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Divergent Total Syntheses of (+)-Vulgarisins A–E

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Gademann Group
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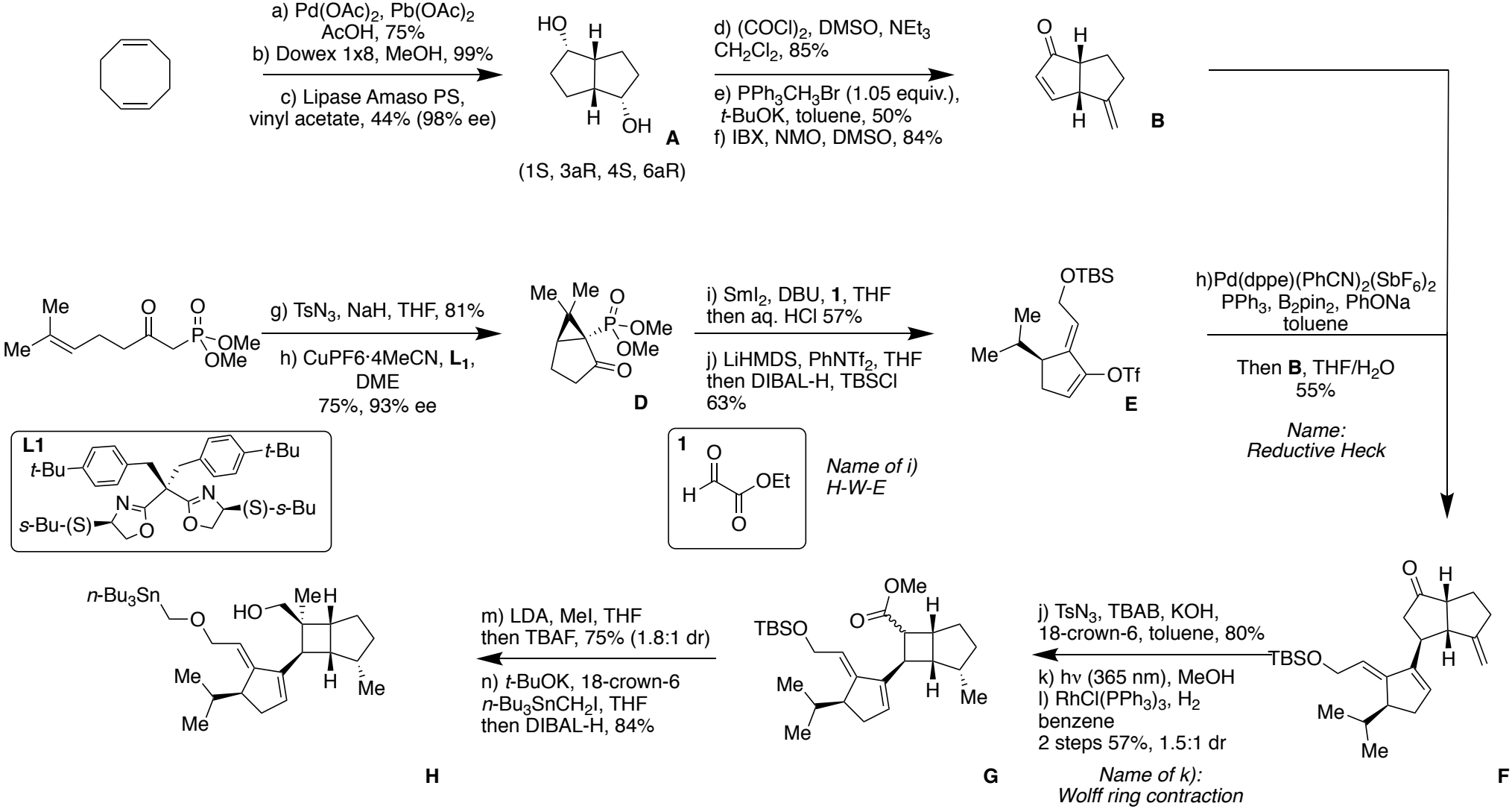

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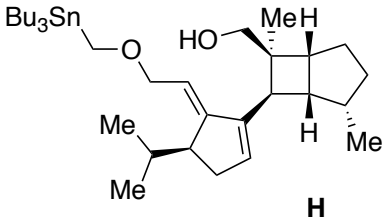
Divergent Total Syntheses of (+)-Vulgarisins A–E

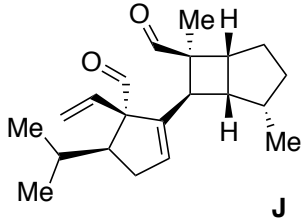


H

o) *n*-BuLi (4 equiv.), *n*-hexane, 74%

p) $(COCl)_2$, DMSO, NEt_3 CH_2Cl_2

Name of o):
[2,3]-Wittig rearrangement



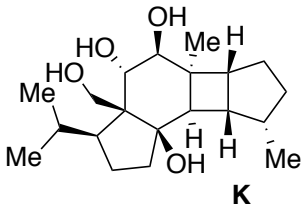
J

*Swern [O] only condition leading to **J**, possible side reaction observed?*

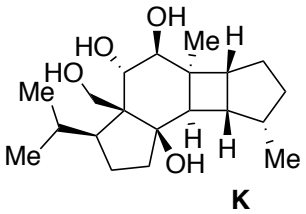
q) SmI_2, tetraglyme THF, 65%

r) $Mn(acac)_2$, PPh_3, PhSiH, O_2, EtOH
s) O_3, MeOH then $NaBH_4$
2 steps 77%

Name of q):
pinacol cyclization
Name of r):
Mukayama hydration

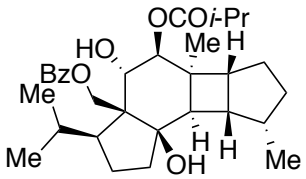


K



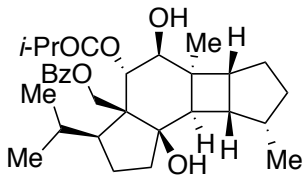
K

t) BzCl (1 equiv.), Py, DMAP, CH_2Cl_2 then IBCl



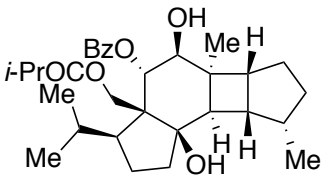
(+)-Vulgarisin B, 43%

+



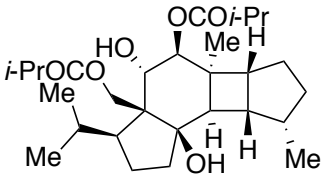
(+)-Vulgarisin C, 12%

+



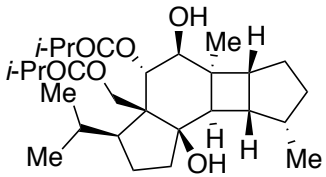
(+)-Vulgarisin E, 11%

u) IBCl, Py, DMAP CH_2Cl_2



(+)-Vulgarisin A, 47%

+



(+)-Vulgarisin D, 25%

IBCl