Cyclization of 1-(Trifluoromethyl)-4-alkyn-1-ones with Arylboronic Acids

Significance: Lautens and co-workers report a rhodium-catalyzed cyclization of 1-(trifluoromethyl)-4-alkyn-1-ones with variously substituted arylboronic acids to obtain (trifluoromethyl)cyclobutanols bearing an exocyclic double bond.

Comment: The reactivity of the newly formed exocyclic double bond was explored by subjecting a (trifluoromethyl)cyclobutanol to an epoxidation reaction using MCPBA and an ozonolysis.

Selected examples:

- R1 = Me, Et, Bn; R2 = H, Me, OH, OMe, CO2Me, F, Br, Ac, CH2OH, NHBoc, CHO
  - coe = cyclooctene

41–65% yield
50–96% ee