

Supporting Information for

**Polyaniline coated on Celite, a heterogeneous support for palladium:  
Applications in catalytic Suzuki and one-pot Suzuki-aldol reactions**

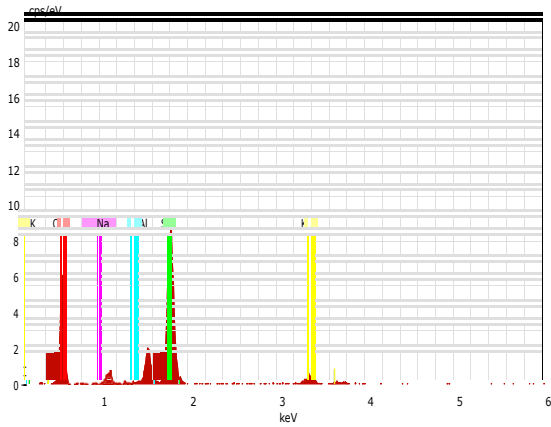
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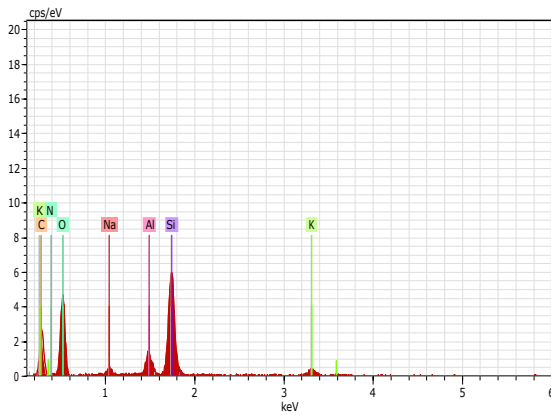
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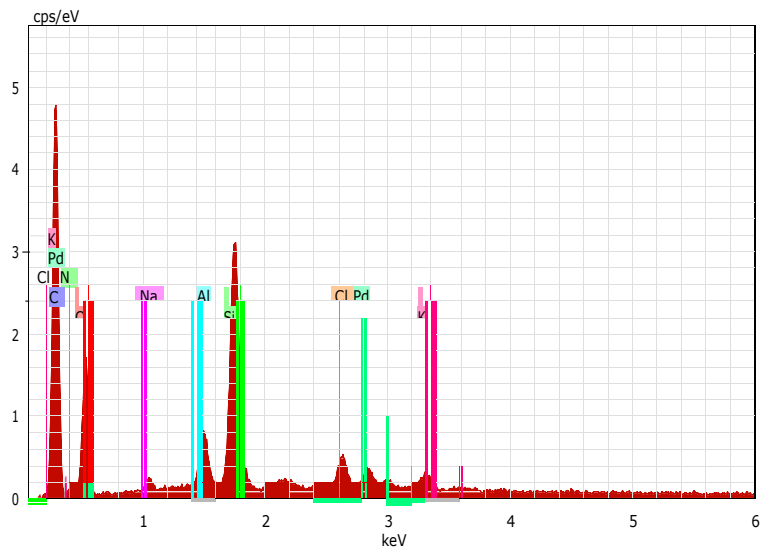
Elements	O	Si	Al	Na	K
Weight%	57.06	29.15	7.13	3.39	3.28
Atomic%	69.93	20.35	5.18	2.89	1.64

**Fig S1:** EDS of Celite



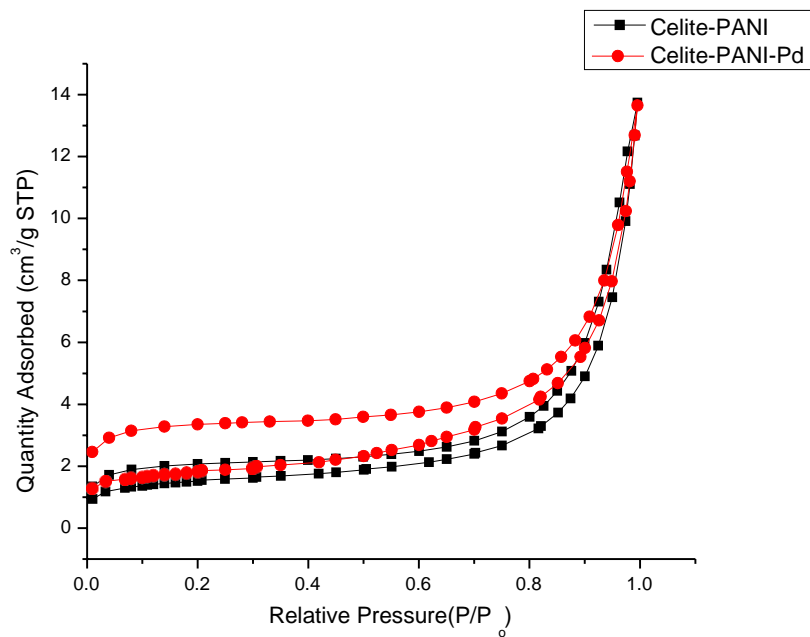
Elements	C	O	Si	Al	Na	N	K
Weight%	35.53	47.05	11.23	2.96	1.47	0.46	1.28
Atomic%	45.24	44.98	6.12	1.68	0.98	0.51	0.50

**Fig S2:** EDS of Celite•PANI:

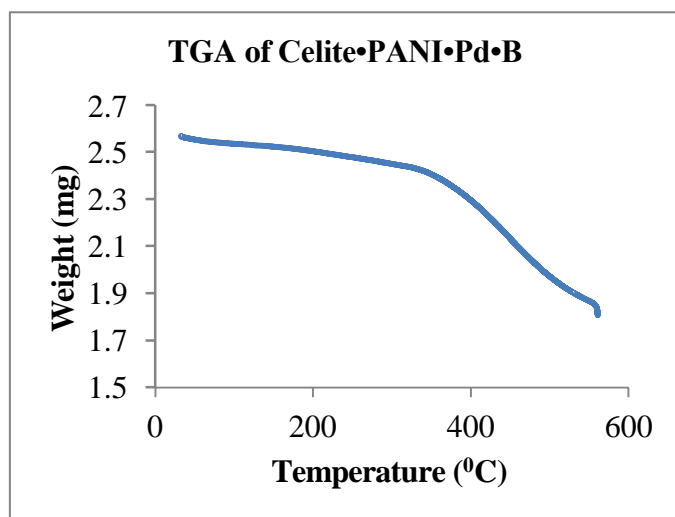


Elements	C	O	N	Si	Al	Na	Cl	K	Pd
Weight%	43.77	39.20	5.67	6.73	1.70	0.95	0.76	0.40	0.11
Atomic%	52.95	35.60	5.88	3.48	0.92	0.60	0.31	0.15	0.11

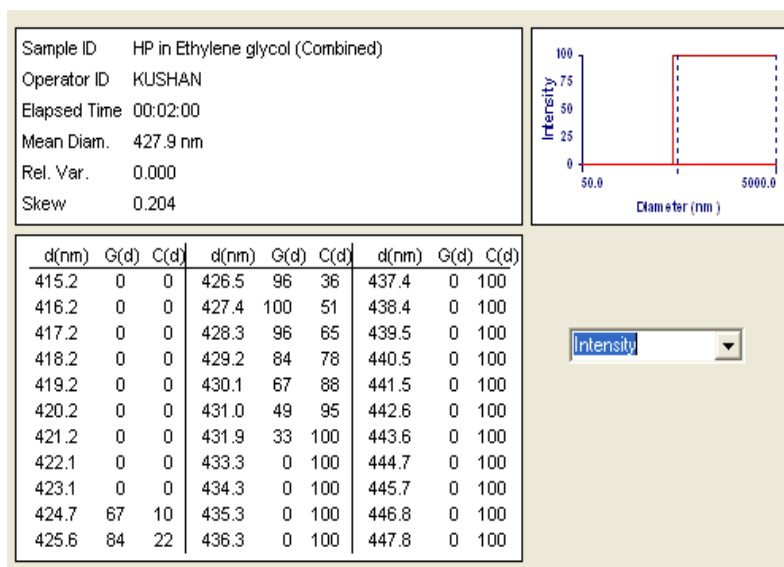
**Fig S3:** EDS of Celite•PANI•Pd•B:



**Fig S4:** BET isotherms of Celite•PANI & Celite•PANI•Pd



**Fig S5:** TGA Graph of Celite•PANI•Pd•B:



**Fig S6:** DLS data of Celite•PANI•Pd•B:

**Table S1:** Comparison results of Celite•PANI•Pd with other catalysts for the coupling of iodobenzene with phenylboronic acid

Entry	Catalyst	Condition	Time h	Isolate Yield %	Ref
1	Pd-imino-Py- $\gamma$ -Fe <sub>2</sub> O <sub>3</sub>	Et <sub>3</sub> N, DMF, 100 <sup>0</sup> C	0.5	95	1
2	Pd(0)-pDAB	K <sub>2</sub> CO <sub>3</sub> , Toluene, 100 <sup>0</sup> C	8	90	2
3	Pd-MPA@MCM-41	K <sub>2</sub> CO <sub>3</sub> , PEG, 100 <sup>0</sup> C	1.4	95	3
4	PVP- Pd nanoparticles	K <sub>2</sub> PO <sub>4</sub> , EtOH/H <sub>2</sub> O, 90 <sup>0</sup> C	2	94	4
5	Pd nanoparticles supported in a polymeric membrane	KOH, H <sub>2</sub> O, 100 <sup>0</sup> C	12	95	5
6	PANI-Pd	K <sub>2</sub> CO <sub>3</sub> , 1,4-dioxane: H <sub>2</sub> O (1:1), 95 <sup>0</sup> C	4	91	6
7	Pd-MTAT	DMF:H <sub>2</sub> O(1:5), 85 <sup>0</sup> C	8	95	7
8	LDH-Pd(0)	Dioxane:H <sub>2</sub> O, 80 <sup>0</sup> C	10	96	8
9	Pd-Py-MCM-41	H <sub>2</sub> O, Na <sub>2</sub> CO <sub>3</sub> , 80 <sup>0</sup> C	2	97	9
10	Celite•PANI•Pd	K <sub>2</sub> CO <sub>3</sub> , 1,4-dioxane: H <sub>2</sub> O (1:1), 95 <sup>0</sup> C	4	96	This work

Spectral data for compounds reported in scheme 3 to 9:

4-Methoxy-1,1'-biphenyl (**3**)

Yield: 94% (Off white solid)

M.p. 93 °C [Lit.<sup>10</sup> 88-89 °C]

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 2.67 (s, 3H), 7.43-7.45 (m, 1H), 7.48-7.52 (m, 2H), 7.64-7.67 (m, 2H), 7.70-7.72 (m, 2H), 8.04-8.07 (m, 2H).

IR[KBr]: ν 3001, 2961, 2835, 1606, 1522, 1487, 1439, 1250, 1184, 833, 760, 688 cm.<sup>-1</sup>

4-Nitro-1,1'-biphenyl (**4**)

Yield: 91% (Pale Yellow solid)

M.p. 114-116 °C [Lit.<sup>11</sup> 113-115 °C]

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 7.45-7.55 (m, 3H), 7.63-7.66 (m, 2H), 7.75-7.78 (m, 2H), 8.33 (d, *J* = 8.8 Hz, 2H).

IR[KBr]: ν 1598, 1574, 1518, 1478, 1448, 1346, 853, 740, 698 cm.<sup>-1</sup>

[1,1'-biphenyl]-4-carbaldehyde (**5**)

Yield: 85% (reaction performed in toluene) ;

41% (in Dioxane:water) (Pale yellow solid)

M.p. 60 °C [Lit.<sup>12</sup> 60-61 °C]

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 7.45-7.53(m, 3H), 7.65-7.68(m, 2H), 7.77-7.79(m, 2H), 7.97-7.99(m, 2H), 10.01(s,1H).

IR[KBr]: ν 1700, 1602, 1449, 1213, 1168, 837, 762, 696 cm.<sup>-1</sup>

Mass (EI): (*m/z*) 182(73), 181(100), 153(42), 129(53), 69(74).

1-([1,1'-biphenyl]-4-yl)ethan-1-one (**6**)

Yield: 93% (off-White solid)

M.p. 116-118 °C [Lit.<sup>13</sup> 117-119 °C]

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 2.67(s, 1H), 7.43-7.45(m, 1H), 7.48-7.52(m, 2H), 7.65-7.67(m, 2H), 7.70-7.72(m, 2H), 8.05-8.07(m, 2H).

IR[KBr]: ν 1650, 1598, 1486, 1409, 1331, 1224, 1180, 985, 815, 762, 690 cm.<sup>-1</sup>

Mass (EI): (*m/z*) 196(20), 196(56), 181(100), 152(79), 129(28).

N-([1,1'-biphenyl]-4-yl)acetamide (**7**)

Yield: 90% (Pale yellow solid)

M.p. 172 °C [Lit.<sup>13</sup> 168-170°C]

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 2.23(s, 1H), 7.33-7.37(m, 1H), 7.43-7.47(m, 2H), 7.56-7.61(m, 6H)

IR[KBr]: ν 3302, 3111, 1663, 1603, 1543, 1487, 1321, 836, 762, 673 cm.<sup>-1</sup>

Mass (EI): (*m/z*) 211(30), 168(50), 149(80), 111(100).

2-Methyl-4'-nitro-1,1'-biphenyl (**8**)

Yield: 90% (Off white solid)

M.p. 102 °C [Lit.<sup>14</sup> 100-102 °C]

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 7.23-7.25 (m, 1H), 7.28-7.39 (m, 3H), 7.50-7.56 (m, 2H), 8.29-8.32 (m, 2H).

IR[KBr]: ν 3072, 2955, 1596, 1514, 1479, 1383, 1346, 857, 752, 775, 699 cm.<sup>-1</sup>

Mass (EI): (*m/z*) 213(72), 165(68), 149(54), 111(100).

5'-Phenyl-1,1':3',1''-terphenyl (**9**)

Yield: 71% (Off white solid)

M.p. 175 °C [Lit.<sup>15</sup> 173 °C]

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 7.40-7.44 (m, 1H), 7.47-7.53 (m, 2H), 7.72-7.75 (m, 2H), 7.82 (s, 1H).

IR[KBr]: ν 3057, 3032, 1644, 1595, 1560, 1496, 872, 764 cm.<sup>-1</sup>

Mass (EI): (*m/z*) 306(100), 305(79), 289(13), 228(13).

2,2''-Dimethyl-5'-(*o*-tolyl)-1,1':3',1''-terphenyl (**10**)

Yield: 73% (Off white solid)

M.p. 137-140 °C [Lit.<sup>16</sup> 138-140 °C]

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 2.41 (s, 3H), 7.29-7.33 (m, 4H), 7.36-7.39 (m, 1H).

IR[KBr]: ν 3061, 3018, 2922, 2858, 1591, 1488, 1455, 1377, 892, 754 cm.<sup>-1</sup>

Mass (EI): (*m/z*) 348(53), 347(100), 241(16).

1,1',4',1''-Terphenyl (**11**)

Yield: 78% (White solid)

M.p. 214 °C [Lit.<sup>17</sup> 211-212 °C]

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 7.49 (m, 2H), 7.66-7.68 (m, 4H), 7.71 (s, 2H).

IR[KBr]: ν 3059, 1668, 1550, 1532, 1480, 1455, 839, 746, 688 cm.<sup>-1</sup>

Mass (EI): (*m/z*) 230 (100), 228 (11), 152 (6), 115 (10).

2',5'-dimethoxy-1,1':4',1''-terphenyl (**12**)

Yield: 80% (White solid)

M.p. 145-148 °C [Lit.<sup>18</sup> 147-149 °C]

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 3.83(s, 3H), 7.02(s, 1H), 7.37-7.41(m, 1H), 7.46-7.50(m, 2H), 7.62-7.65(m, 2H).

IR[KBr]: ν 2954, 1515, 1484, 1448, 1389, 1207, 1058, 1036, 1018, 752, 699, 677 cm.<sup>-1</sup>

Mass (EI): (*m/z*) 290(100), 275(30), 260(32), 202(12).



9-phenylanthracene (**13**)

Yield: 84% (Pale yellow solid)

M.p. 152-154 °C [Lit.<sup>19</sup> 153-154 °C]

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 7.35-7.40 (m, 2H), 7.46-7.63 (m, 9H), 7.70 (d, *J* = 8.8 Hz, 2H), 8.53 (s, 1H).

IR[KBr]: ν 2957, 1731, 1683, 1550, 1441, 1378, 877, 736, 700, 609 cm.<sup>-1</sup>

Mass (EI): (*m/z*) 254(86), 253(100), 85(67), 69(73).

9,10-diphenylanthracene (**14**)

Yield: 73% (Pale yellow solid)

M.p. 245 °C [Lit.<sup>20</sup> 247-248 °C]

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 7.37-7.40 (m, 1H), 7.54-7.56 (m, 1H), 7.59-7.72 (m, 2H), 7.75-7.80 (m, 1H) .

IR[KBr]: ν 3064, 1596, 1491, 1387, 1159, 1072, 1030, 769, 702, 660 cm.<sup>-1</sup>

Mass (EI): (*m/z*) 330(100), 329(58), 253(16), 252(44).

9-chloro-10-phenylanthracene (**15**)

Yield: 84% (Yellow solid)

M.p. 175 °C<sup>21</sup>

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 7.36-7.50 (m, 5H), 7.58-7.64 (m, 4H), 7.70 (d, *J* = 8.8 Hz, 1H), 8.62 (d, *J* = 9.2 Hz, 1H).

IR[KBr]: ν 3055, 1551, 1435, 1346, 943, 757, 698, 611 cm.<sup>-1</sup>

Mass (EI): (*m/z*) 289(18), 288(100), 252(42), 126(16).

2,7-diphenylnaphthalene (**16**)

Yield: 87% (White solid)

M.p. 141-143 °C [Lit.<sup>22</sup> 142 °C]

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 7.43-7.47(m, 1H), 7.532-7.57(m, 2H), 7.79-7.82(m, 3H), 7.98(d, *J* = 8.4 Hz, 1H), 8.15(s, 1H).

IR[KBr]: ν 3054, 1597, 1484, 1456, 1440, 1075, 905, 846, 755, 699, 524 cm.<sup>-1</sup>

Mass (EI): (*m/z*) 280(32), 148(20), 128(28), 83(61), 81(78), 69(100).

3,6-diphenylphenanthrene (**17**)

Yield: 60% (Light brown solid)

M.p.: 180-184 °C

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 7.44-7.45(m, 1H), 7.57(t, *J* = 7.2 Hz, 2H), 7.81-7.84(m, 3H), 7.88-7.90(m, 1H), 8.01(d, *J* = 8.4 Hz, 1H), 8.98(s, 1H).

<sup>13</sup>C-NMR (CDCl<sub>3</sub>, 400 MHz): δ 121.2, 126.2, 126.7, 127.5, 127.7, 128.9, 129.1, 130.6, 131.5, 139.6, 141.6

IR[KBr]: ν 3050, 3026, 1679, 1598, 1488, 1227, 1075, 876, 840, 753, 699 cm.<sup>-1</sup>

Mass (EI): (*m/z*) 330(100), 329(79), 252(11).

5'-methyl-1,1':3',1''-terphenyl (**18**)

Yield: 80% (Off-white solid)

M.p. 130 - 132°C [Lit.<sup>23</sup> 135 - 138°C]

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 7.39-7.44(m, 4H), 7.48-7.52(m, 4H), 7.66-7.70(m, 5H) .

IR[KBr]: ν 3026, 1595, 1494, 1075, 1025, 868, 762, 701 cm.<sup>-1</sup>

Mass (EI): (*m/z*) 244(51), 243(100), 228(15), 165(13)

[1,1'-Biphenyl]-2-carbonitrile (**19**)

Yield: 89% (Brown solid)

M.p. 46 °C [Lit.<sup>24</sup> 37 °C]

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 7.45-7.56 (m, 5H), 7.58-7.60 (m, 2H), 7.65-7.70 (m, 1H), 7.78-7.80 (m, 1H).

IR[KBr]: ν 3033, 3064, 2225, 1596, 1564, 1477, 1451, 1434, 760, 735, 699 cm.<sup>-1</sup>

(E)-3-([1,1'-biphenyl]-4-yl)-1-(4-nitrophenyl)prop-2-en-1-one (**21**)

Yield: 68% (yellow solid)

M.p. 207 °C [Lit.<sup>25</sup> 205-208 °C]

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 7.42-7.44(m, 1H), 7.48-7.57(m, 3H), 7.65-7.78(m, 6H), 7.92(d, *J* = 15.6 Hz, 1H), 8.19(dd, *J*<sub>1</sub> = 6.8 Hz, *J*<sub>2</sub> = 2 Hz, 2H), 8.39(dd, *J*<sub>1</sub> = 6.8 Hz, *J*<sub>2</sub> = 2 Hz, 2H).

IR[KBr]: ν 1658, 1602, 1521, 1337, 1223, 1030, 827, 752, 696 cm.<sup>-1</sup>

Mass (EI): (*m/z*) 329(46), 328(100), 252(31), 178(55), 76(20).

(E)-3-([1,1'-biphenyl]-4-yl)-1-(p-tolyl)prop-2-en-1-one (**22**)

Yield: 86% (off-white solid)

M.p. 178-181 °C [Lit.<sup>26</sup> 179-180°C]

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 2.47(s, 3H) 7.34(d, *J* = 8 Hz, 2H), 7.39-7.43(m, 1H), 7.48-7.51(m, 2H), 7.61(d, *J* = 15.6 Hz, 1H), 7.64-7.69(m, 4H), 7.74-7.76(m, 2H), 7.86-7.90(d, *J* = 15.6 Hz, 1H), 7.88,(dd, *J*<sub>1</sub> = 6.4 Hz, *J*<sub>2</sub> = 1.6 Hz, 2H).

IR[KBr]: ν 3073, 2998, 1678, 1601, 1560, 1485, 1404, 1359, 1264, 960, 765, 691, 593 cm.<sup>-1</sup>

Mass (EI): (*m/z*) 298(46), 297(100), 221(32), 177(26), 91(28).

(E)-2-([1,1'-biphenyl]-4-ylmethylene)-3,4-dihydronaphthalen-1(2H)-one (**23**)

Yield: 59% (Brown solid)

M.p.: 125-128 °C<sup>27</sup>

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 2.98-3.01(m, 2H), 3.20-3.22(m, 2H), 7.28-7.30(m, 1H), 7.38-7.42(m, 2H), 7.48(d, *J* = 8 Hz, 2H), 7.50-7.57(m, 3H), 7.65-7.69(m, 4H), 7.94(s, 1H), 8.17(d, *J* = 7.6 Hz, 1H).

$^{13}\text{C}$ -NMR ( $\text{CDCl}_3$ , 400 MHz):  $\delta$  27.3, 28.8, 127.1, 127.1, 127.7, 128.2, 128.2, 128.9, 130.5, 133.3, 133.5, 134.8, 135.4, 136.3, 140.4, 141.4, 143.2.

IR[KBr]:  $\nu$  3029, 1665, 1603, 1485, 1317, 1249, 1135, 950, 844, 765, 692  $\text{cm}^{-1}$ .

Mass (EI): ( $m/z$ ) 310(37), 309(100), 232(20).

(E)-1-([1,1'-biphenyl]-4-yl)-3-phenylprop-2-en-1-one (**24**)

Yield: 85% (Pale yellow solid)

M.p. 154-156°C [Lit.<sup>28</sup> 155-156°C]

$^1\text{H}$ -NMR ( $\text{CDCl}_3$ , 400 MHz):  $\delta$  7.44-7.53(m, 6H), 7.62(d, 1H, 15.6 Hz), 7.67-7.71(m, 4H), 7.76 (dd,  $J_1 = 6.8$  Hz,  $J_2 = 2\text{H}$ ), 7.88(d, 1H, 15.6Hz), 8.14 (dd,  $J_1 = 6.8$  Hz,  $J_2 = 2\text{H}$ ).

IR[KBr]:  $\nu$  3051, 1657, 1599, 1446, 1338, 1290, 1034, 837, 751, 686  $\text{cm}^{-1}$ .

Mass (EI): ( $m/z$ ) 284(5), 207(30), 129(39), 83(61), 69(69), 55(100).

(E)-1-([1,1'-biphenyl]-4-yl)-3-(4-methoxyphenyl)prop-2-en-1-one (**25**)

Yield: 75% (Yellow solid)

M.p. 95°C [Lit.<sup>28</sup> 94-95°C]

$^1\text{H}$ -NMR ( $\text{CDCl}_3$ , 400 MHz):  $\delta$  3.88(s, 3H), 6.97(dd,  $J = 6.8$ ,  $J_2=2.0$  Hz, 2H), 7.43-7.45(m, 1H), 7.48-7.53(m, 3H), 7.64-7.69(m, 4H), 7.75 (dd,  $J_1 = 6.8$  Hz,  $J_2 = 2\text{H}$ ), 7.86(d,  $J = 15.2$  Hz, 1H), 8.13 (dd,  $J_1 = 6.8$  Hz,  $J_2 = 2\text{H}$ ).

IR[KBr]:  $\nu$  3057, 2836, 1658, 1596, 1507, 1334, 1255, 1171, 1037, 978, 823, 739, 694  $\text{cm}^{-1}$ .

Mass (EI): ( $m/z$ ) 314(81), 313(100), 299(29), 151(42).

(E)-1-([1,1'-biphenyl]-4-yl)-3-(4-chlorophenyl)prop-2-en-1-one (**26**)

Yield: 85% ( Yellow solid)

M.p. 183-184 °C [Lit.<sup>28</sup> 184-185 °C]

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 7.42-7.46(m, 3H), 7.49-7.56(m, 2H), 7.58(d, *J*=15.6 Hz, 1H) 7.60-7.63(m, 2H), 7.67-7.69(m, 2H), 7.76(dd, *J*<sub>1</sub> = 6.8, *J*<sub>2</sub> = 2 Hz, 2H), 7.82(d, *J* = 16 Hz, 1H), 8.13(dd, *J*<sub>1</sub> = 6.8, *J*<sub>2</sub> = 2 Hz, 2H).

IR[KBr]: ν 1658, 1589, 1487, 1406, 1320, 1086, 1009, 969, 819, 733, 687, 499 cm.<sup>-1</sup>

Mass (EI): (*m/z*) 320(26), 319(43), 318(87), 317(100), 283(40), 152 (68).

(E)-1-([1,1'-biphenyl]-4-yl)-3-(p-tolyl)prop-2-en-1-one (**27**)

Yield: 84% (Off-white solid)

M.p. 105°C [Lit.<sup>28</sup> 103-104 °C]

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 2.43(s, 3H), 7.26-7.28(m, 2H), 7.43-7.45(m, 1H), 7.49-7.60(m, 5H), 7.67-7.69(m, 2H), 7.76(m, 2H), 7.86(dd, *J* = 15.6 Hz, 1H), 8.12-8.15(m, 2H) .

IR[KBr]: ν 3029, 2914, 1660, 1597, 1486, 1331, 1223, 1037, 984, 814, 691 cm.<sup>-1</sup>

Mass (EI): (*m/z*) 298(51), 297(100), 283(91), 151(50).

(E)-1-([1,1'-biphenyl]-4-yl)-3-(4-nitrophenyl)prop-2-en-1-one (**28**)

Yield: 60% ( yellow solid)

M.p.187-189 °C [Lit.<sup>28</sup> 189-190 °C]

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 7.45-7.47(m, 1H), 7.50-7.54(m, 2H), 7.67-7.74(m, 3H), 7.79-7.85(m, 4H), 7.89(d, *J* = 15.6 Hz, 1H), 8.15( dd, *J*<sub>1</sub> = 6.8 Hz, *J*<sub>2</sub> = 2 Hz, 2H), 8.31(dd, *J*<sub>1</sub> = 6.8 Hz, *J*<sub>2</sub> = 2H).

IR[KBr]: ν 1658, 1601, 1521, 1337, 1223, 1107, 837, 752, 696, 482 cm.<sup>-1</sup>

Mass (EI): (*m/z*) 329(36), 151(33), 97(100), 82(75).

(E)-1-([1,1'-biphenyl]-4-yl)-3-(benzo[d][1,3]dioxol-5-yl)prop-2-en-1-one (**29**)

Yield: 66% ( Yellow solid)

M.p. 190-193 °C <sup>29</sup>

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 6.06(s, 2H), 6.88(d, *J* = 8Hz, 1H), 7.17(dd, *J*<sub>1</sub> = 8 Hz, *J*<sub>2</sub> = 1.6 Hz, 1H), 7.22(d, *J* = 1.6 Hz, 1H), 7.43-7.53(m, 4H), 7.67-7.76(m, 4H), 7.80(d, *J* = 15.6 Hz, 1H), 8.10-8.13(m, 2H).

IR[KBr]: ν 3455, 2918, 1657, 1603, 1585, 1503, 1366, 1252, 1037, 995, 839, 773, 740, 697 cm.<sup>-1</sup>

Mass (EI): (*m/z*) 328(79), 327(100), 241(13), 151(21), 121(21).

(E)-1,3-di([1,1'-biphenyl]-4-yl)prop-2-en-1-one (**30**)

Yield: 71% ( yellow solid)

M.p. 176-179 °C [Lit.<sup>25</sup> 179-181 °C]

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 7.42-7.45(m, 2H), 7.46-7.54(m, 4H), 7.64-7.71(m, 7H), 7.77( d, *J* = 8 Hz, 4H), 7.93(d, *J* = 15.6 Hz, 1H), 8.16(dd, *J*<sub>1</sub> = 6.8 Hz, *J*<sub>2</sub> = 2Hz, 2H) .

IR[KBr]: ν 3053, 3032, 1660, 1601, 1484, 1405, 1331, 1225, 1037, 981, 827, 759, 689 cm.<sup>-1</sup>

Mass (EI): (*m/z*) 360(61), 359(100), 283(27), 152(34).



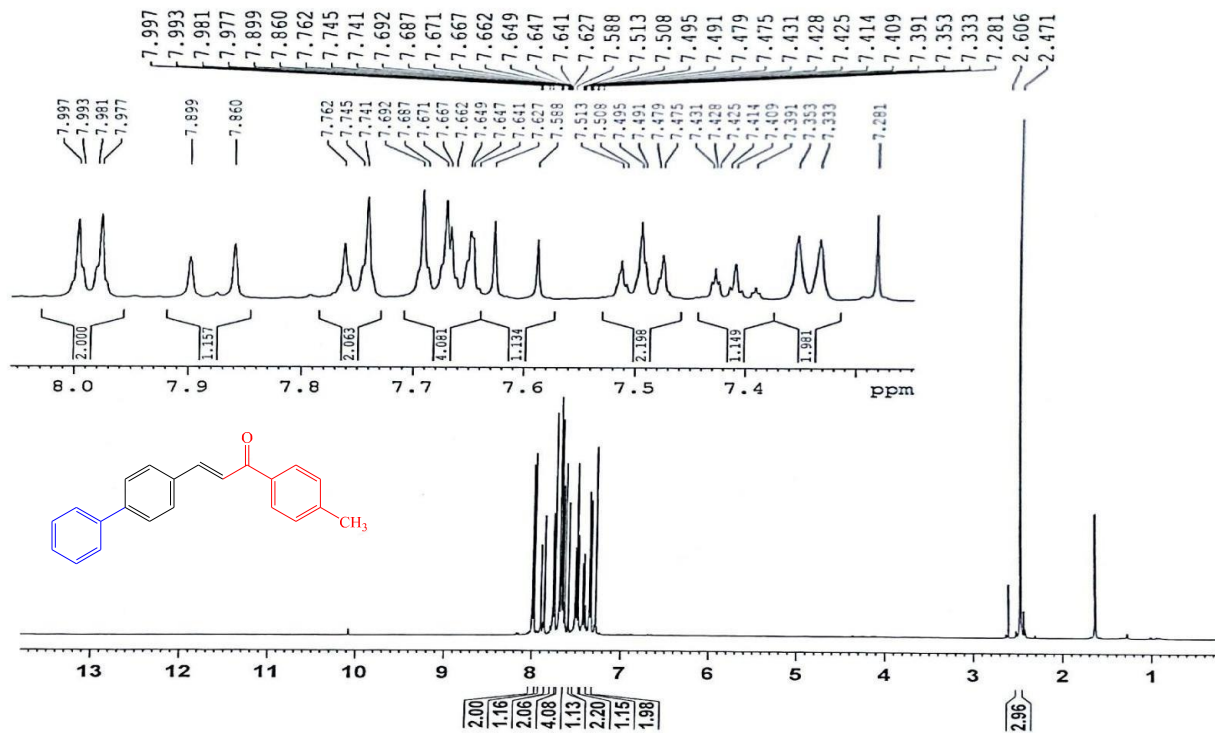


Fig S9: <sup>1</sup>H-NMR of (E)-3-([1,1'-biphenyl]-4-yl)-1-(p-tolyl)prop-2-en-1-one (22)

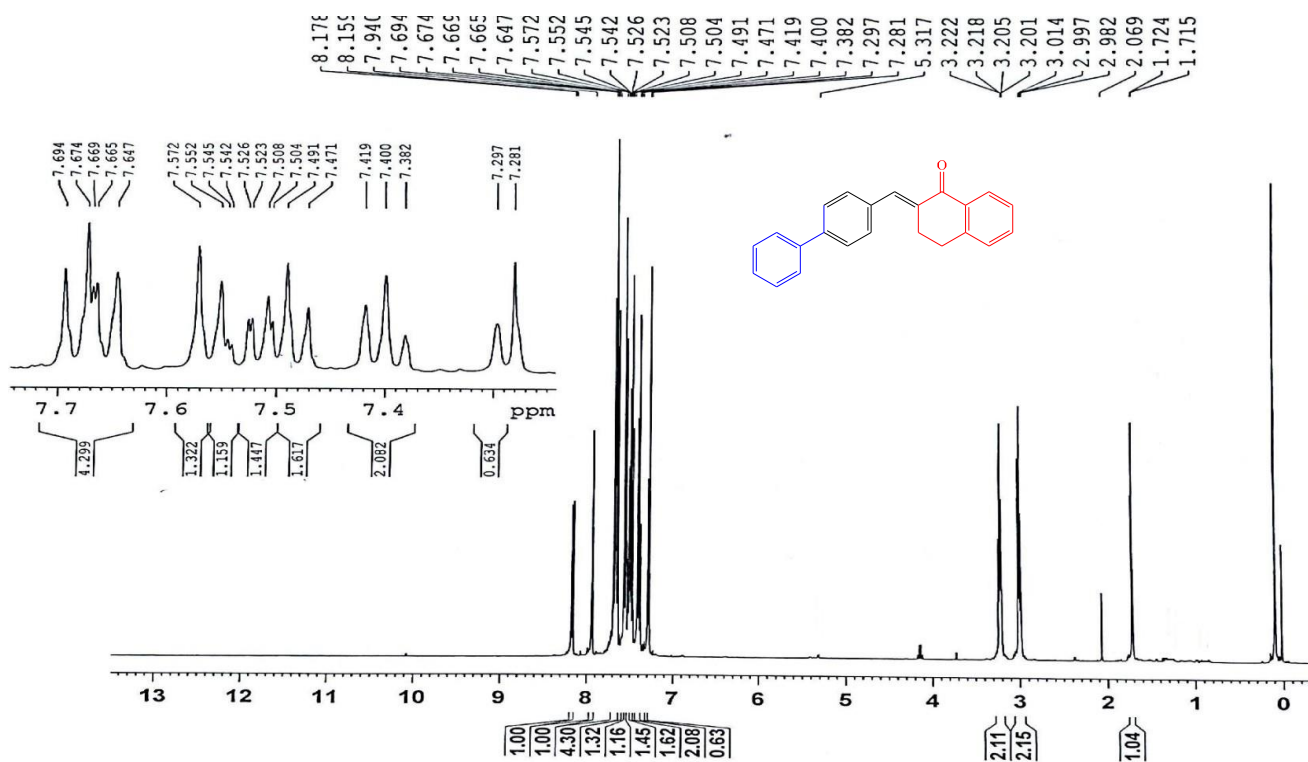


Fig S10: <sup>1</sup>H-NMR of (E)-2-([1,1'-biphenyl]-4-ylmethylene)-3,4-dihydronaphthalen-1(2H)-one (23)



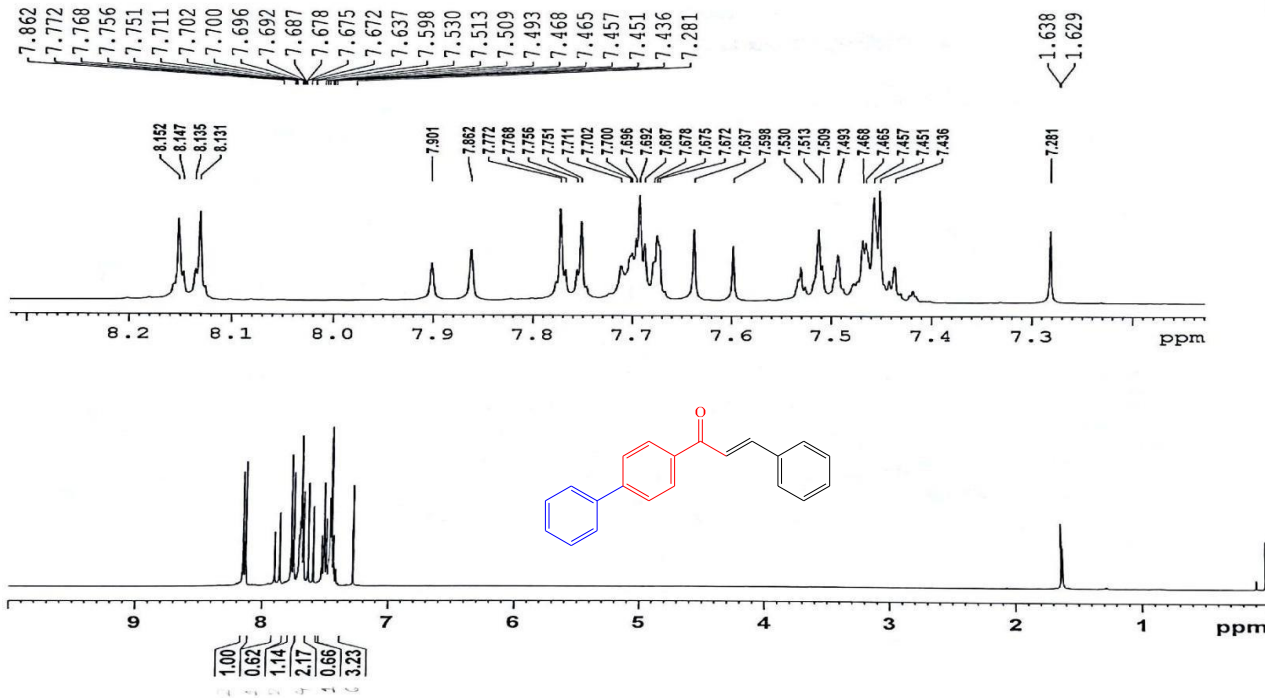


Fig S11:  $^1\text{H-NMR}$  of (E)-1-([1,1'-biphenyl]-4-yl)-3-phenylprop-2-en-1-one (24)

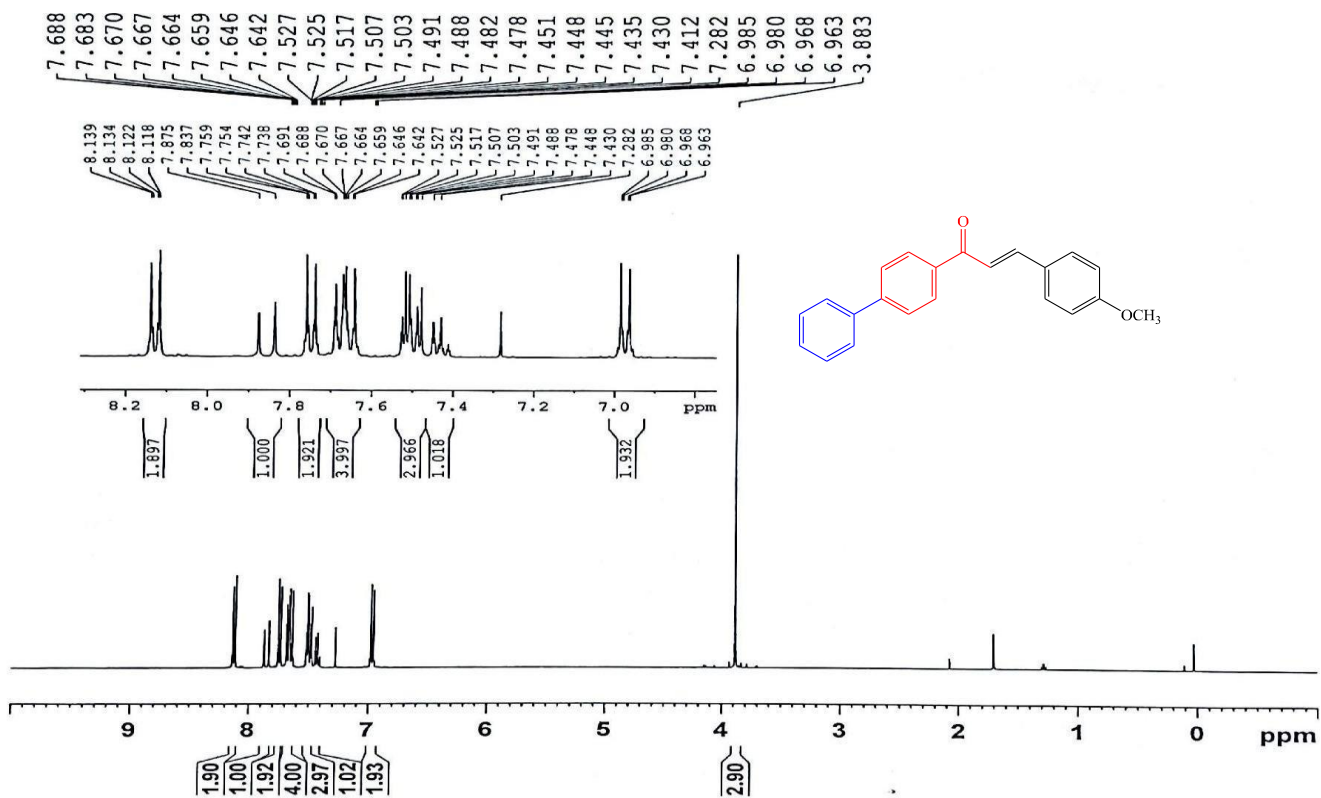


Fig S12:  $^1\text{H-NMR}$  of (E)-1-([1,1'-biphenyl]-4-yl)-3-(4-methoxyphenyl)prop-2-en-1-one (25)

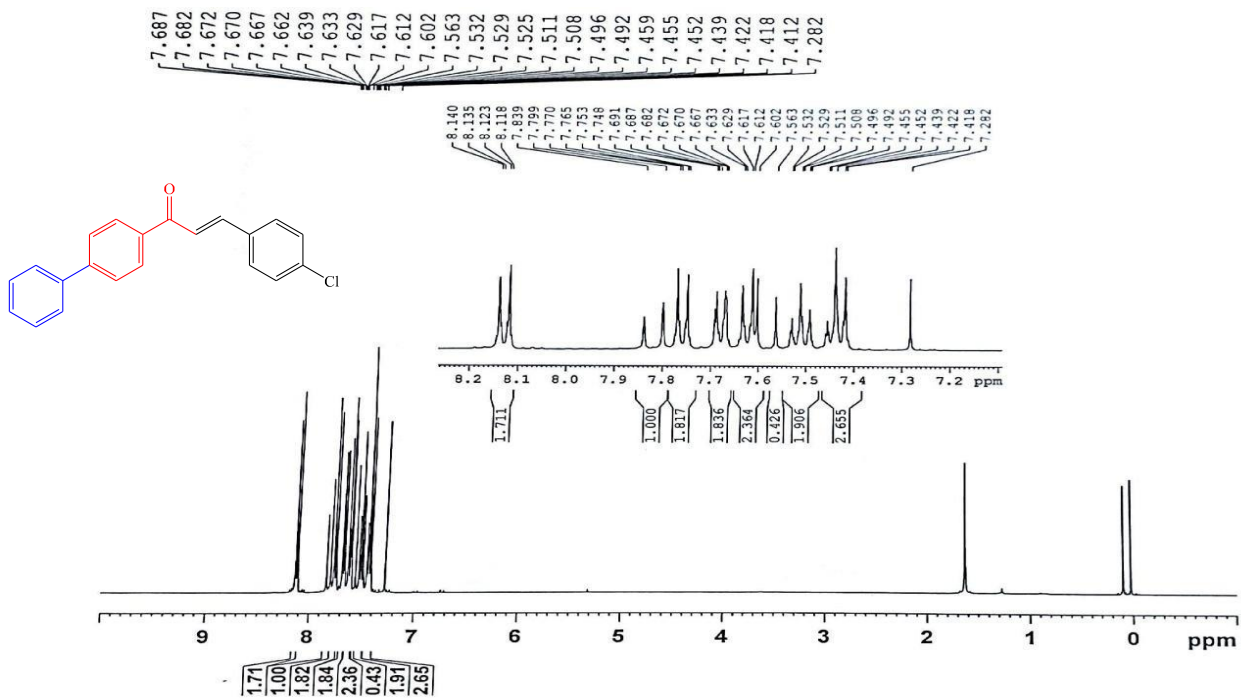


Fig S13: <sup>1</sup>H-NMR of (E)-1-([1,1'-biphenyl]-4-yl)-3-(4-chlorophenyl)prop-2-en-1-one (26)

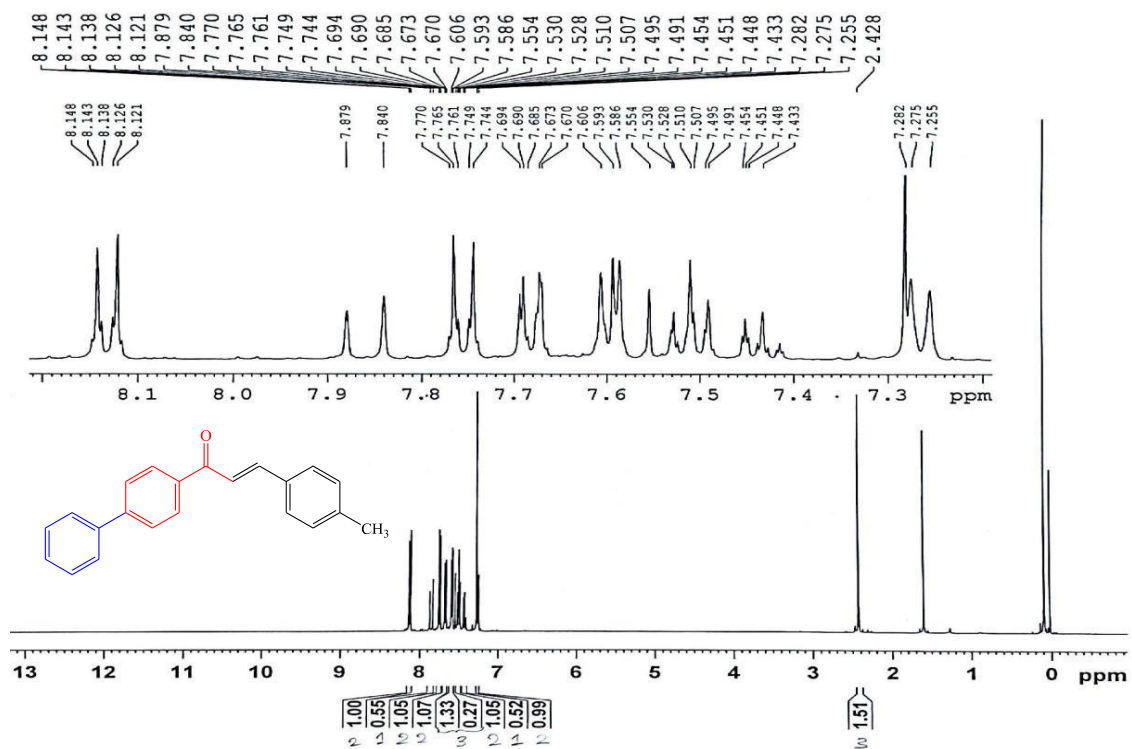
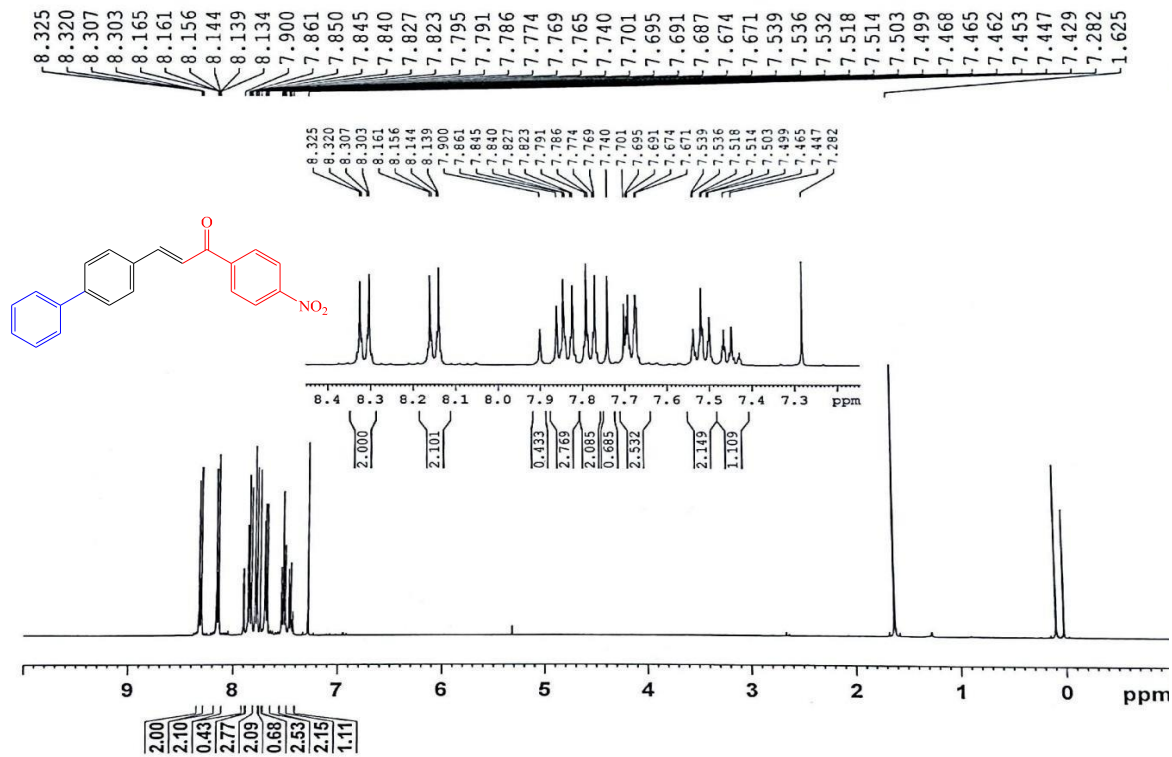
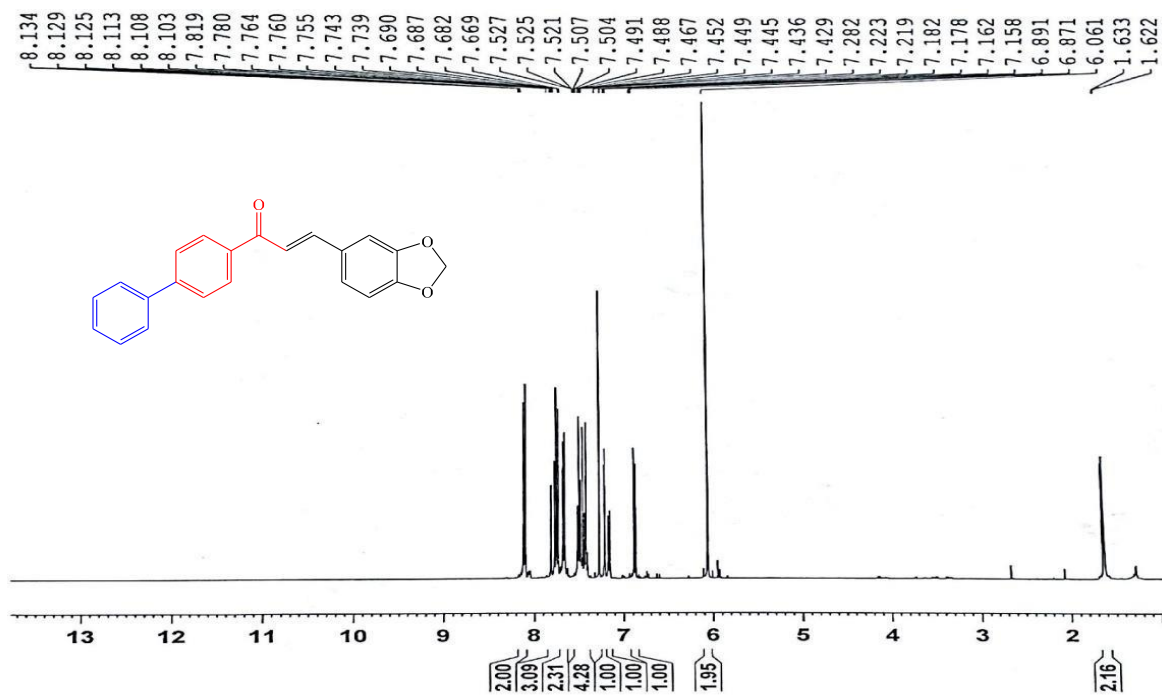


Fig S14: <sup>1</sup>H-NMR of (E)-1-([1,1'-biphenyl]-4-yl)-3-(p-tolyl)prop-2-en-1-one (27)



**Fig S15:**  $^1\text{H-NMR}$  of (E)-3-([1,1'-biphenyl]-4-yl)-1-(4-nitrophenyl)prop-2-en-1-one (**28**)



**Fig S16:**  $^1\text{H-NMR}$  of (E)-1-([1,1'-biphenyl]-4-yl)-3-(benzo[d][1,3]dioxol-5-yl)prop-2-en-1-one (**29**)

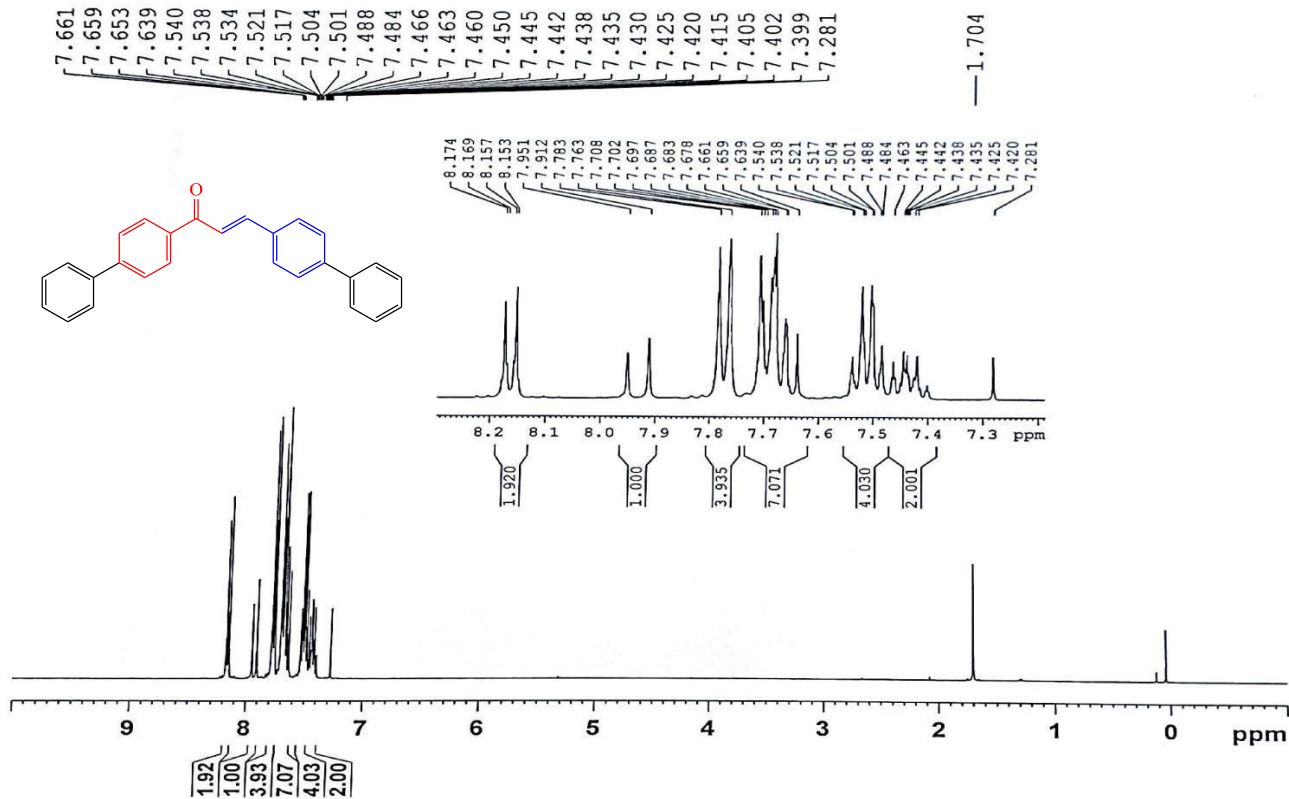


Fig S17: <sup>1</sup>H-NMR of (E)-1,3-di([1,1'-biphenyl]-4-yl)prop-2-en-1-one (30)

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