Total synthesis of (±)-Dragmacidin D …

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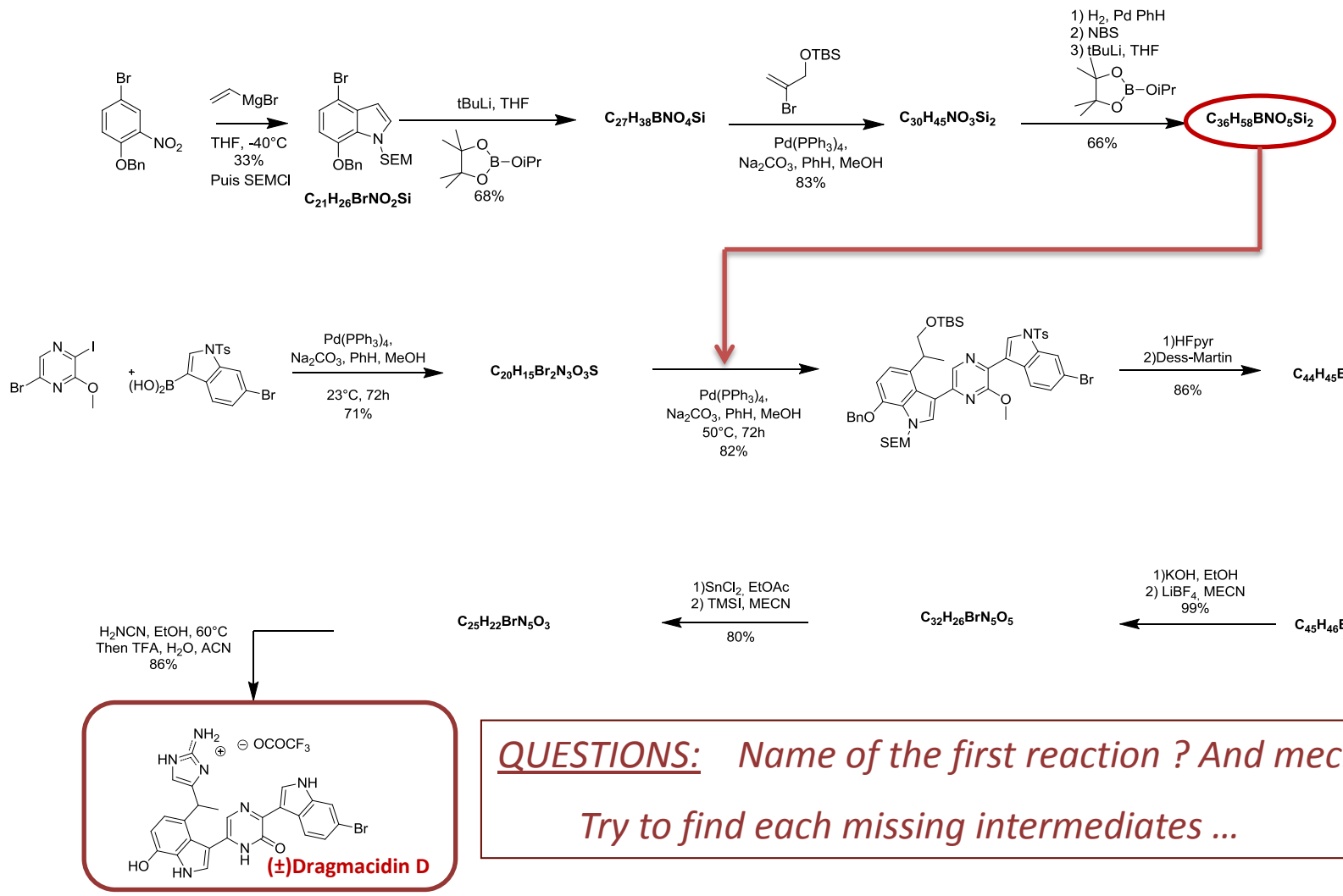
Dragmacidins represent an emerging class of bioactivemarine natural products obtained by an exhaustive set of protocols from a number of deep water sponges including Dragmacidon, Halicortex, Spongosorites, and Hexadella, and the tunicate Didemnum candidum. In particular, dragmacidin D is a potent inhibitor of serine threonine protein phosphatases (PP) and an in vivo nonsteroidal antiinflammatory agent. Additionally, dragmacidin D was found to selectively inhibit neural nitric oxide synthase (bNOS) in the presence of inducible NOS (iNOS).



QUESTIONS: *Name of the first reaction ? And mechanism?*

Try to find each missing intermediates …

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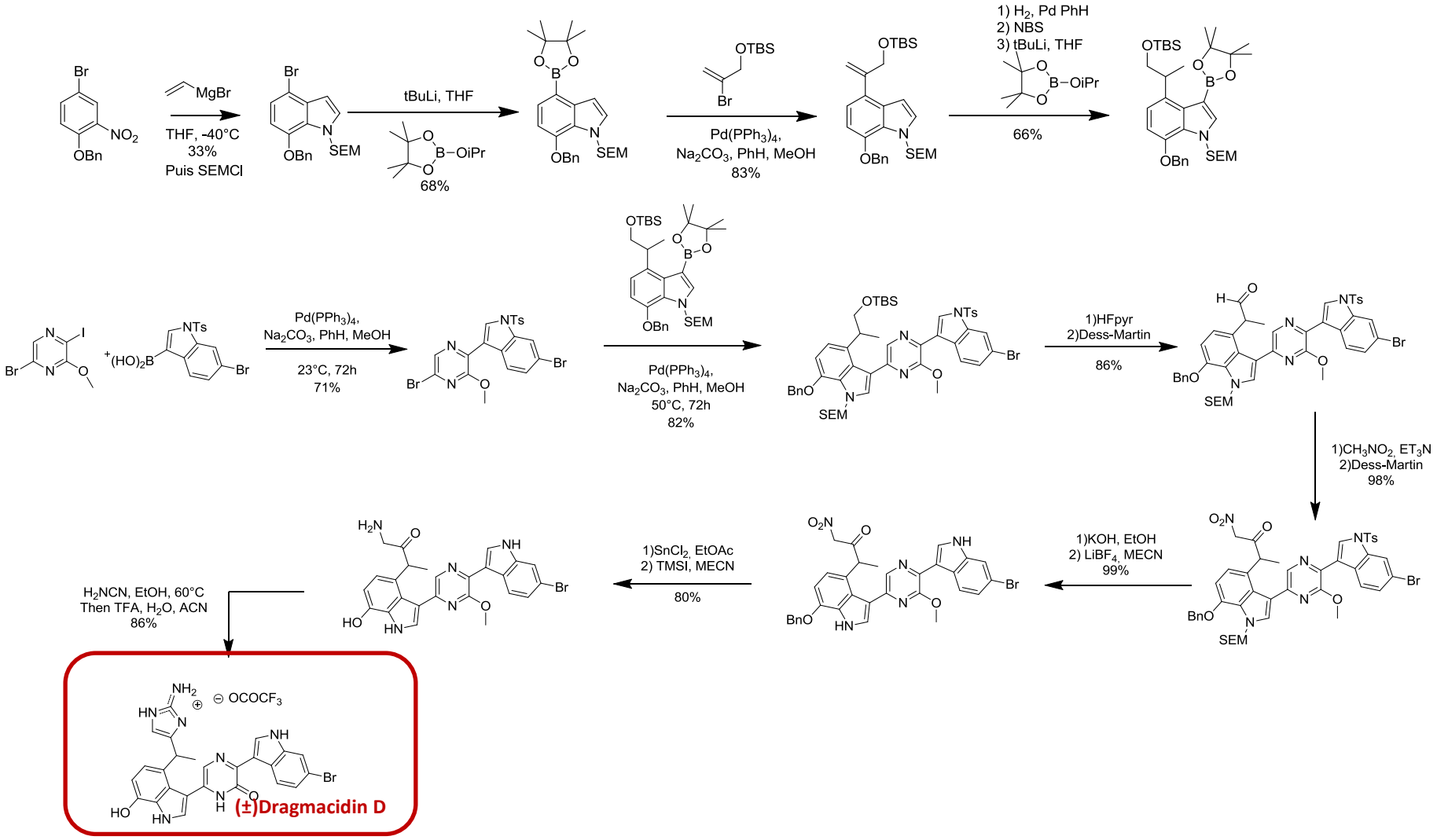

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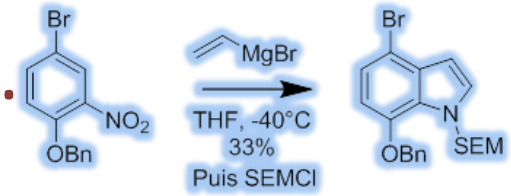

QUESTIONS: *Name of the first reaction ?* ***Bartoli indole synthesis***