

A New Class of Low Molar Mass Chiral Metallomesogens: Synthesis and Characterization

G. Shankera^{†a} and C. V. Yelamaggad^{a*}

^aCentre for Soft Matter Research, PO Box 1329, Jalahalli, Bangalore 560013, India. Email: yelamaggad@csmr.res.in

[†]Present address: Institute of Chemistry, Organic Chemistry, Martin-Luther-University Halle-Wittenberg, Kurt Mothes Str. 2, D-06120 Halle/Saale, Germany

SUPPORTING INFORMATION

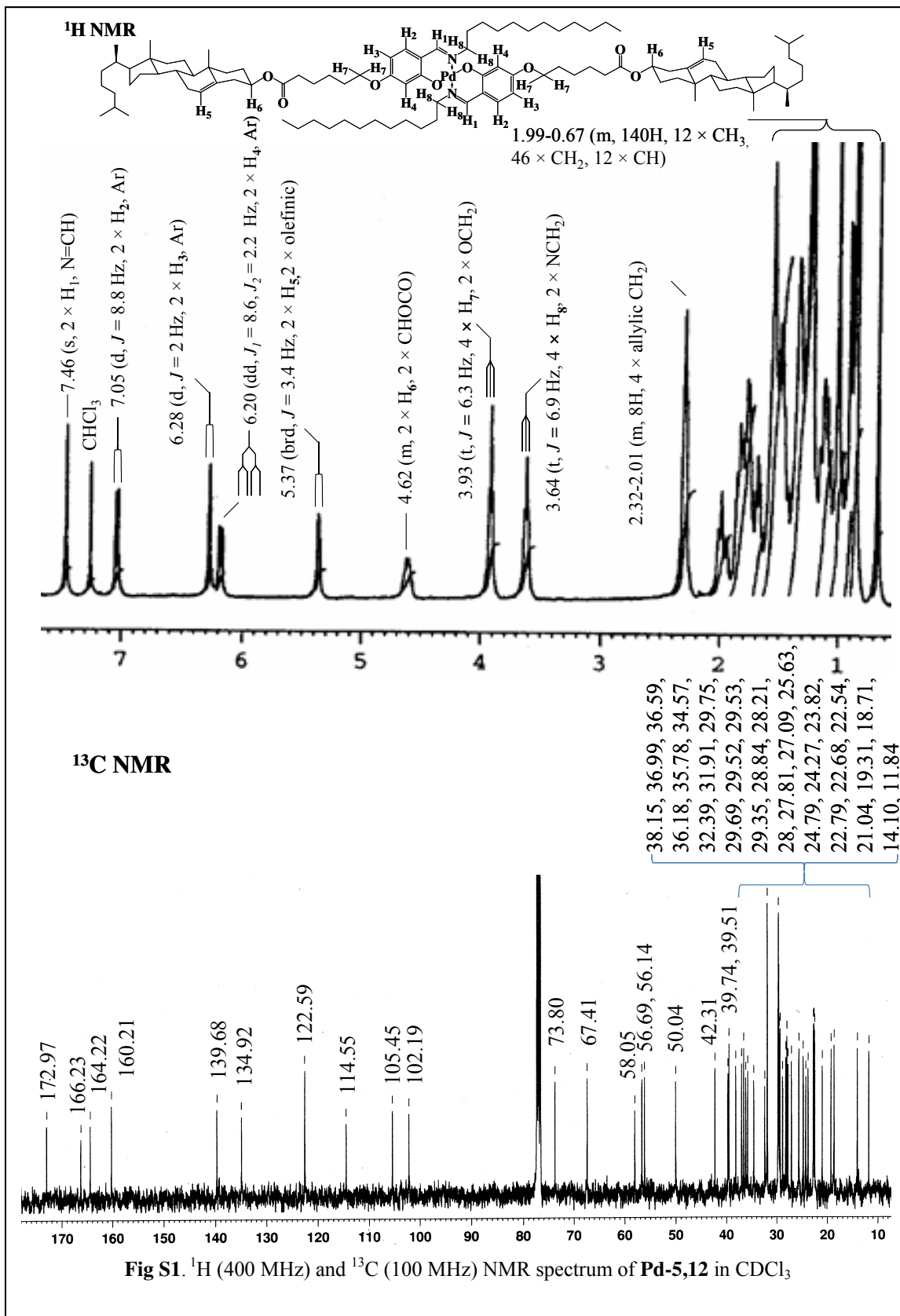
Contents

- I. General**
- II. ¹H and ¹³C NMR spectrum.**
- III. Cyclic voltammograms and UV spectra.**
- IV. General synthetic procedure and their spectral datas.**

I. General

The requisite starting materials were obtained from either from Aldrich or Lancaster Company and used as received. All the solvents were purified and dried by standard methods prior to use. The absorption spectra were recorded on a Perkin-Elmer Lambda 20 UV-Vis spectrometer. IR spectra were recorded using Perkin Elmer Spectrum 1000 FT-IR spectrometer. ¹H NMR spectra were recorded using either a Bruker AMX-400 (400 MHz) spectrometer and the chemical shifts are reported in parts per million (ppm) relative to tetramethylsilane (TMS) as an internal standard. Mass spectra were recorded on a Jeol-JMS-600H spectrometer in FAB+ mode using 3-nitrobenzyl alcohol as a liquid matrix. CD spectrums were recorded with the aid of Jasco J-810 spectropolorimeter. Elemental analyses were done using Eurovector model EA 3000 CHNS analyzer. The identification of the mesophases and the transition temperatures of the compounds were initially determined using a polarizing microscope (Leitz DMRXP) in conjunction with a programmable hot stage (Mettler FP90). The transition temperatures and associated enthalpies were determined by differential scanning calorimetry (Perkin Elmer DSC7). Cyclic voltammetry measurement was carried out with CH instrument (Texas, USA) model 619B series computer controlled potentiostat. All the experiment was performed in dry box under N₂ atmosphere at room temperature. All the potential values quoted in this paper referred to Ag wire as the quasi-reference electrode. The electrochemical potential of Ag was calibrated with respect to ferrocene / ferrocenium (Fc / Fc⁺) couple.

II. ^1H and ^{13}C NMR spectrum



III. Cyclic voltammograms and their UV spectra.

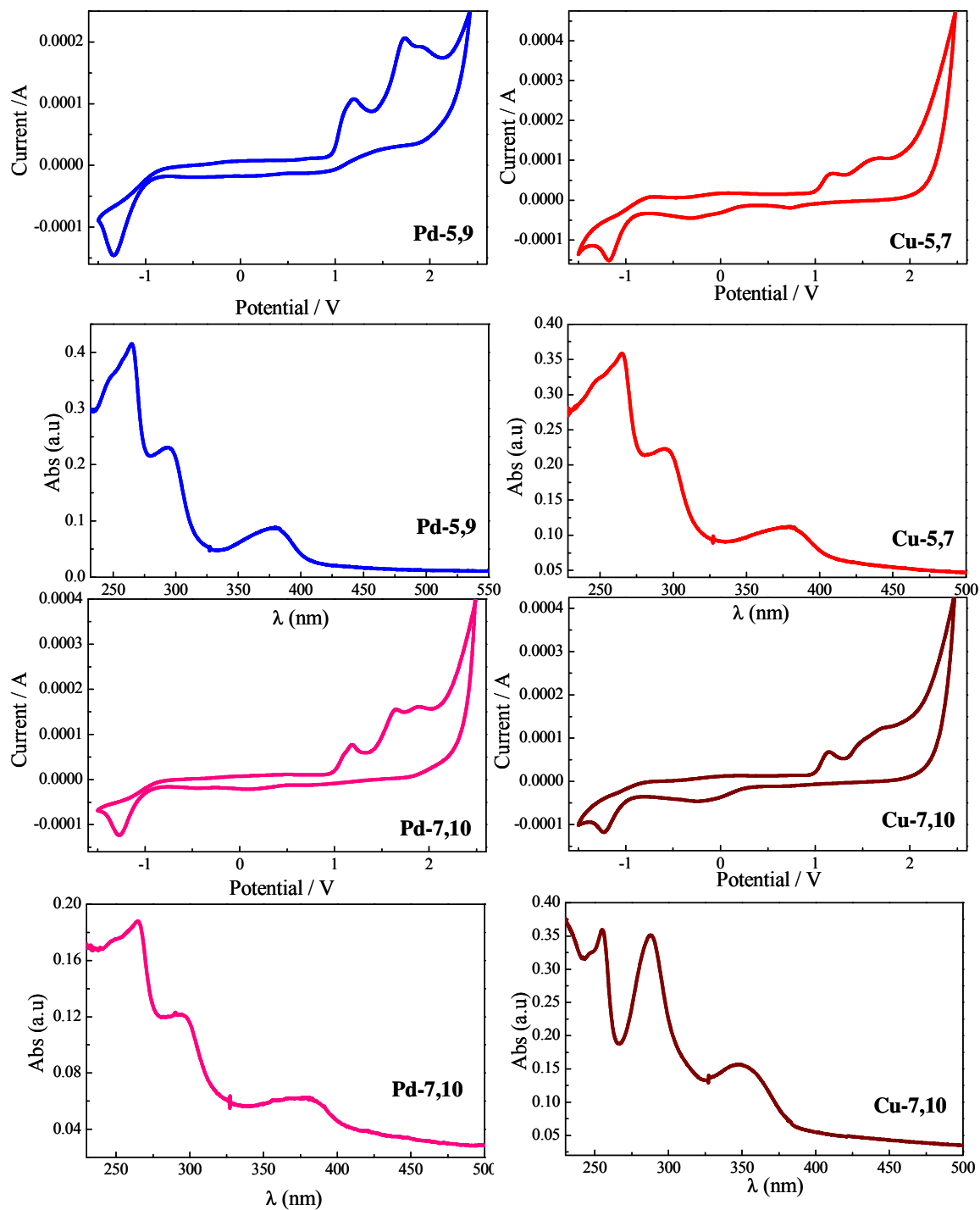


Fig S2 Cyclic voltammograms and their UV absorption spectra (10^{-3} M in CH_2Cl_2).

Table S1. Temperature dependant CD signal data obtained for the N* phase of complex **Cu-3,6**

T/°C	CD signals	
	λ_{\max} (nm)	CD (mdeg)
110	399, 279	104, 26
115	399, 277	117, 28
120	397, 277	127, 26
125	399, 277	126, 23
130	401, 276	129, 28
135	400, 276	135, 20
140	400, 279	140, 27
145	400, 279	143, 24
150	400, 280	150, 26
155	401, 280	147, 28
165	400, 278	152, 22

IV. General synthetic procedure and analytical datas.

IV.1. General procedure for the synthesis of bis [4-((4-cholesterylalkonate)oxy)-N-(n-alkyl)salicyaldiminato]palladium (II) complexes (Pd-n,R seires).

A mixture of dimer-like (**L-n,R**) compound (0.30 mmol, 1 equiv.), palladium (II) chloride (0.55 equiv., 0.16 mmol) and anhyd. K_2CO_3 (0.44 mmol, 2 equiv.) in dry acetonitrile was refluxed for 2 h. A pale yellow colored precipitate obtained was collected by filtration and washed with excess of ethanol to remove K_2CO_3 . The crude complex was further purified by repeated recrystallization from a mixture of $CHCl_3$ -ethanol (1:9) to get a pure pale greenish colored complex.

Pd-3,6

A pale greenish solid; yield: 71 %; IR (KBr Pellet): ν_{\max} in cm^{-1} 2949, 1737, 1625, 1529, 1239, 1171; 1H NMR (400MHz, $CDCl_3$): 7.47 (s, 2H, N=CH), 7.06 (d, $J = 8.7$ Hz, 2H, Ar), 6.28 (d, $J = 2.2$ Hz, 2H, Ar), 6.20 (dd, $J_1 = 8.7$ Hz, $J_2 = 2.3$ Hz, 2H, Ar), 5.37 (brd, $J = 3.8$ Hz, 2H, 2 \times olefinic), 4.63 (m, 2H, 2 \times CHOCO), 3.98 (t, $J = 5.8$ Hz, 4H, 2 \times OCH_2), 3.64 (t, $J = 6.9$ Hz, 4H, 2 \times NCH_2), 2.50-2.08 (m, 8H, 4 \times allylic methylene), 1.99-1.05 (m, 72H, 30 \times CH_2 , 12 \times CH), 1.01 (s, 6H, 2 \times CH_3), 0.98 (d, $J = 5.4$ Hz, 6H, 2 \times CH_3), 0.95 (s, 6H, 2 \times CH_3), 0.87 (d, $J = 1.5$ Hz, 6H, 2 \times CH_3), 0.85 (d, $J = 1.6$ Hz, 6H, 2 \times CH_3), 0.67 (s, 6H, 2 \times CH_3); MS (FAB+): m/z calcd for $C_{88}H_{136}N_2O_8Pd$: 1455.4, Found: 1454.6.

Pd-3,7

A pale greenish solid; yield: 72 %; IR (KBr Pellet): ν_{\max} in cm^{-1} 2923, 1734, 1607, 1530, 1233, 1175; 1H NMR (400MHz, $CDCl_3$): 7.47 (s, 2H, N=CH), 7.05 (d, $J = 8.7$ Hz, 2H, Ar), 6.28 (d, $J = 2.2$ Hz, 2H, Ar), 6.18 (dd, $J_1 = 8.7$ Hz, $J_2 = 2.3$ Hz, 2H, Ar), 5.37 (brd, $J = 3.2$ Hz, 2H, 2 \times olefinic), 4.63 (m, 2H, 2 \times CHOCO), 3.97 (t, $J = 5.9$ Hz, 4H, 2 \times

OCH₂), 3.62 (t, $J = 6.6$ Hz, 4H, 2 × NCH₂), 2.50-2.08 (m, 8H, 4 × allylic methylene), 1.99-1.05 (m, 76H, 32 × CH₂, 12 × CH), 1.01 (s, 6H, 2 × CH₃), 0.98 (d, $J = 5.4$ Hz, 6H, 2 × CH₃), 0.95 (s, 6H, 2 × CH₃), 0.87 (d, $J = 1.5$ Hz, 6H, 2 × CH₃), 0.85 (d, $J = 1.6$ Hz, 6H, 2 × CH₃), 0.67 (s, 6H, 2 × CH₃); MS (FAB+): m/z calcd for C₉₀H₁₄₀N₂O₈Pd: 1483.5, Found: 1483.5.

Pd-3,8

A pale greenish solid; yield: 79 %; IR (KBr Pellet): ν_{\max} in cm⁻¹ 2931, 1732, 1604, 1531, 1221, 1173; ¹H NMR (400MHz, CDCl₃): 7.46 (s, 2H, N=CH), 7.05 (d, $J = 8.8$ Hz, 2H, Ar), 6.28 (d, $J = 2.2$ Hz, 2H, Ar), 6.20 (dd, $J_1 = 8.2$ Hz, $J_2 = 2.3$ Hz, 2H, Ar), 5.37 (brd, $J = 3.6$ Hz, 2H, 1 × olefinic), 4.63 (m, 2H, 2 × CHOCO), 3.98 (t, $J = 5.9$ Hz, 4H, 2 × OCH₂), 3.64 (t, $J = 6.8$ Hz, 4H, 2 × NCH₂), 2.50-2.08 (m, 8H, 4 × allylic methylene), 1.99-1.05 (m, 80H, 34 × CH₂, 12 × CH), 1.01 (s, 6H, 2 × CH₃), 0.97 (d, $J = 5.8$ Hz, 6H, 2 × CH₃), 0.91 (s, 6H, 2 × CH₃), 0.87 (d, $J = 1.7$ Hz, 6H, 2 × CH₃), 0.85 (d, $J = 1.8$ Hz, 6H, 2 × CH₃), 0.67 (s, 6H, 2 × CH₃); MS (FAB+): m/z calcd for C₉₂H₁₄₄N₂O₈Pd: 1511.5, Found: 1511.4.

Pd-3,9

A pale greenish solid; yield: 69 %; IR (KBr Pellet): ν_{\max} in cm⁻¹ 2930, 1731, 1605, 1533, 1221, 1172; ¹H NMR (400MHz, CDCl₃): 7.46 (s, 2H, N=CH), 7.05 (d, $J = 8.8$ Hz, 2H, Ar), 6.28 (d, $J = 2.2$ Hz, 2H, Ar), 6.20 (dd, $J_1 = 8.2$ Hz, $J_2 = 2.2$ Hz, 2H, Ar), 5.37 (brd, $J = 3.6$ Hz, 2H, 2 × olefinic), 4.63 (m, 2H, 2 × CHOCO), 3.98 (t, $J = 5.9$ Hz, 4H, 2 × OCH₂), 3.64 (t, $J = 6.8$ Hz, 4H, 2 × NCH₂), 2.50-2.08 (m, 8H, 4 × allylic methylene), 1.99-1.05 (m, 84H, 36 × CH₂, 12 × CH), 1.01 (s, 6H, 2 × CH₃), 0.97 (d, $J = 5.4$ Hz, 6H, 2 × CH₃), 0.91 (s, 6H, 2 × CH₃), 0.87 (d, $J = 1.7$ Hz, 6H, 2 × CH₃), 0.85 (d, $J = 1.7$ Hz, 6H, 2 × CH₃), 0.67 (s, 6H, 2 × CH₃); MS (FAB+): m/z calcd for C₉₄H₁₄₈N₂O₈Pd: 1539.0, Found: 1538.9.

Pd-3,10

A pale greenish solid; yield: 72 %; IR (KBr Pellet): ν_{\max} in cm⁻¹ 2931, 1732, 1624, 1534, 1256, 1124; ¹H NMR (400MHz, CDCl₃): 7.46 (s, 2H, N=CH), 7.05 (d, $J = 8.8$ Hz, 2H, Ar), 6.28 (d, $J = 2.0$ Hz, 2H, Ar), 6.19 (dd, $J_1 = 8.8$ Hz, $J_2 = 2.2$ Hz, 2H, Ar), 5.37 (brd, $J = 3.6$ Hz, 2H, 2 × olefinic), 4.63 (m, 2H, 2 × CHOCO), 3.98 (t, $J = 5.8$ Hz, 4H, 2 × OCH₂), 3.64 (t, $J = 6.8$ Hz, 4H, 2 × NCH₂), 2.50-2.08 (m, 8H, 4 × allylic methylene), 1.99-1.05 (m, 88H, 38 × CH₂, 12 × CH), 1.01 (s, 6H, 2 × CH₃), 0.97 (d, $J = 5.8$ Hz, 6H, 2 × CH₃), 0.91 (s, 6H, 2 × CH₃), 0.87 (d, $J = 1.7$ Hz, 6H, 2 × CH₃), 0.85 (d, $J = 1.6$ Hz, 6H, 2 × CH₃), 0.67 (s, 6H, 2 × CH₃); ¹³C NMR (100MHz, CDCl₃): 172.52, 166.13, 164.47, 160.2, 139.6, 134.95, 122.65, 114.63, 108.97, 102.28, 74.11, 66.51, 58.05, 56.66, 56.08, 49.98, 42.28, 39.49, 38.11, 36.95, 36.56, 36.15, 35.76, 32.35, 31.87, 31.14, 29.34, 28, 27.04, 24.26, 23.81, 22.68, 21.01, 19.3, 18.68, 14.12, 11.83; MS (FAB+): m/z calcd for C₉₆H₁₅₂N₂O₈Pd: 1567.6, Found: 1567.3.

Pd-3,11

A pale greenish solid; yield: 68 %; IR (KBr Pellet): ν_{\max} in cm⁻¹ 2927, 1733, 1606, 1529, 1220, 1172; ¹H NMR (400MHz, CDCl₃): 7.46 (s, 2H, N=CH), 7.05 (d, $J = 8.8$ Hz, 2H, Ar), 6.28 (d, $J = 2.2$ Hz, 2H, Ar), 6.20 (dd, $J_1 = 8.7$ Hz, $J_2 = 2.3$ Hz, 2H, Ar), 5.37 (brd, J

= 3.7 Hz, 2H, 2 × olefinic), 4.63 (m, 2H, 2 × CHOCO), 3.98 (t, $J = 5.9$ Hz, 4H, 2 × OCH₂), 3.64 (t, $J = 7.0$ Hz, 4H, 2 × NCH₂), 2.50-2.08 (m, 8H, 4 × allylic methylene), 1.99-1.05 (m, 92H, 40 × CH₂, 12 × CH), 1.01 (s, 6H, 2 × CH₃), 0.97 (d, $J = 5.8$ Hz, 6H, 2 × CH₃), 0.93 (s, 6H, 2 × CH₃), 0.87 (d, $J = 1.6$ Hz, 6H, 2 × CH₃), 0.85 (d, $J = 1.7$ Hz, 6H, 2 × CH₃), 0.67 (s, 6H, 2 × CH₃); MS (FAB+): m/z calcd for C₉₈H₁₅₆N₂O₈Pd: 1595.6, Found: 1595.

Pd-3,12

A pale greenish solid; yield: 70 %; IR (KBr Pellet): ν_{\max} in cm⁻¹ 2924, 1733, 1607, 1527, 1236, 1172; ¹H NMR (400MHz, CDCl₃): 7.46 (s, 2H, N=CH), 7.05 (d, $J = 8.8$ Hz, 2H, Ar), 6.28 (d, $J = 2.2$ Hz, 2H, Ar), 6.20 (dd, $J_1 = 8.7$ Hz, $J_2 = 2.3$ Hz, 2H, Ar), 5.37 (brd, $J = 3.2$ Hz, 2H, 2 × olefinic), 4.63 (m, 2H, 2 × CHOCO), 3.98 (t, $J = 5.9$ Hz, 4H, 2 × OCH₂), 3.64 (t, $J = 6.6$ Hz, 4H, 2 × NCH₂), 2.50-2.08 (m, 8H, 4 × allylic methylene), 1.99-1.05 (m, 96H, 42 × CH₂, 12 × CH), 1.01 (s, 6H, 2 × CH₃), 0.97 (d, $J = 5.4$ Hz, 6H, 2 × CH₃), 0.93 (s, 6H, 2 × CH₃), 0.87 (d, $J = 1.5$ Hz, 6H, 2 × CH₃), 0.85 (d, $J = 1.6$ Hz, 6H, 2 × CH₃), 0.67 (s, 6H, 2 × CH₃); MS (FAB+): m/z calcd for C₁₀₀H₁₆₀N₂O₄Pd: 1623.6, Found: 1623.9.

Pd-3,16

A pale greenish solid; yield: 68 %; IR (KBr Pellet): ν_{\max} in cm⁻¹ 2922, 1733, 1604, 1528, 1221, 1171; ¹H NMR (400MHz, CDCl₃): 7.46 (s, 2H, N=CH), 7.05 (d, $J = 8.8$ Hz, 2H, Ar), 6.28 (d, $J = 2.0$ Hz, 2H, Ar), 6.20 (dd, $J_1 = 8.6$ Hz, $J_2 = 2.2$ Hz, 2H, Ar), 5.37 (brd, $J = 3.4$ Hz, 2H, 2 × olefinic), 4.63 (m, 2H, 2 × CHOCO), 3.98 (t, $J = 5.9$ Hz, 4H, 2 × OCH₂), 3.64 (t, $J = 6.8$ Hz, 4H, 2 × NCH₂), 2.48-2.01 (m, 8H, 4 × allylic methylene), 1.99-1.05 (m, 112H, 50 × CH₂, 12 × CH), 1.01 (s, 6H, 2 × CH₃), 0.97 (d, $J = 5.5$ Hz, 6H, 2 × CH₃), 0.91 (s, 6H, 2 × CH₃), 0.87 (d, $J = 1.8$ Hz, 6H, 2 × CH₃), 0.85 (d, $J = 1.7$ Hz, 6H, 2 × CH₃), 0.67 (s, 6H, 2 × CH₃); MS (FAB+): m/z calcd for C₁₀₈H₁₇₇N₂O₈Pd (M+1): 1736.7, Found: 1736.

Pd-4,6

A pale greenish solid; yield: 74 %; IR (KBr Pellet): ν_{\max} in cm⁻¹ 2935, 1734, 1604, 1529, 1219, 1172; ¹H NMR (400MHz, CDCl₃): 7.50 (s, 2H, N=CH), 7.05 (d, $J = 8.7$ Hz, 2H, Ar), 6.28 (d, $J = 2.2$, 2H, Ar), 6.18 (dd, $J_1 = 8.7$ Hz, $J_2 = 2.3$ Hz, 2H, Ar), 5.40 (brd, $J = 3.2$ Hz, 2H, 2 × olefinic), 4.65 (m, 2H, 2 × CHOCO), 3.97 (t, $J = 5.9$ Hz, 4H, 2 × OCH₂), 3.62 (t, $J = 6.6$ Hz, 4H, 2 × NCH₂), 2.49-2.08 (m, 8H, 4 × allylic methylene), 1.99-1.05 (m, 76H, 32 × CH₂, 12 × CH), 1.01 (s, 6H, 2 × CH₃), 0.98 (d, $J = 5.4$ Hz, 6H, 2 × CH₃), 0.95 (s, 6H, 2 × CH₃), 0.87 (d, $J = 1.5$ Hz, 6H, 2 × CH₃), 0.85 (d, $J = 1.6$ Hz, 6H, 2 × CH₃), 0.67 (s, 6H, 2 × CH₃); ¹³C NMR (100MHz, CDCl₃): 172.98, 166.21, 164.38, 160.21, 139.68, 134.93, 122.59, 114.55, 105.44, 102.19, 73.8, 67.4, 58.08, 56.69, 56.14, 50.04, 42.31, 39.73, 39.51, 38.15, 36.99, 36.59, 36.18, 35.78, 34.56, 32.43, 31.90, 29.17, 28.84, 28.21, 28, 27.81, 27.07, 25.61, 24.78, 24.27, 23.82, 22.79, 22.62, 21.03, 19.31, 18.70, 14.08, 11.84; MS (FAB+): m/z calcd for C₉₀H₁₄₂N₂O₈Pd (M+2): 1487.5, Found: 1487.3.

Pd-5,6

A pale greenish solid; yield: 79 %; IR (KBr Pellet): ν_{\max} in cm^{-1} 2935, 1726, 1608, 1531, 1220, 1174; ^1H NMR (400MHz, CDCl_3): 7.47 (s, 2H, N=CH), 7.05 (d, $J = 8.8$ Hz, 2H, Ar), 6.28 (d, $J = 2.1$ Hz, 2H, Ar), 6.20 (dd, $J_1 = 8.6$ Hz, $J_2 = 2.2$ Hz, 2H, Ar), 5.37 (brd, $J = 4.0$ Hz, 2H, 2 \times olefinic), 4.65 (m, 2H, 2 \times CHOCO), 3.93 (t, $J = 6.3$ Hz, 4H, 2 \times OCH₂), 3.64 (t, $J = 7.0$ Hz, 4H, 2 \times NCH₂), 2.32-2.08 (m, 8H, 4 \times allylic methylene), 1.99-1.05 (m, 80H, 34 \times CH₂, 12 \times CH), 1.01 (s, 6H, 2 \times CH₃), 0.98 (d, $J = 5.1$ Hz, 6H, 2 \times CH₃), 0.95 (s, 6H, 2 \times CH₃), 0.87 (d, $J = 1.6$ Hz, 6H, 2 \times CH₃), 0.85 (d, $J = 1.7$ Hz, 6H, 2 \times CH₃), 0.67 (s, 6H, 2 \times CH₃); MS (FAB+): m/z calcd for $\text{C}_{92}\text{H}_{144}\text{N}_2\text{O}_8\text{Pd}$: 1511.5, Found: 1511.0.

Pd-5,7

A pale greenish solid; yield: 73 %; IR (KBr Pellet): ν_{\max} in cm^{-1} 2934, 1728, 1607, 1530, 1224, 1197; ^1H NMR (400MHz, CDCl_3): 7.47 (s, 2H, N=CH), 7.05 (d, $J = 8.8$ Hz, 2H, Ar), 6.28 (d, $J = 2.2$ Hz, 2H, Ar), 6.20 (dd, $J_1 = 8.7$ Hz, $J_2 = 2.3$ Hz, 2H, Ar), 5.37 (brd, $J = 3.3$ Hz, 2H, 2 \times olefinic), 4.65 (m, 2H, 2 \times CHOCO), 3.94 (t, $J = 6.3$ Hz, 4H, 2 \times OCH₂), 3.64 (t, $J = 7.1$ Hz, 4H, 2 \times NCH₂), 2.32-2.01 (m, 8H, 4 \times allylic methylene), 1.99-1.05 (m, 84H, 36 \times CH₂, 12 \times CH), 1.01 (s, 6H, 2 \times CH₃), 0.98 (d, $J = 6.2$ Hz, 6H, 2 \times CH₃), 0.92 (s, 6H, 2 \times CH₃), 0.87 (d, $J = 2.0$ Hz, 6H, 2 \times CH₃), 0.85 (d, $J = 1.8$ Hz, 6H, 2 \times CH₃), 0.67 (s, 6H, 2 \times CH₃); MS (FAB+): m/z calcd for $\text{C}_{94}\text{H}_{149}\text{N}_2\text{O}_8\text{Pd}$ (M+1): 1540.5, Found: 1540.3.

Pd-5,8

A pale greenish solid; yield: 71 %; IR (KBr Pellet): ν_{\max} in cm^{-1} 2937, 1735, 1624, 1529, 1236, 1173; ^1H NMR (400MHz, CDCl_3): 7.47 (s, 2H, N=CH), 7.05 (d, $J = 8.8$ Hz, 2H, Ar), 6.28 (d, $J = 2.2$ Hz, 2H, Ar), 6.20 (dd, $J_1 = 8.6$ Hz, $J_2 = 2.3$ Hz, 2H, Ar), 5.37 (brd, $J = 3.7$ Hz, 2H, 2 \times olefinic), 4.62 (m, 2H, 2 \times CHOCO), 3.94 (t, $J = 6.3$ Hz, 4H, 2 \times OCH₂), 3.64 (t, $J = 6.9$ Hz, 4H, 2 \times NCH₂), 2.32-2.01 (m, 8H, 4 \times allylic methylene), 1.99-1.05 (m, 88H, 38 \times CH₂, 12 \times CH), 1.01 (s, 6H, 2 \times CH₃), 0.96 (d, $J = 6.4$ Hz, 6H, 2 \times CH₃), 0.92 (s, 6H, 2 \times CH₃), 0.87 (d, $J = 1.7$ Hz, 6H, 2 \times CH₃), 0.85 (d, $J = 1.8$ Hz, 6H, 2 \times CH₃), 0.67 (s, 6H, 2 \times CH₃); MS (FAB+): m/z calcd for $\text{C}_{96}\text{H}_{152}\text{N}_2\text{O}_8\text{Pd}$: 1567.6, Found: 1567.4.

Pd-5,9

A pale greenish solid; yield: 79 %; IR (KBr Pellet): ν_{\max} in cm^{-1} 2933, 1732, 1608, 1530, 1235, 1174; ^1H NMR (400MHz, CDCl_3): 7.47 (s, 2H, N=CH), 7.05 (d, $J = 8.8$ Hz, 2H, Ar), 6.28 (d, $J = 2.1$ Hz, 2H, Ar), 6.20 (dd, $J_1 = 8.7$ Hz, $J_2 = 2.3$ Hz, 2H, Ar), 5.37 (brd, $J = 3.7$ Hz, 2H, 2 \times olefinic), 4.62 (m, 2H, 2 \times CHOCO), 3.93 (t, $J = 6.3$ Hz, 4H, 2 \times OCH₂), 3.64 (t, $J = 7.0$ Hz, 4H, 2 \times NCH₂), 2.32-2.01 (m, 8H, 4 \times allylic methylene), 1.99-1.05 (m, 92H, 40 \times CH₂, 12 \times CH), 1.01 (s, 6H, 2 \times CH₃), 0.97 (d, $J = 6.4$ Hz, 6H, 2 \times CH₃), 0.92 (s, 6H, 2 \times CH₃), 0.87 (d, $J = 1.7$ Hz, 6H, 2 \times CH₃), 0.85 (d, $J = 1.7$ Hz, 6H, 2 \times CH₃), 0.67 (s, 6H, 2 \times CH₃); MS (FAB+): m/z calcd for $\text{C}_{98}\text{H}_{156}\text{N}_2\text{O}_8\text{Pd}$: 1595.6, Found: 1595.4.

Pd-5,10

A pale greenish solid; yield: 80 %; IR (KBr Pellet): ν_{\max} in cm^{-1} 2930, 1732, 1607, 1530, 1236, 1174; ^1H NMR (400MHz, CDCl_3): 7.46 (s, 2H, N=CH), 7.05 (d, $J = 8.8$ Hz, 2H, Ar), 6.28 (d, $J = 2.1$ Hz, 2H, Ar), 6.20 (dd, $J_1 = 8.7$ Hz, $J_2 = 2.3$ Hz, 2H, Ar), 5.37 (brd, $J = 3.6$ Hz, 2H, 2 \times olefinic), 4.62 (m, 2H, 2 \times CHOCO), 3.93 (t, $J = 6.2$ Hz, 4H, 2 \times OCH₂), 3.64 (t, $J = 6.8$ Hz, 4H, 2 \times NCH₂), 2.32-2.01 (m, 8H, 4 \times allylic methylene), 1.99-1.05 (m, 96H, 42 \times CH₂, 12 \times CH), 1.01 (s, 6H, 2 \times CH₃), 0.97 (d, $J = 6.3$ Hz, 6H, 2 \times CH₃), 0.92 (s, 6H, 2 \times CH₃), 0.87 (d, $J = 1.8$ Hz, 6H, 2 \times CH₃), 0.85 (d, $J = 1.8$ Hz, 6H, 2 \times CH₃), 0.67 (s, 6H, 2 \times CH₃); MS (FAB+): m/z calcd for $\text{C}_{100}\text{H}_{160}\text{N}_2\text{O}_8\text{Pd}$: 1623.6, Found: 1623.4.

Pd-5,11

A pale greenish solid; yield: 83 %; IR (KBr Pellet): ν_{\max} in cm^{-1} 2927, 1736, 1607, 1535, 1239, 1198; ^1H NMR (400MHz, CDCl_3): 7.46 (s, 2H, N=CH), 7.05 (d, $J = 8.8$ Hz, 2H, Ar), 6.28 (d, $J = 2.0$ Hz, 2H, Ar), 6.20 (dd, $J_1 = 8.6$ Hz, $J_2 = 2.2$ Hz, 2H, Ar), 5.37 (brd, $J = 3.6$ Hz, 2H, 2 \times olefinic), 4.62 (m, 2H, 2 \times CHOCO), 3.93 (t, $J = 6.2$ Hz, 4H, 2 \times OCH₂), 3.64 (t, $J = 6.8$ Hz, 4H, 2 \times NCH₂), 2.32-2.01 (m, 8H, 4 \times allylic methylene), 1.99-1.05 (m, 100H, 44 \times CH₂, 12 \times CH), 1.01 (s, 6H, 2 \times CH₃), 0.97 (d, $J = 6.3$ Hz, 6H, 2 \times CH₃), 0.92 (s, 6H, 2 \times CH₃), 0.87 (d, $J = 1.8$ Hz, 6H, 2 \times CH₃), 0.85 (d, $J = 1.5$ Hz, 6H, 2 \times CH₃), 0.67 (s, 6H, 2 \times CH₃); MS (FAB+): m/z calcd for $\text{C}_{102}\text{H}_{164}\text{N}_2\text{O}_8\text{Pd}$: 1651.7, Found: 1651.9.

Pd-5,12

A pale greenish solid; yield: 81 %; IR (KBr Pellet): ν_{\max} in cm^{-1} 2925, 1734, 1608, 1533, 1221, 1171; ^1H NMR (400MHz, CDCl_3): 7.46 (s, 2H, N=CH), 7.05 (d, $J = 8.8$ Hz, 2H, Ar), 6.28 (d, $J = 2.0$ Hz, 2H, Ar), 6.20 (dd, $J_1 = 8.6$ Hz, $J_2 = 2.2$ Hz, 2H, Ar), 5.37 (brd, $J = 3.4$ Hz, 2H, 2 \times olefinic), 4.62 (m, 2H, 2 \times CHOCO), 3.93 (t, $J = 6.3$ Hz, 4H, 2 \times OCH₂), 3.64 (t, $J = 6.9$ Hz, 4H, 2 \times NCH₂), 2.32-2.01 (m, 8H, 4 \times allylic methylene), 1.99-1.05 (m, 104H, 46 \times CH₂, 12 \times CH), 1.01 (s, 6H, 2 \times CH₃), 0.97 (d, $J = 6.3$ Hz, 6H, 2 \times CH₃), 0.92 (s, 6H, 2 \times CH₃), 0.87 (d, $J = 1.5$ Hz, 6H, 2 \times CH₃), 0.85 (d, $J = 1.4$ Hz, 6H, 2 \times CH₃), 0.67 (s, 6H, 2 \times CH₃); ^{13}C NMR (100MHz, CDCl_3): 172.97, 166.23, 164.22, 160.21, 139.68, 134.92, 122.59, 114.55, 105.45, 102.19, 73.8, 67.41, 58.05, 56.69, 56.14, 50.04, 42.31, 39.74, 39.51, 38.15, 36.99, 36.59, 36.18, 35.78, 34.57, 32.39, 31.91, 29.75, 29.69, 29.53, 29.35, 28.84, 28.21, 28, 27.81, 27.09, 25.63, 24.79, 24.27, 23.82, 22.79, 22.68, 22.54, 21.04, 19.31, 18.71, 14.1, 11.84.; MS (FAB+): m/z calcd for $\text{C}_{104}\text{H}_{168}\text{N}_2\text{O}_8\text{Pd}$: 1679.7, Found: 1679.

Pd-5,16

A pale greenish solid; yield: 79 %; IR (KBr Pellet): ν_{\max} in cm^{-1} 2921, 1726, 1605, 1530, 1223, 1128; ^1H NMR (400MHz, CDCl_3): 7.46 (s, 2H, N=CH), 7.05 (d, $J = 8.8$ Hz, 2H, Ar), 6.28 (d, $J = 2.2$ Hz, 2H, Ar), 6.20 (dd, $J_1 = 8.6$ Hz, $J_2 = 2.2$ Hz, 2H, Ar), 5.37 (brd, $J = 3.4$ Hz, 2H, 2 \times olefinic), 4.62 (m, 2H, 2 \times CHOCO), 3.93 (t, $J = 6.3$ Hz, 4H, 2 \times OCH₂), 3.64 (t, $J = 6.9$ Hz, 4H, 2 \times NCH₂), 2.32-2.01 (m, 8H, 4 \times allylic methylene), 1.99-1.05 (m, 120H, 54 \times CH₂, 12 \times CH), 1.01 (s, 6H, 2 \times CH₃), 0.97 (d, $J = 6.3$ Hz, 6H, 2 \times CH₃), 0.92 (s, 6H, 2 \times CH₃), 0.87 (d, $J = 1.8$ Hz, 6H, 2 \times CH₃), 0.85 (d, $J = 1.8$ Hz,

6H, 2 × CH₃), 0.67 (s, 6H, 2 × CH₃); MS (FAB+): m/z calcd for C₁₁₂H₁₈₅N₂O₈Pd (M+1): 1792.4, Found: 1792.5.

Pd-7,6

A pale greenish solid; yield: 76 %; IR (KBr Pellet): ν_{\max} in cm⁻¹ 2932, 1733, 1605, 1525, 1220, 1174; ¹H NMR (400MHz, CDCl₃): 7.46 (s, 2H, N=CH), 7.05 (d, *J* = 8.8 Hz, 2H, Ar), 6.28 (d, *J* = 2.4 Hz, 2H, Ar), 6.20 (dd, *J*₁ = 8.6 Hz, *J*₂ = 2.2 Hz, 2H, Ar), 5.37 (brd, *J* = 3.7 Hz, 2H, 2 × olefinic), 4.62 (m, 2H, 2 × CHOCO), 3.95 (t, *J* = 6.4 Hz, 4H, 2 × OCH₂), 3.64 (t, *J* = 7.0 Hz, 4H, 2 × NCH₂), 2.31-2.01 (m, 8H, 4 × allylic methylene), 1.99-1.05 (m, 88H, 38 × CH₂, 12 × CH), 1.01 (s, 6H, 2 × CH₃), 0.97 (d, *J* = 6.4 Hz, 6H, 2 × CH₃), 0.92 (s, 6H, 2 × CH₃), 0.87 (d, *J* = 1.5 Hz, 6H, 2 × CH₃), 0.85 (d, *J* = 1.6 Hz, 6H, 2 × CH₃), 0.67 (s, 6H, 2 × CH₃); MS (FAB+): m/z calcd for C₉₆H₁₅₂N₂O₈Pd: 1567.6, Found: 1567.4.

Pd-7,7

A pale greenish solid; yield: 79 %; IR (KBr Pellet): ν_{\max} in cm⁻¹ 2931, 1731, 1605, 1530, 1222, 1174; ¹H NMR (400MHz, CDCl₃): 7.46 (s, 2H, N=CH), 7.05 (d, *J* = 8.8 Hz, 2H, Ar), 6.28 (d, *J* = 2.1 Hz, 2H, Ar), 6.20 (dd, *J*₁ = 8.6 Hz, *J*₂ = 2.2 Hz, 2H, Ar), 5.37 (brd, *J* = 3.8 Hz, 2H, 2 × olefinic), 4.62 (m, 2H, 2 × CHOCO), 3.92 (t, *J* = 6.4 Hz, 4H, 2 × OCH₂), 3.61 (t, *J* = 6.9 Hz, 4H, 2 × NCH₂), 2.31-2.01 (m, 8H, 4 × allylic methylene), 1.99-1.05 (m, 92H, 40 × CH₂, 12 × CH), 1.01 (s, 6H, 2 × CH₃), 0.97 (d, *J* = 6.4 Hz, 6H, 2 × CH₃), 0.92 (s, 6H, 2 × CH₃), 0.87 (d, *J* = 1.6 Hz, 6H, 2 × CH₃), 0.85 (d, *J* = 1.6 Hz, 6H, 2 × CH₃), 0.67 (s, 6H, 2 × CH₃); MS (FAB+): m/z calcd for C₉₈H₁₅₆N₂O₈Pd: 1595.6, Found: 1595.5.

Pd-7,8

A pale greenish solid; yield: 77 %; IR (KBr Pellet): ν_{\max} in cm⁻¹ 2932, 1731, 1606, 1529, 1230, 1124; ¹H NMR (400MHz, CDCl₃): 7.46 (s, 2H, N=CH), 7.05 (d, *J* = 8.8 Hz, 2H, Ar), 6.28 (d, *J* = 2.1 Hz, 2H, Ar), 6.20 (dd, *J*₁ = 8.6 Hz, *J*₂ = 2.2 Hz, 2H, Ar), 5.37 (brd, *J* = 3.4 Hz, 2H, 2 × olefinic), 4.62 (m, 2H, 2 × CHOCO), 3.92 (t, *J* = 6.4 Hz, 4H, 2 × OCH₂), 3.61 (t, *J* = 6.9 Hz, 4H, 2 × NCH₂), 2.31-2.01 (m, 8H, 4 × allylic methylene), 1.99-1.05 (m, 96H, 42 × CH₂, 12 × CH), 1.01 (s, 6H, 2 × CH₃), 0.97 (d, *J* = 6.3 Hz, 6H, 2 × CH₃), 0.92 (s, 6H, 2 × CH₃), 0.87 (d, *J* = 1.6 Hz, 6H, 2 × CH₃), 0.85 (d, *J* = 1.8 Hz, 6H, 2 × CH₃), 0.67 (s, 6H, 2 × CH₃); MS (FAB+): m/z calcd for C₁₀₀H₁₆₀N₂O₈Pd: 1623.6, Found: 1623.9.

Pd-7,9

A pale greenish solid; yield: 79 %; IR (KBr Pellet): ν_{\max} in cm⁻¹ 2932, 1736, 1605, 1530, 1220, 1175; ¹H NMR (400MHz, CDCl₃): 7.46 (s, 2H, N=CH), 7.05 (d, *J* = 8.8 Hz, 2H, Ar), 6.28 (d, *J* = 1.8 Hz, 2H, Ar), 6.20 (dd, *J*₁ = 8.6 Hz, *J*₂ = 2.1 Hz, 2H, Ar), 5.37 (brd, *J* = 3.4 Hz, 2H, 1 × olefinic), 4.62 (m, 2H, 2 × CHOCO), 3.92 (t, *J* = 6.3 Hz, 4H, 2 × OCH₂), 3.63 (t, *J* = 6.9 Hz, 4H, 2 × NCH₂), 2.31-2.01 (m, 8H, 4 × allylic methylene), 1.99-1.05 (m, 100H, 44 × CH₂, 12 × CH), 1.01 (s, 6H, 2 × CH₃), 0.97 (d, *J* = 6.4 Hz, 6H, 2 × CH₃), 0.92 (s, 6H, 2 × CH₃), 0.87 (d, *J* = 1.5 Hz, 6H, 2 × CH₃), 0.85 (d, *J* = 1.4 Hz, 6H, 2 × CH₃), 0.67 (s, 6H, 2 × CH₃); MS (FAB+): m/z calcd for C₁₀₂H₁₆₆N₂O₈Pd (M+2): 1653.6, Found: 1653.4.

Pd-7,10

A pale greenish solid; yield: 68 %; IR (KBr Pellet): ν_{\max} in cm^{-1} 2933, 1736, 1624, 1530, 1221, 1175; ^1H NMR (400MHz, CDCl_3): 7.46 (s, 2H, N=CH), 7.05 (d, $J = 8.8$ Hz, 2H, Ar), 6.28 (d, $J = 1.7$ Hz, 2H, Ar), 6.20 (dd, $J_1 = 8.6$ Hz, $J_2 = 2.0$ Hz, 2H, Ar), 5.37 (brd, $J = 3.7$ Hz, 2H, 2 \times olefinic), 4.62 (m, 2H, 2 \times CHOCO), 3.92 (t, $J = 6.2$ Hz, 4H, 2 \times OCH₂), 3.63 (t, $J = 7.0$ Hz, 4H, 2 \times NCH₂), 2.31-2.01 (m, 8H, 4 \times allylic methylene), 1.99-1.05 (m, 104H, 46 \times CH₂, 12 \times CH), 1.01 (s, 6H, 2 \times CH₃), 0.97 (d, $J = 6.4$ Hz, 6H, 2 \times CH₃), 0.92 (s, 6H, 2 \times CH₃), 0.87 (d, $J = 1.5$ Hz, 6H, 2 \times CH₃), 0.85 (d, $J = 1.4$ Hz, 6H, 2 \times CH₃), 0.67 (s, 6H, 2 \times CH₃); MS (FAB+): m/z calcd for $\text{C}_{104}\text{H}_{169}\text{N}_2\text{O}_8\text{Pd}$ (M+1): 1680.7, Found: 1680.2.

Pd-7,11

A pale greenish solid; yield: 68 %; IR (KBr Pellet): ν_{\max} in cm^{-1} 2931, 1736, 1622, 1530, 1236, 1178; ^1H NMR (400MHz, CDCl_3): 7.46 (s, 2H, N=CH), 7.05 (d, $J = 8.8$ Hz, 2H, Ar), 6.28 (d, $J = 1.9$ Hz, 2H, Ar), 6.20 (dd, $J_1 = 8.6$ Hz, $J_2 = 2.0$ Hz, 2H, Ar), 5.37 (brd, $J = 3.7$ Hz, 2H, 2 \times olefinic), 4.62 (m, 2H, 2 \times CHOCO), 3.92 (t, $J = 6.2$ Hz, 4H, 2 \times OCH₂), 3.63 (t, $J = 7.0$ Hz, 4H, 2 \times NCH₂), 2.31-2.01 (m, 8H, 4 \times allylic methylene), 1.99-1.05 (m, 108H, 48 \times CH₂, 12 \times CH), 1.01 (s, 6H, 2 \times CH₃), 0.97 (d, $J = 6.3$ Hz, 6H, 2 \times CH₃), 0.92 (s, 6H, 2 \times CH₃), 0.87 (d, $J = 1.5$ Hz, 6H, 2 \times CH₃), 0.85 (d, $J = 1.3$ Hz, 6H, 2 \times CH₃), 0.67 (s, 6H, 2 \times CH₃); MS (FAB+): m/z calcd for $\text{C}_{106}\text{H}_{172}\text{N}_2\text{O}_8\text{Pd}$: 1707.7, Found: 1707.6.

Pd-7,12

A pale greenish solid; yield: 69 %; IR (KBr Pellet): ν_{\max} in cm^{-1} 2922, 1735, 1607, 1533, 1221, 1175; ^1H NMR (400MHz, CDCl_3): 7.46 (s, 2H, N=CH), 7.05 (d, $J = 8.8$ Hz, 2H, Ar), 6.28 (d, $J = 2.0$ Hz, 2H, Ar), 6.20 (dd, $J_1 = 8.4$ Hz, $J_2 = 2.0$, 2H, Ar), 5.37 (brd, $J = 3.7$ Hz, 2H, 2 \times olefinic), 4.62 (m, 2H, 2 \times CHOCO), 3.92 (t, $J = 6.2$ Hz, 4H, 2 \times OCH₂), 3.63 (t, $J = 6.8$ Hz, 4H, 2 \times NCH₂), 2.31-2.01 (m, 8H, 4 \times allylic methylene), 1.99-1.05 (m, 112H, 50 \times CH₂, 12 \times CH), 1.01 (s, 6H, 2 \times CH₃), 0.97 (d, $J = 6.4$ Hz, 6H, 2 \times CH₃), 0.92 (s, 6H, 2 \times CH₃), 0.87 (d, $J = 1.5$ Hz, 6H, 2 \times CH₃), 0.85 (d, $J = 1.3$ Hz, 6H, 2 \times CH₃), 0.67 (s, 6H, 2 \times CH₃); ^{13}C NMR (100MHz, CDCl_3): 173.19, 166.23, 164.47, 160.22, 139.71, 134.91, 122.58, 114.51, 105.51, 102.17, 73.72, 67.68, 58.07, 56.69, 56.15, 50.04, 42.32, 39.74, 39.52, 38.16, 37, 36.6, 36.18, 35.78, 34.65, 32.43, 31.9, 29.67, 29.36, 29.02, 28.2, 28.01, 27.82, 27.12, 25.89, 24.96, 24.28, 23.83, 22.79, 22.68, 22.55, 21.03, 19.31, 18.71, 14.12, 11.84; MS (FAB+): m/z for $\text{C}_{108}\text{H}_{176}\text{N}_2\text{O}_8\text{Pd}$: 1735.7, Found: 1735.5.

Pd-7,16

A pale greenish solid; yield: 70 %; IR (KBr Pellet): ν_{\max} in cm^{-1} 2922, 1735, 1607, 1531, 1221, 1176; ^1H NMR (400MHz, CDCl_3): 7.46 (s, 2H, N=CH), 7.05 (d, $J = 8.8$ Hz, 2H, Ar), 6.28 (d, $J = 1.8$ Hz, 2H, Ar), 6.20 (dd, $J_1 = 8.4$ Hz, $J_2 = 2.0$ Hz, 2H, Ar), 5.37 (brd, $J = 4.2$ Hz, 2H, 2 \times olefinic), 4.62 (m, 2H, 2 \times CHOCO), 3.92 (t, $J = 6.5$ Hz, 4H, 2 \times OCH₂), 3.63 (t, $J = 6.7$ Hz, 4H, 2 \times NCH₂), 2.31-2.01 (m, 8H, 4 \times allylic methylene), 1.99-1.05 (m, 128H, 58 \times CH₂, 12 \times CH), 1.01 (s, 6H, 2 \times CH₃), 0.97 (d, $J = 6.9$ Hz, 6H, 2 \times CH₃), 0.92 (s, 6H, 2 \times CH₃), 0.87 (d, $J = 1.5$ Hz, 6H, 2 \times CH₃), 0.85 (d, J

= 1.4 Hz, 6H, 2 × CH₃), 0.67 (s, 6H, 2 × CH₃); MS (FAB+): m/z for C₁₁₆H₁₉₃N₂O₈Pd (M+1): 1847.9, Found: 1847.5.

IV.2. General procedure for the synthesis of bis [4-((4-cholesteryl alkonate)oxy)-N-(n-alkyl)salicyaldiminato]copper (II) complexes (Cu-n,R series).

A solution of dimer-like (**L-n,R**) compound (0.30 mmol, 1 equiv.) in equal quantity of dry methanol (10 ml) and benzene (10 ml) was refluxed for 30 min. To the hot yellow color solution, copper (II) acetate monohydrate (0.16 mmol, 0.55 equiv.) in dry methanol (5 ml) was added and refluxed for 1 h. A thick greenish solution obtained was cooled to get a precipitate that was collected by filtration, it was purified by repeated recrystallization from a mixture of CH₂Cl₂-EtOH (1:9).

Cu-3,6

A greenish-yellow solid; yield: 79 %; IR (KBr Pellet): ν_{\max} in cm⁻¹ 2933, 1736, 1623, 1530, 1240, 1172; MS (FAB+): m/z calcd for C₈₈H₁₃₇N₂O₈Cu (M+1): 1413.6, Found: 1413.3.

Cu-3,7

A greenish-yellow solid; yield: 71 %; IR (KBr Pellet): ν_{\max} in cm⁻¹ 2932, 1736, 1607, 1530, 1241, 1172; MS (FAB+): m/z calcd for C₉₀H₁₄₁N₂O₈Cu (M+1): 1441.6, Found: 1441.1.

Cu-3,8

A greenish-yellow solid; yield: 72 %; IR (KBr Pellet): ν_{\max} in cm⁻¹ 2931, 1728, 1611, 1529, 1239, 1171; MS (FAB+): m/z calcd for C₉₂H₁₄₅N₂O₈Cu (M+1): 1469.6, Found: 1469.4.

Cu-3,9

A greenish-yellow solid; yield: 79 %; IR (KBr Pellet): ν_{\max} in cm⁻¹ 2927, 1727, 1608, 1528, 1238, 1172; MS (FAB+): m/z calcd for C₉₄H₁₄₈N₂O₈Cu: 1496.7, Found: 1496.9.

Cu-3,10

A greenish-yellow solid; yield: 77 %; IR (KBr Pellet): ν_{\max} in cm⁻¹ 2927, 1728, 1608, 1527, 1238, 1171; MS (FAB+): m/z calcd for C₉₆H₁₅₂N₂O₈Cu: 1524.7, Found: 1524.3; Anal. calcd for C₉₆H₁₅₂N₂O₈Cu: C, 75.57; H, 10.04; N, 1.84. Found: C, 75.40; H, 9.95; N, 1.69.

Cu-3,11

A greenish-yellow solid; yield: 75 %; IR (KBr Pellet): ν_{\max} in cm⁻¹ 2926, 1732, 1615, 1532, 1234, 1172; MS (FAB+): m/z calcd for C₉₈H₁₅₆N₂O₈Cu (M+1): 1553.8, Found: 1553.9.

Cu-3,12

A greenish-yellow solid; yield: 80 %; IR (KBr Pellet): ν_{\max} in cm^{-1} 2926, 1728, 1608, 1527, 1238, 1171; MS (FAB+): m/z calcd for $\text{C}_{100}\text{H}_{161}\text{N}_2\text{O}_8\text{Cu}$ (M+1): 1581.8, Found: 1581.3.

Cu-3,16

A greenish-yellow solid; yield: 78 %; IR (KBr Pellet): ν_{\max} in cm^{-1} 2922, 1731, 1614, 1534, 1238, 1172; MS (FAB+): m/z calcd for $\text{C}_{108}\text{H}_{176}\text{N}_2\text{O}_8\text{Cu}$: 1692.9, Found: 1693.3.

Cu-4,9

A greenish-yellow solid; yield: 79 %; IR (KBr Pellet): ν_{\max} in cm^{-1} 2929, 1733, 1609, 1533, 1223, 1169; MS (FAB+): m/z calcd for $\text{C}_{96}\text{H}_{152}\text{N}_2\text{O}_8\text{Cu}$: 1524.7, Found: 1524.9.

Cu-4,16

A greenish-yellow solid; yield: 68 %; IR (KBr Pellet): ν_{\max} in cm^{-1} 2923, 1736, 1603, 1534, 1222, 1196; MS (FAB+): m/z calcd for $\text{C}_{110}\text{H}_{181}\text{N}_2\text{O}_8\text{Cu}$ (M+1): 1721.9, Found: 1721.7; Anal. calcd for $\text{C}_{110}\text{H}_{180}\text{N}_2\text{O}_8\text{Cu}$: C, 76.72; H, 10.53; N, 1.63. Found: C, 76.47; H, 10.31; N, 1.56.

Cu-5,6

A greenish-yellow solid; yield: 83 %; IR (KBr Pellet): ν_{\max} in cm^{-1} 2933, 1732, 1606, 1530, 1239, 1174; MS (FAB+): m/z calcd for $\text{C}_{92}\text{H}_{144}\text{N}_2\text{O}_8\text{Cu}$: 1469.6, Found: 1469.4.

Cu-5,7

A greenish-yellow solid; yield: 80 %; IR (KBr Pellet): ν_{\max} in cm^{-1} 2934, 1735, 1606, 1532, 1235, 1174; MS (FAB+): m/z calcd for $\text{C}_{94}\text{H}_{148}\text{N}_2\text{O}_8\text{Cu}$: 1496.7, Found: 1496.6.

Cu-5,8

A greenish-yellow solid; yield: 71 %; IR (KBr Pellet): ν_{\max} in cm^{-1} 2934, 1735, 1608, 1531, 1235, 1175; MS (FAB+): m/z calcd for $\text{C}_{96}\text{H}_{152}\text{N}_2\text{O}_8\text{Cu}$: 1524.7, Found: 1524.8.

Cu-5,9

A greenish-yellow solid; yield: 74 %; IR (KBr Pellet): ν_{\max} in cm^{-1} 2933, 1735, 1619, 1530, 1237, 1175; MS (FAB+): m/z calcd for $\text{C}_{98}\text{H}_{157}\text{N}_2\text{O}_8\text{Cu}$ (M+1): 1553.7, Found: 1553.1.

Cu-5,10

A greenish-yellow solid; yield: 73 %; IR (KBr Pellet): ν_{\max} in cm^{-1} 2926, 1735, 1619, 1531, 1237, 1176; MS (FAB+): m/z calcd for $\text{C}_{100}\text{H}_{160}\text{N}_2\text{O}_8\text{Cu}$: 1580.8, Found: 1580.7; Anal. calcd for $\text{C}_{104}\text{H}_{168}\text{N}_2\text{O}_8\text{Cu}$: C, 76.26; H, 10.34; N, 1.71. Found: C, 76.09; H, 10.28; N, 1.65.

Cu-5,11

A greenish-yellow solid; yield: 68 %; IR (KBr Pellet): ν_{\max} in cm^{-1} 2926, 1735, 1608, 1531, 1223, 1172; MS (FAB+): m/z calcd for $\text{C}_{102}\text{H}_{164}\text{N}_2\text{O}_8\text{Cu}$: 1608.8, Found: 1608.7.

Cu-5,12

A greenish-yellow solid; yield: 68 %; IR (KBr Pellet): ν_{\max} in cm^{-1} 2925, 1734, 1607, 1533, 1222, 1121; MS (FAB+): m/z calcd for $\text{C}_{104}\text{H}_{169}\text{N}_2\text{O}_8\text{Cu}$ (M+1): 1637.8, Found: 1637.9.

Cu-5,16

A greenish-yellow solid; yield: 73 %; IR (KBr Pellet): ν_{\max} in cm^{-1} 2924, 1734, 1606, 1531, 1224, 1175; MS (FAB+): m/z calcd for $\text{C}_{112}\text{H}_{185}\text{N}_2\text{O}_8\text{Cu}$ (M+1): 1749, Found: 1750.6.

Cu-7,6

A greenish-yellow solid; yield: 68 %; IR (KBr Pellet): ν_{\max} in cm^{-1} 2933, 1731, 1620, 1531, 1240, 1175; MS (FAB+): m/z calcd for $\text{C}_{96}\text{H}_{152}\text{N}_2\text{O}_8\text{Cu}$: 1524.7, Found: 1524.7.

Cu-7,7

A greenish-yellow solid; yield: 70 %; IR (KBr Pellet): ν_{\max} in cm^{-1} 2932, 1732, 1606, 1532, 1222, 1174; MS (FAB+): m/z calcd for $\text{C}_{98}\text{H}_{156}\text{N}_2\text{O}_8\text{Cu}$: 1552.7, Found: 1552.5.

Cu-7,8

A greenish-yellow solid; yield: 73 %; IR (KBr Pellet): ν_{\max} in cm^{-1} 2932, 1736, 1624, 1530, 1220, 1176; MS (FAB+): m/z calcd for $\text{C}_{100}\text{H}_{160}\text{N}_2\text{O}_8\text{Cu}$: 1580.8, Found: 1580.6; Anal. calcd for $\text{C}_{100}\text{H}_{160}\text{N}_2\text{O}_8\text{Cu}$: C, 75.93; H, 10.19; N, 1.77. Found: C, 75.76; H, 10.07; N, 1.59.

Cu-7,9

A greenish-yellow solid; yield: 75 %; IR (KBr Pellet): ν_{\max} in cm^{-1} 2934, 1734, 1620, 1530, 1219, 1176; MS (FAB+): m/z calcd for $\text{C}_{102}\text{H}_{164}\text{N}_2\text{O}_8\text{Cu}$: 1584.8, Found: 1584.7.

Cu-7,10

A greenish-yellow solid; yield: 77 %; IR (KBr Pellet): ν_{\max} in cm^{-1} 2934, 1736, 1623, 1530, 1241, 1176; MS (FAB+): m/z calcd for $\text{C}_{104}\text{H}_{168}\text{N}_2\text{O}_8\text{Cu}$: 1636.8, Found: 1636.2.

Cu-7,11

A greenish-yellow solid; yield: 73 %; IR (KBr Pellet): ν_{\max} in cm^{-1} 2932, 1736, 1623, 1530, 1220, 1176; MS (FAB+): m/z calcd for $\text{C}_{106}\text{H}_{172}\text{N}_2\text{O}_8\text{Cu}$: 1644.9, Found: 1644.7.

Cu-7,12

A greenish-yellow solid; yield: 79 %; IR (KBr Pellet): ν_{\max} in cm^{-1} 2923, 1735, 1619, 1532, 1220, 1177; MS (FAB+): m/z calcd for $\text{C}_{108}\text{H}_{176}\text{N}_2\text{O}_8\text{Cu}$: 1692.9, Found: 1692.0.

Cu-7,16

A greenish-yellow solid; yield: 83 %; IR (KBr Pellet): ν_{\max} in cm^{-1} 2921, 1736, 1609, 1537, 1222, 1177; MS (FAB+): m/z calcd for $\text{C}_{116}\text{H}_{192}\text{N}_2\text{O}_8\text{Cu}$: 1805.5, Found: 1806.0.