

## CATALYTIC FORMATION OF C-S BONDS

Ivana Fleischer<sup>a</sup>, Prasad Kathe<sup>a</sup>, and Paul Gehrtz<sup>a,b</sup>

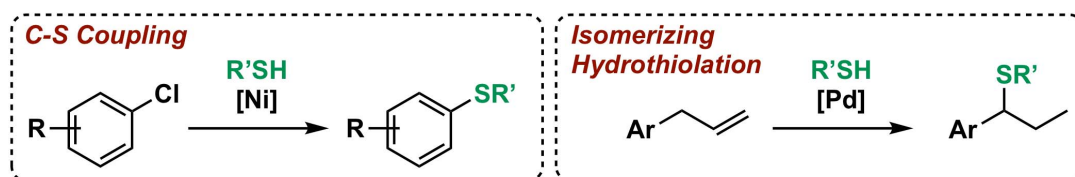
<sup>a</sup>Institute of Organic Chemistry, University of Tübingen, Auf der Morgenstelle 18,  
72076 Tübingen

<sup>b</sup>Current address: Department of Organic Chemistry, Weizmann Institute of Science,  
234 Herzl Street, Rehovot

Our recent research interests focus on development of homogeneously catalyzed reactions for the synthesis and use of sulfur-containing compounds, such as thioethers. They constitute valuable target compounds for material science and pharmaceutical applications [1]. Herein, two conceptually different synthetic methodologies for their construction will be presented.

We have developed a general Ni-catalyzed coupling of challenging aryl chlorides and *in situ* generated aliphatic and aromatic thiolates [2]. Well-defined and air-stable Ni precatalysts were used to transform a broad scope of substrates containing various functional groups and heterocyclic motifs.

Moreover, a Pd-catalyzed tandem isomerizing hydrothiolation of 3-arylpropenes was investigated [3]. The catalyst system consisting of a Pd(II) precursor, bidentate phosphine ligand and strong Brønsted acid was able to convert a variety of substrates to branched benzylic thioethers in a highly regioselective matter.



[1] K. A. Scott, J. T. Njardarson, *Top. Curr. Chem.* **2018**, 376, 5.

[2] P. H. Gehrtz, V. Geiger, T. Schmidt, L. Sršan, I. Fleischer, *Org. Lett.* **2019**, 21, 50.

[3] P. Kathe, I. Fleischer, *Org. Lett.* **2019**, *in press*. DOI: 10.1021/acs.orglett.9b00504.