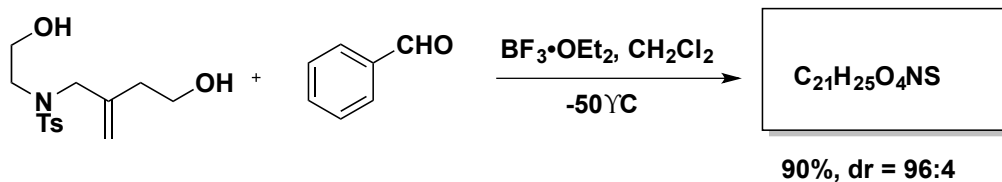


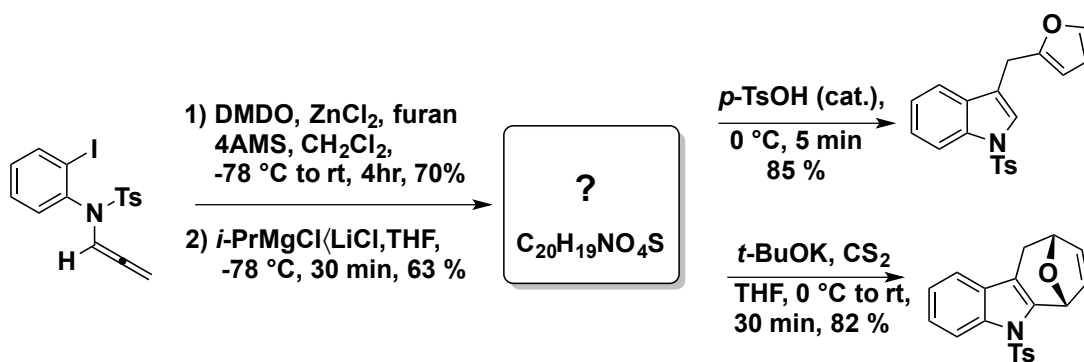
セミナー問題 (2014/5/24)

出題者: 吉村



K. K. Singarapu *et al.* *J. Org. Chem.*, **2014**, 79, 2289.

出題者: 小嶺



^1H NMR (400 MHz, CDCl_3) δ 2.23 (dd, $J_{\text{ab}} = 14.4$ Hz, $J = 4.8$ Hz, 1H), 2.31 (d, $J_{\text{ab}} = 14.0$ Hz, 1H), 2.32 (s, 3H), 4.13 (d, $J = 5.6$ Hz, 1H), 4.82 (d, $J = 4.8$ Hz, 1H), 5.05 (dd, $J = 5.6, 2.0$ Hz, 1H), 5.65 (dd, $J = 6.0, 1.6$ Hz, 1H), 5.79 (dd, $J = 6.0, 2.0$ Hz, 1H), 7.01 (dd, $J = 7.6, 1.6$ Hz, 1H), 7.07 (td, $J = 7.6, 0.8$ Hz, 1H), 7.19 (d, $J = 8.0$ Hz, 2H), 7.31 (td, $J = 8.0, 1.2$ Hz, 1H), 7.62 (d, $J = 8.4$ Hz, 2H), 7.68 (d, $J = 8.4$ Hz, 1H);

^{13}C NMR (100 MHz, CDCl_3) δ 21.7, 34.4, 69.0, 75.5, 77.8, 79.4, 110.0, 117.1, 122.0, 125.4, 127.3, 130.0, 130.6, 133.5, 134.5, 138.7, 141.2, 144.7;

IR (neat) cm^{-1} 2970m, 2360m, 1738s, 1436m, 1365s, 1229s, 1217s;

mass spectrum (ESI): m/e (% relative intensity) 387.2 (100) ($\text{M}+\text{NH}_4$) $^+$.

R. P. Hsung *et al.*, *Org. Lett.* **2014**, 16, 2180.