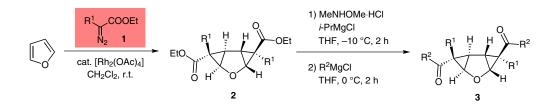
J. KASCHEL, T. F. SCHNEIDER, D. KRATZERT, D. STALKE, D. B. WERZ\* (GEORG-AUGUST-UNIVERSITÄT GÖTTINGEN, GERMANY)

Domino Reactions of Donor-Acceptor-Substituted Cyclopropanes for the Synthesis of 3,3'-Linked Oligopyrroles and Pyrrolo[3,2-e]indoles

Angew. Chem. Int. Ed. 2012, 51, 11153-11156.

## **Precisely Defined Electron-Rich Oligopyrroles**



 $R^1$  $\mathbb{R}^2$  $\mathbb{R}^3$ Yield (%) **Entry** 4a Н Ph Me 81 4b Н Me **PMP** 89 4с Н Ме Me 42 4d Ме Me Ph 72 4e Ph Me Ph 64 Ph

R<sup>3</sup>NH<sub>2</sub> (3.5 equiv) p-TsOH (0.05 equiv) PhH, 80 °C, 2 h

Significance: The authors report the synthesis of 3,3'-linked oligopyrroles through the domino ringenlargement of cyclopropanes. In one step, furan is converted into 2, which is subsequently transformed into diketone 3 via Weinreb-ketone synthesis. Refluxing with catalytic acid in benzene with an aniline, yielded the desired bispyrrole products

4. Unsurprisingly, the electron-rich anilines provided significantly higher yields than the electronpoor anilines.

Comment: Extended oligoacetalic diketone 5 was synthesized and subsequently converted into quarter-pyrrole 6 in 25% yield. This is the first electron-rich, precisely defined oligopyrrole reported and it is noteworthy due the inherent instability of electron-rich oligopyrrolic systems.

 $\textbf{SYNFACTS Contributors:}\ Timothy\ M.\ Swager,\ Jonathan\ G.\ We is$ Synfacts 2013, 9(1), 0037 Published online: 17.12.2012 DOI: 10.1055/s-0032-1317881; Reg-No.: S12912SF

Category

Synthesis of Materials and **Unnatural Products** 

Key words

cyclopropanes domino reaction oligopyrroles

