## Chiral derivatives of 1,2-benzendisulfonimide: toward effective heterogeneous catalysts

(-)-4,5-Dimethyl-3,6-bis(*o*-tolyl)-1,2-benzenedisulfonimide (**1**) is an efficient homogeneous Brønsted acid chiral catalyst successfully employed in asymmetric one pot multicomponent reactions, valid tool for build complex molecules with semplicity and brevity.

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A widespread tendency in catalysis is to convert a successful homogeneous organocatalyst into a heterogeneous catalytic system. Since **1** has already proven itself to be an excellent catalyst under homogeneous catalysis conditions, we plan to immobilize it via a covalent bond onto the surface of a suitable support and use it under heterogeneous catalysis conditions; the hope being that its particular efficiency remain unchanged.

*Org. Biomol. Chem*., **2014**, *12*, 3902

*Tetrahedron: Asymm.*, **2015**, *26*, 1180

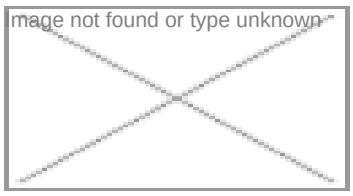
*Green Chem.*, **2017**,*19*, 1529

*ChemistrySelect*, **2017**, *2*, 3178

## Gold catalyzed cross-coupling reaction of diazonium salts: an efficient tool to build new C-C bonds

Gold catalysis is considered a fundamental topic in organic synthesis with several applications in the total syntheses of complex systems, asymmetric syntheses, C–H activation reactions and C–C bond formation in cross-coupling reactions. Since Au(I) has the same d10 configuration as Pd(0) is able to catalyze reactions typically promoted by Pd(0).

Arenediazonium salts have been widely used as electrophilic partners in palladium-catalysed cross coupling reactions so they have become an effective alternative to aryl halides. Some of our research has resulted in a large family of dry diazonium salts, the arenediazonium o-benzenedisulfonimides **2.**




They are easy to prepare and isolate, they are extremely stable, and they can be stored for an unlimited time. Moreover, they react easily both in water and in organic solvents, and 1,2-benzenedisulfonimide can easily be recovered and reused at the end of the reactions. Exploration into the synthetic potential of these salts has revealed that they give excellent results in palladium catalysed coupling reactions.

The ever-growing use of gold as a catalyst in organic synthesis has driven us to enter this fascinating field, so we are interested to study the reactivity of the mentioned salts as electrophilic partners in Au(I) catalyzed cross-coupling reactions.

*Eur. J. Org. Chem.,* **2014**, 598

*Tetrahedron*, **2014,** *70*, 8010

*Org. Biomol. Chem.,* **2016**, *14*, 1437

*Org. Biomol. Chem.,* **2018**, *16,* 295

**Lingua**
Inglese

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