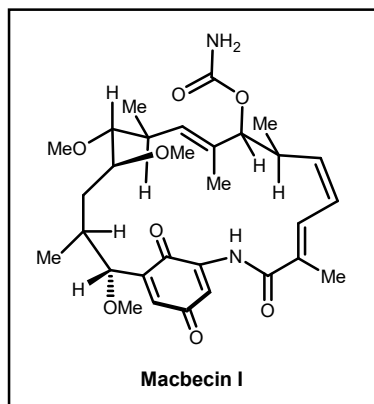
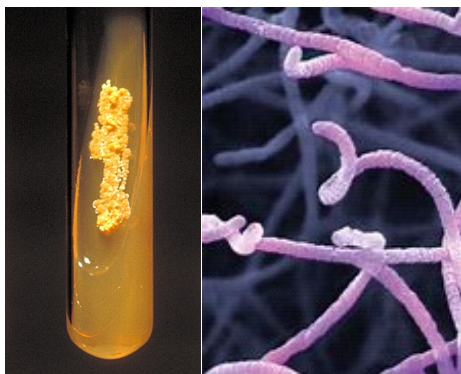


SOTW: Macbecin I



- Polyketide-derived natural product discovered in 1980
- Isolated from fermentation broth of actinomycete, *Nocardia* sp. no. C-14919
 - Strain isolated from leaf surface of grass collected in Shiga Prefecture, Japan.
- Part of ansamycin group of antibiotics
- Moderately active against several Gram-positive bacteria and fungi
- Antitumor activity against leukemia P388, melanoma B16, and Ehrlich carcinoma

Covered:

Most recent total synthesis: Belardi and Micalizio, 2008
Angew. Chem. Int. Ed. **2008**, *47*, 4005-4008.

For other versions see:

Baker and Castro: *J. Chem. Soc. Commun.* **1989**, 378-381.

J. Chem. Soc. Perkin Trans. 1, **1990**, *1*, 47-65.

Coutts and Kallnerten: *Tetrahedron Lett.* **1990**, *31*, 4305-4308.

Evans, Miller, and Ennis: *J. Org. Chem.* **1992**, *57*, 1067-1069.

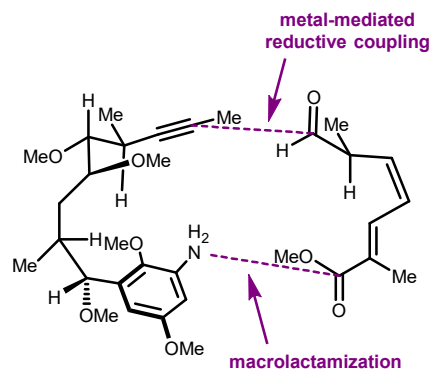
J. Org. Chem. **1993**, *58*, 471-485.

Martin, Dodge, and Burgess: *J. Org. Chem.* **1992**, *57*, 1070-1073.

Tetrahedron **1996**, *52*, 3229-3246.

Panek and Xu: *J. Am. Chem. Soc.* **1995**, *117*, 10587-10588.

Panek, Xu, and Rondon: *J. Am. Chem. Soc.* **1998**, *120*, 4113-4122.



- Highest step economy compared to preexisting routes
- Showcases Ti-mediated cross-coupling between functionalized alkynes and chiral aldehydes
- 15 steps (longest linear sequence) from the readily available iodide

