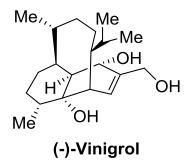
Asymmetric Total Synthesis of (–)-Vinigrol

Long Min, Xiaohong Lin, Chuang-Chuang Li

J. Am. Chem. Soc. 2019, 141, 15773-15778.

(-)-Vinigrol was isolated by Hashimoto and coworkers in 1987 from the fungal strain *Virgaria nigra* F-5408. It inhibits human platelet aggregation ($IC_{50} = 52 \text{ nM}$) and is an antagonist of tumor necrosis factor (TNF- α).

It has an unprecedented highly rigid 1,5-butanodecahydronaphthalene core with eight contiguous stereocenters. And the unusual bridged bicyclo[5.3.1]-undecane ring system is also present in the well-known terpene taxol.

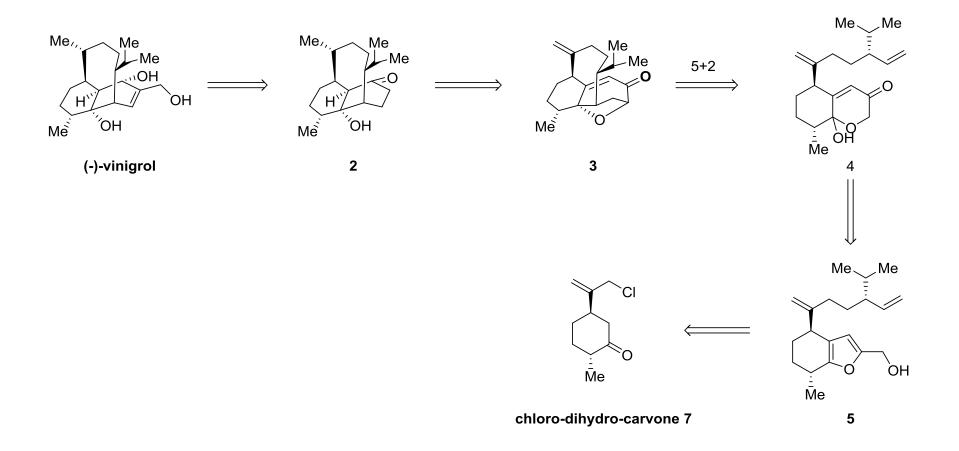


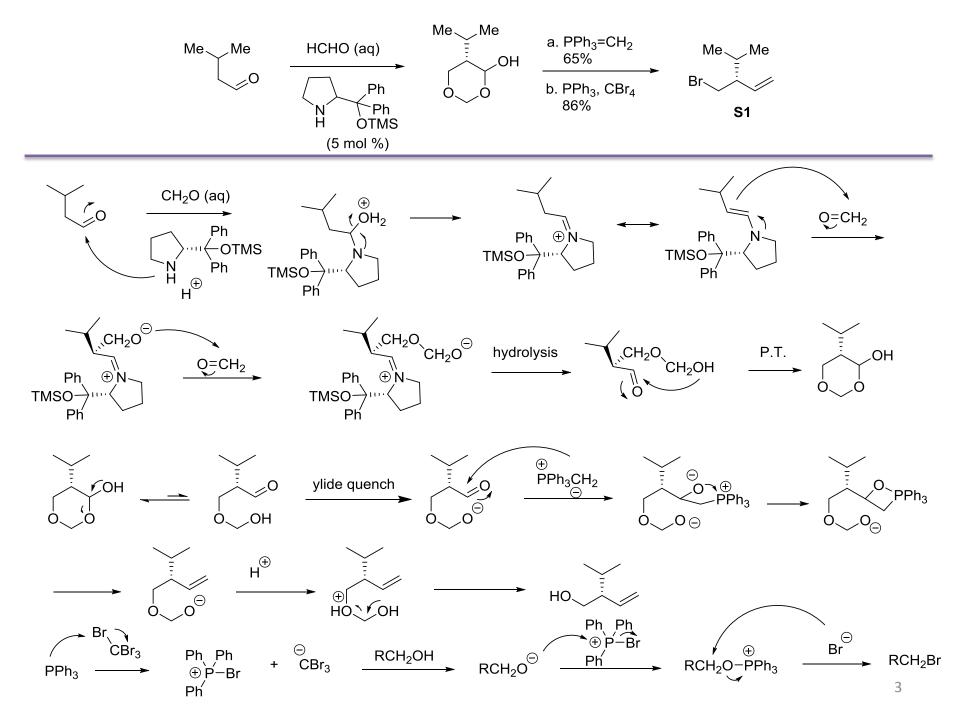


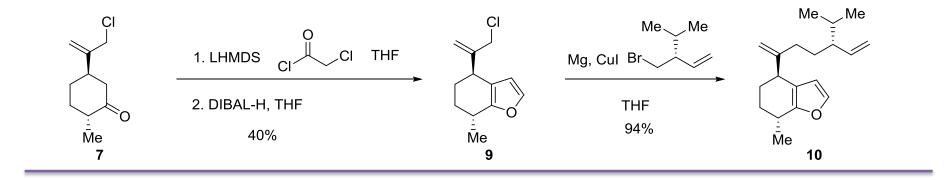


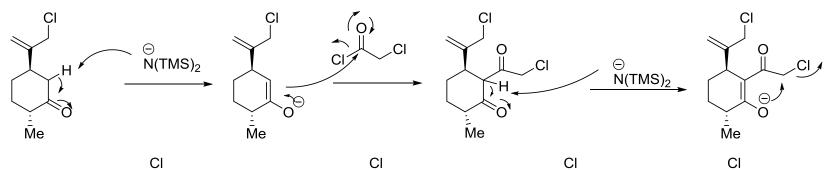
Presented by Yuanzhe Zhang, Liu group.

retro-synthetic route





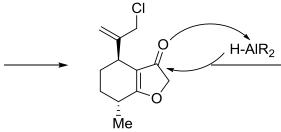




Me

Cu

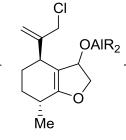
Me



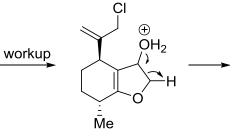
Mg

Me__Me

BrMg

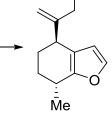


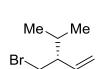
Cul

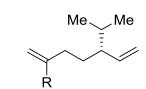


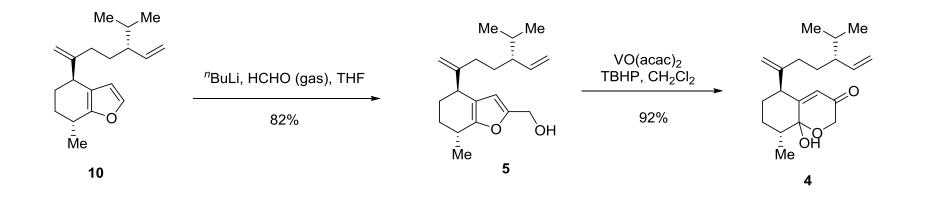
R

CI



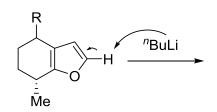


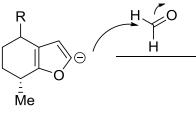


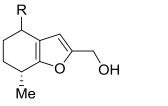


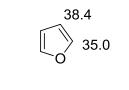
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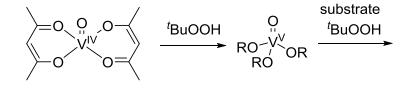
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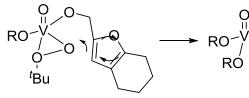


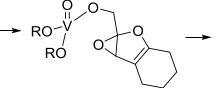


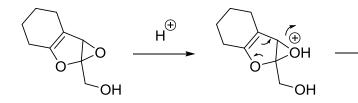


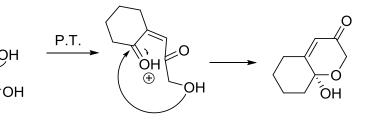


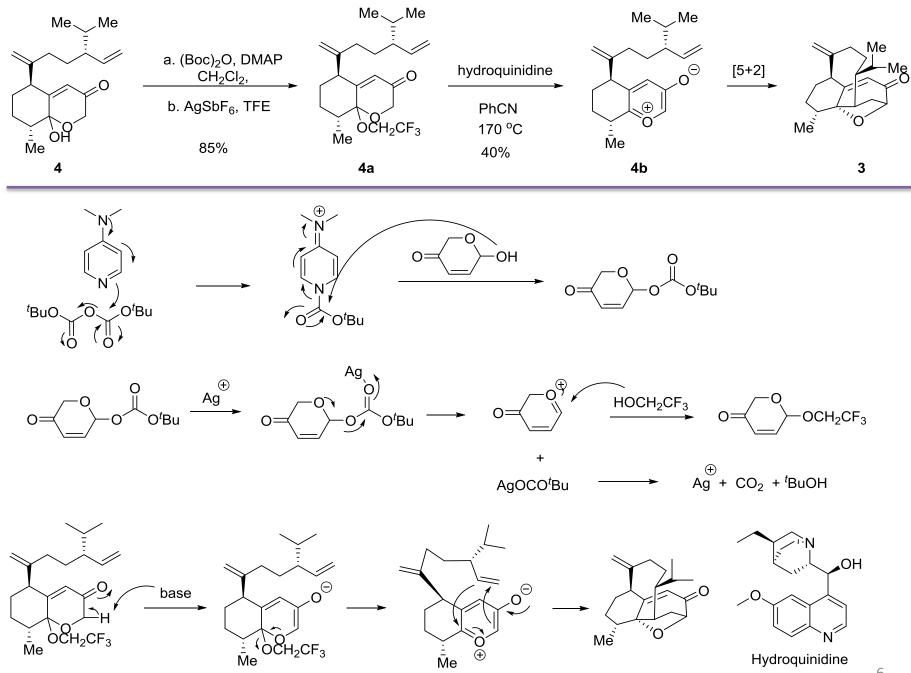


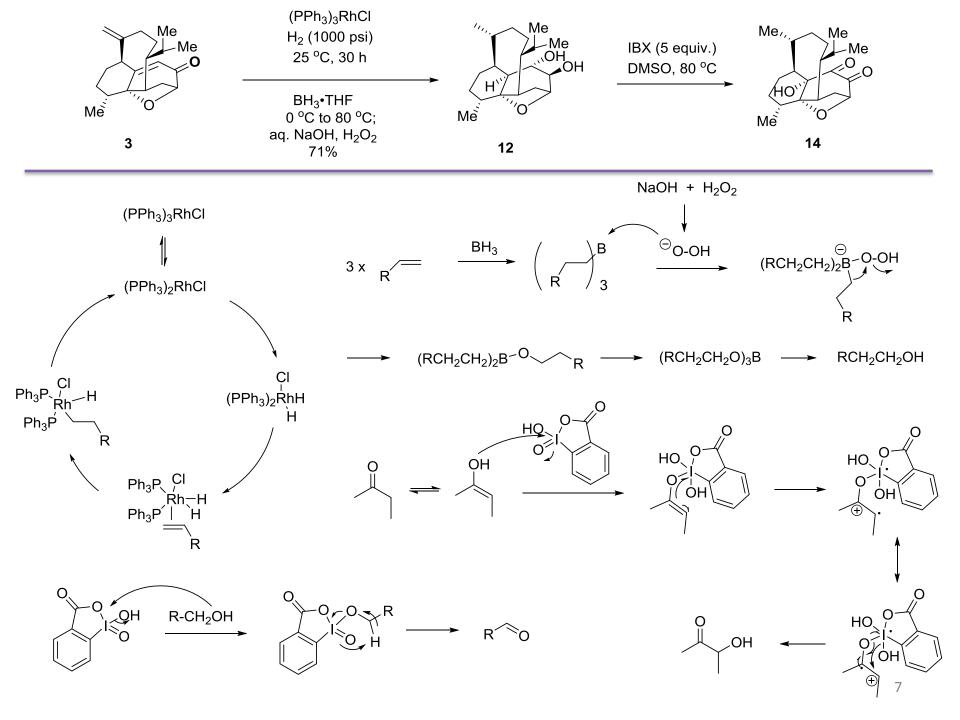


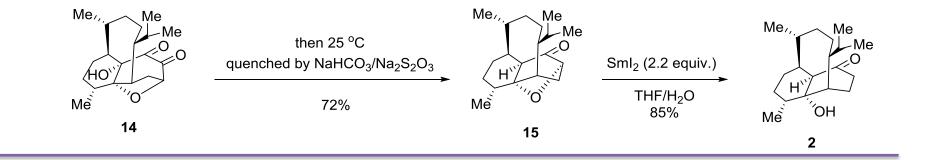


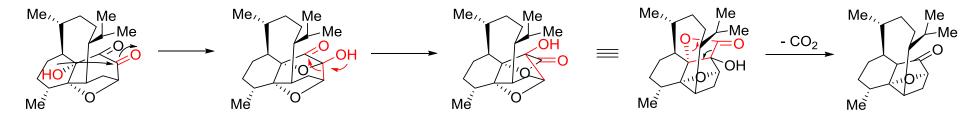


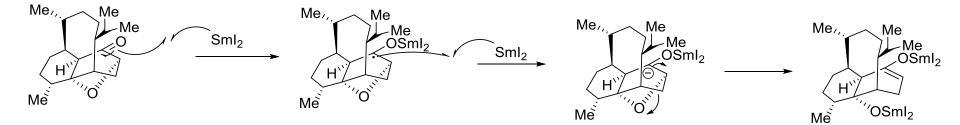


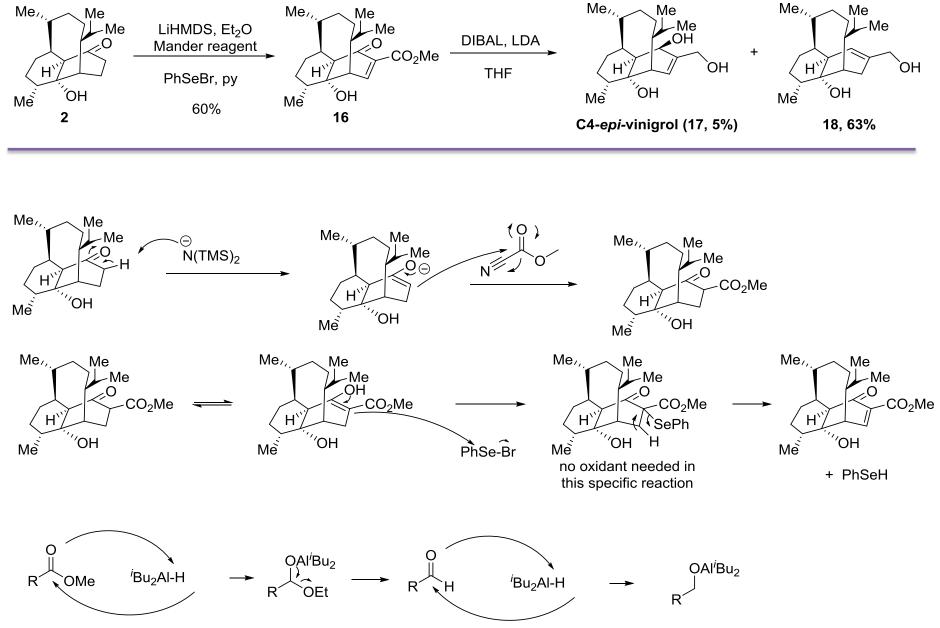


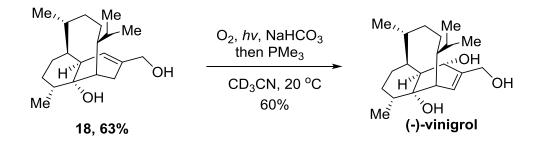












$${}^{3}O_{2} \xrightarrow{hv} {}^{1}O_{2}$$

