**SUPPLEMENTARY MATERIAL**

**Antimicrobial, antioxidant and DNA-binding studies of palladium(II) complexes with different chelate ligands containing nitrogen donor atoms**

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**Table S1.** The results of antimicrobial activity –positive controls

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **The tested bacteria** | **Tetracycline** | | **Ceftriaxone** | | **Vancomycin** | |
| **MICa** | **MMCb** | **MIC** | **MMC** | **MIC** | **MMC** |
| *Bacillus subtilis* | 0.98 | 1.96 | 31.25 | 31.25 | 1.96 | 1.96 |
| *B. subtilis* ATCC 6633 | 1.96 | 15.63 | 31.25 | 31.25 | 0.98 | 1.96 |
| *Staphylococcus aureus* ATCC 25923 | <0.49 | 1.96 | 1.96 | 3.91 | 0.49 | 0.98 |
| *Proteus mirabilis* ATCC 12453 | 15.62 | 31.25 | < 0.98 | < 0.98 | 31.25 | 31.25 |
| *Pseudomonas aeruginosa* ATCC 27853 | 7.81 | 62.5 | 7.81 | 15.62 | 250 | >250 |
| *Escherichia coli* | 1.96 | 3.91 | < 0.98 | < 0.98 | 125 | 125 |
| *E. coli* ATCC 25922 | 0.98 | 3.91 | < 0.98 | < 0.98 | 125 | 250 |
| *Salmonella enterica* | 0.49 | 3.91 | <0.49 | <0.49 | 250 | 250 |
| **The tested fungi** | **Fluconazole** | | **Ketoconazole** | | **Amphotericin B** | |
| **MICa** | **MMCb** | **MIC** | **MMC** | **MIC** | **MMC** |
| *Rhodotorula mucilaginosa* | 31.25 | 500 | <0.49 | < 0.49 | <0.098 | 0.39 |
| *Candida albicans* ATCC 10231 | 31.25 | 62.5 | 1.96 | 1.96 | <0.098 | <0.098 |
| *Saccharomyces boulardii* | 7.81 | 31.25 | 1.96 | 1.96 | <0.098 | <0.098 |
| *Penicillium italicum* | 250 | 500 | <0.49 | <0.49 | <0.098 | 1.56 |
| *P. chrysogenum* | 1000 | 1000 | 31.25 | 62.5 | 0.195 | 0.39 |
| *Mucor mucedo* ATCC 52568 | 250 | 250 | 7.81 | 7.81 | <0.098 | 0.39 |
| *Trichoderma viridae* ATCC 13233 | 500 | 1000 | 62.5 | 125 | 0.78 | 1.56 |
| *Aspergillus flavus* ATCC 9170 | 500 | 500 | <0.49 | 1.96 | 0.39 | 0.78 |
| *A. fumigatus* ATTC 204305 | 1000 | 1000 | 62.5 | 125 | 0.195 | 0.195 |
| *A. niger* ATCC 16404 | 1000 | 1000 | 31.25 | 62.5 | 0.195 | 0.39 |

aMIC values (μg/ml)– minimal inhibitory concentration

bMMC values (μg/ml) – minimal microbicidal concentration

**Table S2.**Antibiofilm activity of **L1** ligand, **С1** complex and positive control

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **The tested species** | **L1** | | **С1** | | **Tetracycline** | | **Ceftriaxone** | | **Vancomycin** | |
| ВIC50 | ВIC90 | ВIC50 | ВIC90 | ВIC50 | ВIC90 | BIC50 | BIC90 | BIC50 | BIC90 |
| *Proteus mirabilis* ATCC 12453 | 570 | >1000 | 420 | >1000 | 156 | 250 | 231 | >1000 | 785 | >1000 |
| *Pseudomonas aeruginosa* ATCC 27853 | >1000 | >1000 | >1000 | >1000 | 156 | 305 | 116 | >1000 | 734 | >1000 |
| *Staphylococcus aureus* ATCC 25923 | 630 | >1000 | 249 | 530 | 250 | 300 | 475 | >1000 | 63 | >1000 |

\*BIC – biofilm inhibitory concentration (μg/mL),

1Positive control – the values represent the lowest concentration of antibiotics (tetracycline, ceftriaxone and vancomycin)



**Fig. S1.** Fluorescence titration spectra of EthBr-DNA and of EthBr (10 μM) bound to DNA (10 μM) in the presence of varying amounts of complexes **C4**. [Arrow shows changes in fluorescence intensity upon increasing concentration of C**4** (0-20 μM)]. Insert graph: Stern-Volmer plots for EthBr-DNA fluorescence titration with **C4.**