

所属学院 化工学院

学科领域 化学工程与技术

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个人简介

教育背景:

1984 - 1987 湖北省黄冈中学, 高中
1987 - 1991 华东化工学院, 化学工程专业学士学位
1993 - 1996 华东理工大学, 化学工程专业硕士学位
1996 - 1999 华东理工大学, 化学工艺专业博士学位

工作经历:

1991 - 1993 湖北省鄂州化工总厂, 工程师
1999 - 2005 德国马普学会复杂技术系统动力学研究所, 博士后 / 研究员
2005 - 2008 加拿大滑铁卢大学化工系, 高级研究助理
2008.9 起 华东理工大学化学工程联合国家重点实验室, 教授、博士生导师
2010.1 起 德国马普学会华东理工大学伙伴研究小组, 负责人
2011.9-2014.8 上海交通大学, 兼职教授
2012-2016 科技部 863 计划项目“盐湖资源综合利用技术研究与示范”, 项目首席专家

研究方向

1、过程强化:

围绕反应精馏和溶剂强化, 开发基于低共熔溶剂的生物基维生素 E 分离和柴油油深度脱硫技术, 基于离子液体的酯化反应技术, 烯烃转化反应精馏技术, 以及制药过程溶剂回收技术。

2、分子设计:

重点发展结合量化计算和过程优化的多尺度模拟计算的设计方法, 设计功能性溶剂、吸附剂和聚合物, 研究特征官能团与过程效果的构效关系, 通过溶剂与体系混合物的多相态演变和操作条件的调控来强化过程效果。

3、复杂过程模拟与优化:

重点开发基于 gPROMS 的复杂过程模拟与优化计算平台, 研究复杂过程的动态和多态特性。

研究成果及主要发表文章

1. Lei Qin, Jianan Zhang, Hongye Cheng, Lifang Chen, Zhiwen Qi*, Weikang Yuan, Selection of imidazolium-based ionic liquids for vitamin E extraction from deodorizer distillate. ACS Sustainable Chemistry and Engineering, 2016, 4 (2):583 - 590.
2. Teng Zhou, Zhaoxian Lyu, Zhiwen Qi, Kai Sundmacher*. Robust design of optimal solvents for chemical reactions - A combined experimental and computational strategy, Chemical Engineering Science, 2015, 137:613-625.
3. Zhen Song, Teng Zhou, Jianan Zhang, Lifang Chen, and Zhiwen Qi*. Screening of ionic liquids for solvent-sensitive extraction - with deep desulfurization as an example. Chemical Engineering Science, 2015, 129:69-77.
4. Teng Zhou, Kevin McBride, Xiang Zhang, Zhiwen Qi, Kai Sundmacher*. Integrated solvent and process design exemplified for a Diels-Alder reaction. AIChE Journal, 2015, 61(1):147-158.
5. Teng Zhou, Zhiwen Qi, Kai Sundmacher*. Model-based method for the screening of solvents for chemical reactions, Chemical Engineering Science, 2014, 115:177-185.
6. Zhaoxian Lyu, Teng Zhou, Lifang Chen, Yinmei Ye, Kai Sundmacher, Zhiwen Qi*. Ionic liquid screening for benzene-cyclohexane extractive separation by a multi-scale simulation approach. Chemical Engineering Science, 2014, 113:45-53.
7. Liwei Tong, Lifang Chen, Yinmei Ye, Zhiwen Qi*, Analysis of intensification mechanism of auxiliary reaction on reactive distillation: methyl acetate hydrolysis process as example, Chemical Engineering Science, 2014, 106:190-197.
8. Teng Zhou, Lifang Chen, Yinmei Ye, Zhiwen Qi*, Hannsjörg Freund and Kai Sundmacher, An overview of mutual solubility of ionic liquids and water predicted by COSMO-RS model. Industrial & Engineering Chemistry Research, 2012, 51(17), 6256-6264.
9. Jun Li, Chenjia You, Lifang Chen, Yinmei Ye, Zhiwen Qi,* Kai Sundmacher. Dynamics of CO₂ absorption and desorption processes in alkanolamine with co-solvent polyethylene glycol, Industrial & Engineering Chemistry Research, 2012, 51, 12081-12088.
10. Teng Zhou, Ziyun Wang, Yinmei Ye, Lifang Chen, Jing Xu, Zhiwen Qi*. Deep separation of benzene from cyclohexane by liquid extraction using ionic liquids as solvent. Industrial & Engineering Chemistry Research, 2012, 51(15), 5559-5564.
11. Long Chen, Teng Zhou, Lifang Chen, Yinmei Ye, Zhiwen Qi*, Hannsjörg Freund and Kai Sundmacher. Selective oxidation of cyclohexanol to cyclohexanone in the ionic liquid 1-octyl-3-methylimidazolium chloride. Chemical Communications, 2011, 47: 9354-9356