Total Synthesis of (±)-Aspergilline A

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1) i-Pr₂NEt (excess), CH₂Cl₂, –78 °C, 1h then 1
2) H₂ (30 bar), Raney Ni⁺, MeOH
3) DMP

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step 2: An undesired reduction occurred.

step 4: Name of this transformation?

step 7: Think about a mechanism.

What is the name of the formed motif?
8) Oxone®, CH₃CN/H₂O, 0 °C
9) PIFA, CH₂Cl₂, RT
10) TFA/H₂O (3/1), 55 °C

step 8: Mixture of epimers gave only one diastereomer.

11) NaSePh, 18-C-6. THF, 0 °C
12) Mg(ClO₄)₂, Ac₂O (large excess)
13) HgO, I₂, h-v, CH₂Cl₂, 115 °C
14) Bu₃SnH, AIBN, PhMe, 115 °C
15) K₂CO₃, MeOH

step 13: Name this transformation.

Aspergilline A