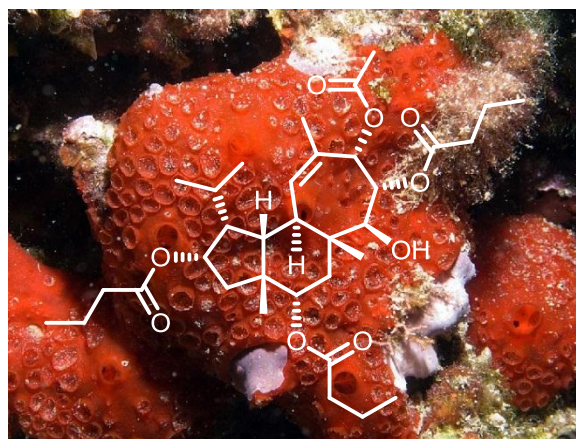
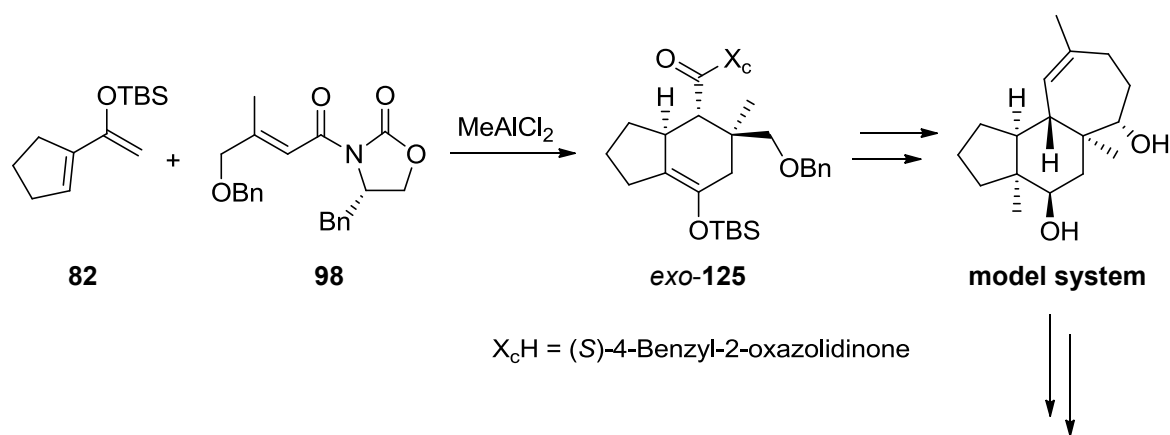


## Abstract

**Keywords:** diterpene, gagunin, Diels–Alder reaction, homoverrucosan

This thesis presents an approach for the synthesis of hydrindan fragments, which have the scaffold of gagunin diterpenoids. Shin *et al.* isolated these remarkable natural products from the marine sponge *Phorbas* sp. in 2002. Biological tests exposed that gagunin E is very cytotoxic against the human cell line K562 and compare to other diterpenoids gagunin E showed the highest activity. This thesis describes an interesting synthesis for the hydrindan skeleton, which contains a diastereoselective Diels–Alder reaction as key step. Followed by an explorative study for the synthesis of the tricycle.



**Fig. A:** Proposed model system and the natural product gagunin E.\*

\* The picture shows *Phorbas topsenti*: [http://images.marinespecies.org/resized/17684\\_phorbas-topsenti.jpg](http://images.marinespecies.org/resized/17684_phorbas-topsenti.jpg) (13.02.2013).