

## Supporting Information

### **Multi-target antibacterial Ru-based metallodrugs containing phenylsulfonyl indole derivatives: Synthesis and their efficacy against Gram-positive and negative bacteria**

Shijie Lin<sup>a§</sup>, Guangying Yu<sup>c§</sup>, Liu Zhang<sup>c§</sup>, Xiangwen Liao<sup>c</sup>, Guijuan Jiang<sup>c\*</sup>, Lianghong Liu<sup>b\*</sup>

[a] Department of Pharmacy, Hainan General Hospital (Hainan Affiliated Hospital of Hainan Medical University), Haikou, 570311, China

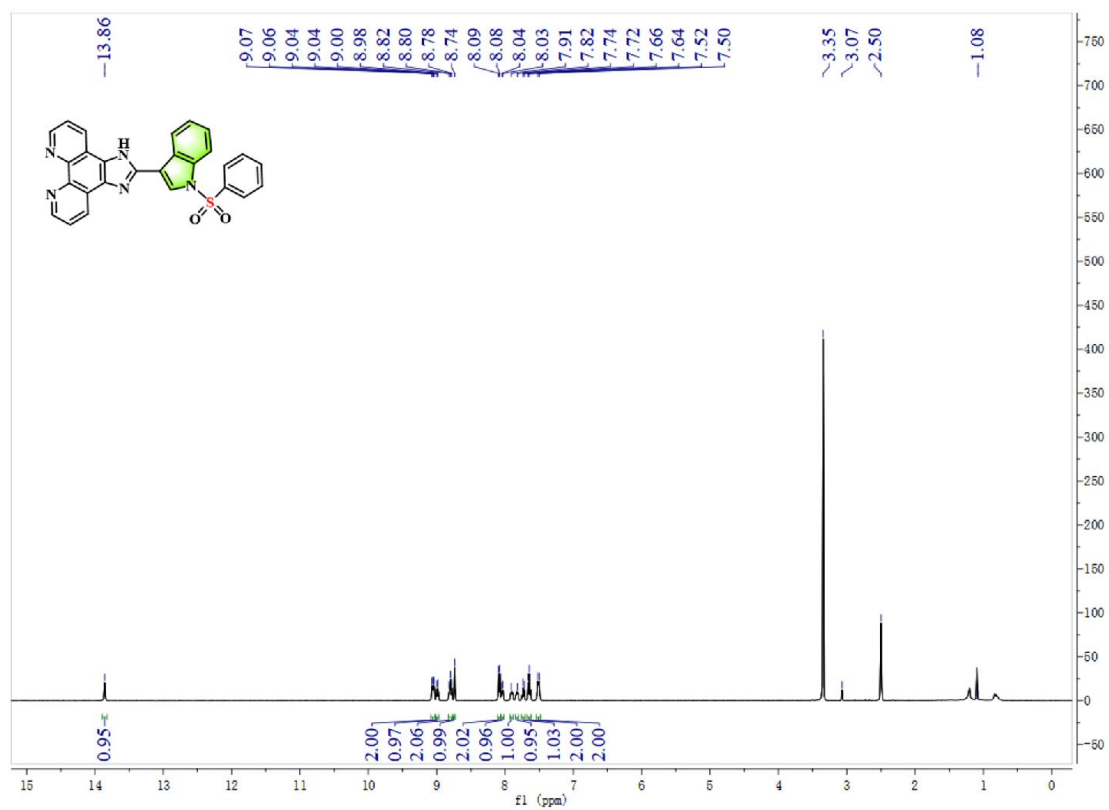
[b] School of Pharmaceutical Sciences, Hunan University of Medicine, Huaihua, 418000, China

[c] School of Pharmacy, Jiangxi Science & Technology Normal University, Nanchang, 330013, China

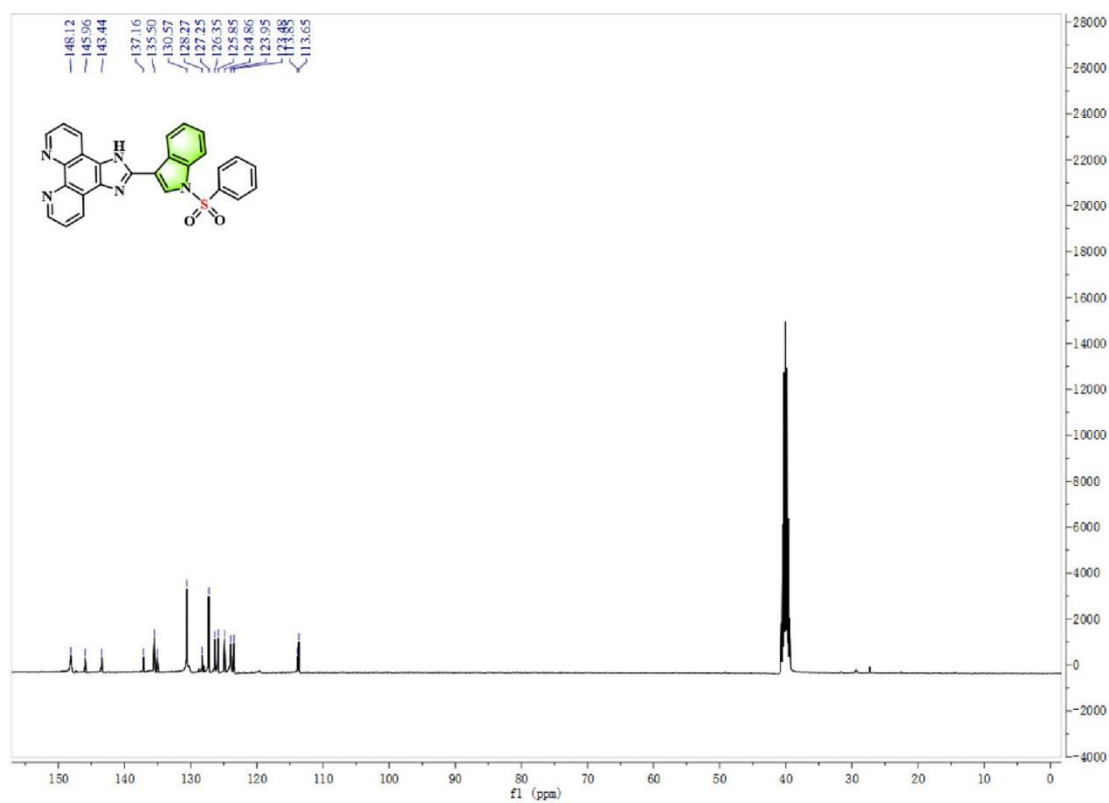
§ These authors contribute equally to this work

\*Correspondence author:

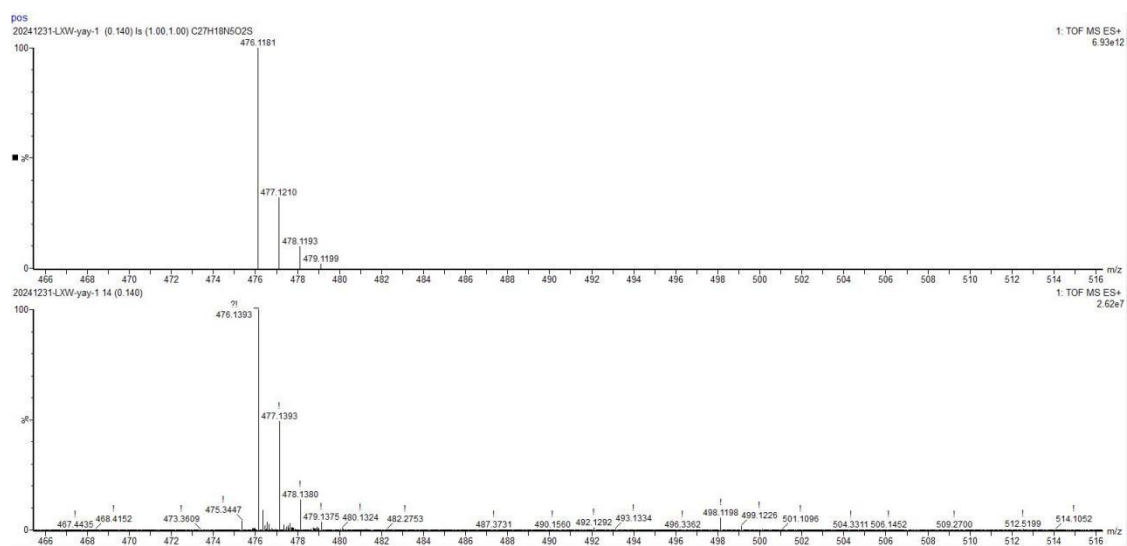
E-mail: [jgjchem@163.com](mailto:jgjchem@163.com), [llhfe@qq.com](mailto:llhfe@qq.com)



**Figure S1** The <sup>1</sup>H-NMR spectra of ligand (CHNOS)



**Figure S2** The <sup>13</sup>C-NMR spectra of ligand (CHNOS)



**Figure S3** The HMRS of ligand (CHNOS)

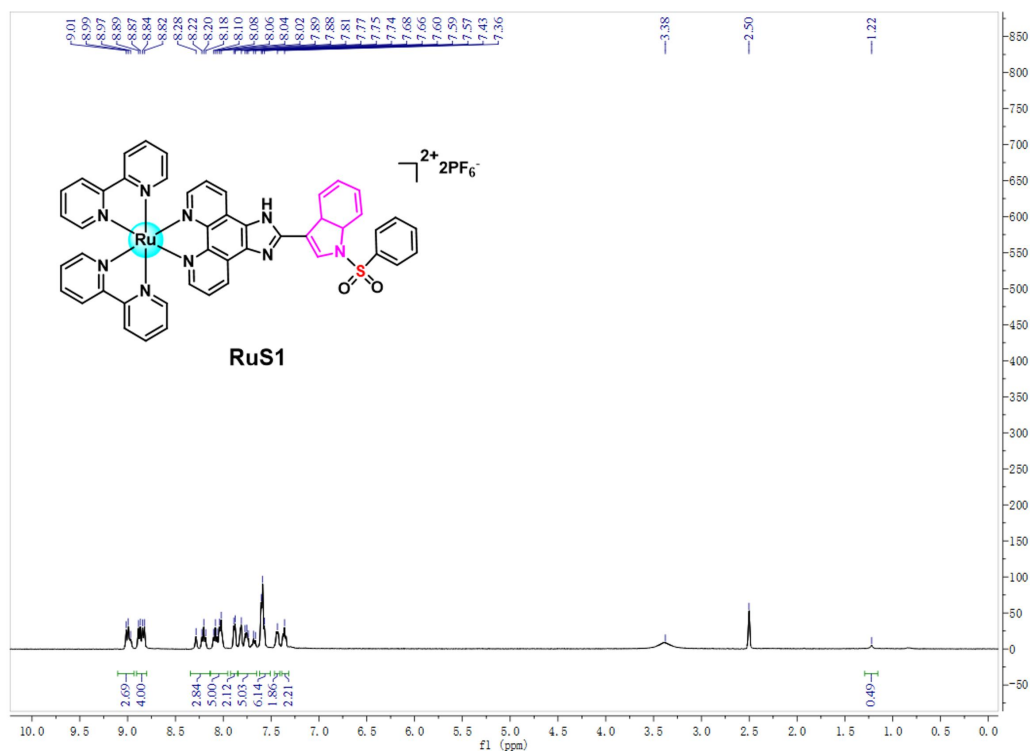


Figure S4 The  $^1H$ -NMR spectra of RuS1

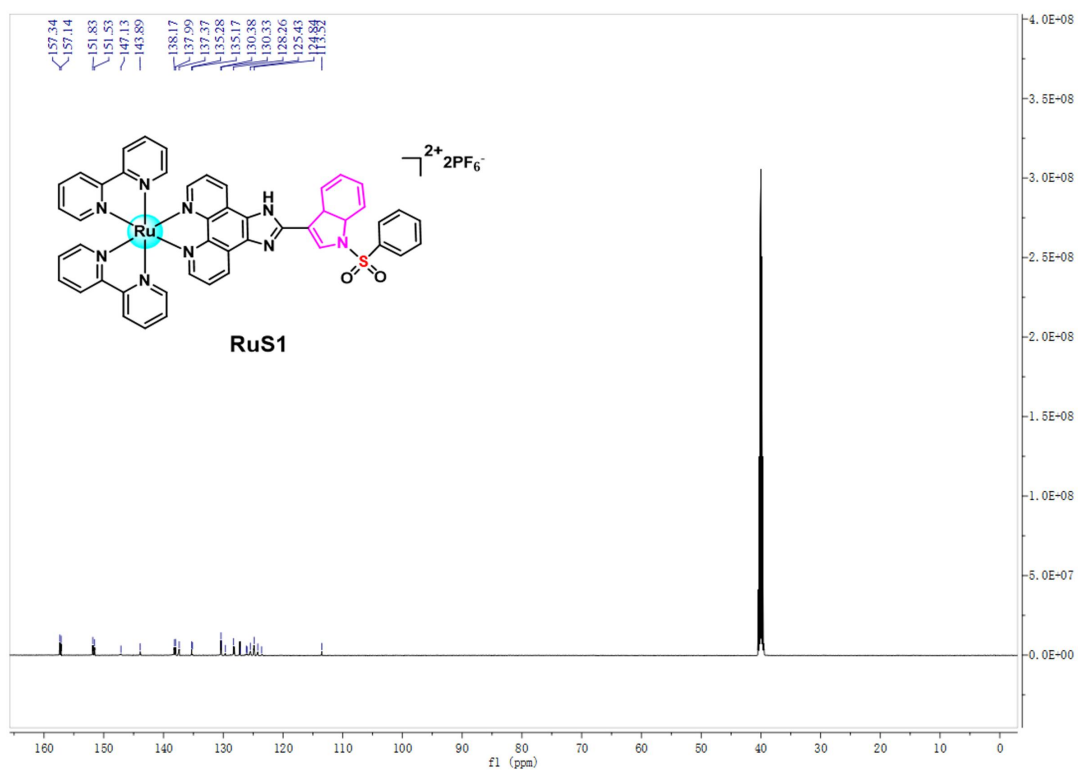


Figure S5 The  $^{13}C$ -NMR spectra of RuS1

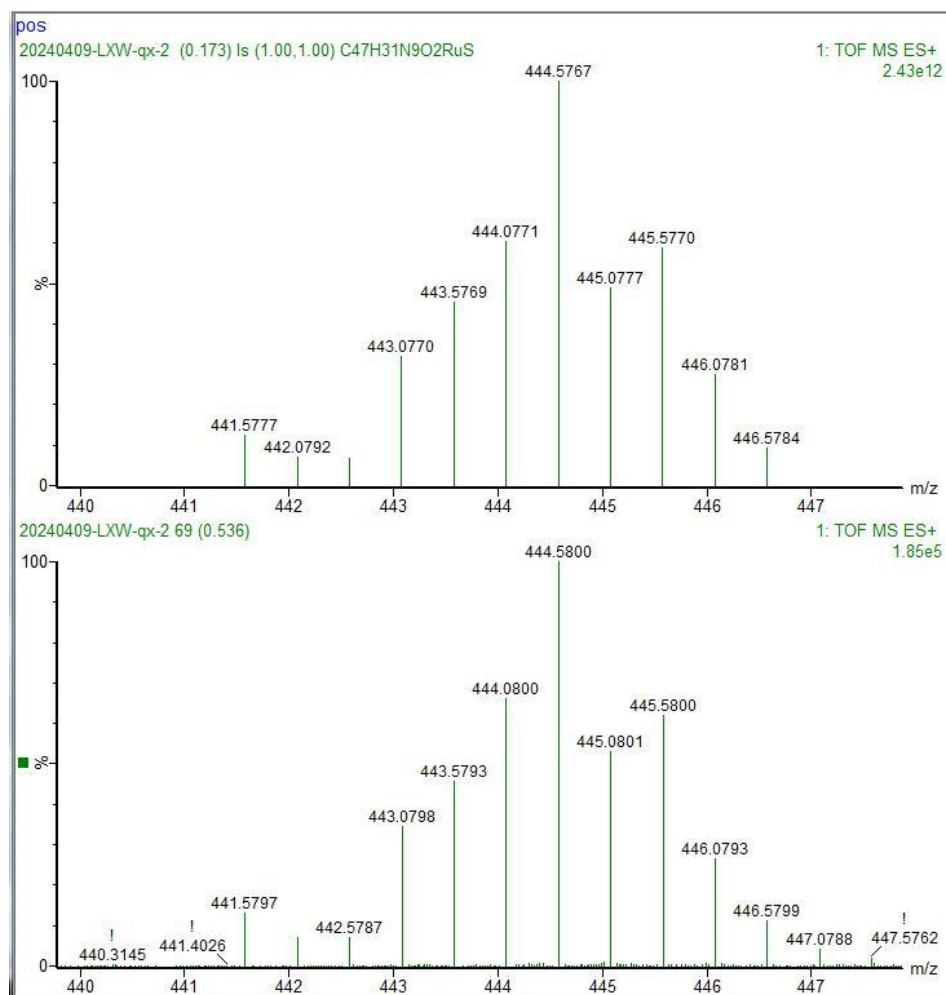


Figure S6 The HMRS of RuS1

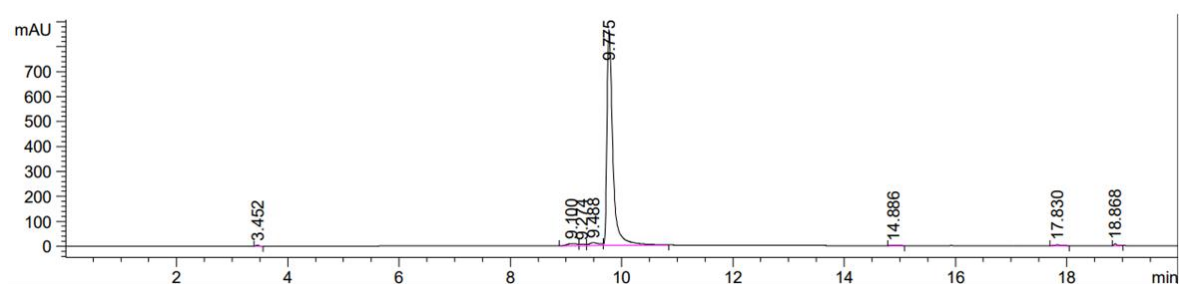


Figure S7 The high performance liquid chromatography of RuS1 (HPLC)

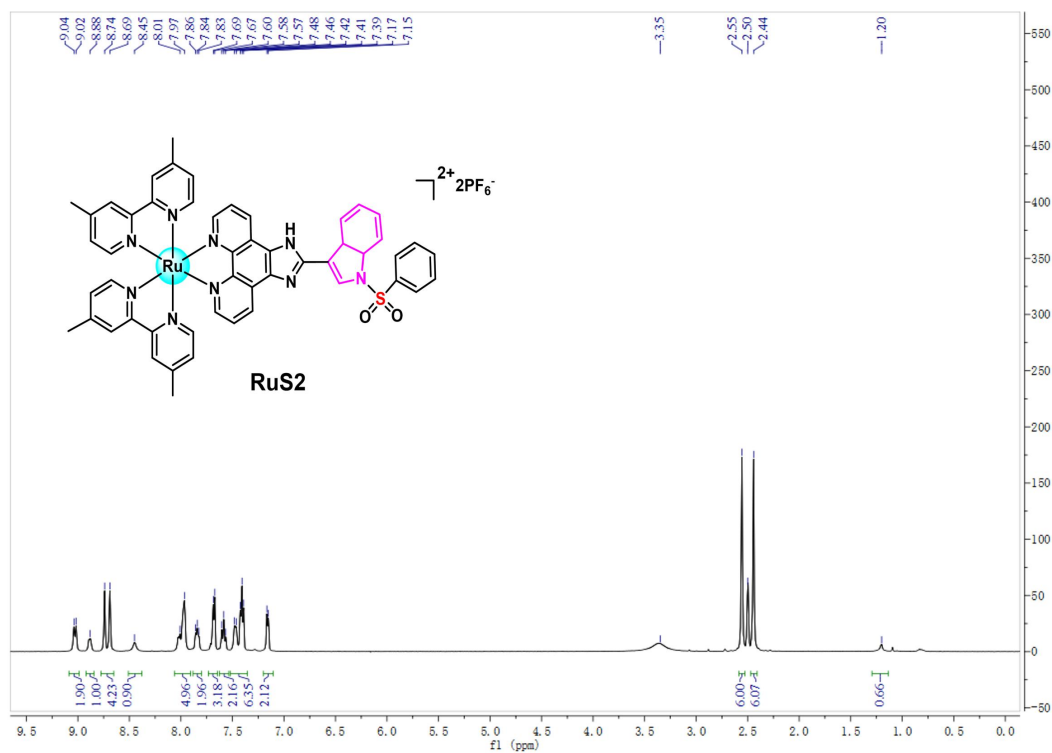


Figure S8 The  $^1\text{H}$ -NMR spectra of RuS2

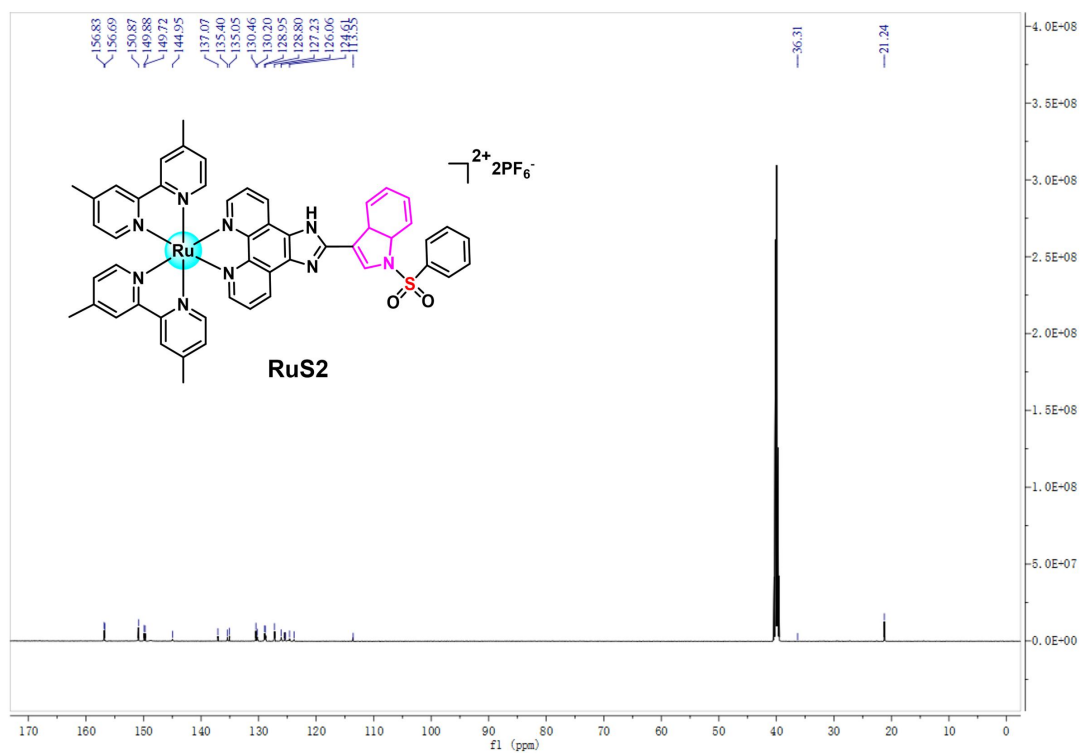
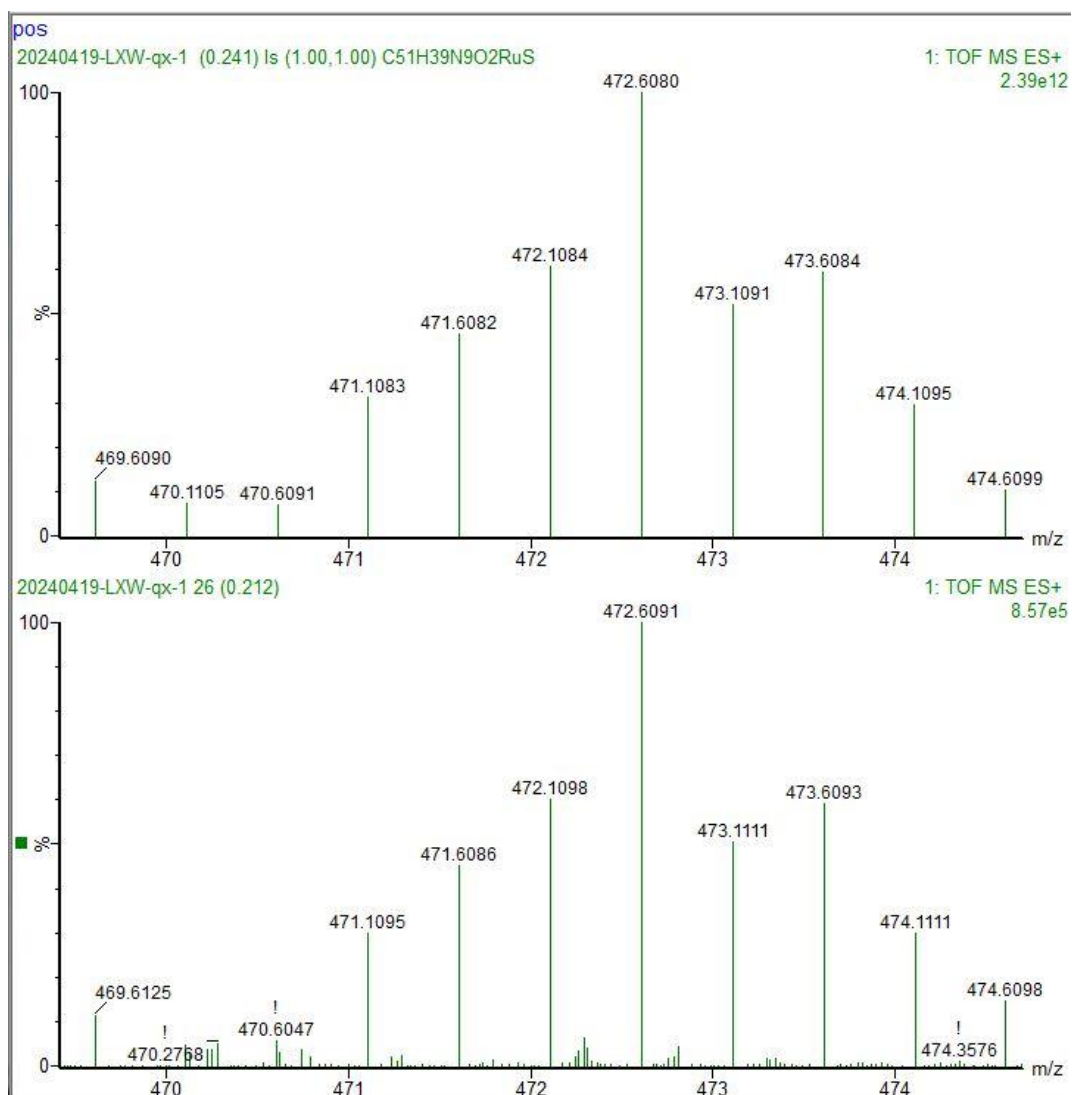
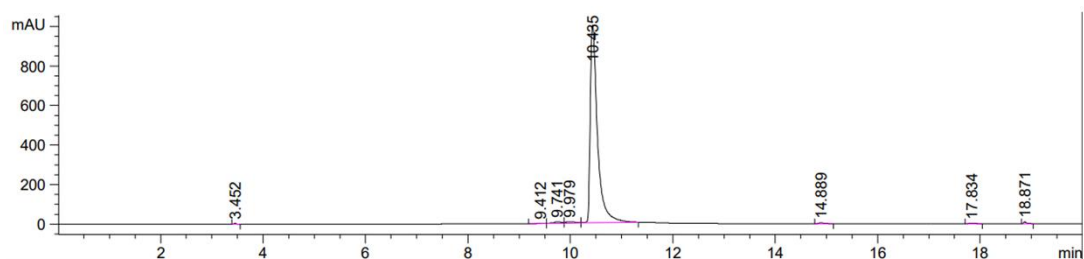


Figure S9 The  $^{13}\text{C}$ -NMR spectra of RuS2



**Figure S10** The HMRS of RuS2



**Figure S11** The high performance liquid chromatography of RuS2 (HPLC)

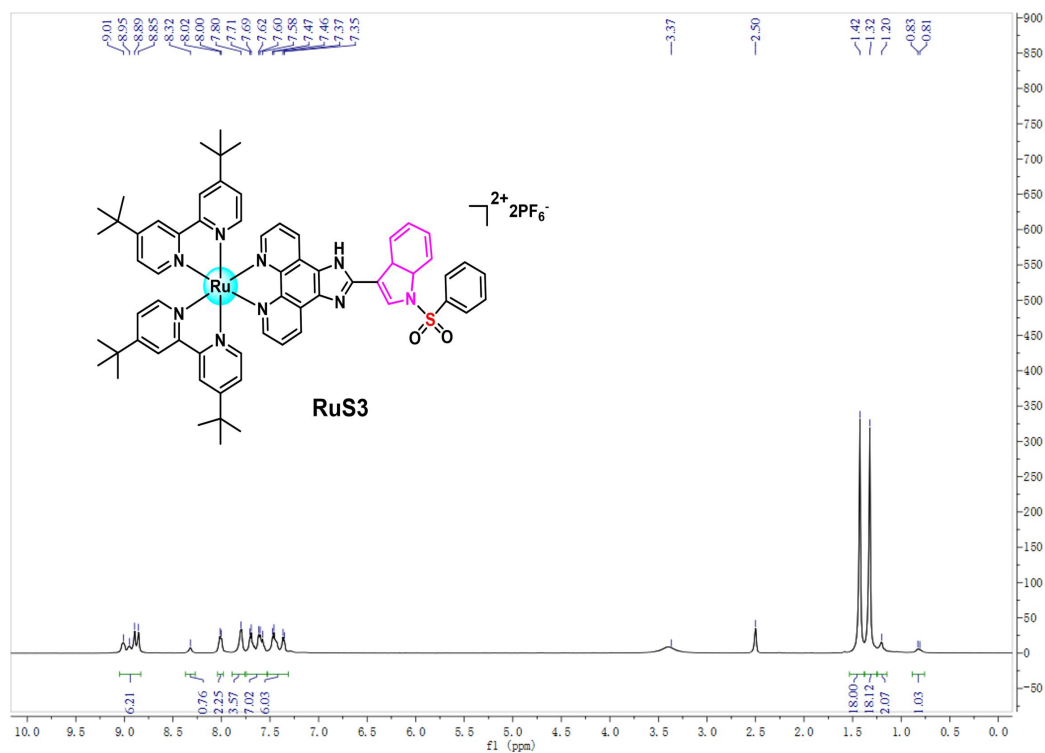


Figure S12 The  $^1\text{H}$ -NMR spectra of RuS3

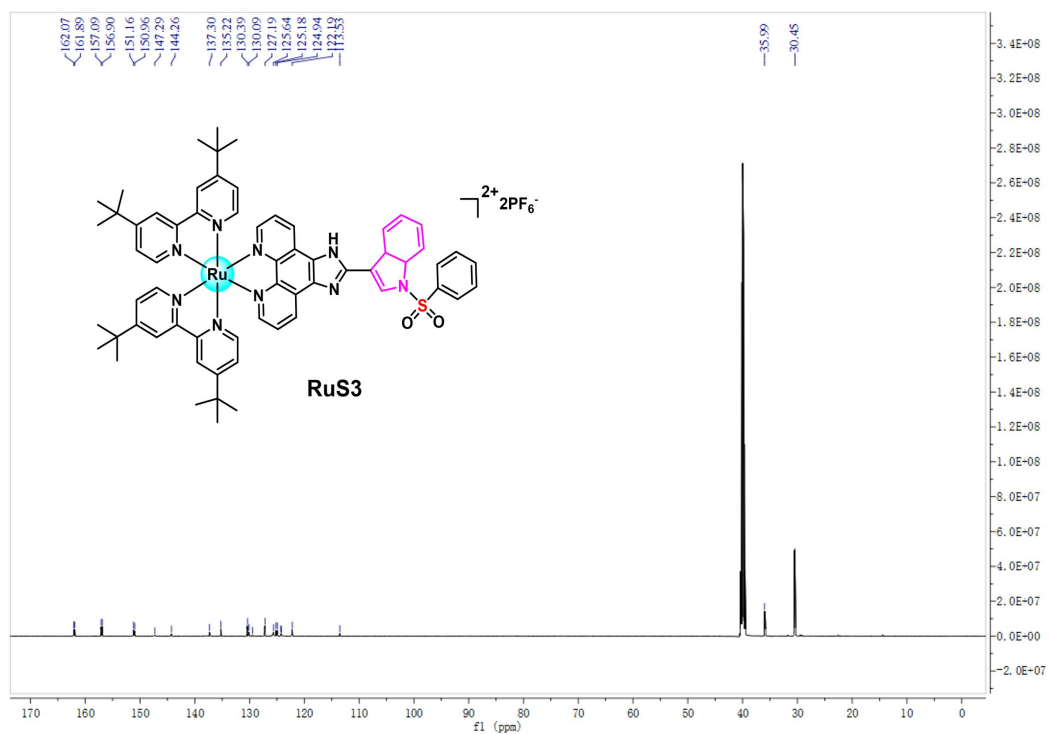
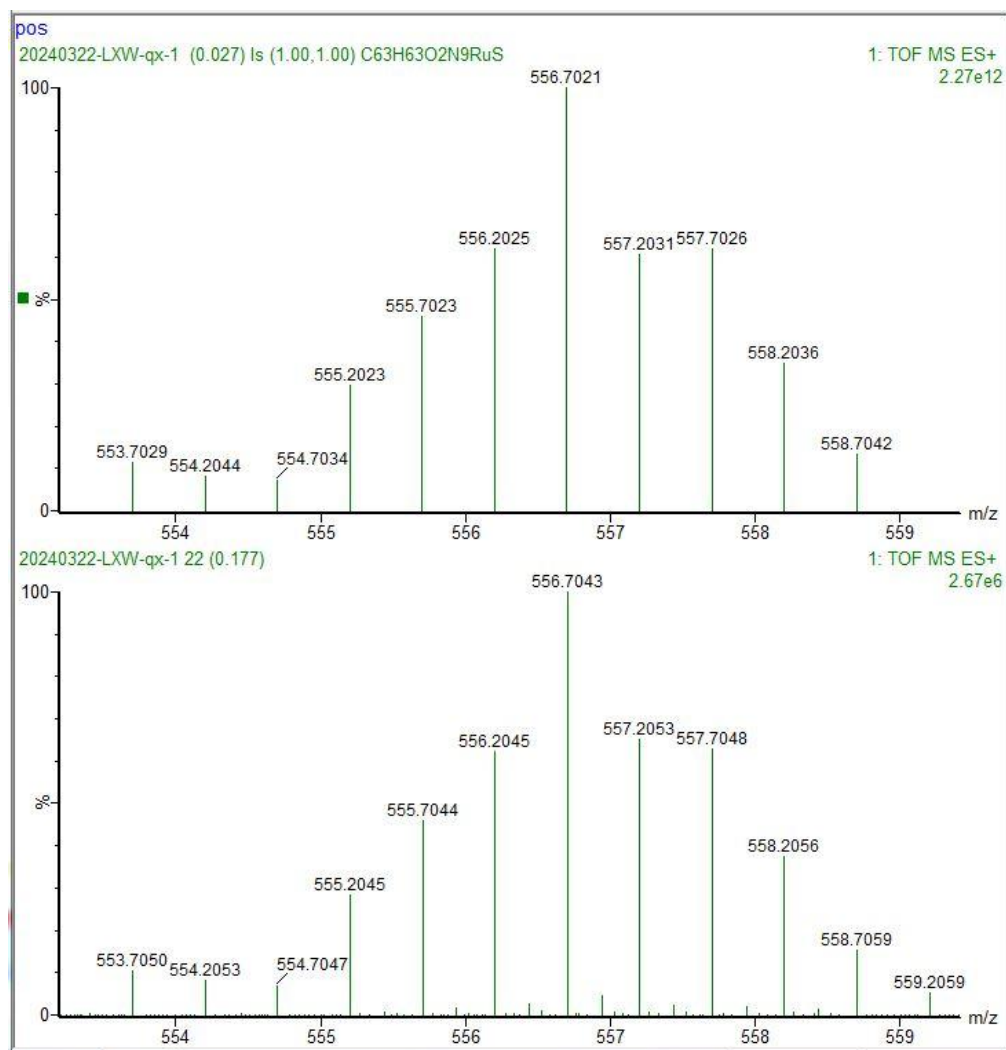
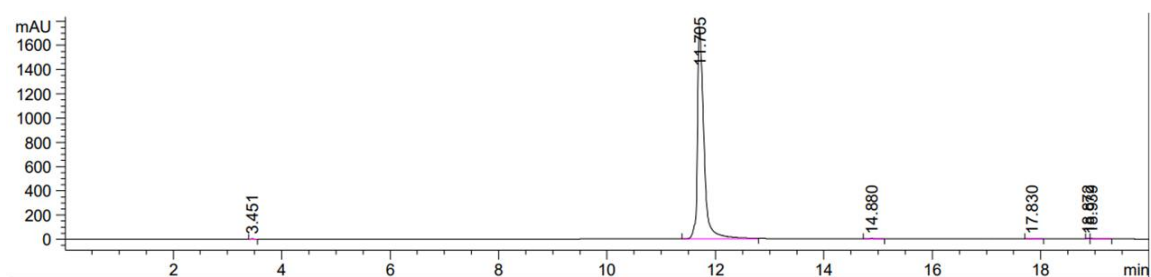


Figure S13 The  $^{13}\text{C}$ -NMR spectra of RuS3

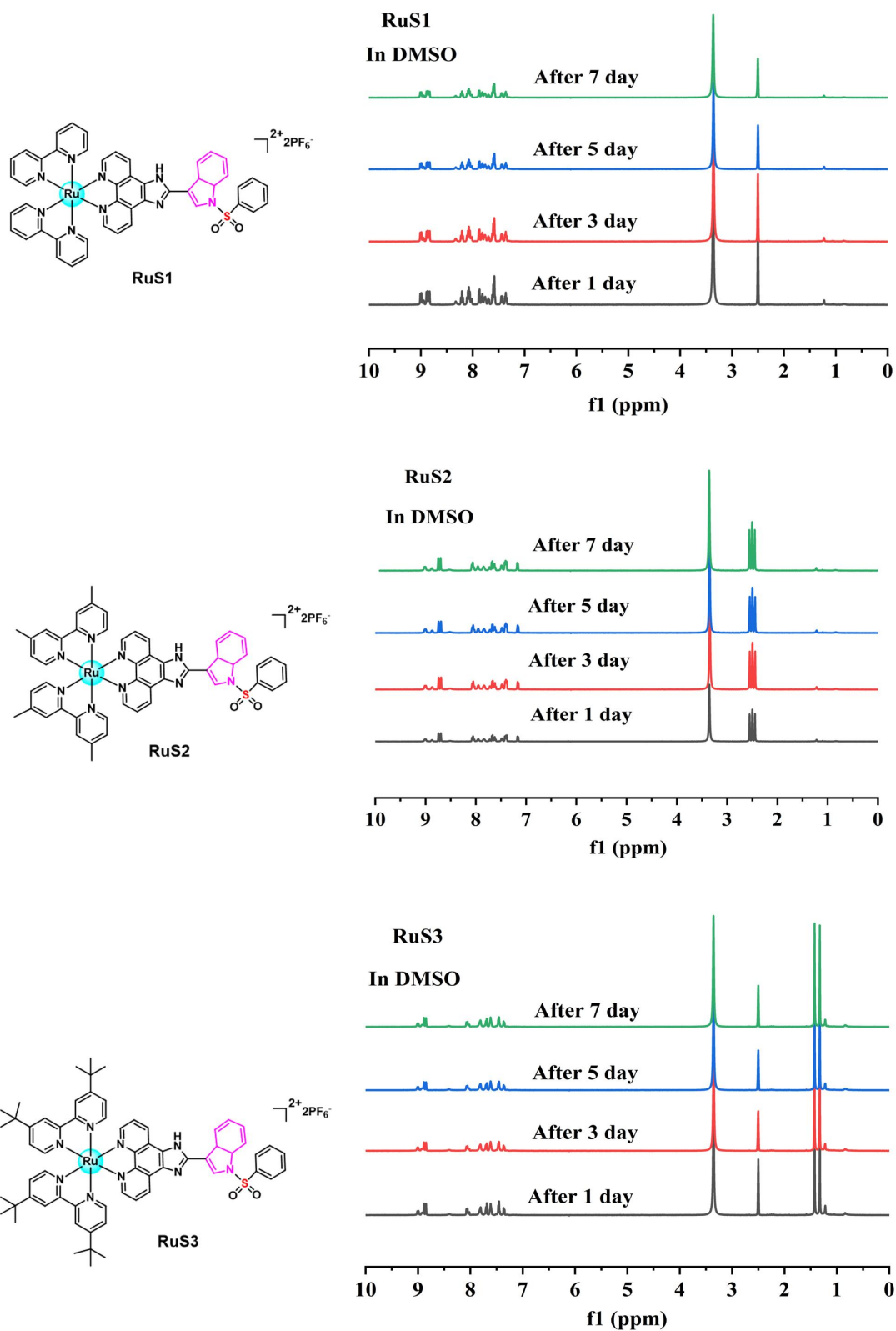




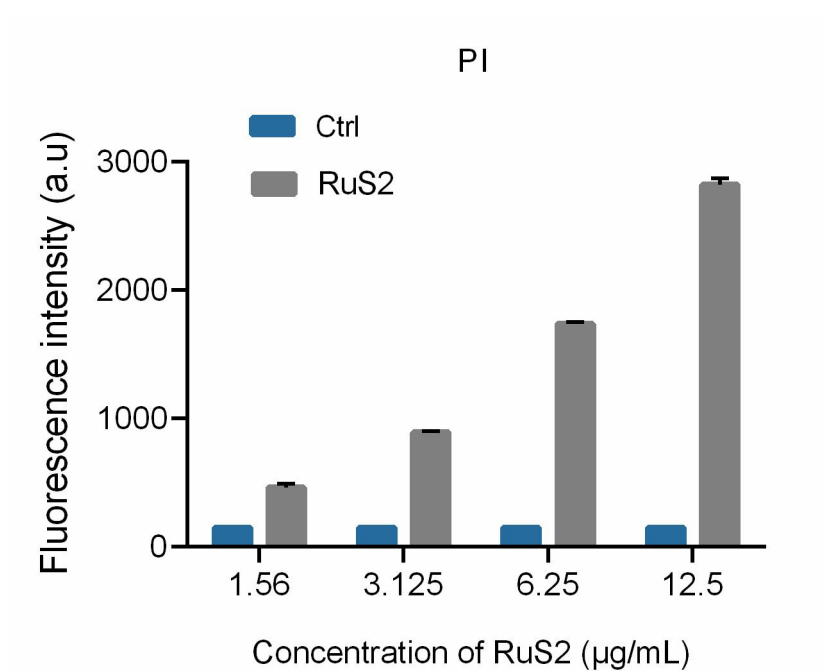
**Figure S14** The HMRS of **RuS3**



**Figure S15** The high performance liquid chromatography of **RuS3** (HPLC)



**Figure S16** The stability of **RuS1**, **RuS2** and **RuS3** were confirmed by <sup>1</sup>H-NMR



**Figure S17** The fluorescence intensity of *S. aureus* stained by PI after co-incubated with **RuS2**

**Table S1.** Minimum inhibitory concentration (MIC) values of **RuS2** against drug-resistant *S. aureus* (MRSA) isolated from the clinic.

Compound	MIC µg/mL
<b>RuS2</b>	0.98
Oxacillin	Resistance
Benzylpenicillin	Resistance