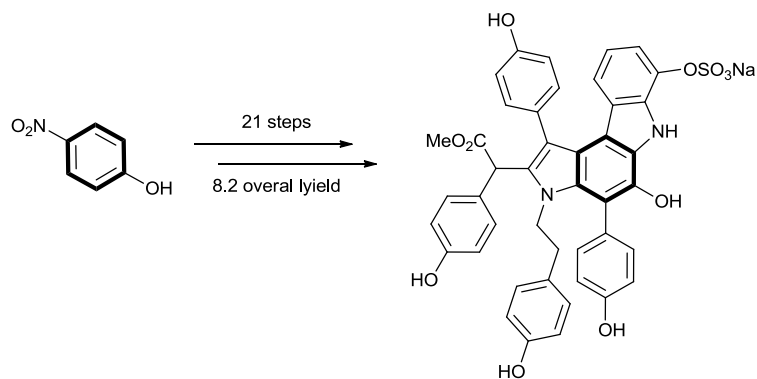


Dictyodendrins were isolated by Fusetani and Matsunaga from the marine sponge *Dictyodendrilla verongiformis* collected off Nagashima Island in Southern Japan in 2003. These compounds have been the first marine alkaloids known to possess inhibitory activity against telomerase and received considerable attention as synthetic targets. Fürstner and co-workers first succeeded in the total synthesis of dictyodendrins B, C, and E. This exercise deals with the first total synthesis of dictyodendrins A, published by K. Okano, H. Fujiwara et al.



Give all missing intermediates and explain the formation of the 7-anisyl substituted indoline.

