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SUPPORTING INFORMATION

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"Diels-Alder Reactions of *N*-Acyl-2-alkyl(aryl)-5-vinyl-2,3-dihydro-4-pyridones"

- I.** ^1H NMR and ^{13}C NMR spectra of **9-11, 13a,b, 14a,b, 15a,b, 16a,17, 21-22, 24-25, 35-36, 39-48, 50-52, 55, 60, 62, and 64-65.** (64 pages).
- II.** ORTEP plots for **22 and 47.**(2 pages).
- III.** NOE data for **19** and **20.** (1 page).

Total pages of supporting information: (68).

9 $R = \text{CO}_2\text{Ph}$

$^1\text{H NMR}$ (CDCl_3 , 400 MHz)

9 $R = \text{CO}_2\text{Ph}$

^{13}C NMR (CDCl_3 , 100 MHz)

10 $\text{R} = \text{CO}_2\text{Ph}$

^1H NMR (CDCl_3 , 300 MHz)

10 R = CO₂Ph

¹³C NMR (CDCl₃, 75 MHz)

¹H NMR (130 °C), d₆-DMSO, 300 MHz)

¹³C NMR (130 °C, d₆-DMSO, 75 MHz)

^1H NMR (CDCl_3 , 300 MHz)

13a:13b = 1:1

R = CO₂Ph

¹³C NMR (CDCl₃, 75 MHz)

1H NMR ($CDCl_3$, 300 MHz)

^{13}C NMR ($CDCl_3$, 75 MHz)

15a:15b = 2:1

R = CO₂Ph

¹H NMR (CDCl₃, 300 MHz)

15a:15b = 2:1

R = CO₂Ph

¹³C NMR (CDCl₃, 75 MHz)

16a R = CO₂Ph

¹H NMR (CDCl₃, 300 MHz)

16a R = CO₂Ph

¹³C NMR (CDCl₃, 75 MHz)

17 R = CO₂Ph

¹H NMR (CDCl₃, 400 MHz)

17 R = CO₂Ph

¹³C NMR (CDCl₃, 100 MHz)

21

^1H NMR (CDCl_3 , 300 MHz)

21

^{13}C NMR (CDCl₃, 75 MHz)

^1H NMR (CDCl_3 , 400 MHz)

^{13}C NMR (CDCl_3 , 100 MHz)

S22

^{13}C NMR (CDCl_3 , 75 MHz)

25

¹H NMR (d₆DMSO, 300 MHz)

35

^1H NMR (CDCl_3 , 300 MHz)

35

^{13}C NMR (CDCl_3 , 75 MHz)

36

^1H NMR (CDCl_3 , 300 MHz)

36

^{13}C NMR (CDCl_3 , 75 MHz)

39 R = CO₂Ph

¹H NMR (CDCl₃, 300 MHz)

39 R = CO₂Ph

¹³C NMR (CDCl₃, 75 MHz)

S33

^1H NMR (CDCl_3 , 400 MHz)

^{13}C NMR (CDCl_3 , 100 MHz)

42

^1H NMR (CDCl₃, 400 MHz)

42

^{13}C NMR (CDCl₃, 100 MHz)

^1H NMR (CDCl₃, 400 MHz)

43

^{13}C NMR (CDCl₃, 100 MHz)

^1H NMR (CDCl₃, 300 MHz)

^{13}C NMR (CDCl₃, 100 MHz)

^1H NMR (CDCl_3 , 300 MHz)

¹³C NMR (CDCl₃, 75 MHz)

4.

^{13}C NMR (CDCl_3 , 75 MHz)

¹H NMR (CDCl₃, 300 MHz)

^{13}C NMR (CDCl_3 , 100 MHz)

48 R = CO₂Ph

¹H NMR (CDCl₃, 300 MHz)

S48

48 R = CO₂Ph

¹³C NMR (CDCl₃, 75 MHz)

^1H NMR (CDCl_3 , 300 MHz)

^{13}C NMR (CDCl_3 , 75 MHz)

^1H NMR (CDCl_3 , 300 MHz)

^{13}C NMR (CDCl_3 , 75 MHz)

^1H NMR (CDCl_3 , 300 MHz)

^{13}C NMR (CDCl_3 , 75 MHz)

55 R' = *t*-Bu

^1H NMR (CDCl_3 , 300 MHz)

^{13}C NMR (CDCl_3 , 75 MHz)

55 $R' = t\text{-Bu}$

60

^1H NMR (CDCl_3 , 300 MHz)

60

^{13}C NMR (CDCl_3 , 75 MHz)

62

^1H NMR (CDCl_3 , 300 MHz)

62

^{13}C NMR (CDCl_3 , 75 MHz)

64

^1H NMR (CDCl_3 , 300 MHz)

64

^{13}C NMR (CDCl_3 , 75 MHz)

^1H NMR (CDCl_3 , 300 MHz)

^{13}C NMR (CDCl_3 , 75 MHz)

ORTEP plot for **22**

22 (racemic)

ORTEP plot for 47

NOE Data for **19** and **20**