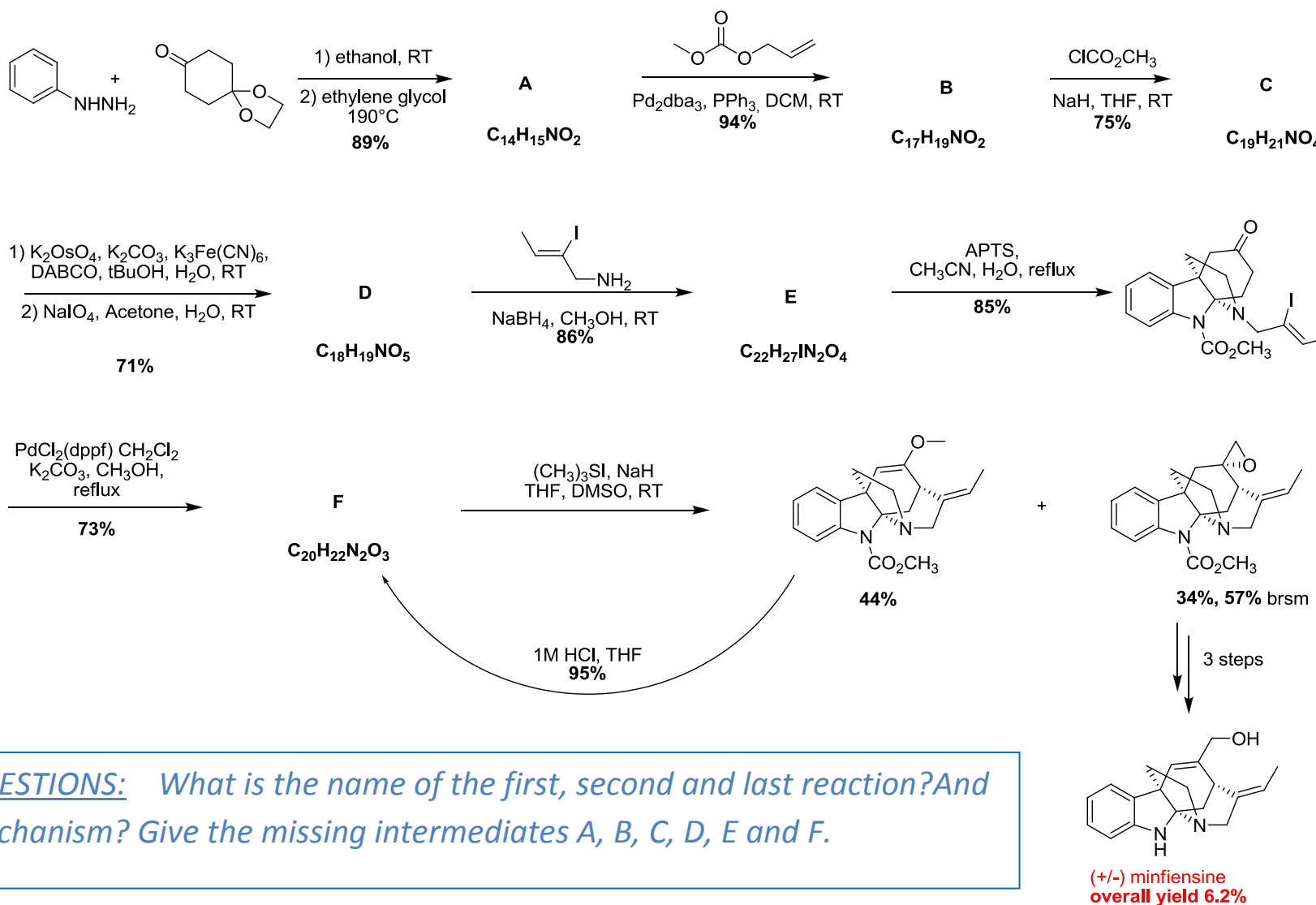


# A concise total synthesis of (±)-Minfiensine



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**Minfiensine**, an indole alkaloid isolated from the African plant *Strychnos minfiensis* by a group led by Massiot in 1989, exhibited significant biological activities including anticancer activities. The molecule features a 1,2,3,4-tetrahydro-9a,4a-(iminoethano)-9H-arbazole tetracyclic substructure, which makes it synthetically challenging. Therefore, this alkaloid and the related akuammiline indole alkaloids have attracted considerable synthetic interests.



**QUESTIONS:** What is the name of the first, second and last reaction? And mechanism? Give the missing intermediates A, B, C, D, E and F.