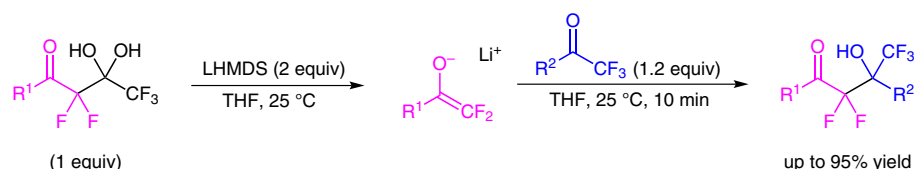
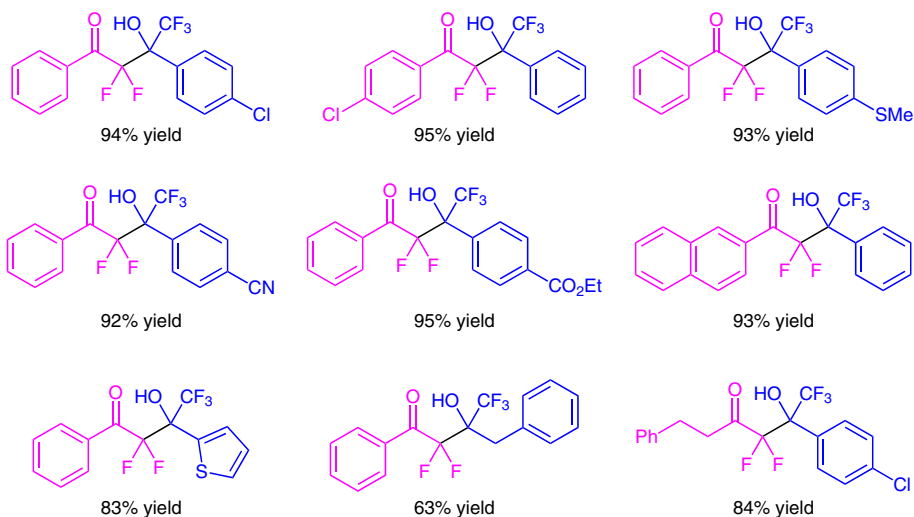


Pentafluorinated β -Hydroxy Ketone Synthesis via Lithium-Mediated Aldol Reaction



R¹ = Ph, 4-ClC₆H₄, Naph, (CH₂)₂Ph
R² = Ar, 2-thienyl, Bn

Selected examples:



Significance: A fast and mild synthesis of pentafluorinated β -hydroxy ketones has been disclosed. The reaction proceeds via a lithium-promoted aldol reaction of readily available difluoroenolate precursors with trifluoromethyl ketones furnishing the corresponding pentafluorinated β -hydroxy ketones in good to excellent yield.

Comment: The described reaction is very versatile since it proceeds under ambient temperature and tolerates a broad range of functional groups. Furthermore, the authors show that the reduction of the pentafluorinated β -hydroxy ketones furnishes quantitatively the corresponding 1,3-diols favoring the *syn*-isomer.