Supporting Information

ETHANE-BRIDGED BIS-PORPHYRIN CONFORMATIONAL CHANGES AS AN EFFECTIVE ANALYTICAL TOOL FOR NON-ENZYMATIC DETECTION OF UREA IN THE PHYSIOLOGICAL RANGE.

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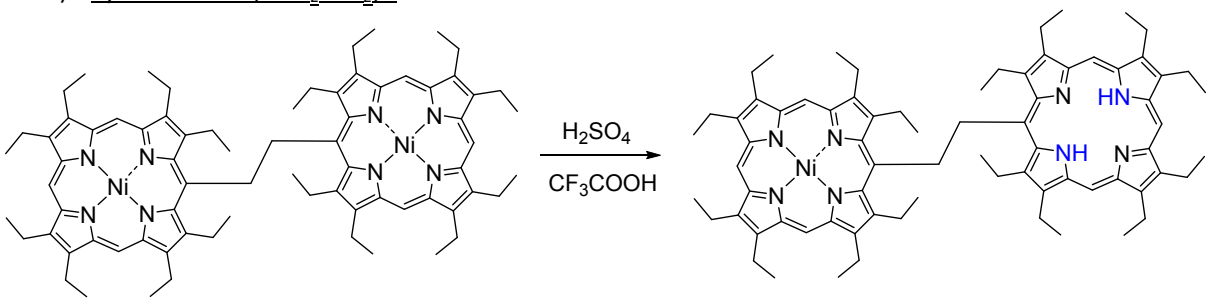
Synthetic Procedures:

a) Synthesis of **2** (Ni-H_2 Por_2):-

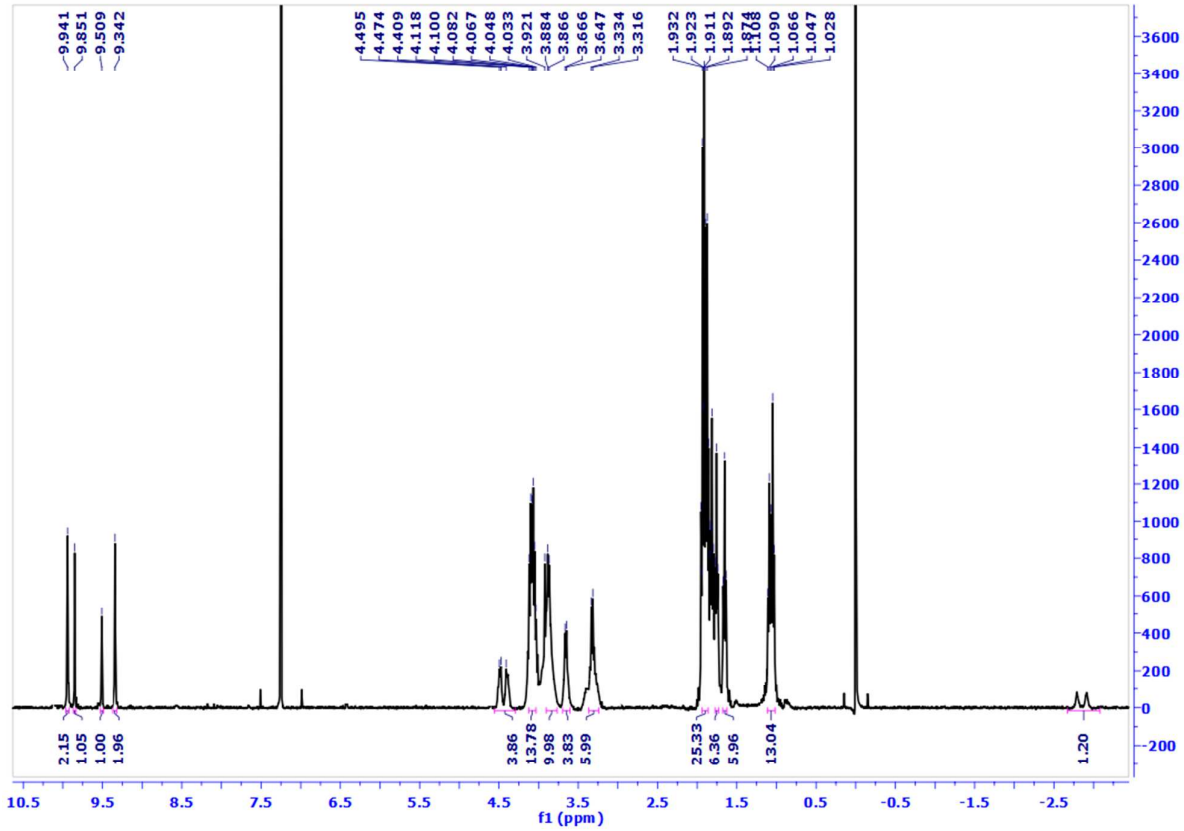


6 (Ni – Ni Po_2) **2** (Ni – H_2 Po_2)

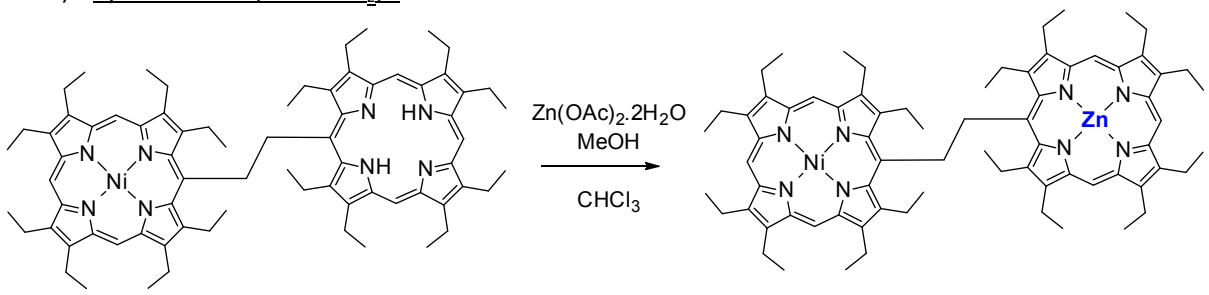
Procedure:

Bis-OEP-Ni dimer **6** (Ni-Ni Po_2) (20 mg) was dissolved in 0.2 ml of trifluoroacetic acid (TFA) and stirred for 15 min. To this mixture 10% H_2SO_4 in TFA (0.4 ml) was added and reaction was stirred for 4 h followed by pouring into ice and neutralizing with aqueous ammonia solution. The compound was extracted with chloroform, dried, concentrated and subsequently purified over silica gel column using chloroform as eluent. The isolated yield of the desired product **2** (Ni-H2 Po_2) was 10.2 mg (71%) (based on conversion, 5 mg unreacted starting material), which was further crystallized in chloroform-methanol solvent.

^{1}H NMR ($CDCl_3$, 400 MHz):- 9.94 (s, 2H, *meso*), 9.85 (s, 1H, *meso*), 9.51 (s, 1H, *meso*), 9.34 (2H, *meso*), 4.48 (m, 2H, bridge –CH_2), 4.41(t, 2H, bridge –CH_2), 4.11–3.33 (m, 32H, –CH_2) 1.93–1.03 (m, 48H, –CH_3), -2.9 (s, 1H, -NH), -2.7 (s, 1H, -NH)



a) Synthesis of **4** (Ni-Zn Por_2):-



2 (Ni – H_2 Po_2) **4** (Ni – Zn Po_2)

Procedure:

MeOH solution of $Zn(OAc)_2.2H_2O$ (4 mg in 2 ml) was added dropwise to a solution of **2** (Ni-H2 Po_2) (10 mg) in CH_2Cl_2 (10 ml) within 10 min. The reaction was stirred overnight at room temperature. On completion (monitored by TLC), reaction mass was diluted with CH_2Cl_2 (10 ml), washed with water and dried over sodium sulfate. The crude product was passed through a short silica gel column to obtain the desired product 10.5 mg in quantitative (>99%) yield, which was crystallised using chloroform-methanol solvent.

^{1}H NMR ($CDCl_3$, 400 MHz):- 9.96 (s, 1H, *meso*), 9.49 (s, 2H, *meso*), 9.47 (s, 1H, *meso*), 8.75 (2H, *meso*), 4.59 (t, 2H, bridge $–CH_2$), 4.44 (t, 2H, bridge $–CH_2$), 4.15–3.17 (m, 32H, $–CH_2$) 1.93–1.03 (m, 48H, $–CH_3$).

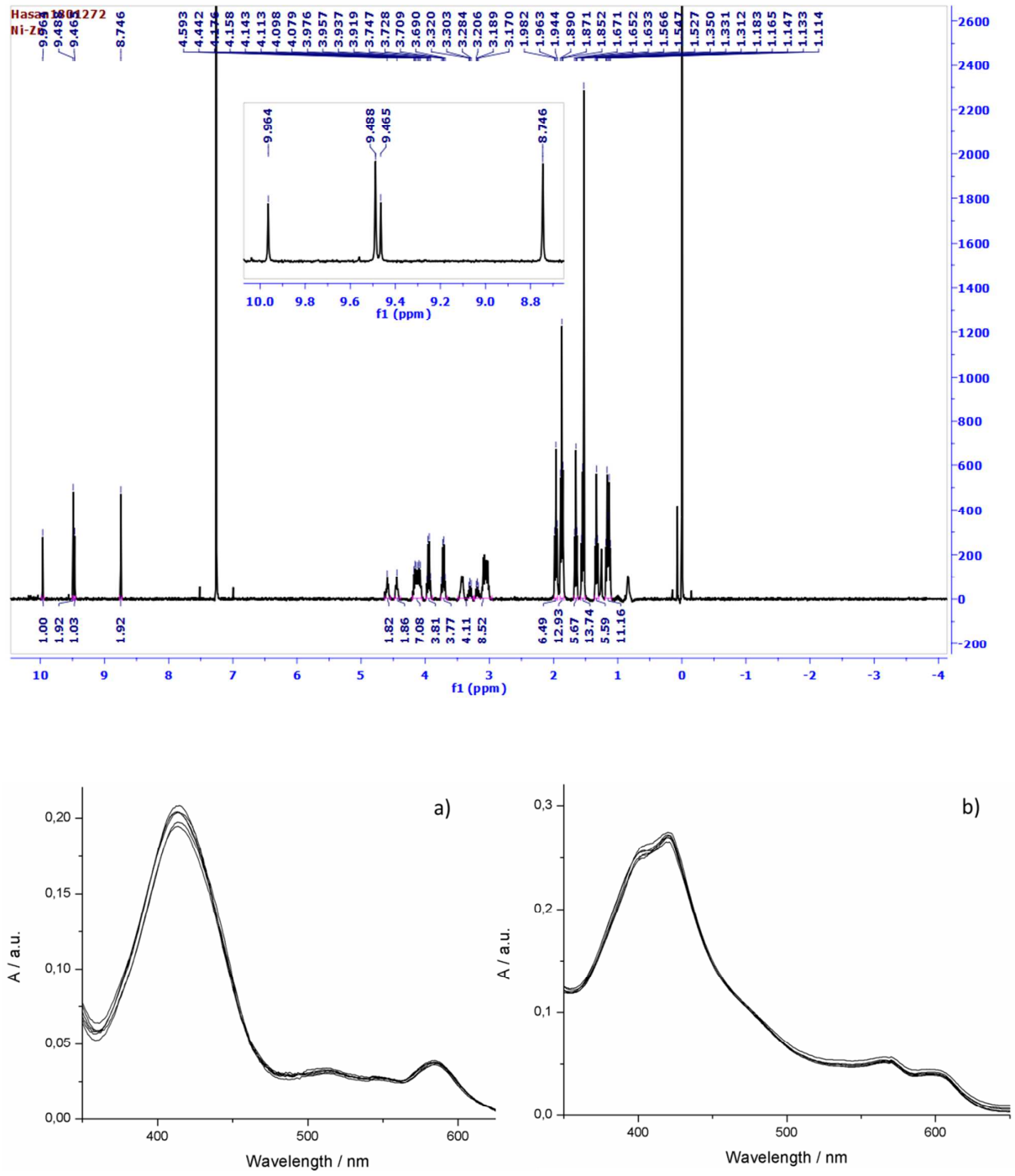


Figure S1. Influence of the temperature on spin-coated films of **2** (box a) and **3** (box b) in the range 5-60 °C (with a step of 5 °C).

Table S1. Fluorescence variations induced by the temperature on the **2** and **3** active films.

Temperature(°)	I/I_0 (on active film **2**)	I/I_0 (on active film **3**)
5	0.98	0.95
25	1	1
30	0.99	0.98
40	0.97	0.96
50	0.91	0.85
60	0.85	0.80