

## **Supporting Information**

### **Structural and magnetic studies of Schiff base complexes of nickel(II) nitrite: change in crystalline state, ligand rearrangement and a very rare $\mu$ -nitrito- $1\kappa O:2\kappa N:3\kappa O'$ bridging mode**

Subrata Naiya <sup>a,b</sup>, Hui-Sheng Wang<sup>c</sup>, Michael G. B. Drew<sup>d</sup>, You Song <sup>c\*</sup> and Ashutosh Ghosh <sup>a\*</sup>

<sup>a</sup>*Department of Chemistry, University College of Science, University of Calcutta, 92, A.P.C. Road, Kolkata-700 009, India; e-mail: [ghosh\\_59@yahoo.com](mailto:ghosh_59@yahoo.com)*

<sup>b</sup>*Susil Kar College, Ghoshpur, Champahati, Baruipur, 24 Parganas(S), West Bengal-743330, India,*

<sup>c</sup>*State Key Laboratory of Coordination Chemistry, Nanjing National Laboratory of Microstructures School of Chemistry and Chemical Engineering, Nanjing University, Nanjing 210093, P. R. China,*

<sup>d</sup>*School of Chemistry, The University of Reading, PO BOX 224, Whiteknights, Reading RG6 6AD, UK.*

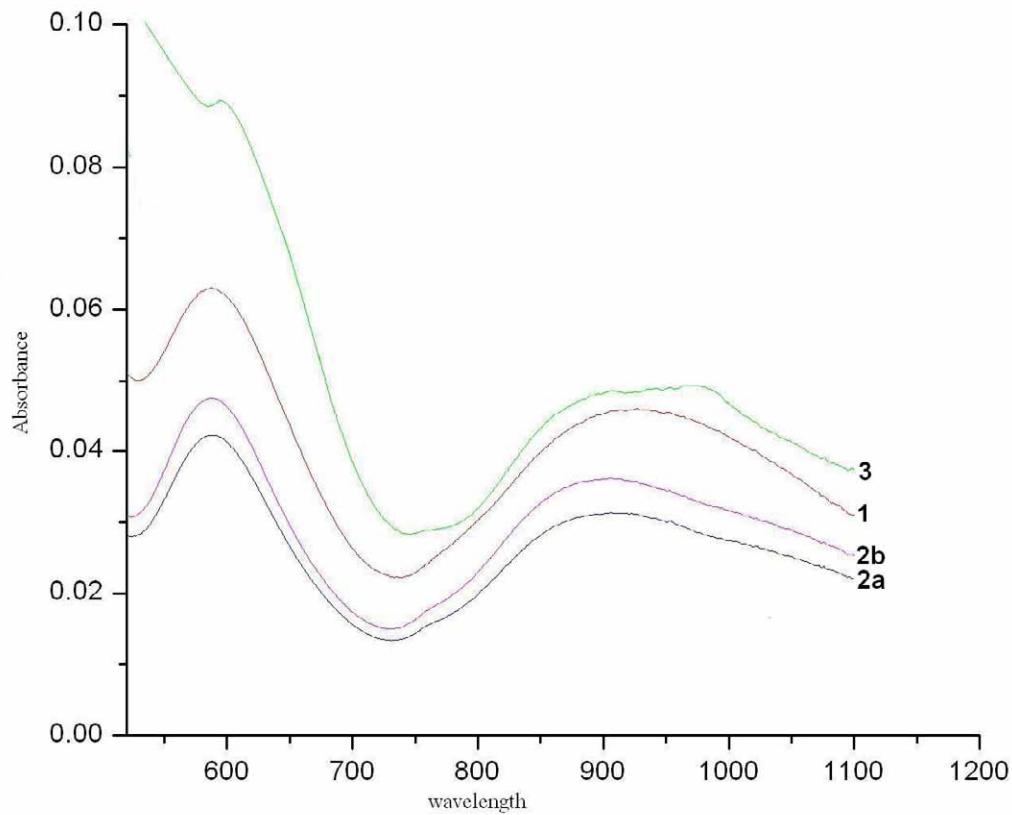
#### **Table of contents;**

**Figure S1: UV-VIS. Spectra of four compounds (1, 2a, 2b and 3)**

**Figure S2: Digital photos of crystal 2a and 2b**

**Figure S3: Thermogravimetric plot of 2a and 2b**

**Figure S4: Experimental and Simulated powder XRD data of complexes 2a, 2b.**



**Figure S1:** UV-VIS. Spectra of four compounds (**1**, **2a**, **2b** and **3**)

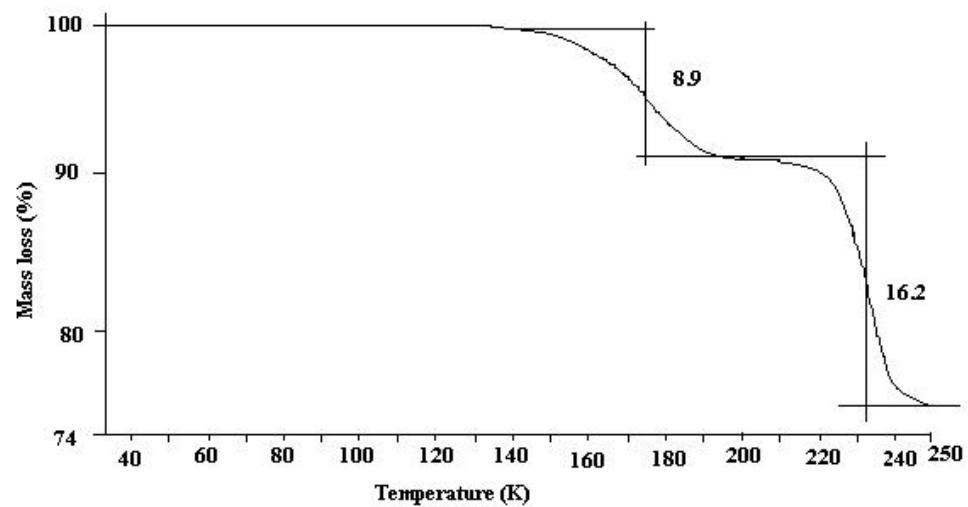


**2a**

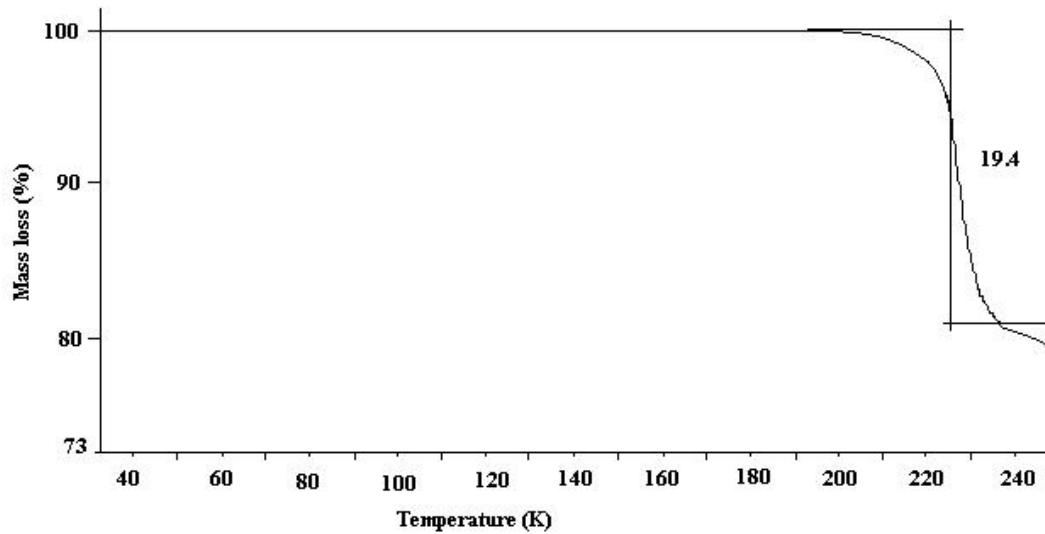


**2b**

**Figure S2:** Digital photos of crystal **2a** and **2b**

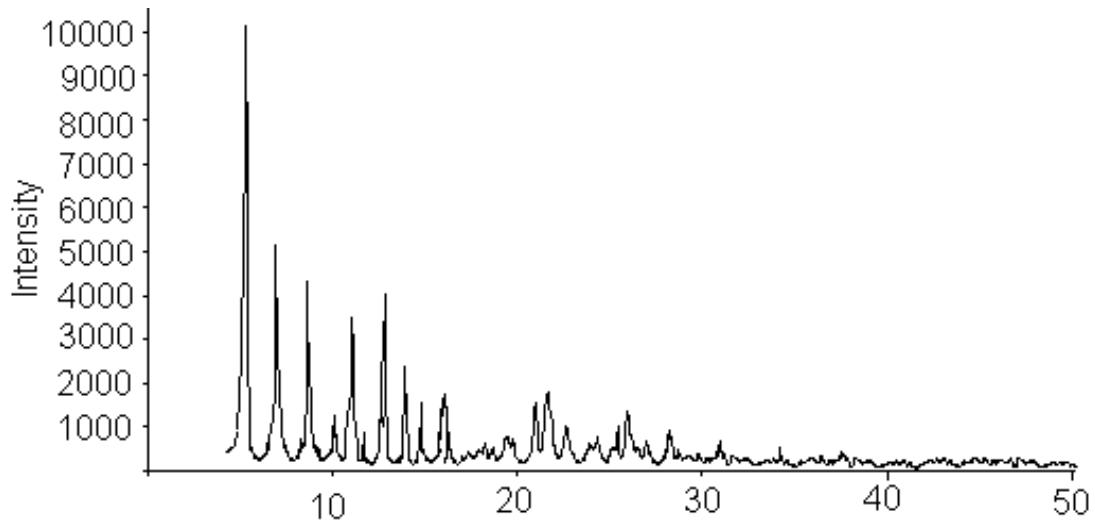


(a)

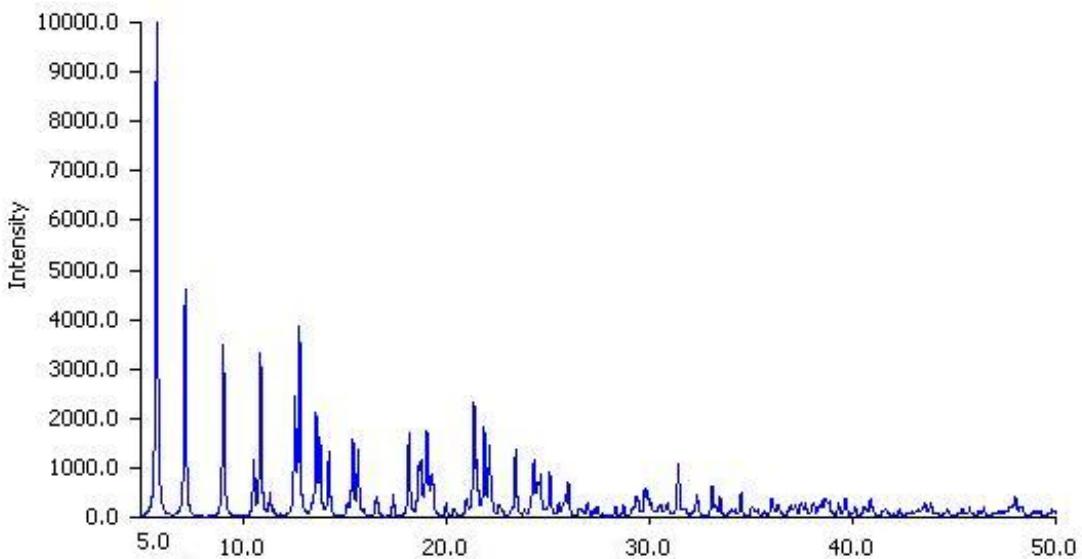


(b)

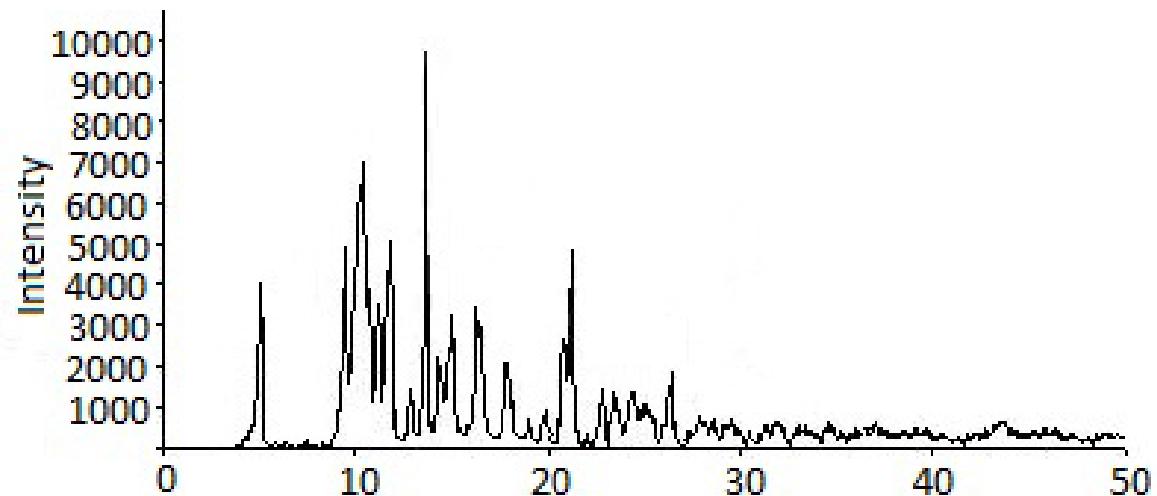
**Figure S3:** (a) Thermogravimetric plot of **2a** and (b) Thermogravimetric plot of **2b**.



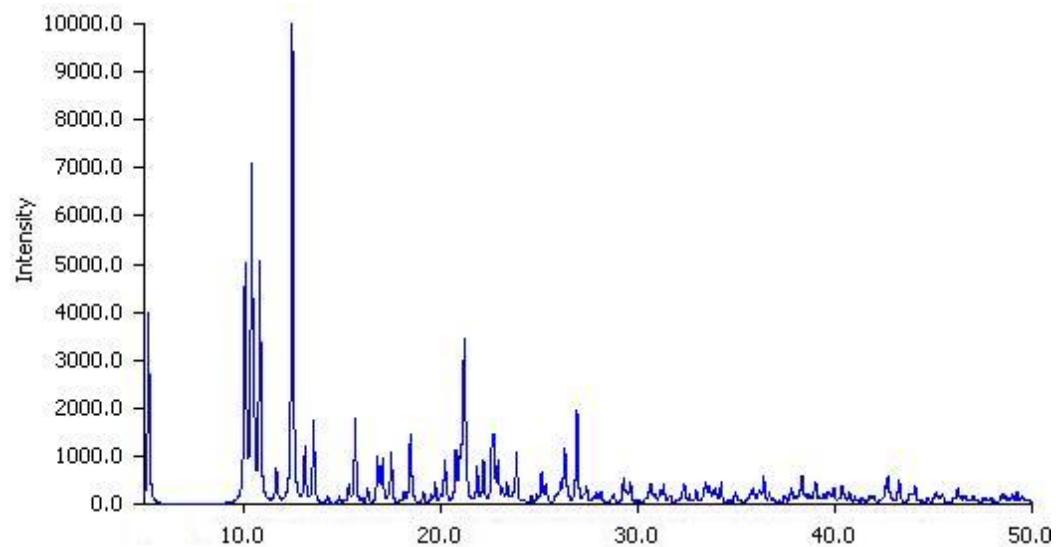
(a)



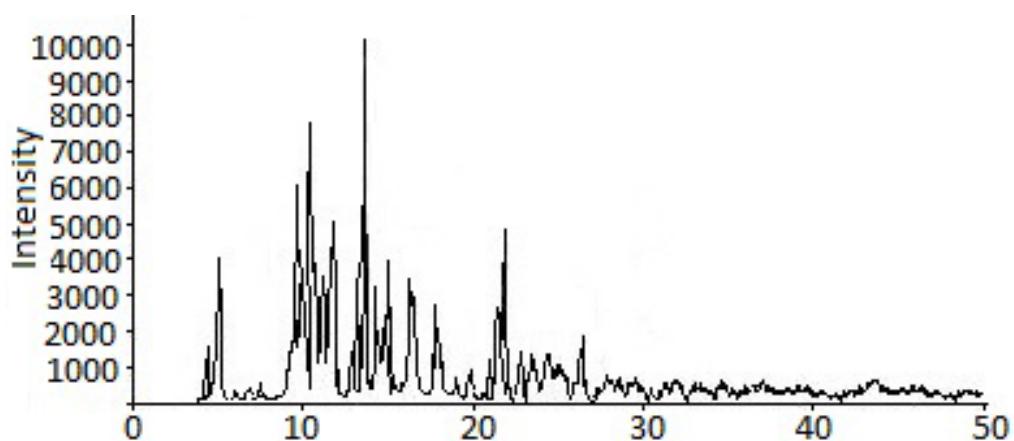
(b)



(c)



(d)

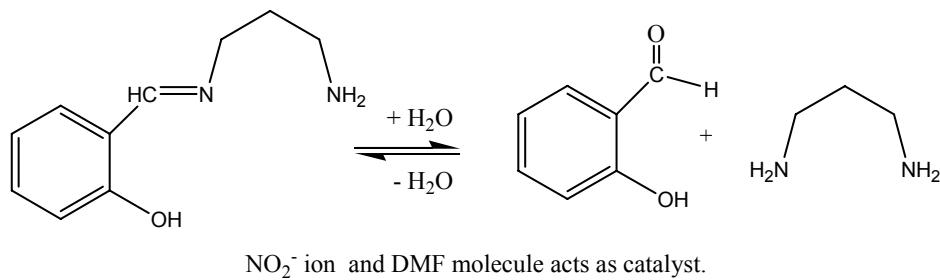


(e)

**Figure S4:** (a) Experimental powder XRD data plot of complex **2a**, (b) Simulated powder XRD data plot of complex **2a**, (c) Experimental powder XRD data plot of complex **2b**, (d) Simulated powder XRD data plot of complex **2b**, (e) Heat treated(190 °C) experimental powder XRD data plot of complex **2a**.

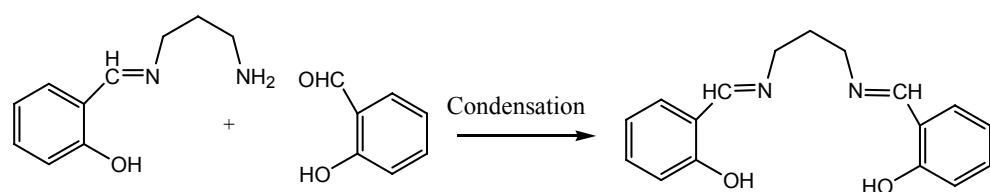
**Figure S3:** Experimental and simulated XRD patterns of complex

**Step - 1**



$\text{NO}_2^-$  ion and DMF molecule acts as catalyst.

**Step - 2**



**Scheme S1:** Hydrolysis of tridantate Schiff base ligand to tetradantate Schiff base ligand