

Electronic Supplementary Information

Highly Efficient Electrochemiluminescence from Iridium(III) Complexes with 2-Phenylquinoline Ligand

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China.

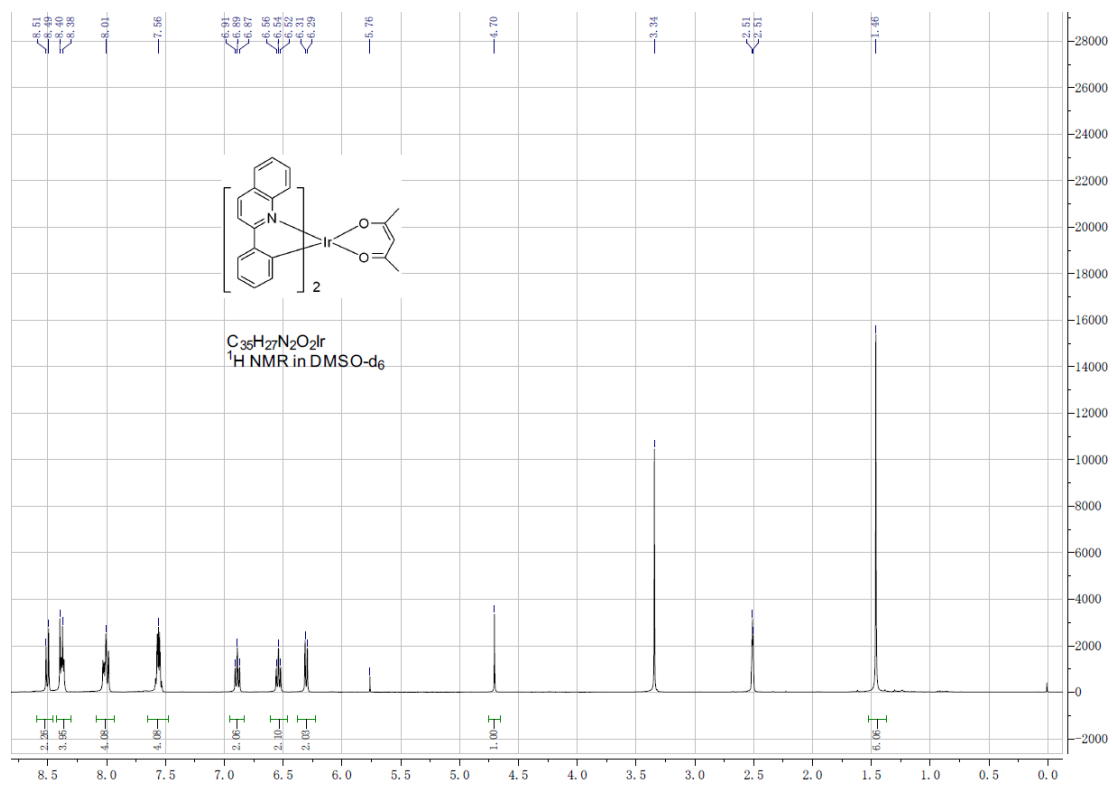


Figure S1. 1H NMR spectrum of complex **1** in $DMSO-d_6$.

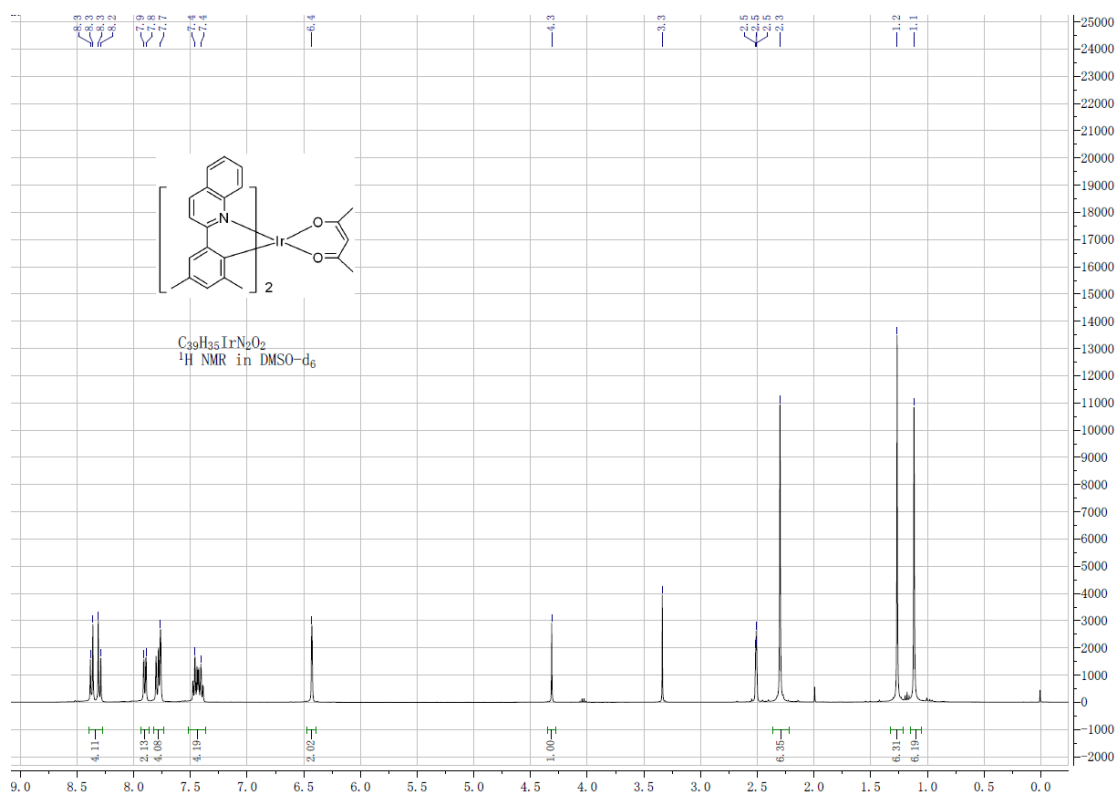


Figure S2. ¹H NMR spectrum of complex **2** in DMSO-d₆.

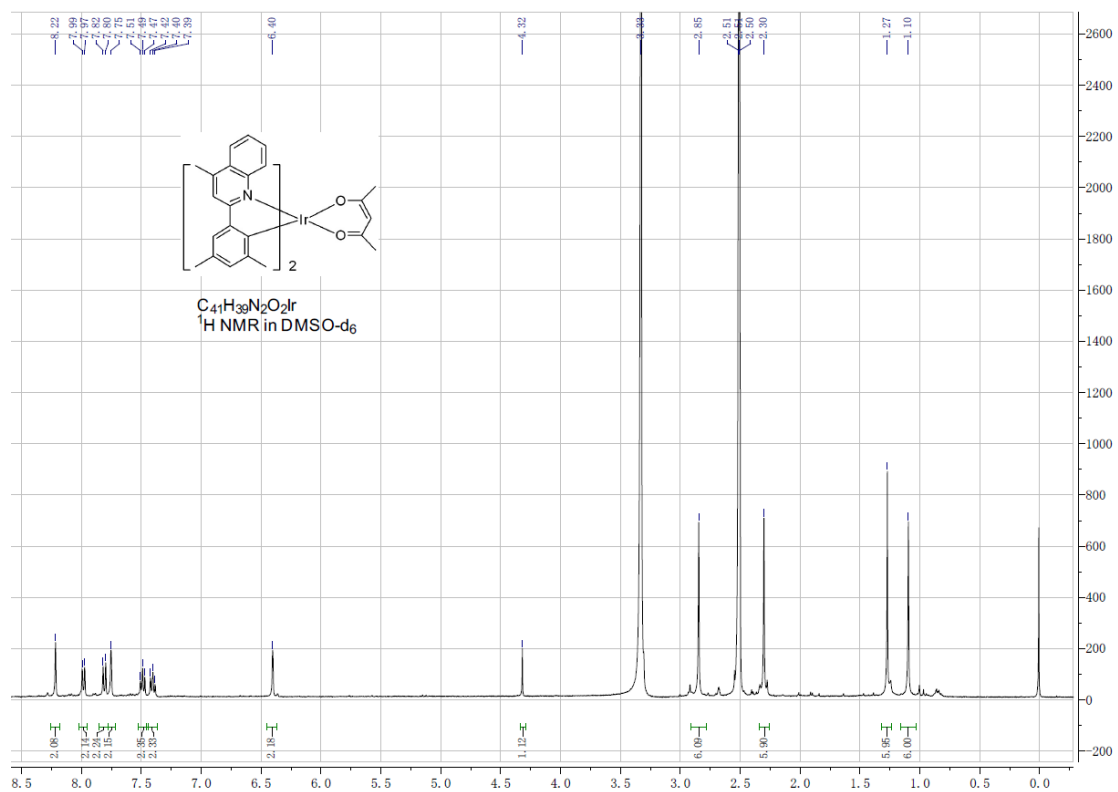


Figure S3. 1H NMR spectrum of complex **3** in $DMSO-d_6$.

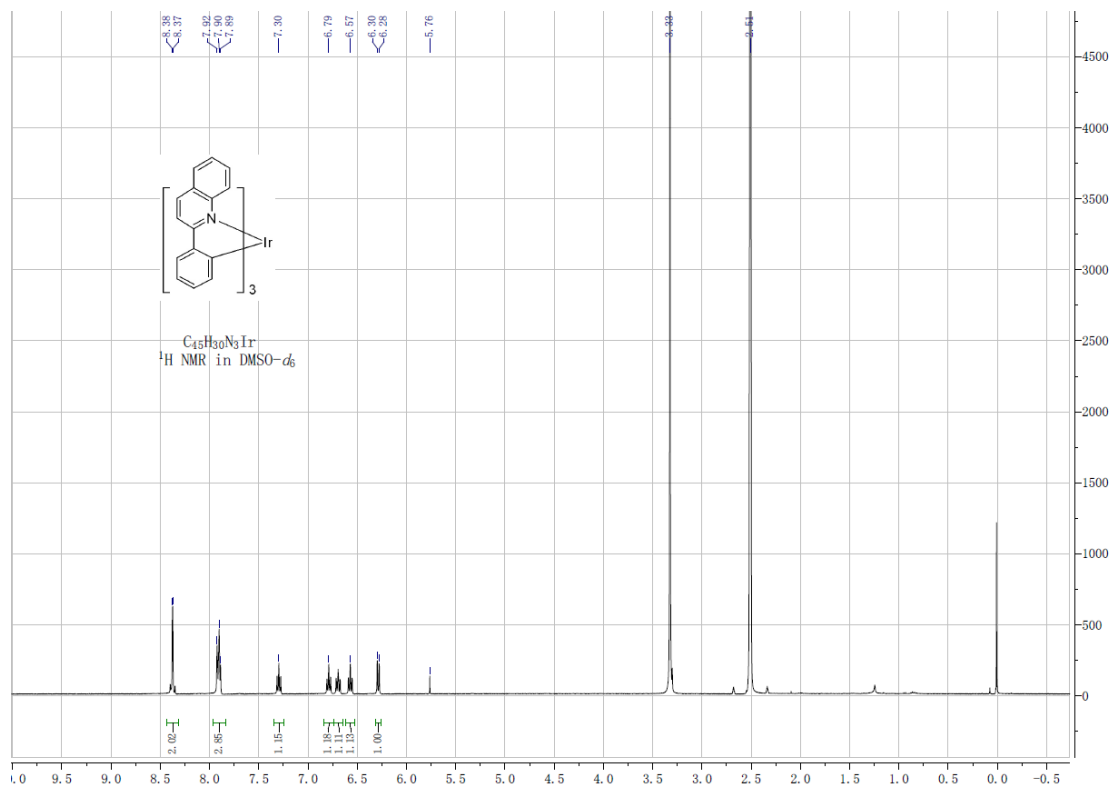


Figure S4. 1H NMR spectrum of complex 4 in $DMSO-d_6$.

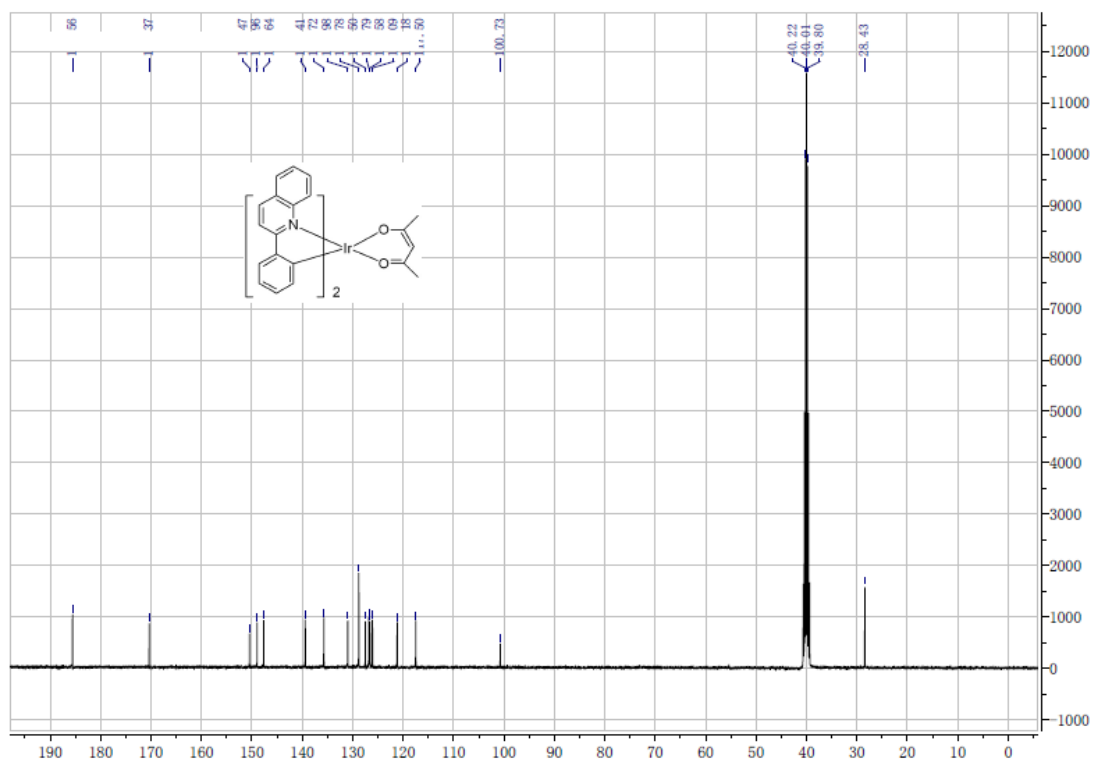


Figure S5. ^{13}C NMR spectrum of complex **1** in DMSO-d_6 .

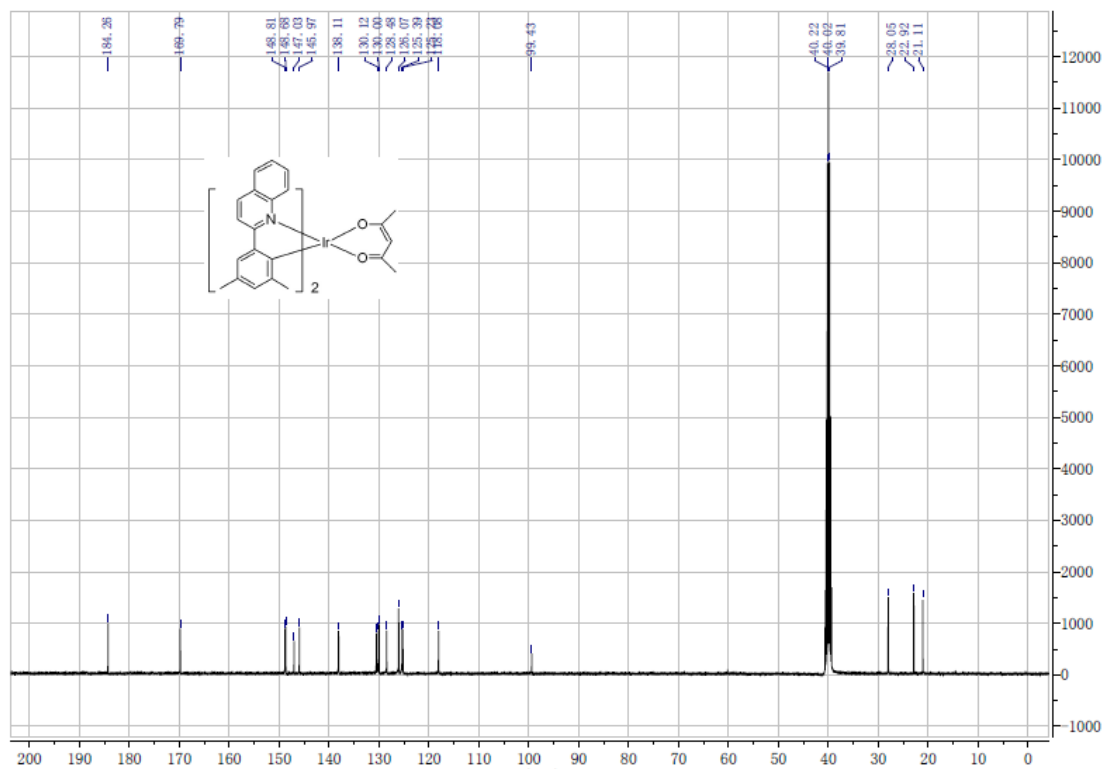


Figure S6. ^{13}C NMR spectrum of complex **2** in DMSO-d_6 .

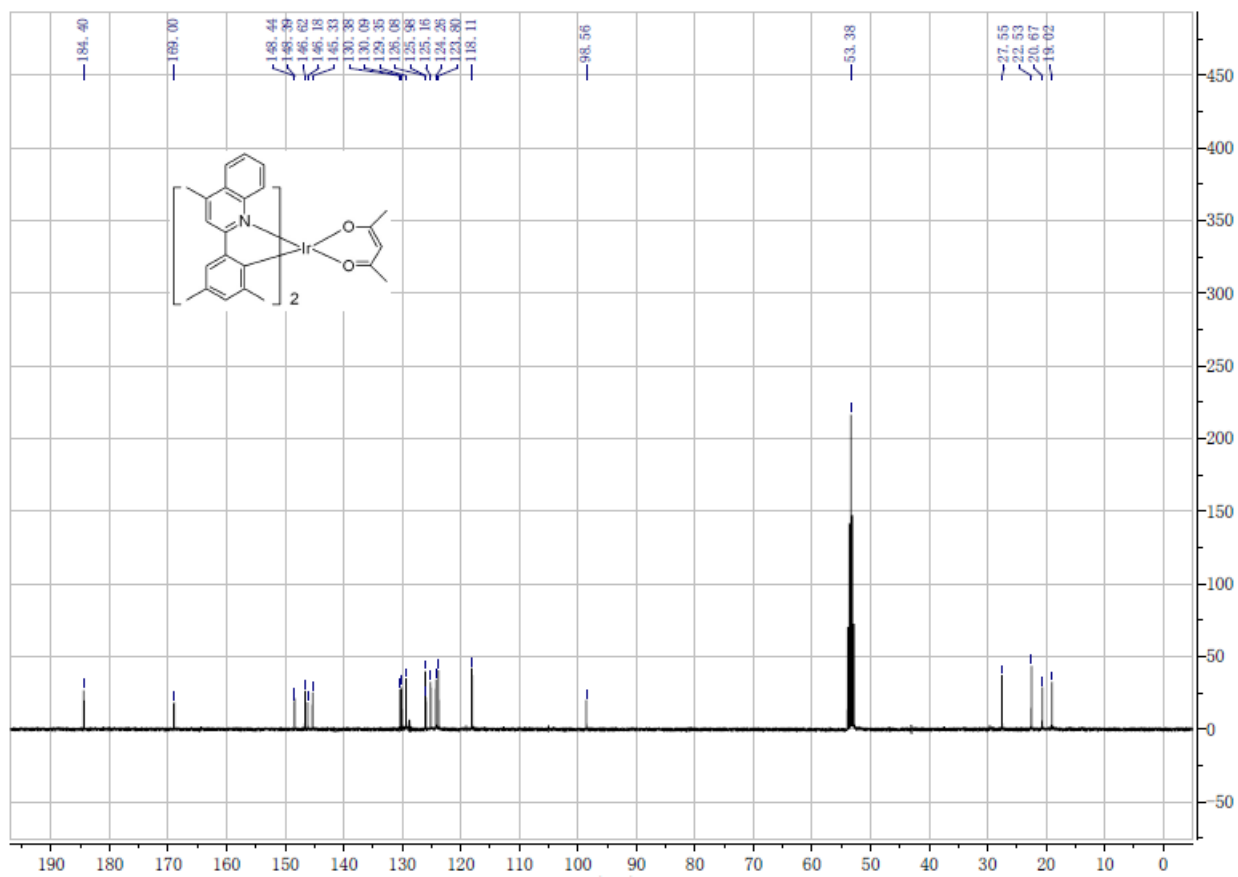


Figure S7. ^{13}C NMR spectrum of complex 3 in CD_2Cl_2 .

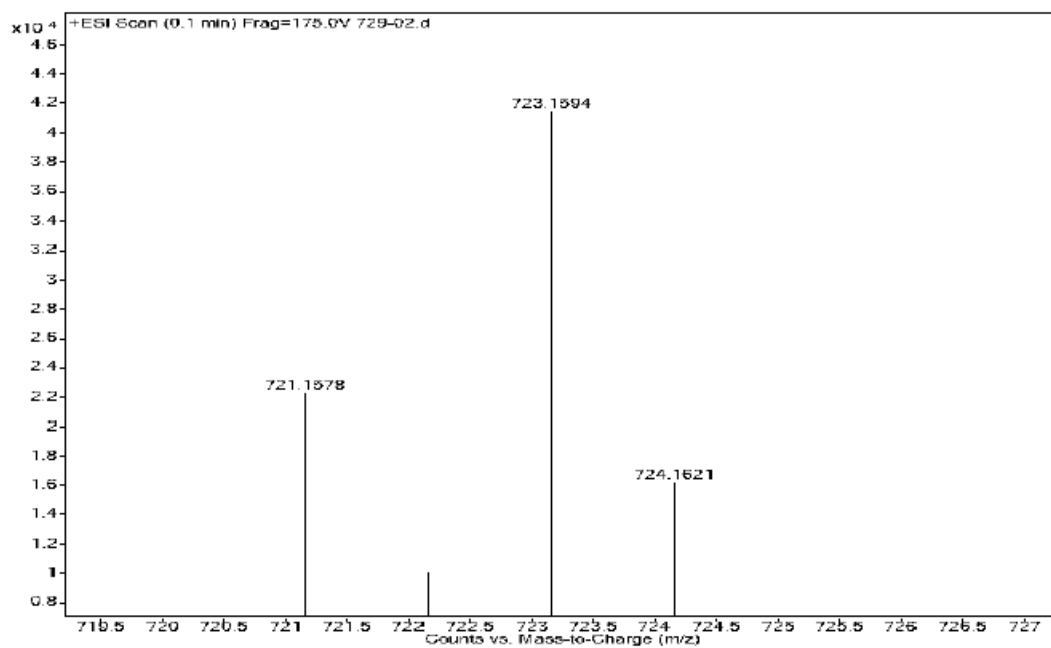


Figure S8. Tof-mass spectrum of complex 1.

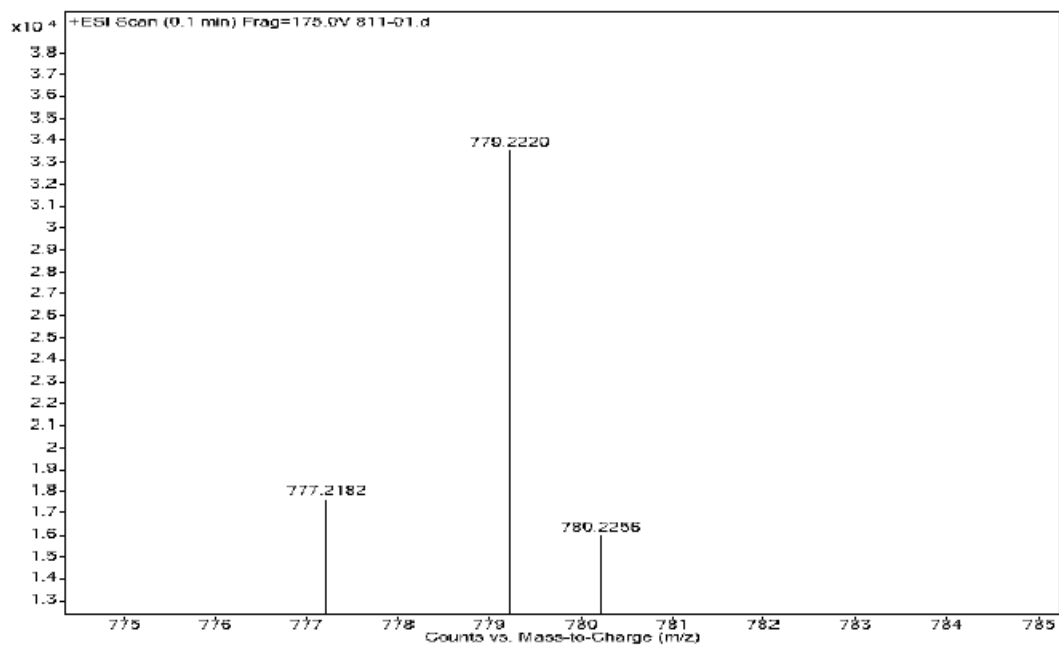


Figure S9. Tof-mass spectrum of complex 2.

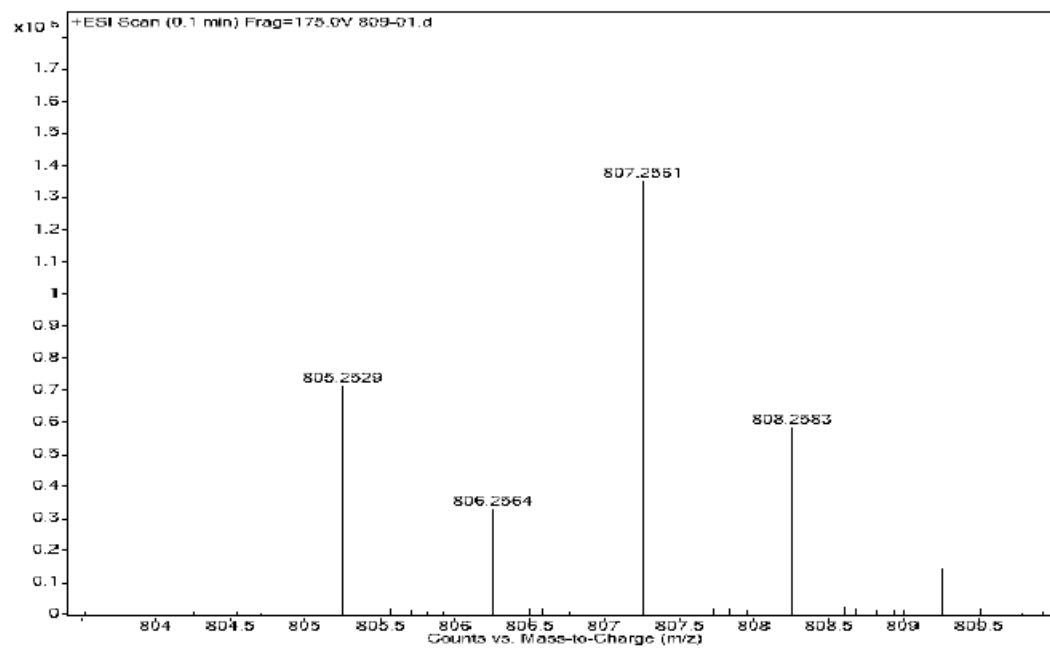


Figure S10. Tof-mass spectrum of complex 3.

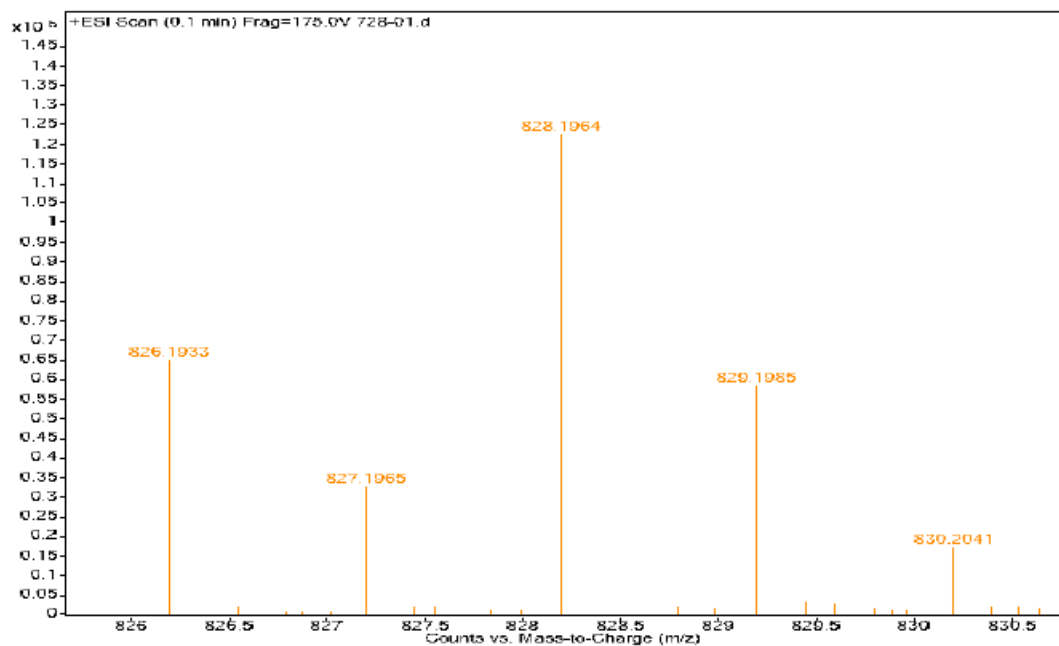


Figure S11. Tof-mass spectrum of complex 4.

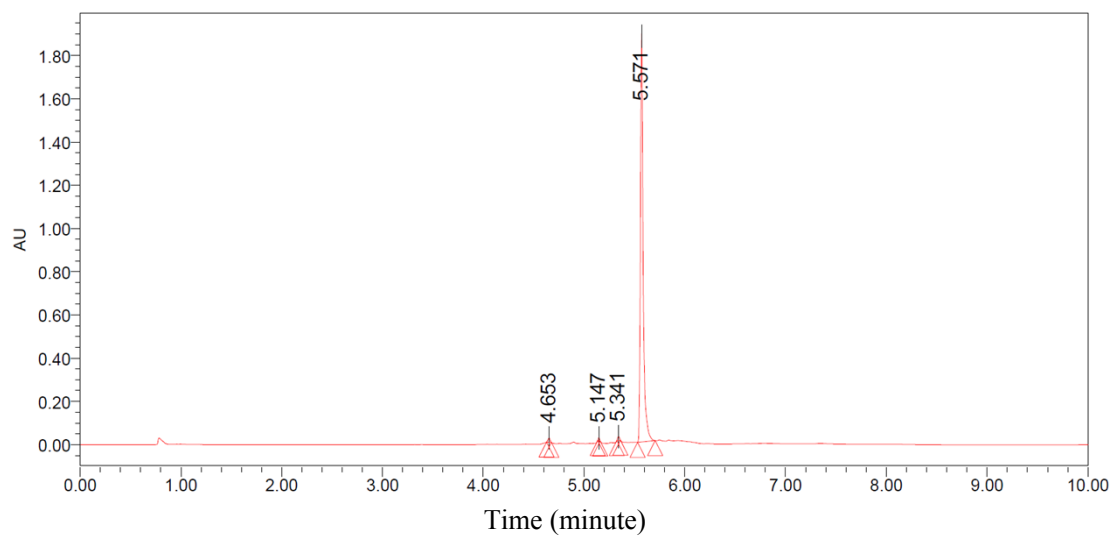


Figure S12. UPLC spectrum of complex 1.

Table S1. The UPLC result of complex 1.

| | Time (minute) | Area ($\mu\text{V}\times\text{s}$) | Height (μV) | % area |
|---|---------------|--------------------------------------|--------------------------|--------|
| 1 | 4.653 | 28101 | 19692 | 0.78 |
| 2 | 5.147 | 11867 | 14255 | 0.33 |
| 3 | 5.341 | 24266 | 17481 | 0.67 |
| 4 | 5.571 | 3559368 | 1890618 | 98.23 |

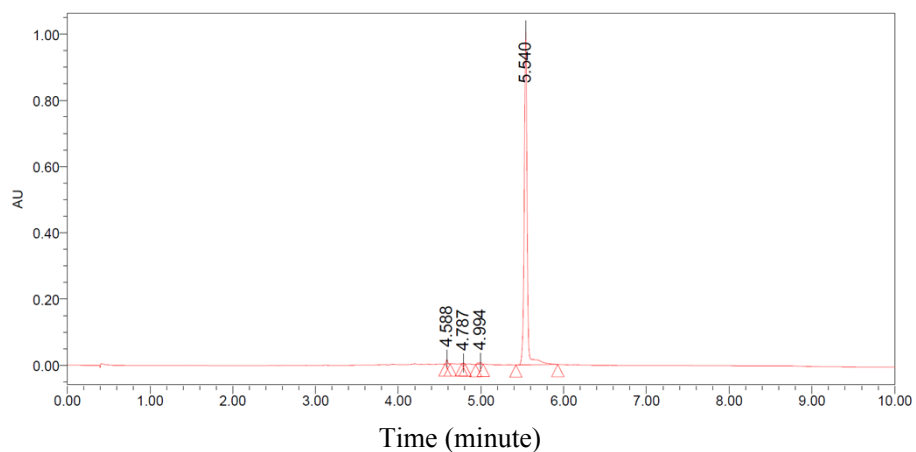


Figure S13. UPLC spectrum of complex **2**.

Table S2. The UPLC result of complex **2**.

| | Time (minute) | Area ($\mu\text{V}\times\text{s}$) | Height (μV) | % area |
|---|---------------|--------------------------------------|--------------------------|--------|
| 1 | 4.588 | 17692 | 13426 | 0.70 |
| 2 | 4.787 | 3570 | 2738 | 0.14 |
| 3 | 4.994 | 16333 | 6311 | 0.65 |
| 4 | 5.540 | 2481385 | 1011216 | 98.51 |

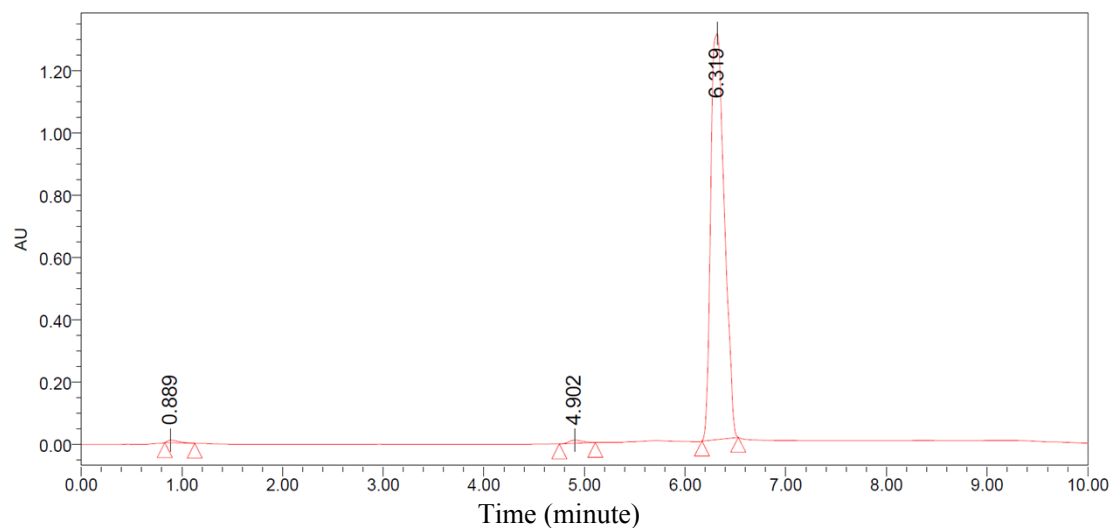


Figure S14. UPLC spectrum of complex 3.

Table S3. The UPLC result of complex 3.

| | Time (minute) | Area ($\mu\text{V}\times\text{s}$) | Height (μV) | % area |
|---|---------------|--------------------------------------|--------------------------|--------|
| 1 | 0.889 | 62776 | 8409 | 0.50 |
| 2 | 4.902 | 92601 | 9969 | 0.74 |
| 3 | 6.319 | 12298873 | 1304041 | 98.75 |

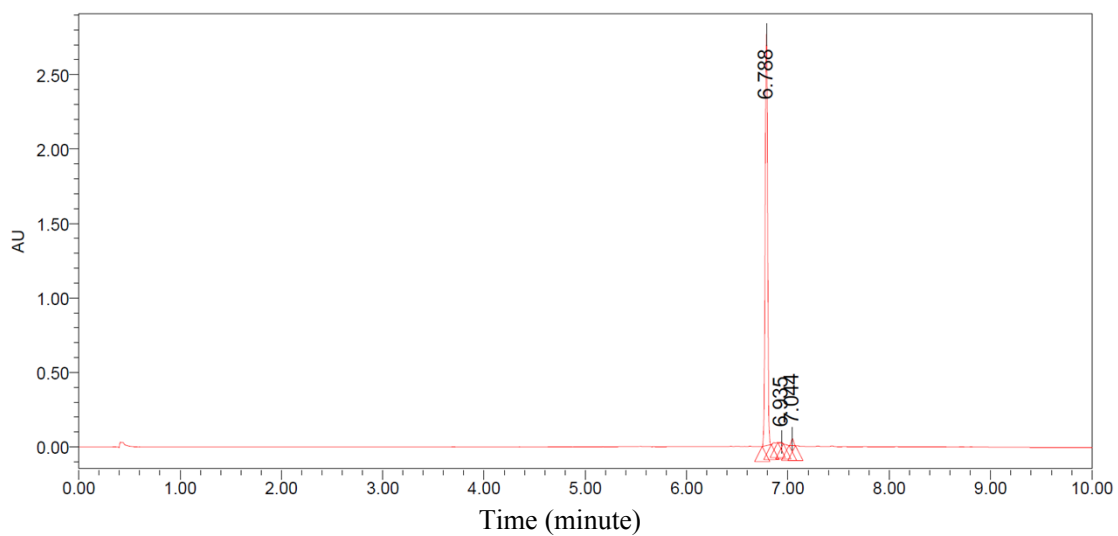


Figure S15. UPLC spectrum of complex 4.

Table S4. The UPLC result of complex 4.

| | Time (minute) | Area ($\mu\text{V}\times\text{s}$) | Height (μV) | % area |
|---|---------------|--------------------------------------|--------------------------|--------|
| 1 | 6.788 | 4658738 | 2761596 | 98.13 |
| 2 | 6.935 | 12346 | 8471 | 0.26 |
| 3 | 7.044 | 76537 | 46796 | 1.61 |

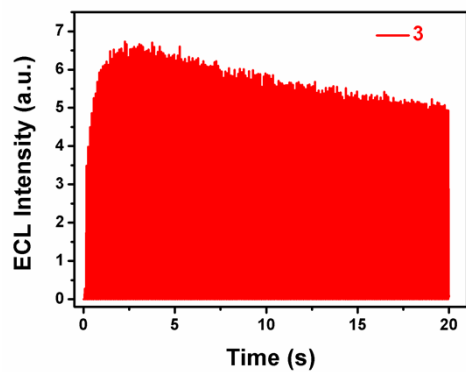


Figure S16. ECL intensity vs time plot of 0.1 mM complex **3** in acetonitrile solution through annihilation process. (oxidative potential= ($E_a^{\text{ox}}+0.2$) V, reductive potential= ($E_c^{\text{re}}-0.2$) V, 10 Hz, 20 s acquisition).