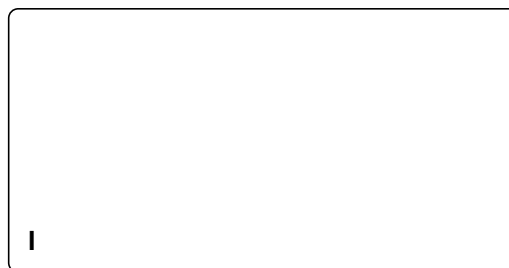


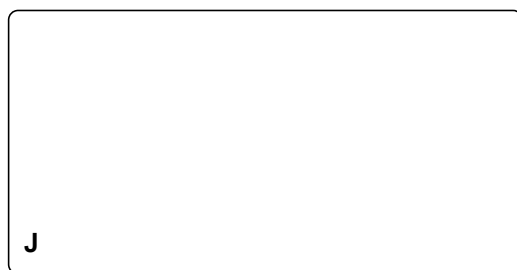
16) CeBr<sub>3</sub> (cat.), H<sub>2</sub>O<sub>2</sub>  
then CuSO<sub>4</sub>, *p*-TSA

75%  
Mechanism?

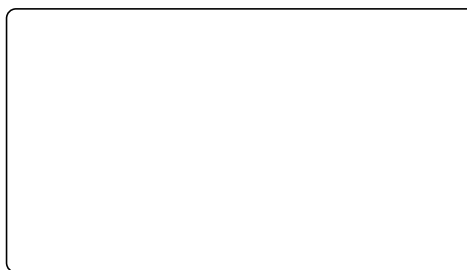


17) RhCl(PPh<sub>3</sub>)<sub>3</sub>, H<sub>2</sub>, toluene, **92%**

18) TBSOTf, NEt<sub>3</sub>  
19) PhSeCl; H<sub>2</sub>O<sub>2</sub> **58%** (2 steps)



20) SiO<sub>2</sub>,  
90 °C  
73%



21) Lindlar,  
then  
DDQ  
28%



22) SeO<sub>2</sub>  
30%

