

## Total synthesis of bryostatin 3

Trost *et al.*, *Science* 368, 1007-1011 (2020)<sup>[1]</sup>

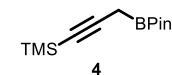
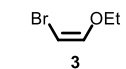
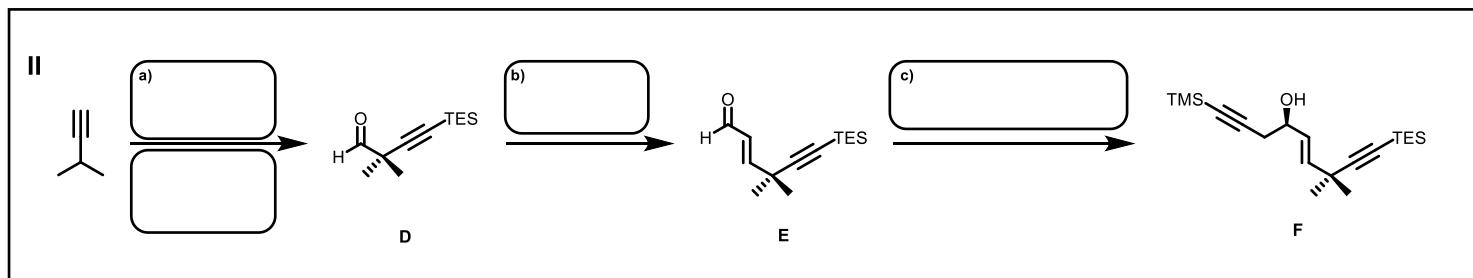
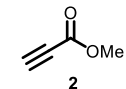
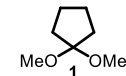
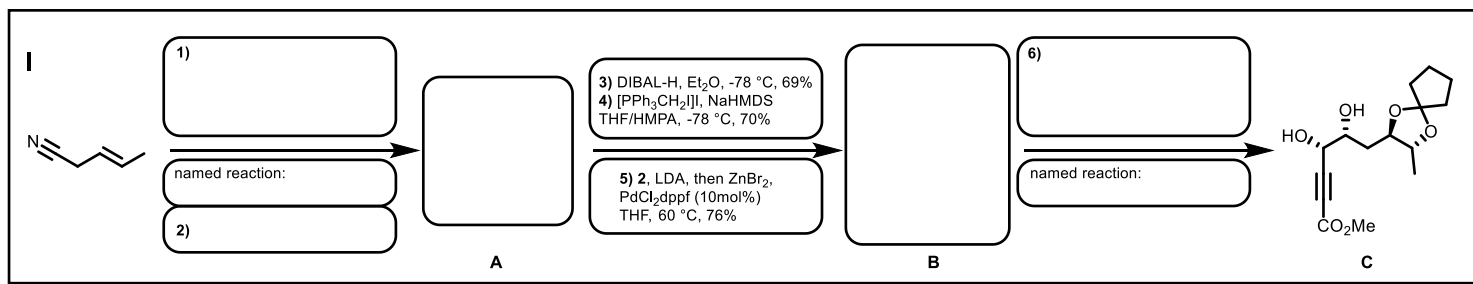
Research Group

Prof. T. Opatz

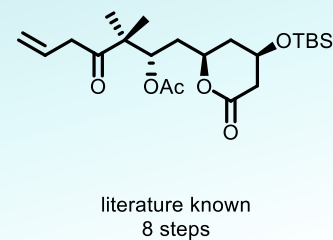
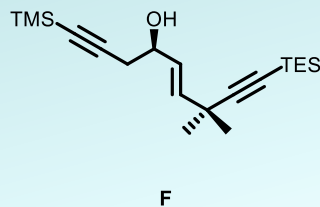
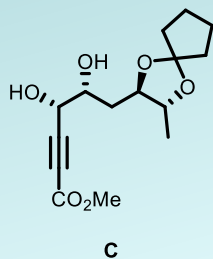
Kevin Seipp

19.05.2021

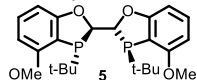
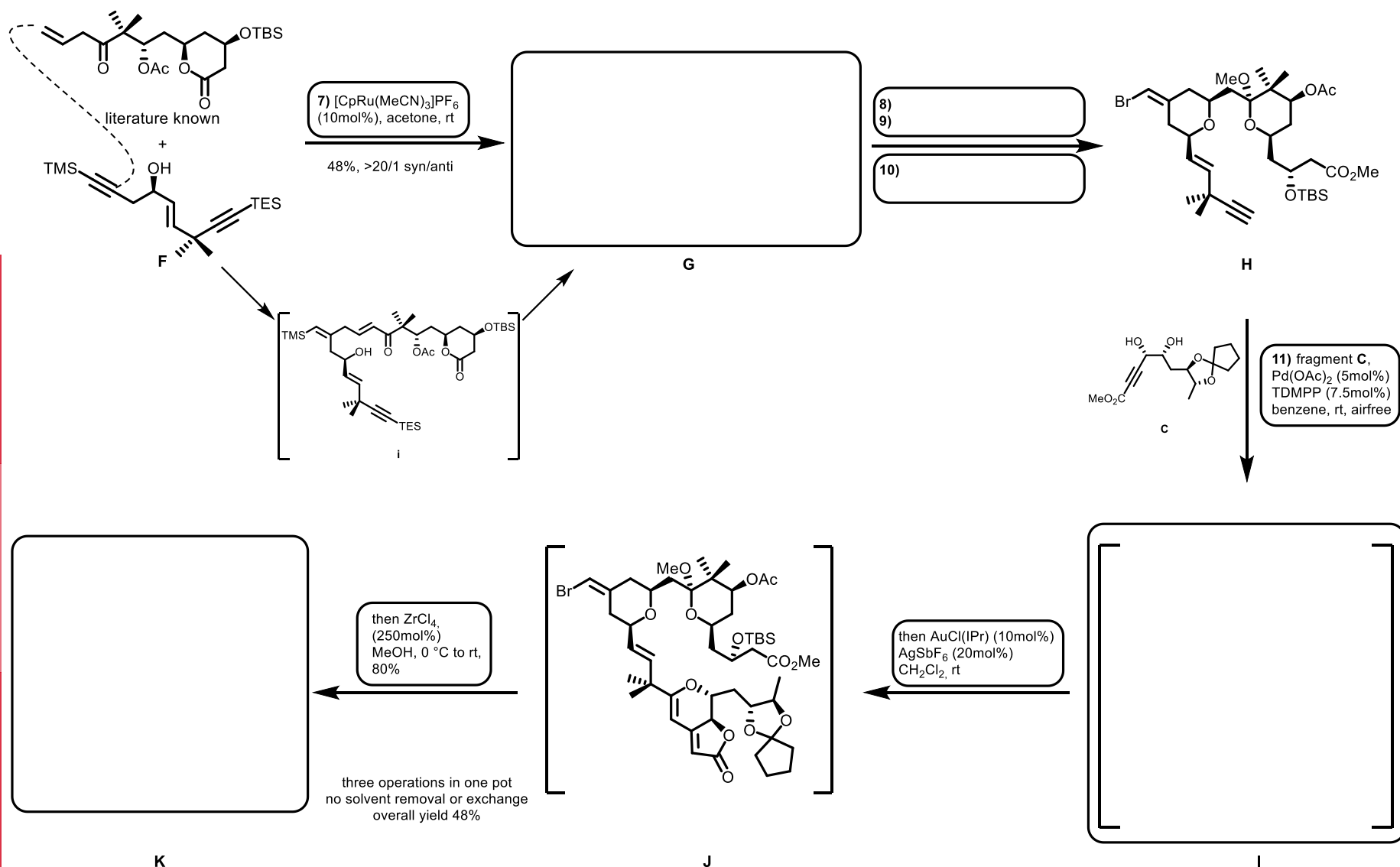
# Total synthesis of bryostatin 3 – three basic fragments



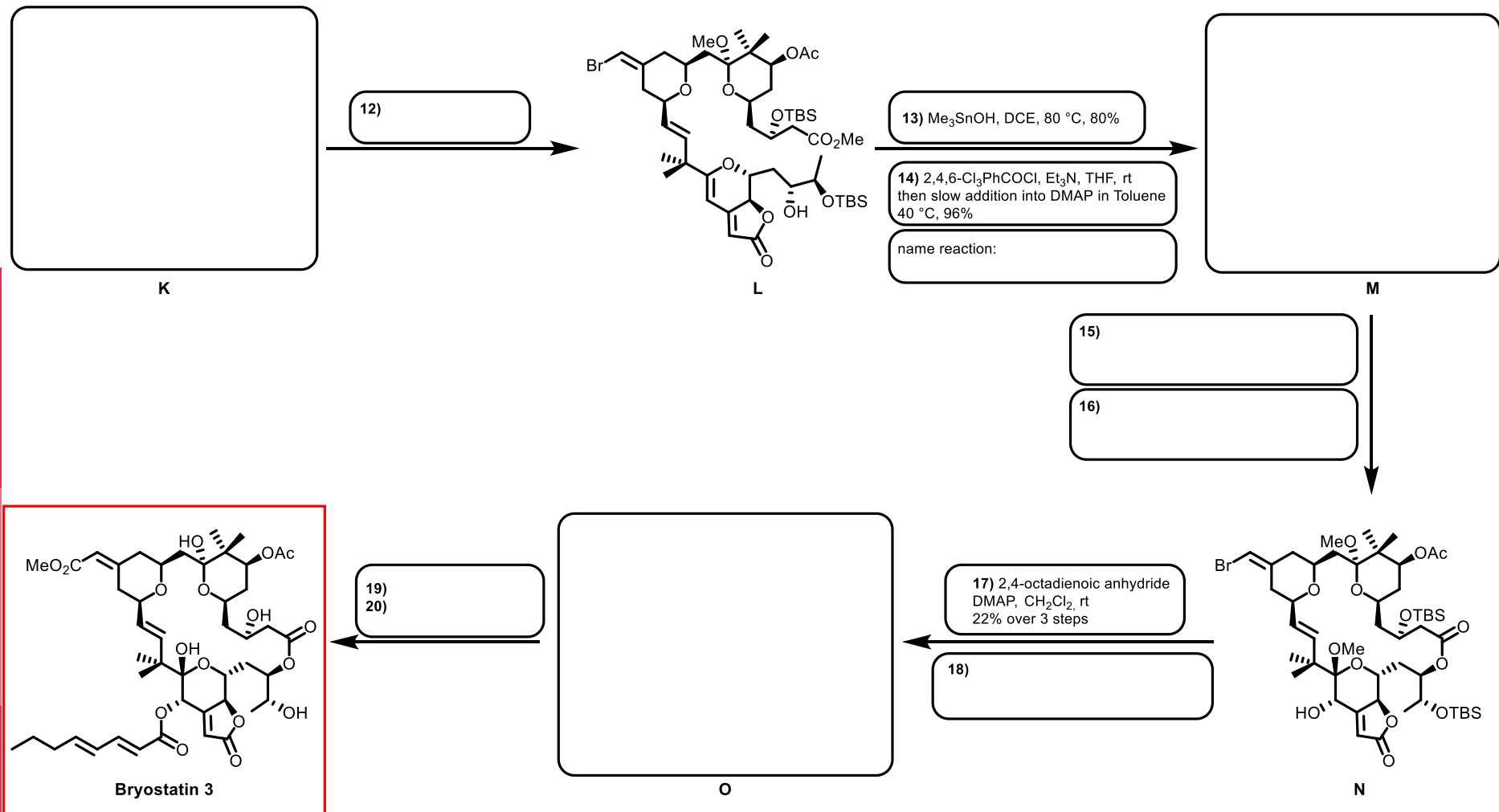
Three basic fragments for the next steps



# Total synthesis of bryostatin 3 – coupling of the fragments



# Total synthesis of bryostatin 3 – the last steps



# Total synthesis of bryostatin 3 – hints

- Step c: Cu-catalyzed propargylation
- Step 7: Ru-catalyzed Alkene/Alkyne coupling-Michael addition cascade
- Step 9: including acid promoted ring opening transesterification
- Step 11 (first): Pd-catalyzed additions of terminal alkynes to acceptor alkynes
- Step 12: bis-silylated product obtained