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.

General information
State: Published
Organisations: Department of Chemistry, Centre for Catalysis and Sustainable Chemistry, Organic Chemistry, Universidad Rovira i Virgili
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Pages: 2450-2457
Publication date: 2018
Peer-reviewed: Yes

Publication information
Journal: ChemCatChem
Volume: 20
ISSN (Print): 1867-3880
Ratings:
BFI (2019): BFI-level 1
Web of Science (2019): Indexed yes
BFI (2018): BFI-level 1
Web of Science (2018): Indexed yes
BFI (2017): BFI-level 1
Scopus rating (2017): CiteScore 4.47 SJR 1.695 SNIP 0.925
Web of Science (2017): Impact factor 4.674
Web of Science (2017): Indexed yes
BFI (2016): BFI-level 1
Scopus rating (2016): CiteScore 4.33 SJR 1.679 SNIP 0.952
Web of Science (2016): Impact factor 4.803
Web of Science (2016): Indexed yes
BFI (2015): BFI-level 1
Scopus rating (2015): CiteScore 4.57 SJR 1.731 SNIP 0.996
Web of Science (2015): Impact factor 4.724
Web of Science (2015): Indexed yes
BFI (2014): BFI-level 1
Scopus rating (2014): CiteScore 4.52 SJR 1.89 SNIP 1.103
Web of Science (2014): Impact factor 4.556
Web of Science (2014): Indexed yes
BFI (2013): BFI-level 1
Scopus rating (2013): CiteScore 4.82 SJR 2.182 SNIP 1.057
Web of Science (2013): Impact factor 5.044
ISI indexed (2013): ISI indexed yes
Web of Science (2013): Indexed yes
Scopus rating (2012): CiteScore 4.58 SJR 2.394 SNIP 1.141
Web of Science (2012): Impact factor 5.181
ISI indexed (2012): ISI indexed yes
Web of Science (2012): Indexed yes
Scopus rating (2011): CiteScore 4.3 SJR 2.229 SNIP 1.069
Web of Science (2011): Impact factor 5.207
ISI indexed (2011): ISI indexed yes
Scopus rating (2010): SJR 1.689 SNIP 0.925
Web of Science (2010): Impact factor 3.345