Total Synthesis of Rameswaralide Utilizing a Pharmacophore-Directed Retrosynthetic Strategy
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1) Name of the reaction? Mechanism?

4) Name of the reaction?

7) What is reactive intermediate in this reaction?

8) How would you call this transformation?

12) Name of the reaction? Role of O2?
15) KHMDS, 0 °C then allyl iodide, -78 °C
16) nBuLi, Bu₃SnCl
17) CuTC, AsPh$_3$, Pd$_2$(dba)$_3$
18) Et$_3$N, TESOTf (2.0 equiv)
19) TBAF, AcOH
20) air, CuCl, Pd(OAc)$_2$
21) pyrrolidine, pyrrolidine-HCl, 23 °C
22) 3, LiHMDS
23) MeOH, mesitylene, 120 °C

20) Name of the reaction?
22) Name of the reaction? Alternatives for this transformation?