# 附錄一、原始數據

實 驗 毒 物 : **Clodinafop-propargyl** 初始細胞密度(cells/mL) : 15000

MCV (μm3) : 40.09 D (μm) : 4.246 Initial pH : 7.56 EDTA(%) : 0

T(℃) : 24.3 Test duration : 48-h

| Conc | Initial DO | Final DO | Final cells | Delta DO | | | IR | IR | IR |
|---|---|---|---|---|---|---|---|---|---|
| mg/L | mg/L | mg/L | cells/ml | mg/L | μspecific | μrelative | ( growth rate) | (Biomass) | (DO) |
| Control | 1.48 | 11.2 | 384500 | 9.72 | 1.621947 | 1 | 0 | 0 | 0 |
| 25.015 | 1.65 | 4.02 | 76800 | 2.37 | 0.816577 | 0.50345 | 0.49655 | 0.83275 | 0.75617 |
| 15.077 | 1.62 | 5.16 | 154400 | 3.54 | 1.165748 | 0.71873 | 0.28127 | 0.62273 | 0.63580 |
| 8.053 | 1.45 | 6.12 | 236300 | 4.67 | 1.378526 | 0.84992 | 0.15008 | 0.40108 | 0.51955 |
| 2.056 | 1.41 | 7.96 | 301800 | 6.55 | 1.500857 | 0.92534 | 0.07466 | 0.22382 | 0.32613 |
| 0.514 | 1.48 | 9.6 | 333000 | 8.12 | 1.550046 | 0.95567 | 0.04433 | 0.13938 | 0.16461 |
| 0.257 | 1.41 | 10.46 | 359800 | 9.05 | 1.588749 | 0.97953 | 0.02047 | 0.06685 | 0.06893 |
| Control | 1.35 | 11.06 | 373700 | 9.71 | 1.607702 | 1 | 0 | 0 | 0 |
| 25.015 | 1.59 | 4.95 | 85200 | 3.36 | 0.868476 | 0.54020 | 0.45980 | 0.80429 | 0.65396 |
| 15.077 | 1.49 | 5.51 | 149700 | 4.02 | 1.150292 | 0.71549 | 0.28451 | 0.62448 | 0.58599 |
| 8.053 | 1.52 | 6.39 | 250000 | 4.87 | 1.406705 | 0.87498 | 0.12502 | 0.34486 | 0.49846 |
| 2.056 | 1.41 | 7.8 | 307500 | 6.39 | 1.510212 | 0.93936 | 0.06064 | 0.18456 | 0.34192 |
| 0.514 | 1.46 | 9.15 | 338400 | 7.69 | 1.558089 | 0.96914 | 0.03086 | 0.09841 | 0.20803 |
| 0.257 | 1.39 | 10.54 | 358500 | 9.15 | 1.586939 | 0.98709 | 0.01291 | 0.04238 | 0.05767 |
| Control | 1.35 | 11.16 | 382200 | 9.81 | 1.618947 | 1 | 0 | 0 | 0 |
| 25.015 | 1.75 | 5.13 | 41700 | 3.38 | 0.511225 | 0.31578 | 0.68422 | 0.92729 | 0.65545 |
| 15.077 | 1.48 | 5.4 | 133000 | 3.92 | 1.091149 | 0.67399 | 0.32601 | 0.67865 | 0.60041 |
| 8.053 | 1.4 | 6.14 | 226500 | 4.74 | 1.357347 | 0.83841 | 0.16159 | 0.42402 | 0.51682 |
| 2.056 | 1.43 | 7.79 | 309300 | 6.36 | 1.513131 | 0.93464 | 0.06536 | 0.19853 | 0.35168 |
| 0.514 | 1.46 | 9.78 | 331900 | 8.32 | 1.548392 | 0.95642 | 0.04358 | 0.13698 | 0.15189 |
| 0.257 | 1.36 | 10.58 | 359100 | 9.22 | 1.587775 | 0.98075 | 0.01925 | 0.06291 | 0.06014 |
| Control | 1.39 | 11.14 | 380133.33 | 9.74 | 1.616198 | 1 | 0 | 0 | 0 |
| 25.015 | 1.66 | 4.70 | 67900.00 | 3.03 | 0.732093 | 0.45314 | 0.53287 | 0.85512 | 0.68844 |
| 15.077 | 1.53 | 5.35 | 145700.00 | 3.82 | 1.135730 | 0.70274 | 0.29667 | 0.64205 | 0.60739 |
| 8.053 | 1.45 | 6.21 | 237600.00 | 4.76 | 1.380860 | 0.85444 | 0.14538 | 0.39036 | 0.51163 |
| 2.056 | 1.41 | 7.85 | 306200.00 | 6.43 | 1.508067 | 0.93311 | 0.06691 | 0.20248 | 0.33995 |
| 0.514 | 1.46 | 9.51 | 334433.33 | 8.04 | 1.552176 | 0.96041 | 0.03962 | 0.12516 | 0.17476 |
| 0.257 | 1.38 | 10.52 | 359133.33 | 9.14 | 1.587821 | 0.98245 | 0.01758 | 0.05751 | 0.06224 |

IR : Inhibition rate

Biomass : Yield f (Final yield based on cell density)

實 驗 毒 物 : **Diclofop-methyl** 初始細胞密度(cells/mL) : 15000

MCV (μm3) : 39.25 D (μm) : 4.216 Initial pH : 7.62 EDTA(%) : 0

T(℃) : 24.3 Test duration : 48-h

| Conc | Initial DO | Final DO | Final cells | Delta DO | | | IR | IR | IR |
|---|---|---|---|---|---|---|---|---|---|
| mg/L | mg/L | mg/L | cells/ml | mg/L | μspecific | μrelative | ( growth rate) | (Biomass) | (DO) |
| Control | 1.47 | 5.83 | 235500 | 4.36 | 1.376830 | 1 | 0 | 0 | 0 |
| 0.032 | 1.63 | 5.6 | 230300 | 3.97 | 1.365666 | 0.99189 | 0.00811 | 0.02358 | 0.08945 |
| 0.065 | 1.45 | 4.97 | 206300 | 3.52 | 1.310641 | 0.95193 | 0.04807 | 0.13243 | 0.19266 |
| 0.126 | 1.52 | 3.81 | 170400 | 2.29 | 1.215049 | 0.88250 | 0.11750 | 0.29524 | 0.47477 |
| 0.251 | 1.49 | 3.45 | 124900 | 1.96 | 1.059732 | 0.76969 | 0.23031 | 0.50159 | 0.55046 |
| 0.498 | 1.47 | 2.57 | 76000 | 1.1 | 0.811342 | 0.58928 | 0.41072 | 0.72336 | 0.74771 |
| 0.997 | 1.75 | 2.44 | 55200 | 0.69 | 0.651456 | 0.47316 | 0.52684 | 0.81769 | 0.84174 |
| Control | 1.4 | 4.6 | 217000 | 3.2 | 1.335924 | 1 | 0 | 0 | 0 |
| 0.032 | 1.42 | 4.32 | 208100 | 2.9 | 1.314984 | 0.98433 | 0.01567 | 0.04406 | 0.09375 |
| 0.065 | 1.44 | 3.85 | 185800 | 2.41 | 1.258310 | 0.94190 | 0.05810 | 0.15446 | 0.24688 |
| 0.126 | 1.6 | 3.47 | 150100 | 1.87 | 1.151626 | 0.86204 | 0.13796 | 0.33119 | 0.41563 |
| 0.251 | 1.4 | 2.74 | 113800 | 1.34 | 1.013196 | 0.75842 | 0.24158 | 0.51089 | 0.58125 |
| 0.498 | 1.47 | 2.33 | 76200 | 0.86 | 0.812656 | 0.60831 | 0.39169 | 0.69703 | 0.73125 |
| 0.997 | 1.73 | 2.17 | 48400 | 0.44 | 0.585725 | 0.43844 | 0.56156 | 0.83465 | 0.86250 |
| Control | 1.49 | 5.56 | 227700 | 4.07 | 1.359989 | 1 | 0 | 0 | 0 |
| 0.032 | 1.4 | 4.85 | 211800 | 3.45 | 1.323796 | 0.97339 | 0.02661 | 0.07475 | 0.15233 |
| 0.065 | 1.55 | 4.56 | 191200 | 3.01 | 1.272635 | 0.93577 | 0.06423 | 0.17160 | 0.26044 |
| 0.126 | 1.42 | 4.02 | 167600 | 2.6 | 1.206765 | 0.88733 | 0.11267 | 0.28256 | 0.36118 |
| 0.251 | 1.47 | 3.53 | 131600 | 2.06 | 1.085858 | 0.79843 | 0.20157 | 0.45181 | 0.49386 |
| 0.498 | 1.51 | 2.44 | 84300 | 0.93 | 0.863166 | 0.63469 | 0.36531 | 0.67419 | 0.77150 |
| 0.997 | 1.69 | 2.24 | 55500 | 0.55 | 0.654166 | 0.48101 | 0.51899 | 0.80959 | 0.86486 |
| Control | 1.45 | 5.33000 | 226733.33 | 3.87 | 1.357581 | 1 | 0 | 0 | 0 |
| 0.032 | 1.48 | 4.92333 | 216733.33 | 3.44 | 1.334816 | 0.98320 | 0.01661 | 0.04723 | 0.11264 |
| 0.065 | 1.48 | 4.46000 | 194433.33 | 2.98 | 1.280529 | 0.94320 | 0.05659 | 0.15255 | 0.23130 |
| 0.126 | 1.51 | 3.76667 | 162700.00 | 2.25 | 1.191147 | 0.87729 | 0.12220 | 0.30242 | 0.41874 |
| 0.251 | 1.45 | 3.24000 | 123433.33 | 1.78 | 1.052929 | 0.77551 | 0.22391 | 0.48788 | 0.53912 |
| 0.498 | 1.48 | 2.44667 | 78833.33 | 0.96 | 0.829054 | 0.61076 | 0.38901 | 0.69852 | 0.75150 |
| 0.997 | 1.72 | 2.28333 | 53033.33 | 0.56 | 0.630449 | 0.46420 | 0.53498 | 0.82037 | 0.85555 |

IR : Inhibition rate

Biomass : Yield f (Final yield based on cell density)

實 驗 毒 物 : **Fluazifop-p-butyl** 初始細胞密度(cells/mL) : 15000

MCV (µm3) : 46.68 D (µm) : Initial pH : 7.56 EDTA(%) : 0

T(℃) : 24.5 Test duration : 48-h

| Conc mg/L | Initial DO mg/L | Final DO mg/L | Final cells cells/ml | Delta DO mg/L | µspecific | µrelative | IR ( growth rate) | IR (Biomass) | IR (DO) |
|---|---|---|---|---|---|---|---|---|---|
| Control | 1.3 | 6.29 | 260400 | 4.99 | 1.42708 | 1 | 0 | 0 | 0 |
| 0.001 | 1.22 | 5.99 | 242100 | 4.77 | 1.39065 | 0.97447 | 0.02553 | 0.07457 | 0.04409 |
| 0.002 | 1.22 | 5.82 | 239200 | 4.6 | 1.38462 | 0.97025 | 0.02975 | 0.08639 | 0.07816 |
| 0.011 | 1.23 | 5.17 | 203100 | 3.94 | 1.30282 | 0.91293 | 0.08707 | 0.23350 | 0.21042 |
| 0.053 | 1.16 | 3.393 | 147300 | 2.233 | 1.14221 | 0.80038 | 0.19962 | 0.46088 | 0.55251 |
| 0.256 | 1.18 | 2.93 | 91500 | 1.75 | 0.90414 | 0.63356 | 0.36644 | 0.68826 | 0.64930 |
| 1.267 | 1.13 | 1.75 | 42000 | 0.62 | 0.51481 | 0.36074 | 0.63926 | 0.88998 | 0.87575 |
| 2.558 | 1.24 | 1.74 | 37400 | 0.5 | 0.45681 | 0.32010 | 0.67990 | 0.90872 | 0.89980 |
| Control | 1.23 | 6.37 | 244600 | 5.14 | 1.39579 | 1 | 0 | 0 | 0 |
| 0.001 | 1.22 | 6.11 | 231400 | 4.89 | 1.36805 | 0.98013 | 0.01987 | 0.05749 | 0.04864 |
| 0.002 | 1.22 | 5.93 | 229400 | 4.71 | 1.36371 | 0.97702 | 0.02298 | 0.06620 | 0.08366 |
| 0.011 | 1.23 | 5.28 | 187600 | 4.05 | 1.26313 | 0.90496 | 0.09504 | 0.24826 | 0.21206 |
| 0.053 | 1.12 | 3.68 | 143900 | 2.56 | 1.13053 | 0.80996 | 0.19004 | 0.43859 | 0.50195 |
| 0.256 | 1.13 | 2.75 | 84400 | 1.62 | 0.86376 | 0.61883 | 0.38117 | 0.69774 | 0.68482 |
| 1.267 | 1.15 | 1.99 | 39700 | 0.84 | 0.48665 | 0.34866 | 0.65134 | 0.89242 | 0.83658 |
| 2.558 | 1.23 | 1.99 | 34200 | 0.76 | 0.41209 | 0.29524 | 0.70476 | 0.91638 | 0.85214 |
| Control | 1.24 | 6.66 | 268400 | 5.42 | 1.44221 | 1 | 0 | 0 | 0 |
| 0.001 | 1.22 | 6.42 | 256000 | 5.2 | 1.41856 | 0.98360 | 0.01640 | 0.04893 | 0.04059 |
| 0.002 | 1.22 | 6.27 | 247000 | 5.05 | 1.40067 | 0.97119 | 0.02881 | 0.08445 | 0.06827 |
| 0.011 | 1.23 | 5.62 | 212100 | 4.39 | 1.32450 | 0.91838 | 0.08162 | 0.22218 | 0.19004 |
| 0.053 | 1.2 | 3.99 | 158900 | 2.79 | 1.18011 | 0.81826 | 0.18174 | 0.43212 | 0.48524 |
| 0.256 | 1.21 | 3.13 | 81500 | 1.92 | 0.84628 | 0.58679 | 0.41321 | 0.73757 | 0.64576 |
| 1.267 | 1.21 | 2.01 | 44600 | 0.8 | 0.54484 | 0.37778 | 0.62222 | 0.88319 | 0.85240 |
| 2.558 | 1.24 | 1.97 | 31200 | 0.73 | 0.36618 | 0.25390 | 0.74610 | 0.93607 | 0.86531 |
| Control | 1.25 | 6.44000 | 257800.00 | 5.18 | 1.42170 | 1 | 0 | 0 | 0 |
| 0.001 | 1.22 | 6.17333 | 243166.67 | 4.95 | 1.39242 | 0.97940 | 0.02055 | 0.06027 | 0.04437 |
| 0.002 | 1.22 | 6.00667 | 238533.33 | 4.78 | 1.38300 | 0.97282 | 0.02731 | 0.07935 | 0.07653 |
| 0.011 | 1.23 | 5.35667 | 200933.33 | 4.12 | 1.29682 | 0.91209 | 0.08762 | 0.23421 | 0.20386 |
| 0.053 | 1.16 | 3.68767 | 150033.33 | 2.52 | 1.15095 | 0.80954 | 0.19033 | 0.44385 | 0.51235 |
| 0.256 | 1.17 | 2.93667 | 85800.00 | 1.76 | 0.87139 | 0.61306 | 0.38682 | 0.70840 | 0.65981 |
| 1.267 | 1.16 | 1.91667 | 42100.00 | 0.75 | 0.51543 | 0.36239 | 0.63715 | 0.88839 | 0.85466 |
| 2.558 | 1.23 | 1.90000 | 34266.67 | 0.66 | 0.41169 | 0.28975 | 0.70953 | 0.92065 | 0.87203 |

IR : Inhibition rate

Biomass : Yield f (Final yield based on cell density)

實 驗 毒 物 : **Propaquizafop** 初始細胞密度(cells/mL) : 15000

MCV (μm3) : 43.04 D (μm) : Initial pH : 7.52 EDTA(%) : 0

T(℃) : 24.5 Test duration : 48-h

| Conc | Initial DO | Final DO | Final cells | Delta DO | | | IR | IR | IR |
|---|---|---|---|---|---|---|---|---|---|
| mg/L | mg/L | mg/L | cells/ml | mg/L | μspecific | μrelative | ( growth rate) | (Biomass) | (DO) |
| Control | 1.64 | 6.48 | 347600 | 4.84 | 1.571501 | 1 | 0 | 0 | 0 |
| 0.051 | 1.63 | 6.16 | 343700 | 4.53 | 1.565859 | 0.99641 | 0.00359 | 0.01173 | 0.06405 |
| 0.098 | 1.64 | 6.01 | 331700 | 4.37 | 1.548090 | 0.98510 | 0.01490 | 0.04781 | 0.09711 |
| 0.202 | 1.6 | 5.73 | 256800 | 4.13 | 1.420124 | 0.90367 | 0.09633 | 0.27300 | 0.14669 |
| 0.41 | 1.66 | 4.35 | 238100 | 2.69 | 1.382320 | 0.87962 | 0.12038 | 0.32922 | 0.44421 |
| 0.799 | 1.61 | 3.45 | 112200 | 1.84 | 1.006116 | 0.64023 | 0.35977 | 0.70776 | 0.61983 |
| 1.61 | 1.71 | 2.38 | 71800 | 0.67 | 0.782917 | 0.49820 | 0.50180 | 0.82922 | 0.86157 |
| Control | 1.61 | 6.14 | 347800 | 4.53 | 1.571789 | 1 | 0 | 0 | 0 |
| 0.051 | 1.68 | 5.81 | 343400 | 4.13 | 1.565423 | 0.99595 | 0.00405 | 0.01322 | 0.08830 |
| 0.098 | 1.57 | 5.43 | 305800 | 3.86 | 1.507441 | 0.95906 | 0.04094 | 0.12620 | 0.14790 |
| 0.202 | 1.69 | 4.16 | 254700 | 2.47 | 1.416018 | 0.90090 | 0.09910 | 0.27975 | 0.45475 |
| 0.41 | 1.66 | 3.22 | 252400 | 1.56 | 1.411482 | 0.89801 | 0.10199 | 0.28666 | 0.65563 |
| 0.799 | 1.55 | 2.22 | 139800 | 0.67 | 1.116081 | 0.71007 | 0.28993 | 0.62500 | 0.85210 |
| 1.61 | 1.65 | 1.63 | 59100 | -0.02 | 0.685590 | 0.43618 | 0.56382 | 0.86749 | 1.00442 |
| Control | 1.62 | 6.05 | 337600 | 4.43 | 1.556906 | 1 | 0 | 0 | 0 |
| 0.051 | 1.65 | 5.66 | 328200 | 4.01 | 1.542786 | 0.99093 | 0.00907 | 0.02914 | 0.09481 |
| 0.098 | 1.65 | 4.97 | 302200 | 3.32 | 1.501519 | 0.96443 | 0.03557 | 0.10973 | 0.25056 |
| 0.202 | 1.66 | 4.43 | 245200 | 2.77 | 1.397012 | 0.89730 | 0.10270 | 0.28642 | 0.37472 |
| 0.41 | 1.56 | 3.53 | 221700 | 1.97 | 1.346637 | 0.86494 | 0.13506 | 0.35927 | 0.55530 |
| 0.799 | 1.66 | 2.8 | 104500 | 1.14 | 0.970568 | 0.62340 | 0.37660 | 0.72257 | 0.74266 |
| 1.61 | 2.1 | 2.28 | 61700 | 0.18 | 0.707117 | 0.45418 | 0.54582 | 0.85524 | 0.95937 |
| Control | 1.62 | 6.22333 | 344333.33 | 4.60 | 1.566732 | 1 | 0 | 0 | 0 |
| 0.051 | 1.65 | 5.87667 | 338433.33 | 4.22 | 1.558023 | 0.99443 | 0.00552 | 0.01791 | 0.08188 |
| 0.098 | 1.62 | 5.47000 | 313233.33 | 3.85 | 1.519017 | 0.96953 | 0.03021 | 0.09443 | 0.16304 |
| 0.202 | 1.65 | 4.77333 | 252233.33 | 3.12 | 1.411051 | 0.90062 | 0.09933 | 0.27966 | 0.32101 |
| 0.41 | 1.62 | 3.70000 | 237400.00 | 2.07 | 1.380147 | 0.88086 | 0.11867 | 0.32470 | 0.54928 |
| 0.799 | 1.60 | 2.82333 | 118833.33 | 1.21 | 1.030922 | 0.65790 | 0.33951 | 0.68472 | 0.73551 |
| 1.61 | 1.82 | 2.09667 | 64200.00 | 0.27 | 0.725208 | 0.46285 | 0.53601 | 0.85061 | 0.93986 |

IR : Inhibition rate

Biomass : Yield f (Final yield based on cell density)

實 驗 毒 物 : **Quizalofop-p-ethyl** 初始細胞密度(cells/mL) : 15000

MCV (µm3) : 44.85 D (µm) : Initial pH : 7.61 EDTA(%) : 0

T(℃) : 24.4 Test duration : 48-h

| Conc mg/L | Initial DO mg/L | Final DO mg/L | Final cells cells/ml | Delta DO mg/L | µspecific | µrelative | IR ( growth rate) | IR (Biomass) | IR (DO) |
|---|---|---|---|---|---|---|---|---|---|
| Control | 2.22 | 7.1 | 194700 | 4.88 | 1.281705 | 1 | 0 | 0 | 0 |
| 0.001 | 2.27 | 6.66 | 179200 | 4.39 | 1.240226 | 0.96764 | 0.03236 | 0.08625 | 0.10041 |
| 0.006 | 2.2 | 5.84 | 159000 | 3.64 | 1.180427 | 0.92098 | 0.07902 | 0.19866 | 0.25410 |
| 0.011 | 2.18 | 4.92 | 115100 | 2.74 | 1.018876 | 0.79494 | 0.20506 | 0.44296 | 0.43852 |
| 0.11 | 2.13 | 3.99 | 63800 | 1.86 | 0.723851 | 0.56476 | 0.43524 | 0.72844 | 0.61885 |
| 0.497 | 2.15 | 3.37 | 53000 | 1.22 | 0.631121 | 0.49241 | 0.50759 | 0.78854 | 0.75000 |
| 2.501 | 2.2 | 3.25 | 41700 | 1.05 | 0.511225 | 0.39886 | 0.60114 | 0.85142 | 0.78484 |
| Control | 2.21 | 6.17 | 214900 | 3.96 | 1.331061 | 1 | 0 | 0 | 0 |
| 0.001 | 2.2 | 5.91 | 198700 | 3.71 | 1.291873 | 0.97056 | 0.02944 | 0.08104 | 0.06313 |
| 0.006 | 2.21 | 5.23 | 176800 | 3.02 | 1.233484 | 0.92669 | 0.07331 | 0.19060 | 0.23737 |
| 0.011 | 2.19 | 4.89 | 123700 | 2.7 | 1.054905 | 0.79253 | 0.20747 | 0.45623 | 0.31818 |
| 0.11 | 2.23 | 3.92 | 94100 | 1.69 | 0.918154 | 0.68979 | 0.31021 | 0.60430 | 0.57323 |
| 0.497 | 2.19 | 2.96 | 78000 | 0.77 | 0.824329 | 0.61930 | 0.38070 | 0.68484 | 0.80556 |
| 2.501 | 2.23 | 2.93 | 39000 | 0.7 | 0.477756 | 0.35893 | 0.64107 | 0.87994 | 0.82323 |
| Control | 2.21 | 6.22 | 218000 | 4.01 | 1.338222 | 1 | 0 | 0 | 0 |
| 0.001 | 2.21 | 5.88 | 202200 | 3.67 | 1.300604 | 0.97189 | 0.02811 | 0.07783 | 0.08479 |
| 0.006 | 2.2 | 5.06 | 178700 | 2.86 | 1.238829 | 0.92573 | 0.07427 | 0.19360 | 0.28678 |
| 0.011 | 2.19 | 4.71 | 130800 | 2.52 | 1.082810 | 0.80914 | 0.19086 | 0.42956 | 0.37157 |
| 0.11 | 2.22 | 3.82 | 91400 | 1.6 | 0.903598 | 0.67522 | 0.32478 | 0.62365 | 0.60100 |
| 0.497 | 2.23 | 2.82 | 62400 | 0.59 | 0.712758 | 0.53262 | 0.46738 | 0.76650 | 0.85287 |
| 2.501 | 2.25 | 2.66 | 38300 | 0.41 | 0.468700 | 0.35024 | 0.64976 | 0.88522 | 0.89776 |
| Control | 2.21 | 6.49667 | 209200.00 | 4.28 | 1.316996 | 1 | 0 | 0 | 0 |
| 0.001 | 2.22 | 6.15000 | 193366.67 | 3.92 | 1.277568 | 0.97003 | 0.02987 | 0.08153 | 0.08405 |
| 0.006 | 2.20 | 5.37667 | 171500.00 | 3.17 | 1.217580 | 0.92447 | 0.07540 | 0.19413 | 0.25914 |
| 0.011 | 2.18 | 4.84000 | 123200.00 | 2.65 | 1.052197 | 0.79887 | 0.20092 | 0.44284 | 0.38054 |
| 0.11 | 2.19 | 3.91000 | 83100.00 | 1.71 | 0.848534 | 0.64326 | 0.35035 | 0.64933 | 0.59922 |
| 0.497 | 2.19 | 3.05000 | 64466.67 | 0.86 | 0.722736 | 0.54811 | 0.44669 | 0.74528 | 0.79922 |
| 2.501 | 2.22 | 2.94667 | 39666.67 | 0.72 | 0.485894 | 0.36934 | 0.63098 | 0.87298 | 0.83191 |

IR : Inhibition rate

Biomass : Yield f (Final yield based on cell density)

實 驗 毒 物 : **Clethodim** 初始細胞密度(cells/mL) : 15000

MCV (μm3) : 44.74 D (μm) : Initial pH : 7.62 EDTA(%) : 0

T(℃) : 24.4 Test duration : 48-h

| Conc mg/L | Initial DO mg/L | Final DO mg/L | Final cells cells/ml | Delta DO mg/L | μspecific | μrelative | IR ( growth rate) | IR (Biomass) | IR (DO) |
|---|---|---|---|---|---|---|---|---|---|
| Control | 1.09 | 6.26 | 308800 | 5.17 | 1.512322 | 1 | 0 | 0 | 0 |
| 0.005 | 1.14 | 5.75 | 285200 | 4.61 | 1.472570 | 0.97371 | 0.02629 | 0.08033 | 0.10832 |
| 0.052 | 1.06 | 4.74 | 252100 | 3.68 | 1.410888 | 0.93293 | 0.06707 | 0.19299 | 0.28820 |
| 0.496 | 1.09 | 3.74 | 189600 | 2.65 | 1.268433 | 0.83873 | 0.16127 | 0.40572 | 0.48743 |
| 2.1 | 1.16 | 2.73 | 118000 | 1.57 | 1.031317 | 0.68194 | 0.31806 | 0.64942 | 0.69632 |
| 7.997 | 1.15 | 1.86 | 94800 | 0.71 | 0.921860 | 0.60957 | 0.39043 | 0.72839 | 0.86267 |
| 16.121 | 1.28 | 1.4 | 46900 | 0.12 | 0.569984 | 0.37689 | 0.62311 | 0.89142 | 0.97679 |
| Control | 1.01 | 7.16 | 261100 | 6.15 | 1.428427 | 1 | 0 | 0 | 0 |
| 0.005 | 1.07 | 6.48 | 250300 | 5.41 | 1.407305 | 0.98521 | 0.01479 | 0.04388 | 0.12033 |
| 0.052 | 1.11 | 5.83 | 230900 | 4.72 | 1.366967 | 0.95697 | 0.04303 | 0.12271 | 0.23252 |
| 0.496 | 1.1 | 4.41 | 170700 | 3.31 | 1.215929 | 0.85124 | 0.14876 | 0.36733 | 0.46179 |
| 2.1 | 1.03 | 3.24 | 126800 | 2.21 | 1.067280 | 0.74717 | 0.25283 | 0.54571 | 0.64065 |
| 7.997 | 1.2 | 1.66 | 66400 | 0.46 | 0.743823 | 0.52073 | 0.47927 | 0.79114 | 0.92520 |
| 16.121 | 1.32 | 1.69 | 40800 | 0.37 | 0.500316 | 0.35026 | 0.64974 | 0.89516 | 0.93984 |
| Control | 1.02 | 6.29 | 275700 | 5.27 | 1.455632 | 1 | 0 | 0 | 0 |
| 0.005 | 1.07 | 5.88 | 256100 | 4.81 | 1.418759 | 0.97467 | 0.02533 | 0.07518 | 0.08729 |
| 0.052 | 1.05 | 5.02 | 232400 | 3.97 | 1.370205 | 0.94131 | 0.05869 | 0.16609 | 0.24668 |
| 0.496 | 1.05 | 3.88 | 199700 | 2.83 | 1.294383 | 0.88922 | 0.11078 | 0.29152 | 0.46300 |
| 2.1 | 1.06 | 3.11 | 136700 | 2.05 | 1.104869 | 0.75903 | 0.24097 | 0.53318 | 0.61101 |
| 7.997 | 1.19 | 1.89 | 76300 | 0.7 | 0.813311 | 0.55873 | 0.44127 | 0.76486 | 0.86717 |
| 16.121 | 1.33 | 1.6 | 41900 | 0.27 | 0.513618 | 0.35285 | 0.64715 | 0.89682 | 0.94877 |
| Control | 1.04 | 6.57000 | 281866.67 | 5.53 | 1.465460 | 1 | 0 | 0 | 0 |
| 0.005 | 1.09 | 6.03667 | 263866.67 | 4.94 | 1.432878 | 0.97787 | 0.02250 | 0.06745 | 0.10609 |
| 0.052 | 1.07 | 5.19667 | 238466.67 | 4.12 | 1.382687 | 0.94374 | 0.05700 | 0.16263 | 0.25437 |
| 0.496 | 1.08 | 4.01000 | 186666.67 | 2.93 | 1.259582 | 0.85973 | 0.14049 | 0.35673 | 0.47016 |
| 2.1 | 1.08 | 3.02667 | 127166.67 | 1.94 | 1.067822 | 0.72938 | 0.27134 | 0.57969 | 0.64858 |
| 7.997 | 1.18 | 1.80333 | 79166.67 | 0.62 | 0.826331 | 0.56301 | 0.43291 | 0.75956 | 0.88728 |
| 16.121 | 1.31 | 1.56333 | 43200.00 | 0.25 | 0.527972 | 0.36000 | 0.63940 | 0.89433 | 0.95419 |

IR : Inhibition rate

Biomass : Yield f (Final yield based on cell density)

實 驗 毒 物 : **Cycloxydim** 初始細胞密度(cells/mL) : 15000

MCV (μm3) : 44.74 D (μm) : Initial pH : 7.62 EDTA(%) : 0

T(℃) : 24.4 Test duration : 48-h

| Conc | Initial DO | Final DO | Final cells | Delta DO | | | IR | IR | IR |
|---|---|---|---|---|---|---|---|---|---|
| mg/L | mg/L | mg/L | cells/ml | mg/L | μspecific | μrelative | ( growth rate) | (Biomass) | (DO) |
| Control | 1.08 | 6.68 | 253500 | 5.6 | 1.413657 | 1 | 0 | 0 | 0 |
| 0.043 | 1.07 | 6.3 | 238300 | 5.23 | 1.382740 | 0.97813 | 0.02187 | 0.06373 | 0.06607 |
| 0.103 | 0.94 | 5.82 | 204800 | 4.88 | 1.306992 | 0.92455 | 0.07545 | 0.20419 | 0.12857 |
| 0.206 | 0.98 | 4.34 | 147500 | 3.36 | 1.142889 | 0.80846 | 0.19154 | 0.44444 | 0.40000 |
| 0.8 | 1.01 | 3.1 | 99700 | 2.09 | 0.947058 | 0.66993 | 0.33007 | 0.64486 | 0.62679 |
| 1.6 | 0.97 | 2.24 | 47800 | 1.27 | 0.579488 | 0.40992 | 0.59008 | 0.86247 | 0.77321 |
| 3.199 | 1.05 | 1.83 | 21800 | 0.78 | 0.186930 | 0.13223 | 0.86777 | 0.97149 | 0.86071 |
| Control | 1.01 | 7.1 | 265300 | 6.09 | 1.436406 | 1 | 0 | 0 | 0 |
| 0.043 | 1.03 | 6.69 | 238900 | 5.66 | 1.383997 | 0.96351 | 0.03649 | 0.10547 | 0.07061 |
| 0.103 | 1.02 | 6.45 | 214000 | 5.43 | 1.328963 | 0.92520 | 0.07480 | 0.20495 | 0.10837 |
| 0.206 | 1.03 | 5.09 | 178100 | 4.06 | 1.237147 | 0.86128 | 0.13872 | 0.34838 | 0.33333 |
| 0.8 | 0.99 | 3.69 | 90900 | 2.7 | 0.900855 | 0.62716 | 0.37284 | 0.69676 | 0.55665 |
| 1.6 | 1.09 | 2.38 | 47400 | 1.29 | 0.575286 | 0.40050 | 0.59950 | 0.87056 | 0.78818 |
| 3.199 | 1.14 | 1.82 | 24800 | 0.68 | 0.251397 | 0.17502 | 0.82498 | 0.96085 | 0.88834 |
| Control | 1.02 | 6.82 | 245600 | 5.8 | 1.397827 | 1 | 0 | 0 | 0 |
| 0.043 | 1.03 | 6.1 | 225700 | 5.07 | 1.355578 | 0.96978 | 0.03022 | 0.08630 | 0.12586 |
| 0.103 | 1.01 | 5.69 | 203600 | 4.68 | 1.304054 | 0.93291 | 0.06709 | 0.18213 | 0.19310 |
| 0.206 | 1 | 5.01 | 152500 | 4.01 | 1.159557 | 0.82954 | 0.17046 | 0.40373 | 0.30862 |
| 0.8 | 0.97 | 3.25 | 91800 | 2.28 | 0.905781 | 0.64799 | 0.35201 | 0.66696 | 0.60690 |
| 1.6 | 1.01 | 2.44 | 49100 | 1.43 | 0.592904 | 0.42416 | 0.57584 | 0.85212 | 0.75345 |
| 3.199 | 1.15 | 1.85 | 25200 | 0.7 | 0.259397 | 0.18557 | 0.81443 | 0.95577 | 0.87931 |
| Control | 1.03 | 6.86667 | 254800.00 | 5.83 | 1.415963 | 1 | 0 | 0 | 0 |
| 0.043 | 1.04 | 6.36333 | 234300.00 | 5.32 | 1.374105 | 0.97047 | 0.02961 | 0.08549 | 0.08748 |
| 0.103 | 0.99 | 5.98667 | 207466.67 | 4.99 | 1.313336 | 0.92755 | 0.07256 | 0.19739 | 0.14294 |
| 0.206 | 1.00 | 4.81333 | 159366.67 | 3.81 | 1.179865 | 0.83310 | 0.16568 | 0.39797 | 0.34648 |
| 0.8 | 0.99 | 3.34667 | 94133.33 | 2.35 | 0.917898 | 0.64836 | 0.35156 | 0.67000 | 0.59577 |
| 1.6 | 1.02 | 2.35333 | 48100.00 | 1.33 | 0.582559 | 0.41153 | 0.58861 | 0.86197 | 0.77187 |
| 3.199 | 1.11 | 1.83333 | 23933.33 | 0.72 | 0.232575 | 0.16427 | 0.83505 | 0.96275 | 0.87650 |

IR : Inhibition rate

Biomass : Yield f (Final yield based on cell density)

實 驗 毒 物 : **Tralkoxydim** 初始細胞密度(cells/mL) : 15000

MCV (µm3) : 50.45 D (µm) : Initial pH : 7.52 EDTA(%) : 0

T(℃) : 24.3 Test duration : 48-h

| Conc mg/L | Initial DO mg/L | Final DO mg/L | Final cells cells/ml | Delta DO mg/L | µspecific | µrelative | IR ( growth rate) | IR (Biomass) | IR (DO) |
|---|---|---|---|---|---|---|---|---|---|
| Control | 1.58 | 6.7 | 216500 | 5.12 | 1.334770 | 1 | 0 | 0 | 0 |
| 0.63 | 1.46 | 6.25 | 202700 | 4.79 | 1.301838 | 0.97533 | 0.02467 | 0.06849 | 0.06445 |
| 1.24 | 1.4 | 5.12 | 182200 | 3.72 | 1.248527 | 0.93539 | 0.06461 | 0.17022 | 0.27344 |
| 2.51 | 1.38 | 4.06 | 144500 | 2.68 | 1.132615 | 0.84855 | 0.15145 | 0.35732 | 0.47656 |
| 5.08 | 1.36 | 3.03 | 108200 | 1.67 | 0.987966 | 0.74018 | 0.25982 | 0.53747 | 0.67383 |
| 10.1 | 1.46 | 2.57 | 74800 | 1.11 | 0.803384 | 0.60189 | 0.39811 | 0.70323 | 0.78320 |
| 20.05 | 1.62 | 2 | 53400 | 0.38 | 0.634880 | 0.47565 | 0.52435 | 0.80943 | 0.92578 |
| Control | 1.34 | 7.47 | 230300 | 6.13 | 1.365666 | 1 | 0 | 0 | 0 |
| 0.63 | 1.46 | 7.22 | 213900 | 5.76 | 1.328729 | 0.97295 | 0.02705 | 0.07617 | 0.06036 |
| 1.24 | 1.37 | 6.11 | 194800 | 4.74 | 1.281962 | 0.93871 | 0.06129 | 0.16489 | 0.22675 |
| 2.51 | 1.4 | 5.05 | 165800 | 3.65 | 1.201366 | 0.87969 | 0.12031 | 0.29958 | 0.40457 |
| 5.08 | 1.41 | 4.72 | 94900 | 3.31 | 0.922387 | 0.67541 | 0.32459 | 0.62889 | 0.46003 |
| 10.1 | 1.42 | 3.36 | 72500 | 1.94 | 0.787768 | 0.57684 | 0.42316 | 0.73293 | 0.68352 |
| 20.05 | 1.58 | 2.18 | 49500 | 0.6 | 0.596961 | 0.43712 | 0.56288 | 0.83976 | 0.90212 |
| Control | 1.34 | 7.17 | 228700 | 5.83 | 1.362180 | 1 | 0 | 0 | 0 |
| 0.63 | 1.46 | 6.89 | 218200 | 5.43 | 1.338681 | 0.98275 | 0.01725 | 0.04913 | 0.06861 |
| 1.24 | 1.4 | 5.88 | 199200 | 4.48 | 1.293130 | 0.94931 | 0.05069 | 0.13804 | 0.23156 |
| 2.51 | 1.39 | 5.01 | 161700 | 3.62 | 1.188846 | 0.87275 | 0.12725 | 0.31352 | 0.37907 |
| 5.08 | 1.39 | 3.99 | 104100 | 2.6 | 0.968651 | 0.71110 | 0.28890 | 0.58306 | 0.55403 |
| 10.1 | 1.38 | 3.24 | 84500 | 1.86 | 0.864351 | 0.63453 | 0.36547 | 0.67478 | 0.68096 |
| 20.05 | 1.63 | 2.31 | 66200 | 0.68 | 0.742315 | 0.54495 | 0.45505 | 0.76041 | 0.88336 |
| Control | 1.42 | 7.11333 | 225166.67 | 5.69 | 1.354206 | 1 | 0 | 0 | 0 |
| 0.63 | 1.46 | 6.78667 | 211600.00 | 5.32 | 1.323083 | 0.97701 | 0.02294 | 0.06455 | 0.06440 |
| 1.24 | 1.39 | 5.70333 | 192066.67 | 4.31 | 1.274540 | 0.94113 | 0.05870 | 0.15749 | 0.24239 |
| 2.51 | 1.39 | 4.70667 | 157333.33 | 3.31 | 1.174276 | 0.86700 | 0.13234 | 0.32276 | 0.41745 |
| 5.08 | 1.38 | 3.91333 | 102400.00 | 2.52 | 0.959668 | 0.70890 | 0.29089 | 0.58414 | 0.55621 |
| 10.1 | 1.42 | 3.05667 | 77266.67 | 1.63 | 0.818501 | 0.60442 | 0.39485 | 0.70373 | 0.71253 |
| 20.05 | 1.60 | 2.16333 | 56366.67 | 0.55 | 0.658052 | 0.48590 | 0.51128 | 0.80317 | 0.90281 |

IR : Inhibition rate

Biomass : Yield f (Final yield based on cell density)

實 驗 毒 物 : **Bensulfuron-methyl** 初始細胞密度(cells/mL) : 15000

MCV (µm3) : 42.07 D (µm) : Initial pH : 7.61 EDTA(%) : 0

T(℃) : 24.3 Test duration : 48-h

| Conc mg/L | Initial DO mg/L | Final DO mg/L | Final cells cells/ml | Delta DO mg/L | µspecific | µrelative | IR ( growth rate) | IR (Biomass) | IR (DO) |
|---|---|---|---|---|---|---|---|---|---|
| Control | 0.97 | 8.16 | 274600 | 7.19 | 1.45363 | 1 | 0 | 0 | 0 |
| 0.0001 | 0.99 | 8 | 260200 | 7.01 | 1.42670 | 0.98147 | 0.01853 | 0.05547 | 0.02503 |
| 0.001 | 1.07 | 7.91 | 248200 | 6.84 | 1.40309 | 0.96523 | 0.03477 | 0.10169 | 0.04868 |
| 0.012 | 1.09 | 6.25 | 195200 | 5.16 | 1.28299 | 0.88261 | 0.11739 | 0.30586 | 0.28234 |
| 0.099 | 1.02 | 4.02 | 111200 | 3 | 1.00164 | 0.68906 | 0.31094 | 0.62943 | 0.58275 |
| 0.997 | 0.98 | 3.11 | 81600 | 2.13 | 0.84689 | 0.58260 | 0.41740 | 0.74345 | 0.70376 |
| 4.999 | 0.99 | 2.23 | 50200 | 1.24 | 0.60398 | 0.41550 | 0.58450 | 0.86441 | 0.82754 |
| 9.997 | 1.22 | 2.26 | 35500 | 1.04 | 0.43074 | 0.29632 | 0.70368 | 0.92103 | 0.85535 |
| Control | 0.95 | 8.86 | 291700 | 7.91 | 1.48384 | 1 | 0 | 0 | 0 |
| 0.0001 | 0.97 | 8.65 | 277000 | 7.68 | 1.45798 | 0.98258 | 0.01742 | 0.05313 | 0.02908 |
| 0.001 | 1.03 | 8.46 | 262200 | 7.43 | 1.43053 | 0.96407 | 0.03593 | 0.10661 | 0.06068 |
| 0.012 | 0.95 | 6.92 | 201000 | 5.97 | 1.29763 | 0.87451 | 0.12549 | 0.32779 | 0.24526 |
| 0.099 | 1.1 | 4.38 | 120800 | 3.28 | 1.04304 | 0.70294 | 0.29706 | 0.61764 | 0.58534 |
| 0.997 | 1.12 | 3.56 | 80100 | 2.44 | 0.83761 | 0.56449 | 0.43551 | 0.76473 | 0.69153 |
| 4.999 | 1.15 | 2.95 | 64200 | 1.8 | 0.72698 | 0.48993 | 0.51007 | 0.82219 | 0.77244 |
| 9.997 | 1.29 | 2.69 | 42300 | 1.4 | 0.51837 | 0.34934 | 0.65066 | 0.90134 | 0.82301 |
| Control | 0.95 | 8.22 | 261200 | 7.27 | 1.42862 | 1 | 0 | 0 | 0 |
| 0.0001 | 0.96 | 7.98 | 242000 | 7.02 | 1.39044 | 0.97328 | 0.02672 | 0.07799 | 0.03439 |
| 0.001 | 1.07 | 7.51 | 222000 | 6.44 | 1.34731 | 0.94309 | 0.05691 | 0.15922 | 0.11417 |
| 0.012 | 0.99 | 5.88 | 167000 | 4.89 | 1.20497 | 0.84345 | 0.15655 | 0.38262 | 0.32737 |
| 0.099 | 1.02 | 3.89 | 102500 | 2.87 | 0.96091 | 0.67261 | 0.32739 | 0.64460 | 0.60523 |
| 0.997 | 1.02 | 2.97 | 74500 | 1.95 | 0.80137 | 0.56094 | 0.43906 | 0.75833 | 0.73177 |
| 4.999 | 1.04 | 2.05 | 47100 | 1.01 | 0.57211 | 0.40046 | 0.59954 | 0.86962 | 0.86107 |
| 9.997 | 1.22 | 1.9 | 31700 | 0.68 | 0.37413 | 0.26188 | 0.73812 | 0.93217 | 0.90646 |
| Control | 0.95 | 8.41333 | 275833.33 | 7.45 | 1.45536 | 1 | 0 | 0 | 0 |
| 0.0001 | 0.97 | 8.21000 | 259733.33 | 7.23 | 1.42504 | 0.97911 | 0.02065 | 0.06173 | 0.02950 |
| 0.001 | 1.05 | 7.96000 | 244133.33 | 6.90 | 1.39364 | 0.95746 | 0.04193 | 0.12153 | 0.07421 |
| 0.012 | 1.01 | 6.35000 | 187733.33 | 5.34 | 1.26186 | 0.86686 | 0.13215 | 0.33776 | 0.28386 |
| 0.099 | 1.04 | 4.09667 | 111500.00 | 3.05 | 1.00186 | 0.68820 | 0.31108 | 0.63003 | 0.59097 |
| 0.997 | 1.04 | 3.21333 | 78733.33 | 2.17 | 0.82863 | 0.56935 | 0.43058 | 0.75565 | 0.70854 |
| 4.999 | 1.06 | 2.41000 | 53833.33 | 1.35 | 0.63436 | 0.43530 | 0.56114 | 0.85112 | 0.81895 |
| 9.997 | 1.24 | 2.28333 | 36500.00 | 1.04 | 0.44108 | 0.30252 | 0.69459 | 0.91757 | 0.86053 |

IR : Inhibition rate

Biomass : Yield f (Final yield based on cell density)

實 驗 毒 物 : **Chlorsulfuron** 初始細胞密度(cells/mL) : 15000

MCV (μm3) : 43.82 D (μm) : 4.374 Initial pH : 7.65 EDTA(%) : 0

T(℃) : 24.4 Test duration : 48-h

| Conc mg/L | Initial DO mg/L | Final DO mg/L | Final cells cells/ml | Delta DO mg/L | μspecific | μrelative | IR ( growth rate) | IR (Biomass) | IR (DO) |
|---|---|---|---|---|---|---|---|---|---|
| Control | 1.24 | 6.64 | 329600 | 5.4 | 1.544915 | 1 | 0 | 0 | 0 |
| 0.016 | 1.02 | 6.15 | 312900 | 5.13 | 1.518917 | 0.98317 | 0.01683 | 0.05308 | 0.05000 |
| 0.031 | 1.11 | 5.66 | 252700 | 4.55 | 1.412076 | 0.91402 | 0.08598 | 0.24444 | 0.15741 |
| 0.048 | 1.14 | 5.01 | 203700 | 3.87 | 1.304299 | 0.84425 | 0.15575 | 0.40019 | 0.28333 |
| 0.098 | 1.12 | 4.13 | 115200 | 3.01 | 1.019310 | 0.65978 | 0.34022 | 0.68150 | 0.44259 |
| 0.502 | 1.16 | 3.63 | 54100 | 2.47 | 0.641392 | 0.41516 | 0.58484 | 0.87572 | 0.54259 |
| 1.03 | 1.27 | 2.98 | 38200 | 1.71 | 0.467393 | 0.30254 | 0.69746 | 0.92626 | 0.68333 |
| Control | 1.14 | 6.5 | 327400 | 5.36 | 1.541566 | 1 | 0 | 0 | 0 |
| 0.016 | 1.12 | 6.23 | 319200 | 5.11 | 1.528884 | 0.99177 | 0.00823 | 0.02625 | 0.04664 |
| 0.031 | 1.13 | 5.89 | 289400 | 4.76 | 1.479880 | 0.95998 | 0.04002 | 0.12164 | 0.11194 |
| 0.048 | 1.1 | 4.92 | 202000 | 3.82 | 1.300109 | 0.84337 | 0.15663 | 0.40141 | 0.28731 |
| 0.098 | 1.11 | 4.02 | 127900 | 2.91 | 1.071599 | 0.69514 | 0.30486 | 0.63860 | 0.45709 |
| 0.502 | 1.11 | 3.57 | 54700 | 2.46 | 0.646907 | 0.41964 | 0.58036 | 0.87292 | 0.54104 |
| 1.03 | 1.23 | 2.76 | 47400 | 1.53 | 0.575286 | 0.37318 | 0.62682 | 0.89629 | 0.71455 |
| Control | 1.15 | 6.75 | 327700 | 5.6 | 1.542024 | 1 | 0 | 0 | 0 |
| 0.016 | 1.12 | 6.34 | 310800 | 5.22 | 1.515550 | 0.98283 | 0.01717 | 0.05405 | 0.06786 |
| 0.031 | 1.13 | 6.07 | 279600 | 4.94 | 1.462655 | 0.94853 | 0.05147 | 0.15382 | 0.11786 |
| 0.048 | 1.11 | 5.36 | 214500 | 4.25 | 1.330130 | 0.86259 | 0.13741 | 0.36201 | 0.24107 |
| 0.098 | 1.11 | 4.24 | 88900 | 3.13 | 0.889731 | 0.57699 | 0.42301 | 0.76367 | 0.44107 |
| 0.502 | 1.16 | 3.86 | 49200 | 2.7 | 0.593922 | 0.38516 | 0.61484 | 0.89063 | 0.51786 |
| 1.03 | 1.25 | 3.09 | 36300 | 1.84 | 0.441884 | 0.28656 | 0.71344 | 0.93188 | 0.67143 |
| Control | 1.10 | 6.63000 | 328233.33 | 5.45 | 1.542835 | 1 | 0 | 0 | 0 |
| 0.016 | 1.08 | 6.24000 | 314300.00 | 5.15 | 1.521117 | 0.98593 | 0.01406 | 0.04448 | 0.05501 |
| 0.031 | 1.12 | 5.87333 | 273900.00 | 4.75 | 1.451537 | 0.94084 | 0.05865 | 0.17346 | 0.12897 |
| 0.048 | 1.11 | 5.09667 | 206733.33 | 3.98 | 1.311513 | 0.85007 | 0.14982 | 0.38789 | 0.27017 |
| 0.098 | 1.11 | 4.13000 | 110666.67 | 3.01 | 0.993547 | 0.64397 | 0.35234 | 0.69458 | 0.44682 |
| 0.502 | 1.14 | 3.68667 | 52666.67 | 2.54 | 0.627407 | 0.40665 | 0.59298 | 0.87975 | 0.53362 |
| 1.03 | 1.25 | 2.94333 | 40633.33 | 1.69 | 0.494854 | 0.32076 | 0.67704 | 0.91817 | 0.68949 |

IR : Inhibition rate

Biomass : Yield f (Final yield based on cell density)

實 驗 毒 物 : **Cinosulfuron** 初始細胞密度(cells/mL) : 15000

MCV (µm3) : 41.35 D (µm) : 4.29 Initial pH : 7.52 EDTA(%) : 0

T(℃) : 23.8 Test duration : 48-h

| Conc mg/L | Initial DO mg/L | Final DO mg/L | Final cells cells/ml | Delta DO mg/L | µspecific | µrelative | IR ( growth rate) | IR (Biomass) | IR (DO) |
|---|---|---|---|---|---|---|---|---|---|
| Control | 1.72 | 9.16 | 303100 | 7.44 | 1.50301 | 1 | 0 | 0 | 0 |
| 20 | 1.71 | 2.3 | 30900 | 0.59 | 0.36135 | 0.24042 | 0.75958 | 0.94481 | 0.92070 |
| 4 | 1.65 | 2.74 | 40600 | 1.09 | 0.49786 | 0.33124 | 0.66876 | 0.91114 | 0.85349 |
| 0.8 | 1.64 | 3.74 | 67400 | 2.1 | 0.75130 | 0.49986 | 0.50014 | 0.81812 | 0.71774 |
| 0.16 | 1.66 | 6.67 | 209600 | 5.01 | 1.31858 | 0.87729 | 0.12271 | 0.32454 | 0.32661 |
| 0.032 | 1.67 | 8.53 | 250600 | 6.86 | 1.40790 | 0.93673 | 0.06327 | 0.18223 | 0.07796 |
| 0.008 | 1.69 | 8.7 | 278500 | 7.01 | 1.46068 | 0.97184 | 0.02816 | 0.08539 | 0.05780 |
| 0.004 | 1.66 | 8.95 | 290000 | 7.29 | 1.48092 | 0.98530 | 0.01470 | 0.04547 | 0.02016 |
| Control | 1.7 | 9.01 | 307100 | 7.31 | 1.50956 | 1 | 0 | 0 | 0 |
| 20 | 1.79 | 2.37 | 34700 | 0.58 | 0.41934 | 0.27779 | 0.72221 | 0.93256 | 0.92066 |
| 4 | 1.64 | 2.75 | 39300 | 1.11 | 0.48159 | 0.31902 | 0.68098 | 0.91681 | 0.84815 |
| 0.8 | 1.62 | 3.81 | 83600 | 2.19 | 0.85900 | 0.56904 | 0.43096 | 0.76515 | 0.70041 |
| 0.16 | 1.68 | 6.74 | 217400 | 5.06 | 1.33684 | 0.88558 | 0.11442 | 0.30709 | 0.30780 |
| 0.032 | 1.62 | 8.67 | 272600 | 7.05 | 1.44998 | 0.96053 | 0.03947 | 0.11811 | 0.03557 |
| 0.008 | 1.67 | 8.8 | 296600 | 7.13 | 1.49217 | 0.98848 | 0.01152 | 0.03595 | 0.02462 |
| 0.004 | 1.66 | 8.88 | 302000 | 7.22 | 1.50119 | 0.99445 | 0.00555 | 0.01746 | 0.01231 |
| Control | 1.52 | 8.86 | 331300 | 7.34 | 1.54749 | 1 | 0 | 0 | 0 |
| 20 | 1.83 | 2.37 | 31100 | 0.54 | 0.36458 | 0.23559 | 0.76441 | 0.94910 | 0.92643 |
| 4 | 1.66 | 2.83 | 40400 | 1.17 | 0.49539 | 0.32013 | 0.67987 | 0.91970 | 0.84060 |
| 0.8 | 1.64 | 3.93 | 100700 | 2.29 | 0.95205 | 0.61522 | 0.38478 | 0.72905 | 0.68801 |
| 0.16 | 1.61 | 6.71 | 202800 | 5.1 | 1.30209 | 0.84142 | 0.15858 | 0.40626 | 0.30518 |
| 0.032 | 1.62 | 8.61 | 253700 | 6.99 | 1.41405 | 0.91377 | 0.08623 | 0.24534 | 0.04768 |
| 0.008 | 1.66 | 8.77 | 292900 | 7.11 | 1.48589 | 0.96020 | 0.03980 | 0.12140 | 0.03134 |
| 0.004 | 1.65 | 8.79 | 312100 | 7.14 | 1.51764 | 0.98071 | 0.01929 | 0.06070 | 0.02725 |
| Control | 1.64 | 9.01000 | 313833.33 | 7.36 | 1.52002 | 1 | 0 | 0 | 0 |
| 20 | 1.77 | 2.34667 | 32233.33 | 0.57 | 0.38176 | 0.25127 | 0.74844 | 0.94233 | 0.92259 |
| 4 | 1.65 | 2.77333 | 40100.00 | 1.12 | 0.49161 | 0.32346 | 0.67662 | 0.91601 | 0.84744 |
| 0.8 | 1.63 | 3.82667 | 83900.00 | 2.19 | 0.85411 | 0.56137 | 0.43384 | 0.76944 | 0.70213 |
| 0.16 | 1.65 | 6.70667 | 209933.33 | 5.05 | 1.31917 | 0.86810 | 0.13223 | 0.34769 | 0.31326 |
| 0.032 | 1.63 | 8.60333 | 258966.67 | 6.96 | 1.42398 | 0.93701 | 0.06319 | 0.18360 | 0.05387 |
| 0.008 | 1.67 | 8.75667 | 289333.33 | 7.08 | 1.47958 | 0.97350 | 0.02673 | 0.08199 | 0.03803 |
| 0.004 | 1.65 | 8.87333 | 301366.67 | 7.21 | 1.49991 | 0.98682 | 0.01333 | 0.04172 | 0.01992 |

IR : Inhibition rate

Biomass : Yield f (Final yield based on cell density)

實 驗 毒 物 : **Cyclosulfamuron** 初始細胞密度(cells/mL) : 15000

MCV (μm3) : 45.36 D (μm) : Initial pH : 7.54 EDTA(%) : 0

T(℃) : 23.5 Test duration : 48-h

| Conc | Initial DO | Final DO | Final cells | Delta DO | | | IR | IR | IR |
|---|---|---|---|---|---|---|---|---|---|
| mg/L | mg/L | mg/L | cells/ml | mg/L | μspecific | μrelative | ( growth rate) | (Biomass) | (DO) |
| Control | 0.93 | 7.81 | 344300 | 6.88 | 1.566732 | 1 | 0 | 0 | 0 |
| 0.0001 | 0.91 | 7.16 | 337600 | 6.25 | 1.556906 | 0.99373 | 0.00627 | 0.02035 | 0.09157 |
| 0.0002 | 0.87 | 6.58 | 282900 | 5.71 | 1.468522 | 0.93732 | 0.06268 | 0.18646 | 0.17006 |
| 0.0004 | 0.89 | 5.28 | 163500 | 4.39 | 1.194381 | 0.76234 | 0.23766 | 0.54904 | 0.36192 |
| 0.0016 | 0.89 | 4.23 | 103100 | 3.34 | 0.963825 | 0.61518 | 0.38482 | 0.73246 | 0.51453 |
| 0.022 | 0.94 | 3.32 | 90200 | 2.38 | 0.896990 | 0.57252 | 0.42748 | 0.77164 | 0.65407 |
| 0.051 | 1.23 | 2 | 75100 | 0.77 | 0.805385 | 0.51405 | 0.48595 | 0.81749 | 0.88808 |
| Control | 0.82 | 7.26 | 377300 | 6.44 | 1.612495 | 1 | 0 | 0 | 0 |
| 0.0001 | 0.83 | 6.76 | 344300 | 5.93 | 1.566732 | 0.97162 | 0.02838 | 0.09108 | 0.07919 |
| 0.0002 | 0.83 | 5.92 | 308800 | 5.09 | 1.512322 | 0.93788 | 0.06212 | 0.18907 | 0.20963 |
| 0.0004 | 0.9 | 4.47 | 195900 | 3.57 | 1.284777 | 0.79676 | 0.20324 | 0.50069 | 0.44565 |
| 0.0016 | 0.98 | 4.02 | 114700 | 3.04 | 1.017135 | 0.63078 | 0.36922 | 0.72481 | 0.52795 |
| 0.022 | 1.03 | 3.19 | 87300 | 2.16 | 0.880650 | 0.54614 | 0.45386 | 0.80044 | 0.66460 |
| 0.051 | 1.43 | 2.11 | 63200 | 0.68 | 0.719127 | 0.44597 | 0.55403 | 0.86696 | 0.89441 |
| Control | 0.9 | 7.17 | 301500 | 6.27 | 1.500360 | 1 | 0 | 0 | 0 |
| 0.0001 | 0.88 | 6.8 | 288000 | 5.92 | 1.477455 | 0.98473 | 0.01527 | 0.04712 | 0.05582 |
| 0.0002 | 0.87 | 5.88 | 234500 | 5.01 | 1.374703 | 0.91625 | 0.08375 | 0.23386 | 0.20096 |
| 0.0004 | 0.89 | 5.01 | 162200 | 4.12 | 1.190390 | 0.79340 | 0.20660 | 0.48621 | 0.34290 |
| 0.0016 | 0.9 | 3.99 | 114700 | 3.09 | 1.017135 | 0.67793 | 0.32207 | 0.65201 | 0.50718 |
| 0.022 | 1 | 3.04 | 84500 | 2.04 | 0.864351 | 0.57610 | 0.42390 | 0.75742 | 0.67464 |
| 0.051 | 1.28 | 2.31 | 61700 | 1.03 | 0.707117 | 0.47130 | 0.52870 | 0.83700 | 0.83573 |
| Control | 0.88 | 7.41333 | 341033.33 | 6.53 | 1.559862 | 1 | 0 | 0 | 0 |
| 0.0001 | 0.87 | 6.90667 | 323300.00 | 6.03 | 1.533698 | 0.98336 | 0.01709 | 0.05439 | 0.07606 |
| 0.0002 | 0.85 | 6.12667 | 275400.00 | 5.27 | 1.451849 | 0.93048 | 0.06843 | 0.20131 | 0.19296 |
| 0.0004 | 0.89 | 4.92000 | 173866.67 | 4.02 | 1.223183 | 0.78417 | 0.21566 | 0.51273 | 0.38336 |
| 0.0016 | 0.92 | 4.08000 | 110833.33 | 3.15 | 0.999365 | 0.64130 | 0.35979 | 0.70606 | 0.51659 |
| 0.022 | 0.99 | 3.18333 | 87333.33 | 2.19 | 0.880663 | 0.56492 | 0.43607 | 0.77814 | 0.66411 |
| 0.051 | 1.31 | 2.14000 | 66666.67 | 0.82 | 0.743876 | 0.47711 | 0.52251 | 0.84153 | 0.87340 |

IR : Inhibition rate

Biomass : Yield f (Final yield based on cell density)

實 驗 毒 物 : **Halosulfuron-methyl** 初始細胞密度(cells/mL) : 15000

MCV (µm3) : 46.32 D (µm) : Initial pH : 7.58 EDTA(%) : 0

T(℃) : 24.4 Test duration : 48-h

| Conc | Initial DO | Final DO | Final cells | Delta DO | | | IR | IR | IR |
|---|---|---|---|---|---|---|---|---|---|
| mg/L | mg/L | mg/L | cells/ml | mg/L | µspecific | µrelative | ( growth rate) | (Biomass) | (DO) |
| Control | 1.13 | 6.8 | 269300 | 5.67 | 1.443888 | 1 | 0 | 0 | 0 |
| 0.0001 | 1.16 | 6.24 | 242900 | 5.08 | 1.392300 | 0.96427 | 0.03573 | 0.10381 | 0.10406 |
| 0.0005 | 1.3 | 5.84 | 210400 | 4.54 | 1.320480 | 0.91453 | 0.08547 | 0.23162 | 0.19929 |
| 0.001 | 1.09 | 5.02 | 152900 | 3.93 | 1.160867 | 0.80399 | 0.19601 | 0.45773 | 0.30688 |
| 0.004 | 1.17 | 4.03 | 90600 | 2.86 | 0.899202 | 0.62276 | 0.37724 | 0.70271 | 0.49559 |
| 0.016 | 1.37 | 3.06 | 88500 | 1.69 | 0.887476 | 0.61464 | 0.38536 | 0.71097 | 0.70194 |
| 0.064 | 1.35 | 2.46 | 58900 | 1.11 | 0.683895 | 0.47365 | 0.52635 | 0.82737 | 0.80423 |
| Control | 1.08 | 6.37 | 259700 | 5.29 | 1.425738 | 1 | 0 | 0 | 0 |
| 0.0001 | 1.16 | 5.98 | 235400 | 4.82 | 1.376618 | 0.96555 | 0.03445 | 0.09931 | 0.08885 |
| 0.0005 | 1.13 | 5.24 | 215800 | 4.11 | 1.333151 | 0.93506 | 0.06494 | 0.17940 | 0.22306 |
| 0.001 | 1.29 | 4.84 | 179300 | 3.55 | 1.240505 | 0.87008 | 0.12992 | 0.32857 | 0.32892 |
| 0.004 | 1.17 | 3.81 | 97500 | 2.64 | 0.935901 | 0.65643 | 0.34357 | 0.66285 | 0.50095 |
| 0.016 | 1.32 | 2.67 | 68600 | 1.35 | 0.760121 | 0.53314 | 0.46686 | 0.78096 | 0.74480 |
| 0.064 | 1.89 | 2.37 | 36700 | 0.48 | 0.447363 | 0.31378 | 0.68622 | 0.91132 | 0.90926 |
| Control | 1.1 | 7.12 | 271000 | 6.02 | 1.447034 | 1 | 0 | 0 | 0 |
| 0.0001 | 1.15 | 6.8 | 258200 | 5.65 | 1.422842 | 0.98328 | 0.01672 | 0.05000 | 0.06146 |
| 0.0005 | 1.15 | 5.88 | 222200 | 4.73 | 1.347764 | 0.93140 | 0.06860 | 0.19063 | 0.21429 |
| 0.001 | 1.12 | 5.01 | 172500 | 3.89 | 1.221174 | 0.84391 | 0.15609 | 0.38477 | 0.35382 |
| 0.004 | 1.22 | 3.99 | 107100 | 2.77 | 0.982856 | 0.67922 | 0.32078 | 0.64023 | 0.53987 |
| 0.016 | 1.35 | 3.04 | 84500 | 1.69 | 0.864351 | 0.59733 | 0.40267 | 0.72852 | 0.71927 |
| 0.064 | 1.8 | 2.31 | 70900 | 0.51 | 0.776610 | 0.53669 | 0.46331 | 0.78164 | 0.91528 |
| Control | 1.10 | 6.76333 | 266666.67 | 5.66 | 1.438887 | 1 | 0 | 0 | 0 |
| 0.0001 | 1.15 | 6.34000 | 245500.00 | 5.18 | 1.397253 | 0.97103 | 0.02874 | 0.08411 | 0.08422 |
| 0.0005 | 1.19 | 5.65333 | 216133.33 | 4.46 | 1.333798 | 0.92700 | 0.07300 | 0.20079 | 0.21201 |
| 0.001 | 1.16 | 4.95667 | 168233.33 | 3.79 | 1.207515 | 0.83933 | 0.16006 | 0.39113 | 0.33039 |
| 0.004 | 1.18 | 3.94333 | 98400.00 | 2.75 | 0.939320 | 0.65281 | 0.34641 | 0.66861 | 0.51296 |
| 0.016 | 1.34 | 2.92333 | 80533.33 | 1.57 | 0.837316 | 0.58170 | 0.41604 | 0.73960 | 0.72144 |
| 0.064 | 1.68 | 2.38000 | 55500.00 | 0.70 | 0.635956 | 0.44137 | 0.54539 | 0.83907 | 0.87633 |

IR : Inhibition rate

Biomass : Yield f (Final yield based on cell density)

實 驗 毒 物 : **Metsulfuron-methyl** 初始細胞密度(cells/mL) : 15000

MCV (µm3) : 38.22 D (µm) : 4.179 Initial pH : 7.54 EDTA(%) : 0

T(℃) : 24.2 Test duration : 48-h

| Conc mg/L | Initial DO mg/L | Final DO mg/L | Final cells cells/ml | Delta DO mg/L | µspecific | µrelative | IR ( growth rate) | IR (Biomass) | IR (DO) |
|---|---|---|---|---|---|---|---|---|---|
| Control | 1.24 | 9.18 | 372500 | 7.94 | 1.606093 | 1 | 0 | 0 | 0 |
| 3.048 | 1.09 | 3.4 | 71600 | 2.31 | 0.781522 | 0.48660 | 0.51340 | 0.84168 | 0.70907 |
| 1.49 | 1.11 | 3.59 | 101600 | 2.48 | 0.956497 | 0.59554 | 0.40446 | 0.75776 | 0.68766 |
| 0.501 | 1.21 | 5.68 | 211100 | 4.47 | 1.322141 | 0.82320 | 0.17680 | 0.45147 | 0.43703 |
| 0.102 | 1.08 | 6.23 | 317800 | 5.15 | 1.526686 | 0.95056 | 0.04944 | 0.15301 | 0.35139 |
| 0.05 | 1.04 | 7.8 | 331100 | 6.76 | 1.547185 | 0.96332 | 0.03668 | 0.11580 | 0.14861 |
| 0.01 | 1.1 | 8.01 | 384800 | 6.91 | 1.622337 | 1.01011 | -0.01011 | -0.03441 | 0.12972 |
| Control | 1.13 | 8.48 | 375000 | 7.35 | 1.609438 | 1 | 0 | 0 | 0 |
| 3.048 | 1.03 | 3.52 | 81500 | 2.49 | 0.846276 | 0.52582 | 0.47418 | 0.81528 | 0.66122 |
| 1.49 | 1.05 | 4.01 | 107300 | 2.96 | 0.983789 | 0.61126 | 0.38874 | 0.74361 | 0.59728 |
| 0.501 | 1.08 | 6.22 | 199600 | 5.14 | 1.294133 | 0.80409 | 0.19591 | 0.48722 | 0.30068 |
| 0.102 | 1.08 | 7.59 | 327000 | 6.51 | 1.540955 | 0.95745 | 0.04255 | 0.13333 | 0.11429 |
| 0.05 | 1.11 | 7.61 | 334700 | 6.5 | 1.552592 | 0.96468 | 0.03532 | 0.11194 | 0.11565 |
| 0.01 | 1.03 | 7.75 | 381100 | 6.72 | 1.617506 | 1.00501 | -0.00501 | -0.01694 | 0.08571 |
| Control | 1.06 | 8.63 | 379900 | 7.57 | 1.615929 | 1 | 0 | 0 | 0 |
| 3.048 | 1.14 | 3.5 | 94700 | 2.36 | 0.921332 | 0.57016 | 0.42984 | 0.78158 | 0.68824 |
| 1.49 | 1.06 | 3.78 | 97400 | 2.72 | 0.935388 | 0.57885 | 0.42115 | 0.77418 | 0.64069 |
| 0.501 | 1.02 | 6.04 | 206400 | 5.02 | 1.310883 | 0.81123 | 0.18877 | 0.47547 | 0.33686 |
| 0.102 | 1.08 | 6.7 | 317900 | 5.62 | 1.526843 | 0.94487 | 0.05513 | 0.16991 | 0.25760 |
| 0.05 | 1.06 | 7.63 | 334600 | 6.57 | 1.552443 | 0.96071 | 0.03929 | 0.12414 | 0.13210 |
| 0.01 | 1.09 | 8.04 | 346800 | 6.95 | 1.570349 | 0.97179 | 0.02821 | 0.09071 | 0.08190 |
| Control | 1.14 | 8.76333 | 375800.00 | 7.62 | 1.610487 | 1 | 0 | 0 | 0 |
| 3.048 | 1.08 | 3.47333 | 82600.00 | 2.38 | 0.849710 | 0.52753 | 0.47036 | 0.81264 | 0.68679 |
| 1.49 | 1.07 | 3.79333 | 102100.00 | 2.72 | 0.958558 | 0.59522 | 0.40456 | 0.75859 | 0.64304 |
| 0.501 | 1.10 | 5.98000 | 205700.00 | 4.87 | 1.309052 | 0.81284 | 0.18710 | 0.47145 | 0.36002 |
| 0.102 | 1.08 | 6.84000 | 320900.00 | 5.76 | 1.531495 | 0.95096 | 0.04903 | 0.15216 | 0.24409 |
| 0.05 | 1.07 | 7.68000 | 333466.67 | 6.61 | 1.550740 | 0.96290 | 0.03710 | 0.11733 | 0.13255 |
| 0.01 | 1.07 | 7.93333 | 370900.00 | 6.86 | 1.603397 | 0.99564 | 0.00407 | 0.01358 | 0.09974 |

IR : Inhibition rate

Biomass : Yield f (Final yield based on cell density)

實 驗 毒 物 : **Primisulfuron-methyl** 初始細胞密度(cells/mL) : 15000

MCV (μm3) : 46.32 D (μm) : Initial pH : 7.58 EDTA(%) : 0

T(℃) : 23.5 Test duration : 48-h

| Conc | Initial DO | Final DO | Final cells | Delta DO | | | IR | IR | IR |
|---|---|---|---|---|---|---|---|---|---|
| mg/L | mg/L | mg/L | cells/ml | mg/L | μspecific | μrelative | ( growth rate) | (Biomass) | (DO) |
| Control | 1.32 | 7.22 | 310400 | 5.9 | 1.514906 | 1 | 0 | 0 | 0 |
| 0.01 | 1.18 | 6.46 | 281000 | 5.28 | 1.465152 | 0.96716 | 0.03284 | 0.09953 | 0.10508 |
| 0.02 | 1.09 | 6.06 | 263500 | 4.97 | 1.433002 | 0.94593 | 0.05407 | 0.15877 | 0.15763 |
| 0.041 | 1.17 | 5.32 | 211600 | 4.15 | 1.323324 | 0.87354 | 0.12646 | 0.33446 | 0.29661 |
| 0.08 | 1.27 | 4.92 | 160400 | 3.65 | 1.184810 | 0.78210 | 0.21790 | 0.50779 | 0.38136 |
| 0.16 | 1.25 | 4.06 | 115100 | 2.81 | 1.018876 | 0.67257 | 0.32743 | 0.66114 | 0.52373 |
| 0.32 | 1.1 | 2.37 | 57500 | 1.27 | 0.671867 | 0.44350 | 0.55650 | 0.85613 | 0.78475 |
| Control | 1.25 | 7.22 | 301500 | 5.97 | 1.500360 | 1 | 0 | 0 | 0 |
| 0.01 | 1.14 | 6.71 | 283500 | 5.57 | 1.469581 | 0.97949 | 0.02051 | 0.06283 | 0.06700 |
| 0.02 | 1.19 | 6.11 | 260400 | 4.92 | 1.427084 | 0.95116 | 0.04884 | 0.14346 | 0.17588 |
| 0.041 | 1.2 | 5.92 | 225600 | 4.72 | 1.355357 | 0.90335 | 0.09665 | 0.26492 | 0.20938 |
| 0.08 | 1.22 | 5.26 | 189700 | 4.04 | 1.268697 | 0.84560 | 0.15440 | 0.39023 | 0.32328 |
| 0.16 | 1.1 | 4.19 | 121700 | 3.09 | 1.046754 | 0.69767 | 0.30233 | 0.62757 | 0.48241 |
| 0.32 | 1.29 | 3.73 | 71600 | 2.44 | 0.781522 | 0.52089 | 0.47911 | 0.80244 | 0.59129 |
| Control | 1.25 | 6.89 | 311100 | 5.64 | 1.516032 | 1 | 0 | 0 | 0 |
| 0.01 | 1.14 | 6.31 | 288200 | 5.17 | 1.477802 | 0.97478 | 0.02522 | 0.07734 | 0.08333 |
| 0.02 | 1.12 | 6 | 272200 | 4.88 | 1.449243 | 0.95595 | 0.04405 | 0.13137 | 0.13475 |
| 0.041 | 1.21 | 5.11 | 213400 | 3.9 | 1.327559 | 0.87568 | 0.12432 | 0.32996 | 0.30851 |
| 0.08 | 1.21 | 4.87 | 147100 | 3.66 | 1.141531 | 0.75297 | 0.24703 | 0.55387 | 0.35106 |
| 0.16 | 1.22 | 4.04 | 104500 | 2.82 | 0.970568 | 0.64020 | 0.35980 | 0.69774 | 0.50000 |
| 0.32 | 1.31 | 3.33 | 61700 | 2.02 | 0.707117 | 0.46643 | 0.53357 | 0.84228 | 0.64184 |
| Control | 1.27 | 7.11000 | 307666.67 | 5.83 | 1.510433 | 1 | 0 | 0 | 0 |
| 0.01 | 1.15 | 6.49333 | 284233.33 | 5.34 | 1.470845 | 0.97381 | 0.02622 | 0.08007 | 0.08509 |
| 0.02 | 1.13 | 6.05667 | 265366.67 | 4.92 | 1.436443 | 0.95101 | 0.04896 | 0.14453 | 0.15648 |
| 0.041 | 1.19 | 5.45000 | 216866.67 | 4.25 | 1.335413 | 0.88419 | 0.11577 | 0.31025 | 0.27070 |
| 0.08 | 1.23 | 5.01667 | 165733.33 | 3.78 | 1.198346 | 0.79356 | 0.20478 | 0.48497 | 0.35180 |
| 0.16 | 1.19 | 4.09667 | 113766.67 | 2.90 | 1.012066 | 0.67015 | 0.32932 | 0.66253 | 0.50200 |
| 0.32 | 1.23 | 3.14333 | 63600.00 | 1.91 | 0.720169 | 0.47694 | 0.52182 | 0.83394 | 0.67276 |

IR : Inhibition rate

Biomass : Yield f (Final yield based on cell density)

實 驗 毒 物 : **Rimsulfuron** 初始細胞密度(cells/mL) : 15000

MCV (µm3) : 40.22 D (µm) : 4.251 Initial pH : 7.55 EDTA(%) : 0

T(℃) : 24.1 Test duration : 48-h

| Conc mg/L | Initial DO mg/L | Final DO mg/L | Final cells cells/ml | Delta DO mg/L | µspecific | µrelative | IR ( growth rate) | IR (Biomass) | IR (DO) |
|---|---|---|---|---|---|---|---|---|---|
| Control | 2.08 | 11.47 | 329800 | 9.39 | 1.545218 | 1 | 0 | 0 | 0 |
| 0.006 | 2.02 | 11.02 | 302300 | 9 | 1.501685 | 0.97183 | 0.02817 | 0.08736 | 0.04153 |
| 0.013 | 2.03 | 10.46 | 272800 | 8.43 | 1.450344 | 0.93860 | 0.06140 | 0.18107 | 0.10224 |
| 0.032 | 2.03 | 9.63 | 232300 | 7.6 | 1.369990 | 0.88660 | 0.11340 | 0.30972 | 0.19063 |
| 0.112 | 2 | 6.89 | 166800 | 4.89 | 1.204373 | 0.77942 | 0.22058 | 0.51779 | 0.47923 |
| 0.301 | 2 | 5.43 | 68900 | 3.43 | 0.762303 | 0.49333 | 0.50667 | 0.82878 | 0.63472 |
| 0.51 | 2.02 | 4.51 | 43000 | 2.49 | 0.526575 | 0.34078 | 0.65922 | 0.91105 | 0.73482 |
| Control | 2.03 | 10.86 | 264000 | 8.83 | 1.433949 | 1 | 0 | 0 | 0 |
| 0.006 | 1.98 | 10.51 | 251400 | 8.53 | 1.409498 | 0.98295 | 0.01705 | 0.05060 | 0.03398 |
| 0.013 | 2.01 | 10.35 | 242300 | 8.34 | 1.391063 | 0.97009 | 0.02991 | 0.08715 | 0.05549 |
| 0.032 | 2.04 | 9.45 | 221500 | 7.41 | 1.346186 | 0.93880 | 0.06120 | 0.17068 | 0.16082 |
| 0.112 | 2.04 | 6.41 | 160500 | 4.37 | 1.185122 | 0.82647 | 0.17353 | 0.41566 | 0.50510 |
| 0.301 | 1.94 | 5.15 | 64200 | 3.21 | 0.726977 | 0.50697 | 0.49303 | 0.80241 | 0.63647 |
| 0.51 | 2.09 | 4.69 | 57200 | 2.6 | 0.669252 | 0.46672 | 0.53328 | 0.83052 | 0.70555 |
| Control | 1.92 | 11.16 | 318300 | 9.24 | 1.527472 | 1 | 0 | 0 | 0 |
| 0.006 | 1.94 | 10.66 | 291300 | 8.72 | 1.483152 | 0.97098 | 0.02902 | 0.08902 | 0.05628 |
| 0.013 | 1.95 | 10.19 | 274600 | 8.24 | 1.453633 | 0.95166 | 0.04834 | 0.14408 | 0.10823 |
| 0.032 | 1.97 | 9.73 | 230300 | 7.76 | 1.365666 | 0.89407 | 0.10593 | 0.29014 | 0.16017 |
| 0.112 | 2.01 | 6.21 | 161300 | 4.2 | 1.187608 | 0.77750 | 0.22250 | 0.51764 | 0.54545 |
| 0.301 | 2.01 | 5.26 | 71700 | 3.25 | 0.782220 | 0.51210 | 0.48790 | 0.81306 | 0.64827 |
| 0.51 | 2.11 | 4.66 | 43300 | 2.55 | 0.530051 | 0.34701 | 0.65299 | 0.90669 | 0.72403 |
| Control | 2.01 | 11.16333 | 304033.33 | 9.15 | 1.502213 | 1 | 0 | 0 | 0 |
| 0.006 | 1.98 | 10.73000 | 281666.67 | 8.75 | 1.464778 | 0.97525 | 0.02539 | 0.07738 | 0.04406 |
| 0.013 | 1.99 | 10.33333 | 263233.33 | 8.33 | 1.431680 | 0.95345 | 0.04789 | 0.14116 | 0.08922 |
| 0.032 | 2.01 | 9.60333 | 228033.33 | 7.59 | 1.360614 | 0.90649 | 0.09559 | 0.26295 | 0.17079 |
| 0.112 | 2.01 | 6.50333 | 162866.67 | 4.48 | 1.192367 | 0.79446 | 0.20744 | 0.48841 | 0.50983 |
| 0.301 | 1.98 | 5.28000 | 68266.67 | 3.29 | 0.757167 | 0.50414 | 0.49640 | 0.81571 | 0.63984 |
| 0.51 | 2.07 | 4.62000 | 47833.33 | 2.54 | 0.575293 | 0.38484 | 0.61461 | 0.88640 | 0.72178 |

IR : Inhibition rate

Biomass : Yield f (Final yield based on cell density)

實 驗 毒 物 : **Imazamox** 初始細胞密度(cells/mL) : 15000

MCV (μm3) : 45.36 D (μm) : Initial pH : 7.63 EDTA(%) : 0

T(℃) : 23.5 Test duration : 48-h

| Conc mg/L | Initial DO mg/L | Final DO mg/L | Final cells cells/ml | Delta DO mg/L | μspecific | μrelative | IR ( growth rate) | IR (Biomass) | IR (DO) |
|---|---|---|---|---|---|---|---|---|---|
| Control | 0.72 | 7.88 | 318100 | 7.16 | 1.52716 | 1 | 0 | 0 | 0 |
| 0.003 | 0.73 | 7.27 | 297000 | 6.54 | 1.49284 | 0.97753 | 0.02247 | 0.06961 | 0.08659 |
| 0.006 | 0.94 | 6.76 | 273200 | 5.82 | 1.45108 | 0.95018 | 0.04982 | 0.14814 | 0.18715 |
| 0.024 | 0.73 | 5.97 | 243300 | 5.24 | 1.39312 | 0.91223 | 0.08777 | 0.24678 | 0.26816 |
| 0.098 | 0.96 | 4.71 | 193000 | 3.75 | 1.27732 | 0.83640 | 0.16360 | 0.41274 | 0.47626 |
| 0.37 | 0.88 | 4.25 | 157100 | 3.37 | 1.17442 | 0.76902 | 0.23098 | 0.53118 | 0.52933 |
| 1.54 | 0.99 | 3.11 | 92100 | 2.12 | 0.90741 | 0.59418 | 0.40582 | 0.74563 | 0.70391 |
| 6.1 | 0.96 | 2.12 | 58500 | 1.16 | 0.68049 | 0.44559 | 0.55441 | 0.85648 | 0.83799 |
| Control | 0.7 | 7.34 | 317400 | 6.64 | 1.52606 | 1 | 0 | 0 | 0 |
| 0.003 | 0.76 | 6.99 | 289800 | 6.23 | 1.48057 | 0.97019 | 0.02981 | 0.09127 | 0.06175 |
| 0.006 | 0.73 | 6.05 | 282200 | 5.32 | 1.46728 | 0.96149 | 0.03851 | 0.11640 | 0.19880 |
| 0.024 | 0.75 | 5.47 | 237500 | 4.72 | 1.38106 | 0.90499 | 0.09501 | 0.26422 | 0.28916 |
| 0.098 | 0.93 | 4.52 | 189000 | 3.59 | 1.26685 | 0.83015 | 0.16985 | 0.42460 | 0.45934 |
| 0.37 | 0.76 | 3.5 | 120800 | 2.74 | 1.04304 | 0.68349 | 0.31651 | 0.65013 | 0.58735 |
| 1.54 | 0.99 | 2.74 | 86300 | 1.75 | 0.87489 | 0.57330 | 0.42670 | 0.76422 | 0.73645 |
| 6.1 | 1.06 | 2.15 | 41200 | 1.09 | 0.50519 | 0.33105 | 0.66895 | 0.91336 | 0.83584 |
| Control | 0.7 | 7.49 | 301900 | 6.79 | 1.50102 | 1 | 0 | 0 | 0 |
| 0.003 | 0.75 | 7 | 290300 | 6.25 | 1.48143 | 0.98695 | 0.01305 | 0.04043 | 0.07953 |
| 0.006 | 0.78 | 6.11 | 279400 | 5.33 | 1.46230 | 0.97420 | 0.02580 | 0.07842 | 0.21502 |
| 0.024 | 0.75 | 5.51 | 234600 | 4.76 | 1.37492 | 0.91599 | 0.08401 | 0.23458 | 0.29897 |
| 0.098 | 0.93 | 4.46 | 194700 | 3.53 | 1.28170 | 0.85389 | 0.14611 | 0.37365 | 0.48012 |
| 0.37 | 0.85 | 3.61 | 117700 | 2.76 | 1.03004 | 0.68623 | 0.31377 | 0.64204 | 0.59352 |
| 1.54 | 1 | 2.9 | 88300 | 1.9 | 0.88634 | 0.59049 | 0.40951 | 0.74451 | 0.72018 |
| 6.1 | 1.02 | 2.3 | 56600 | 1.28 | 0.66398 | 0.44235 | 0.55765 | 0.85500 | 0.81149 |
| Control | 0.70 | 7.57000 | 312466.67 | 6.86 | 1.51808 | 1 | 0 | 0 | 0 |
| 0.003 | 0.74 | 7.08667 | 292366.67 | 6.34 | 1.48495 | 0.97822 | 0.02190 | 0.06757 | 0.07625 |
| 0.006 | 0.81 | 6.30667 | 278266.67 | 5.49 | 1.46022 | 0.96196 | 0.03818 | 0.11497 | 0.20010 |
| 0.024 | 0.74 | 5.65000 | 238466.67 | 4.90 | 1.38303 | 0.91107 | 0.08901 | 0.24877 | 0.28509 |
| 0.098 | 0.94 | 4.56333 | 192233.33 | 3.62 | 1.27529 | 0.84015 | 0.15999 | 0.40419 | 0.47207 |
| 0.37 | 0.83 | 3.78667 | 131866.67 | 2.95 | 1.08250 | 0.71291 | 0.28412 | 0.60713 | 0.56921 |
| 1.54 | 0.99 | 2.91667 | 88900.00 | 1.92 | 0.88955 | 0.58599 | 0.41397 | 0.75157 | 0.71977 |
| 6.1 | 1.01 | 2.19000 | 52100.00 | 1.17 | 0.61655 | 0.40633 | 0.58994 | 0.87528 | 0.82856 |

IR : Inhibition rate

Biomass : Yield f (Final yield based on cell density)

實 驗 毒 物 : **Imazethapyr** 初始細胞密度(cells/mL) : 15000

MCV (μm3) : 43.18 D (μm) : Initial pH : 7.62 EDTA(%) : 0

T(℃) : 24.3 Test duration : 48-h

| Conc mg/L | Initial DO mg/L | Final DO mg/L | Final cells cells/ml | Delta DO mg/L | μspecific | μrelative | IR ( growth rate) | IR (Biomass) | IR (DO) |
|---|---|---|---|---|---|---|---|---|---|
| Control | 1.24 | 9.81 | 307100 | 8.57 | 1.50956 | 1 | 0 | 0 | 0 |
| 0.306 | 1.27 | 9.3 | 285600 | 8.03 | 1.47327 | 0.97596 | 0.02404 | 0.07360 | 0.06301 |
| 0.63 | 1.29 | 8.95 | 284500 | 7.66 | 1.47134 | 0.97468 | 0.02532 | 0.07737 | 0.10618 |
| 1.24 | 1.36 | 7.76 | 275200 | 6.4 | 1.45472 | 0.96367 | 0.03633 | 0.10921 | 0.25321 |
| 2.48 | 1.24 | 6.58 | 188800 | 5.34 | 1.26632 | 0.83887 | 0.16113 | 0.40500 | 0.37690 |
| 5.01 | 1.28 | 5.58 | 124500 | 4.3 | 1.05813 | 0.70095 | 0.29905 | 0.62513 | 0.49825 |
| 10.01 | 1.37 | 4.63 | 97200 | 3.26 | 0.93436 | 0.61896 | 0.38104 | 0.71859 | 0.61960 |
| 30.06 | 1.52 | 2.8 | 54200 | 1.28 | 0.64232 | 0.42550 | 0.57450 | 0.86580 | 0.85064 |
| Control | 1.19 | 9.86 | 310500 | 8.67 | 1.51507 | 1 | 0 | 0 | 0 |
| 0.306 | 1.23 | 8.97 | 307400 | 7.74 | 1.51005 | 0.99669 | 0.00331 | 0.01049 | 0.10727 |
| 0.63 | 1.21 | 8.79 | 301400 | 7.58 | 1.50019 | 0.99018 | 0.00982 | 0.03080 | 0.12572 |
| 1.24 | 1.43 | 7.67 | 265100 | 6.24 | 1.43603 | 0.94783 | 0.05217 | 0.15364 | 0.28028 |
| 2.48 | 1.35 | 6.94 | 192000 | 5.59 | 1.27472 | 0.84136 | 0.15864 | 0.40102 | 0.35525 |
| 5.01 | 1.29 | 5.6 | 140000 | 4.31 | 1.11680 | 0.73713 | 0.26287 | 0.57699 | 0.50288 |
| 10.01 | 1.24 | 4.74 | 107400 | 3.5 | 0.98425 | 0.64964 | 0.35036 | 0.68731 | 0.59631 |
| 30.06 | 1.55 | 3 | 59000 | 1.45 | 0.68474 | 0.45196 | 0.54804 | 0.85110 | 0.83276 |
| Control | 1.2 | 9.55 | 308900 | 8.35 | 1.51248 | 1 | 0 | 0 | 0 |
| 0.306 | 1.24 | 8.89 | 291400 | 7.65 | 1.48332 | 0.98072 | 0.01928 | 0.05954 | 0.08383 |
| 0.63 | 1.22 | 8.64 | 285500 | 7.42 | 1.47310 | 0.97396 | 0.02604 | 0.07962 | 0.11138 |
| 1.24 | 1.24 | 8 | 275200 | 6.76 | 1.45472 | 0.96181 | 0.03819 | 0.11466 | 0.19042 |
| 2.48 | 1.29 | 7.86 | 200900 | 6.57 | 1.29738 | 0.85778 | 0.14222 | 0.36747 | 0.21317 |
| 5.01 | 1.29 | 6.19 | 140100 | 4.9 | 1.11715 | 0.73862 | 0.26138 | 0.57435 | 0.41317 |
| 10.01 | 1.36 | 4.77 | 121700 | 3.41 | 1.04675 | 0.69208 | 0.30792 | 0.63695 | 0.59162 |
| 30.06 | 1.61 | 3.29 | 60900 | 1.68 | 0.70059 | 0.46321 | 0.53679 | 0.84382 | 0.79880 |
| Control | 1.21 | 9.74000 | 308833.33 | 8.53 | 1.51237 | 1 | 0 | 0 | 0 |
| 0.306 | 1.24 | 9.05333 | 294800.00 | 7.80 | 1.48888 | 0.98446 | 0.01537 | 0.04776 | 0.08480 |
| 0.63 | 1.24 | 8.79333 | 290466.67 | 7.55 | 1.48154 | 0.97961 | 0.02027 | 0.06251 | 0.11450 |
| 1.24 | 1.34 | 7.81000 | 271833.33 | 6.46 | 1.44849 | 0.95777 | 0.04219 | 0.12592 | 0.24189 |
| 2.48 | 1.29 | 7.12667 | 193900.00 | 5.83 | 1.27947 | 0.84600 | 0.15388 | 0.39115 | 0.31614 |
| 5.01 | 1.28 | 5.79000 | 134866.67 | 4.50 | 1.09736 | 0.72557 | 0.27391 | 0.59206 | 0.47206 |
| 10.01 | 1.32 | 4.71333 | 108766.67 | 3.39 | 0.98846 | 0.65356 | 0.34502 | 0.68088 | 0.60258 |
| 30.06 | 1.56 | 3.03000 | 58033.33 | 1.47 | 0.67588 | 0.44689 | 0.55270 | 0.85355 | 0.82767 |

IR : Inhibition rate

Biomass : Yield f (Final yield based on cell density)

實 驗 毒 物 : **Flumetsulam** 初始細胞密度(cells/mL) : 15000

MCV (μm3) : 44.7 D (μm) : Initial pH : 7.64 EDTA(%) : 0

T(℃) : 24.4 Test duration : 48-h

| Conc mg/L | Initial DO mg/L | Final DO mg/L | Final cells cells/ml | Delta DO mg/L | μspecific | μrelative | IR ( growth rate) | IR (Biomass) | IR (DO) |
|---|---|---|---|---|---|---|---|---|---|
| Control | 1.56 | 6.02 | 335200 | 4.46 | 1.553339 | 1 | 0 | 0 | 0 |
| 0.001 | 1.58 | 5.78 | 308600 | 4.2 | 1.511998 | 0.97339 | 0.02661 | 0.08307 | 0.05830 |
| 0.002 | 1.52 | 5.34 | 263600 | 3.82 | 1.433191 | 0.92265 | 0.07735 | 0.22361 | 0.14350 |
| 0.004 | 1.5 | 4.84 | 211700 | 3.34 | 1.323560 | 0.85207 | 0.14793 | 0.38570 | 0.25112 |
| 0.016 | 1.47 | 3.32 | 160800 | 1.85 | 1.186056 | 0.76355 | 0.23645 | 0.54466 | 0.58520 |
| 0.064 | 1.54 | 3.06 | 114600 | 1.52 | 1.016699 | 0.65452 | 0.34548 | 0.68894 | 0.65919 |
| 0.257 | 1.62 | 2.46 | 47000 | 0.84 | 0.571049 | 0.36763 | 0.63237 | 0.90006 | 0.81166 |
| Control | 1.48 | 6.22 | 323900 | 4.74 | 1.536192 | 1 | 0 | 0 | 0 |
| 0.001 | 1.51 | 5.91 | 317500 | 4.4 | 1.526214 | 0.99350 | 0.00650 | 0.02072 | 0.07173 |
| 0.002 | 1.5 | 5.16 | 277700 | 3.66 | 1.459246 | 0.94991 | 0.05009 | 0.14956 | 0.22785 |
| 0.004 | 1.45 | 4.83 | 250000 | 3.38 | 1.406705 | 0.91571 | 0.08429 | 0.23924 | 0.28692 |
| 0.016 | 1.57 | 2.92 | 174900 | 1.35 | 1.228082 | 0.79943 | 0.20057 | 0.48236 | 0.71519 |
| 0.064 | 1.62 | 2.19 | 112600 | 0.57 | 1.007896 | 0.65610 | 0.34390 | 0.68404 | 0.87975 |
| 0.257 | 1.63 | 2 | 59600 | 0.37 | 0.689803 | 0.44903 | 0.55097 | 0.85562 | 0.92194 |
| Control | 1.51 | 6.17 | 328700 | 4.66 | 1.543548 | 1 | 0 | 0 | 0 |
| 0.001 | 1.52 | 6.08 | 308200 | 4.56 | 1.511349 | 0.97914 | 0.02086 | 0.06535 | 0.02146 |
| 0.002 | 1.52 | 5.88 | 272200 | 4.36 | 1.449243 | 0.93890 | 0.06110 | 0.18011 | 0.06438 |
| 0.004 | 1.53 | 5.01 | 255200 | 3.48 | 1.416999 | 0.91801 | 0.08199 | 0.23430 | 0.25322 |
| 0.016 | 1.53 | 3.99 | 184700 | 2.46 | 1.255341 | 0.81328 | 0.18672 | 0.45904 | 0.47210 |
| 0.064 | 1.55 | 3.04 | 124500 | 1.49 | 1.058128 | 0.68552 | 0.31448 | 0.65094 | 0.68026 |
| 0.257 | 1.63 | 2.31 | 81700 | 0.68 | 0.847502 | 0.54906 | 0.45094 | 0.78738 | 0.85408 |
| Control | 1.51 | 6.13667 | 329266.67 | 4.62 | 1.544360 | 1 | 0 | 0 | 0 |
| 0.001 | 1.53 | 5.92333 | 311433.33 | 4.38 | 1.516520 | 0.98201 | 0.01803 | 0.05675 | 0.05051 |
| 0.002 | 1.51 | 5.46000 | 271166.67 | 3.94 | 1.447227 | 0.93716 | 0.06285 | 0.18487 | 0.14574 |
| 0.004 | 1.49 | 4.89333 | 238966.67 | 3.40 | 1.382421 | 0.89527 | 0.10378 | 0.28734 | 0.26407 |
| 0.016 | 1.52 | 3.41000 | 173466.67 | 1.88 | 1.223160 | 0.79209 | 0.20748 | 0.49576 | 0.59163 |
| 0.064 | 1.57 | 2.76333 | 117233.33 | 1.19 | 1.027574 | 0.66538 | 0.33434 | 0.67469 | 0.74170 |
| 0.257 | 1.62 | 2.25667 | 62766.67 | 0.63 | 0.702784 | 0.45524 | 0.53659 | 0.84801 | 0.86364 |

IR : Inhibition rate

Biomass : Yield f (Final yield based on cell density)

實 驗 毒 物 : **Pyrithiobac-Na** 初始細胞密度(cells/mL) : 15000

MCV (μm3) : 44.85 D (μm) : Initial pH : 7.61 EDTA(%) : 0

T(℃) : 24.4 Test duration : 48-h

| Conc | Initial DO | Final DO | Final cells | Delta DO | | | IR | IR | IR |
|---|---|---|---|---|---|---|---|---|---|
| mg/L | mg/L | mg/L | cells/ml | mg/L | μspecific | μrelative | ( growth rate) | (Biomass) | (DO) |
| Control | 1.95 | 6.47 | 262800 | 4.52 | 1.431672 | 1 | 0 | 0 | 0 |
| 0.001 | 1.9 | 6.19 | 230200 | 4.29 | 1.365449 | 0.95374 | 0.04626 | 0.13156 | 0.05088 |
| 0.005 | 1.9 | 5.76 | 158200 | 3.86 | 1.177905 | 0.82275 | 0.17725 | 0.42211 | 0.14602 |
| 0.011 | 1.91 | 5.14 | 125700 | 3.23 | 1.062924 | 0.74244 | 0.25756 | 0.55327 | 0.28540 |
| 0.107 | 1.92 | 4.18 | 83600 | 2.26 | 0.858997 | 0.60000 | 0.40000 | 0.72316 | 0.50000 |
| 0.501 | 2.06 | 3.33 | 43800 | 1.27 | 0.535792 | 0.37424 | 0.62576 | 0.88378 | 0.71903 |
| 2.496 | 2.38 | 3.43 | 28000 | 1.05 | 0.312077 | 0.21798 | 0.78202 | 0.94754 | 0.76770 |
| Control | 1.92 | 6.38 | 224300 | 4.46 | 1.352467 | 1 | 0 | 0 | 0 |
| 0.001 | 1.89 | 5.9 | 221500 | 4.01 | 1.346186 | 0.99536 | 0.00464 | 0.01338 | 0.10090 |
| 0.005 | 1.88 | 5.26 | 203900 | 3.38 | 1.304790 | 0.96475 | 0.03525 | 0.09747 | 0.24215 |
| 0.011 | 1.93 | 4.98 | 135000 | 3.05 | 1.098612 | 0.81230 | 0.18770 | 0.42666 | 0.31614 |
| 0.107 | 1.96 | 4.14 | 82800 | 2.18 | 0.854189 | 0.63158 | 0.36842 | 0.67606 | 0.51121 |
| 0.501 | 2.07 | 3.45 | 51500 | 1.38 | 0.616766 | 0.45603 | 0.54397 | 0.82561 | 0.69058 |
| 2.496 | 2.5 | 3.74 | 23100 | 1.24 | 0.215891 | 0.15963 | 0.84037 | 0.96130 | 0.72197 |
| Control | 1.9 | 6.52 | 233100 | 4.62 | 1.371709 | 1 | 0 | 0 | 0 |
| 0.001 | 1.91 | 6.24 | 210500 | 4.33 | 1.320718 | 0.96283 | 0.03717 | 0.10362 | 0.06277 |
| 0.005 | 1.9 | 5.81 | 181800 | 3.91 | 1.247428 | 0.90940 | 0.09060 | 0.23521 | 0.15368 |
| 0.011 | 1.88 | 5.06 | 144700 | 3.18 | 1.133306 | 0.82620 | 0.17380 | 0.40532 | 0.31169 |
| 0.107 | 1.92 | 4.22 | 91900 | 2.3 | 0.906325 | 0.66073 | 0.33927 | 0.64741 | 0.50216 |
| 0.501 | 2.05 | 3.46 | 54500 | 1.41 | 0.645075 | 0.47027 | 0.52973 | 0.81889 | 0.69481 |
| 2.496 | 2.5 | 3.77 | 25800 | 1.27 | 0.271162 | 0.19768 | 0.80232 | 0.95048 | 0.72511 |
| Control | 1.92 | 6.45667 | 240066.67 | 4.53 | 1.385282 | 1 | 0 | 0 | 0 |
| 0.001 | 1.90 | 6.11000 | 220733.33 | 4.21 | 1.344118 | 0.97064 | 0.03028 | 0.08590 | 0.07132 |
| 0.005 | 1.89 | 5.61000 | 181300.00 | 3.71 | 1.243374 | 0.89896 | 0.10125 | 0.26111 | 0.18015 |
| 0.011 | 1.90 | 5.06000 | 135133.33 | 3.15 | 1.098281 | 0.79365 | 0.20724 | 0.46623 | 0.30441 |
| 0.107 | 1.93 | 4.18000 | 86100.00 | 2.24 | 0.873170 | 0.63077 | 0.36980 | 0.68409 | 0.50441 |
| 0.501 | 2.06 | 3.41333 | 49933.33 | 1.35 | 0.599211 | 0.43351 | 0.56628 | 0.84479 | 0.70147 |
| 2.496 | 2.46 | 3.64667 | 25633.33 | 1.18 | 0.266377 | 0.19176 | 0.80675 | 0.95275 | 0.73824 |

IR : Inhibition rate

Biomass : Yield f (Final yield based on cell density)