**Supplementary Data**

**Supplementary Table S1.** Percentages of cell survival (PS) after treatment by FKD at a unique concentration of 50 µM; in grey, FKD inducing a PS ≤ 50%

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **FKD** | **HuH7** | **CaCo-2** | **MDA-MB-231** | **HCT116** | **PC3** | **NCI-H727** | **HaCaT** | **Fibroblasts** |
| **1** | 50 | 32 | 58 | 20 | 43 | 40 | 35 | 67 |
| **2** | 10 | 1 | 19 | 0 | 27 | 2 | 7 | 32 |
| **3** | > 80 | > 80 | > 80 | > 80 | > 80 | > 80 | > 80 | > 80 |
| **4** | > 80 | > 80 | > 80 | > 80 | 58 | 72 | 66 | > 80 |
| **5** | 66 | 45 | 69 | 25 | 56 | 54 | 36 | > 80 |
| **6** | > 80 | > 80 | > 80 | > 80 | > 80 | > 80 | > 80 | > 80 |
| **7** | > 80 | > 80 | > 80 | > 80 | > 80 | > 80 | > 80 | > 80 |
| **8** | 13 | 1 | 11 | 0 | 22 | 1 | 7 | 44 |
| **9** | 39 | 43 | 37 | 8 | 32 | 11 | 30 | 71 |
| **10** | 38 | 23 | 39 | 1 | 35 | 8 | 22 | 65 |
| **11** | 39 | 32 | 26 | 19 | 33 | 14 | 21 | 62 |
| **12** | 6 | 5 | 13 | 1 | 29 | 1 | 20 | 74 |
| **13** | 8 | 3 | 13 | 0 | 15 | 1 | 11 | 68 |
| **14** | 3 | 0 | 6 | 0 | 10 | 2 | 6 | 57 |
| **15** | 8 | 3 | 12 | 1 | 26 | 4 | 21 | 78 |
| **16** | 38 | 25 | 68 | 7 | 39 | 23 | 59 | 57 |
| **17** | 66 | 68 | > 80 | > 80 | 75 | 58 | > 80 | > 80 |
| **18** | 4 | 1 | 3 | 1 | 6 | 1 | 4 | 51 |
| **19** | 3 | 2 | 4 | 0 | 19 | 1 | 18 | 66 |
| **20** | 6 | 5 | 11 | 0 | 32 | 1 | 23 | 77 |
| **21** | 4 | 17 | 36 | 0 | 30 | 1 | 6 | 74 |
| **22** | 45 | 24 | 32 | 17 | 33 | 42 | 16 | 65 |



**Supplementary Figure F1**. Structural elucidation of the new synthetic FKd **6**, **10**, **14**, **16**, **19** and **21** based on the NMR study (1H-1H COSY and key HMBC)

**Supplementary Material M1.** 1H and 13C NMR data of already known FKd

**(*E*)-1-(2-hydroxy-4,6-diméthoxyphényl)-3-(4-méthoxyphényl)prop-2-èn-1-one ou flavokavaïne A ( 1)**

NMR 1H (CDCl3, 600 MHz): δ 3.82 (s, 3H, 4’-OCH3), 3.83 (s, 3H, 4-OCH3), 3.90 (s, 3H, 6’-OCH3), 5.94 (d, *J*=2.4Hz, 1H, H-5’), 6.09 (d, *J*=2.4Hz, 1H, H-3’), 6.91 (d, *J*=8.7Hz, 2H, H-3,5), 7.54 (d, *J*=8.7Hz, 2H, H-2,6), 7.79 (d, *J*=15.3Hz, 2H, H-α,β)

NMR 13C (CDCl3, 600 MHz): δ 55.56 (4-OCH3), 55.74 (4’-OCH3), 56.00 (6’-OCH3), 91.40 (C-5’), 93.99 (C-3’), 106.53 (C-1’), 114.52 (C-3,5), 125.31 (C-α), 128.50 (C-1), 130.27 (C-2,6), 142.42 (C-β), 161.52 (C-4), 162.62 (C-6’), 166.18 (C-4’), 168.53 (C-2’), 192.75 (-CO)

**(*E*)-1-(2-hydroxy-4,6-diméthoxyphényl)-3-phénylprop-2-èn-1-one ou flavokavaïne B (2)**

NMR 1H (CDCl3, 600 MHz): δ 3.82 (s, 3H, 4’-OCH3), 3.90 (s, 3H, 6’-OCH3), 5.95 (d, *J*=2.4Hz, 1H, H-5’), 7.00 (d, *J*=2.4Hz, 1H, H-3’), 7.36 – 7.40 (m, 3H, H-3,4,5), 7.59 (d, *J*=7.9Hz, 2H, H-2,6), 7.77 (d, *J*=15.5Hz, 1H, H-β), 7.88 (d, *J*=15.5Hz, 1H, H-α)

NMR 13C (CDCl3, 600 MHz): δ 55.83 (4’-OCH3), 56.09 (6’-OCH3), 91.48 (C-5’), 94.02 (C-3’), 106.60 (C-1’), 127.78 (C-α), 128.58 (C-3,5), 129.09 (C-2,6), 130.26 (C-4), 135.78 (C-1), 142.54 (C-β), 162.73 (C-6’), 166.46 (C-4’), 168.63 (C-2’), 192.89 (-CO)

**(*E*)-3-(4-chlorophényl)-1-(2-hydroxy-4,6-diméthoxyphényl)prop-2-èn-1-one (3)**

NMR 1H (CDCl3, 600 MHz): δ 3.82 (s, 3H, 4’-OCH3), 3.90 (s, 3H, 6’-OCH3), 5.95 (d, *J*=2.4Hz, 1H, H-5’), 6.09 (d, *J*=2.4Hz, 1H, H-3’), 7.35 (d, *J*=8.3Hz, 2H, H-3,5), 7.51 (d, *J*=8.3Hz, 2H, H-2,6), 7.69 (d, *J*=15.5Hz, 1H, H-β), 7.84 (d, *J*=15.5Hz, 1H, H-α)

NMR 13C (CDCl3, 600 MHz): δ 55.84 (4’-OCH3), 56.12 (6’-OCH3), 91.55 (C-5’), 94.05 (C-3’), 106.54 (C-1’), 128.29 (C-α), 129.36 (C-3,5), 129.68 (C-2,6), 134.34 (C-1),136.09 (C-4), 140.96 (C-β), 162.68 (C-6’), 166.58 (C-4’), 168.66 (C-2’), 192.57 (-CO)

**(*E*)-3-(4-bromophényl)-1-(2-hydroxy-4,6-diméthoxyphényl)prop-2-èn-1-one (4)**

NMR 1H (CDCl3, 600 MHz): δ 3.82 (s, 3H, 4’-OCH3), 3.89 (s, 3H, 6’-OCH3), 5.94 (d, *J*=2.4Hz, 1H, H-5’), 6.09 (d, *J*=2.4Hz, 1H, H-3’), 7.43 (d, *J*=8.5Hz, 2H, H-2,6), 7.51 (d, *J*=8.5Hz, 2H, H-3,5), 7.67 (d, *J*=15.5Hz, 1H, H-β), 7.85 (d, *J*=15.5Hz, 1H, H-α)

NMR 13C (CDCl3, 600 MHz): δ 55.86 (4’-OCH3), 56.13 (6’-OCH3), 91.57 (C-5’), 94.07 (C-3’), 106.55 (C-1’), 124.40 (C-4), 128.40 (C-α), 129.89 (C-2,6), 132.33 (C-3,5), 134.76 (C-1), 141.02 (C-β), 162.68 (C-6’), 166.60 (C-4’), 168.67 (C-2’), 192.55 (-CO)

**(*E*)-3-(4-fluorophényl-1-(2-hydroxy-4,6-diméthoxyphényl)prop-2-èn-1-one (5)**

NMR 1H (CDCl3, 600 MHz): δ 3.82 (s, 3H, 4’-OCH3), 3.90 (s, 3H, 6’-OCH3), 5.95 (d, *J*=2.4Hz, 1H, H-5’), 6.09 (d, *J*=2.4Hz, 1H, H-3’), 7.05 – 7.10 (m, 2H, H-3,5), 7.54 – 7.59 (m, 2H, H-2,6), 7.78 (d, *J*=15.4Hz, 1H, H-β), 7.86 (d, *J*=15.4Hz, 1H, H-α)

NMR 13C (CDCl3, 600 MHz): δ 55.83 (4’-OCH3), 56.10 (6’-OCH3), 91.51 (C-5’), 94.03 (C-3’), 106.53 (C-1’), 116.15 (C-3,5),127.49 (C-α),130.35 (C-2,6), 132.02 (C-1), 141.26 (C-β), 162.69 (C-6’), 164.84 (C-4), 166.50 (C-4’), 168.55 (C-2’), 192.62 (-CO)

**(*E*)-3-(4-(diméthylamino)phényl)-1-(2-hydroxy-4,6-diméthoxyphényl)prop-2-èn-1-one (7)**

NMR 1H (CDCl3, 600 MHz): δ 3.03 (s, 6H, 4-N(CH3)2), 3.81 (s, 3H, 4’-OCH3), 3.90(s, 3H, 6’-OCH3), 5.94 (d, *J*=2.4Hz, 1H, H-5’), 6.09 (d, *J*=2.4Hz, 1H, H-3’), 6.72 (d, *J*=8.6Hz, 2H, H-3,5), 7.51 (d, *J*=8.6Hz, 2H, H-2,6), 7.74 (d, *J*=15.1Hz, 1H, H-α), 7.81 (d, *J*=15.1Hz, 1H, H-β)

NMR 13C (CDCl3, 600 MHz): δ 40.68 (4-N(CH3)2), 55.77 (4’-OCH3), 56.03 (6’-OCH3), 91.38 (C-5’), 94.05 (C-3’), 106.65 (C-1’), 112.65 (C-3,5), 122.86 (C-α), 125.41 (C-1), 130.56 (C-2,6), 151.67 (C-4), 144.24 (C-β), 162.59 (C-6’), 165.87 (C-4’), 168.53 (C-2’), 192.67 (-CO)

**(*E*)-1-(2-hydroxy-4,6-diméthoxyphényl)-3-(3-méthoxyphényl)prop-2-èn-1-one (8)**

NMR 1H (CDCl3, 600 MHz): δ 3.82 (s, 3H, 4’-OCH3), 3.83 (s, 3H, 3-OCH3), 3.90 (s, 3H, 6’-OCH3), 5.95 (d, *J*=2.2Hz, 1H, H-5’), 6.09 (d, *J*=2.2Hz, 1H, H-3’), 6.92 (dd, *J*=7.9Hz, *J*=2.3Hz, 1H, H-4), 7.10 (sl, 1H, H-2), 7.19 (d, *J*=7.9Hz, 1H, H-6), 7.30 (t, *J*=7.9Hz, 1H, H-5), 7.72 (d, *J*=15.6Hz,1H, H-β), 7.86 (d, *J*=15.7Hz, 1H, H-α)

NMR 13C (CDCl3, 600 MHz): δ 55.53 (3-OCH3), 55.83 (4’-OCH3), 56.10 (6’-OCH3), 91.49 (C-5’), 94.02 (C-3’), 106.61 (C-1’), 113.87 (C-2), 115.82 (C-4), 121.13 (C-6), 128.13 (C-α), 130.06 (C-5), 137.21 (C-1), 142.40 (C-β), 160.09 (C-3), 162.73 (C-6’), 166.50 (C-4’), 168.63 (C-2’), 192.84 (-CO)

**(*E*)-1-(2-hydroxy-4,6-diméthoxyphényl)-3-(2-méthoxyphényl)prop-2-èn-1-one (9)**

NMR 1H (CDCl3, 600 MHz): δ 3.81 (s, 3H, 4’-OCH3), 3.89 (s, 3H, 6’-OCH3), 3.91 (s, 3H, 2-OCH3), 5.94 (d, *J*=2.5Hz, 1H, H-5’), 6.09 (d, *J*=2.5Hz, 1H, H-3’), 6.91 (brd, *J*=8.3Hz, 1H, H-3), 6.96 (t, *J*=7.6Hz, 1H, H-5), 7.33 (m, 1H, H-4), 7.59 (dd, *J*=7.6Hz, *J*=1.6Hz, 1H, H-6), 7.95 (d, *J*=15.7Hz, 1H, H-α), 8.13 (d, *J*=15.7Hz, 1H, H-β)

NMR 13C (CDCl3, 600 MHz): δ 55.73 (4’-OCH3), 55.79 (6’-OCH3), 55.99 (2-OCH3), 91.40 (C-5’), 93.99 (C-3’), 106.68 (C-1’), 111.40 (C-3), 120.90 (C-5), 124.82 (C-1), 128.99 (C-6), 128.12 (C-α), 131.54 (C-4), 138.06 (C-β), 158.86 (C-2), 162.72 (C-6’), 166.24 (C-4’), 168.57 (C-2’), 193.28 (-CO)

**(*E*)-3-(4-méthoxyphényl)-1-(2,4,6-triméthoxyphényl)prop-2-èn-1-one (11)**

NMR 1H (CDCl3, 600 MHz): δ 3.74 (s, 6H, 2’,6’-OCH3), 3.81 (s, 3H, 4-OCH3), 3.84 (s, 3H, 4’-OCH3), 6.14 (s, 2H, H-3’,5’),6.83 (d, *J*=15.8Hz, 1H, H-α), 6.87 (d, *J*=8.7Hz, 2H, H-3,5), 7.29 (d, *J*=15.8Hz, 1H, H-β), 7.45 (d, *J*=8.7Hz, 2H, H-2,6)

NMR 13C (CDCl3, 600 MHz): δ 55.61 (C-4), 55.87 (4’-OCH3), 56.18 (2’,6’-OCH3), 90.98 (C-3’,5’), 112.28 (C-1’), 114.49 (C-3,5), 127.26 (C-α), 127.96 (C-1), 130.31 (C-2,6), 144.46 (C-β), 161.62 (C-4), 162.49 (C-4’), 158.98 (C-2’,6’), 194.59 (-CO)

**(*E*)-3-phényl-1-(2,4,6-triméthoxyphényl)prop-2-èn-1-one (12)**

NMR 1H (CDCl3, 600 MHz): δ 3.75 (s, 6H, 2’,6’-OCH3), 3.84 (s, 3H, 4’-OCH3), 6.14 (s, 2H, H-3’,5’), 6.94 (d, *J*=15.9Hz, 1H, H-α), 7.33 (m, *J*=8.7Hz, 3H, H-3,4,5), 7.34 (d, *J*=15.9Hz, 1H, H-β), 7.50 (dl, *J*=8.7Hz, 2H, H-2,6)

NMR 13C (CDCl3, 600 MHz): δ 55.64 (4’-OCH3), 56.11 (2’,6’-OCH3), 90.94 (C-3’,5’), 112.03 (C-1’), 128.54 (C-2,6), 128. 96 (C-3,5), 129.23 (C-α), 130.32 (C-4), 135.21 (C-1), 144.25 (C-β), 159.04 (C-2’,6’), 162.60 (C-4’), 194.39 (-CO)

**(*E*)-3-(4-chlorophényl)-1-(2,4,6-triméthoxyphényl)prop-2-èn-1-one (13)**

NMR 1H (CDCl3, 600 MHz): δ 3.75 (s, 6H, 2’,6’-OCH3), 3.84 (s, 3H, 4’-OCH3), 6.14 (s, 2H, H-3’,5’), 6.90 (d, *J*=16.1 Hz, 1H, H-α), 7.30 (d, *J*=16.1Hz, 1H, H-β), 7.31 (d, *J*=8.7Hz, 2H, H-3,5), 7.43 (d, *J*=8.7Hz, 2H, H-2,6)

NMR 13C (CDCl3, 600 MHz): δ 55.70 (4’-OCH3), 56.18 (2’,6’-OCH3), 90.98 (C-3’,5’), 111.97 (C-1’), 129.29 (C-3,5), 129.66 (C-α), 129.71 (C-2,6), 133.82 (C-1), 136.20 (C-4),142.49 (C-β), 159.16 (C-2’,6’), 162.78 (C-4’), 193.96 (-CO)

**(*E*)-3-(4-fluorophényl)-1-(2.4.6-triméthoxyphényl)prop-2-èn-1-one (15)**

NMR 1H (CDCl3. 600 MHz): δ 3,75 (s, 6H, 2’,6’-OCH3), 3.84 (s, 3H, 4’-OCH3), 6.14 (s, 2H, H-3’,5’), 6.86 (d, *J*=16.2Hz, 1H, H-α), 7.03 (dl, *J*=8.4Hz, 2H, H-3,5), 7.31 (d, *J*=16.2Hz, 1H, H-β), 7.49 (dd, *J*=8.9Hz,*J*=5.3Hz, 2H, H-2,6)

NMR 13C (CDCl3, 600 MHz): δ 55.69 (4’-OCH3), 56.17 (2’,6’-OCH3), 90.97 (C-3’,5’), 112.02 (C-1’), 116.22 (C-3,5), 129.03 (C-α), 130.45 (C-2,6), 130.48 (C-1), 142.87 (C-β), 159.10 (C-2’,6’), 162.71 (C-4’), 164.89 (C-4), 194.15 (-CO)

**(*E*)-3-(4-(diméthylamino)phényl)-1-(2,4,6-triméthoxyphényl)prop-2-èn-1-one (17)**

NMR 1H (CDCl3, 600 MHz): δ 2.99 (s, 6H, 4-N(CH3)2), 3.73 (s, 6H, 2’,6’-OCH3), 3.83 (s, 3H, 4’-OCH3), 6.14 (s, 2H, H-3’,5’), 6.64 (d, *J*=8.5Hz, 2H, H-3,5), 6.76 (d, *J*=15.8Hz, 1H, H-α), 7.23 (d, *J*=15.8Hz, 1H, H-β), 7.39 (d, *J*=8.5Hz, 2H, H-2,6)

NMR 13C (CDCl3, 600 MHz): δ 40.44 (4-N(CH3)2), 55.65 (4’-OCH3), 56.16 (2’,6’-OCH3), 90.96 (C-3’,5’), 112.09 (C-3,5), 112.57 (C-1’), 124.80 (C-α), 130.36 (C-1), 130.40 (C-2,6), 145.96 (C-β), 151.87 (C-4), 158.79 (C-2’,6’), 162.18 (C-4’), 194.77 (-CO)

**(*E*)-3-(4-nitrophényl)-1-(2,4,6-triméthoxyphényl)prop-2-èn-1-one (18)**

NMR 1H (CDCl3, 600 MHz): δ 3.77 (s, 6H, 2’,6-OCH3), 3.85 (s, 3H, 4’-OCH3), 6.14 (s, 2H, H-3’,5’), 7.05 (d, *J*=16.2Hz, 1H, H-α), 7.41 (d, *J*=16.2Hz, 1H, H-β), 7.65 (d, *J*=8.8Hz, 2H, H-2,6), 8.20 (d, *J*=8.8Hz, 2H, H-3,5)

NMR 13C (CDCl3, 600 MHz): δ 55.73 (4’-OCH3), 56.20 (2’,6’-OCH3), 91.00 (C-3’,5’), 111.66 (C-1’), 124.27 (C-3,5), 129.01 (C-2,6), 132.67 (C-α), 139.99 (C-β), 141.70 (C-1), 148.51(C-4), 159.46 (C-2’,6’), 163.20 (C-4’), 192.93 (-CO)

**(*E*)-3-(2-méthoxyphényl)-1-(2,4,6-triméthoxyphényl)prop-2-èn-1-one (20)**

NMR 1H (CDCl3, 600 MHz): δ 3.75 (s, 6H, 2’,6’-OCH3), 3.80 (s, 3H, 2-OCH3), 3.84 (s, 3H, 4’-OCH3), 6.14 (s, 2H, H-3’,5’), 6.90 (m, 1H, H-5), 6.92 (d, *J*=15.9Hz, 1H, H-α), 7.02 (m, 1H, H-6), 7.09 (dl, *J*=7.6Hz, 1H, H-3), 7.27 (m, 1H, H-4), 7.30 (d, *J*=15.9Hz, 1H, H-β)

NMR 13C (CDCl3, 600 MHz): δ 55.57 (2-OCH3), 55.71 (4’-OCH3), 56.17 (2’,6’-OCH3), 90.06 (C-3’,5’), 111.87 (C-1’), 113.36 (C-6), 116.38(C-5), 121.37 (C-3), 129.57 (C-α), 130.01 (C-4), 136.57 (C-1), 144.21 (C-β), 159.11 (C-2’,6’), 160.09 (C-2), 162.63 (C-4’), 192.44 (-CO)

**(*E*)-3-(4-hydroxyphènyl)-1-(2,4,6-triméthoxyphényl)prop-2-èn-1-one (22)**

NMR 1H (Acetone-d6, 600 MHz): δ 3.74 (s, 6H, 2’,6’-OCH3), 3.86 (s, 3H, 4’-OCH3), 6.30 (s, 2H, H-3’,5’), 6.76 (d, *J*=15.9Hz, 1H, H-α), 6.88 (d, *J*=8.5Hz, 2H, H-3,5), 7.20 (d, *J*=15.9Hz, 1H, H-β), 7.50 (d, *J*=8.5Hz, 2H, H-2,6)

NMR 13C (Acetone-d6, 600 MHz): δ 55.86 (4’-OCH3), 56.23 (2’,6’-OCH3), 91.75 (C-3’,5’), 113.01 (C-1’), 116.77 (C-3,5), 127.50 (C-α,1), 131.11 (C-2,6), 144.73 (C-β), 159.45 (C-2’,6’), 160.63 (C-4), 163.18 (C-4’), 191.08 (-CO)