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Supporting information for article:

Syntheses, crystal structures and Hirshfeld surface analysis

of (Z)-3-[(3-acetyl-2-hydroxyphenyl)amino]-2-bromoprop-2-

enal and a novel Zn^{II} complex

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Figure S1

The infrared spectra of H_2L and **1**.



Figure S2

The ¹H-NMR spectra of H₂L.



Figure S3

The 13 C-NMR spectra of H₂L.



Figure S4

The Calculated UV–Vis spectrum of H₂L.



Figure S5

The molecular orbital diagram of H₂L.



Figure S6



The TG and DTG curves of the complex.

Figure S7

The experimental and simulated XRD curves of the complex.



Table S1

Bond order calculation results.

| Chemical bond | Laplacian bond order | Mayer bond order | |
|---------------|----------------------|------------------|--|
| C3-N1 | 1.694 | 1.534 | |
| C2-C3 | 1.133 | 1.154 | |
| C4-N1 | 0.900 | 0.899 | |

Table S2

Calculation results of coordination configuration.

| Zn ions | PP-5 | vOC-5 | TBPY-5 | SPY-5 | JTBPY-5 |
|---------|--------|-------|--------|-------|---------|
| Zn1 | 31.325 | 4.740 | 1.074 | 2.775 | 4.146 |

| Zn2 56 | 56.461 | 41.125 | 36.973 | 38.884 | 43.903 |
|--------|--------|--------|--------|--------|--------|
|--------|--------|--------|--------|--------|--------|

Note:PP-5 = Pentagon; vOC-5 = Vacant octahedron; JTBPY-5 = Trigonal bipyramid; SPY-5= Spherical square pyramid; JTBPY-5= Johnson trigonal bipyramid J1