Toward the synthesis of dechlorogreensporone A
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Abstract: Dechlorogreensporone A (7), a new 14-membered resorcylic acid lactone, was isolated from a culture of a freshwater aquatic fungus Halenospora sp. by Oberlies and co-workers in 2014. Compound 7 exhibited cytotoxicity against MDA-MB-435 (melanoma) and HT-29 (colon) cancer cell lines with IC₅₀ values of 14.1 and >20 μM respectively. The synthesis of the macrocyclic core of dechlorogreensporone A was accomplished via Mitsunobu esterification of carboxylic acid 3 and alcohol 4 to construct diene 5, followed by ring-closing metathesis to form macrolactone 6 as key steps. Carboxylic acid 3 was synthesized from phenol 1 in 12 steps and alcohol 4 was prepared in 6 steps from (R)-(+-)propylene oxide (2).

Keywords: Dechlorogreensporone A; 14-Membered resorcylic acid lactone; Mitsunobu esterification; Ring-closing metathesis