

麻生明末端炔不对称烯化(EATA) (enantioselective allenylation of terminal alkynes)

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麻生明 (院士)
(1965.05-)

教育经历:

1982 - 1986 杭州大学化学系, 学士

1986 - 1988 中科院上海有机所, 硕士 (师从陆熙炎院士)

1988 - 1990 中科院上海有机所, 博士 (师从陆熙炎院士)

工作经历:

1990 - 1992 中科院上海有机所, 助理研究所, 副研究员

1992 - 1993 瑞士苏黎世联邦理工大学 (ETH), 博士后

1993 - 1997 美国普渡大学 (Purdue University), 博士后

1997 - 2007 中科院上海有机所, 副研究员, 研究员

2003 - 2007 中科院上海有机所和浙江大学共聘, 长江学者特聘教授

(2005年11月当选为中国科学院院士)

2007 - 2014 华东师范大学教授, 中科院上海有机所特聘研究员, 浙江大学求是特聘教授

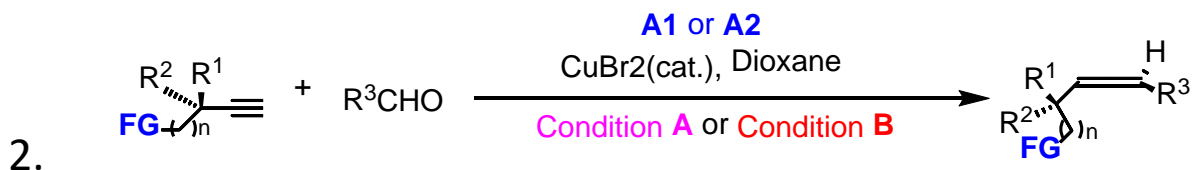
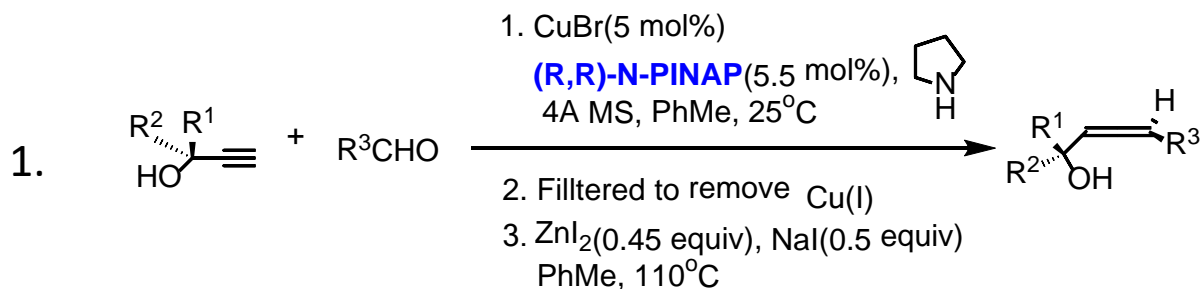
(2008年当选为发展中国家科学院院士)

2014 - 至今 复旦大学教授, 中科院上海有机所特聘研究院, 浙江大学求是特聘教授

研究领域:

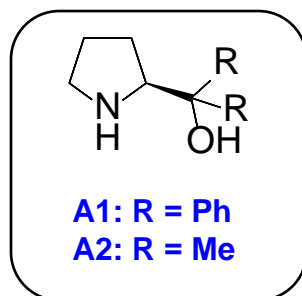
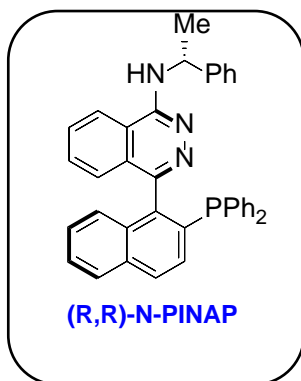
主要从事**联烯**及其类似物化学方面的研究, 发展原子经济性反应, 揭示反应中的选择性调控规律; 发展新型配体和催化剂, 实现立体、区域和化学选择性的有效调控; 系统发展联烯的合成方法学, 金属催化的联烯反应, 联烯的亲核加成反应, 联烯的亲电加成反应, 联烯自由基化学和酶催化反应, 以及自己发展的这些方法学在天然产物及药物分子合成中的应用, 探寻具有潜在生理活性的功能分子

麻生明末端炔不对称联烯化-Reaction formulas



Condition **A**: CuBr_2 (20 mol%), 130 °C, 12 h (For **alkyl aldehydes**)

Condition **B**: CuBr_2 (40 mol%), 70 °C, 12 h (For **aryl aldehydes**)



FG: alcohol, amide, sulfonamide, malonate, carboxylate, alky, aryl

Org. Lett. 2012, 14, 5.

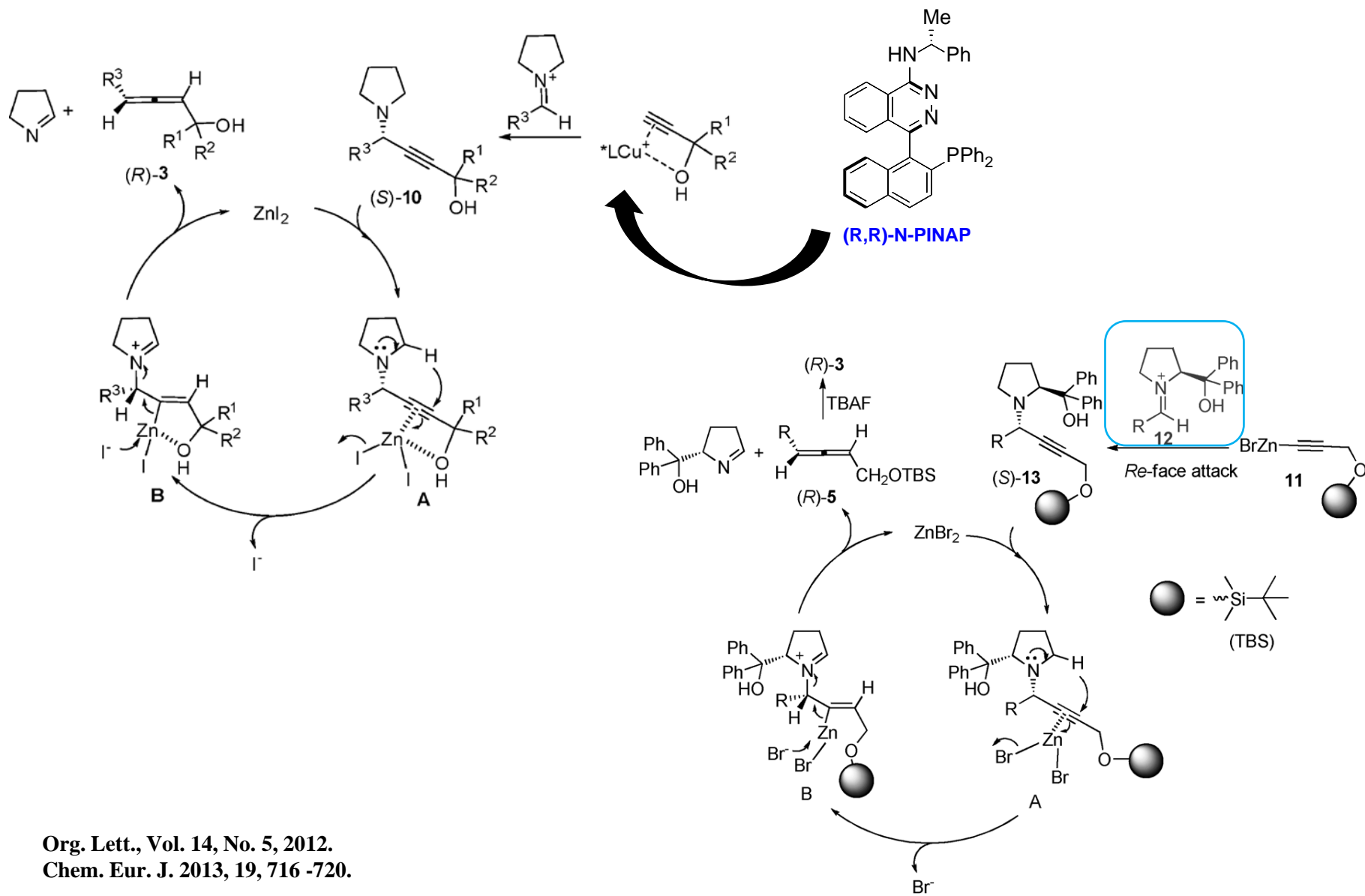
Chem. Eur. J. 2013, 19, 716 -720.

Tetrahedron. 2013, 69, 8959 - 8963.

Org. Lett. 2013, 15, 9.

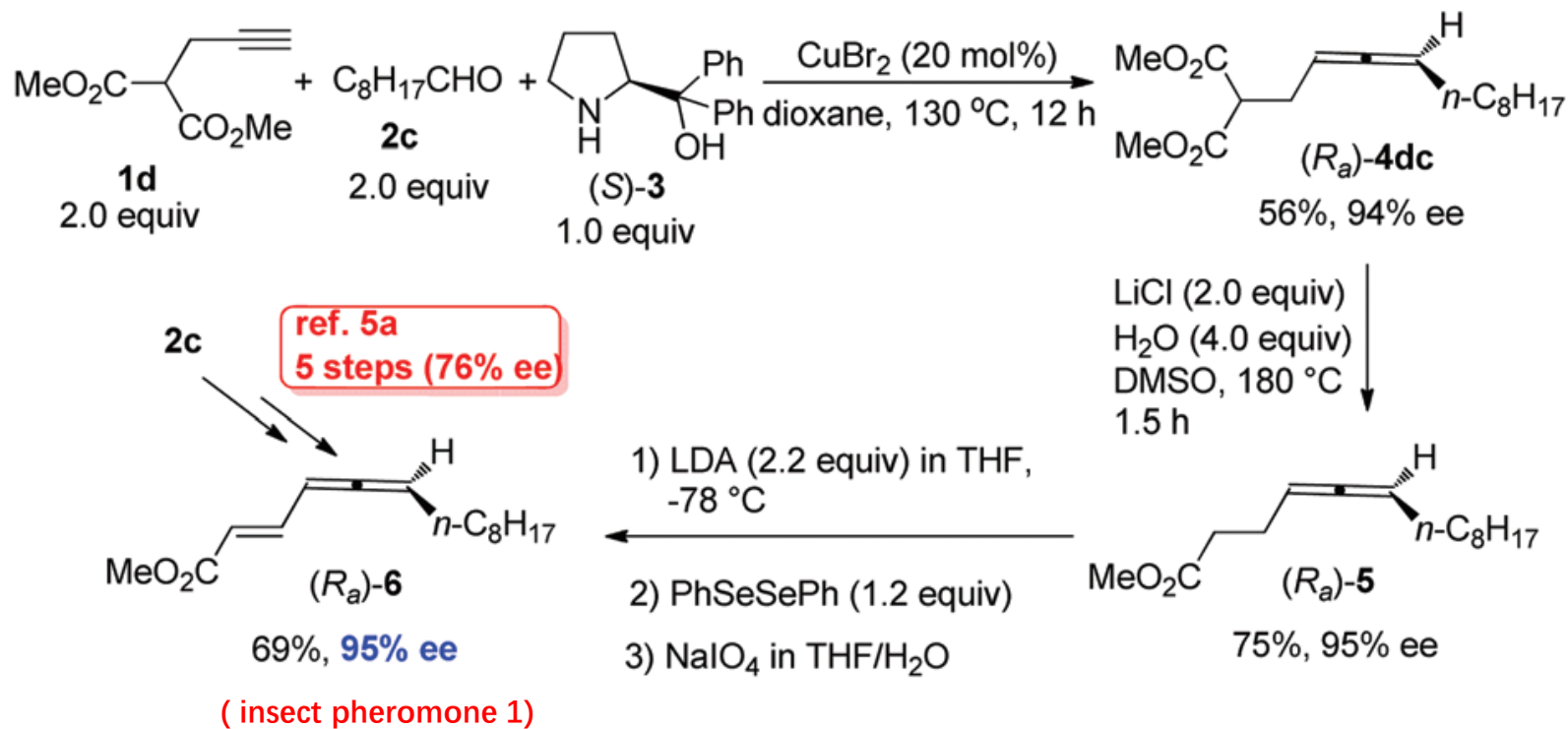
Chem. Commun. 2015, 51, 6956 - 6959.

麻生明末端炔不对称联烯化-Mechanisms



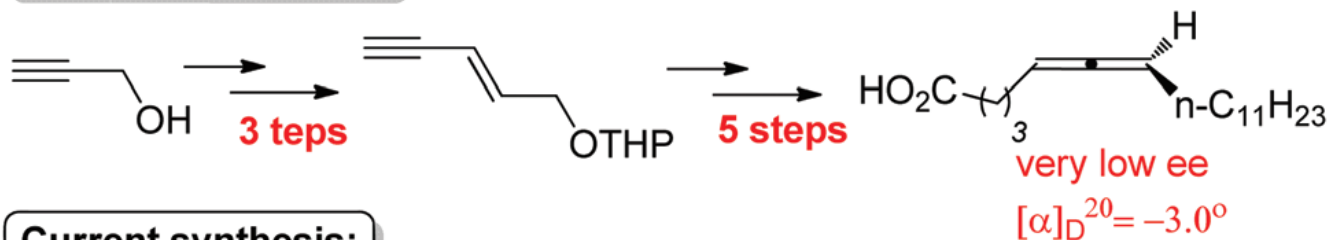
Org. Lett., Vol. 14, No. 5, 2012.
Chem. Eur. J. 2013, 19, 716-720.

麻生明末端炔不对称联烯化-Applications

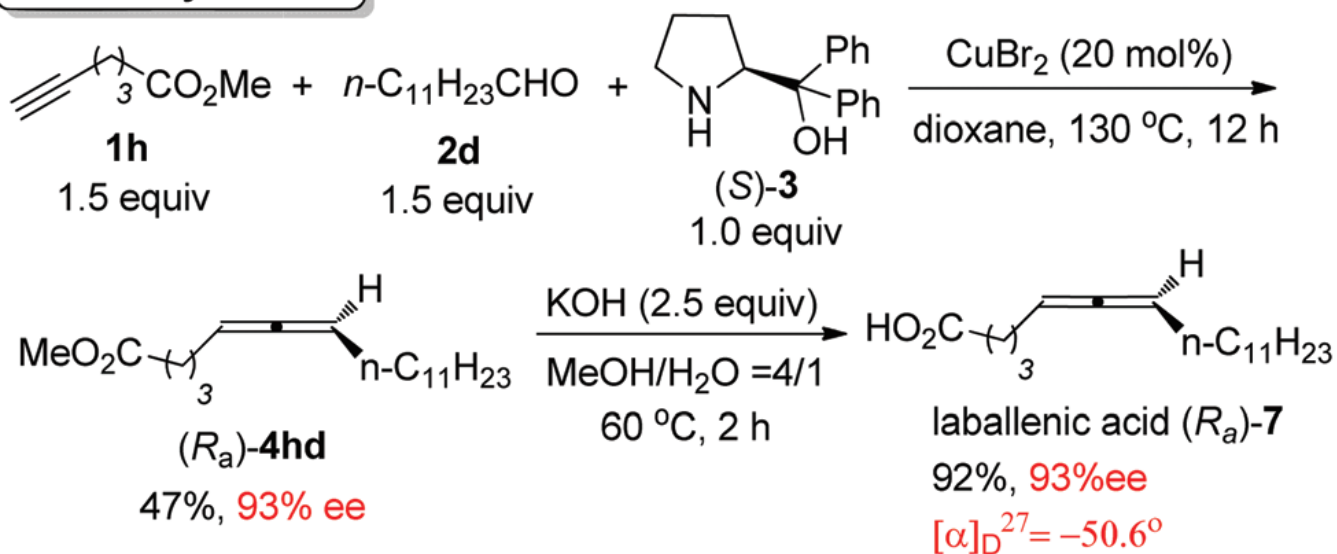


麻生明末端炔不对称联烯化-Applications

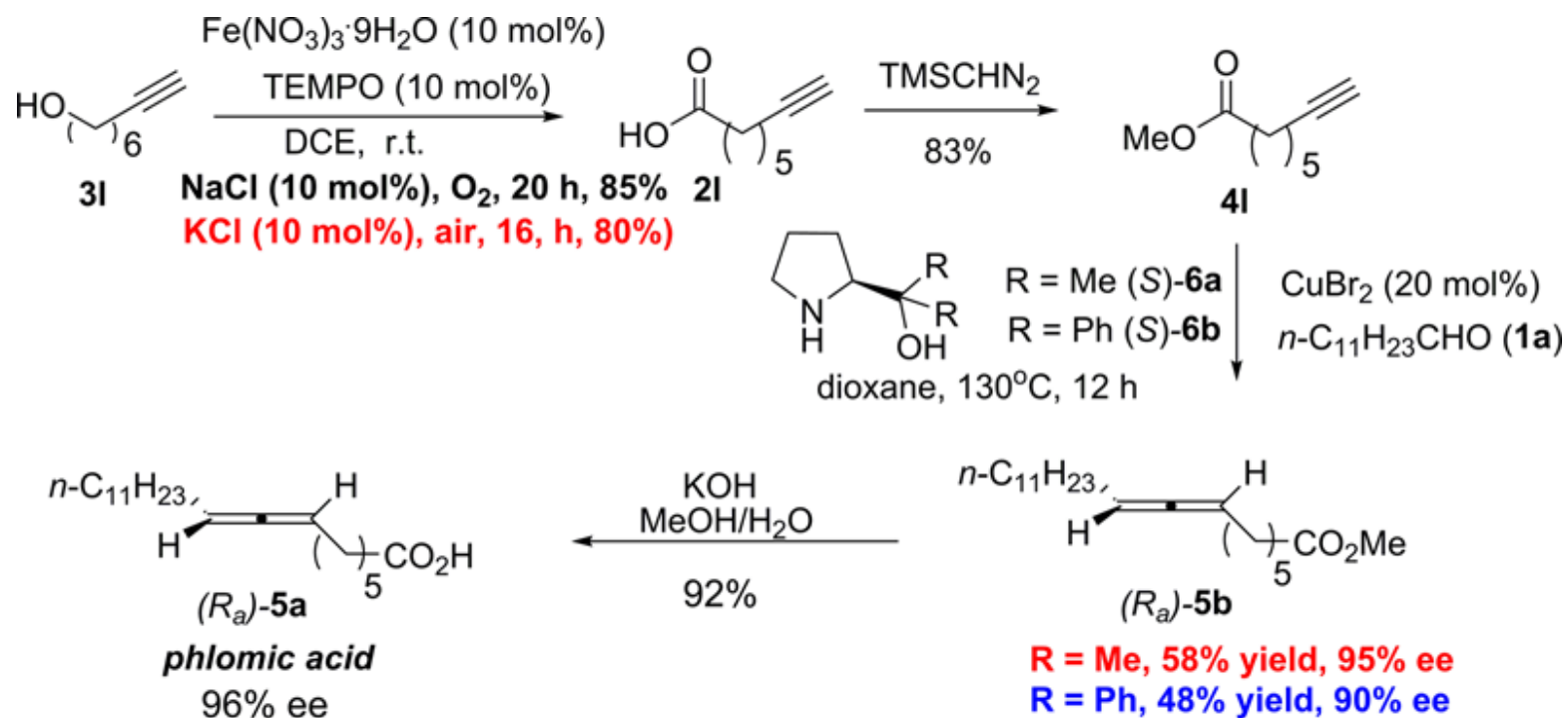
Reported synthesis:



Current synthesis:

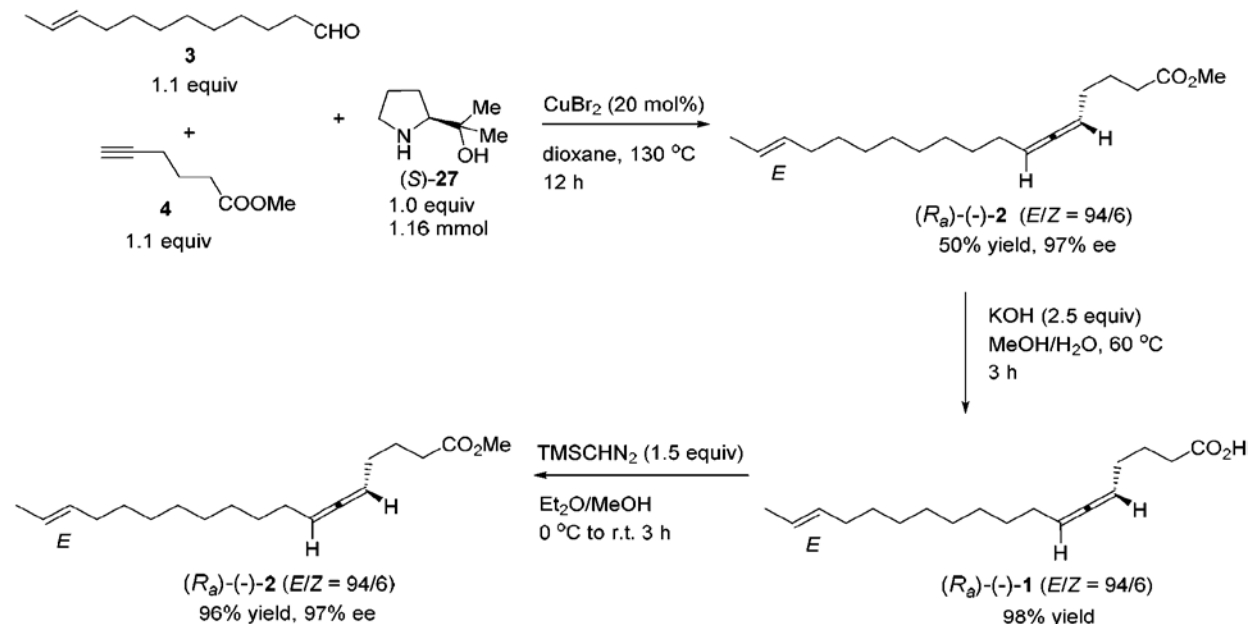


麻生明末端炔不对称联烯化-Applications

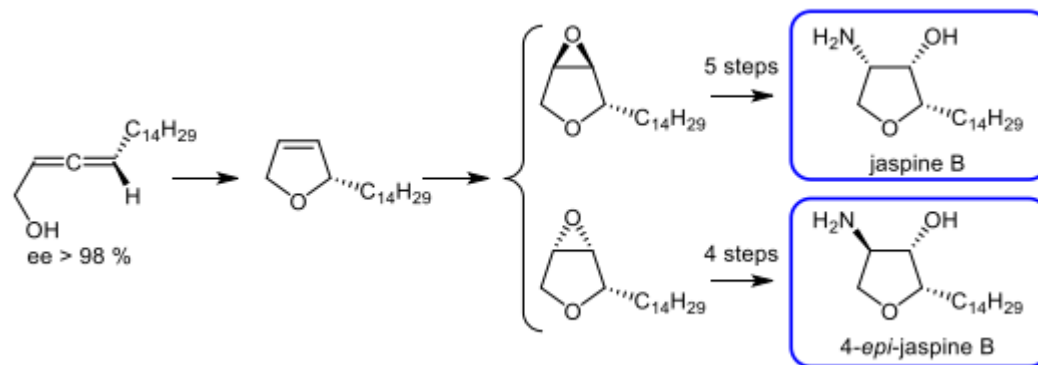


J. Am. Chem. Soc. 2016, 138, 8344–8347.

麻生明末端炔不对称联烯化-Applications



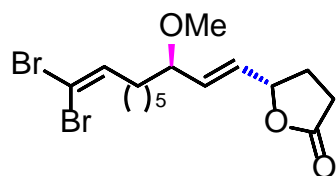
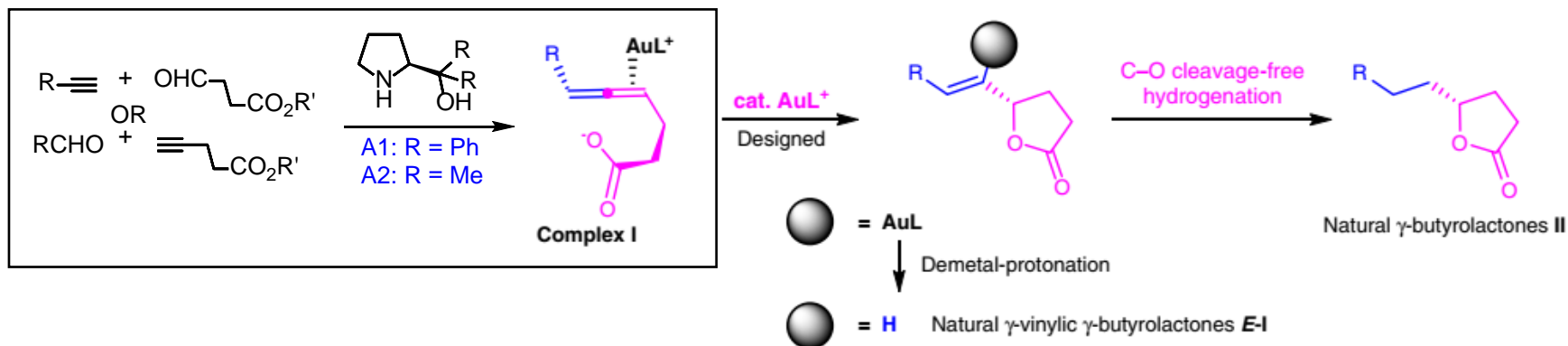
Lamellenic acid



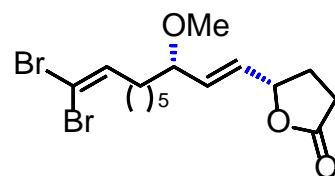
SphKs1&2 inhibitors
(Ballereau group)

Org. Chem. Front. 2017, 4, 951–957.
Synlett. 2019, 30, 185-188.

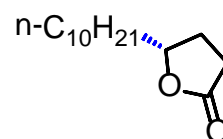
麻生明末端炔不对称联烯化-Applications



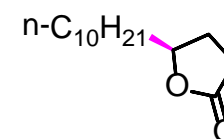
xestospongiene F



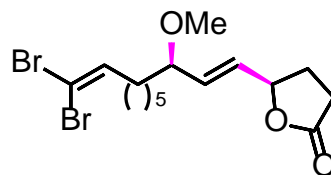
xestospongiene H



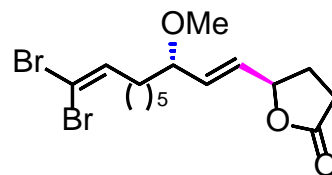
(R)-4-tetradecalactone



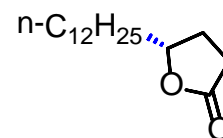
(S)-4-tetradecalactone



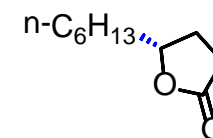
xestospongiene G



xestospongiene E



(R)- ν -palmitolactone



(R)-4-decalactone

Nature Communication. 2018, 9, 1654.

END/Thanks