不对称催化 |
| 刘国生研究员 | 过渡金属有机化学 |
| 邓亮研究员 | 廉价金属有机化学 |
| 李玉学研究员 | 计算金属有机化学 |
| 黄正研究员 | 金属有机化学和催化 |
| 张国柱研究员 | 过渡金属催化 |
| 梅天胜研究员 | 过渡金属催化的小分子活化 |
| 余金权研究员 | 碳氢键活化反应 |

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| **发展学科方向** | **需求计划人数** |
| 金属催化的小分子活化 | 1 |
| 金属络合物及反应化学 | 1 |
| 后过渡金属有机化学 | 1 |
| 前过渡金属有机化学 | 1 |
| 主族元素金属有机化学 | 1 |
| 金属有机计算化学 | 1 |

**一、科研工作与成果**

按照国家科技部最新要求和规定，2015年自主研究课题共计资助599.7万元，包括自由探索课题16项，资助200万，团队重点课题5项，资助249.7万元，人才引进项目3项，资助60万；2015年实验室面向所外单位设立的开放基金项目有29项，资助总额149.69万元。

2015年实验室共发表305篇论文（含客座人员发表论文）。以实验室为第一作者单位的论文104篇（包括*J. Am. Chem. Soc.* 13篇，*Angew. Chem. Int. Ed.* 14篇，*Chem. Sci.* 4篇，*ACS Catalysis* 2篇，*Chem. Commun.* 8篇，*Org. Chem.Front.* 10篇，*Org. Lett.* 14篇，*Chem. Eur. J.* 8篇，*Adv. Synth. Catal.* 3篇，*Organometallics* 8篇），І区论文占总论文数的29.8%，编著英文专著1部，撰写专著章节2章，申请专利25项，授权发明专利12项。

2015年实验室在研各级各类科研任务94项，研究任务总经费达12428.6万元（合同签订额），已拨付到位2975.4491万元。具体情况如下：

主持的国家和省部委的重大重点项目有：基金委创新群体项目1项、重大研究计划重点支持项目1项、重点项目3项、杰出青年基金项目3项、优秀青年基金项目2项、国际合作项目4项；中科院重点部署项目1项、科技创新交叉与合作团队项目1项；上海市基础研究项目1项。作为课题负责人承担的有：科技部973课题4项、国家科技重大专项课题1项、科技支撑计划项目课题1项、中科院院重点部署项目课题1项。作为骨干成员参加的有：科技部973课题2项、基金委重点项目3项。另外还承担了基金委、中科院、上海市及其他省部委项目53项；横向项目12项。

实验室今年在金属有机配合物的合成、结构及反应化学，过渡金属参与的新反应，不对称催化等方面取得了一些突出的成果：

(1) 金属有机配合物合成、结构及反应化学：通过钪甲基膦基配合物和钪双甲基配合物的反应合成了一个新颖的稀土钪亚甲基膦宾配合物，该配合物可以快速地和不饱和底物，如CO2、CS2、苯基氰以及叔丁基异腈等发生亲核加成反应，有趣的是反应高选择性地发生在Sc-C键，展示了配合物中亚甲基的反应性要明显高于膦宾基团，相关结果发表在*Organometallics* **2015**, *34*, 470，并被选为ACS Editors' Choice；利用大位阻氮杂环卡宾配位的钴(0)配合物[(IPr)Co(vtms)2]和大位阻的有机叠氮DmpN3反应，成功实现了首例含钴-主族元素多重键的两配位配合物，通过理论计算表明该配合物符合Co-N多重键性质，并进而研究了该配合物与一氧化碳、乙烯、对甲基苯乙炔、二苯基硅烷等的反应，展现了低配位后过渡金属亚胺基物种的高反应活性，相关研究成果发表在*Angew. Chem. Int. Ed.* **2015**, *54*, 12640；以大位阻氮杂环卡宾稳定的零价铁配合物作为反应前体，成功合成了系列三配位四价铁亚胺基化合物，并以[(IMes)Fe(NDipp)2]为代表，系统地研究了这类配合物的反应性质，该配合物在加热下转化为罕见的分子内烷基链脱氢产物，与PhSiH3的反应生成二价铁胺基配合物，与亲核试剂PhNCNPh可以发生[2+2]环加成反应，生成形式上的四价铁单亚胺基配合物，相关研究成果发表在*J. Am. Chem. Soc.* **2015**, *137*, 14196。

(2) 过渡金属参与的新反应：在前期工作的基础上，研究了烯基氮杂环丙烷与缺电子烯烃的反应，利用已发展的SIOCPhox配体，实现了钯催化下氮杂环丙烷与α,β-不饱和酮的不对称Michael加成－分子内烯丙基烷基化反应，以良好到优秀的产率及非对映选择性和对映选择性得到了2，3－二取代四氢吡咯，这是第一例使用单一活化基团的缺电子烯烃与烯基氮杂环丙烷的催化不对称Michael加成-分子内烯丙基化反应，进而研究了产物的转化，显示了这一方法在有机合成中的价值，相关研究结果发表在*Angew. Chem. Int. Ed.* **2015**, *54,* 1604；利用联吡啶膦[PNN]钴催化剂，对芳香基乙烯类单体的硼化反应进行了研究，将芳基乙烯与联硼酸频哪醇酯反应得到1,1,1-三硼烷基化合物，并进行了机理研究，该类反应弥补了合成此类化合物的常规方法，机理研究表明此类反应涉及一价钴硼物种，并通过两步脱氢硼化和一步硼氢化反应得到产物，1,1,1-三硼烷基化合物可以方便的制备非末端的二硼烷基化合物，工作发表在*J. Am. Chem. Soc.* **2015**, *137*，15600；利用自由基与金属中心结合的模式，发展了苯乙烯的高区域选择性的氟硫化反应，针对苯乙烯类内烯烃，反应能兼具高区域和立体选择性（*J. Am. Chem. Soc.* **2015**, *137*, 2468）；以AgOCF3为OCF3来源，Selectfluor为氧化剂，实现了首例钯催化非活性烯烃的氧三氟甲基化反应，并对C-OCF3键的形成进行了研究，认为是通过Pd(IV)中心的还原消除形成的（*J. Am. Chem. Soc*. **2015**, *137*, 15648）；金催化的反应是目前有机合成中的研究热点，尤其是多种新型的串联环化反应和氧化条件下的新型重排反应，设计合成了多种2-炔基-1,2-二氢吡啶衍生物并发现其在金催化剂和吡啶氮氧化物作用下，可以发生叁键的高区域选择性氧化和1,2-烯基迁移反应，并以良好至优秀的收率得到了一系列苯并氮杂卓类衍生物，该反应具有条件温和、官能团兼容性强等优点，该工作发表在*Angew. Chem. Int. Ed.* **2015**, *54*, 1200。

(3) 不对称催化：在SKP/Pd(II)/Cu(II)催化下，末端联烯与芳胺、CO和甲醇顺利地发生四组份一锅法反应，以良好的收率和优秀的区域/对映选择性获得一系列手性α-亚甲基取代的β-氨基酸酯衍生物。该反应同时实现了对多组分不对称催化反应的化学、区域、和对映选择性的多层次控制，这在(联烯)多组分不对称催化反应研究中具有很大的挑战性且十分罕见，该工作作为封面文章发表在*J. Am. Chem. Soc.* **2015**, *137,* 15346，被JACS 2015第49期的Spotlights栏目以“TRIPLE ALLENE ADDITION IN ONE SHOT”为题做特色介绍，并获SynFacts好评(H. Yamamoto, A. Banjergee, *SynFacts* **2015**, *11*, 1280)；以边臂修饰的手性噁唑啉为配体，实现了共轭双烯体与推拉电子环丙烷的不对称[4+3]环加成反应，取得了最高98%的分离产率，和最高85:15的dr值，为多官能团化的七元环化合物的合成提供了一种新的途径，并对机理进行了研究，工作发表在*J. Am. Chem. Soc.* **2015**, *137*, 8006；采用高氯酸铜水合物既作为Lewis酸催化剂也作为体系中水的存储器，利用其缓释作用调节催化体系中水的浓度，首次实现了水对环丙烷的高活性对映选择性开环，为高效合成一系列具有光学活性的γ-羟基酸衍生物提供了新的方法，研究结果发表在*J. Am. Chem. Soc.***2015**, *137*, 14594；在催化不对称去芳构化反应研究方面，实现了铑催化不对称C-H键活化/环化萘酚去芳构化反应，成功制备一系列含有全碳季碳手性中心的2-萘酮类化合物，工作发表在*J. Am. Chem. Soc.* **2015**, *137*, 4880；实现了金属铱催化的对吡啶，吡嗪，喹啉以及异喹啉等贫电子芳环的烯丙基去芳构化反应，能够以高达99%的收率以及99% ee的对映选择性得到相应去芳构化的产物，并对反应的机理进行了探究，进而完成了对天然产物Gephyrotoxin的形式不对称合成，相关结果发表在*J. Am. Chem. Soc.* **2015**, *137*, 15899；通过合作研究报道了首例铜催化的炔丙基去芳构化反应，使用简单易得的色醇或色胺等吲哚衍生物与炔丙基醋酸酯，在廉价的铜源和Pybox手性配体的催化下，实现了吲哚分子间的不对称炔丙基去芳构化反应，工作发表在*Angew. Chem. Int. Ed.***2015**, *54*, 7684。

**二、队伍建设与人才培养**

实验室目前有16个课题组，学术骨干队伍以中国科学院院士、杰出青年基金获得者、青年千人和中科院百人计划入选者为主体。实验室现有在职固定人员73人，其中副高级以上研究人员46人，院士5名（含1名特聘研究员），国家杰出青年基金获得者9名（含1名特聘研究员），国家优秀青年基金获得者2名，中科院“百人计划”入选者7名，“青年千人计划”入选者3名，“万人计划”入选者1名，多名研究员被聘为国内外学术组织的成员和著名学术期刊的主编、副主编和编委，拥有了一支学术思想活跃、勇于创新、学风严谨、结构合理的高水平研究队伍。

2015年实验室固定人员中唐勇研究员入选2015年度 “中国科学院院士”，获“第十四届上海市科技精英”；丁奎岭研究员获 “the First Yoshida Prize”、“十佳全国优秀科技工作者提名奖”、“全国优秀科技工作者”；游书力研究员获“RSC Merck Award”、"上海市领军人才"、“WuXi PharmaTech Life Science and Chemistry Award”；梅天胜研究员入选2015年度“青年千人计划”；戴辉雄副研究员获2015年度中国科学院“卢嘉锡青年人才奖”。

2015年实验室在读硕士研究生52名，博士研究生67名，在站博士后3名；毕业硕士4名，博士22名，出站博士后1名。

2015年卓春祥、王晓明的博士论文获2015年度中国科学院优秀博士学位论文，王守国、张雷获中科院院长奖学金优秀奖，王盼获中科院朱李月华奖，高得伟等4人获国家奖学金，王守国、王盼获上海市高校优秀毕业生称号，陈铭获国科大优秀毕业生称号，林渭龙获国科大三好学生标兵，梁兆利获国科大优秀学生干部称号，汤鑫军等19人获国科大三好学生称号。

**三、对外开放与学术交流**

2015年的开放项目有29项，资助总额149.69万元，均按照预定的研究目标顺利执行，由开放基金资助完成的代表性优秀成果如下：

(1) 从简单的炔烃和烯烃原料出发，通过串联的[2+2+1]反应一步连续构建了四根化学键，合成了结构复杂且具有生物活性的4,5-二氢异噁唑类分子，并成功地拓展至相应的螺环类生物活性分子的简捷合成中。该研究首次利用廉价的三水合硝酸铜作为氧化腈类化合物的新颖前体，实现了对简单炔烃的活化及化学转化，以良好的区域选择性和立体选择性完成了对目标分子的快速简捷合成。该反应具有广泛的底物适用范围和良好的官能团兼容性，同时，通过对反应机理的研究，该合成策略将有助于其他活性分子骨架的高效合成。相关工作发表在*Angew. Chem. Int. Ed.* **2015**, *54*, 8795。该研究被ACIE的主编推荐为该期刊的封面文章重点介绍，文章发表后已被教育部科技发展中心、中国科学报、科学网和X-mol等十多家媒体网站作为科研亮点重点介绍。

(2) 研究发现，联烯胺在金的催化下和共轭烯炔酮反应得到多取代的呋喃并五元环产物。这是第一例在金化学反应中，联烯胺的内烯参与反应，而不同于之前报道的联烯胺的端烯参与反应的例子。这一例子也说明了共轭烯炔酮在金催化下环化得到的呋喃金物种的活性远远大于联烯基金物种。这一发现也极大的丰富了大家对联烯胺的认知，对联烯胺在今后参与的反应中的应用有着非常好的设计思想和指导意义。值得注意的是，还通过一对非对映异构体BINOL配体的调控，能得到一对对映异构体产物，这在金催化的反应中也是不多见的。而且这个反应条件温和，同时具有很好的官能团兼容性，产物具有很高的收率和对映选择性。该结果发表在*Angew. Chem. Int. Ed.***2015**, *54*, 14849。

(3) 过渡金属催化的偶联反应为碳氢键的活化提供了有效的手段，尤其是富电子芳环的碳氢键的活化有了比较充分的研究报道，相对而言，缺电子芳环比如多氟芳烃类化合物的偶联反应研究相对局限，尤其是多氟芳烃的简单烷基化反应一直没有得到很好的解决。通过近年来深入研究过渡金属催化的涉及金属卡宾转移插入过程的偶联反应，由易得的对甲苯磺酰腙或者重氮类化合物为金属卡宾前体，发展了多种碳碳键形成反应。基于此，研究了一价铜催化的多氟芳烃与对甲苯磺酰腙或重氮类化合物的偶联反应，该反应原料易得，操作简单，条件比较温和，以较高产率实现多氟芳烃烷基化过程，并且该反应可以成功实现克级制备，相关工作发表在*Angew. Chem. Int. Ed.* **2015**, *54*, 4669。

**学术交流对于提高重点实验室的研究水平具有重要意义。**2015年实验室主办了2次国际会议：第五届上海-香港-明斯特金属有机化学研讨会（The 5th Shanghai-Hong Kong-Münster Joint Trilateral Symposium on Organometallic Chemistry）和国家自然科学基金委-英国皇家化学会国际学术研讨会：有机合成的新兴前沿（NSFC-RSC International Symposium on Emerging Frontiers in Organic Synthesis），实验室学术带人头作为会议共同主席组织了第267期东方科技论坛“碳循环中的分子转化科学与工程”学术研讨会；2015年实验室学术带头人应邀在国内外学术会议上作邀请及大会报告56人次；有来自美国、日本、德国、英国等国以及包括中国台湾在内的25位科学家来室访问交流并作学术报告。

**第五届上海-香港-明斯特金属有机化学研讨会**

2015年3月31日至4月1日，第五届上海-香港-明斯特金属有机化学研讨会（The 5th Shanghai-Hong Kong-Münster Joint Trilateral Symposium on Organometallic Chemistry）在上海有机所君谋楼一楼报告厅成功召开。上海有机所所长丁奎岭院士担任会议主席，金属有机化学国家重点实验室陈耀峰研究员任会议秘书长。来自德国明斯特大学、香港大学、香港中文大学、香港城市大学、香港理工大学、复旦大学、华东师范大学、上海有机所等高校和科研院所的两百多名专家、学者和学生参加了本次研讨会。

　　丁奎岭在开幕式上致辞，表达了对与会专家、学者的热烈欢迎和诚挚感谢。本次会议邀请了来自德国、中国以及中国香港地区的34名专家学者作精彩的学术报告，主要围绕金属有机化学前沿领域进行交流与探讨，突出金属有机化学领域的最新发展和未来态势。整个会议反响热烈，很多听讲的学生和科研人员表示有这样的机会了解学科前沿的相关知识受益匪浅，同时结合自己在科研工作过程中遇到的问题与专家进行了积极沟通和交流。

　　上海-香港-明斯特金属有机化学研讨会是金属有机化学领域的系列研讨会，已在上海、香港和德国明斯特成功举办了四届。该系列会议旨在为来自德国、中国以及中国香港地区的金属有机化学领域的中外学者搭建桥梁，提供交流化学新思想、新成果的机会，促进学术交流，探讨及建立合作。

**国家自然科学基金委-英国皇家化学会国际学术研讨会：有机合成的新兴前沿**

2015年10月8日至10月10日，国家自然科学基金委-英国皇家化学会国际学术研讨会：有机合成的新兴前沿(NSFC-RSC International Symposium on Emerging Frontiers in Organic Synthesis)在上海有机所君谋楼一楼报告厅成功召开。上海有机所金属有机国家重点实验室游书力研究员和北京大学天然药物及仿生药物国家重点实验室焦宁教授担任会议共同主席。来自美国、德国、英国、日本以及中国的515名专家、学者和学生参加了本次研讨会。

　　丁奎岭院士在开幕式上致辞，表达了对与会专家、学者的热烈欢迎和诚挚感谢。会议邀请2位大会报告人，16位邀请报告人，8位口头报告人作精彩的学术报告，并有50多个墙报，主要围绕有机合成的新兴前沿领域(包括新型化学转化、可持续性催化和天然产物全合成)进行交流与探讨，突出有机合成领域的最新发展和未来态势。这次会议受到了国家自然科学基金委、英国皇家化学会、上海有机所、金属有机国家重点实验室、天然药物及仿生药物国家重点实验室以及多个化学公司的资助，对于所有参会人员均免收注册费。整个会议反响热烈，很多听讲的学生和科研人员表示有这样的机会了解学科前沿的相关知识受益匪浅，同时结合自己在科研工作过程中遇到的问题与专家进行了积极沟通和交流。

　　国家自然科学基金委-英国皇家化学会国际学术研讨会：有机合成的新兴前沿是由国家自然科学基金委倡导并发起与英国皇家化学会合作举办的系列国际会议之一。该会旨在为全球有机合成领域的中外学者搭建桥梁，提供交流化学新思想、新成果的机会，促进学术交流，探讨及建立合作，同时为中国的青年有机合成科学家提供了一个展示自己的平台，搭建了一架走向国际舞台的桥梁。

**第267期东方科技论坛学术研讨会“碳循环中的分子转化科学与工程”**

第267期东方科技论坛学术研讨会“碳循环中的分子转化科学与工程”于2015年12月08日在上海沪杏科技图书馆举行。上海有机所丁奎岭院士和华东师范大学何鸣元院士担任会议执行主席。上海有机所戴立信院士、林国强院士等来自国内科研单位、高校的50余位专家应邀参加了此次会议。

　  会议围绕“碳循环中的分子转化科学与工程”展开讨论。碳循环是自然界最为重要的物质转化http://www.sioc.cas.cn/xwzx/zhxw/201512/W020151216391725853908.gif之一，和人类生活密切相关。当今社会面临生态环境污染、化石能源枯竭、战略资源供需矛盾日益尖锐等诸多问题，实现碳循环的合理调控，使其更加可持续发展则为这些问题提供了一个可能的解决途径。金属有机化学在碳循环过程中起到了非常重要的作用，如何实现从二氧化碳到有机化合物更为高效的转化方法；如何实现烃类化合物直接、高效、高选择性转化；如何以生物质为原料生产生物基液体交通燃料和生物质基化学品，对于发展可持续性碳循环具有重要的意义。

　　丁奎岭院士和何鸣元院士在会上分别作了题为“碳循环中的分子转化”以及“绿色碳科学”的主题报告，从不同角度理解碳循环中的分子转化的科学基础，探讨可持续性碳循环技术应用的前景和瓶颈问题。上海有机所麻生明院士、唐勇院士、黄正研究员，中科院化学所韩布兴院士，中科院上海高研院孙予罕研究员，大连理工大学吕小兵教授，北京大学刘海超教授分别结合各自研究领域作了专题报告。与会专家围绕二氧化碳的高效利用、烃类化合物的高选择性转化、生物质的高效转化等议题展开深入的讨论进行了充分讨论。本次论坛为有机合成、催化、物化、化工等领域的专家提供了一个交流平台，促进各领域专家在科研与社会服务方面的合作。

**实验室非常注重与国内外相关研究机构的合作研究**。积极组织和参与国际重大研究计划，2015年主持基金委国际合作项目4项（合作方：以色列Technion 技术研究院、香港中文大学、美国北卡来罗纳教堂山分校、巴西金边大学），通过组织和参与以上重大科学研究计划，实验室作为第一作者单位共发表合作研究论文4篇；实验室内部课题组之间也开展了一些合作研究，合作发表论文3篇。

**此外，实验室也积极与**鲁西化工集团股份有限公司、江苏华昌化工股份有限公司、中国石油化工股份有限公司、浙江九洲药业股份有限公司、汉高（中国）投资有限公司、九江中科鑫星新材料有限公司、巴斯夫新材料有限公司、舒兰市金马化工有限公司、上海华拓医药科技发展股份有限公司以及大赛璐药物手性技术（上海）有限公司等**国内外8家企业进行了密切的合作研究**。2015年在研企业合作项目为12项，总研究经费达970万元（合同签订额），实到经费190.9万元。

**为普及科学知识、弘扬科学精神、传播实验室文化，2015年实验室积极组织开展和参与了丰富多彩的公众开放活动。**

**(1) 大学生夏令营**

在2015年中国科学院上海有机化学研究所暑期大学生夏令营活动中，实验室积极参与，接待了来自全国80多所高校的277名大学生营员。通过介绍实验室历史、发展规划，课题组介绍研究方向及进展，安排参观实验室，展示实验室的研究工作和成果及互动交流环节，让来大学生营员了解实验室以及金属有机学科，激发从事化学研究的兴趣和向往。

**(2) 科技活动周**

按照国务院规定，每年5月的第三周为科技活动周，实验室精心准备，主动参与，积极响应实施“科技活动周”活动，取得了积极有效的成果。在2015年的公众开放日科普活动中，实验室共接待了上海地区中小学的同学及家长共600余人。实验室专门制作了题为《化学的世界》的幻灯片，向参观者展示了绚丽多彩的世界与化学之间的紧密联系；实验室的研究生志愿者们为来访的参观者精心准备了十个非常有趣的化学小实验：浴水重生、酸碱心里美、胶水制弹球、水中花园、生活中的Vitamin C、谁灭了蜡烛、颜色秋千、彩色温度计、隐形墨水、可乐变雪碧，通过寓教于乐的活动方式，吸引了很多参观者的兴趣，得到了参观者的积极参与和响应，传播了化学知识，让参观者在在轻松、有趣的氛围中加深了对化学乃至金属有机化学的认识和理解。

**(3) 科普课程**

2015年实验室还组织科研骨干和研究生到西南位育中学作“魅力有机化学”系列科普拓展课程，收效良好；同时参加了“玻玻璃璃实验室”系列科普课程，让高深的化学知识走出冷冰冰的实验室，在欢乐轻松的氛围中让小朋友们了解化学的有趣一面；还积极参加了“徐汇区第十届学习节”、“大手握小手—中科院博士义乌校园行  ”等科普活动。

**四、实验室学术委员会工作**

金属有机化学国家重点实验室第四届学术委员会第一次会议于2015年11月20-22日在上海有机所召开。中国科学院前沿科学与教育局数理化学处刘耀虎处长应邀参加了此次会议。

在会议上，实验室主任唐勇研究员汇报了重点实验室2015年度工作进展，北京大学深圳研究生院的吴云东教授和中国石油化工集团公司科技开发部的谢在库教授分别作了题为“实验与理论结合研究催化反应机理” 和“由烃加工到烃合成——目标导向与催化前沿”的专家报告，麻生明研究员、王磊教授、张兆国教授、张俊良教授、张国柱研究员分别汇报了各自的课题组工作进展及研究计划，此外，丁奎岭研究员、游书力研究员、陈耀峰研究员以及黄正研究员分别进行了有关The 44th National Organic Chemistry Symposium、The 16th Tetrahedron Conference、The 5th Asian Conference on Coordination Chemistry以及The Gordon Research Conference: Organometallic Chemistry的国际会议介绍。

11月22日上午，与会的领导、专家、学术委员以及老师等进行了热烈的讨论和充分的交流。大家充分肯定了金属有机化学国家重点实验室近年来在保持学科优势和特色方面取得的成绩。同时，大家也对实验室未来的发展进行了深入探讨，就如何拓宽实验室研究领域以及提升国际影响力等方面提出了建设性的建议和意见，希望实验室能在新的高度上做出更有影响力和代表性的原创性研究成果。同时，希望实验室能在继续大力引进优秀人才的同时，综合考虑引进人才的研究方向和发展潜力。

**五、2015年度研究生获奖情况表**

|  |  |  |  |
| --- | --- | --- | --- |
| **序号** | **获奖名称** | **获奖人员** | **指导教师** |
| **1** | 2015年中科院优秀博士学位论文奖 | 卓春祥 | 游书力 |
| **2** | 2015年中科院优秀博士学位论文奖 | 王晓明 | 丁奎岭 |
| **3** | 中科院院长奖学金优秀奖 | 王守国 | 游书力 |
| **4** | 中科院院长奖学金优秀奖 | 张雷 | 黄正 |
| **5** | 中科院朱李月华奖 | 王盼 | 唐勇 |
| **6** | 2015年度国家奖学金 | 高得伟 | 游书力 |
| **7** | 2015年度国家奖学金 | 袁浙梁 | 刘国生 |
| **8** | 2015年度国家奖学金 | 汪辰 | 陈耀峰 |
| **9** | 2015年度国家奖学金 | 姜兴国 | 麻生明 |
| **10** | 上海市高校优秀毕业生 | 王守国 | 游书力 |
| **11** | 上海市高校优秀毕业生 | 王盼 | 唐勇 |
| **12** | 国科大优秀毕业生 | 陈铭 | 刘元红 |
| **13** | 国科大三好学生标兵 | 林渭龙 | 麻生明 |
| **14** | 国科大优秀学生干部 | 梁兆利 | 刘国生 |
| **15** | Dalton Transactions Poster Prize at ACCC5 | 王磊 | 邓亮 |
| **16** | 国科大三好学生 | 汤鑫军 | 麻生明 |
| **17** | 国科大三好学生 | 程家顺 | 刘国生 |
| **18** | 国科大三好学生 | 陈根强 | 施敏 |
| **19** | 国科大三好学生 | 周吉亮 | 陈耀峰 |
| **20** | 国科大三好学生 | 王旭斌 | 丁奎岭 |
| **21** | 国科大三好学生 | 潘伟 | 丁奎岭 |
| **22** | 国科大三好学生 | 郑军 | 游书力 |
| **23** | 国科大三好学生 | 程强 | 游书力 |
| **24** | 国科大三好学生 | 孙宁 | 刘元红 |
| **25** | 国科大三好学生 | 左自青 | 黄正 |
| **26** | 国科大三好学生 | 黄建强 | 侯雪龙 |
| **27** | 国科大三好学生 | 孙健 | 邓亮 |
| **28** | 国科大三好学生 | 汪辰 | 陈耀峰 |
| **29** | 国科大三好学生 | 柴永帅 | 陈耀峰/李玉学 |
| **30** | 国科大三好学生 | 孔维俊 | 余金权 |
| **31** | 国科大三好学生 | 袁玉超 | 施敏 |
| **32** | 国科大三好学生 | 潘东 | 施敏 |
| **33** | 国科大三好学生 | 冯良文 | 唐勇 |
| **34** | 国科大三好学生 | 刘琼杰 | 唐勇 |

**2015年团队重点研究项目（2012-2016年）**

**项目一：**基于金属有机化学的反应设计与控制

**课题负责人**：侯雪龙

**研究队伍：**戴立信，侯雪龙，丁奎岭，王正，丁昌华

**经费总额:** 400万

**项目二：**金属配合物的合成及其促进的高选择性合成反应

**课题负责人：**刘元红

**研究队伍：**刘元红，邓亮，李玉学，孙杰

**经费总额:** 300万

项目三：金属催化的不饱和烃的合成和反应研究

项目负责人：麻生明

研究队伍：陆熙炎，麻生明，韩秀玲，张雪，余世超

**经费总额:** 400万

**项目四：**新型烯烃聚合催化剂的研究

**项目负责人：**唐勇

**研究队伍：**唐勇，陈耀锋，黄正，孙秀丽，李军方

**经费总额:** 350万

**项目五：**惰性化学键及体系的活化与官能团化中的金属有机化学

**课题负责人**：游书力

**研究队伍**：游书力，施敏，刘国生，段伟良，张玮

**经费总额:** 300万

**2015年自由探索项目（2014-2015年）**

**序 号 姓 名 题 目**

2015-01 陆熙炎 过渡金属催化的芳烃C-H活化启动的对贫电子烯烃的1,4-加成反应研究

2015-02 麻生明 末端炔的联烯基化反应

2015-03 侯雪龙 钯催化烯丙基试剂的不对称环丙烷化研究

2015-04 施 敏 基于环丙烯分子的串联反应研究

2015-05 丁奎岭 二氧化碳的直接与间接催化氢化转化

2015-06 唐 勇 新型聚烯烃催化剂的设计、制备及其催化的乙烯聚合研究

2015-07 刘元红 金催化的炔烃的氧化/重排及氧化/环化反应研究

2015-08 陈耀峰 稀土金属末端卡宾配合物化学研究

2015-09 游书力 过渡金属催化的芳香化合物选择性官能团化

2015-10 刘国生 金属钯催化烯烃的不对称氧化官能化反应研究

2015-11 李玉学 Cu催化的末端烯烃三氟甲基化反应机理的理论研究

2015-12 邓 亮 重第四主族元素配位边臂修饰的氮杂环卡宾-过渡金属配合物的合

成、表征和反应性质探索

2015-13 段伟良 无导向基团芳烃碳氢键活化反应的研究

2015-14 黄 正 新型烷烃转化体系：烷烃硼化、硅化以及二聚反应

2015-15 张国柱 双金属催化的不对称碳碳，碳杂成键及关环反应研究

2015-16 余金权 芳烃区域选择性交叉脱氢偶联反应的研究

**2015年开放项目（2015-2017年）**

（经费单位：万元）

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **序号** | **课题名称** | **开始时间** | **结束时间** | **总经费** | **本年度经费** | | **负责人** |
| **课题经费** | **论文奖励** |
| **1** | 金属催化的全氟烷基炔酸酯砌块用于合成含氟杂环化合物的研究 | 2015.01.01 | 2017.12.31 | 6 | 2 | 0 | 曹卫国 |
| **2** | 金属有机磷光材料在有机发光器件中的应用探索 | 2015.01.01 | 2017.12.31 | 6 | 2 | 0 | 陈忠宁 |
| **3** | 富勒烯衍生物的制备以及性能研究 | 2015.01.01 | 2017.12.31 | 12 | 4 | 1.3 | 甘良兵 |
| **4** | 金属催化硫转移反应研究 | 2015.01.01 | 2017.12.31 | 12 | 4 | 0 | 姜雪峰 |
| **5** | 简洁、高效的合成方法学研究及其在生物活性分子合成中的应用 | 2015.01.01 | 2017.12.31 | 15 | 5 | 5.5 | 焦宁 |
| **6** | 杂多核有机金属框架的构筑及其应用 | 2015.01.01 | 2017.12.31 | 9 | 3 | 0.18 | 金国新 |
| **7** | 纳孔配位聚合物的合理组装及其孔内可控有机反应研究 | 2015.01.01 | 2017.12.31 | 12 | 4 | 2.8 | 郎建平 |
| **8** | X-射线吸收谱对铜催化Glaser-Hay偶联反应的机理研究 | 2015.01.01 | 2017.12.31 | 9 | 3 | 0.27 | 雷爱文 |
| **9** | 通过碳氢键活化实现氨基酸及肽类的直接官能团化 | 2015.01.01 | 2017.12.31 | 15 | 5 | 8.2 | 施章杰 |
| **10** | 手性双核铑配合物的合成与性质研究 | 2015.01.01 | 2017.12.31 | 6 | 2 | 0.27 | 苏成勇 |
| **11** | 自负载钳型氮杂环金属卡宾催化剂设计与应用 | 2015.01.01 | 2017.12.31 | 12 | 4 | 0 | 涂涛 |
| **12** | 过渡金属催化的成键导向的C-H键活化及环化反应研究 | 2015.01.01 | 2017.12.31 | 9 | 3 | 1.7 | 王佰全 |
| **13** | 亚甲胺叶立德参与的催化不对称[3+m]-环加成反应研究 | 2015.01.01 | 2017.12.31 | 9 | 3 | 0 | 王春江 |
| **14** | 基于金属卡宾的惰性C-H键活化反应研究 | 2015.01.01 | 2017.12.31 | 12 | 4 | 3.88 | 王剑波 |
| **15** | 新导向基在碳-氢键活化及官能化反应中的应用 | 2015.01.01 | 2017.12.31 | 12 | 4 | 4.4 | 王磊 |
| **16** | 新型含吲哚基稀土金属有机配合物合成、反应及性能研究 | 2015.01.01 | 2017.12.31 | 12 | 4 | 0.9 | 王绍武 |
| **17** | 基于二氧化硫的若干插入反应 | 2015.01.01 | 2017.12.31 | 12 | 4 | 7.5 | 吴劼 |
| **18** | 氮杂半瞬烯的合成、结构与反应 | 2015.01.01 | 2017.12.31 | 15 | 5 | 4.2 | 席振峰 |
| **19** | 可见光敏化的可控自由基环化反应初探 | 2015.01.01 | 2017.12.31 | 9 | 3 | 0.27 | 肖文精 |
| **20** | 串联的金属接力催化在有机合成中的应用研究 | 2015.01.01 | 2017.12.31 | 9 | 3 | 0 | 徐政虎 |
| **21** | 金属催化下异腈参与的含氮杂环合成 | 2015.01.01 | 2017.12.31 | 6 | 2 | 1.4 | 许斌 |
| **22** | 酸促进的均相金催化反应研究 | 2015.01.01 | 2017.12.31 | 9 | 3 | 0 | 叶龙武 |
| **23** | *N*−杂环双金属配合物催化剂研究 | 2015.01.01 | 2017.12.31 | 12 | 4 | 2.2 | 余正坤 |
| **24** | 不对称金催化的环化与环加成反应研究 | 2015.01.01 | 2017.12.31 | 9 | 3 | 1.1 | 张俊良 |
| **25** | 过渡金属催化的烯丙基化合物不对称异构化及动力学拆分研究 | 2015.01.01 | 2017.12.31 | 9 | 3 | 0.27 | 张兆国 |
| **26** | 金和汞催化在重氮参与的一些构建季碳手性中心反应中的比较研究 | 2015.01.01 | 2017.12.31 | 9 | 3 | 0 | 周剑 |
| **27** | 稀土有机化合物与CO2和CO分子的新反应研究 | 2015.01.01 | 2017.12.31 | 9 | 3 | 0.18 | 周锡庚 |
| **28** | 酸促进的不对称氢解研究 | 2015.01.01 | 2017.12.31 | 9 | 3 | 0.27 | 周永贵 |
| **29** | 光敏配合物的合成及其C-H键活化性能研究 | 2015.01.01 | 2017.12.31 | 15 | 5 | 2.29 | 朱成建 |
| **合计** | --- | --- | --- | 300 | 100 | 49.69 | --- |

**2015年申请专利**

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| --- | --- | --- | --- |
| **序号** | **专利名称** | **申请号** | **发明人** |
| **1** | 具有3,4-二氢异喹啉骨架的手性氮杂环卡宾前体盐、合成方法及用途 | 201510054189.7 | 游书力、李国泰、顾庆 |
| **2** | 一种制备甲酰胺类化合物的方法 | 201510086625.9 | 丁奎岭,张磊，韩召斌，王正，赵晓宇 |
| **3** | 具有光学活性的环己基噁唑啉配体的合成方法及其用途 | 201510293494.1 | 唐勇、胡江林，谢作伟，康麒凯，刘琼杰，程雨晶 |
| **4** | 金属铱络合物、单晶、苯并吲哚类化合物及合成方法和应用 | 201510305993.8 | 游书力、叶克印、吴可嘉 |
| **5** | 金属铱络合物、单晶、苯并吲哚类化合物及合成方法和应用 | 201510305993.8 | 游书力、叶克印、吴可嘉 |
| **6** | 一种手性螺二氢茚骨架化合物的高效不对称合成方法 | 201510438450.3 | 丁奎岭，曹予曦，郑治尧，崇庆雷，王正 |
| **7** | 手性螺二氢茚骨架化合物及其制备方法 | 201510974151.1 | 丁奎岭，曹予曦，郑治尧，崇庆雷，王正 |
| **8** | 一种敞开式火焰离子化装置及使用该装置实现离子化的方法 | 201510442402.1 | 郭寅龙、刘小潘、王昊阳、涂奇奇 |
| **9** | 一种支链烯丙基化合物、制备方法及应用 | 201510570521.5 | 侯雪龙、白大昌、丁昌华 |
| **10** | 一种离子化方法及装置 | 201510730846.5 | 郭寅龙、刘小潘、王昊阳、涂奇奇 |
| **11** | 一种平面手性二茂铁化合物、合成方法及用途 | 201510757648.8 | 游书力、高得伟、顾庆 |
| **12** | 内酰胺类化合物及其制备方法 | 201510882223.x | 余金权、戴辉雄、孔维俊、刘悦进、徐辉 |
| **13** | 一种敞开式火焰离子化装置 | 201520544461.5 | 郭寅龙、刘小潘、王昊阳、涂奇奇 |
| **14** | 一种离子化装置 | 201520861732.x | 郭寅龙、刘小潘、王昊阳、涂奇奇 |
| **15** | 新型聚烯烃油催化剂及其应用 | PCT/CN2015/092201 | 唐勇、刘加帅、陶闻杰，孙秀丽，李军方 |
| **16** | 一种离子化方法及装置 | PCT/CN2015/094079 | 郭寅龙、刘小潘、王昊阳、涂奇奇 |
| **17** | 一种依泽替米贝的合成方法及该方法中所用的中间体 | EP13819243.0 | 丁奎岭、王晓明、王正 |
| **18** | 一种依泽替米贝的合成方法及该方法中所用的中间体 | JP2015-521944 | 丁奎岭、王晓明、王正 |
| **19** | 一种依泽替米贝的合成方法及该方法中所用的中间体 | US14/415,891 | 丁奎岭、王晓明、王正 |
| **20** | 手性芳香螺缩酮骨架双膦配体及其制备方法和应用 | EP13820327.8 | 丁奎岭、王晓明、韩召斌、王正 |
| **21** | 手性芳香螺缩酮骨架双膦配体及其制备方法和应用 | US14/415,857 | 丁奎岭、王晓明、韩召斌、王正 |
| **22** | 手性芳香螺缩酮骨架双膦配体及其制备方法和应用 | JP2015-521943 | 丁奎岭、王晓明、韩召斌、王正 |
| **23** | 新型钌络合物及制备甲醇和二醇的方法 | EP13847202.2 | 丁奎岭、韩召斌 |
| **24** | 新型钌络合物及制备甲醇和二醇的方法 | JP2015-537109 | 丁奎岭、韩召斌 |
| **25** | 新型钌络合物及制备甲醇和二醇的方法 | US14/436,842 | 丁奎岭、韩召斌 |

**2015年授权专利**

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| --- | --- | --- | --- | --- |
| **序号** | **专利名称** | **专利号** | **授权日期** | **发明人** |
| **1** | 一类由烯烃制备高支化烷烃的催化体系 | ZL 201110126431.9 | 2015-01-14 | 唐勇、陶闻杰、孙秀丽、李军方 |
| **2** | 哌嗪基嘧啶类同位素标记试剂的用途 | ZL 201210249584.7 | 2015-02-18 | 郭寅龙、冷嘉鹏、张立、张菁、王昊阳、张芳、康文昱、许楚 |
| **3** | 氟代异喹啉类化合物及其制备方法 | ZL 201210194986.1 | 2015-02-18 | 刘国生、徐涛 |
| **4** | 氟代异喹啉[a]吡咯类化合物及其制备方法 | ZL 201210195020.x | 2015-02-18 | 刘国生、徐涛 |
| **5** | 一类单中心催化剂在乙烯溶液聚合中的应用 | ZL 201110385610.4 | 2015-04-01 | 唐勇、万大维、孙秀丽、李军方 |
| **6** | 基于席夫碱配体的稀土金属配合物、制备方法和用途 | ZL 201110326452.5 | 2015-04-01 | 陈耀峰、孙逸琳、王利民 |
| **7** | 多取代吲哚、合成方法及其应用于吲哚美辛的合成 | ZL 201310024285.8 | 2015-07-08 | 麻生明、朱灿 |
| **8** | 螺缩酮骨架的双齿亚磷酰胺配体及其制备方法和应用 | ZL 201210243736.2 | 2015-07-08 | 丁奎岭、王正、贾肖飞 |
| **9** | 一种溶剂辅助电喷雾离子化方法及实现该方法的装置 | ZL 201310191121.4 | 2015-07-08 | 郭寅龙、张骏婷、王昊阳、张立、张菁 |
| **10** | 食用油中甾醇的电喷雾离子化-四极杆-飞行时间串联质谱分析方法 | ZL 201210461660.0 | 2015-08-05 | 郭寅龙、汪航、张立、张菁、王昊阳、贺小双、陆森森 |
| **11** | 一类烯烃聚合催化剂及超低支化度超高分子量聚乙烯 | ZL 201110109884.0 | 2015-08-05 | 唐勇、卫兵、李军方、孙秀丽 |
| **12** | 一种平面手性二茂铁化合物、合成方法及用途 | ZL 201210489246.0 | 2015-09-16 | 游书力、顾庆、高得伟、石延超、赵正乐 |

**2015年实验室来访人员报告**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **序号** | **报告题目** | **报告人** | **单位** | **主持人** | **时间** |
| **1** | C-H Oxidation Inspired by Biological Oxidation Catalysis | 夏纪宝  博士 | Texas Southwestern Medical Center, USA | 游书力 | 2015.02.04  09:30 |
| **2** | Publishing in Wiley Materials Science Journals and Books | Dr. Peter Gregory | Wiley-VCH Wernheinm, Germany | 游书力 | 2015.03.16 15:00 |
| **3** | Sustainable Concepts for C-C and C-Heteroatom Bond Formation | Prof. Lukas J. Gooben | Technical University, Kaiserslautern | 刘国生 | 2015.03.20 10:00 |
| **4** | Carbon-Carbon Bond Formation by Catalytic 1,4-Metal Migration | Prof. Hon Wai Lam | University of Nottingham, UK | 游书力 | 2015.04.08 15:30 |
| **5** | Chemical Professes at the Surface of Colloidal Objects | Prof. Hai-Lung Dai | Temple University | 丁奎岭 | 2015.04.24 10:00 |
| **6** | Ruthenium(II)-Catalyzed C-H Activation and Beyong | Prof. Lutz Ackermann | Georg-August-Universitat Gottingen | 顾庆 | 2015.04.25 15:30 |
| **7** | Multifunctional Organoboron Compounds through Single-Catalyst-Controlled Multicomponent Reactions | 孟繁柯  博士 | Boston College | 唐勇 | 2015.04.27 10:00 |
| **8** | Structure, Bonding and Mechanism in Iron-Catalyzed Cross-Coupling | Prof. Michael L. Neidig | University of Rochester, USA | 邓亮 | 2015.04.27 15:00 |
| **9** | Polymerize the Unpolymerizable: Non-Traditional Polymers Accessed by Novel Catalytic Polymerizations | Prof.  Yan Xia | Stanford University, USA | 邓亮 | 2015.05.15 16:00 |
| **10** | New Adventures in Organic Chemistry: Synergistyc Catalysis, Photoorganocatalytic and Heterogenous Chemistry | Prof. Ramon Rios Torres | University of Southampton, UK | 刘国生 | 2015.05.18 14:00 |
| **11** | Controlling Stereochemistry at the Quaternary Center: From Olefin Functionalization to Desymmertrization | Prof. Santanu Mukherjee | Department of Organic Chemistry, Indian Institute of Science | 游书力 | 2015.05.19 14:00 |
| **12** | 基于脱羧的交叉偶联 | 苏伟平  研究员 | 中科院福建物质结构研究所 | 刘国生 | 2015.06.01 15:00 |
| **13** | Sulfinamide Chemistry and C-H Bond Functionalization for Amine and Nitrogen Heterocycle Synthesis | Prof. Jonathan Ellman | Yale University, USA | 游书力 | 2015.06.05 10:00 |
| **14** | Biosynthesis of the Loline Alkaloids | Prof.  Robert B. Grossman | University of Kentucky | 游书力 | 2015.06.11 10:00 |
| **15** | Cationic Iridium(III) Complexes as Nonlinear Absorbing Materials: Understanding the Structure-Property Correlations | Prof. Wenfang Sun | North Dakota State University | 施敏 | 2015.06.24 09:30 |
| **16** | Computational Approach to Spectra Assignment, Mechanism Study and Ligand Design | Dr. Qian Peng | University of Oxford | 唐勇 | 2015.06.25 09:00 |
| **17** | 自溶霉素的全合成与氢键促进的钌催化烯烃复分解反应研究 | 沈悦海 教授 | Kunming University of Science and Technology, Chenggong Campus, Kunming | 游书力 | 2015.06.25 10:00 |
| **18** | Low Valent f-element Chemistry: Insights from Theory | Prof. Laurent Maron | University of Toulouse | 丁奎岭 | 2015.07.09 10:00 |
| **19** | Phosphines and Phosphinocatalysis | Dr. Ohyun Kwon | University of California, Los Angeles | 施敏 | 2015.09.10 14:30 |
| **20** | Iodine Reagents in Synthesis and Flow Chemistry | Prof. Dr. Thomas Wirth | Cardiff University, UK | 游书力 | 2015.09.18 16:00 |
| **21** | Rhodium-Catalyzed Addition of Pronucleophiles to Alkynes and Allenes | Prof. Dr. Bernhard Breit | University of Freiburg, Germany | 游书力 | 2015.10.12 10:00 |
| **22** | Palladium(0)-catalyzed C(sp3)-H Activation: A Powerful Tool for the Construction of Cyclic Systems | Prof. Oliver Baudoin | University of Basel | 黄正 | 2015.10.20 10:00 |
| **23** | Bond Activation and Catalysis by Main Group Systems | Prof. Dr. Uwe Schneider | The University of Edinburgh, UK | 游书力 | 2015.11.04 14:00 |
| **24** | From Homonuclear Metal String Complexes to Heteronuclear Metal String Complexes | Prof. Shie-Ming Peng | National Taiwan University | 唐勇 | 2015.11.09 15:00 |
| **25** | 量子点激发态合成化学：方法、材料与应用 | 彭笑刚  教授 | 浙江大学 | 丁奎岭 | 2015.12.29 13:00 |

**2015年会议报告**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **序号** | **报告名称** | **报告人** | **会议名称** | **地点** | **时间** |
| **1** | Scandium Imido and Alkylidene Complexes: Synthesis, Structure and Reactivity (*Plenary Lecture*) | 陈耀峰 | Organometallic and Coordination Chemistry: Achievements and Challenges (VI Razuvaev Lectures) | Nizhni Novgorod,  Russia | 2015.09.18-23 |
| **2** | Scandium Terminal Imido Complexes: Synthesis, Structure and Reactivity (*Invited Lecture*) | 陈耀峰 | 5th Asian Conference on Coordination Chemistry | 香港 | 2015.07.12-16 |
| **3** | Scandium Terminal Imido Complexes: Synthesis, Structure and Reactivity (*Invited Lecture*) | 陈耀峰 | Pacifichem 2015 | Hawaii,  USA | 2015.12.13-20 |
| **4** | Scandium Terminal Imido Complexes: Synthesis, Structure and Reactivity (*Invited Lecture*) | 陈耀峰 | The 11th Sino-US Chemistry Professors Conference | 中国苏州 | 2015.06.21-23 |
| **5** | Low-Coordinate Late 3d Metal Complexes with NHC Ligation: Synthesis, Reactivity and Catalytic Application | 邓亮 | 2015中韩配位化学双边会议 | 中国西安 | 2015.09.17-20 |
| **6** | 低配位铁钴金属有机配合物研究（主题报告） | 邓亮 | 第九届全国无机化学学术会议 | 中国南昌 | 2015.07.25-29 |
| **7** | Low-Valent Iron and Cobalt Complexes with NHC Ligation | 邓亮 | The 11th Sino-US Chemistry Professors Conference | 中国苏州 | 2015.06.21-23 |
| **8** | Iron and Cobalt Complexes with Monodentate *N*-heterocyclic Carbene Ligation: Synthesis, Structure, and Reactivity | 邓亮 | 第一届《中国化学快报》化学化工前沿研讨会 | 中国天津 | 2015.06.05-07 |
| **9** | Bridging the Gap between Homo & Heterogeneous Asymmetric Catalysis with Organometallics (*Invited Lecture*) | 丁奎岭 | Pacifichem 2015 | Hawaii,  USA | 2015.12.13-20 |
| **10** | Cooperative Catalysis in Asymmetric Synthesis: Case Studies of Catalyst Design and Process Innovation (*Invited Lecture*) | 丁奎岭 | Pacifichem 2015 | Hawaii,  USA | 2015.12.13-20 |
| **11** | The Design, Synthesis and Application of Several Types of Phosphorus Containing Ligands (*Plenary Lecture*) | 丁奎岭 | 中国化学会第十届全国磷化学化工学术讨论会暨空间生命起源于进化专委会年会 | 中国新乡 | 2015.10.23-26 |
| **12** | From Mechanistic Understanding to New Catalytic Process Innovation: Case Studies of Asymmetric Synthesis and CO2 Transformation (*Plenary Lecture*) | 丁奎岭 | 中国化学会第十一届全国物理有机化学学术会议 | 中国北京 | 2015.09.17-20 |
| **13** | 协同催化成就手性药物合成优势工艺（大会报告） | 丁奎岭 | 手性技术与制药化学国际高峰论坛 | 中国武汉 | 2015.03.19-20 |
| **14** | 从基础研究到绿色催化技术创（大会报告） | 丁奎岭 | 2015绿色催化技术产学研论坛 | 中国兰州 | 2015.07.18-19 |
| **15** | Cooperative Catalysis in Asymmetric Synthesis: Case Studies of Catalyst Design and Process Innovation, keynote lecture. | 丁奎岭 | IUPAC-2015, 45th World Chemistry Congress | Busan,  Korea | 2015.08.09-14 |
| **16** | Cooperative Catalysis in Asymmetric Synthesis: Case Studies of Catalyst Design and Process Innovation, Plenary lecture. | 丁奎岭 | 44th National Organic Chemistry Symposium | Maryland,  USA | 2015.06.28-07.02 |
| **17** | Chiral Catalyst Evolution: Rational Design & Serendipity, Prize Lecture. | 丁奎岭 | 1st Yoshida Prize Symposium | Kyoto,  Japan | 2015.01.30 |
| **18** | Catalytic Asymmetric Synthesis of Chiral Phosphorus Compounds(*Invited Lecture*) | 段伟良 | Asian International Symposium - Organic Chemistry/Green Chemistry | Chiba,  Japan | 2015.03.26-29 |
| **19** | 手性膦化合物的不对称催化合成（邀请报告） | 段伟良 | 中国化学会第十届全国磷化学化工学术讨论会 | 中国新乡 | 2015.10.23-26 |
| **20** | 离子淌度质谱在有机分析中应用（邀请报告） | 郭寅龙 | 中国化学会第二届全国质谱分析学术报告会 | 中国杭州 | 2015.10. |
| **21** | 钯催化烯丙基底物与亲核试剂反应的选择性 （邀请报告） | 侯雪龙 | 第九届全国有机化学学术讨论会 | 中国长春 | 2015.07.28-31 |
| **22** | π-烯丙基钯络合物与亲核试剂反应的选择性（邀请报告） | 侯雪龙 | 第十二届全国有机合成化学学术讨论会 | 中国桂林 | 2015.10.15-18 |
| **23** | Selectivities in Pd-Catalyzed Reactions of Allyl Substrates with Nucleophiles(*Invited Lecture*) | 侯雪龙 | The Golden Jubilee Chemistry Conference – Commemorating Singapore’s 50th Birthday | Singapore | 2015.08.06-08 |
| **24** | Selectivities in Pd-Catalyzed Reactions of Allyl Substrates with Nucleophiles(*Invited Lecture*) | 侯雪龙 | The 2th China-Italy Bilateral Symposium on Organic Chemistry | Italy | 2015.04.19-25 |
| **25** | Pincer iron and cobalt complexes for catalytic alkene hydrofunctionalizations(*Invited Lecture*) | 黄正 | 249th ACS National Meeting | Denver,  USA | 2015.03.22-26 |
| **26** | Highvalent Metal Catalysis in Difunctionalization of Alkenes | 刘国生 | The 5th Shanghai-Hong Kong-Münster Joint Trilateral Symposium on Organometallic Chemistry | 中国上海 | 2015.04.30-05.01 |
| **27** | Highly Efficient Difunctionalization of Alkene using Transition Metal Catalyst | 刘国生 | The 2th China-Italy Bilateral Symposium on Organic Chemistry | Padova,  Italy | 2015.04.19-25 |
| **28** | Highly Efficient Difunctionalization of Alkene using Transition Metal Catalyst | 刘国生 | 中国化学会第九届全国有机化学学术会议 | 中国长春 | 2015.07.28-31 |
| **29** | Transition Metal-Catalyzed Oxidative Difunctionalization  of Alkenes | 刘国生 | The 11th National Conference on Physical Organic Chemistry | 中国北京 | 2015. 09.17-20 |
| **30** | Transition Metal-Catalyzed Oxidative Difunctionalization  of Alkenes | 刘国生 | NSFC-RSC International  Symposium on Emerging  Frontiers in Organic Synthesis | 中国上海 | 2015.10.08-10 |
| **31** | Copper-catalyzed Fluorination of Arylhalides | 刘国生 | Pacifichem 2015 | Hawaii,  USA | 2015.12.15-20 |
| **32** | Early-transition-metal-mediated Multicomponent Reactions of Conjugated Organic Substrates | 刘元红 | The 5th Shanghai-Hong Kong-Münster Joint Trilateral Symposium on Organometallic Chemistry | 中国上海 | 2015.03.30-04.01 |
| **33** | Gold-Catalyzed Cascade Reactions of Functionalized Alkynes | 刘元红 | The 11th Sino-US Chemistry Professors Conference | 中国苏州 | 2015.06.21-23 |
| **34** | Methodology Development and The Efficiency in Synthesis of Target Molecules | 麻生明 | 第十二届全国有机合成化学学术研讨会 | 中国桂林 | 2015.10.15-18 |
| **35** | Zwitterion Directed Regio- and Enantioselective Cyclizations (*Invited Lecture*) | 施敏 | Pacifichem 2015 | Hawaii,  USA | 2015.12.13-20 |
| **36** | Spiro-Diol--Diimine Dinickel Tetranuclear Nickel Complexes as Catalysts for Olefin Ethylene Polymerization. Sidearm Effects (*Invited Lecture*) | 唐勇 | Asian Polyolefin Workshop 2015 | Tokyo,  Japan | 2015.11.23-27 |
| **37** | Sidearm Approach to Catalysts for Olefin Polymerization：Controllable Synthesis of Polyethylene (*Plenary Lecture*) | 唐勇 | 第四届Grubbs 论坛：聚合物及产业创新（Polymers and Industrial Innovations） | 中国宁波 | 2015.04.10-11 |
| **38** | Quick Construction of Polycyclic Spiroindolines *via* a Tandem Strategy | 唐勇 | ICHAC-XI, International Conference on Heteroatom Chemistry | Caen,  France | 2015.06.14-19 |
| **39** | 基于膦叶立德的串联环化反应 | 唐勇 | 中国化学会第十届全国磷化学化工学术讨论会 | 中国新乡 | 2015.10.23-26 |
| **40** | Sidearm Approach to Catalysts for Olefin Polymerization: Controllable Synthesis of Polyethylene | 唐勇 | Pafichem 2015 | Hawaii,  USA | 2015.12.15-19. |
| **41** | Asymmetric Direct Transformation of Aromatic Compounds (*Plenary Lecture*) | 游书力 | 第十四届全国均相催化学术讨论会 | 中国大连 | 2015.09.22-25 |
| **42** | Catalytic Asymmetric Dearomatization Reactions (*Keynote Lecture*) | 游书力 | 16th Tetrahedron Symposium | Berlin,  Germany | 2015.06.16-19 |
| **43** | 不对称去芳构化与碳氢键直接官能团化反应(*Invited Lecture*) | 游书力 | 手性会议(同写意论坛第35期) | 中国武汉 | 2015.03.19-20 |
| **44** | Transition-Metal-Catalyzed Asymmetric Allylic Dearomatization Reactions (*Invited Lecture*) | 游书力 | The 5th Shanghai-Hong Kong-Münster Joint Trilateral Symposium on Organometallic Chemistry | 中国上海 | 2015.03.30-04.01 |
| **45** | Catalytic Asymmetric Dearomatization Reactions (*Invited Lecture*) | 游书力 | 2015国际（河南）新药研发论坛与技术转移对接会 | 中国郑州 | 2015.06.06 |
| **46** | Catalytic Asymmetric Dearomatization Reactions (*Invited Lecture*) | 游书力 | 康龙化成化学与生命科学论坛 | 中国宁波 | 2015.06.26 |
| **47** | Catalytic Asymmetric Dearomatization Reactions (*Invited Lecture*) | 游书力 | 2015年化学前沿论坛：“一带一路 ”国家战略下化学工的机遇与挑战 | 中国石河子 | 2015.07.29-31 |
| **48** | Transition-metal Catalyzed Asymmetric Allylic Dearomatization Reactions (*Invited Lecture*) | 游书力 | The 45th International Union of Pure and Applied Chemistry (IUPAC) World Chemistry Congress | Busan,  Korea | 2015.08.09-14 |
| **49** | Organocatalytic Asymmetric Dearomatization Reactions (*Invited Lecture*) | 游书力 | The 45th International Union of Pure and Applied Chemistry (IUPAC) World Chemistry Congress | Busan,  Korea | 2015.08.09-14 |
| **50** | Transition-metal Catalyzed Asymmetric Allylic Dearomatization Reactions (*Invited Lecture*) | 游书力 | The 6th Japanese-Sino Symposium on Organic Chemistry for Young Scientists | Akiu,  Japan | 2015.09.06-09 |
| **51** | Catalytic Asymmetric Dearomatization Reactions (*Invited Lecture*) | 游书力 | Chem. Soc. Rev. Symposium | 中国兰州 | 2015.09.21 |
| **52** | 手性磷配体在金属铱催化的烯丙基取代反应中的应用(*Invited Lecture*) | 游书力 | 中国化学会第十届全国磷化学化工学术讨论会 | 中国新乡 | 2015.10.23-26 |
| **53** | Asymmetric Direct Transformation of Aromatic Compounds (*Keynote Lecture*) | 游书力 | The 16th Tetrahedron Symposium Asia Edition | 中国上海 | 2015.11.11-13 |
| **54** | Asymmetric Direct Transformation of Aromatic Compounds (*Invited Lecture*) | 游书力 | SIOC & Bayer Mini-Symposium on Synthetic and Medicinal Chemistry | 中国北京 | 2015.11.25 |
| **55** | Transition-metal-catalyzed Asymmetric Allylic Dearomatization Reactions (*Invited Lecture*) | 游书力 | Pacifichem 2015 | Hawaii,  USA | 2015.12.14-20 |
| **56** | Sequential Catalysis *via* the Combination of Ru/chiral Phosphoric Acid (*Invited Lecture*) | 游书力 | Pacifichem 2015 | Hawaii,  USA | 2015.12.14-20 |

**2015年发表专著(章节)**

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**2015年论文目录**

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