Selective Oxidative Carbonylation of Aniline to Diphenylurea with Ionic Liquids

A catalytic system for the selective oxidative carbonylation of aniline to diphenylurea based on Pd complexes in combination with imidazolium ionic liquids is presented. Both oxidants, Pd complexes and ionic liquids affect the activity of the reaction while the choice of oxidant determines the selectivity of the reaction. Together they allow the reaction to proceed under comparatively mild conditions without loss of activity. In-situ NMR examination of the reaction led to the observation of a previously suggested intermediate supporting the proposed mechanism.

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