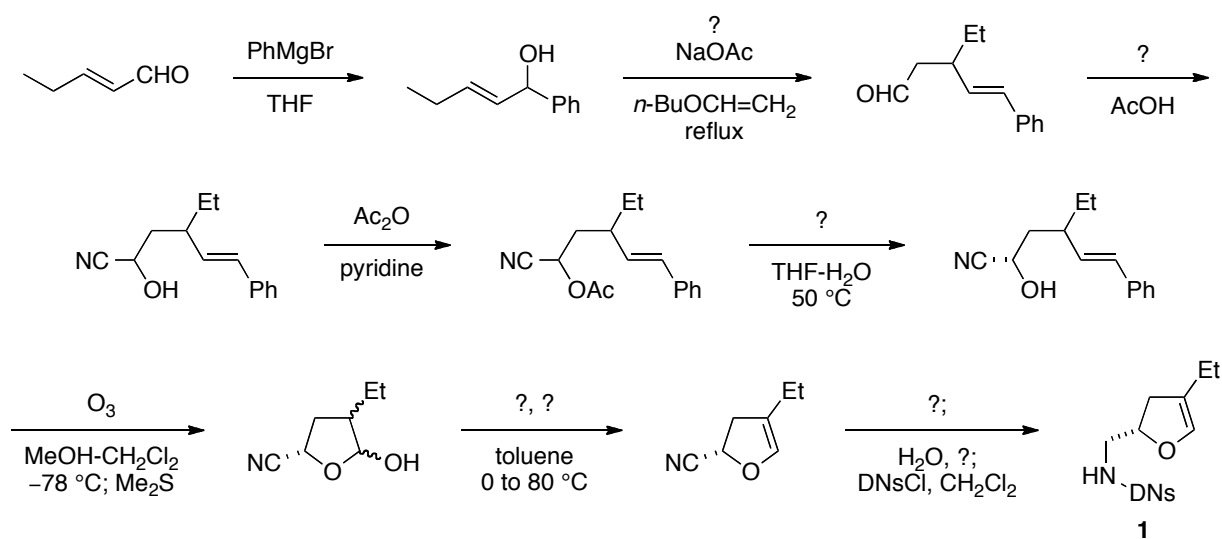
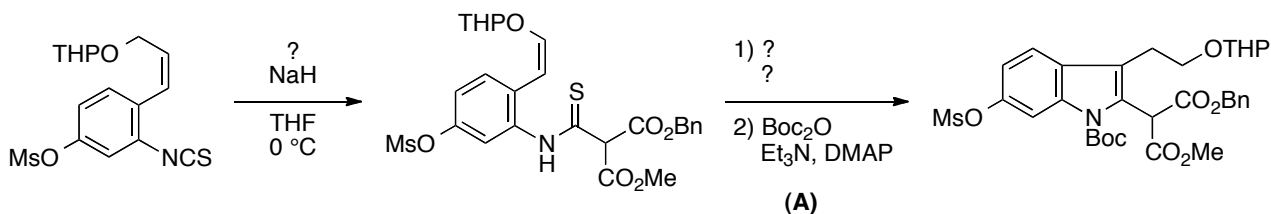
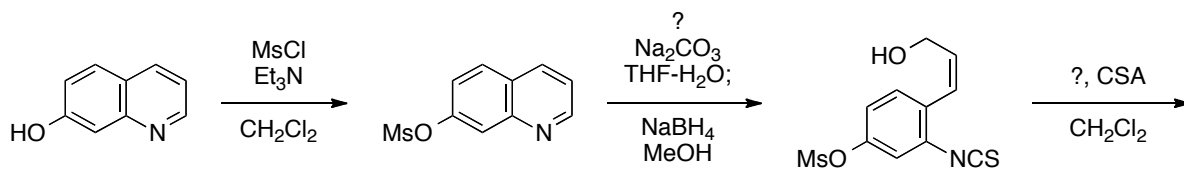
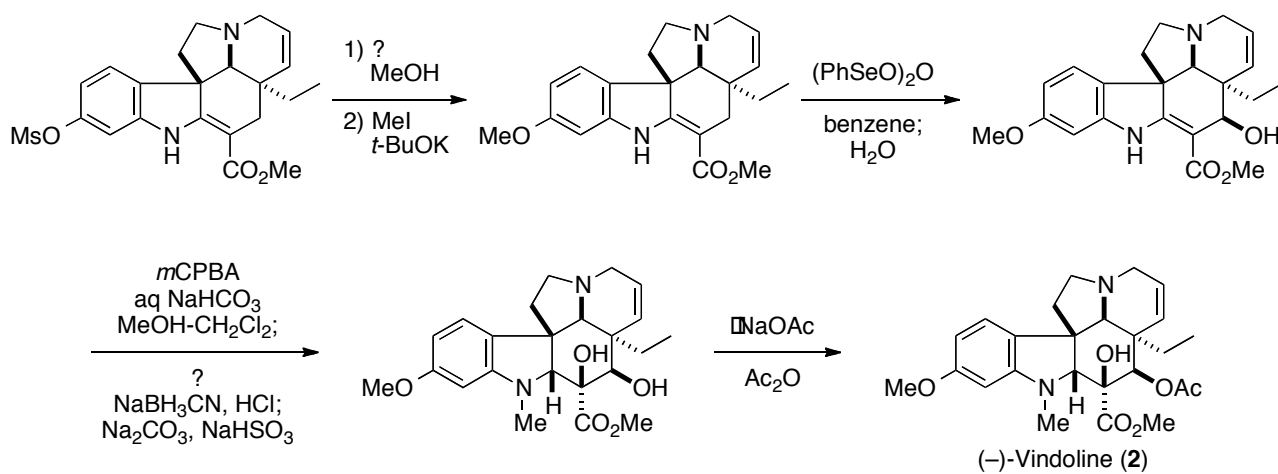
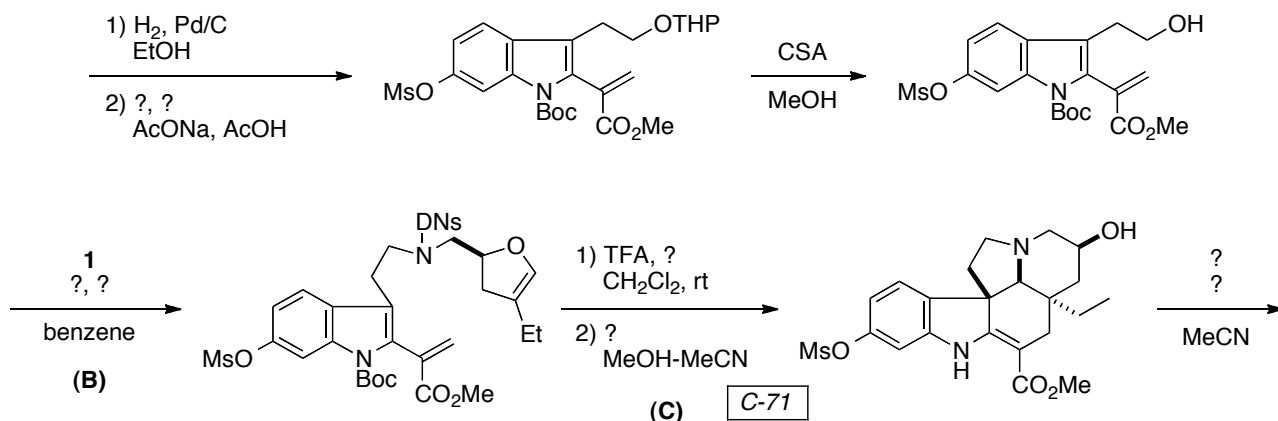


(+)-Vinblastine (180512-TKGP)		T. Fukuyama, S. Yokoshima <sup>1), 2)</sup>
<b>Activity</b>	Antitumor (抗腫瘍活性)	
<b>Key Reactions</b>	(A) radical-mediated indole synthesis, (B) Mitsunobu reaction of DN's amide, (C) [4+2] cycloaddition, (D) macrocyclization of N's amide, (E) stereoselective coupling	

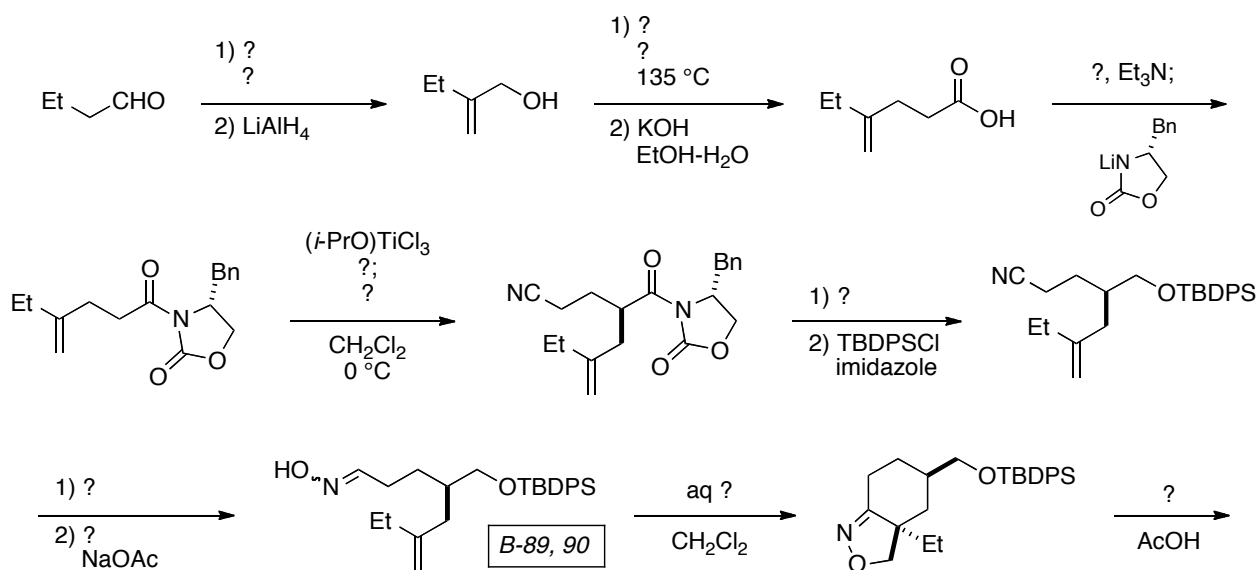


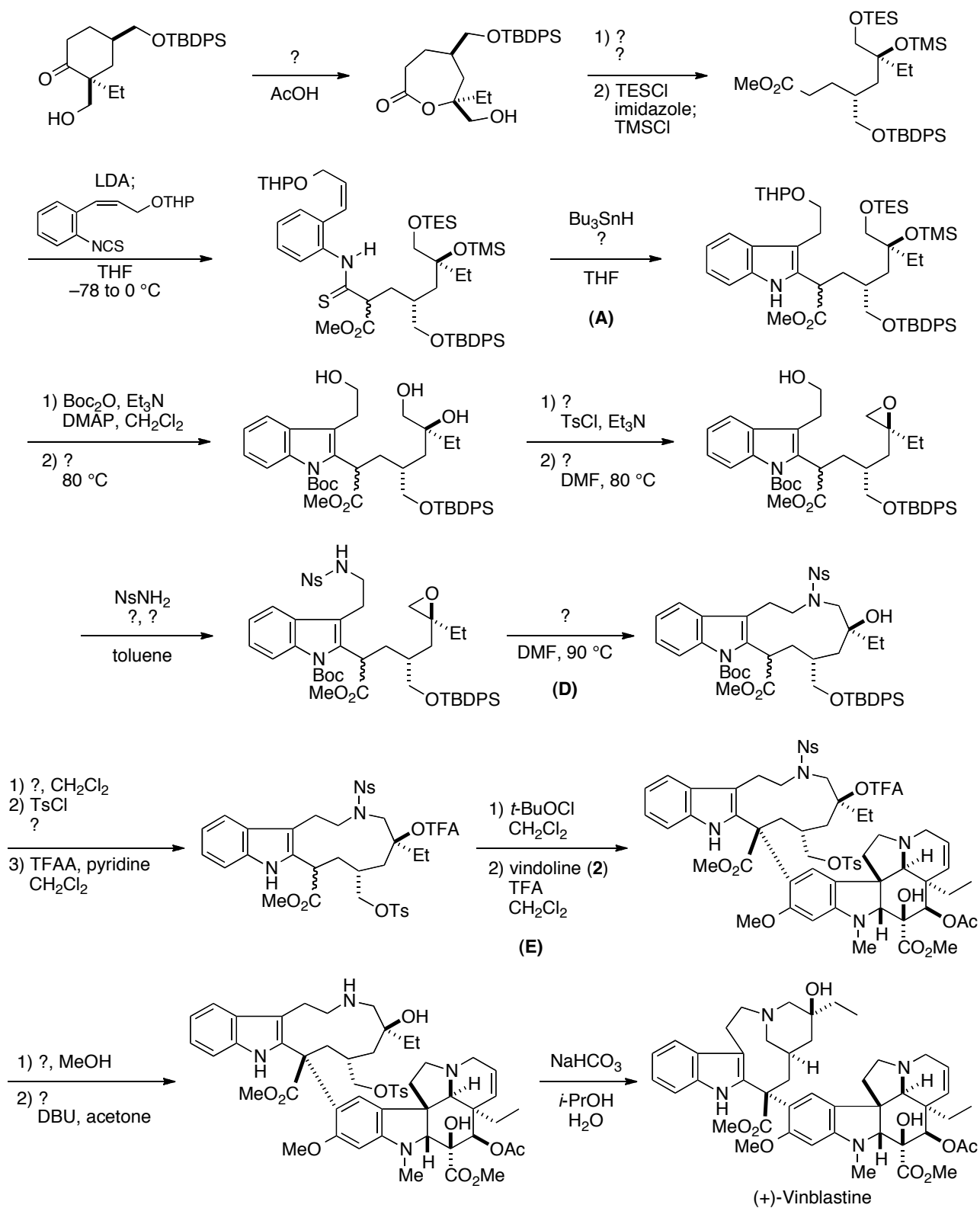
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**References:**

- 1) S. Yokoshima, T. Ueda, S. Kobayashi, A. Sato, T. Kuboyama, H. Tokuyama, T. Fukuyama, *J. Am. Chem. Soc.*, **124**, 2137 (2002)
- 2) S. Kobayashi, T. Ueda, T. Fukuyama, *Synlett*, 883 (2000)