## The role of polyphenylene support in heterogeneous catalysis

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A major goal in catalysis is to combine the advantages of molecular catalysts and heterogeneous processes, ideally maintaining—or even improving—the reactivity and selectivity of the molecular catalysts, while facilitating product recovery and catalyst recycling. Here, we describe a solid polyphenylene support that serves as an excellent platform for metal-catalyzed reactions that are normally carried out under homogeneous conditions. Polyphenylene consists of biphenyl groups that serve as ligand to stabilize the transition state of Suzuki cross coupling reactions, such as coupling 1,3-dimethyl-2-chlorobenzene with 2-tolylboronic acid. This reaction could only be carried out under homogeneous conditions previously. Polyphenylene also shows high thermal stability in air due to its aromatic backbone, further enabling the partial oxidation of benzyl alcohol to benzaldehyde in gas phase continuous mode.

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## **Professional Appointments**

## From 2016.01 **University College London, Chemical Engineering** Lecturer Research interest: Single site catalysis, in situ spectroscopy and biomass conversion. 2012.11 -Max-Planck-Institut für Kohlenforschung **Postdoc** Supervisor: Prof. Dr. Ferdi Schüth Projects: Aromatic polymer systems for fine chemical synthesis, in situ EPR study on the redox properties of metal oxides. Project as a principle investigator: Ultrasonic spray for functional carbon and polymers. Attracts three colleagues, is offered lab space at University of Duisburg-Essen, and is partially funded by Alexander von Humboldt Foundation. The Chinese University of Hong Kong, Physics 2012.2-2012.9 **Research** Assistant Supervisor: Prof. Dr. Jianfang Wang and Prof. Dr. Jimmy C. Yu Projects: Anisotropic metal nanomaterials for solar energy utilization. **Education and Oualifications** 2006.9–2012.1 Peking University, Chemistry Doctor The Chinese University of Hong Kong, Physics Supervisor: Prof. Dr. Chun-Hua Yan, Prof. Dr. Ling-Dong Sun, and Prof. Dr. Jianfang Wang

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