Shigenobu Umemiya

Keisuke Suzuki

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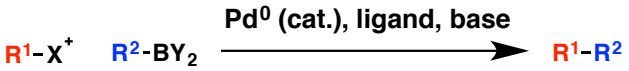
1978 Ph.D., Teruaki Mukaiyama, University of Tokyo
1983 Assistant Professor, Keio University
1987 Lecturer, Keio University
1989 Assocate Professor, Keio University
1990 Visiting Professor, ETH
1994 Full Professor, Keio University
1996 Full Professor, Tokyo Institute of Technology

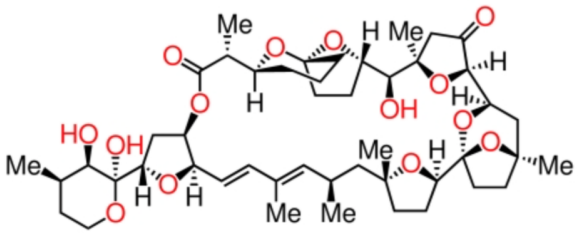
Award (Selected)

1986 The Chemical Society of Japan Award (for young chemist)
1999 Nagoya Silver Medal Award
2003 The Society of Synthetic Organic Chemisty, Japan Award
2008 Humboldt Award (Germany)
2008 The Chemical Society of Japan Award
2010 Medal with Purple Ribbon
2014 Japan Academy Prize

Akira Suzuki



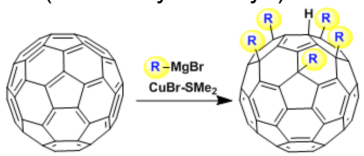
Takanori Suzuki (Hokkaido University)



Pectenotoxin 2

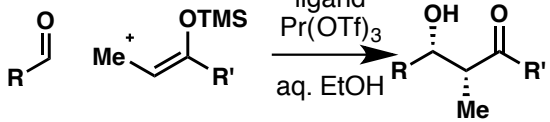
ACIE, **2014**, *53*, 780.

Eiichi Nakamura
(University of Tokyo)



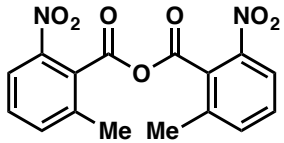
Science, **2001**, *291*, 1944.

Shu Kobayashi
(University of Tokyo)



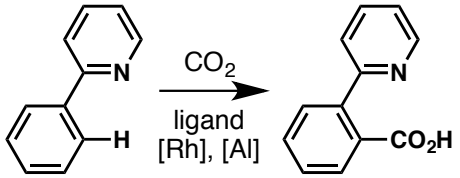
JACS, **2003**, *125*, 2989.

Isamu Shiina
(Tokyo University of Science)



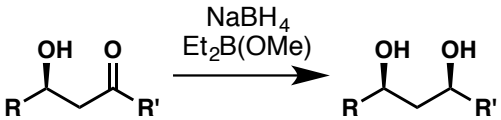
CL, **2002**, 286.

Nobuharu Iwasawa
(Tokyo Institute of Technology)



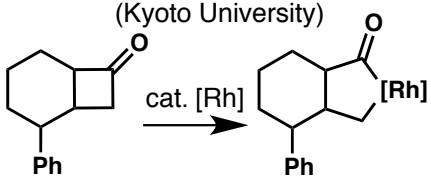
JACS, **2011**, *133*, 1251.

Kouichi Narasaka



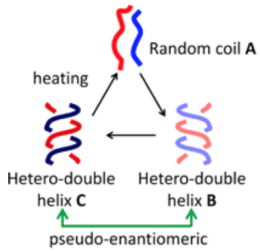
Tetrahedron, **1984**, *40*, 2233.

Masahiro Murakami
(Kyoto University)

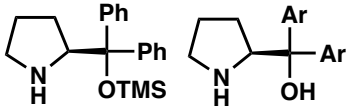


Nature, **1994**, *370*, 540.

Masahiko Yamaguchi
(Tohoku University)

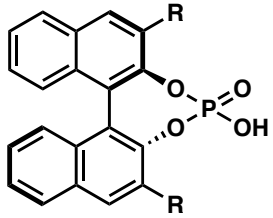


Yujiro Hayashi
(Tohoku University)



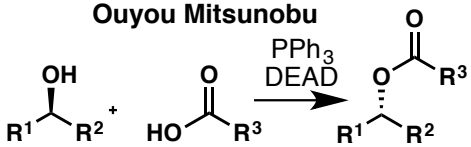
ACIE, **2005**, *44*, 4212.
ACIE, **2008**, *47*, 2082.

Takahiko Akiyama
(Gakushuin University)



ACIE, **2004**, *43*, 1566.

Ouyou Mitsunobu



BCSJ, **1967**, *40*, 935.

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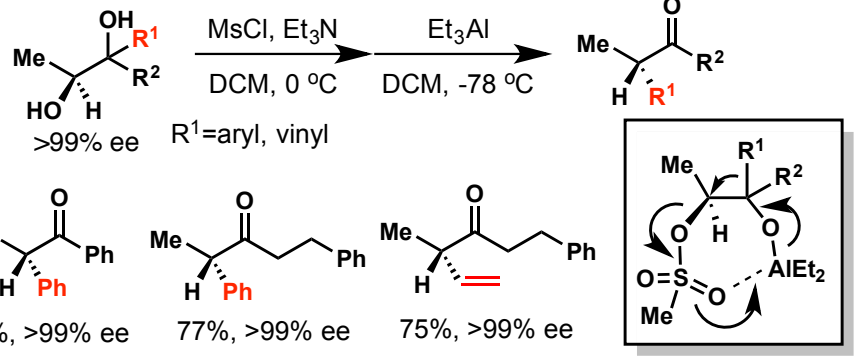
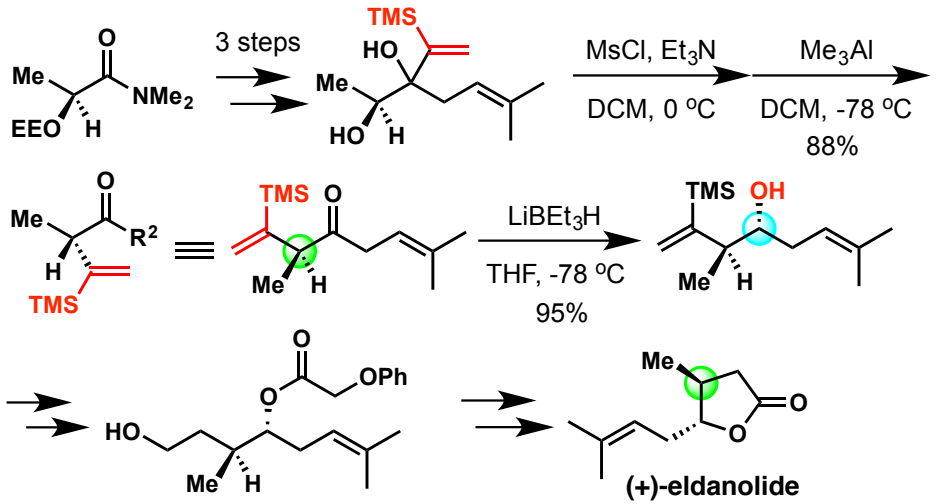
·Asymmetric pinacol-type rearrangement

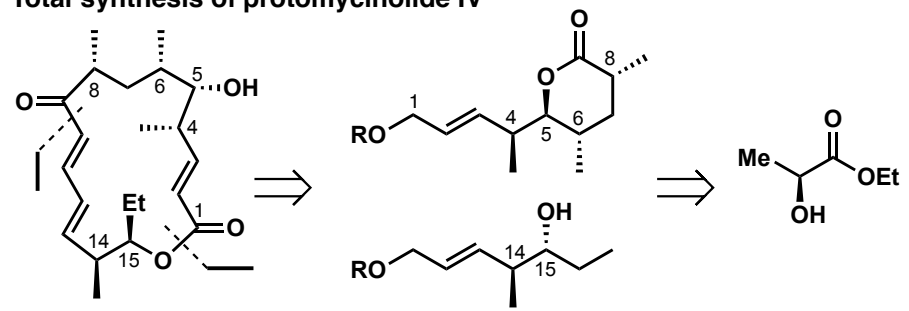


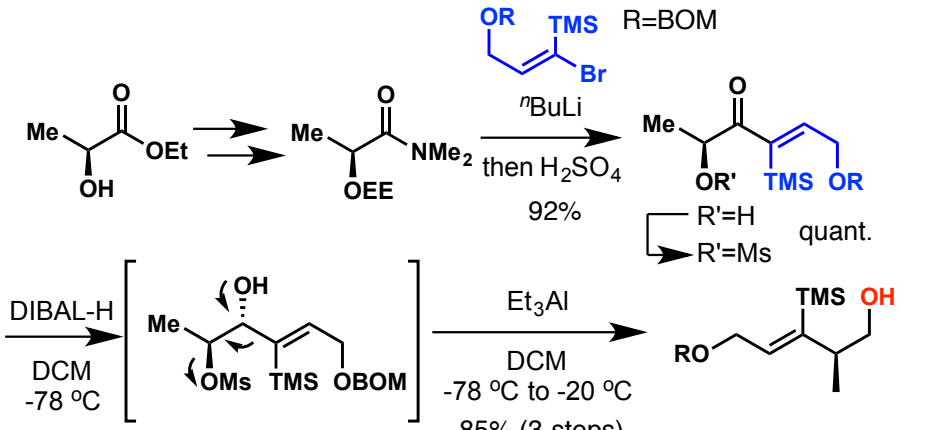
Tetrahedron Lett. **1983**, *24*, 4997.

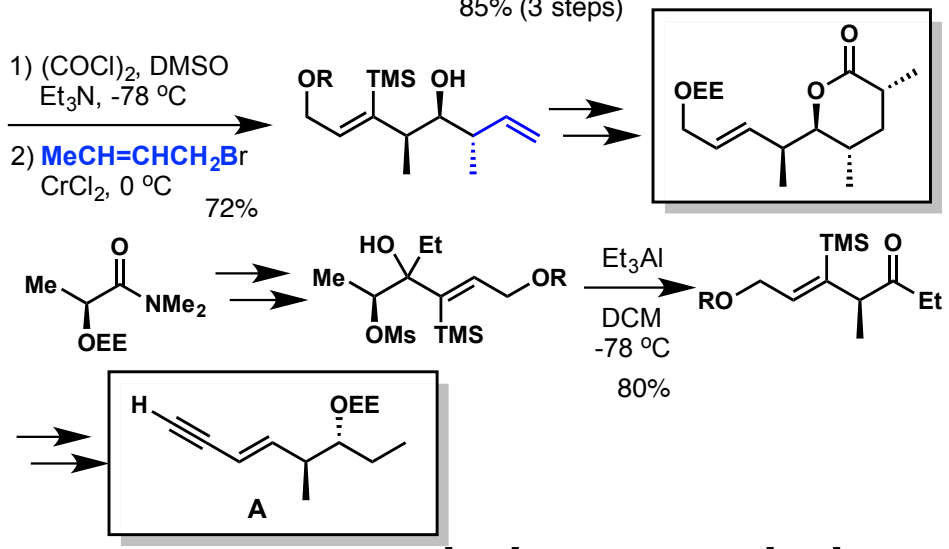


Tetrahedron Lett. **1985**, *26*, 861.

·Total synthesis of protomycinolide IV







J. Am. Chem. Soc. **1986**, *108*, 5221.

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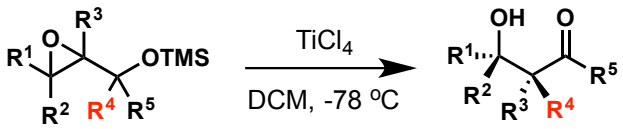
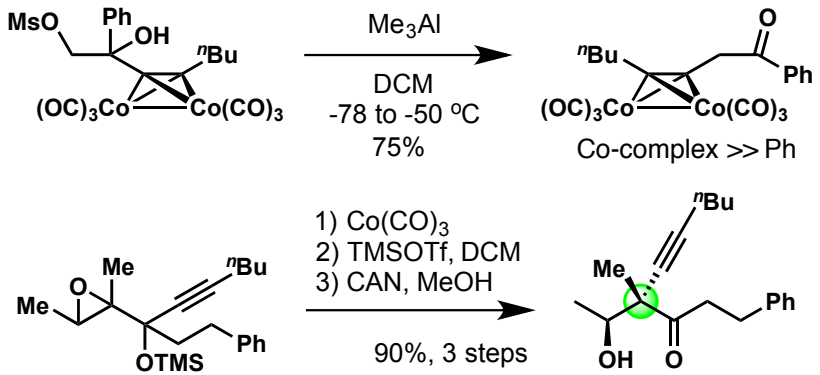
·Epoxy silyl ether rearrangement



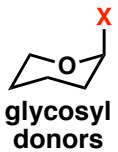
J. Am. Chem. Soc. **1986**, *108*, 3827.

·Co-complexed alkynyl group -an excellent migrator-



J. Am. Chem. Soc. **1996**, *118*, 8949.

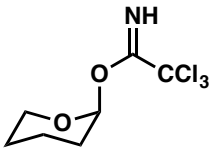
·Glycosylation -one of the oldest but unresolved problems-



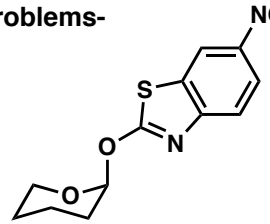
glycosyl donors

X = **F**, Cl, Br, I, SPh, SO_2Ph, $P(O)(OPh)_2$, **OAc**, OMs, SePh, etc.

Review, see;
O : *Chem. Rev.* **1993**, *93*, 1503.
C : *Tetrahedron* **1998**, *54*, 9913.

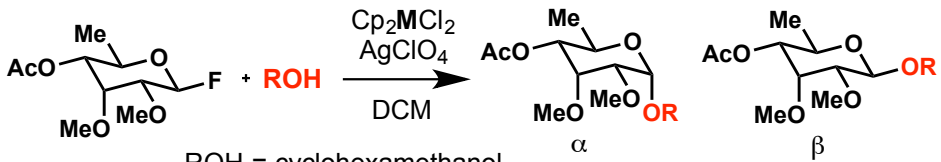


Schmidt
ACIE, **1980**, *19*, 731

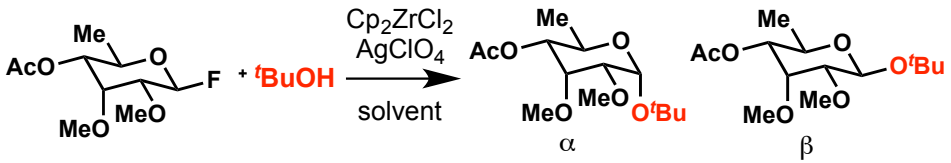


Mukaiyama
CL, **2003**, *32*, 442.

·Cp_2ZrCl_2-$AgClO_4$ -an efficient activator of glycosyl fluorides



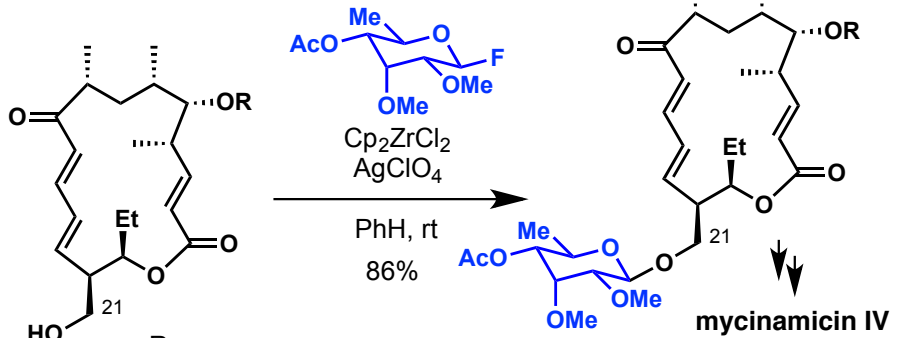
Entry	Metallocene	Conditions	Yield	α : β
1	Cp_2TiCl_2	0 °C, 2 h	90%	1 : 1.8
2	Cp_2ZrCl_2	-20 °C, **5 min**	90%	1.2 : 1
3	Cp_2HfCl_2	-20 °C, 30 min	86%	1.7 : 1



Solvent	Conditions	Yield	α : β
DCM	-20 °C, 40 min	93%	1.4 : 1
PhH	**20 °C, 30 min**	**59%**	**0 : 1**

Caution : $AgClO_4$ is potentially explosive. *Tetrahedron Lett.* **1988**, *29*, 3567.
Modified condition : Cp_2HfCl_2, AgOTf (less reactive but much safer)
Angew. Chem. Int. Ed. **2005**, *44*, 3871.

·Total synthesis of mycinamicin IV



Tetrahedron Lett. **1988**, *29*, 3575.

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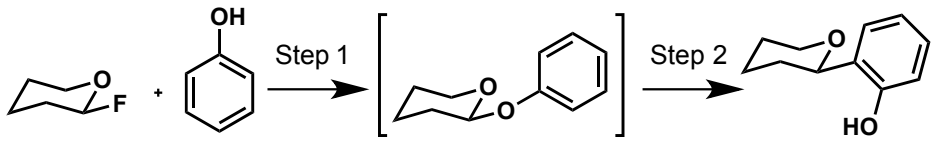
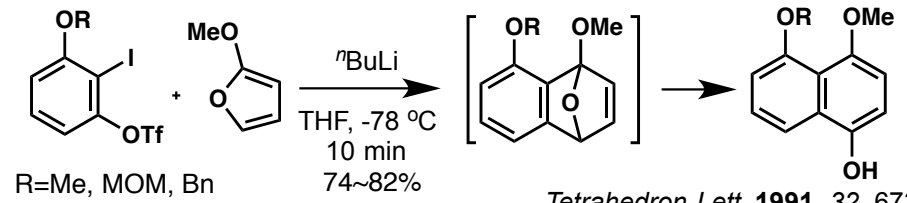
·Rearrangement of *O*-Glycoside to *C*-Glycoside



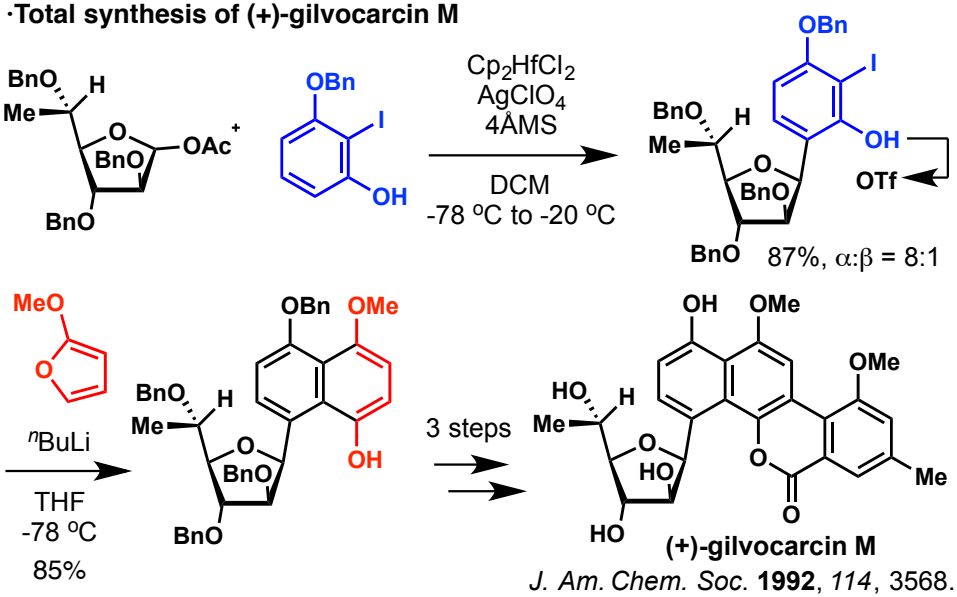
Tetrahedron Lett. **1988**, *29*, 6935.

·[2+4] cycloaddition -an efficient generation of aryne-



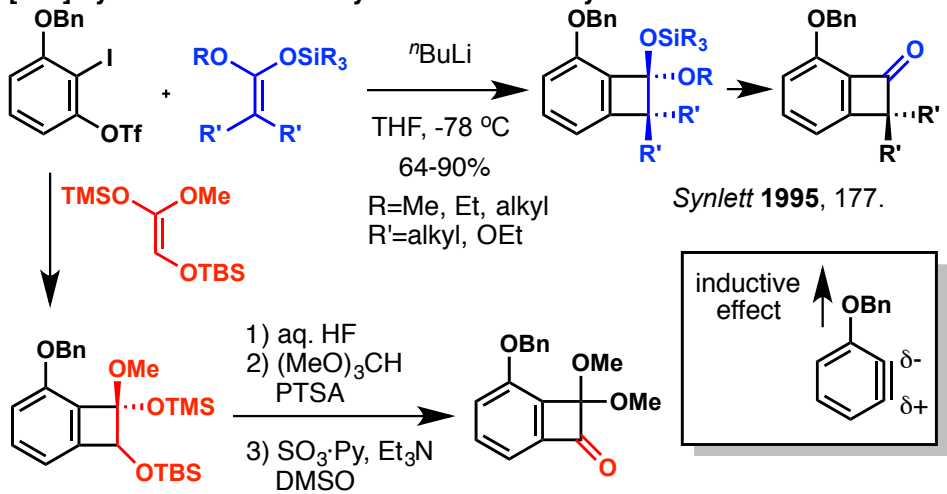
Tetrahedron Lett. **1991**, *32*, 6735.

·Total synthesis of (+)-gilvocarcin M



J. Am. Chem. Soc. **1992**, *114*, 3568.

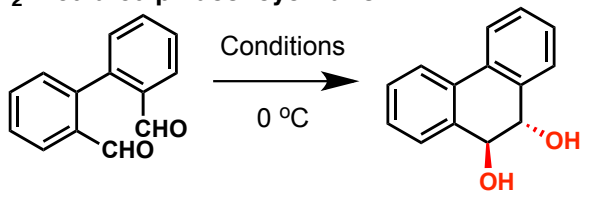
·[2+2] cycloaddition of benzyne and ketene silyl acetal



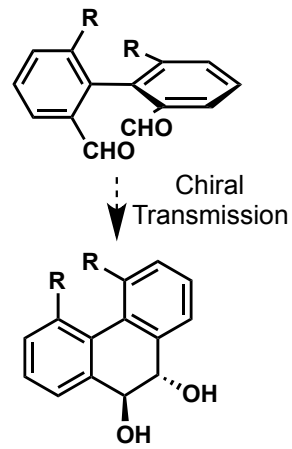
Synlett **1995**, 177.

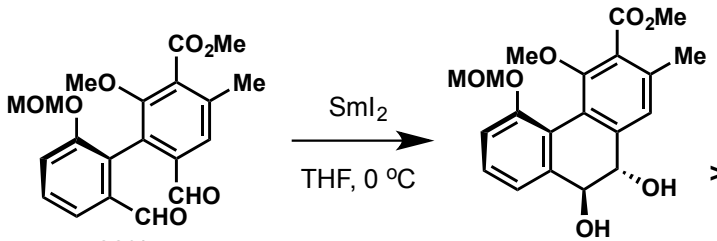
Helv. Chim. Acta **2002**, *85*, 3589.

·SmI_2-mediated pinacol cyclization



Entry	Reductant	Yield	*trans*/*cis*
1	SmI_2	99%	>99 : 1
2	SmI_2, HMPA	93%	>99 : 1
3	$TiCl_4$, Zn	96%	20 : 1
4	$TiCl_4$, Mg(Hg)	94%	16 : 1





Angew. Chem. Int. Ed. **1999**, *38*, 1226.

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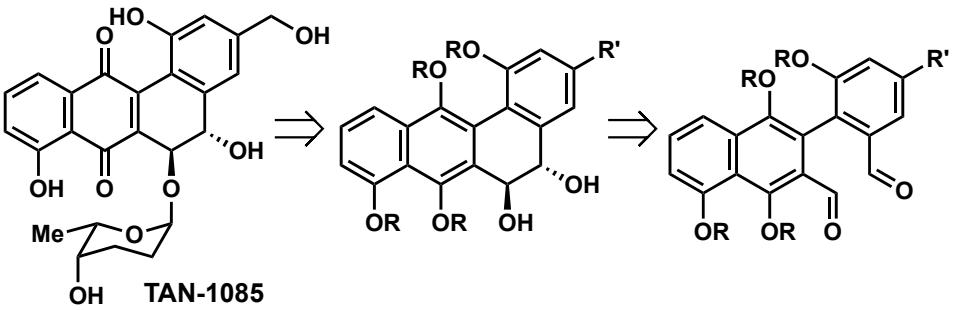
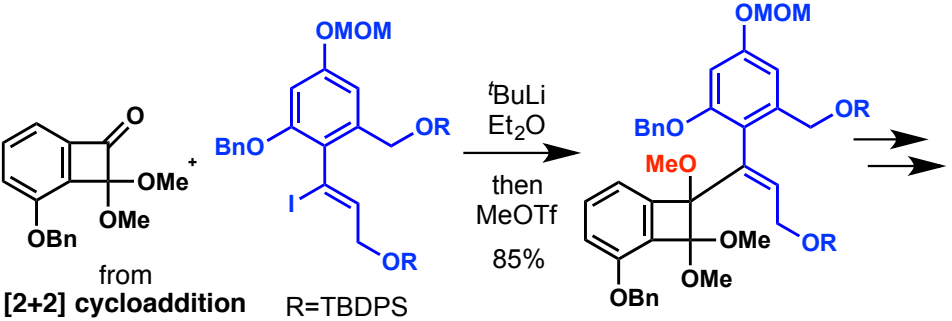
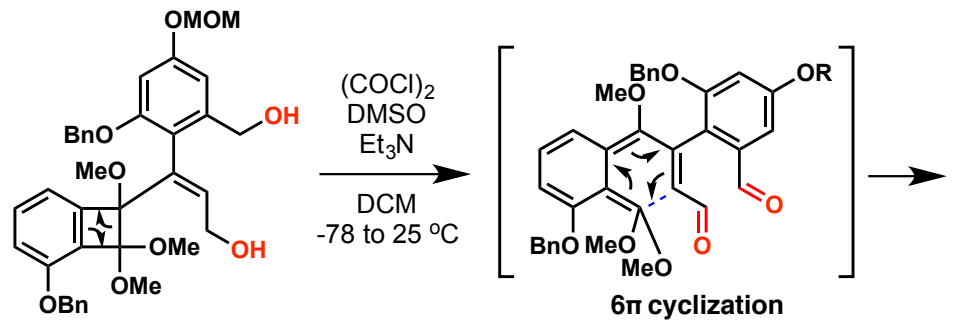
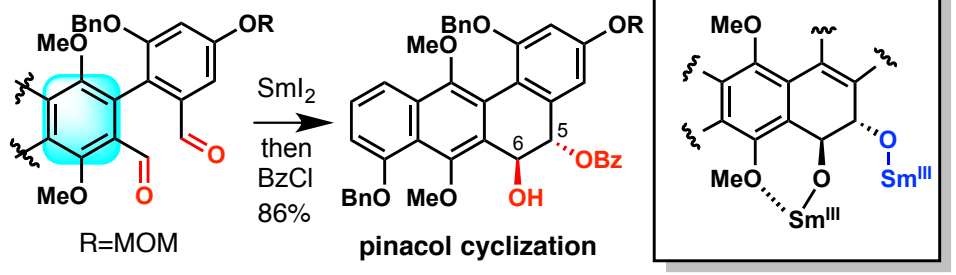
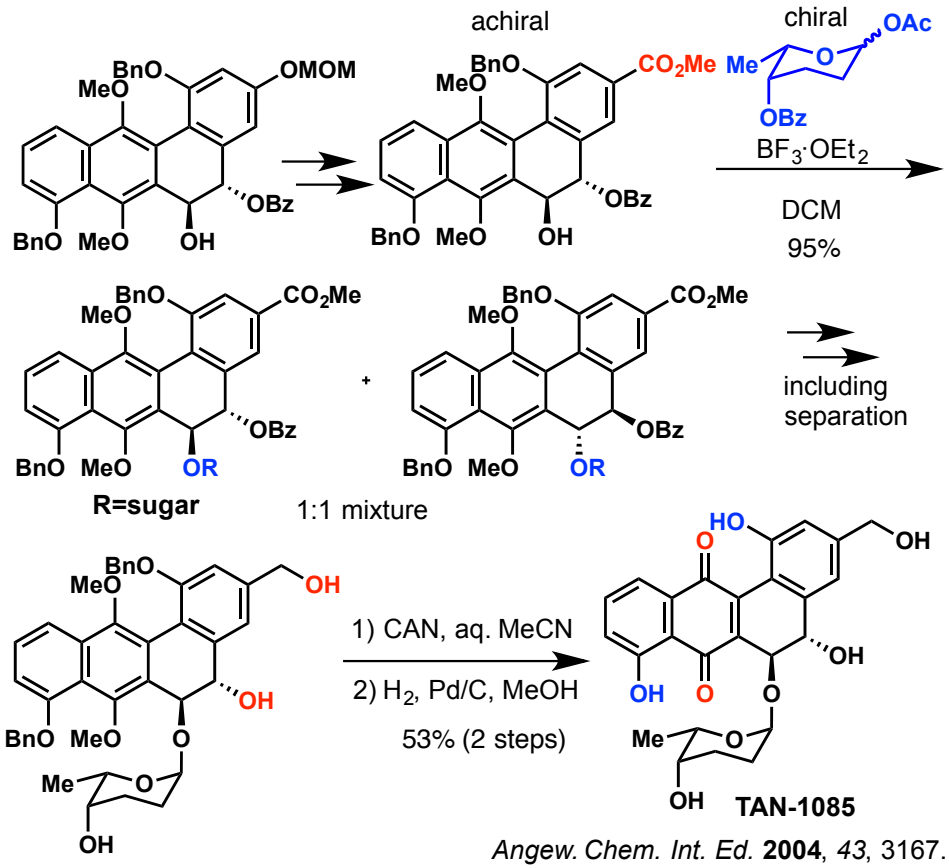
·Total synthesis of TAN-1085





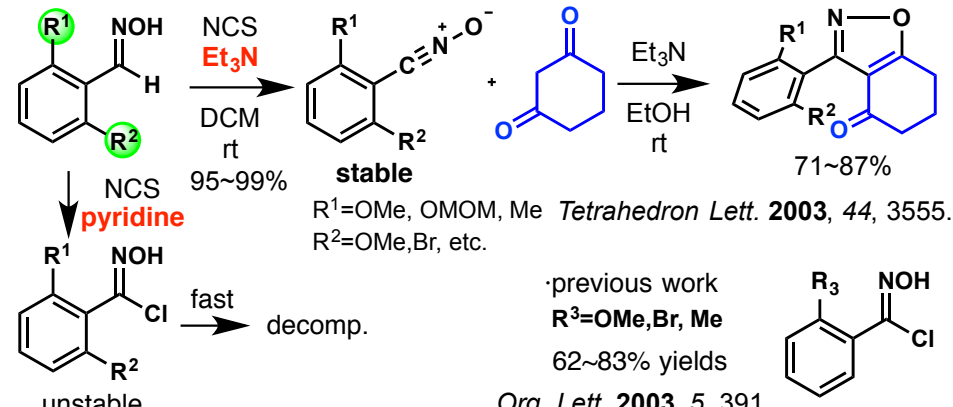






Angew. Chem. Int. Ed. **2004**, *43*, 3167.

·Amine-promoted cyclocondensation -synthesis of isoxazoles-



Tetrahedron Lett. **2003**, *44*, 3555.

Org. Lett. **2003**, *5*, 391.

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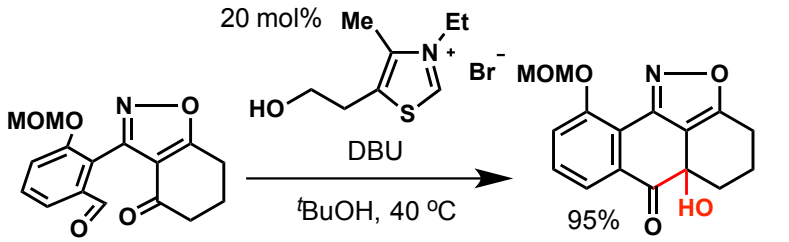
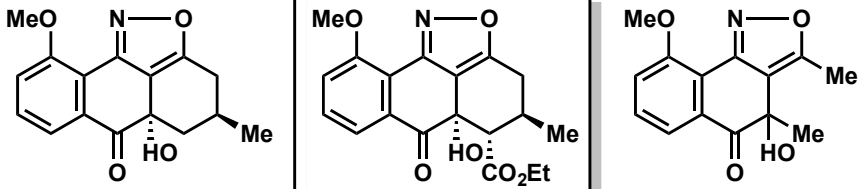
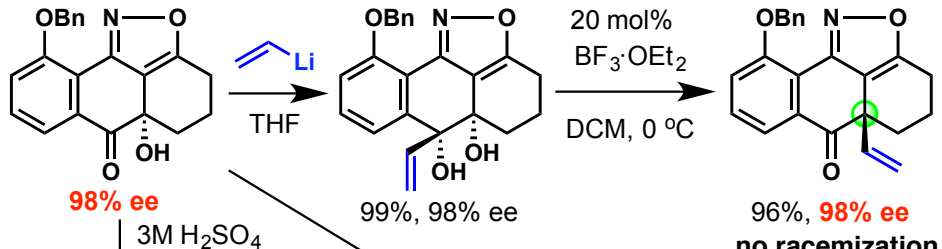
·Intramolecular aldehyde-ketone benzoin reaction

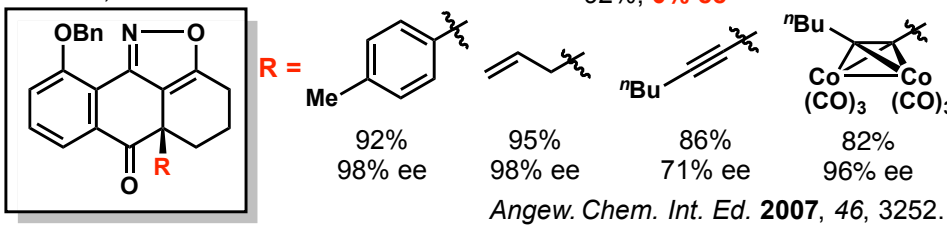




J. Am. Chem. Soc. **2003**, *125*, 8432.

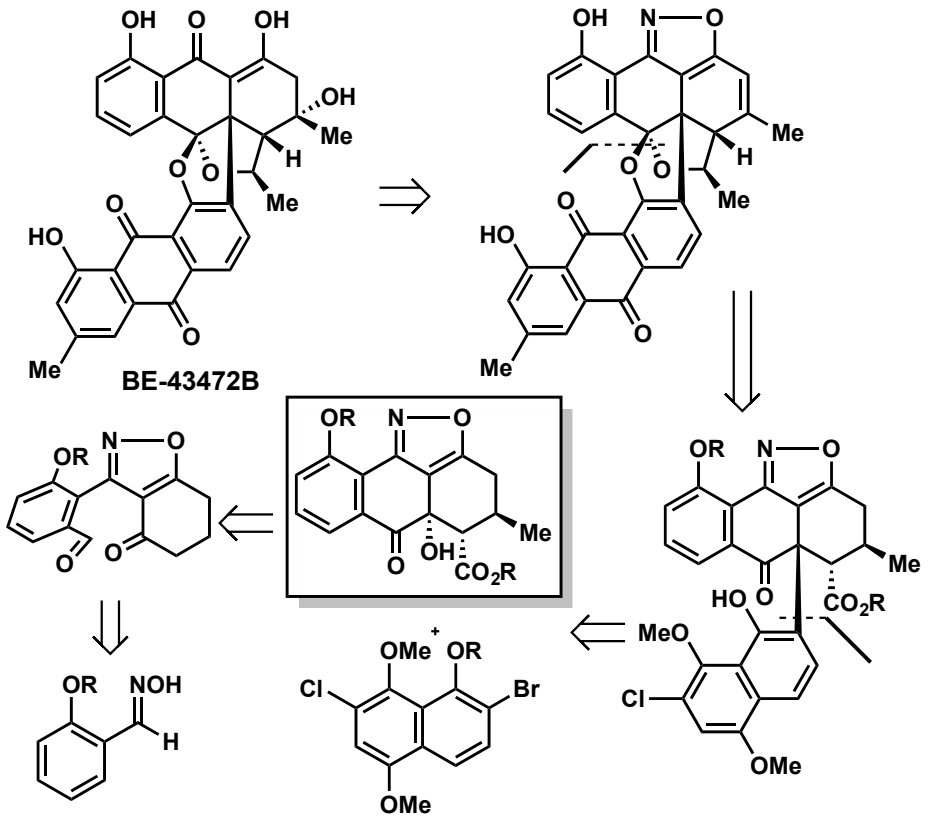
·Isoxazole-directed pinacol rearrangement

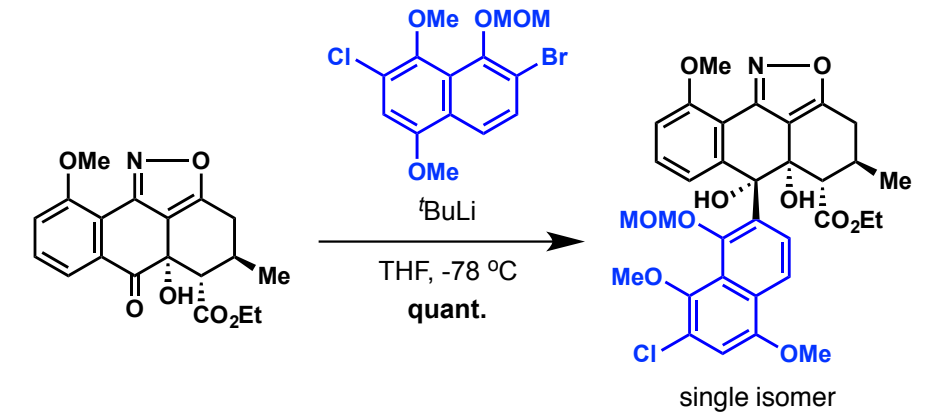




Angew. Chem. Int. Ed. **2007**, *46*, 3252.

·Total synthesis of BE-43472B





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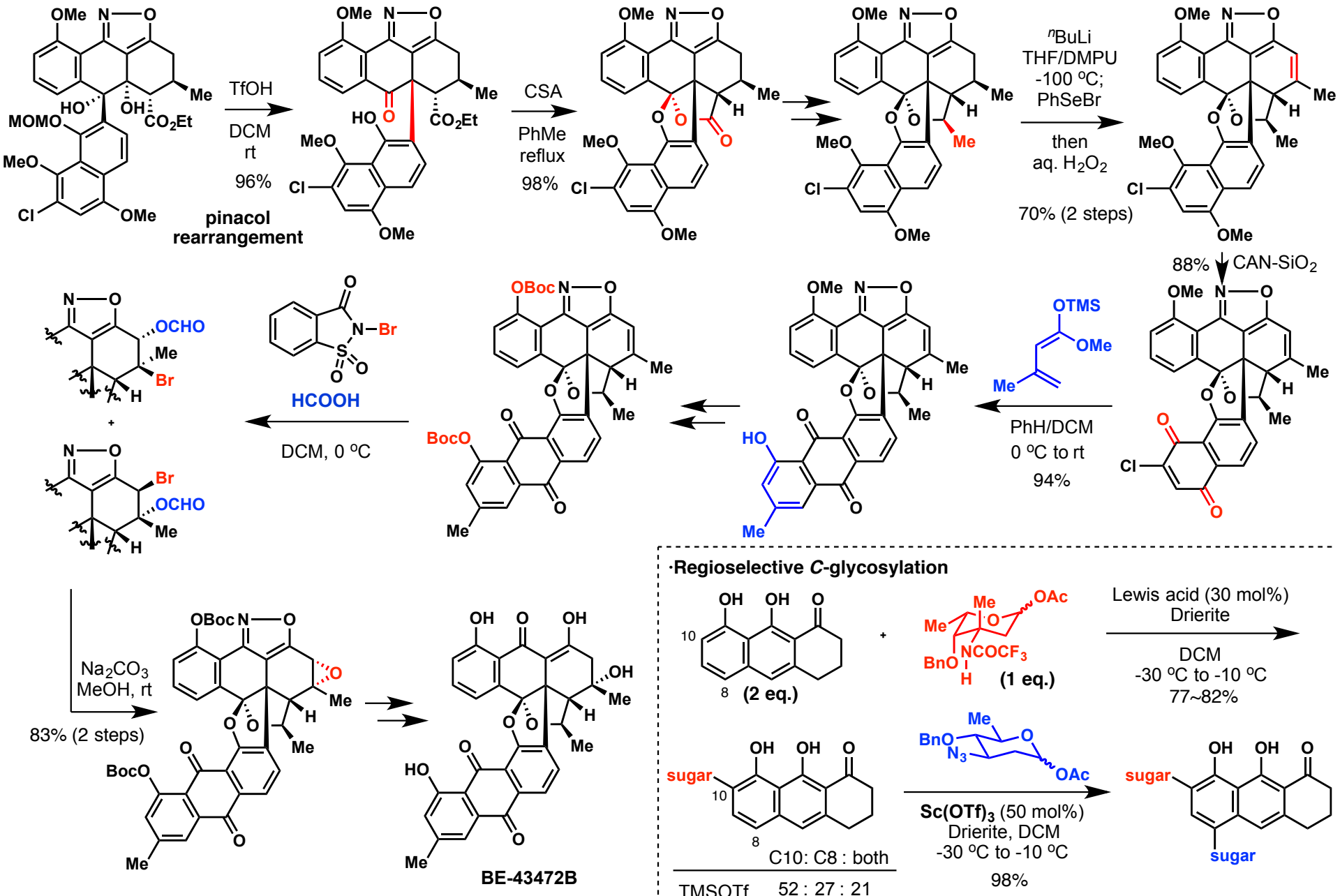
6/11/16



Angew. Chem. Int. Ed. **2013**, *52*, 6658.

Angew. Chem. Int. Ed. **2014**, *53*, 1258.

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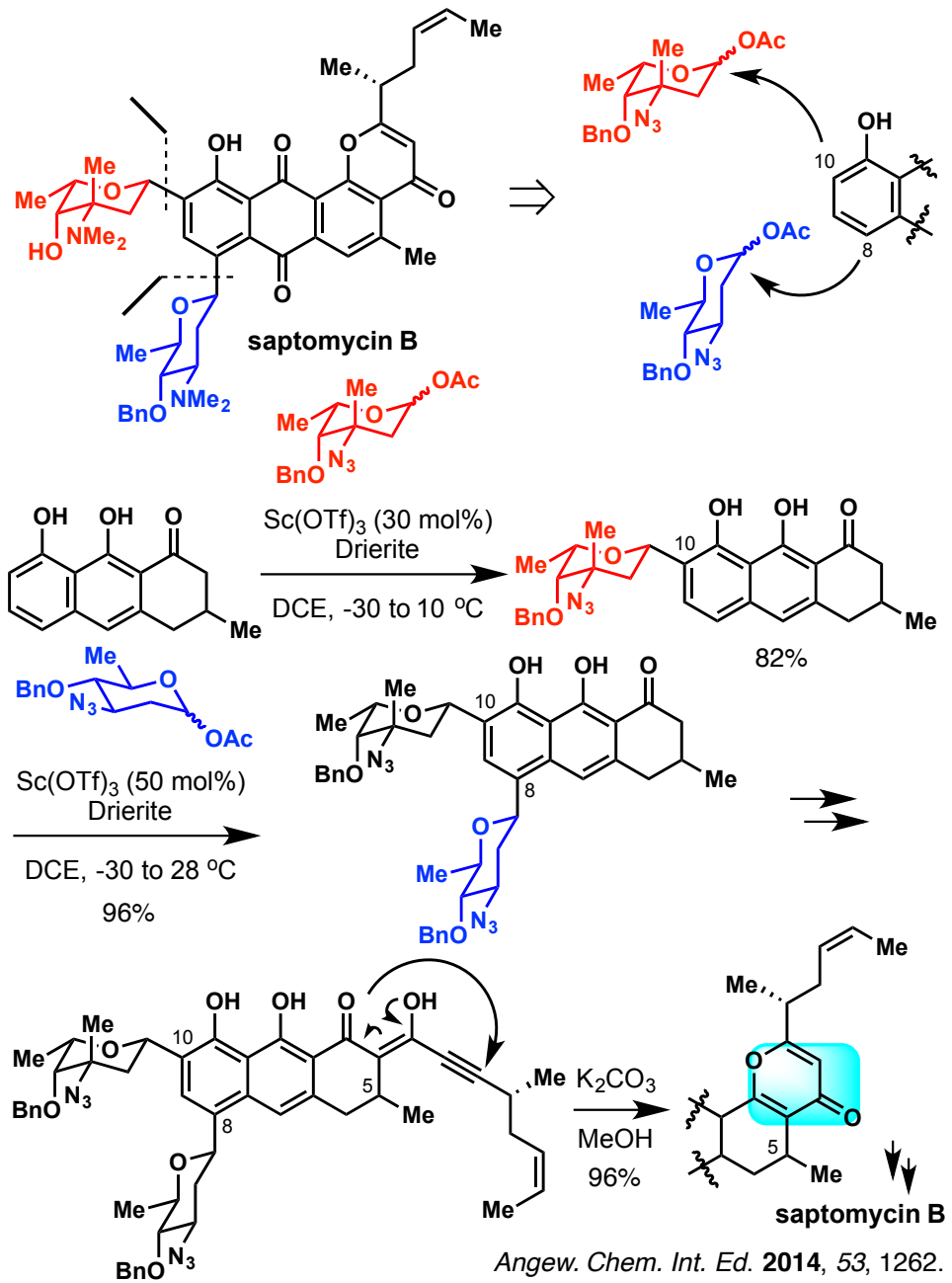
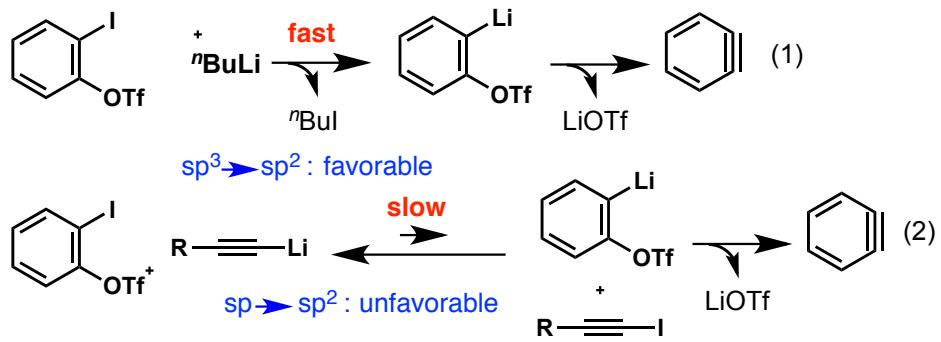
·Total synthesis of saptomycin B

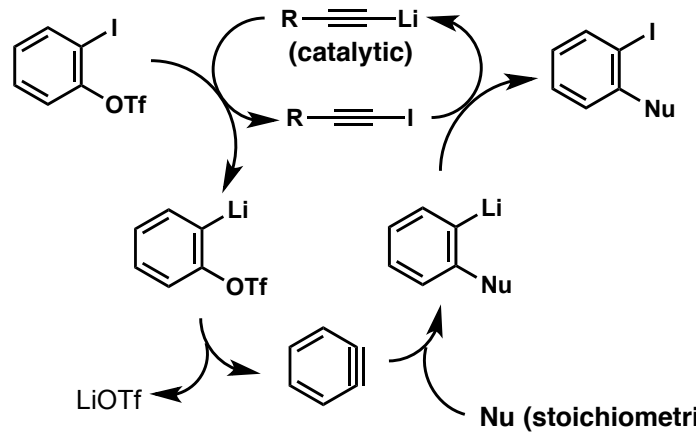


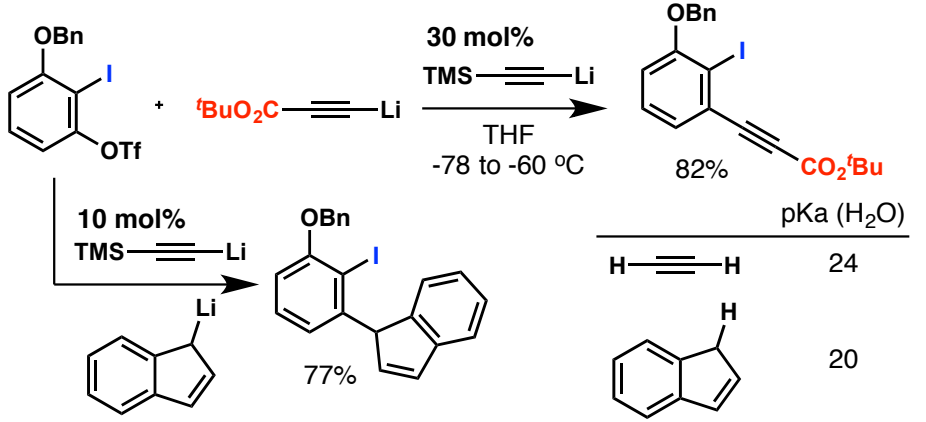
Angew. Chem. Int. Ed. **2014**, *53*, 1262.

·Catalytic generation of arynes



·Proposed mechanism





Angew. Chem. Int. Ed. **2012**, *51*, 3368.

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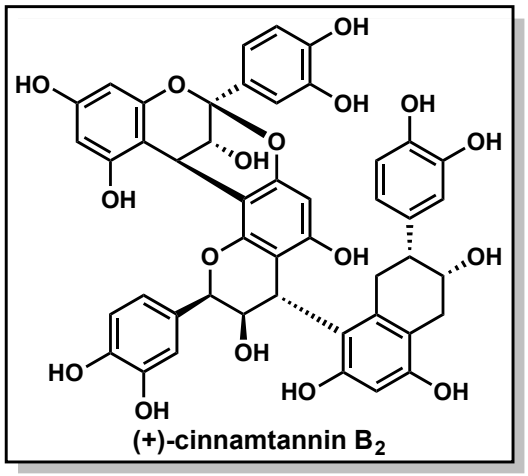
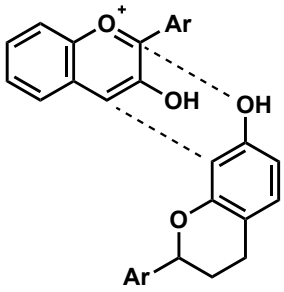
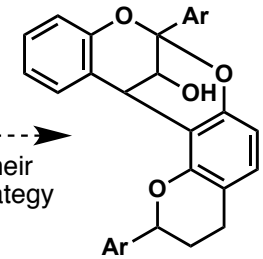
Baran lab Group Meeting
6/11/16

·Total synthesis of (+)-Cinnamtannin B_1

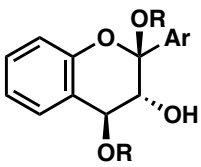




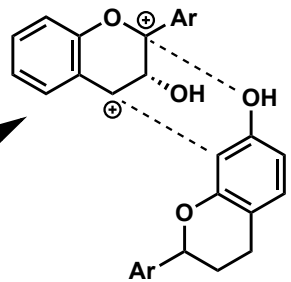
putative biogenesis

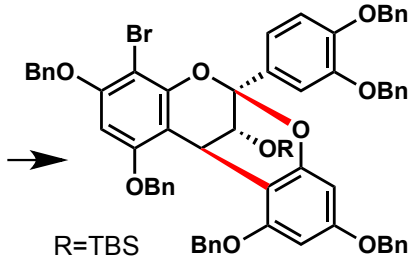


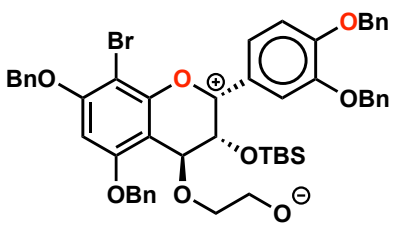
their strategy

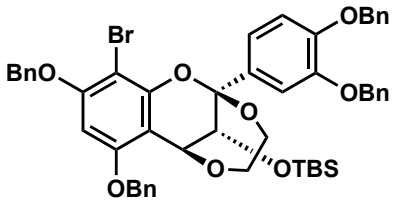


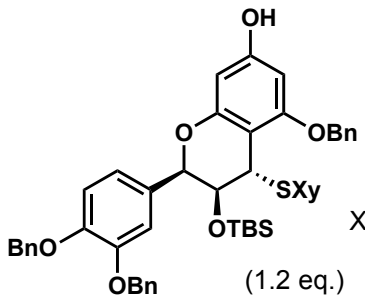
a possible precursor





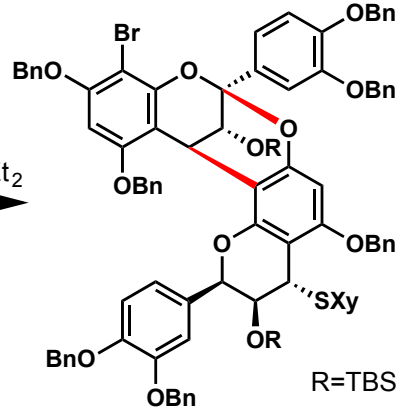




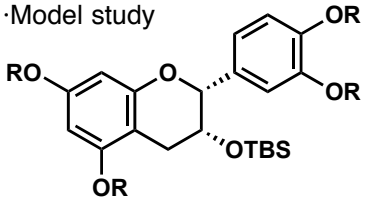


$BF_3{\cdot}OEt_2$
DCM
91%

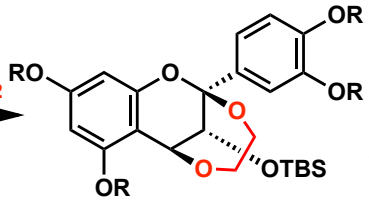
Xy=2,6-xylyl



·Model study

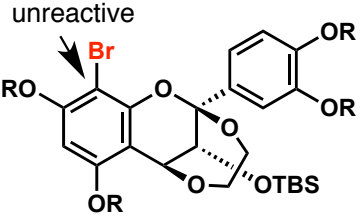


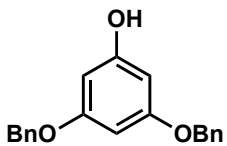
DDQ
$(CH_2OH)_2$
DCM
reflux
69-81%



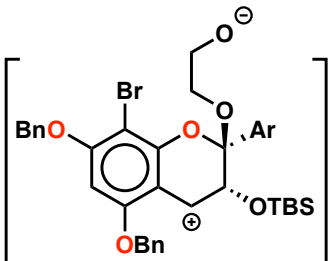
NBS
DCM
-10 °C
95%

unreactive

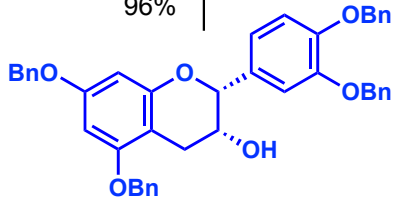


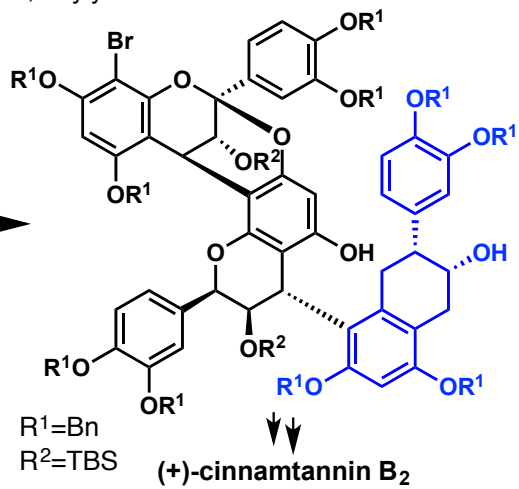


$BF_3{\cdot}OEt_2$
DCM
-78 to -20 °C



I_2, Ag_2O, 4Å MS, DCM
-78 to -40 °C
96%





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