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One-pot synthesis of stilbenes by dehydrohalogenation–Heck olefination and multicomponent Wittig–Heck reaction

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ABSTRACT

A variant of olefination reaction involving in situ generation of styrene by either one-pot dehydrohalogenation–Heck or one-pot multicomponent Wittig–Heck reaction is developed.

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Amino oxazolines as easily accessible water stable ligands for palladium catalysed aqueous Heck reaction

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A series of amino oxazolinyl ligands were screened for palladium catalysed Heck reaction. These ligands work well as phosphine free system in aqueous, micellar medium, can be effectively recovered and reused for subsequent cycles.

Keywords: amino oxazolines, water stable ligands, palladium, Heck reaction

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Synthesis of stilbene analogues by one-pot oxidation-Wittig and oxidation-Wittig–Heck reaction

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We wish to dedicate this Letter to the fond memory of Late Dr. S.S. Madhav Rao.

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One-pot synthesis
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Oxidation-Wittig–Heck

ABSTRACT

Synthesis of symmetrical (and unsymmetrical) stilbene derivatives is achieved by a combination of one-pot steps of Kornblum type oxidation of benzyl halide, its simultaneous in situ formation of phosphonium salt, and subsequently their Wittig reaction. In other variant it is oxidized to aldehyde, treated with ylide generated from phosphonium salt (CH_3PPh_3X) to give styrene, and subjected to Pd catalyzed Heck reaction with arylhalide to give stilbenes as the three-step one-pot sequence.

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Amino oxazolines as a new class of organocatalyst for the direct intermolecular asymmetric aldol reaction between acetone and aromatic aldehydes

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ABSTRACT

A series of chiral amino oxazolines were synthesized and screened as organocatalysts for asymmetric intermolecular aldol reactions between acetone and aromatic aldehydes. The reaction works well with a range of aromatic aldehydes showing good to high selectivity. The present new system of the organocatalyst was effective for the asymmetric aldol reaction for a wide range of aromatic aldehydes and isatin to carry out an asymmetric carbon–carbon bond forming reaction with a high enantioselectivity of up to 91%.

Presentation at various conferences

1. **Presented Poster** at the *National Conference on Recent Developments in Green Chemistry* (***NCGC-2009***), Sri Ramakrishna Mission Vidyalaya College of Arts and Science, Coimbatore, July-2009.
2. **Presented Poster** at *National Symposium on Emerging Horizons in Catalysis* (***CATSYM-2009***), Department of Chemistry, The Maharaja Sayajirao University of Baroda, Vadodara, September-2009.
3. **Oral presentation** at *Western India Research Scholars' Meet* (***WIRSM-2011***), Department of Chemistry, The Maharaja Sayajirao University of Baroda, Vadodara, September-2011.
4. **Attended a conference** *National Seminar on Emerging Trends in Chemical Science Research* (***NSETCSR-2009***), Department of Chemistry, Sardar Patel University, Vallabh Vidyanagar, Gujarat, January-2009.
5. **Attended a conference** *National Seminar on Nuclear Magnetic Resonance: Advances and Applications*, Department of Chemistry, The Maharaja Sayajirao University of Baroda, Vadodara, September-2009.
6. **Attended a conference** *National Conference on Chirality* (***NCC-2011***), Department of Chemistry, The Maharaja Sayajirao University of Baroda, Vadodara, December-2011.