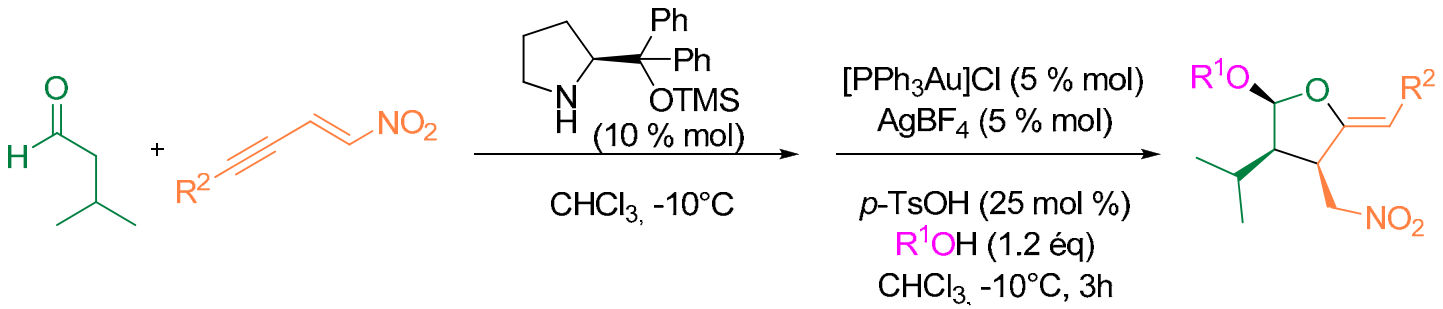
Institut des Sciences Moléculaires de Marseille
UMR 6263

stéréo

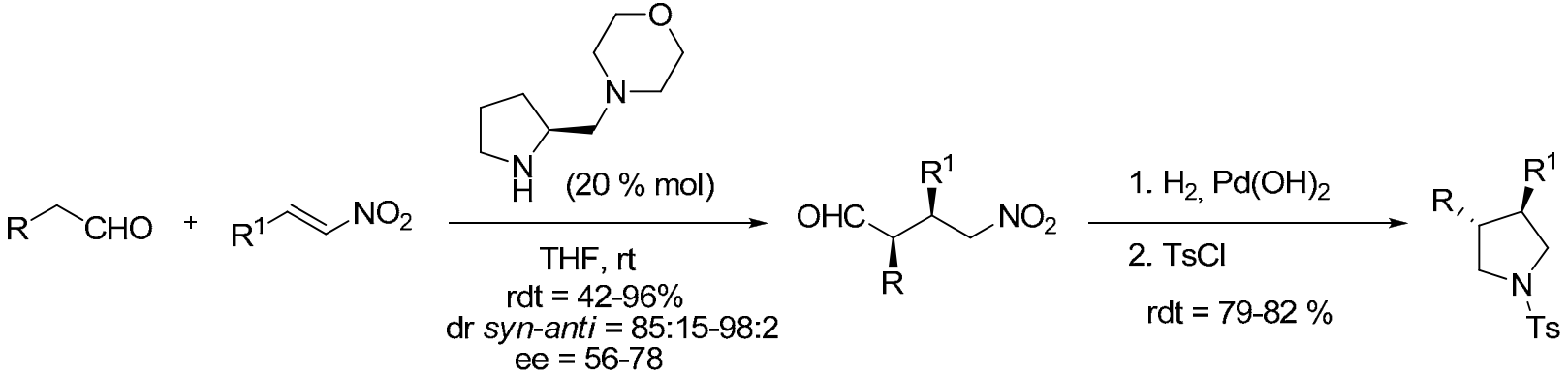
# Enantioselective One-pot Organocatalytic Michael Addition/Gold-Catalyzed Tandem Acetalyzation/Cyclization



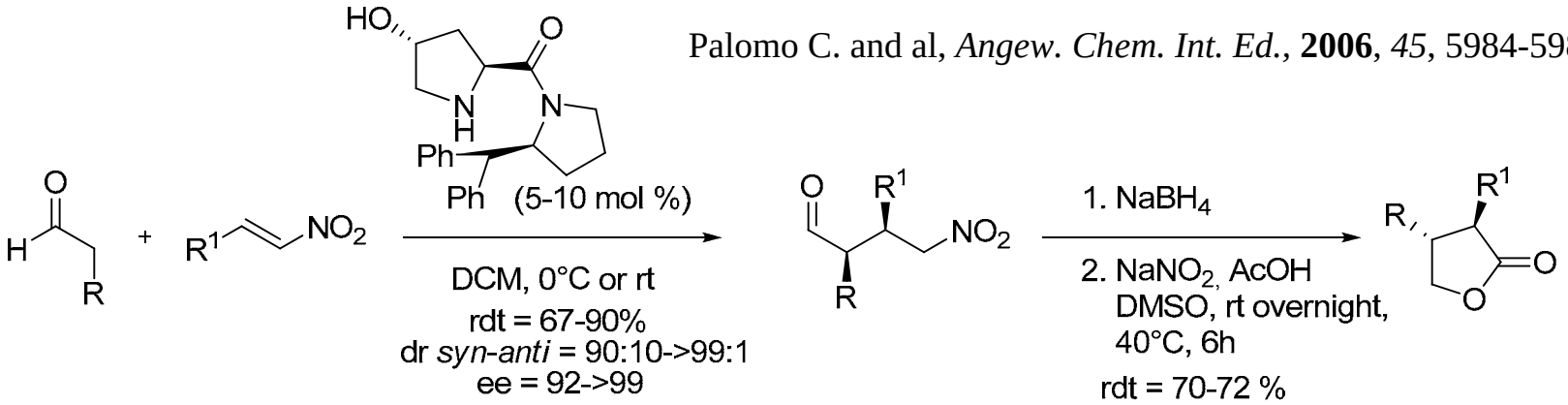

Sébastien Belot, Kim A. Vogt, Céline Besnard, Norbert Krause, and Alexandre Alexakis

Angew. Chem. Int. Ed., **2009**, *48*, asap

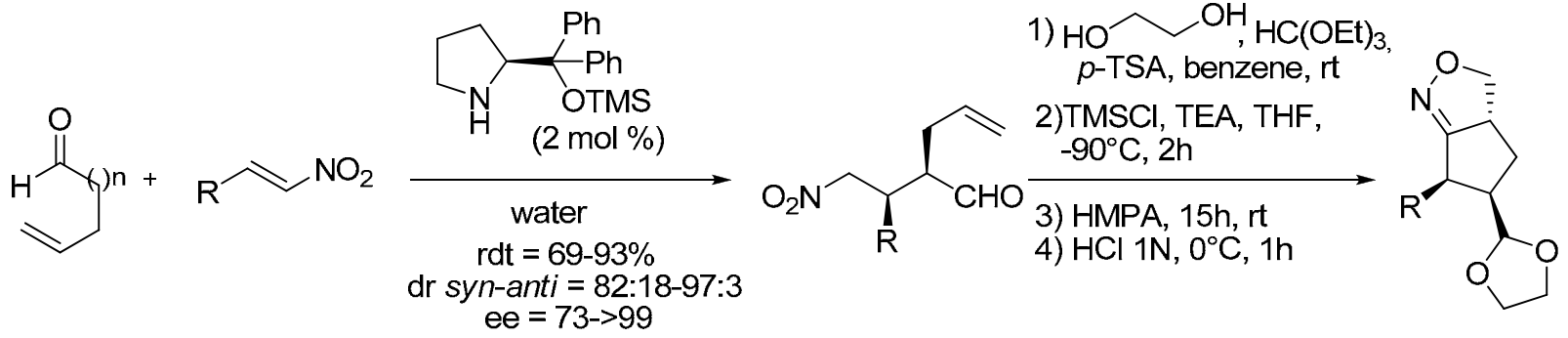
Barbas III and al., *Synthesis*, **2004**, *9*, 1509-1521



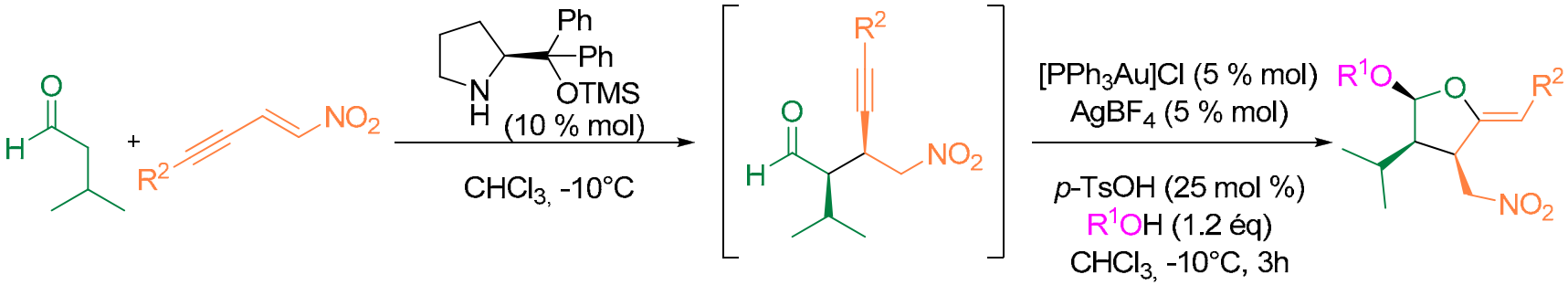

Palomo C. and al, *Angew. Chem. Int. Ed.*, **2006**, *45*, 5984-5987




Bonne D. and al., *Org. Lett.*, **2008**, *10*, 5409-5412

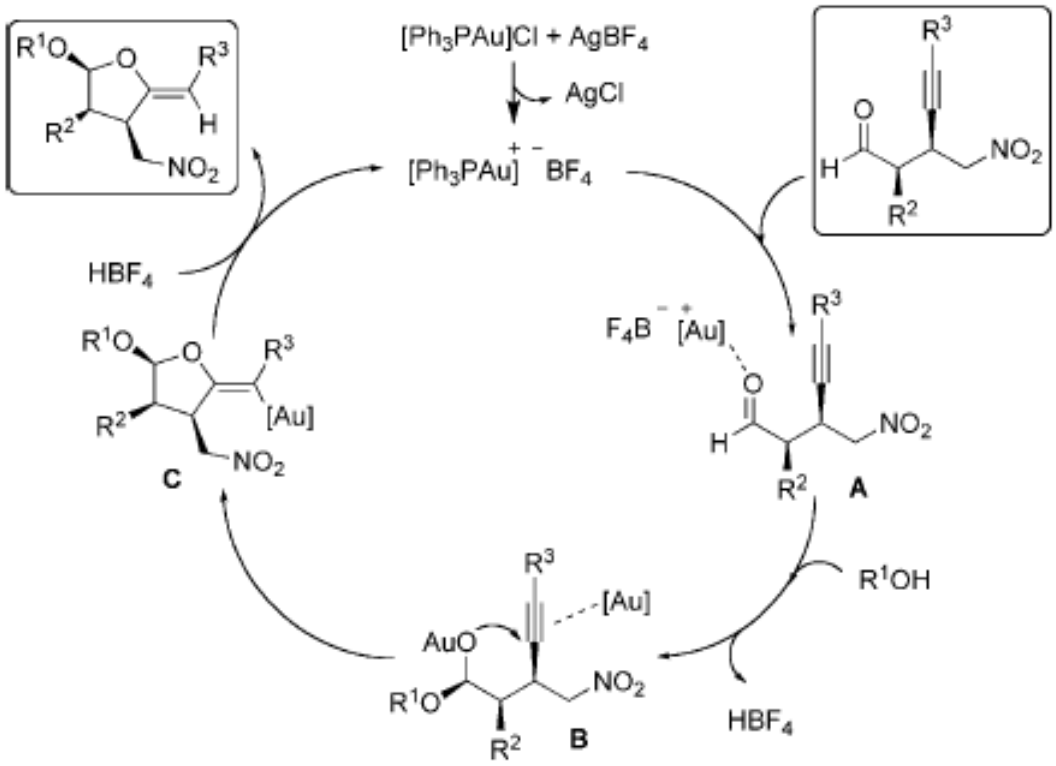


# Scope of the one-pot reaction




| Entry | $R^1$ | $R^2$ | Yield [%][a] | d.r. of **3**[b] (*syn*/*anti*) | d.r.[c] (*cis*/*trans*) | *ee* [%][d] (*syn*) |
|---|---|---|---|---|---|---|
| 1 | Et | Ph | **4a**: 80 | 96:4 | 92:8 | 99 |
| 2 | Me | Ph | **4b**: 81 | 96:4 | 93:7 | 99 |
| 3 | *i*Pr | Ph | **4c**: 78 | 96:4 | 88:12 | 99 |
| 4 | Et | *p*-$BrC_6H_4$ | **6**: 86 | 97:3 | 92:8 | >99 |
| 5 | Et | *p*-$MeOC_6H_4$ | **7**: 77 | 95:5 | 91:9 | >99 |
| 6 | Et | *p*-$CF_3C_6H_4$ | **8**: 84 | 96:4 | 93:7 | >96[e] |
| 7 | Et | *m*-$MeC_6H_4$ | **9**: 86 | 96:4 | 91:9 | >99 |
| 8 | Et | 3-thienyl | **10**: 75 | 97:3 | 89:11 | 99 |

# Proposed mechanism for the gold-catalyzed tandem acetalyzation/cyclization




***Scheme 4.*** Proposed mechanism for the gold-catalyzed tandem acetalyzation/cyclization.