

个人简介:

宋立民, 男, 1975 年生, 辽宁省开原市人, 理学博士、教授、硕士研究生指导教师。目前主要从事环境催化、能源化工和功能性微纳米材料等研究工作, 在国外专业学术期刊上发表 SCI 收录论文近 70 余篇, 授权中国发明专利 4 项。
招研究生专业: 应用化学、化学工程、环境工程、环境分析化学、化学(理学)、材料化学等相关专业。

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工作及教育经历:

2002 年 8 月至今, 天津工业大学环境与化学工程学院工作;

2004 年 9 月至 2007 年 6 月, 南开大学化学学院材料化学系学习, 获博士学位。

研究方向:

1. 光催化: 新型光催化材料的研发及其在环境净化、氢能和有机合成中的应用研究;
2. 电催化: 新型电催化材料的研发及其在环保、能源领域的应用研究;
3. 多相催化: 新型多相催化材料的合成及其在油品深加工中的应用研究。

代表性学术论文:

- (1) Super-high activity of Bi^{3+} doped Ag_3PO_4 and enhanced photocatalytic mechanism. **Applied Catalysis B: Environmental**, 2014, 152–153, 129–139.
- (2) Fullerenes/graphite carbon nitride with enhanced photocatalytic hydrogen evolution ability. **Journal of Physical Chemistry C**, 2017, 121, 293–299.
- (3) Synthesis and characterization of Bi^{3+} -doped Ag/AgCl and enhanced photocatalytic properties. **Journal of Physicas Chemistry C**, 2014, 118, 29777–29787.
- (4) Perfect, sectorial, branched Sb_2O_3 microstructures consisting of prolate microtubes: controllable seeded growth synthesis and optical properties. **Crystal Growth Design**, 2012, 12, 764-770.
- (5) Co(II) -grafted Ag_3PO_4 photocatalysts with unexpected photocatalytic ability:

Enhanced photogenerated charge separation efficiency, photocatalytic mechanism and activity. **Journal of Hazardous Materials**, 2015, 293, 72-80.

(6) Super-high photocatalytic activity, stability and improved photocatalytic mechanism of monodisperse AgBr doped with In. **Journal of Hazardous Materials**, 2015, 299, 570-576.

(7) A simple mechanical mixing method for preparation of visible-light-sensitive NiO–CaO composite photocatalysts with high photocatalytic activity. **Journal of Hazardous Materials**, 2010, 174, 563-566.

(8) Synthesis of rhodium phosphide cocatalyst and remarkably enhanced photocatalytic hydrogen evolution over CdS under visible light radiation. **Chemical Engineering Journal**, 2017, 314, 498–507.

(9) Synthesis and photocatalytic property of a new silver thiocyanate semiconductor, **Chemical Engineering Journal**, 2014, 243, 24–30.

(10) The synthesis of monodisperse silver chloride nanospheres with super-high photocatalytic activity and comparative study, **Chemical Engineering Journal**, 2014, 240, 548–553.

(11) One-step synthesis of composite semiconductor AgBr/Ag₅P₃O₁₀ heterojunctions and their photocatalytic activity, kinetic analysis, photocatalytic mechanism under visible light radiation, **Chemical Engineering Journal**, 2013, 214, 336-342.

(12) Controlled synthesis and optical properties of 1D frog egg-like Mn(IO₃)₂/MnO₂ composite nanostructures with ultra-high aspect ratio. **Chemical Engineering Journal**, 2012, 187, 385-390.

(13) Antimony trioxide microstructures: 3D grass-like architectures and optical properties. **Chemical Engineering Journal**, 2012, 179, 404-411.

(14) A metal-free and graphitic carbon nitride sonocatalyst with high sonocatalytic activity for degradation methylene blue. **Chemical Engineering Journal**, 2012, 184, 256-260.

(15) Hydrothermal synthesis and highly visible light-induced photocatalytic activity of zinc-doped cadmium selenide photocatalysts. **Chemical Engineering Journal**, 2011, 166, 779-782.

(16) Synthesis of sulphur doped bismuth selenide photocatalysts by the solvothermal method and their photocatalytic activities under visible-light irradiation. **Chemical Engineering Journal**, 2011, 171, 1454-1457.

(17) Sonocatalytic degradation of amaranth catalyzed by La³⁺-doped TiO₂ under ultrasonic irradiation. **Ultrasonics Sonochemistry**, 2011, 18, 1057-1061.

(18) Sonocatalytic performance of Tb₇O₁₂/TiO₂ composite under ultrasonic irradiation. **Ultrasonics Sonochemistry**, 2011, 18, 713-717.

(19) Porous BiOI sonocatalysts: hydrothermal synthesis, characterization, sonocatalytic, and kinetic properties. **Industry Engineering Chemistry Research**,

2012, 51, 1193-1197.

(20) One-step synthesis, growth mechanism, and optical properties of 3D YIO_3 hollow microspheres consisting of nanotube arrays, **Powder Technology**, 2013, 235, 712-716.

出版著作:

普通化学实验与学习指导 中国纺织出版社 主编 2009

发明专利:

(1) 具有可见光响应的碳酸锶-二氧化钛复合光催化剂及其制备方法. 授权专利号: ZL 200910068131.2.

(2) 氟化铅中空纳米球的溶剂热合成方法. 授权专利号: ZL00810153128.6.

(3) 基于亚磷酸二氢盐和金属盐的机械混合物制备金属磷化物的方法. 授权专利号: ZL 201110063124.0.

(4) 石墨烯 / C60 /g- C_3N_4 异质结复合膜及其制备方法. 授权专利号: ZL201410458163.4.