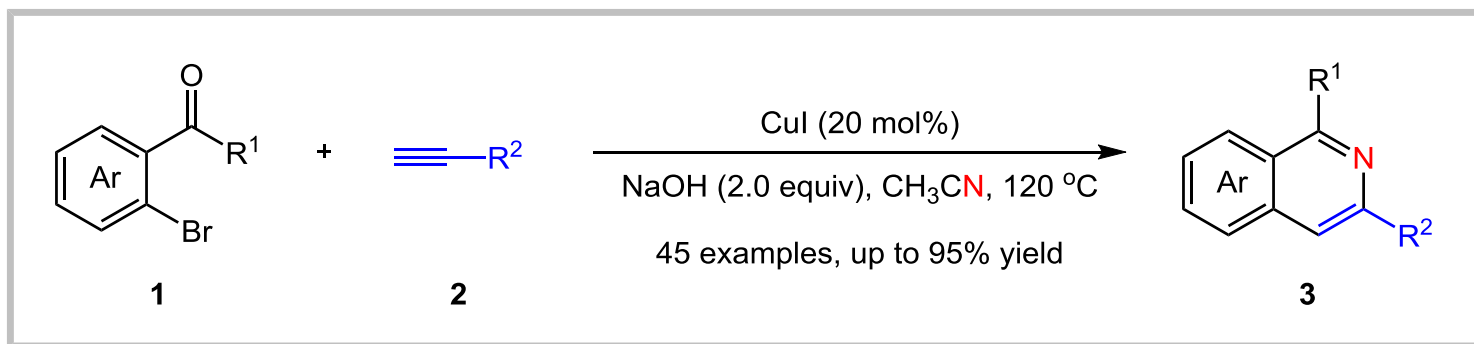


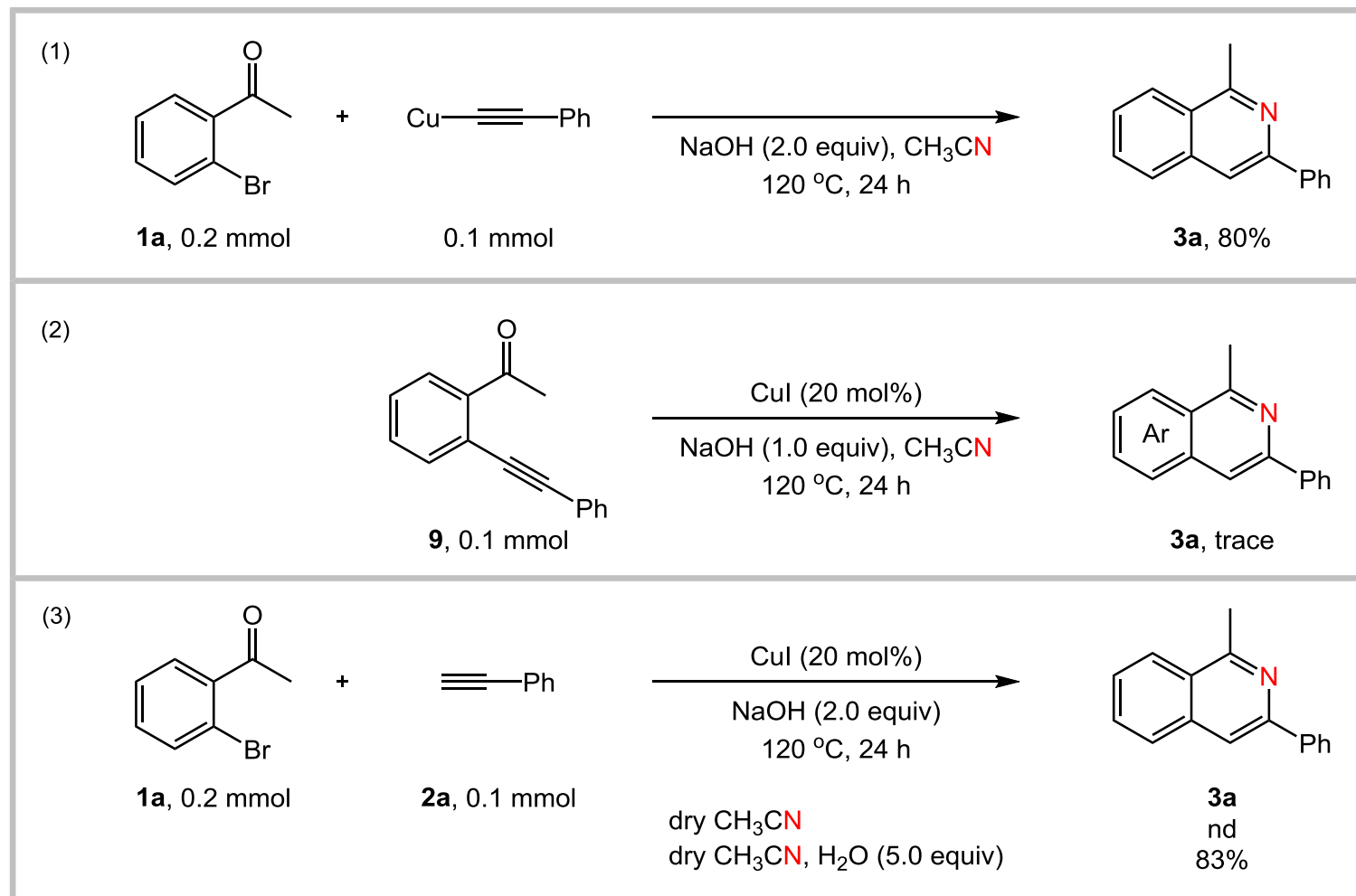


## Mechanism Speculation XXI Recommended by Li-Xia Liu

### Copper-Catalyzed Nitrogen Atom Transfer to Isoquinolines via C–N Triple Bond Cleavage and Three-Component Cyclization

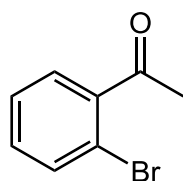


# Control Experiments



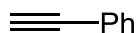
# Control Experiments

(4)

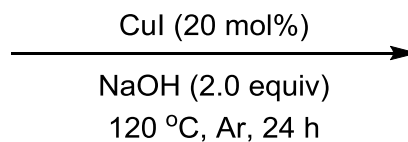


**1a**, 0.2 mmol

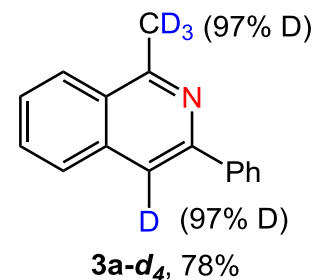
+



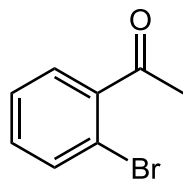
**2a**, 0.1 mmol



CH<sub>3</sub>C<sup>N</sup> (5.0 equiv), D<sub>2</sub>O

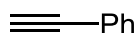


(5)

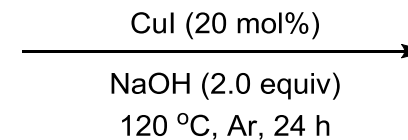


**1a**, 0.2 mmol

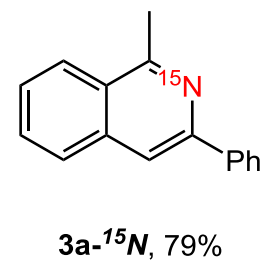
+



**2a**, 0.1 mmol



CH<sub>3</sub>C<sup>15N</sup> (5.0 equiv), H<sub>2</sub>O



# Proposed Mechanism

