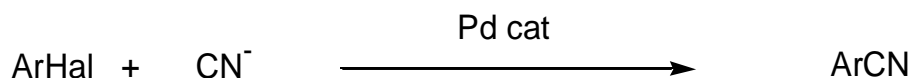


## Pd-Catalysed Cyanation of Aryl Halides

The cyanation of aryl halides using palladium catalysis is a powerful and well documented transformation which on the face of it should be quite robust, but in fact still proves problematic in many cases.



The main difficulty is that excess free cyanide ion in solution can deactivate the catalyst. Use of potassium hexacyanoferrate as cyanide source has proved quite helpful\*, and the Beller group have recently reported\*\* the successful application of this to the cyanation of aryl chlorides, using the bulky diadamantylbutylphosphine (cataCXium A) ligand. A fuller understanding of the side reactions, which interfere with the catalytic cycle, has recently been published by Grushin and coworkers\*\*\*.

\*Y. Schareina, A. Zapf and M. Beller, Chem. Commun., 2004, 1388.

\*\*T. Schareina, A. Zapf, W. Maegerlein, N. Mueller and M. Beller, Tet. Letts., 2007, 48, 1087-1090.

\*\*\*K. Dobbs, W.J. Marshall and V.V. Grushin, J. Am. Chem. Soc., 2007, 129, 30-31.

