

Supplementary Information

Luteapyrone, a novel γ -pyrone isolated from the filamentous fungus *Metapochonia lutea*

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Figure. S1: ¹H NMR spectra of **1**

Figure. S2: ¹H NMR spectra of **1** (expansion)

Figure. S3: ¹³C NMR spectra of **1**

Figure. S4: ¹³C NMR spectra of **1** (expansion)

Figure. S5: COSY spectrum of **1**

Figure. S6: Edited HSQC spectrum of **1**

Figure. S7: HMBC spectrum of **1**

Figure. S8: HPLC of **1**

Figure. S9: Flash Chromatography of **1**

Table S1. Cytotoxic activity of **1**

Table S2. Antimicrobial activity of **1**

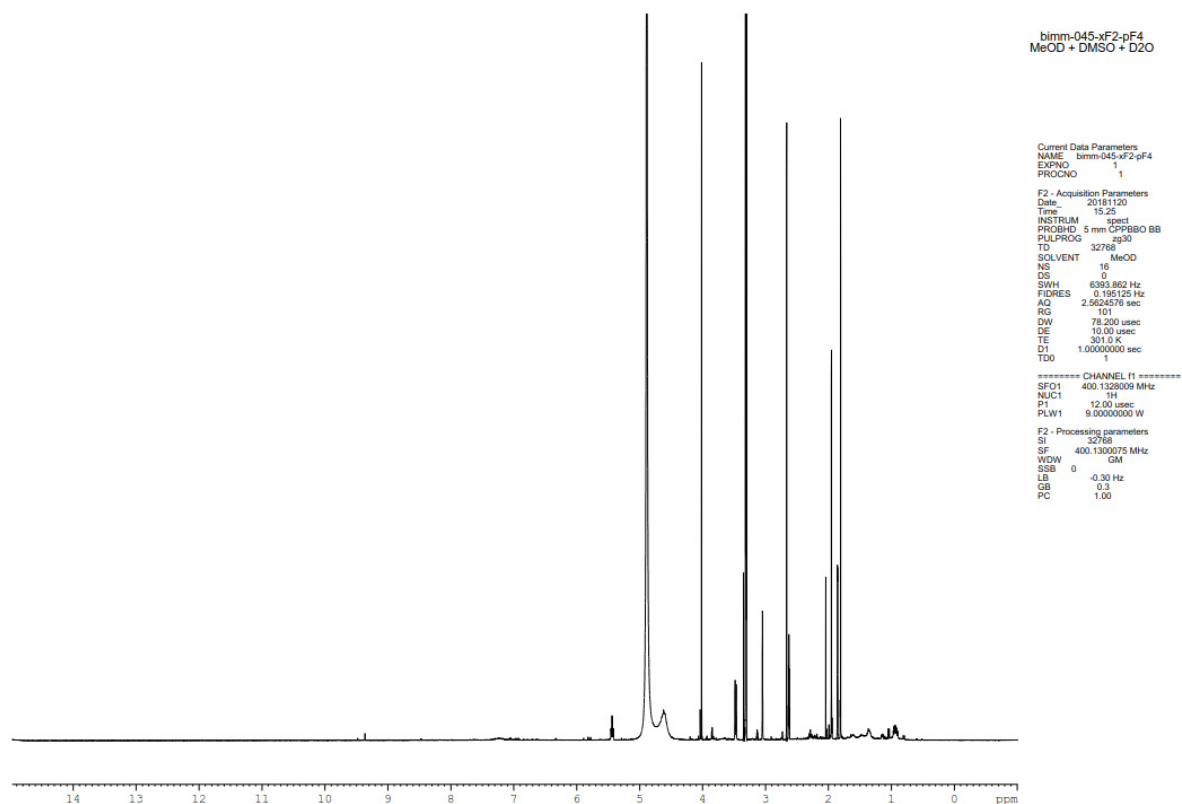


Figure. S1: ^1H NMR spectrum of **1**

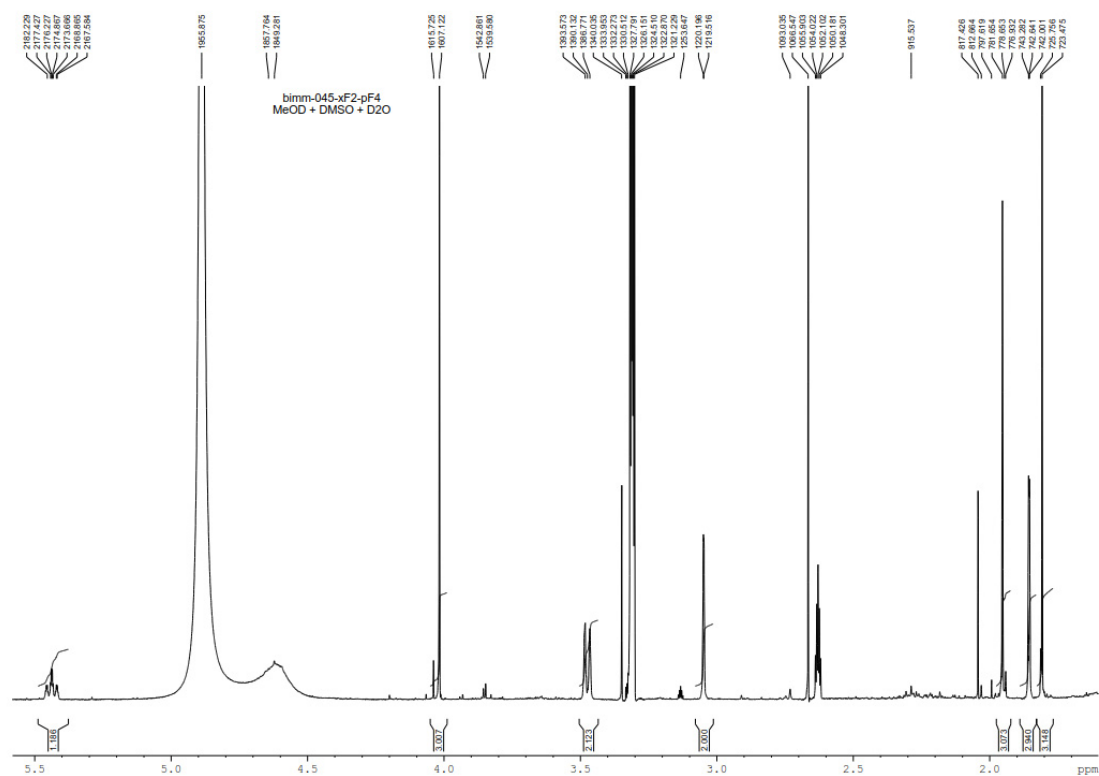


Figure. S2: ^1H NMR spectrum of **1** (expansion)

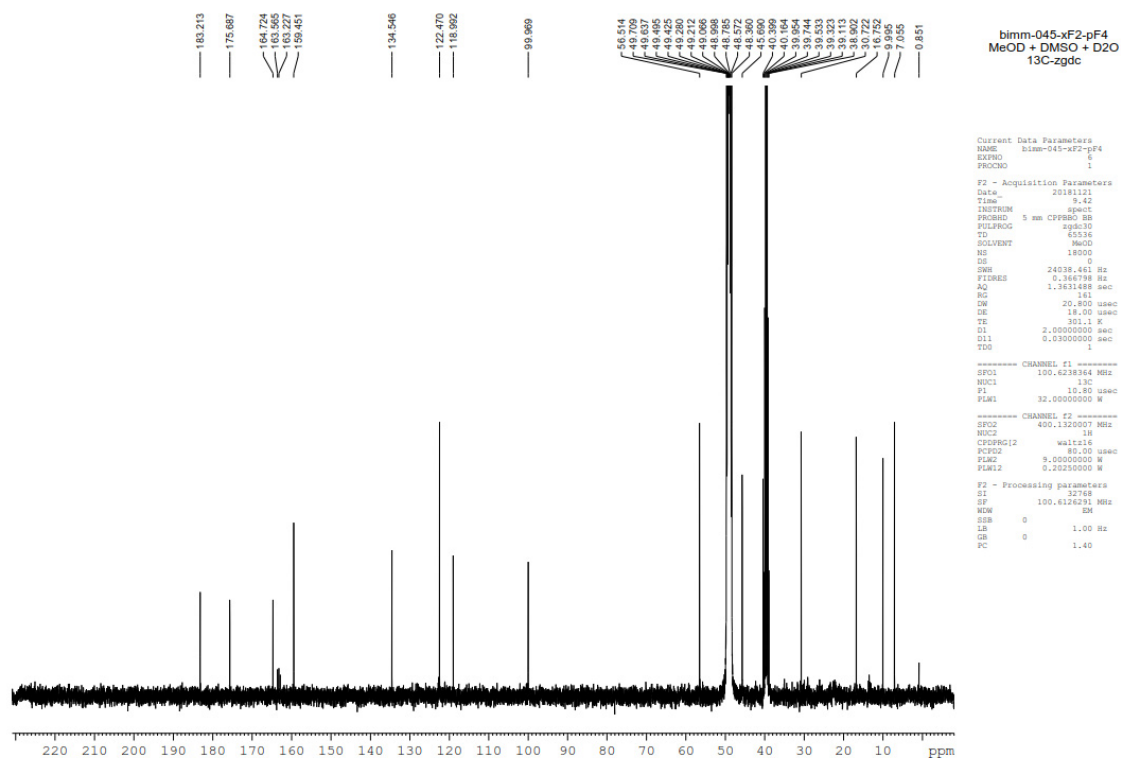


Figure. S3: ^{13}C NMR spectrum of **1**

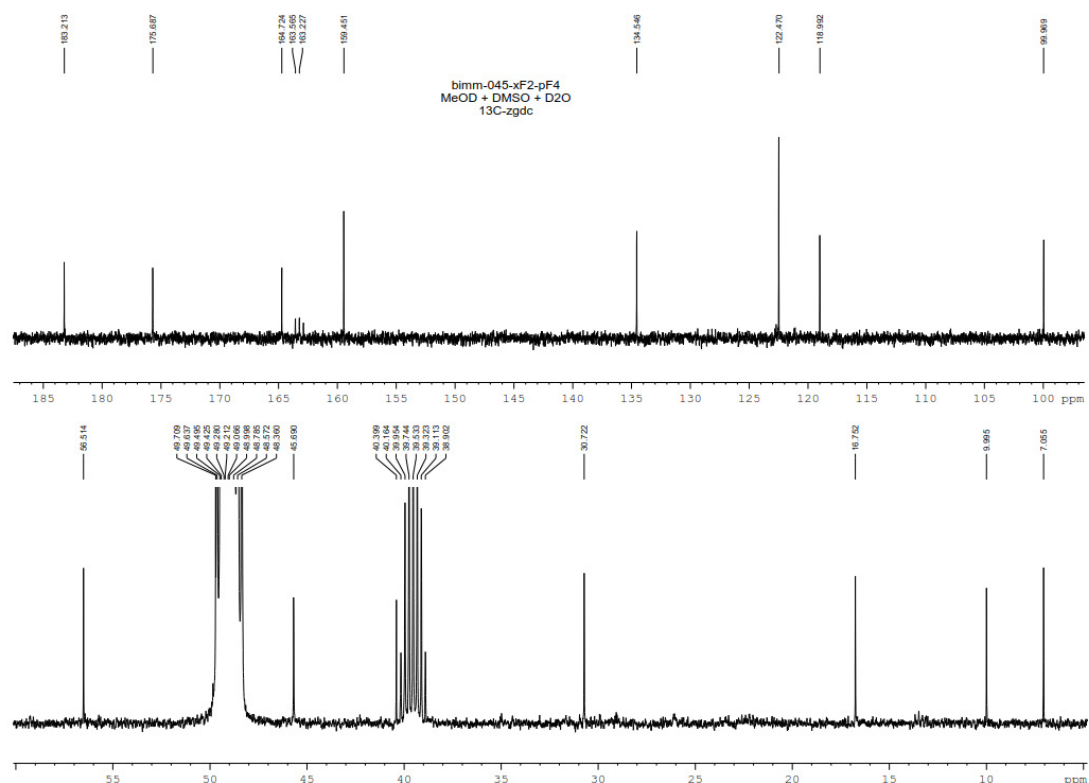


Figure. S4: ^{13}C NMR spectrum of **1** (expansion)

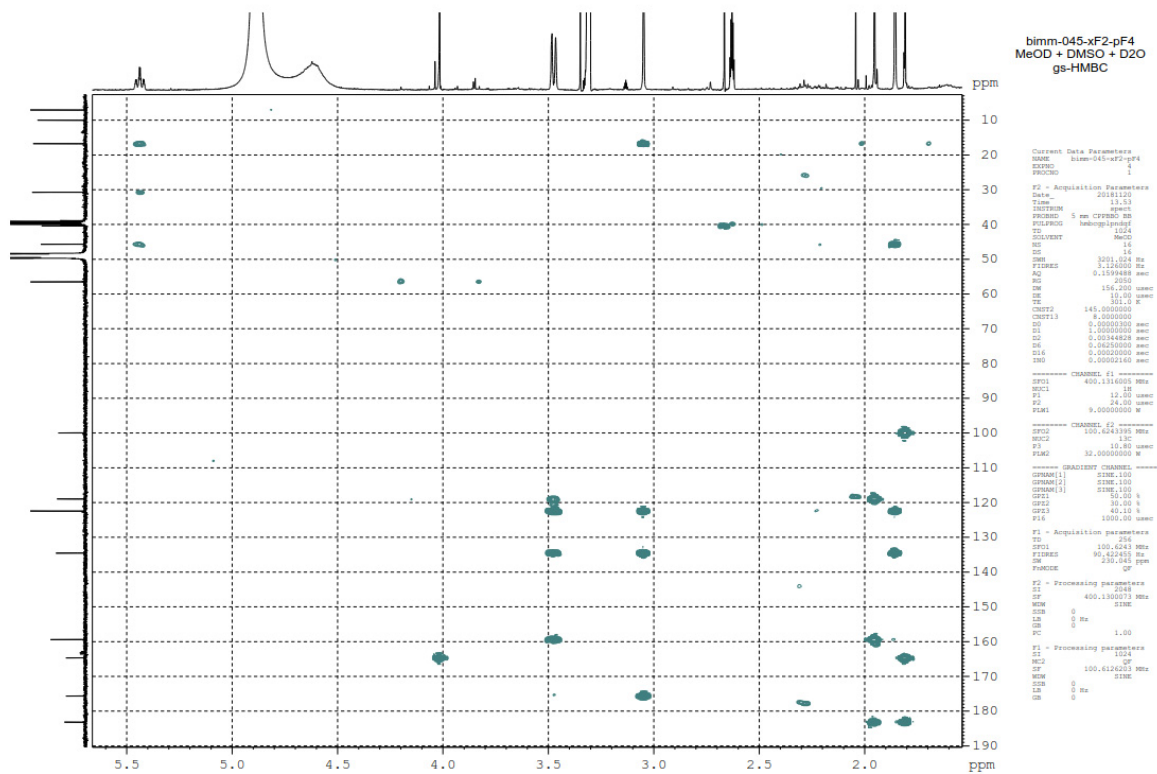


Figure. S7: HMBC spectrum of **1**

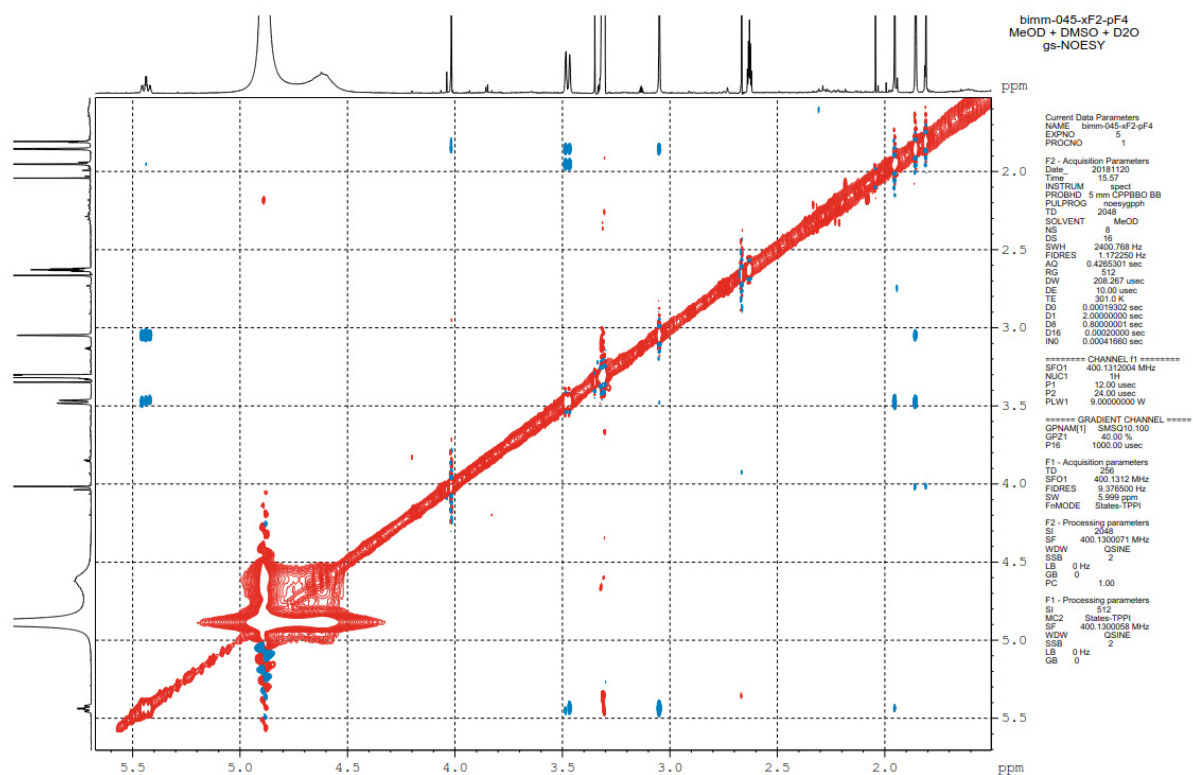


Figure. S8: HPLC of 1

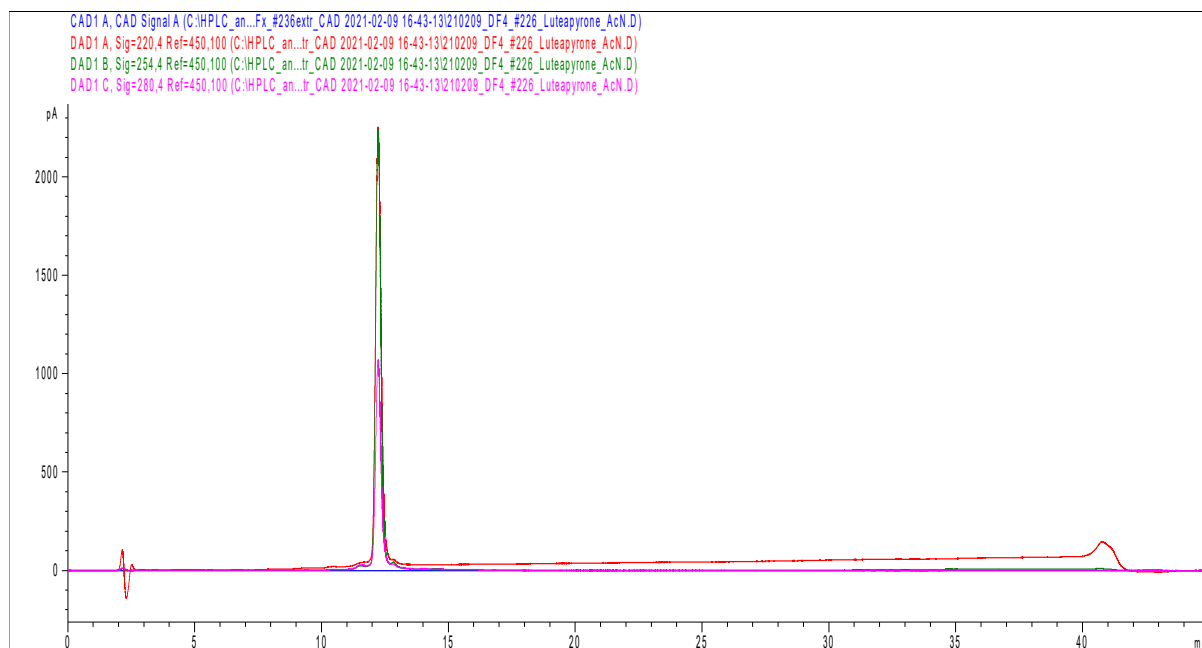


Figure. S9: Reveleris Flash Chromatography with Flow Rate Table

Elution Steps

| N° | Time | Flow Rate | %A | %B |
|----|----------|-----------|-----|-----|
| 01 | 00 s | 15.0 | 90 | 10 |
| 02 | 18 s | 15.0 | 89 | 11 |
| 03 | 01:04 | 15.0 | 89 | 11 |
| 04 | 01:09 | 15.0 | 89 | 11 |
| 05 | 01:58 | 15.0 | 89 | 11 |
| 06 | 03:25 | 15.0 | 86 | 14 |
| 07 | 03:26 | 15.0 | 86 | 14 |
| 08 | 06:33 | 15.0 | 80 | 20 |
| 09 | 08:13 | 15.0 | 80 | 20 |
| 10 | 11:49 | 15.0 | 73 | 27 |
| 11 | 13:14 | 15.0 | 73 | 27 |
| 12 | 25:21 | 15.0 | 48 | 52 |
| 13 | 31:29 | 15.0 | 48 | 52 |
| 14 | 38:30 | 15.0 | 34 | 66 |
| 15 | 38:36 | 15.0 | 00 | 100 |
| 16 | 41:45 | 25.0 | 00 | 100 |
| 17 | 44:22 | 25.0 | 00 | 100 |
| 18 | 44:25 | 30.0 | 00 | 100 |
| 19 | 46:19 | 30.0 | 00 | 100 |
| 20 | 46:22 | 15.0 | 00 | 100 |
| 21 | 46:40 | 15.0 | 00 | 100 |
| 22 | 46:43 | 30.0 | 00 | 100 |
| 23 | 51:51 | 30.0 | 00 | 100 |
| 24 | 52:09 | 30.0 | 12 | 88 |
| 25 | 52:12 | 15.0 | 12 | 88 |
| 26 | 52:29 | 15.0 | 25 | 75 |
| 27 | 52:32 | 25.0 | 25 | 75 |
| 28 | 54:06 | 25.0 | 100 | 00 |
| 29 | 59:06 | 25.0 | 100 | 00 |
| 30 | 01:04:03 | 25.0 | 100 | 00 |
| 31 | 01:09:03 | 25.0 | 100 | 00 |

Detection Steps

| N° | Time | Parameter | Collect | Threshold | F1 |
|----|------|------------------------|---------|-----------|----|
| 01 | 00 s | UV400:SIG1 ==> 254 nm | Yes | 25 | 3 |
| | | UV400:SCAN ==> 200-400 | Yes | 5 | 3 |

Table S1. Cytotoxic activity of luteapyrone (5-320 μ M)

| HEK-293 | | | KB-3-1 | | | Caco-2 | | |
|---------------------|-------------------|--------------------------|---------------------|-------------------|--------------------------|---------------------|-------------------|--------------------------|
| Conc. (μ M) | Control (DMSO) | Luteapyrone | Conc. (μ M) | Control (DMSO) | Luteapyrone | Conc. (μ M) | Control (DMSO) | Luteapyrone |
| 5 | 2.879 | 2.351 | 5 | 1.513 | 1.918 | 5 | 2.635 | 2.660 |
| | 2.341 | 2.631 | | 1.973 | 1.716 | | 2.611 | 2.228 |
| | 2.226 | 2.761 | | 1.820 | 1.425 | | 2.352 | 2.413 |
| | 2.490 | 2.460 (98.8%) | | 1.769 | 1.686 (95.3%) | | 2.533 | 2.434 (96.1%) |
| 10 | 2.351 | 2.065 | 10 | 1.660 | 1.532 | 10 | 2.183 | 2.318 |
| | 2.631 | 2.699 | | 1.685 | 1.781 | | 2.514 | 2.361 |
| | 2.761 | 2.781 | | 1.609 | 1.627 | | 2.287 | 2.507 |
| | 2.581 | 2.515 (97.4%) | | 1.651 | 1.647 (99.8%) | | 2.328 | 2.395 (102.9%) |
| 20 | 2.348 | 2.618 | 20 | 1.501 | 1.687 | 20 | 2.720 | 2.087 |
| | 2.565 | 2.660 | | 1.320 | 1.72 | | 2.719 | 2.245 |
| | 2.310 | 2.327 | | 1.721 | 1.356 | | 2.524 | 2.249 |
| | 2.420 | 2.535 (104.8%) | | 1.514 | 1.590 (105.0%) | | 2.654 | 2.194 (82.7%) |
| 40 | 2.879 | 2.141 | 40 | 1.280 | 1.500 | 40 | 2.660 | 2.518 |
| | 2.222 | 2.798 | | 1.660 | 1.570 | | 2.328 | 2.043 |
| | 2.637 | 2.313 | | 1.536 | 1.498 | | 2.329 | 2.430 |
| | 2.579 | 2.417 (93.7%) | | 1.492 | 1.523 (102.1%) | | 2.439 | 2.330 (95.5%) |
| 80 | 2.470 | 2.678 | 80 | 1.413 | 1.440 | 80 | 2.321 | 2.230 |
| | 2.388 | 2.416 | | 1.627 | 1.389 | | 2.128 | 2.814 |
| | 2.308 | 2.415 | | 1.452 | 1.570 | | 2.587 | 2.042 |
| | 2.389 | 2.506 (104.9%) | | 1.497 | 1.466 (97.9%) | | 2.345 | 2.362 (100.7%) |
| 160 | 2.022 | 2.154 | 160 | 1.256 | 1.236 | 160 | 1.981 | 1.736 |
| | 2.321 | 2.418 | | 1.213 | 1.330 | | 2.015 | 1.983 |
| | 2.287 | 2.045 | | 1.061 | 1.111 | | 2.081 | 1.836 |
| | 2.210 | 2.196 (99.4%) | | 1.177 | 1.226 (104.2%) | | 2.026 | 1.852 (91.5%) |
| 320 | 2.063 | 2.218 | 320 | 1.098 | 1.070 | 320 | 1.698 | 1.552 |
| | 1.987 | 2.067 | | 1.017 | 0.915 | | 1.618 | 1.483 |
| | 2.105 | 2.157 | | 1.148 | 1.115 | | 1.826 | 1.313 |
| | 2.052 | 2.147 (104.6%) | | 1.088 | 1.033 (94.9%) | | 1.714 | 1.449 (84.5%) |

Table S2. Antimicrobial activity of luteapyrone

| Microorganisms ^a | MIC (μM) |
|---|----------|
| <i>Staphylococcus aureus</i> ATCC 6538 | >985 |
| <i>Escherichia coli</i> ATCC 25922 | >985 |
| <i>Klebsiella pneumoniae</i> ATCC 10031 | >985 |
| <i>Pseudomonas aeruginosa</i> ATCC 9027 | >985 |
| <i>Candida albicans</i> ATCC 10231 | >985 |
| <i>Aspergillus fumigatus</i> RL 578 | >985 |
| <i>Fusarium oxysporum</i> RL 108 | >985 |
| <i>Fusarium solani</i> RL 585 | >985 |

^aATCC, American Type Culture Collection, Manassas, VA, USA; RL personal fungal collection of Roman Labuda