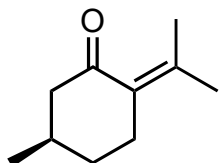


Total Synthesis of (+)-Fawcettidine

J. A. Kozak, G. R. Dake, *Angew. Chem. Int. Ed.* **2008**, 47, 4221–4223.

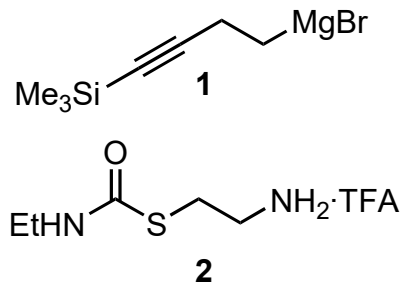


1-6



7-10

- 1) LiOH, H₂O₂
- 2) NaH, PhSH
- 3) NaBO₃·4H₂O, AcOH
- 4) DBU, DMF, -40 °C
then methyl acrylate
then 40 °C
- 5) **1**, CuBr·DMS
- 6) TBAF
- 7) **2**, AcOH, 110 °C
- 8) PtCl₂ (10 mol%)
- 9) SeO₂, 1,4-dioxane
- 10) 1 M NaOH aq./CH₂Cl₂



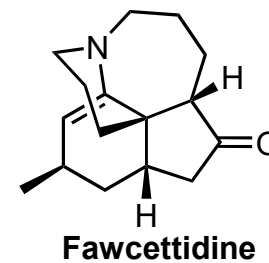
1) Name of the starting material?

Name of the reaction?

7) Propose a mechanism.

8) Propose a mechanism.

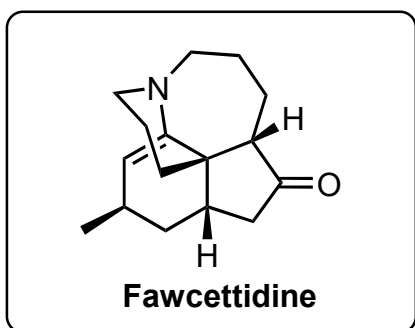
How would you classify the cyclization?



Fawcettidine



11-16



11) Ethylene glycol, PPTS

12) *m*-CPBA

13) KOH-alumina, CBr₂F₂

14) H₂, Pd/C

15) LiAlH₄

16) 1 M HCl aq.

13) Name of the reaction and mechanism.