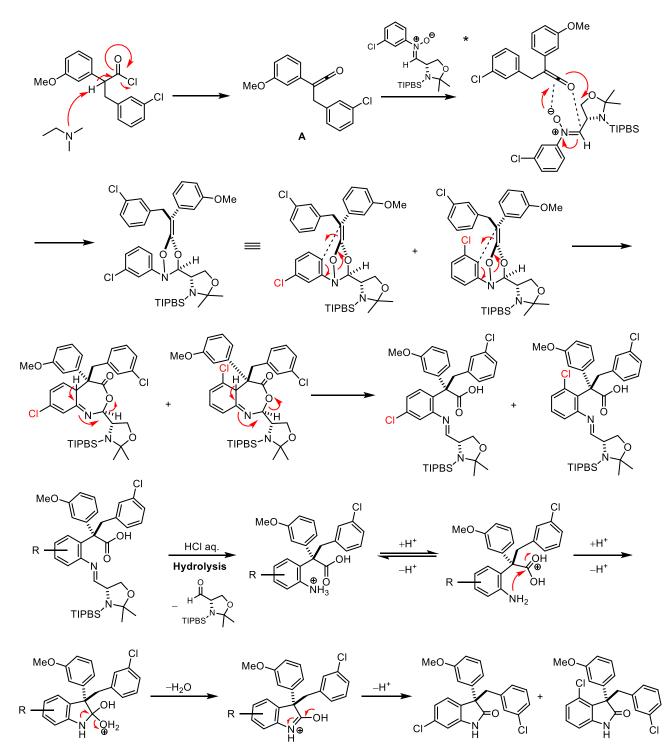
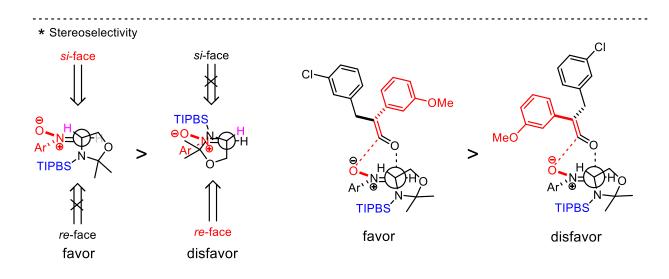
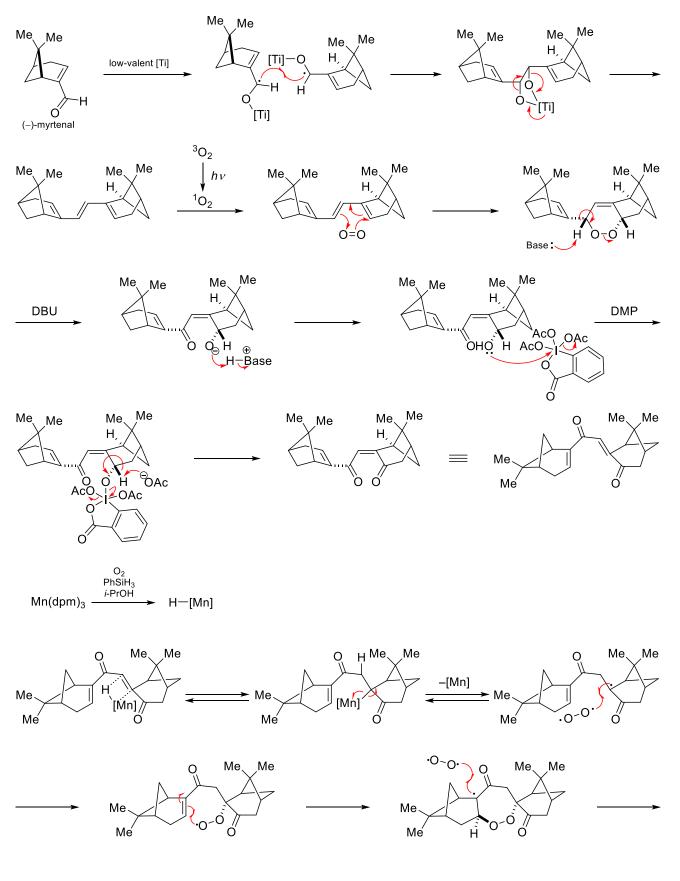
1

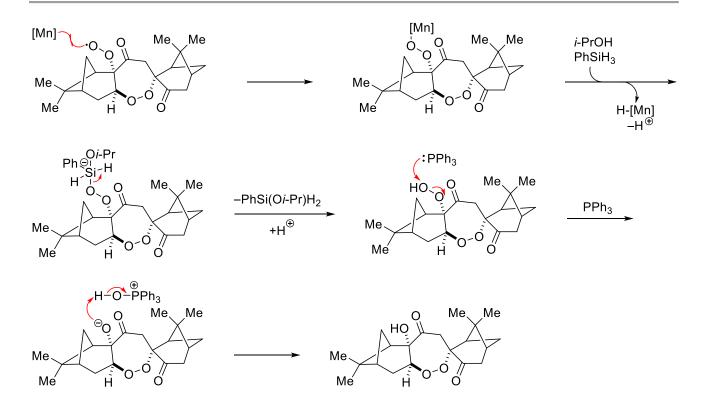




2 ⊖ ⊕ *n-*BuLi . O*i*Pr $(i-PrO)_2$ H−́Ti(O*i*-Pr)₂ H Ťi(O*i*-Pr)₂ –2LiO*i-*Pr Ò*i*Pr := ⊖ ⊕ n-BuLi (O*i*-Pr)₂ Ti(O*i*-Pr)₂ Ph -TMS Ti(O*i-*Pr)₂ TMS Ph TMS Ph Н Me ϘPh ⊖⊕ OLi 0 Me ⊕€ _Oi-Pr *i*-PrO Ńе +*i*-PrOLi -TMS O*i*-Pr н $\Theta \oplus$,Oi-Pr Ô –LiO*i*-Pr Ph тмз -*i*-PrOLi Ρh ÒPh Ph тмѕ PhO ⊖ O*i*-Pr Me *i*-PrO OR *Oi*-Pr *i*-PrO Me LiO. _ *i*-PrO-Ťí ,TMS TMS ,TMS ···OLi Ph Ph LiO .[Ti] LiO TMS __ ⊖ –OPh Ph [4+2] -O*i*-Pr 1 cycloaddition Ме м́е OPh Ρh ÒPh Me TMS Me ⊕ +H TMS OLi чΟН Ph H⊕ [Ti] –[Ti] Ph Ĥ . Me-OH work up В Me TMS Me Me TMS +H[⊕] ••OLi TMS OLi Ph ···OH Ph Ťi*∕Oi*-Pr ∣`O*i*-Pr OR 1,3-metallotropic shift H[⊕] Ph –[Ti] [Ti] work up HO-Me Ńе Α

3





4

