## Mechanism Speculation VII Recommended by Chang-Bin Yu

## Metal-Free C-S Bond Formation in Elemental Sulfur and Cyclobutanol Derivatives: The Synthesis of Substituted Thiophenes

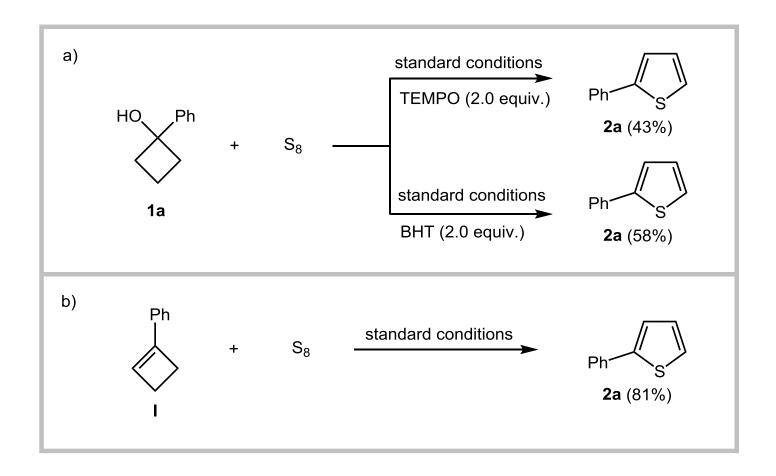
HO 
$$R^1$$
 +  $S_8$  HCOOH (0.5 equiv.)

DMSO, air, 140 °C

Up to 91% yield

Wu, M.; Yan, C.; Zhang, D.; Yan, R. Org. Lett. 2022, 24, 5309

## **Control Experiments**



## **Proposed Mechanism**

HO Ph 
$$H^+$$
  $H_2O$   $IM1$   $IM2$   $IM3$   $IM3$   $IM3$   $IM4$   $IM5$   $IM4$