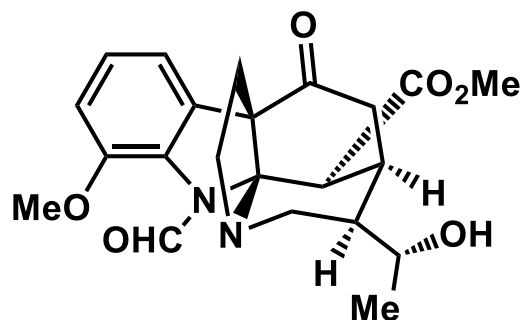
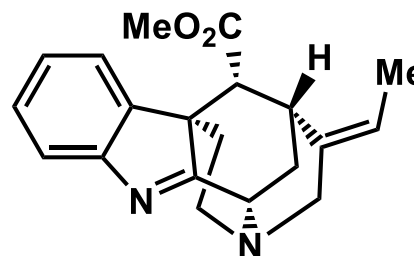


# Total Synthesis of (+)-Alsmaphorazine C and Formal Synthesis of (+)-Strictamine: A Photo-Fries Approach

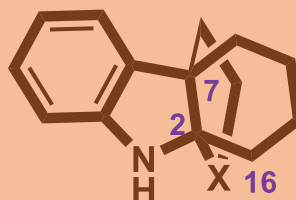
DOI: 10.1002/anie.202101752.



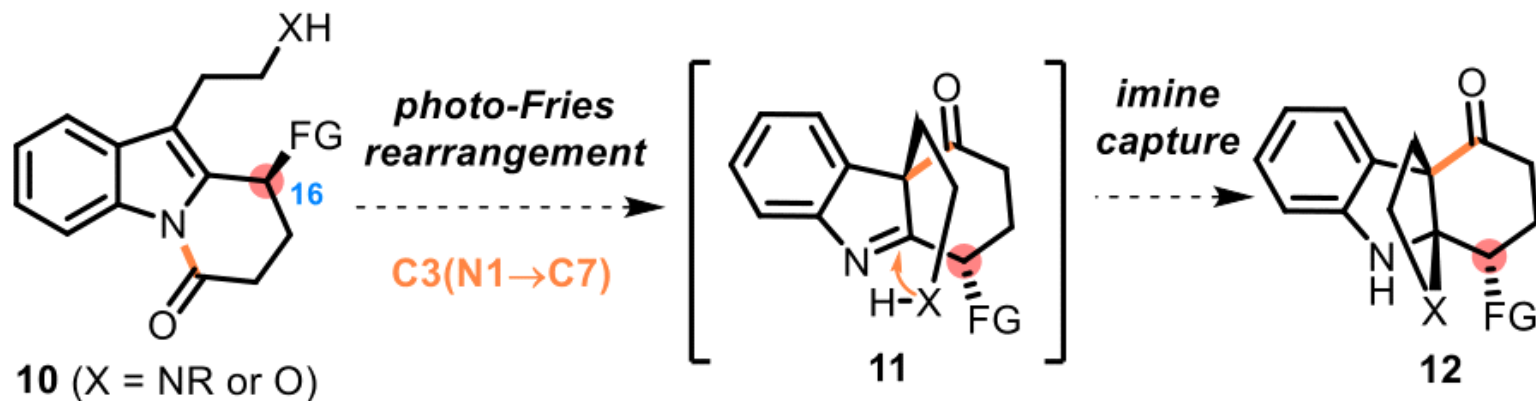
(+)-alsmaphorazine C (**6**)



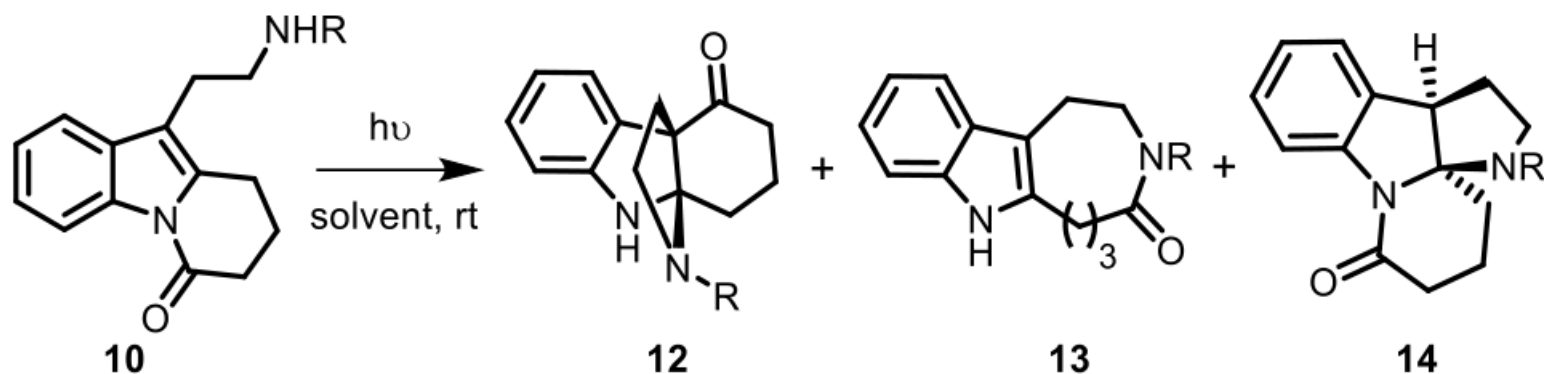
(+)-strictamine (**30**)



2,7-heterocycle-fused  
tetrahydrocarbazole skeleton  
(1: X = NR or O)



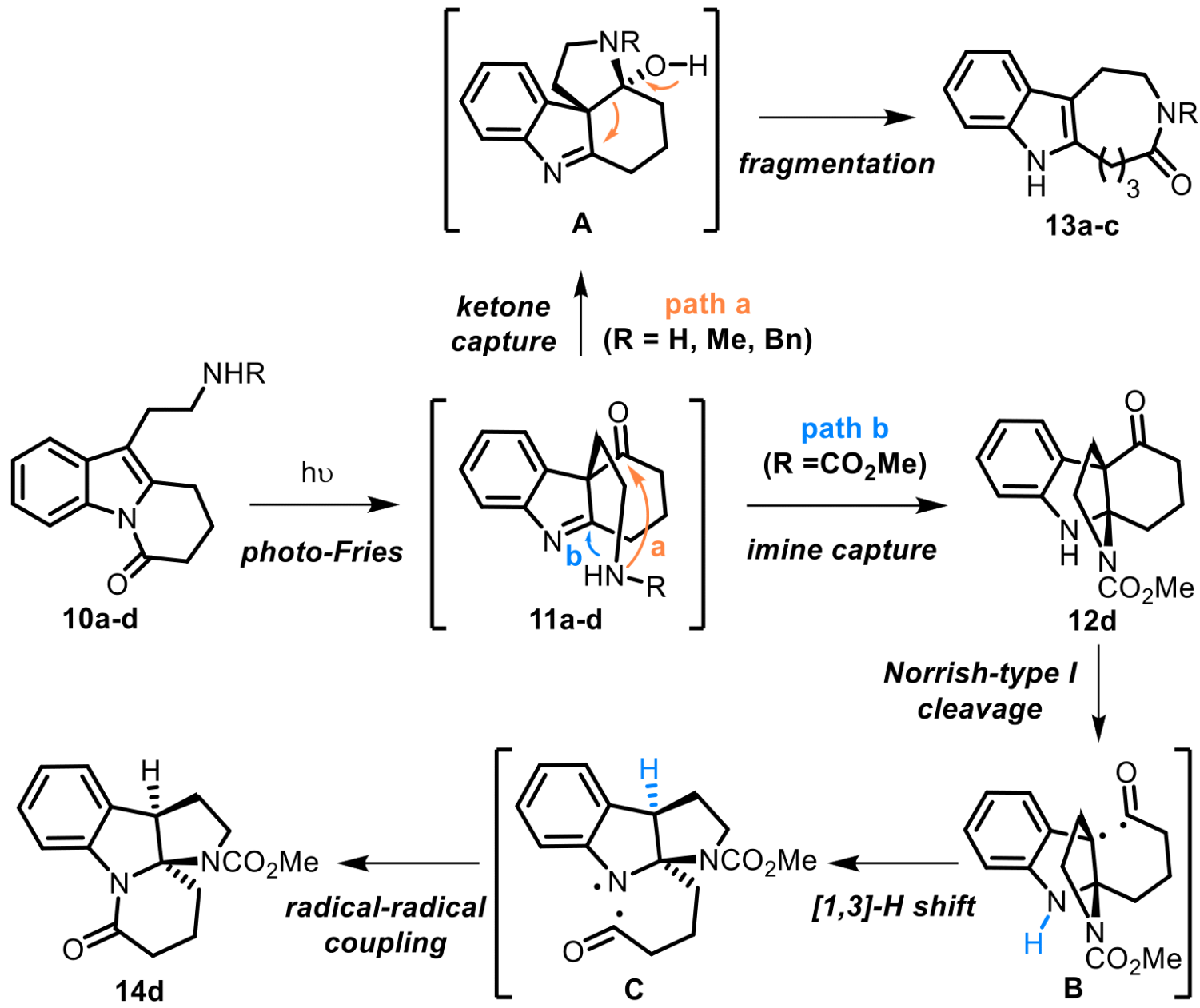
The bioinspired photo-Fries/imine capture strategy for the Synthesis of (+)-Alsmaphorazine C and (+)-Strictamine

**Table 1.** Optimization of the photo-Fries/imine capture cascade.

Entry	R	Solvent	Product (Yield) <sup>[c]</sup>
1 <sup>[a]</sup>	H, Me or Bn	MeOH	<b>13a–c</b> (21-65%)
2 <sup>[a]</sup>	CO <sub>2</sub> Me	Et <sub>2</sub> O	<b>12d</b> (25%), <b>14d</b> (38%)
3 <sup>[b]</sup>	CO <sub>2</sub> Me	Et <sub>2</sub> O	<b>12d</b> (54%), <b>14d</b> (20%)
4 <sup>[b]</sup>	CO <sub>2</sub> Me	t-BuOH	<b>12d</b> (77%), <b>14d</b> (<5%)

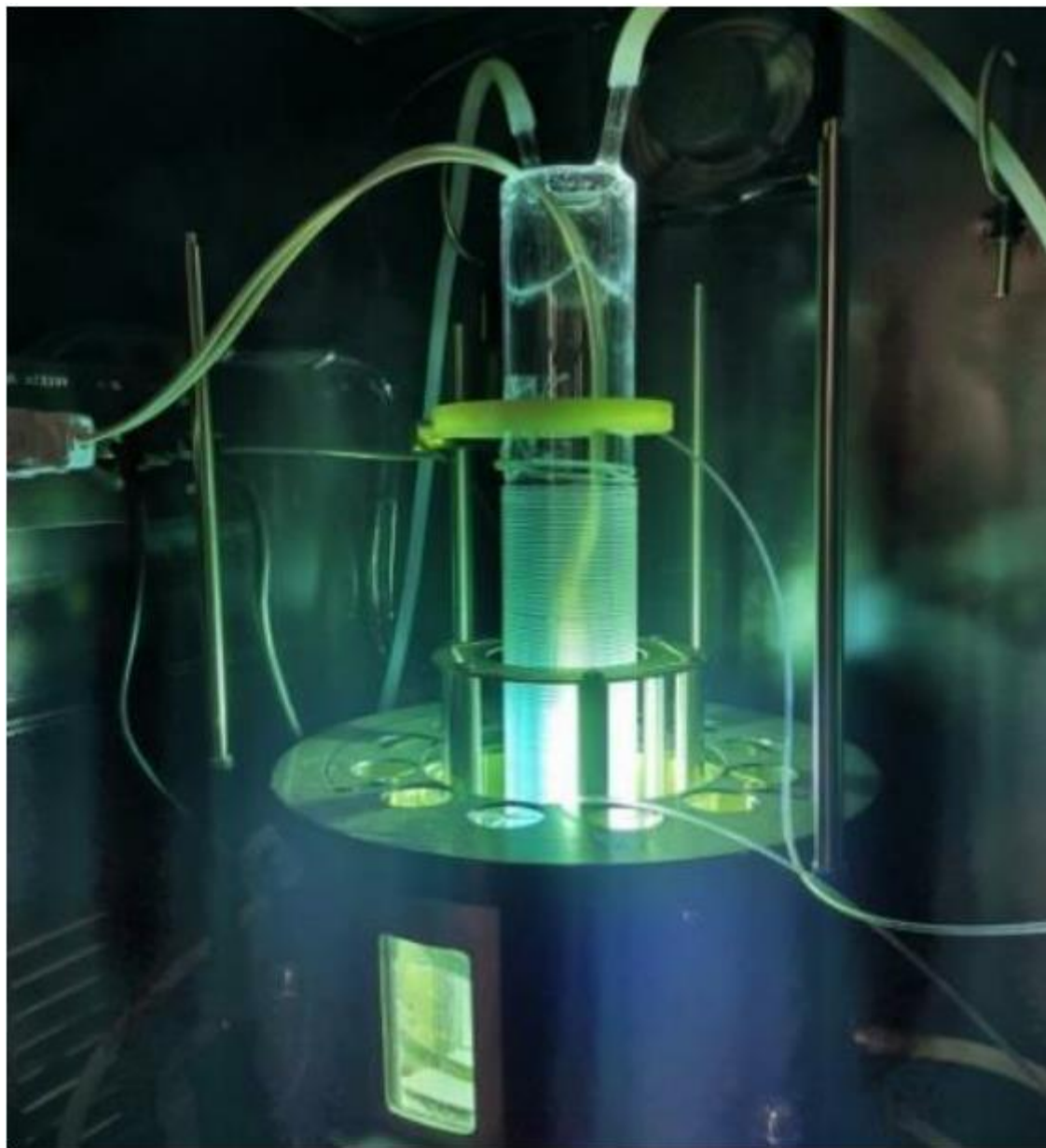
[a] Batch conditions: **10a–d** (0.5 mmol, c = 0.1 M), rt, 6 h. [b] Flow conditions: **10d** (c = 0.1 M), rt, residence time 20 min. [c] Isolated yields.

Plausible mechanisms for the photo-conversions of **10a–d** to **13a–c**, **12d** and **14d** described in **Table 1**.



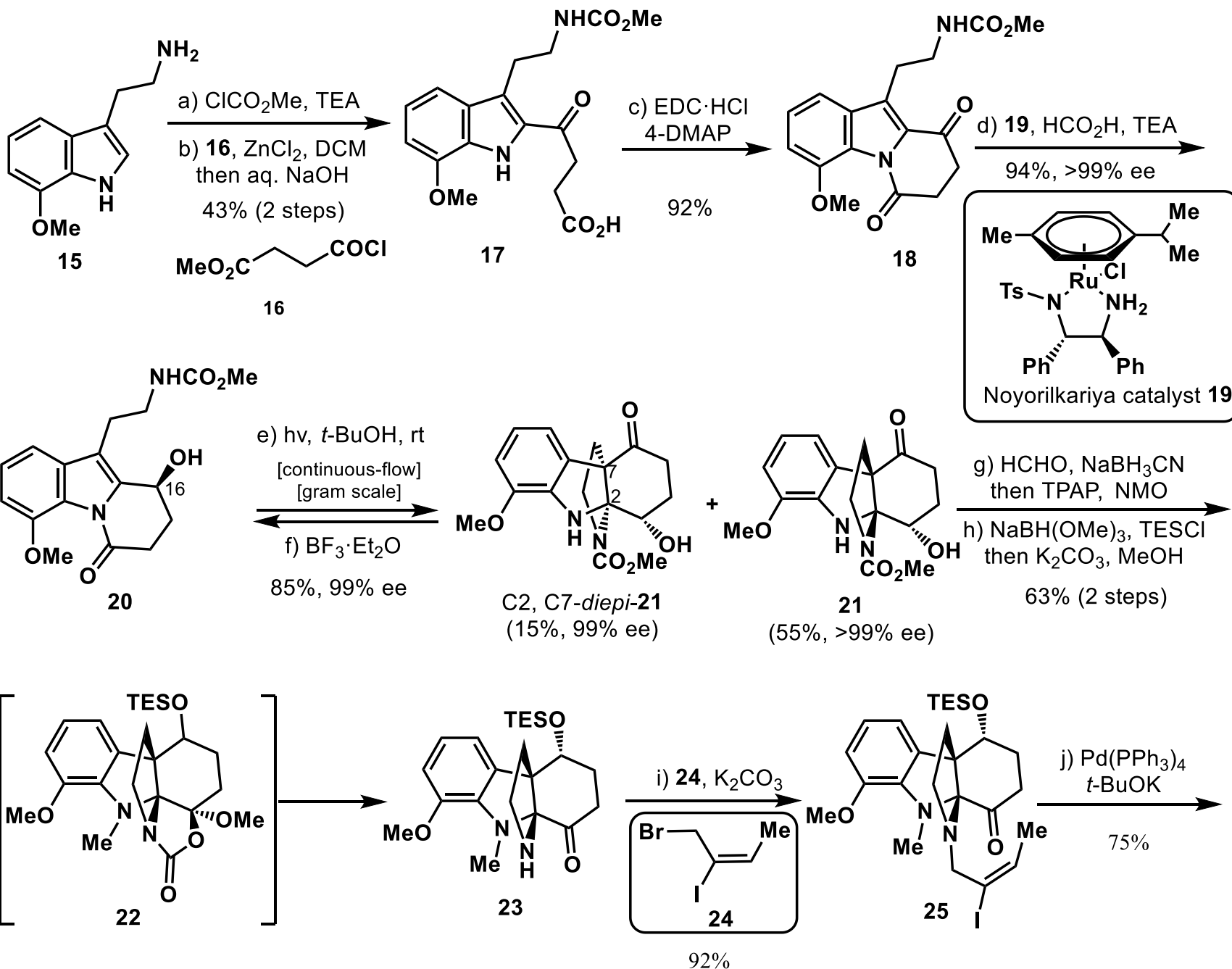


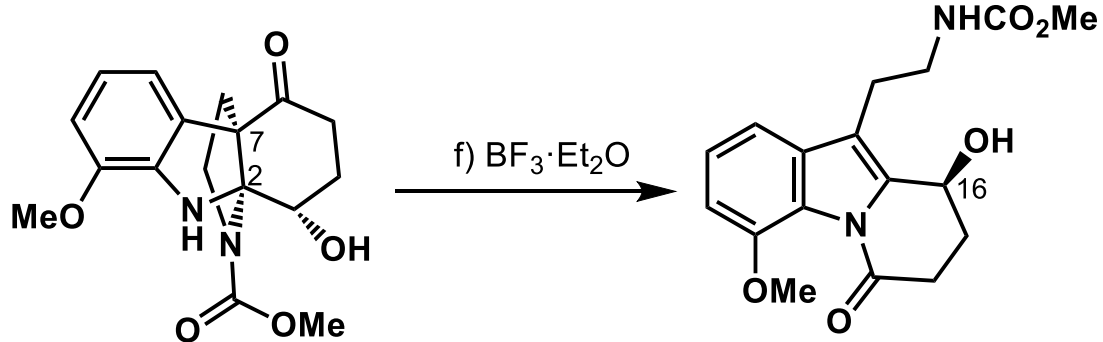
Gram-scale photochemical flow reactor with the peristaltic pump.



Photochemical batch reactor.

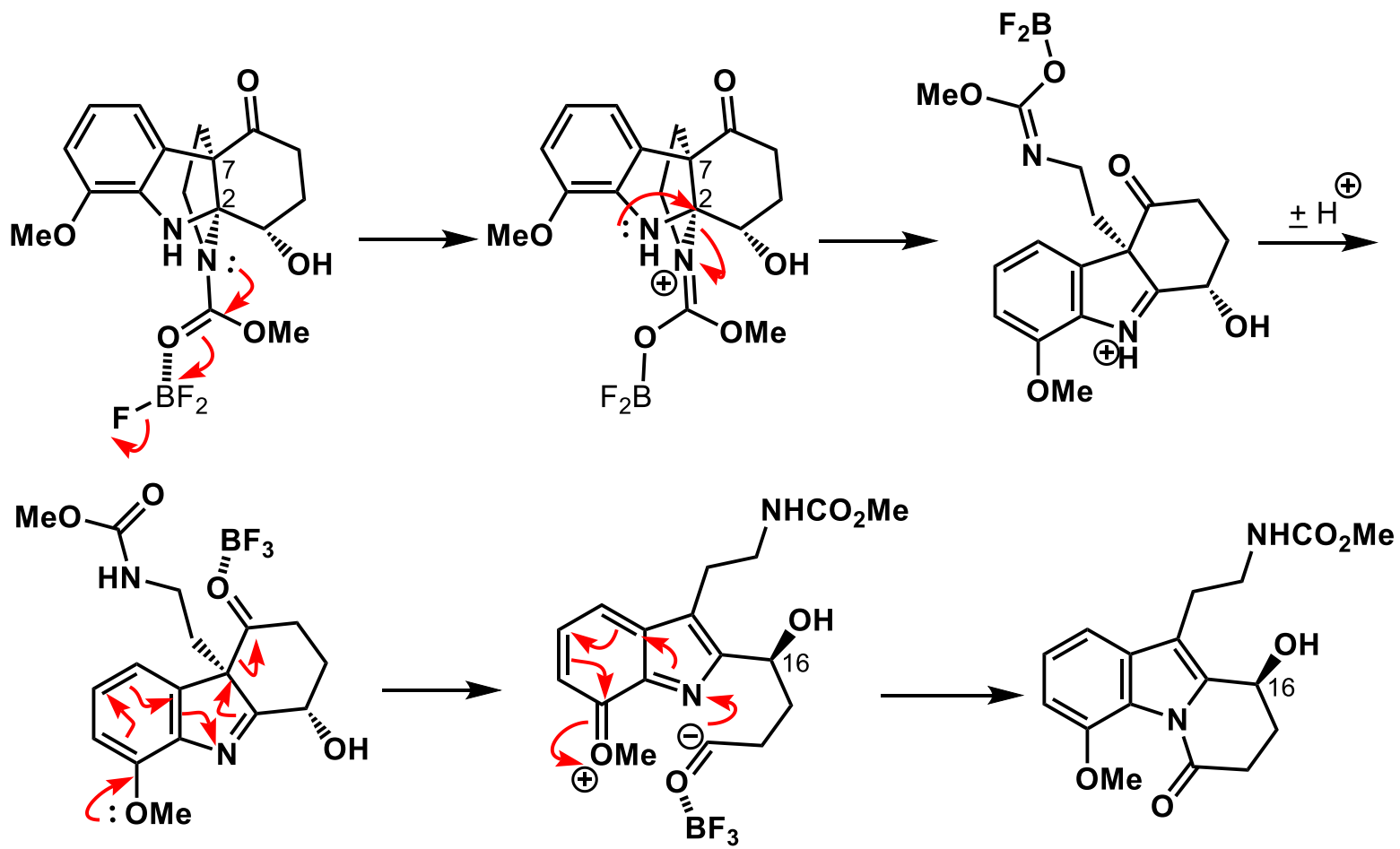
# Total synthesis of (+)-alsmaphorazine C (6)



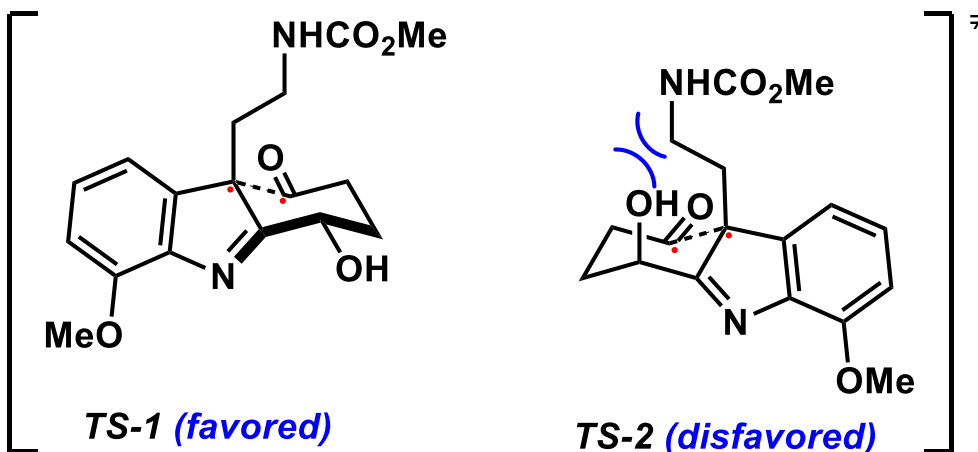


C2, C7-diepi-21  
 (15%, 99% ee)

20

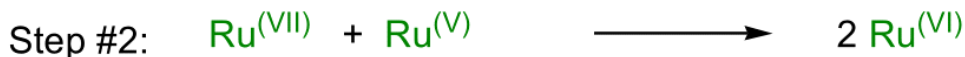
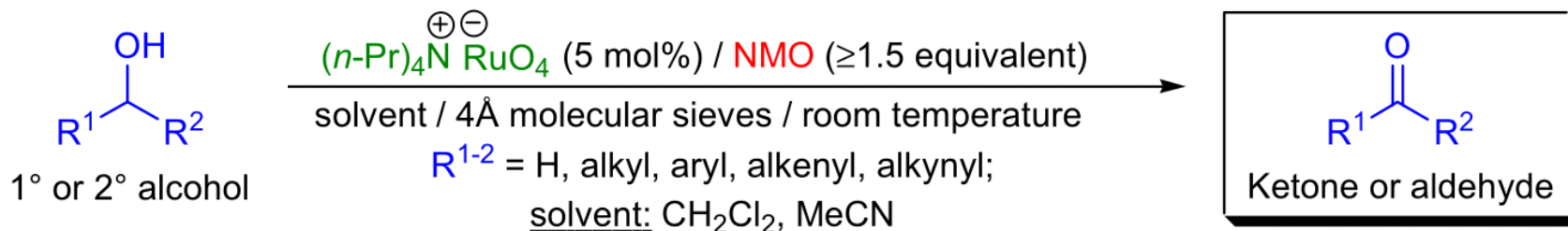


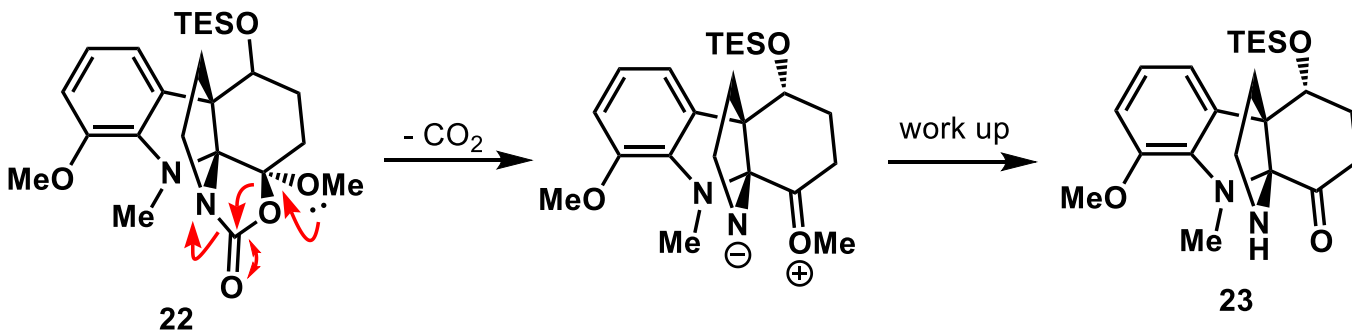
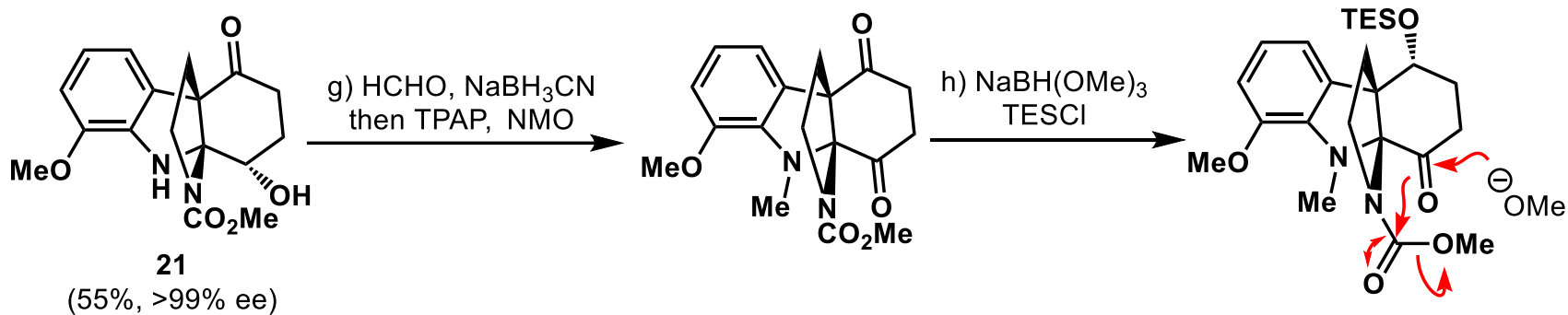


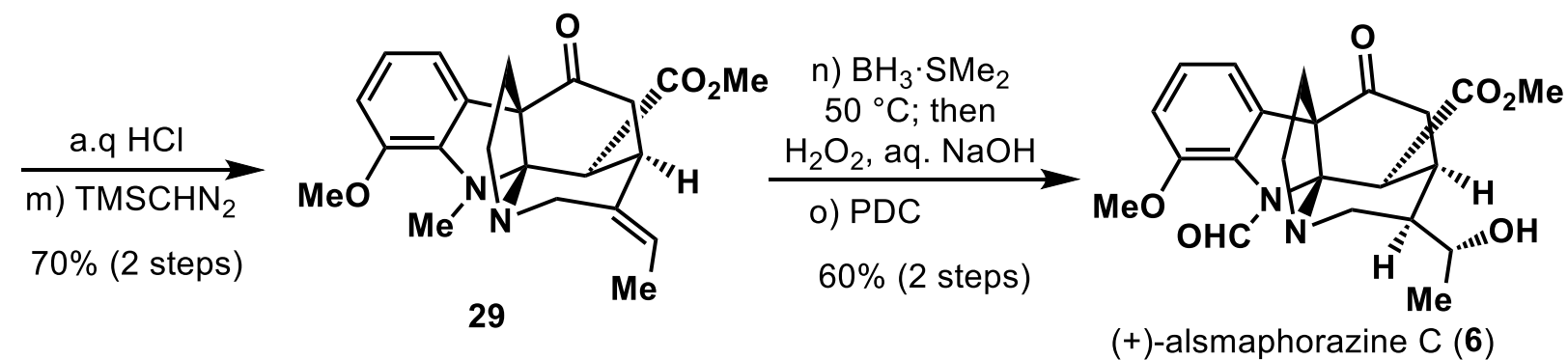
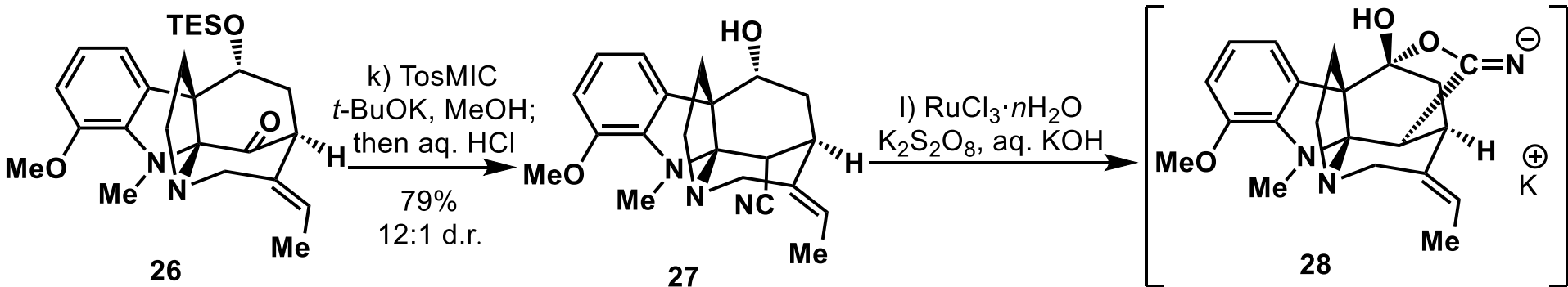


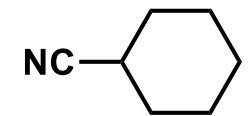
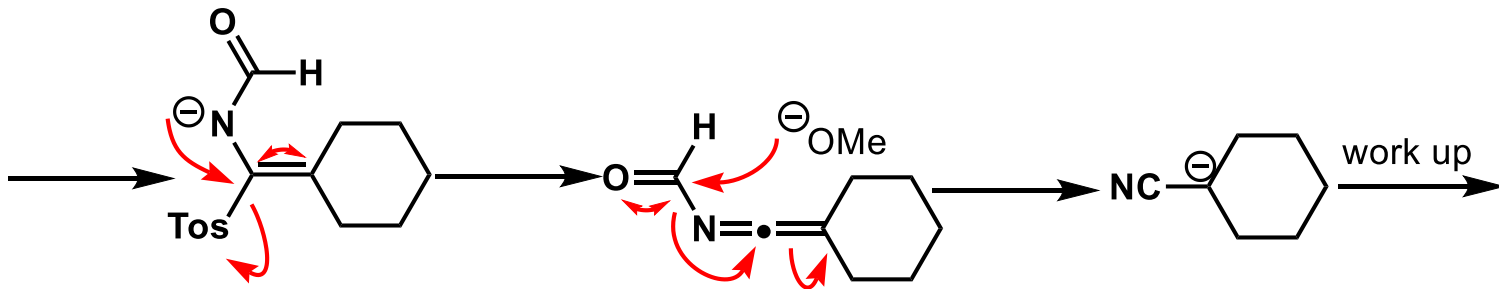
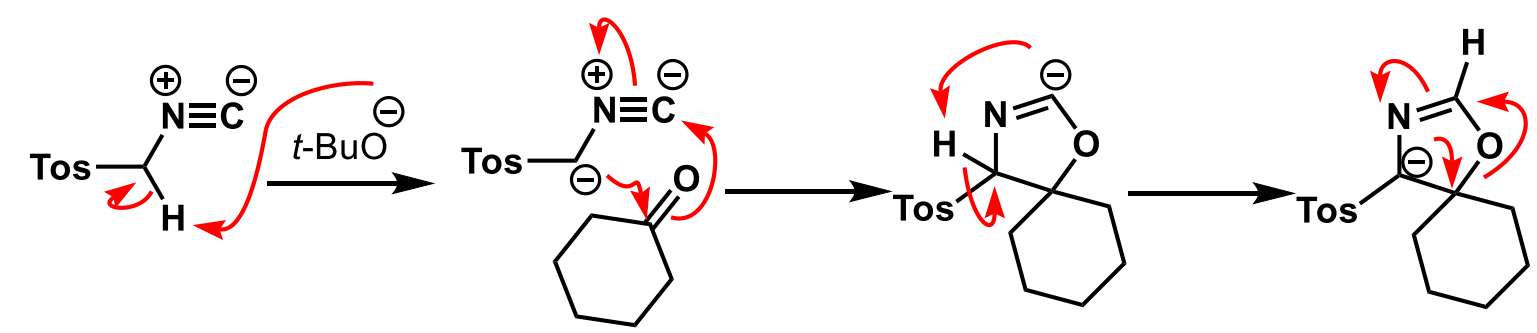
## LEY OXIDATION

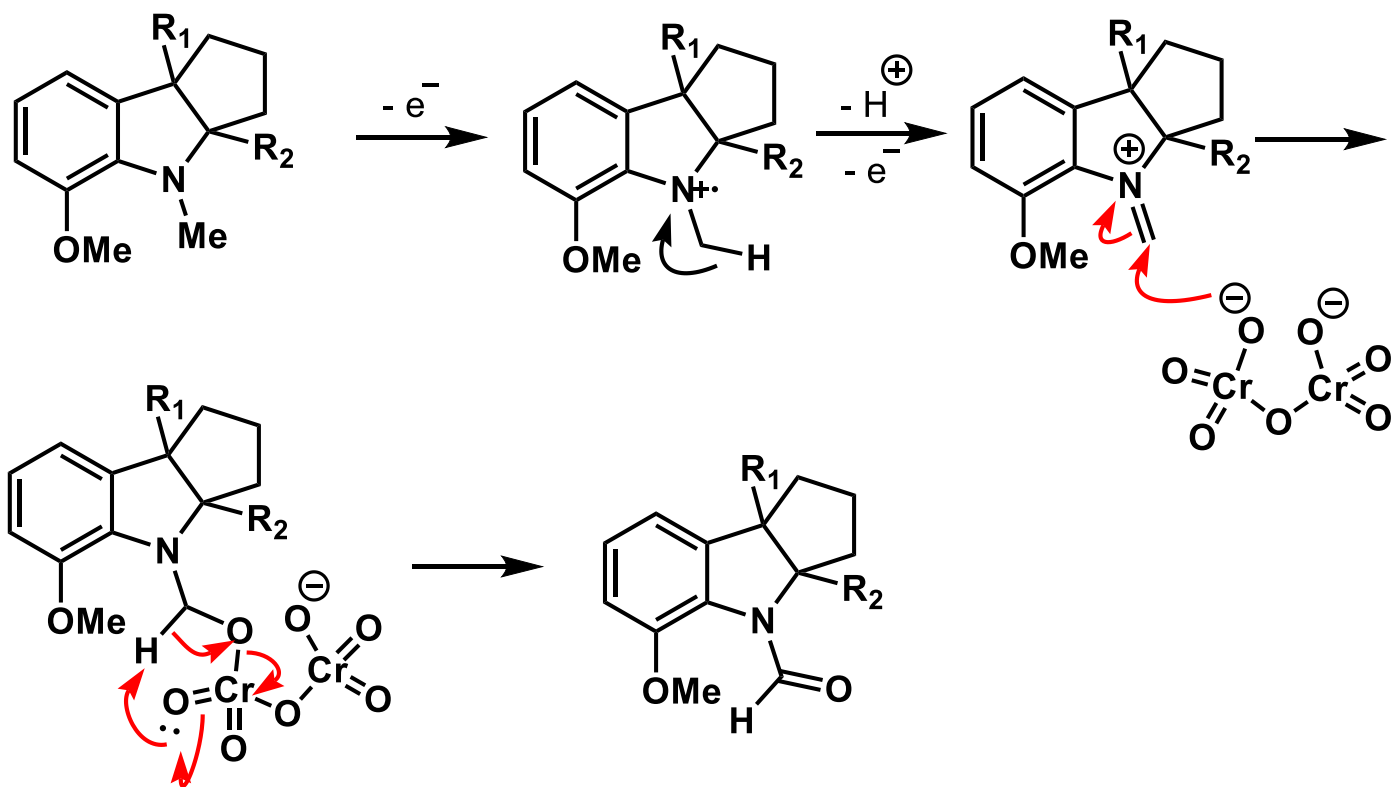
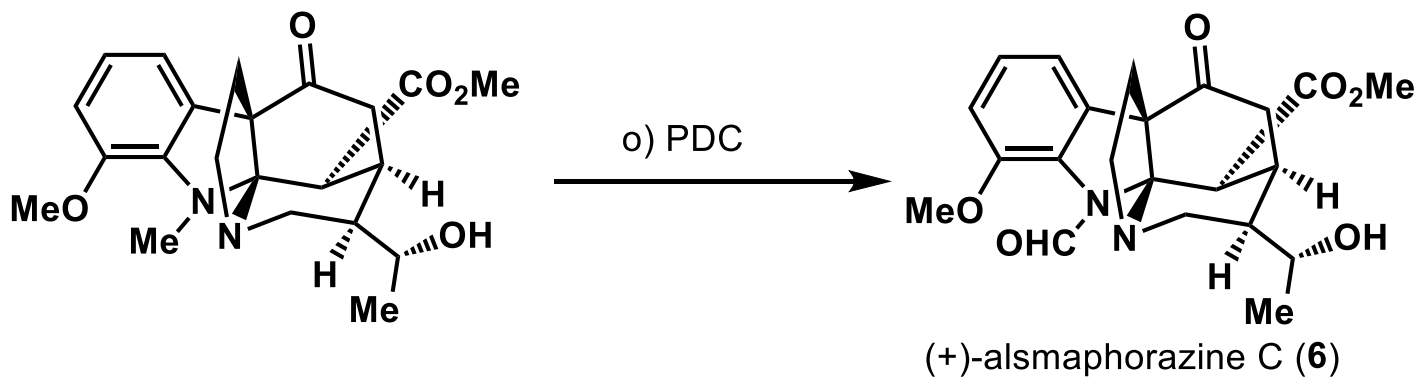
(References are on page 620)











# Formal synthesis of (+)-strictamine (30)

