**Supporting Information**

Ammonia and Humidity Sensing by Phthalocyanine-Corrole complex Heterojunction Devices

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**Table S1.** Characteristic Raman bands (cm-1) of CuT(pCH3O)PC, CuT(pF)PC and LuPc2 complexes, compared to these of double layer heterojunctions.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Cu(pmethoxy)TPC****Evaporated powder** | **MSDI****Cu(pCH3O)TPC/LuPc2** | **Cu(pF)TPC****Evaporated powder** | **MSDI****Cu(pF)TPC/LuPc2** | **LuPc2****powder** | **Assignment** |
|  | 549.322 |  |  | 547 w | Pc breathing |
|  | 578.16 |  |  | 578.16 w | Pc breathing |
|  |  | 647.353 | 645.67 |  | C-F [1,2] |
| 657.67 w | 660.8 |  |  |  | C-C-H in benzene ring |
|  | 680.97 |  |  | 680 |  |
|  | 739.32 |  | 735.995 | 734 | C-H wagging  |
| 780.813 | 782.468 |  | 780.813 | 779 | C=N aza stretching |
| 815.513 |  |  |  |  |  |
| 851.73 |  |  |  |  |  |
| 882.868 | 884.505 |  |  |  |  |
| 980.507 | 982.125 |  |  |  |  |
|  | 1009.59 | 1016.03 | 1016.03 | 1011 | C-H binding |
| 1054.63 | 1054.63 | 1057.83 | 1056.23 | 1046 |  |
| 1075.46 | 1075.46 | 1080.26 | 1080.126 |  |  |
|  | 1105.81 |  |  | 1103 | C-H binding |
|  | 1121.75 |  | 1121.75 | 1121 |  |
|  |  |  |  | 1146 | Pyrrole breathing |
|  | 1158.28 |  |  | 1160 |  |
| 1177.28 | 1177.28 | 1177.28 | 1177.28 | 1176 | C-H bending  |
| 1193.08 | 1196.24 |  |  |  |  |
| 1221.45 | 1223.02 |  |  | 1217 | C-H bending  |
| 1249.72 |  |  |  |  |  |
| 1265.39 |  | 1263.82 |  |  |  |
|  | 1273.21 |  |  |  |  |
| 1290.39 | 1291.95 |  |  |  |  |
|  |  | 1305.98 | 1304.43 | 1301 | C-H bending  |
| 1312.12 | 1312.21 |  |  |  |  |
| 1340.19 | 1343.29 | 1340.19 | 1337.08 |  | Cα-Cα |
| 1363.42 m |  |  | 1363.42 |  | Cα-Cα |
| 1402 m | 1406.63 |  | 1408.17 | 1406.63 | Cα-Cmeso |
|  |  | 1441.96 |  |  | Cα-Cα |
| 1486.29 s | 1487.81 | 1501.52 |  |  | Cα-Cα |
| 1518.24 | 1515.2 | 1522.8 | 1507.6 | 1508 | Coupling of pyrrole and aza stretching |
|  | 1527.35 |  | 1528.87 |  |  |
| 1601.35 m | 1599.85 |  | 1601.35 | 1599.85 | C=C in benzene ring |

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**Figure S1.** UV-visible electronic absorption spectra of **1** (a) and **2** (b) in CHCl3 solution (black) compared to the corresponding metal free corroles (red).



**Figure S2.** Current variation as a function of time of **1**/LuPc2 heterojunction exposed to NH3 in the range 10-90 ppm with 1 min/4 min exposure/recovery cycles, at 40% RH and a bias of 3 V.



**Figure** **S3.** Current variation as a function of time of **1**/LuPc2 heterojunction device exposed to 50 ppm NH3, with 1 min/4 min exposure/recovery cycles, at RH values in the range 30%-60%, at a bias of 3 V.

References

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