Supporting Information

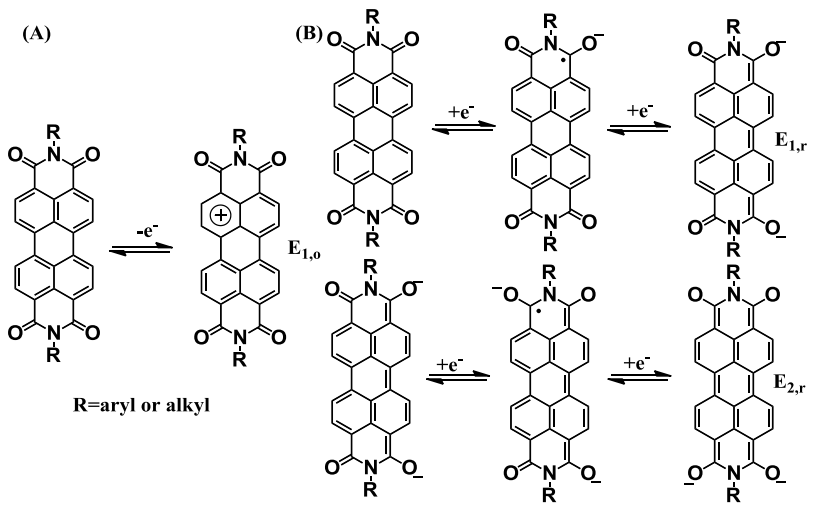
Perylene-based, *Bis*terpyridine-Ru(II) Complexes: Synthesis, Electrochemical and Photovoltaic Properties

Hany El-Batal,[a] Juan Manríquez Rocha,[b] Perla F. Méndez,[b] Luis A. Godínez,[b] Kai Guo,[a] Xiaopeng Li,[c] Xiaocun Lu,[a] Chrys Wesdemiotis,[a,c] Charles N. Moorefield,[d] and George R. Newkome[*a,c,d]

[a]Departments of Polymer Science, [c]Chemistry, and The [d]Maurice Morton Institute for Polymer Science, The University of Akron, Akron, OH, 44325-4717, USA, Fax:330-972-2368; Tel: 330-972-8595.
[b]Centro de Investigación y Desarrollo Tecnológico en Electroquímica,, Querétaro, 76700, México
E-mail: *newkome@uakron.edu*

Electronic Supplementary Information (ESI)

Table of Contents



Scheme S1. (A) One electron oxidation and (B) Two-electron reduction processes reported for a perylene group.[1]

Figure S1 shows the structure of the commercially available perylene dye, It has twelve functionalizable carbon atoms. Substituents at carbons 3,4, 9, and 10 are known as *Pei*-substituents, whereas 1, 6, 7, and 12 are known as the *Bay*-positions. Finally carbons 2, 5, 8, and 11 are known as the *ortho*-positions.

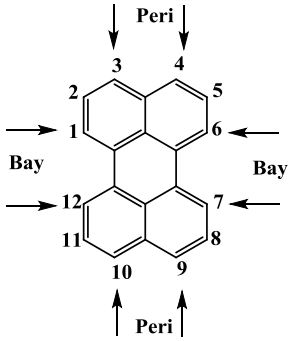


Figure S2. ^{1}H NMR and ^{13}C NMR spectra of **3**

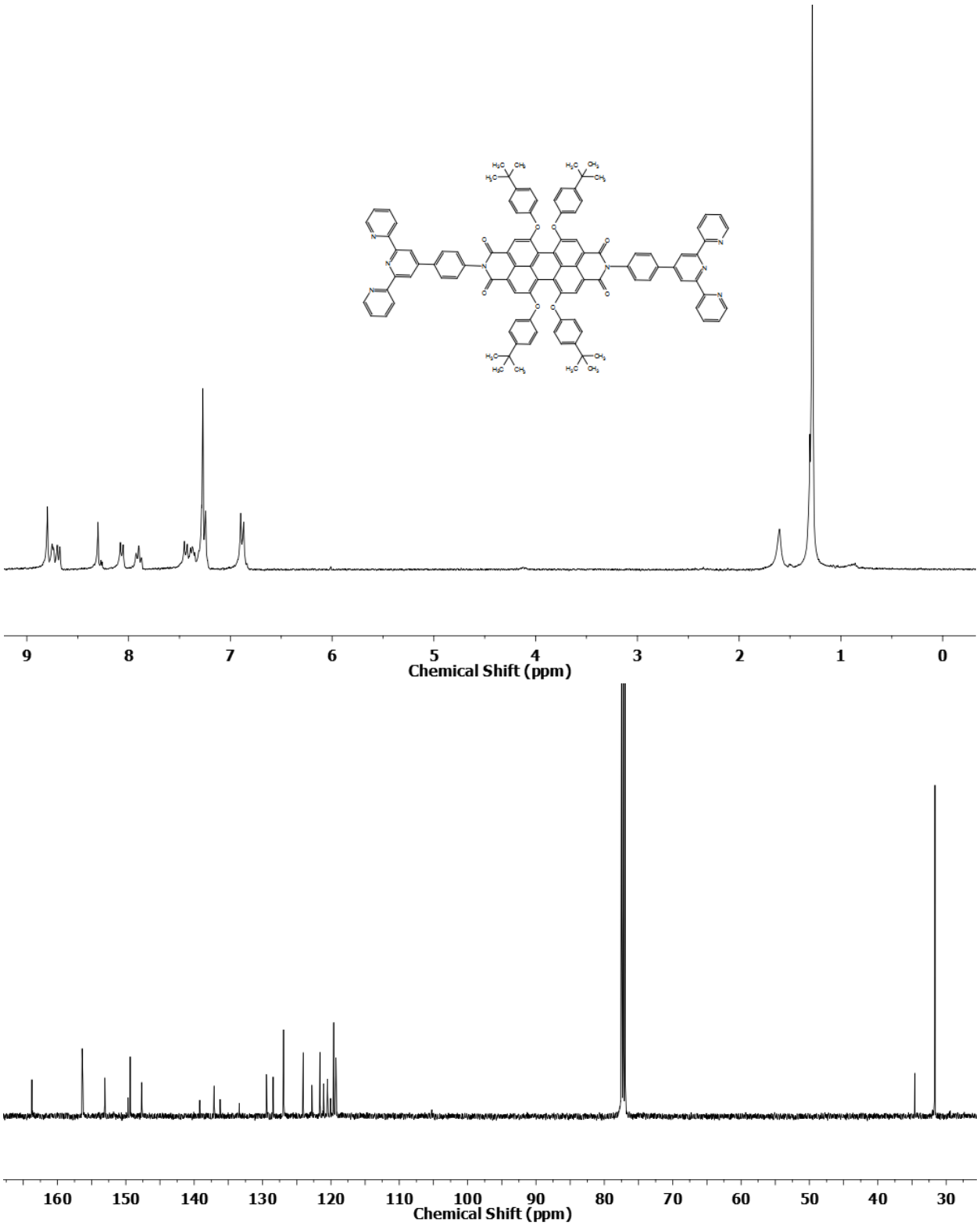


Figure S3. ^{1}H NMR and ^{13}C NMR spectra of **5**

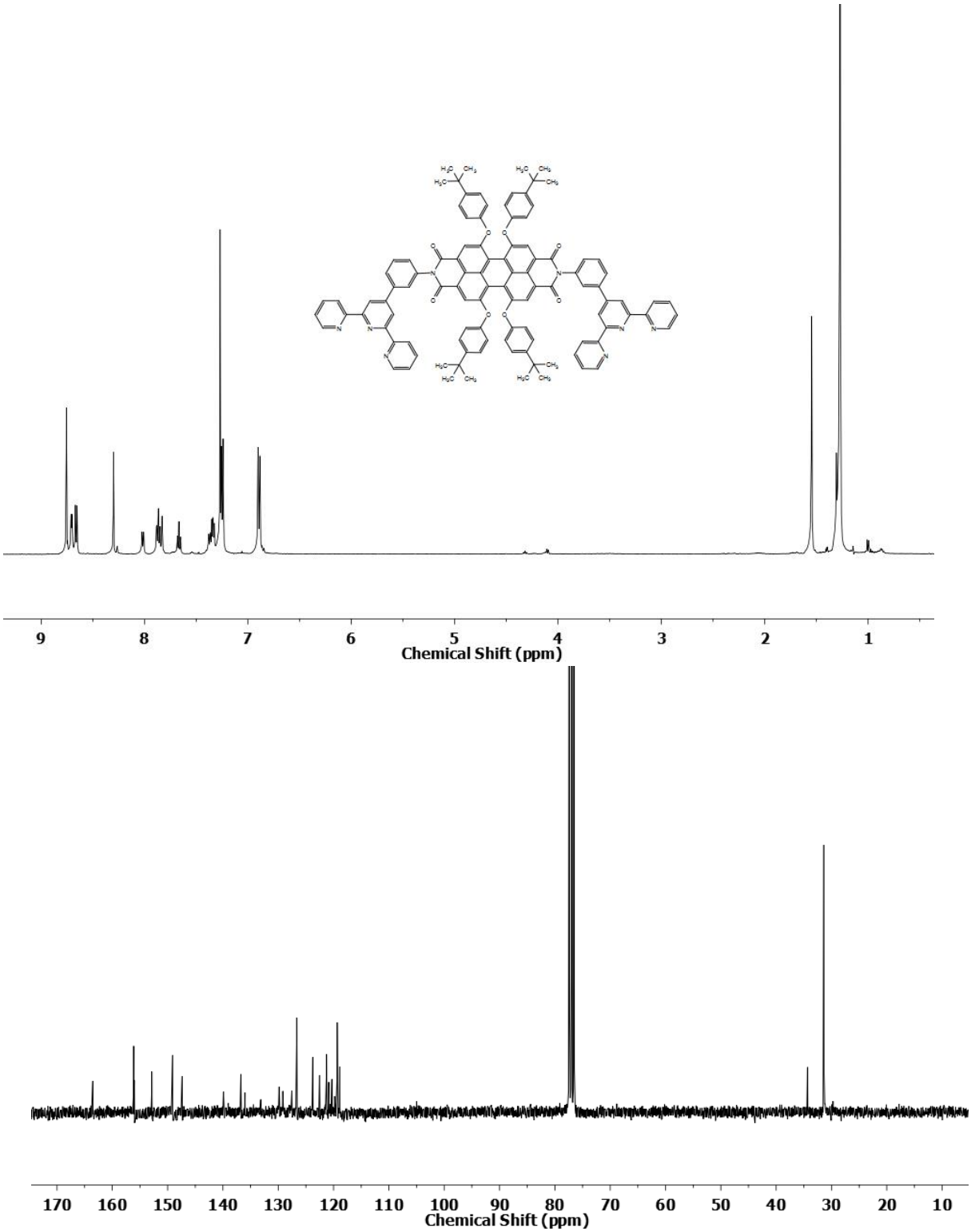
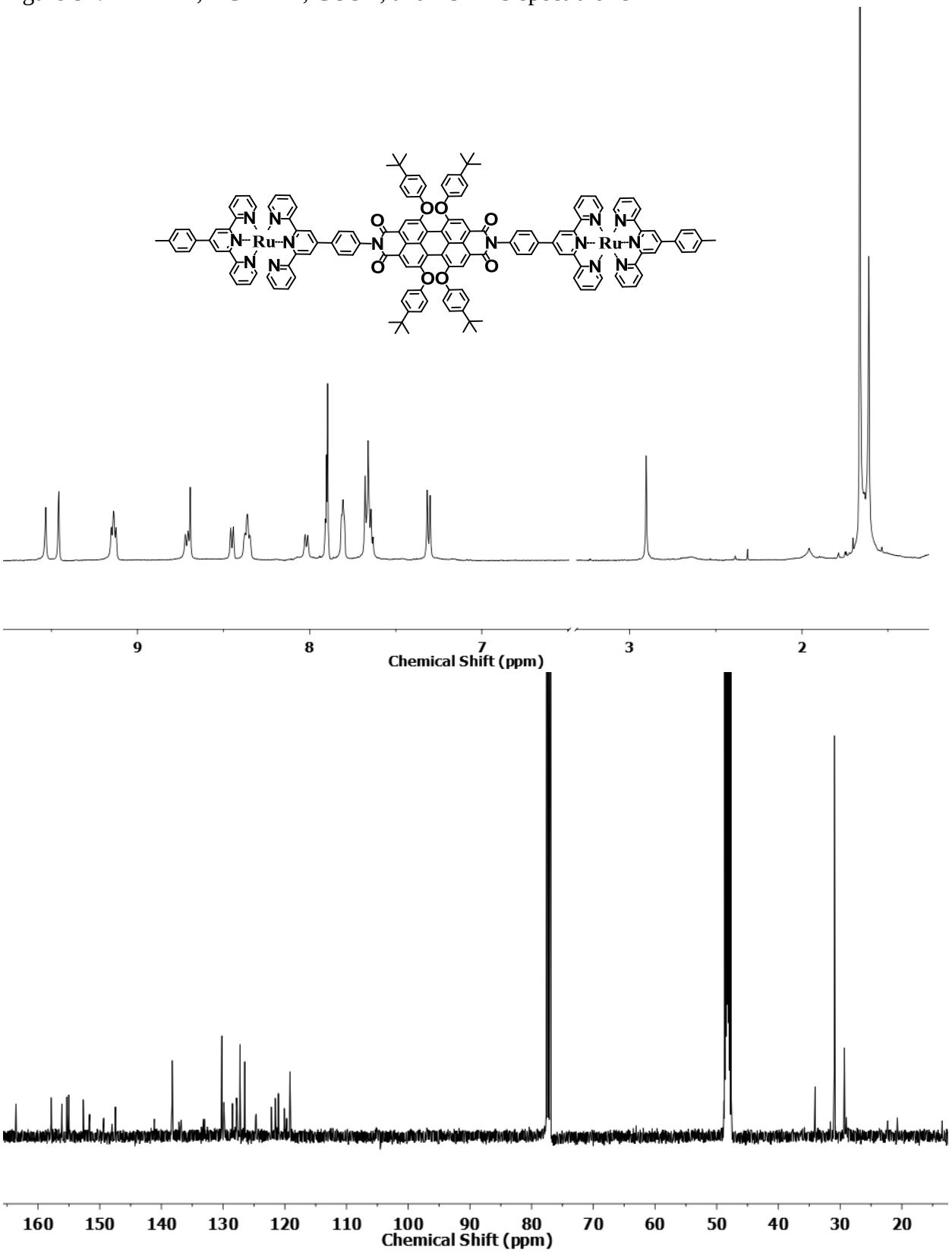


Figure S4. ^{1}H NMR, ^{13}C NMR, COSY, and ESI-MS spectra of **8**



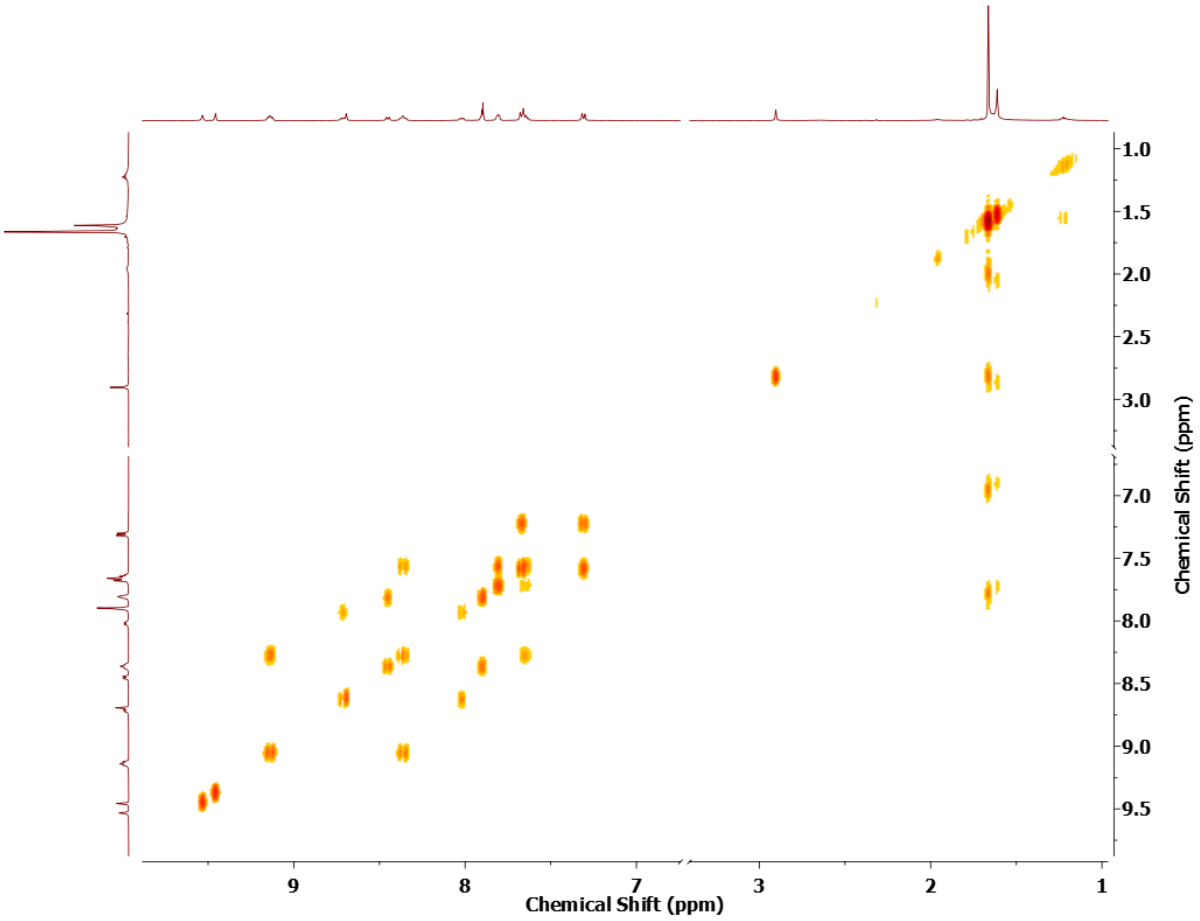
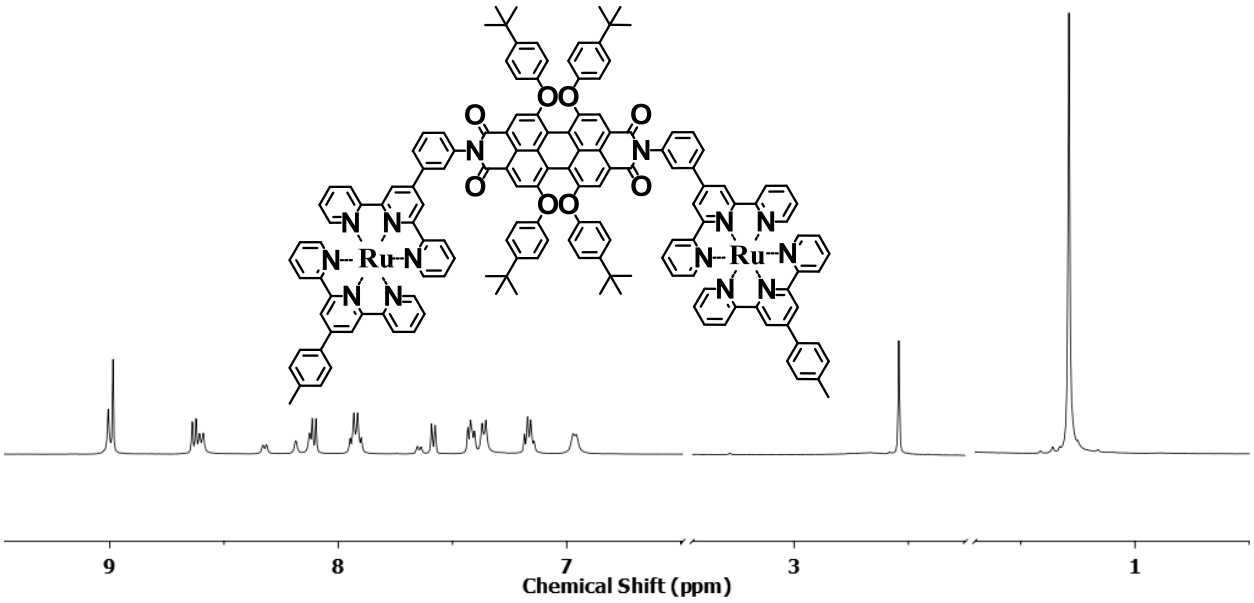
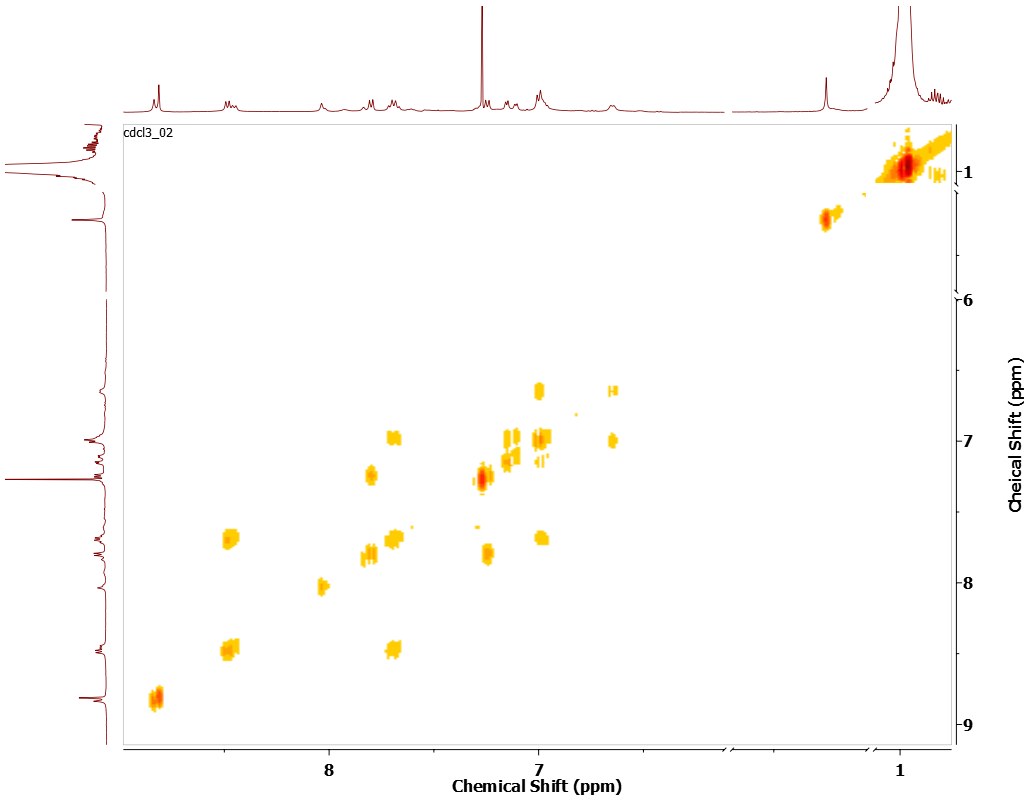
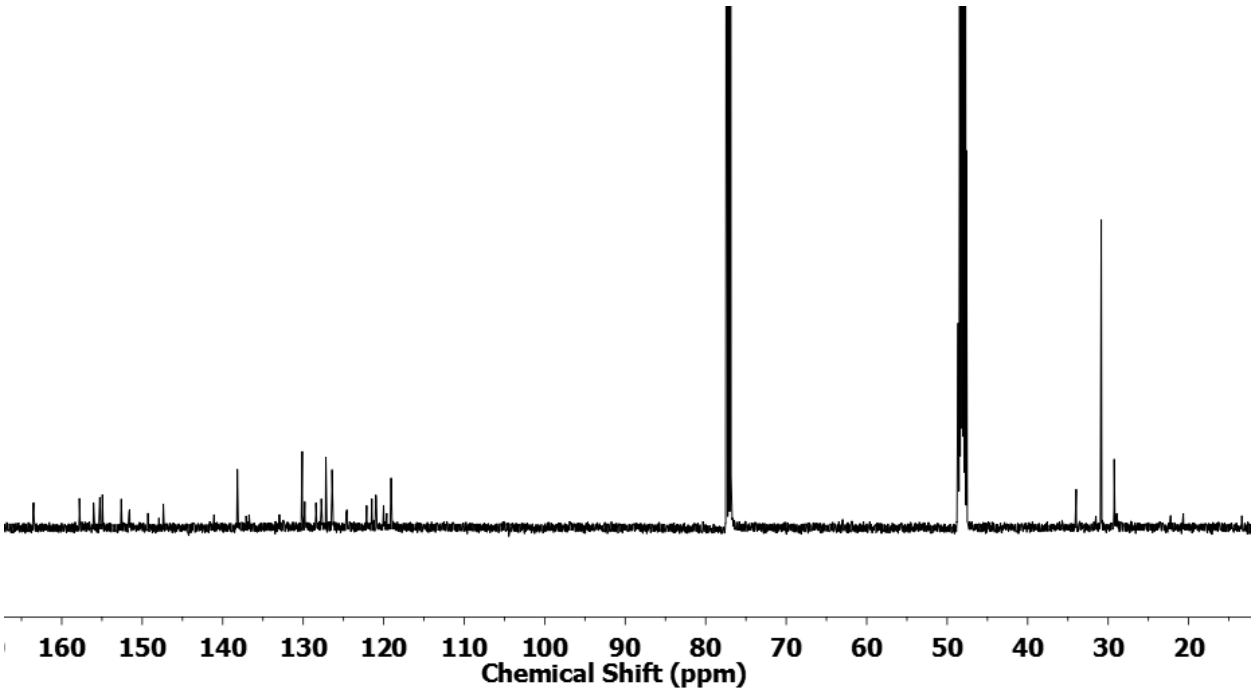

1.0
1.5
2.0
2.5
3.0
7.0
7.5
8.0
8.5
9.0
9.5
Chemical Shift (ppm)
9
8
7
3
2
1
Chemical Shift (ppm)

Figure S5. ^{1}H NMR, ^{13}C NMR, COSY, and ESI-MS spectra of **9**






160 150 140 130 120 110 100 90 80 70 60 50 40 30 20
Chemical Shift (ppm)

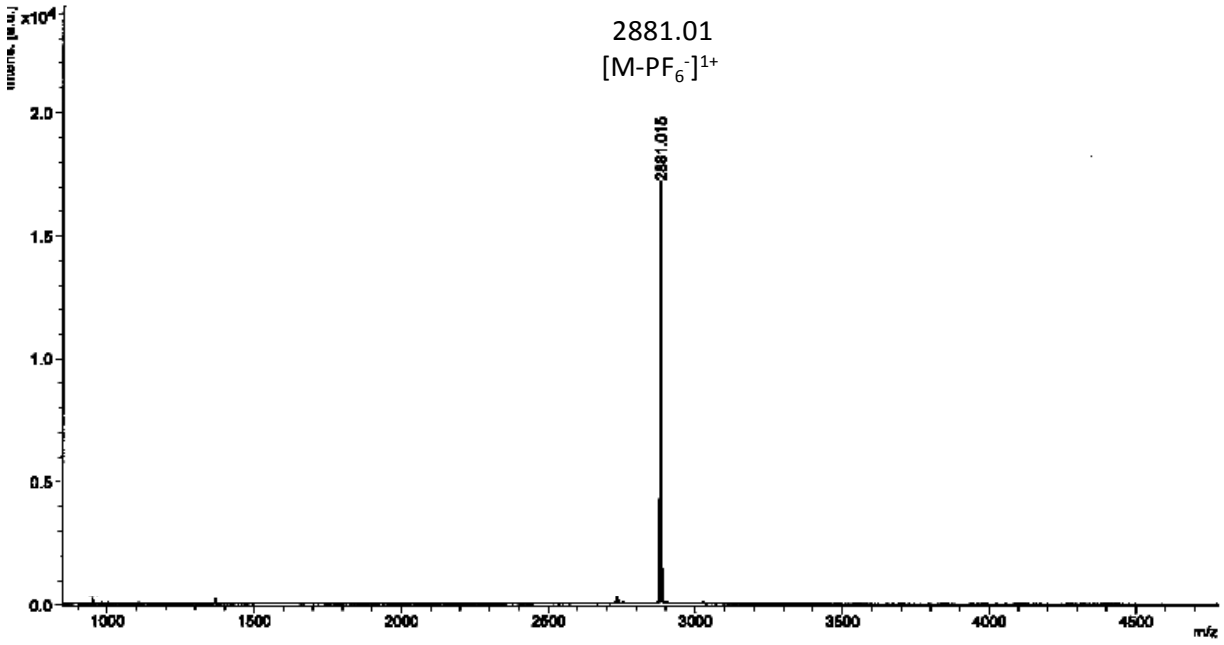
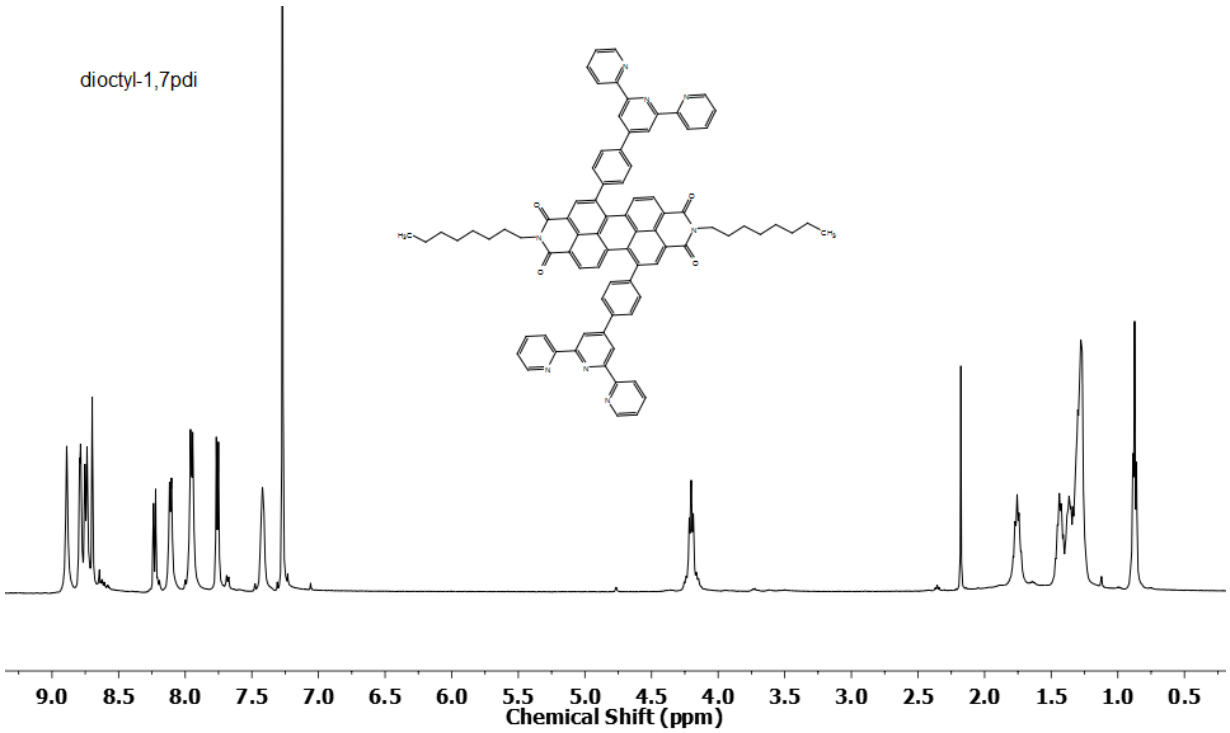
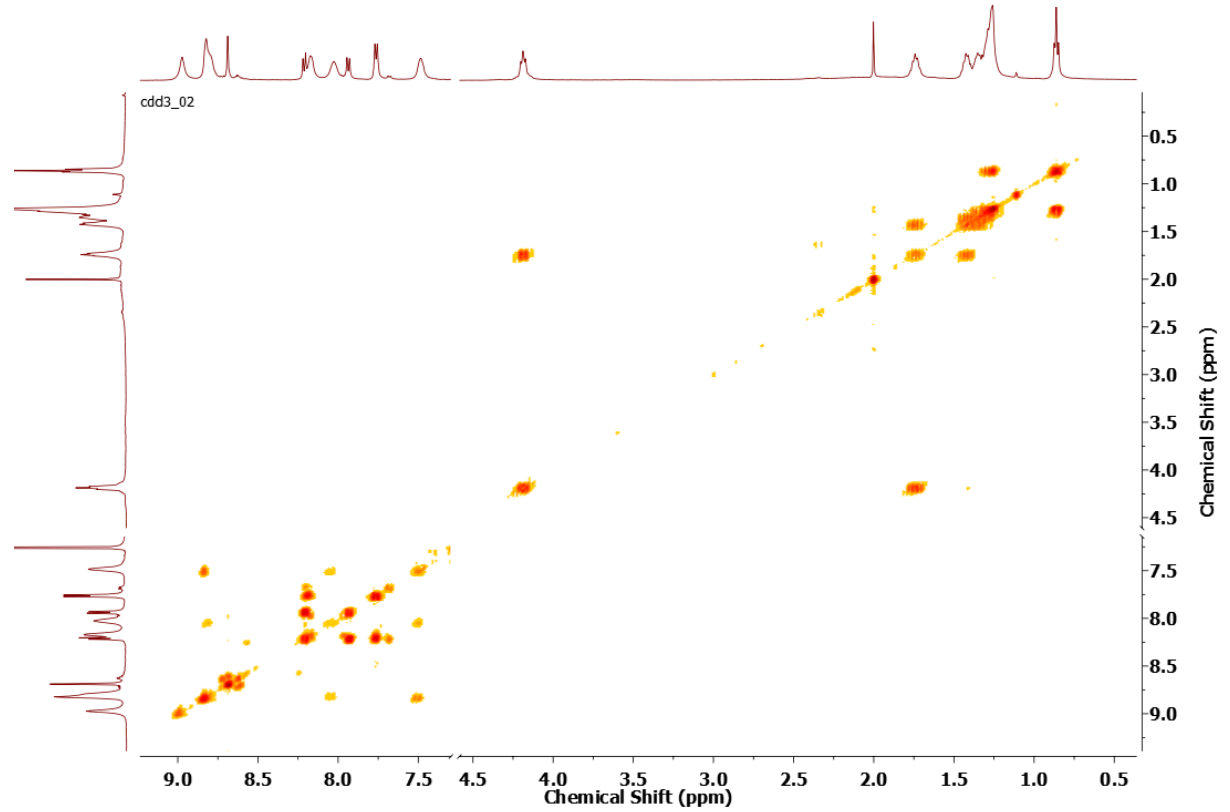

2881.01
[M-PF6-]1+
x10^4
2881.015
2.0
1.5
1.0
0.5
0.0
1000
1500
2000
2500
3000
3500
4000
4500
m/z

Figure S6. ^{1}H NMR, ^{13}C NMR, and COSY spectra of **12**





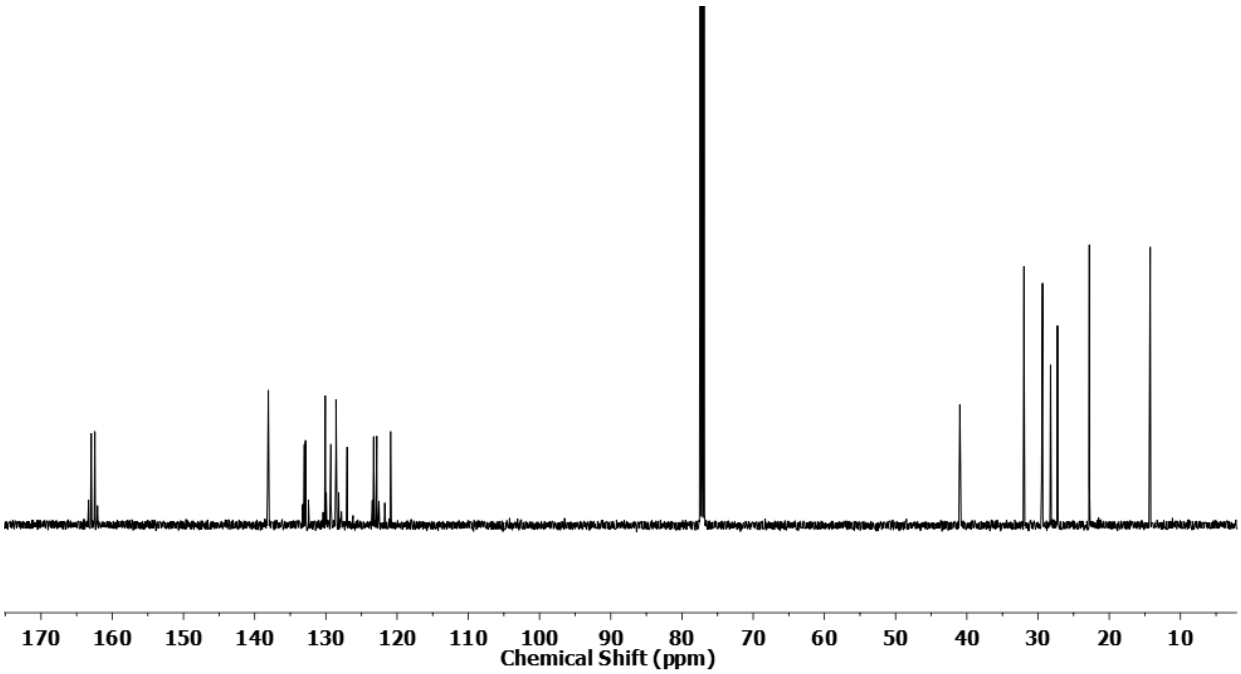
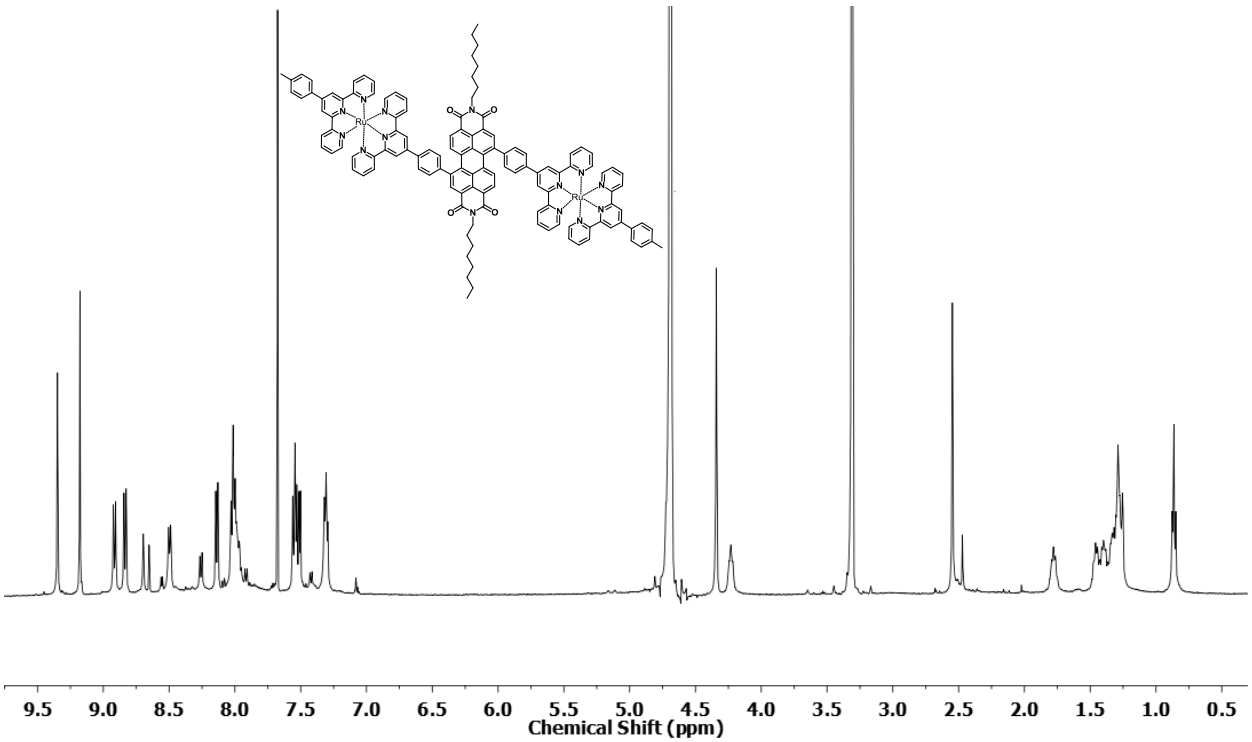
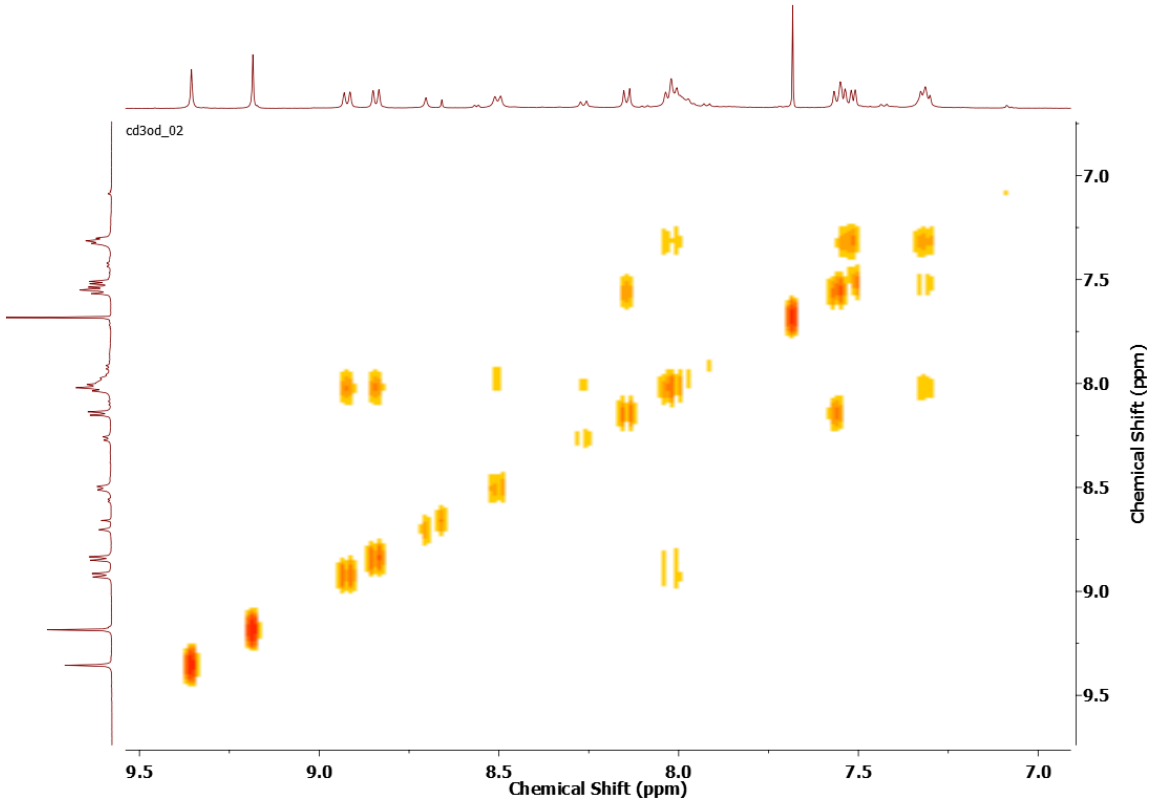
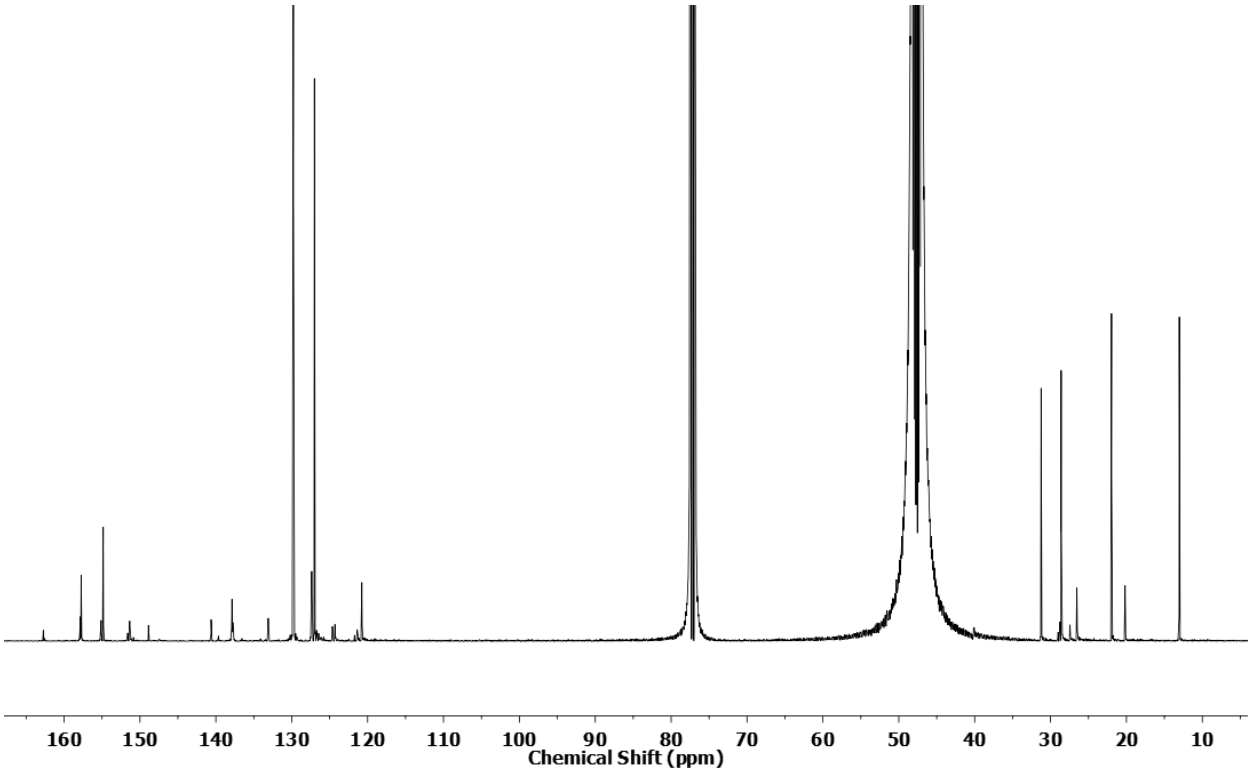
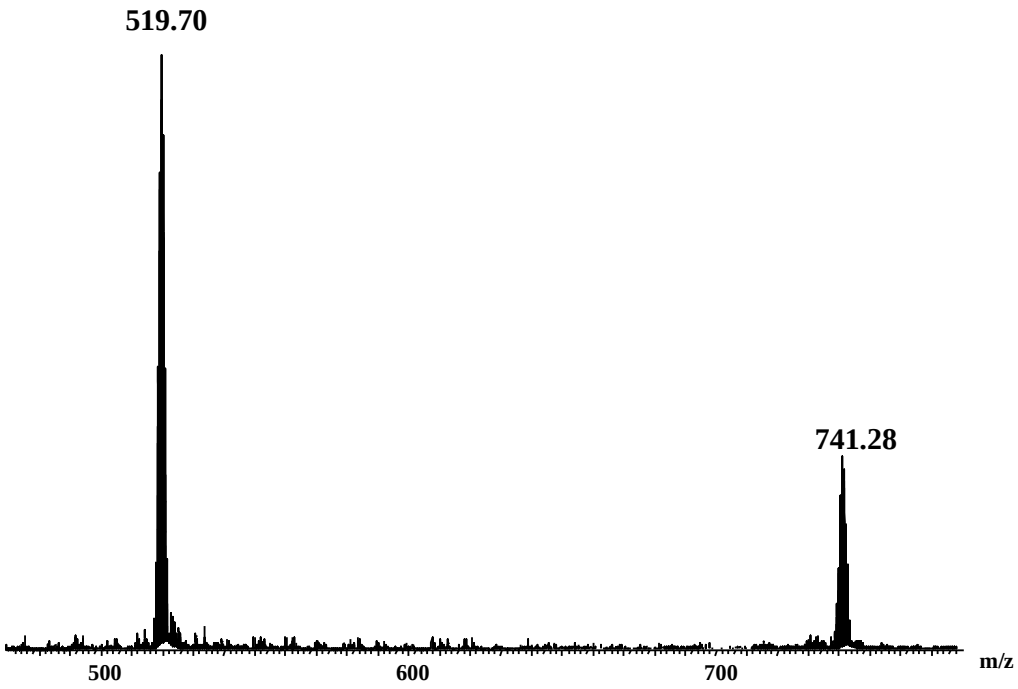

170
160
150
140
130
120
110
100
90
80
70
60
50
40
30
20
10
Chemical Shift (ppm)

Figure S7. ^{1}H NMR, ^{13}C NMR, COSY, and ESI-MS spectra of **13**






160
150
140
130
120
110
100
90
80
70
60
50
40
30
20
10
Chemical Shift (ppm)


519.70
741.28
500
600
700
m/z

References:

1 S. K. Lee, Y. Zu, A. Herrmann, Y. Geerts, K. Müllen and A. J. Bard *J. Am. Chem. Soc.* 1999**,** **121**,3513.