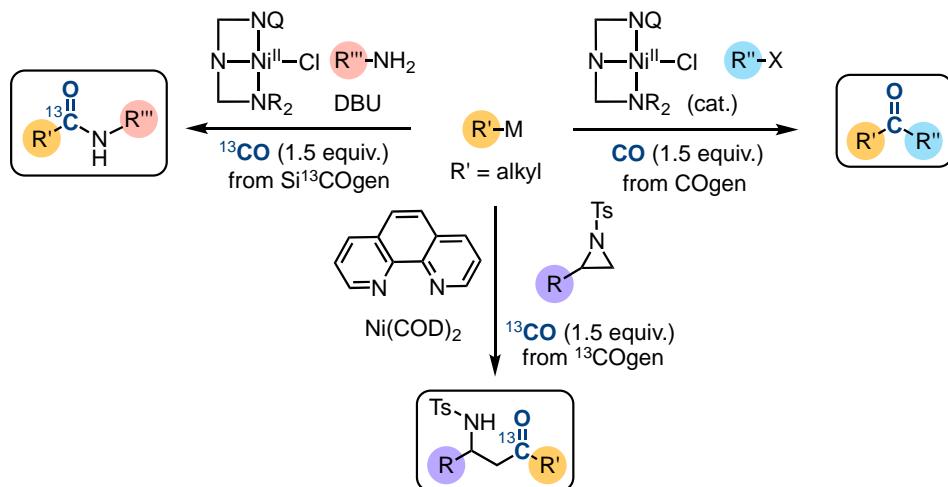


RECENT DEVELOPMENTS IN LOW PRESSURE CARBONYLATIONS

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Carbon monoxide (CO) represents an important C1 building block for the construction of some of the most fundamental chemical functionalities carrying a carbon-oxygen single or double bond. Transition metal catalysis plays a key role in promoting such transformations with CO. We have earlier shown that the combination of palladium catalysis with CO releasing molecules and the two-chamber reactor, COware, provides both a convenient and safe means for performing traditional but low pressure Pd-catalyzed carbonylative couplings, and a platform for discovering new carbonylation reactions and carbon isotope labeling techniques [1–3]. In this talk, I provide a short overview of our latest findings in this area, but also discuss our efforts to develop viable Ni-mediated carbonylations with alkyl substrates [4].



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- [1] a) T. L. Andersen, M. W. Frederiksen, K. Domino, T. Skrydstrup, *Angew. Chem. Int. Ed.* **2016**, 55, 10396. b) K. Domino, C. Veryser, B. A. Wahlqvist, C. Gaardbo, K. T. Neumann, K. Daasbjerg, W. M. De Borggraeve, T. Skrydstrup, *Angew. Chem. Int. Ed.* **2018**, 57, 6858.
- [2] Z. Lian, D. U. Nielsen, A. T. Lindhardt, K. Daasbjerg, T. Skrydstrup, *Nat. Commun.* **2016**, 7, 13782.
- [3] a) T. L. Andersen, S. D. Friis, H. Audrain, P. Nordeman, G. Antoni, T. Skrydstrup, *J. Am. Chem. Soc.* **2015**, 137, 1548. b) T. L. Andersen, P. Nordeman, H. F. Christoffersen, H. Audrain, G. Antoni, T. Skrydstrup, *Angew. Chem. Int. Ed.* **2017**, 56, 4549.
- [4] T. L. Andersen, A. S. Donslund, K. T. Neumann, T. Skrydstrup, *Angew. Chem. Int. Ed.* **2018**, 57, 800. b) K. T. Neumann, A. S. Donslund, T. L. Andersen, D. U. Nielsen, T. Skrydstrup, *Chem. Eur. J.* **2018**, 56, 14946.