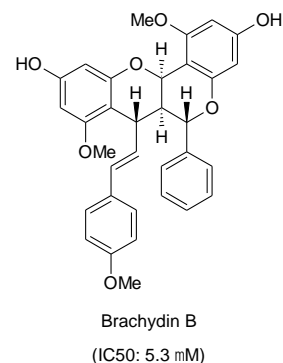


## Synthesis of Brachydin B and C, and Their Analogues

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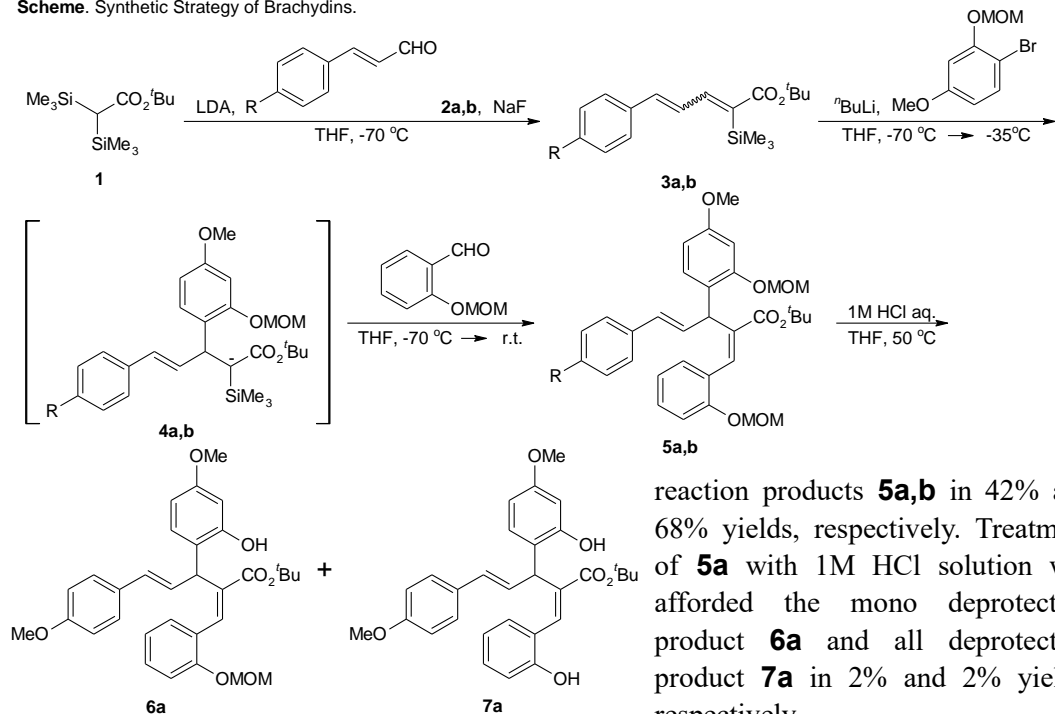
**Keywords:** *tert*-Butyl Bis(trimethylsilyl)acetate; Butadienylsilane; Peterson Reaction; Brachydin B

The brachydin B and C, were isolated from *Arrabidaea brachypoda* roots, have high activity against *Trypanosoma cruzi* which is protozoan parasite causing Chagas disease [1]. On the other hand, the vinylsilanes bearing dimethylphosphono or *tert*-butoxycarbonyl groups at  $\alpha$ -position were versatile synthetic intermediates for the synthesis of natural products. In this study, we investigated the synthesis of brachydin B and C, and their analogues with continuous Michael addition and Peterson reaction as key reaction from *tert*-butyl 5-phenyl-2-trimethylsilyl-2,4-pentadienoates.



Reaction of *tert*-butyl bis(trimethylsilyl)acetate **1** with cinnamaldehydes **2a,b** in the presence of LDA gave the corresponding butadienylsilanes **3a,b** in 87% and 86% yields, respectively. Michael addition reaction of 4-methoxy-2-methoxymethoxyphenyllithium prepared from 1-bromo-4-methoxy-2-methoxymethoxybenzene and *n*BuLi, and subsequent Peterson reaction with 2-methoxymethoxybenzaldehyde gave the corresponding tandem

**Scheme.** Synthetic Strategy of Brachydins.



[1] C. Q. Rocha, *et al.*, *J. Nat. Prod.*, **2014**, 77, 1345-1350.