## **SUPPORTING INFORMATION**

## Coordination complexes constructed from pyrazole-acetamide and pyrazolequinoxaline: Effect of hydrogen bonding on the self-assembly process and antibacterial activity

Karim Chkirate,<sup>a</sup> Khalid Karrouchi,<sup>b,\*</sup> Hind Chakchak,<sup>c</sup> Joel T. Mague,<sup>d</sup> Smaail Radi,<sup>e</sup> N. N. Adarsh,<sup>f</sup> Weiyang Li,<sup>g</sup> Ahmed Talbaoui,<sup>h</sup> El Mokhtar Essassi,<sup>a</sup> and Yann Garcia<sup>g,\*</sup>

- <sup>a</sup> Laboratory of Heterocyclic Organic Chemistry, Department of Chemistry, Faculty of Sciences, Mohamed V University, BP1014, Rabat, 10100, Morocco.
- <sup>b</sup> Laboratory of Analytical Chemistry and Bromatology, Faculty of Medicine and Pharmacy, Mohammed V University in Rabat, Morocco.
- <sup>c</sup> Unités d'Appui Techniques À la Recherche Scientifique (UATRS), Centre National Pour la Recherche Scientifique et Technique (CNRST), Rabat, 10000, Morocco.
- <sup>d</sup> Department of Chemistry, Tulane University, New Orleans, LA 70118, USA.
- <sup>e</sup> LCAE, Département de Chimie, Faculté des Sciences, Université Mohamed I, BP 524, 60
  000 Oujda, Morocco.

<sup>f</sup>School of Chemical Sciences, Mahatma Gandhi University, Kottayam, 686560, Kerala, India.

- <sup>g</sup> Institute of Condensed Matter and Nanosciences, Molecular Chemistry, Materials and Catalysis (IMCN/MOST), Université catholique de Louvain, Place L. Pasteur 1, 1348 Louvain-la-Neuve, Belgium.
- <sup>h</sup> Laboratoire de Biologie des Pathologies Humaines, Faculté des Sciences, Université Mohammed V de Rabat, Morocco.

\*Corresponding authors: yann.garcia@uclouvain.be (Y. Garcia) khalid.karrouchi@um5s.net.ma (K. Karrouchi)



Figure S1. <sup>1</sup>H NMR spectrum of 3.



Figure S2. <sup>13</sup>C NMR spectrum of *3*.



Figure S3. ESI-HRMS spectrum of 3.



Figure S4. <sup>1</sup>H NMR spectrum of *L1*.



Figure S5. <sup>13</sup>C NMR spectrum of *L1*.



Figure S6. ESI-HRMS spectrum of *L1*.



**Figure S7**. FT-IR comparison plot of  $C_1$  and  $L_1$ .



Figure S8. FT-IR comparison plot of  $C_2$  and  $L_1$ .



Figure S9. FT-IR comparison plot of  $C_3$  and  $L_1$ .



Figure S10. ESI-MS spectrum of *C*<sub>1</sub>.



Figure S11. ESI-MS spectrum of  $C_2$ .



Figure S12. ESI-MS spectrum of C<sub>3</sub>.



Figure S13. shape index (shown in left side) and curvedness (shown in right side) of  $C_1$  (a) and  $C_2$  (b).



Figure S14. Shape index (*top*) and curvedness (*bottom*) of  $C_3$ .



Figure S15. 2D Fingerprint plots derived from Hirshfeld surfaces, displaying various intermolecular interactions for  $C_I$ .



Figure S16. 2D Fingerprint plots derived from Hirshfeld surfaces, displaying various intermolecular interactions for  $C_2$ .



Figure S17. 2D Fingerprint plots derived from Hirshfeld surfaces, displaying various intermolecular interactions for  $C_3$ .