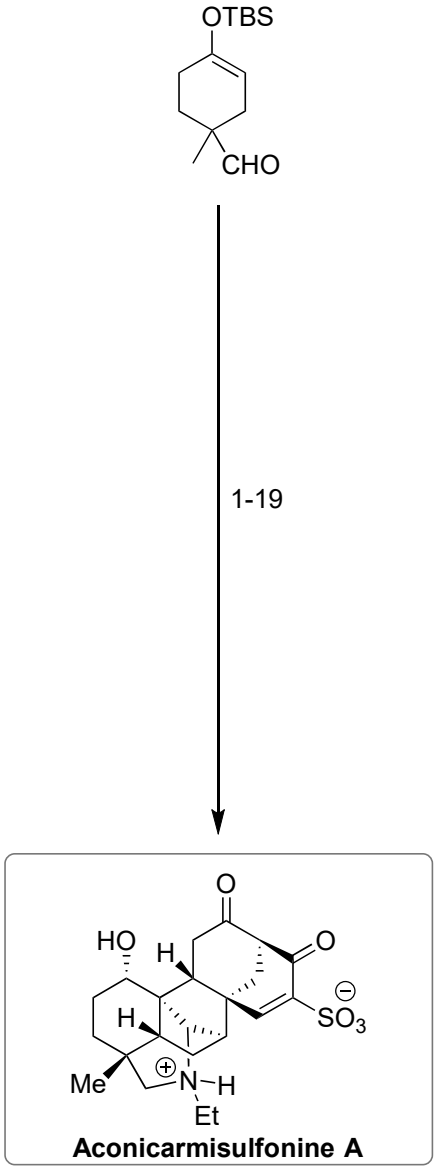
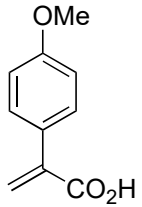
Total Synthesis of Aconicarmisulfonine A, a Sulfonated Diterpene Alkaloid

Shang Ning, Thomas J. Maimone, *J. Am. Chem. Soc.* **2025**, 147, 51, 46800–46805.



Aconicarmisulfonine A

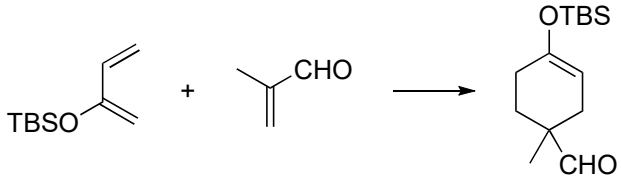
1) $EtNH_2 \cdot HCl$, Et_3N, AcOH, *then* $NaBH(OAc)_3$
2) **1**, HATU, DIPEA



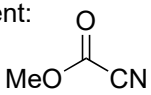
1

3) $[Ir(dF(CF_3)ppy)_2, (4,4'\text{-}dCF_3bpy)]PF_6$, 2,4,6-collidine, 456 nm LED
4) BzF, CsF, 18-C-6
5) PMHS, $IrCl(CO)(PPh_3)_2$
6) *n*-BuLi, Mander's reagent
7) TfOH, Δ
8) Li^0/NH_3, THF/*t*-BuOH
9) TsOH, $(CH_2OH)_2$
10) Ac_2O, DMAP, Et_3N
11) DIBAL-H, Cp_2ZrCl_2
12) CuCl/bpy, AZADO, DMAP, O_2
13) LDA, Boc_2O
14) TMSOTf, Δ
15) $AlMe_3$, $PhNH_2 \cdot HCl$, *then* TESCl, Et_3N
16) TBHP, KO*t*Bu
17) Ph_3CSH, Cs_2CO_3
18) LiHMDS, Boc_2O
19) H_2O_2, TFA/DCM

1) Propose a synthesis of SM in one step:

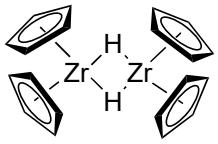


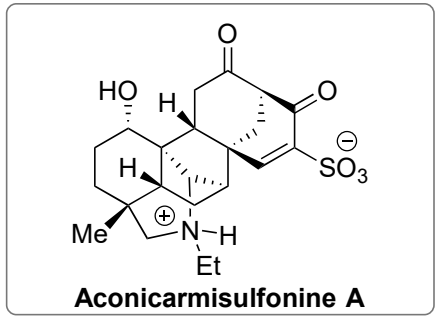
6) Structure of Mander's reagent:



7) Name of the reaction:
Mannich reaction
8) Name of the reaction:
Birch reduction

11) Structure and name of the reagent generated *in situ:*
Schwartz's reagent





Aconicarmisulfonine A