

## New Publication by CADIAC in *Nature Communications*

Chemists from *The Carbon Dioxide Activation Center* have recently published a paper in *Nature Communications* with the title "Scalable carbon dioxide electroreduction coupled to carbonylation chemistry", doi: 10.1038/s41467-017-00559-8. The team includes Mikkel T. Jensen, Magnus H. Rønne, Anne K. Ravn, René W. Juhl, Dennis U. Nielsen, Xin-Ming Hu, Steen U. Pedersen, Kim Daasbjerg and Troels Skrydstrup from the Interdisciplinary Nanoscience Center and Department of Chemistry.

Significant efforts have been devoted over the last few years to develop efficient molecular electrocatalysts for the electrochemical reduction of carbon dioxide to carbon monoxide, the latter being an industrially important feedstock for the synthesis of bulk and fine chemicals. Whereas these efforts primarily focus on this formal oxygen abstraction step, there are no reports on the exploitation of the chemistry for scalable applications in carbonylation reactions. In this paper, the CADIAC chemists describe the design and application of an inexpensive and user-friendly electrochemical set-up combined with the two-chamber technology for performing Pd-catalyzed carbonylation reactions including amino- and alkoxy carbonylations, as well as carbonylative Sonogashira and Suzuki couplings with near stoichiometric carbon monoxide. The combined two-reaction process allows for milligram to gram synthesis of pharmaceutically relevant compounds. Moreover, this technology can be adapted to the use of atmospheric carbon dioxide.

