

## Supporting Information

# Spiral gas-solid two-phase flow continuous mechanochemical synthesis salophen complex and catalytic performance research on the thermal decomposition of ammonium perchlorate

Yong Song, Zhiyuan Jin, Juan Zhang, Bo Jin\* and Rufang Peng\*

*State Key Laboratory of Environment-friendly Energy Materials, School of Materials  
and Chemistry, Southwest University of Science and Technology, Mianyang, 621010,  
China*

\* Corresponding author. E-mail: jinbo0428@163.com;rfpeng2006@163.com



Figure S1. Physical diagram and size of the reaction chamber.



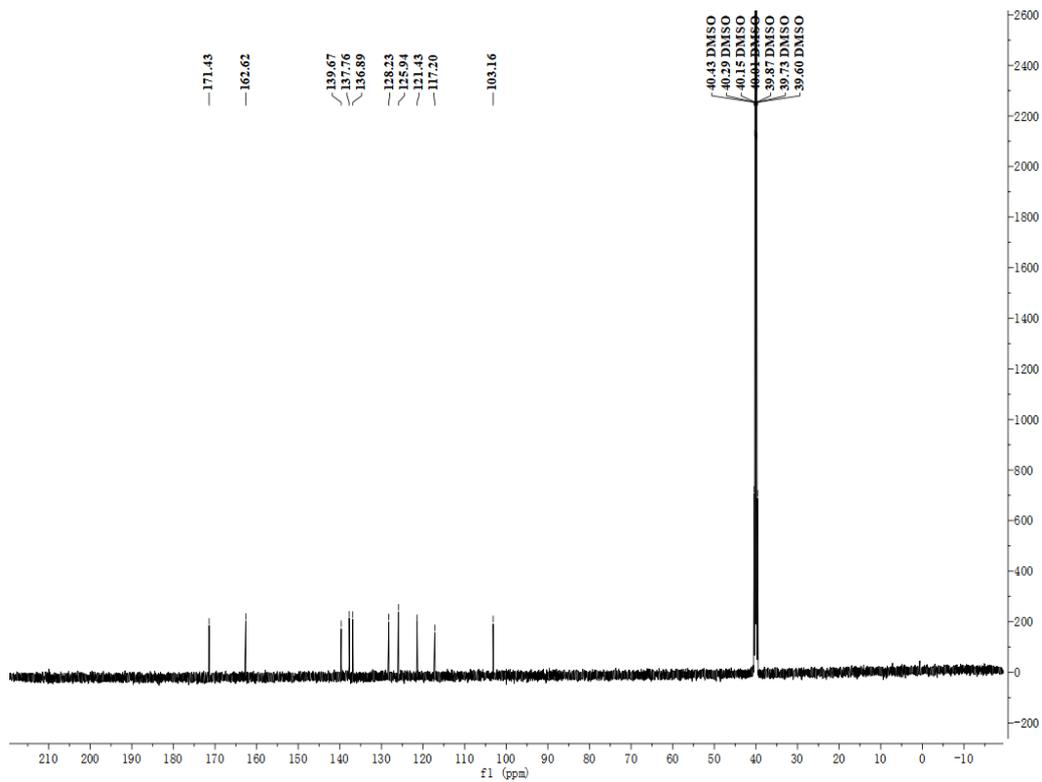


Figure S4.  $^{13}\text{C}$  NMR spectrum of salophen-Br-Zn in  $\text{d}_6$ -DMSO.

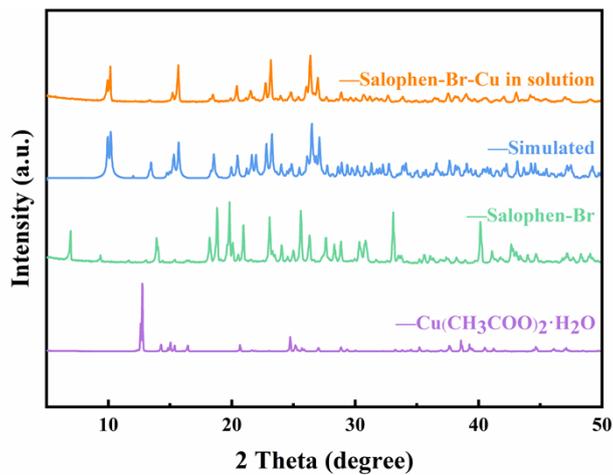


Figure S5. XRD patterns of salophen-Br ligand,  $\text{Cu}(\text{CH}_3\text{COO})_2 \cdot \text{H}_2\text{O}$ , and salophen-Br-Cu prepared in solution and simulation results.

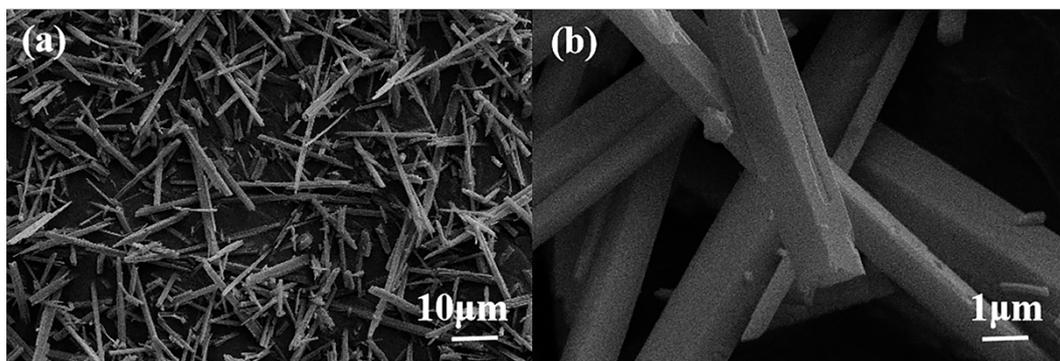


Figure S6. SEM images of salophen-Br-Cu prepared in solution.

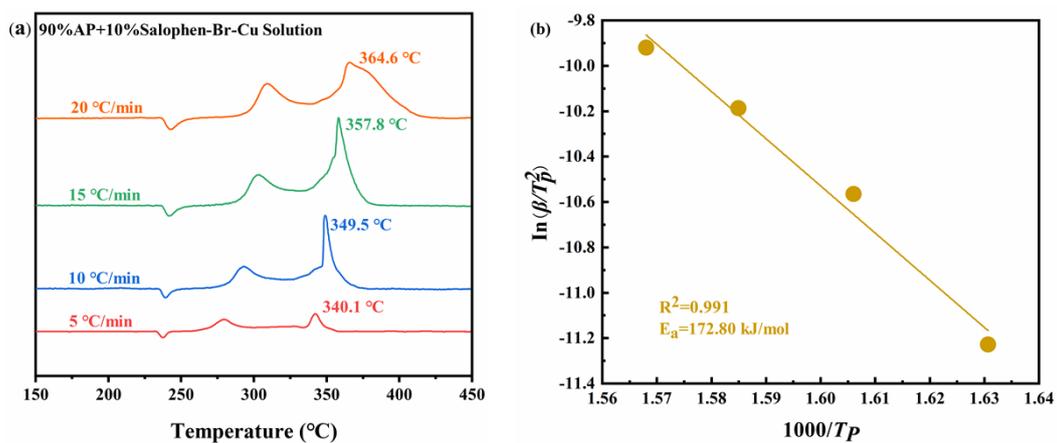


Figure S7. (a) DTA curves for different warming rates of AP+10 wt.% salophen-Br-Cu prepared in solution;  
(b) The dependence of  $\ln(\beta/T_p^2)$  on  $1/T_p$  for AP+10 wt.% salophen-Br-Cu prepared in solution.