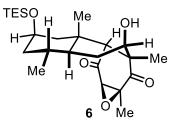


7

 $(EtO)_2(O)P \setminus CO_2H$ 9) CsF, DMSO 10) TsOH • H<sub>2</sub>O, IBX, DMSO 27% 3steps



3

- 11)  $Pd(t-Bu_3P)_2,1,4-dioxane$ add Pd/C, H2, MeOH; 49% 12) TIPSOTf, Et<sub>3</sub>N DCM, 68%
- Me OTIPS **TIPSO** 8
- 13) SeO<sub>2</sub>, DMA, 55% 14) TFAA, DMSO, DCM Et<sub>3</sub>N 72%
- 15) TASF, MeI, THF, 71%

## Key Steps:

**HAT-initiated annulation** 

## Significance:

HAT-initiated annulation-based approach significantly reduces unproductive functional group manipulations and is notably shorter than the previous efforts in the field