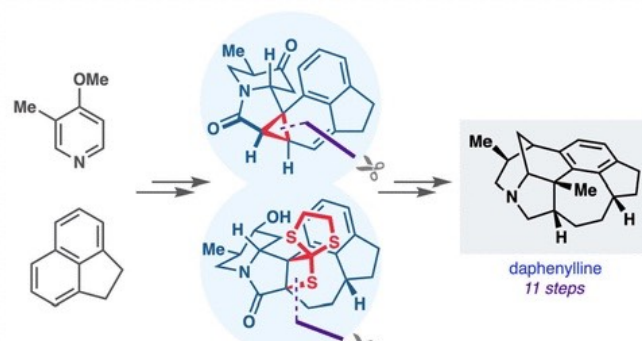
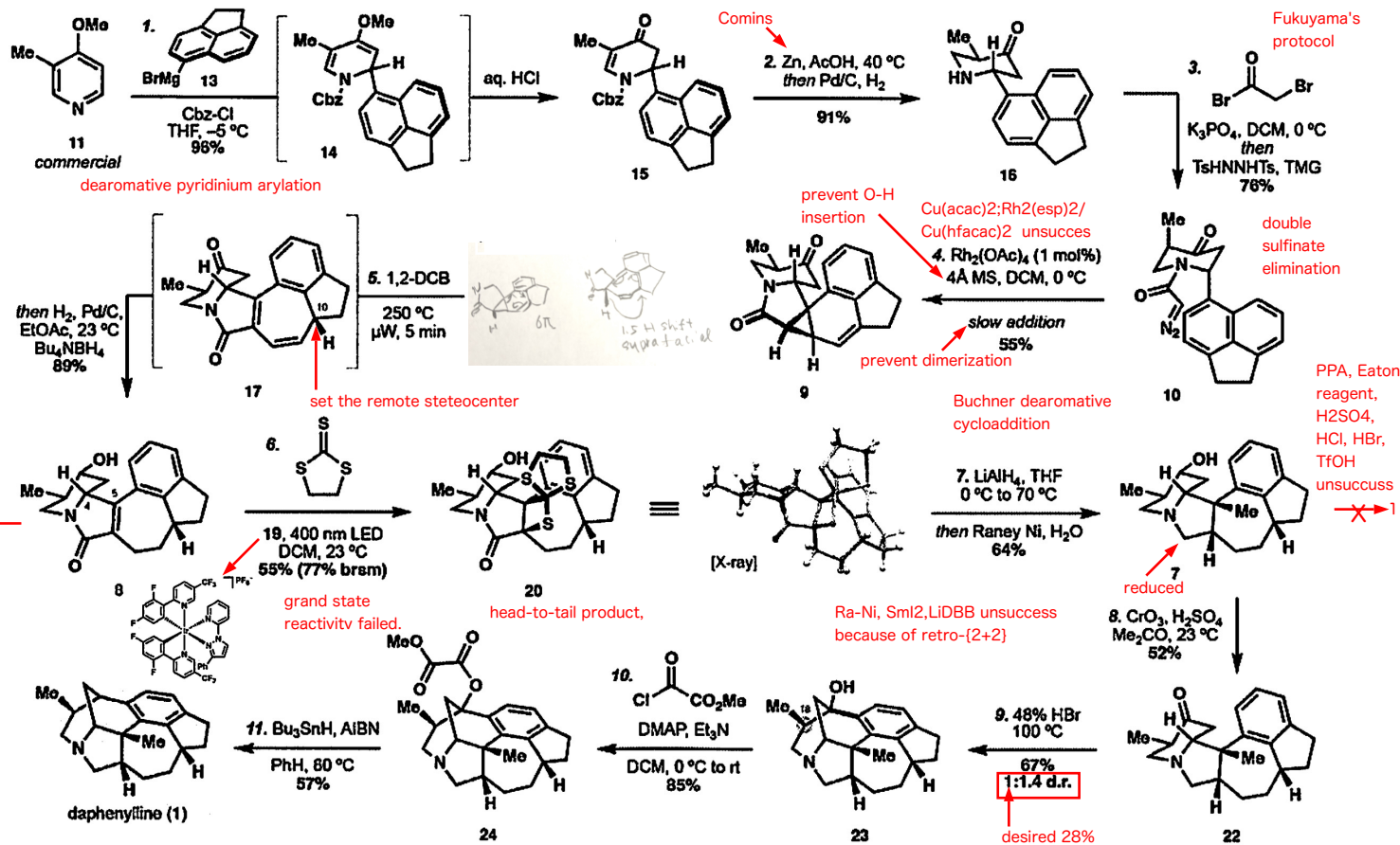


"network analysis"  
 useful for identifying optimal retrosynthetic  
 disconnections

11 steps, the shortest preparation of 1



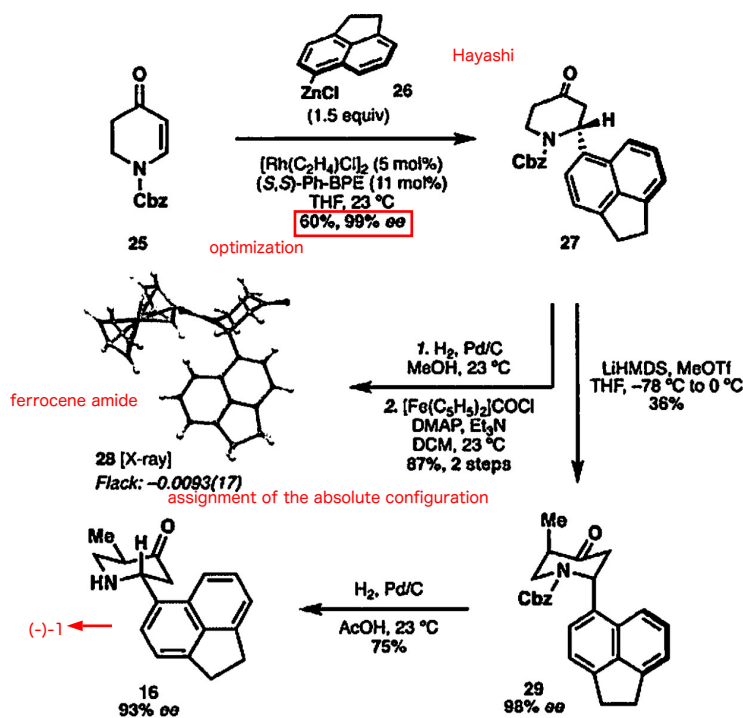
### Scheme 1. Total Synthesis of Daphenylline



Me<sub>2</sub>CuLi, Me<sub>3</sub>Al/Ni(acac)<sub>2</sub> or methyl radical sources (PhthN-OAc/IrIII) unsuccess (Et<sub>2</sub>AlCN), 1,3-dithianes or Corey-Chaykovsky cyclopropanation unsuccess

(1) the crowded steric environment  
 (2) deprotonation of the C4 position

### Scheme 2. Development of an Enantioselective Rh-Catalyzed 1,4-Conjugate Addition



### Scheme 3. Thietane Reduction Mechanistic Experiments

