

1) 60% H₂SO₄,
acetone 80%
2) AcOH, H₂O 89%

3) MOMCl, Huenig's, DCM
97%

A

1) NaH, EtOCHO
2) NEt₃, MeCN,
p-NO₂C₆H₄SO₂N₃

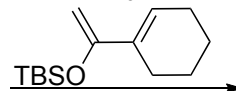
3) hν, THF, HMDS, 0°C;
H₃O⁺ (68% 3 steps)
1+2) Regitz procedure
3) Named reaction

B

1) Cl₃COCl, TEA, 98%
2) KDA, Ph₂Se₂, H₂O₂,
THF 74%

C

1) Yb(thd)₃, 110°C 87%



2) TBAF, THF 74%
3) LAH, THF 94%
4) MOMCl, DMAP,
Huenig's base, DCM 96%

D

1) Li, NH₃
2) HCl, MeOH, THF 55%

1) LAH, THF
2) mCPBA, DCM
3) DMP, NaHCO₃ 77%

E

4) *p*-NO₂ArSO₂NHNH₂, Py,
EtOH, THF 76%
Named reaction

F

H₂NOH HCl, Py,
100°C

G

1) ZrCl₄, NaBH₄
2) Zn, AcOH, Et₂O
3) TFAA, TEA, DCM

32% 4 steps

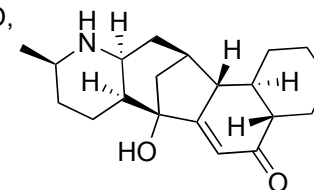
H

1) dil. HCl
2) DMP, DCM
3) MOMCl, DMAP,
Huenig's base, DCM 57%

4) LDA, TMSCl, THF
5) Pd(OAc)₂, DMSO, MeCN 82%
Named reaction

I

1) K₂CO₃, H₂O,
60°C 90%
2) dil. HCl,
acetone 37%



(+/-)-G.B. 13