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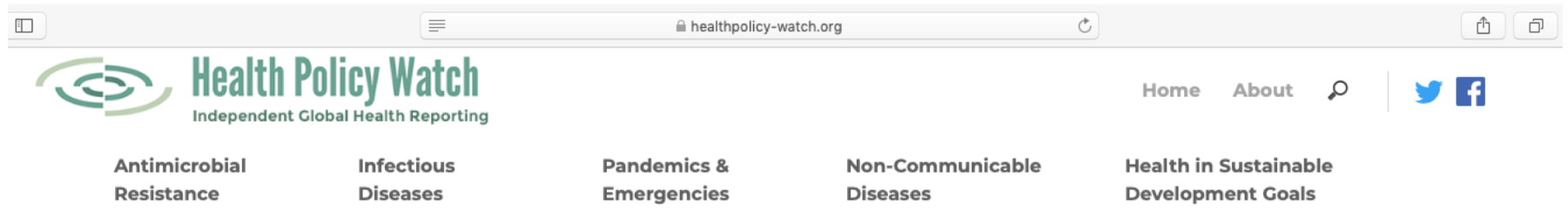
Antimicrobial Photodynamic Therapy (aPDT)

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Antimicrobial resistance



“No Time To Wait” – AMR Could Cause 10 Million Deaths Annually By 2050, Warns UN Report

29/04/2019 by [Elaine Ruth Fletcher](#)

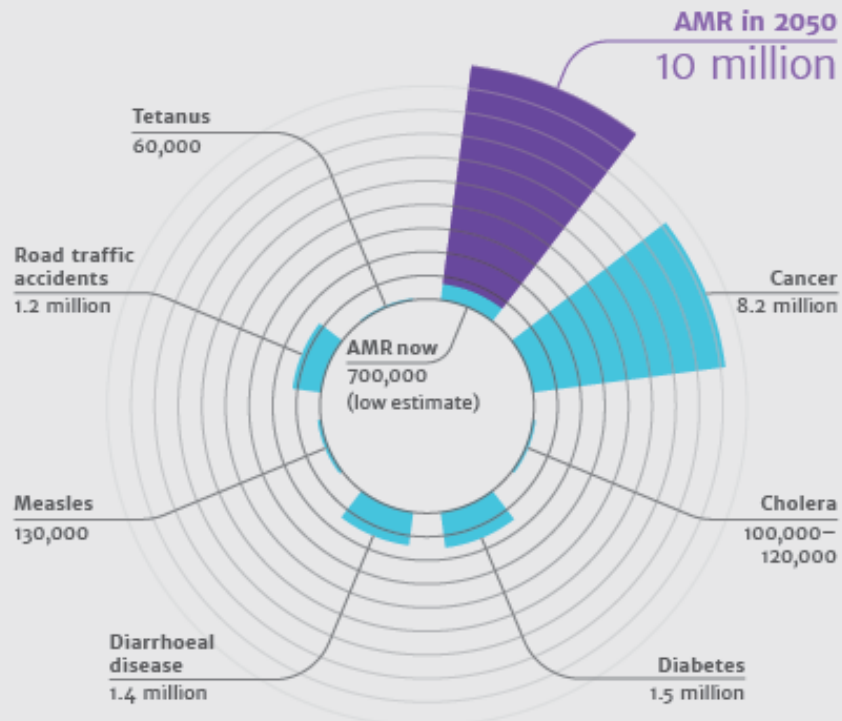
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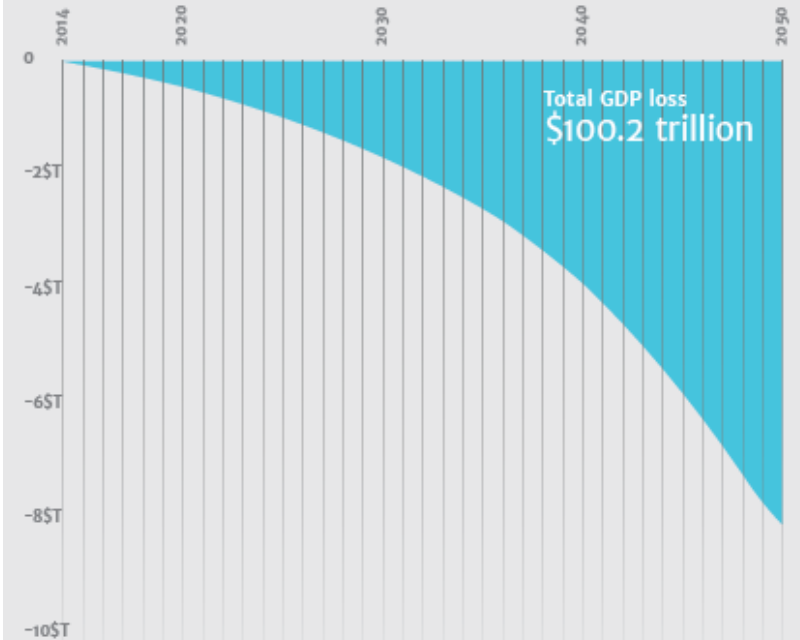
Deaths from infections resistant to common antibiotics, antivirals and anti-parasitic drugs could increase more than ten-fold to 10 million deaths annually by 2050, warns a ground-breaking United Nations report released today.

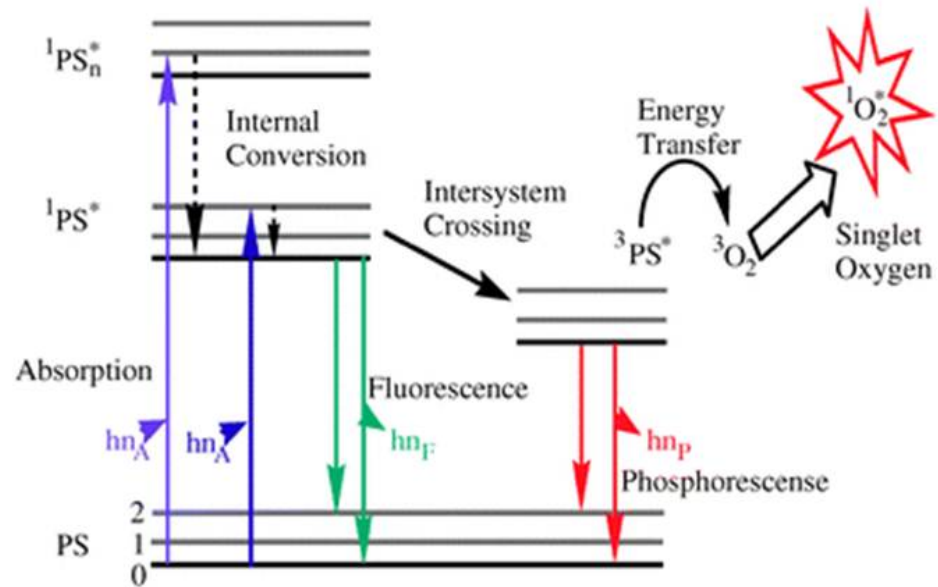
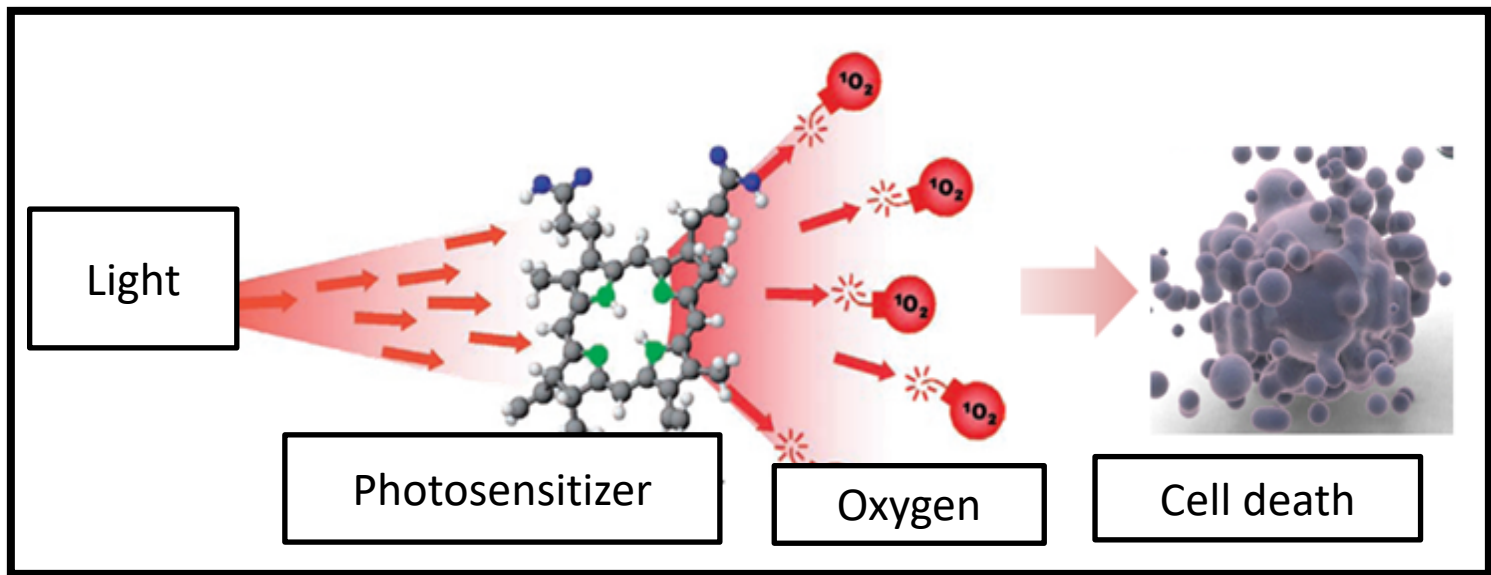
"There is no time to wait. Unless the world acts urgently, antimicrobial resistance will have disastrous impact within a generation," warns the report by the [UN Ad Hoc Interagency Coordinating Group on Antimicrobial Resistance \(IACG\)](#), led by the World Health Organization together with the Food and Agriculture Organization (FAO) and the World Organization for Animal Health (OIE).

Deaths attributable to AMR every year compared to other major causes of death



AMR's impact on World GDP in trillions of USD





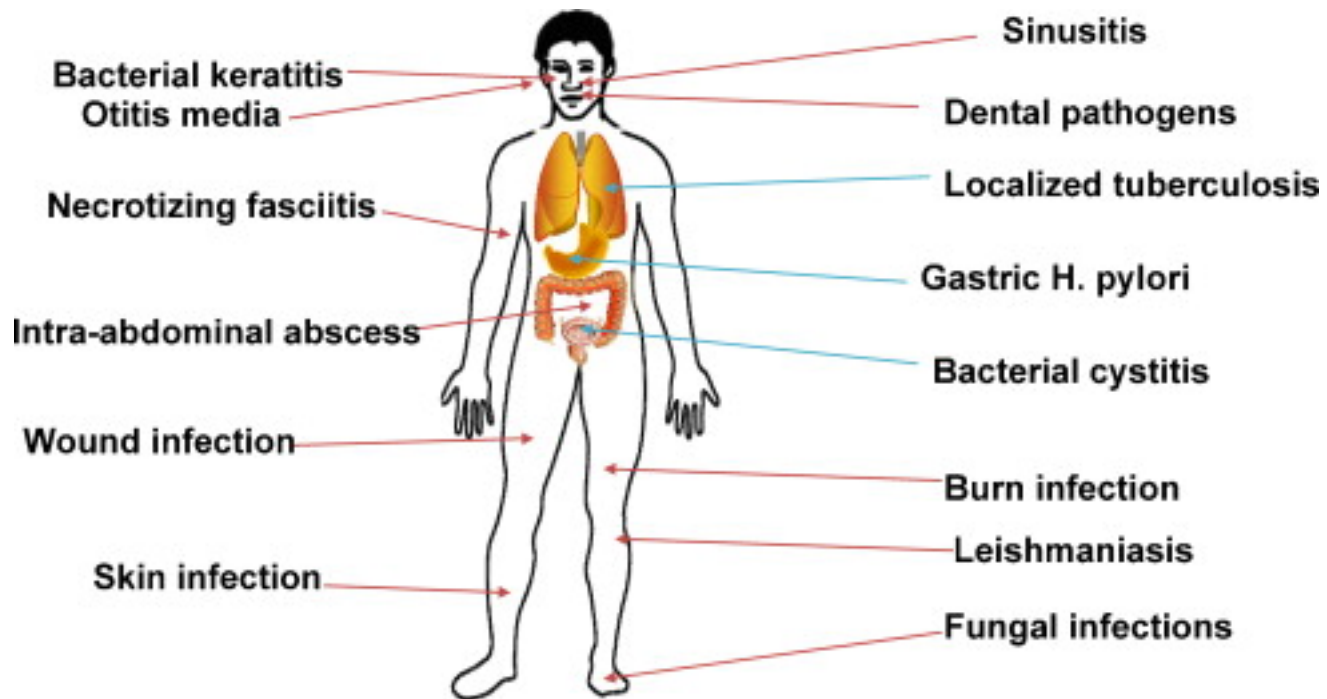
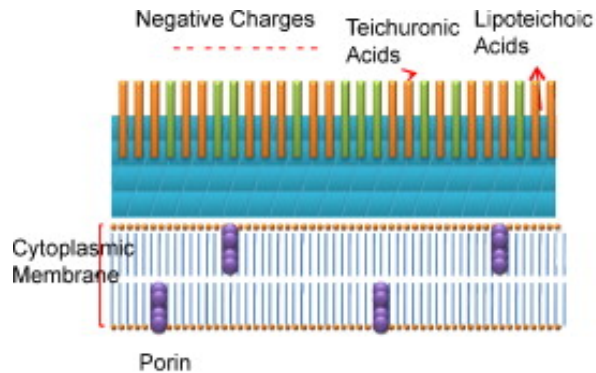
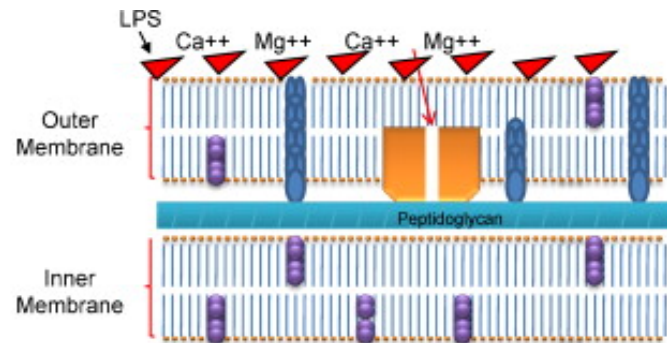


Figure 9. Candidate infectious diseases for PDT. A wide variety of localized infections could be clinically treated by antimicrobial PDT.

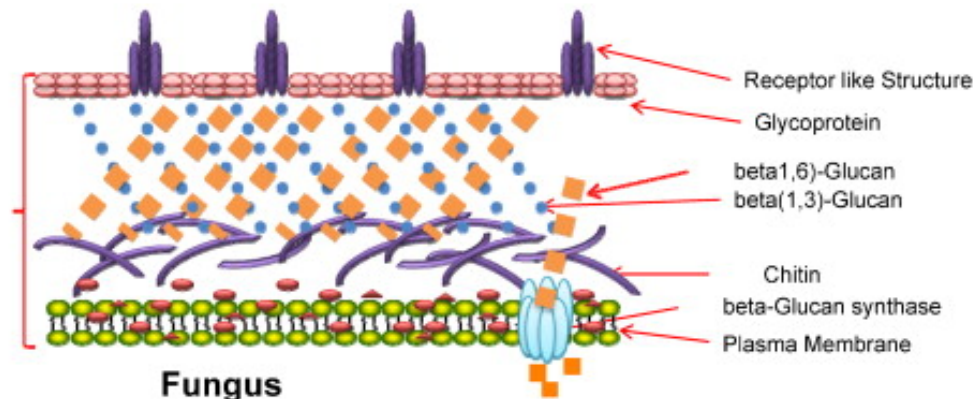
Cell wall characteristics



Gram-positive bacteria

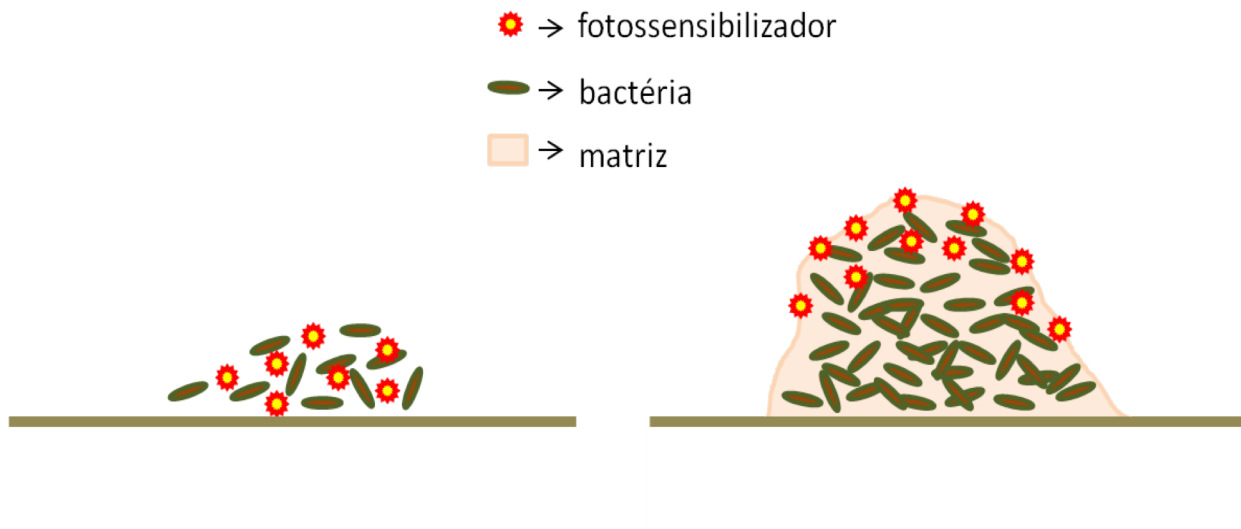


Gram-negative bacteria



Fungus

MOs planktonic *versus* biofilm



Application of the chlorins chl-e6 e chl-e6H in PDT

Aeromonas hydrophila (Gram-negative)

Fluence = 30J/cm², t=16min, LED, λ = 660nm.

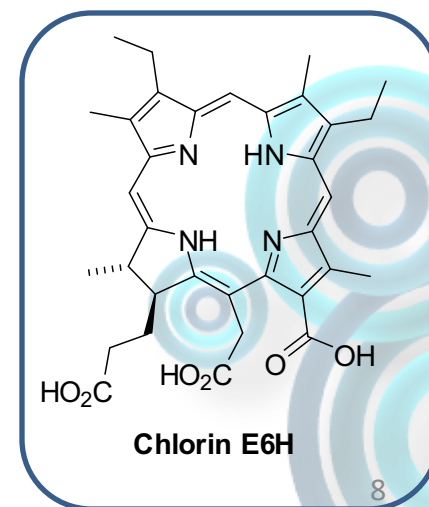
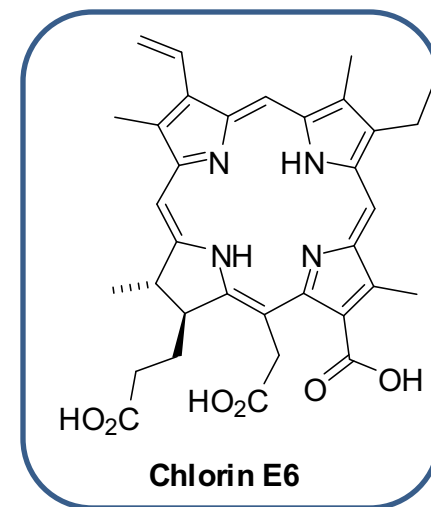
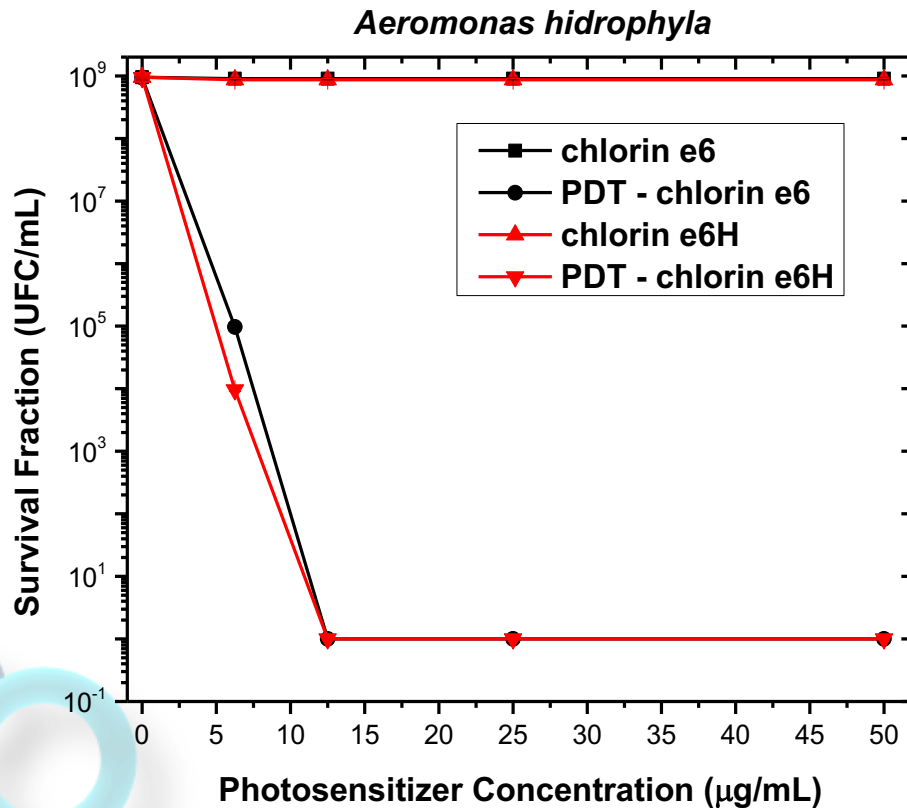


Figure 5: Effect of chlorins chl-e6 and chl-e6H against *Aeromonas hidrophyla*.

Application of the chlorins chl-e6 e chl-e6H in PDT

Staphylococcus aureus (Gram-positive)

Fluence = 30J/cm², t=16min, LED, $\lambda = 660\text{nm}$.

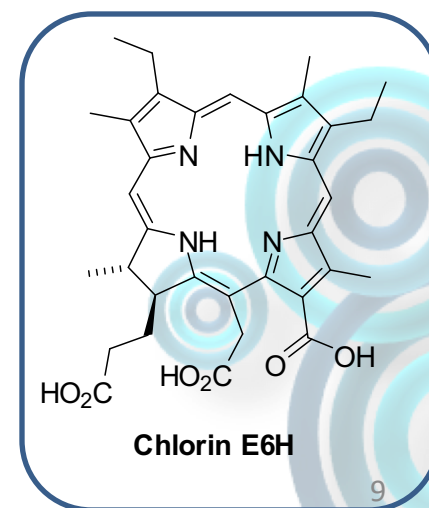
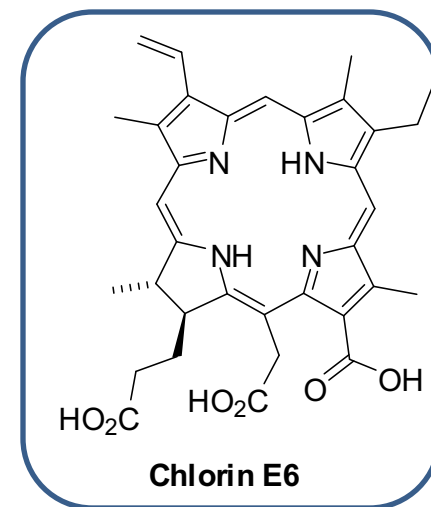
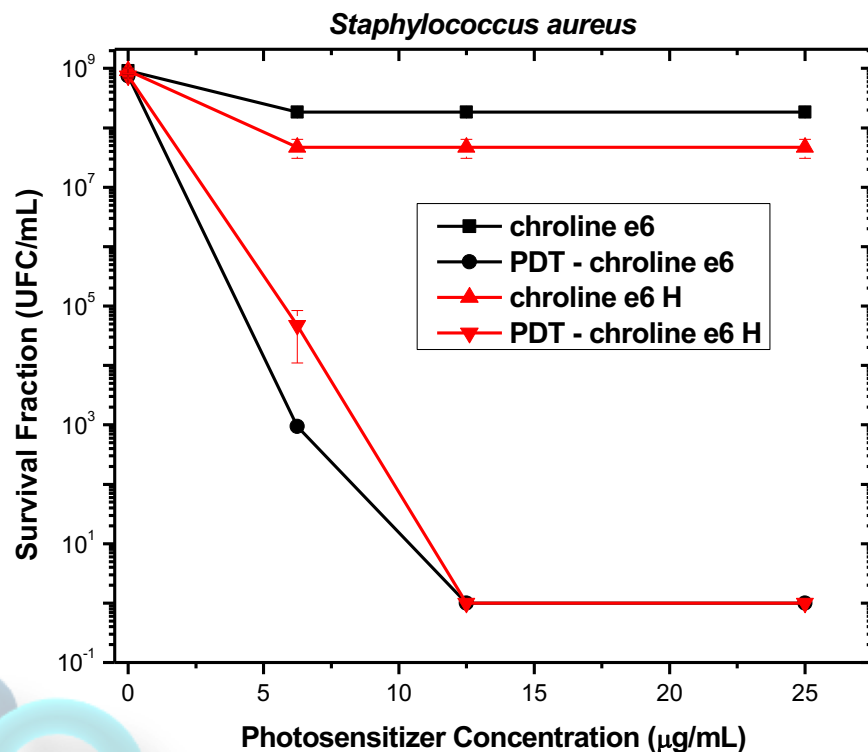


Figure 6: Effect of chlorins chl-e6 and chl-e6H against *Staphylococcus aureus*.

Application of the chlorins chl-e6 e chl-e6H in PDT

Candida albicans (fungus)

Fluence = 30J/cm², t=16min, LED, λ = 660nm.

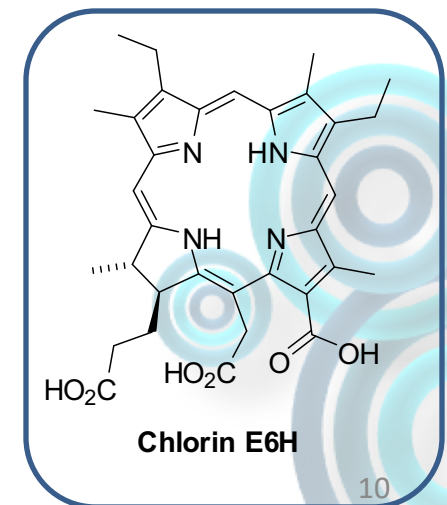
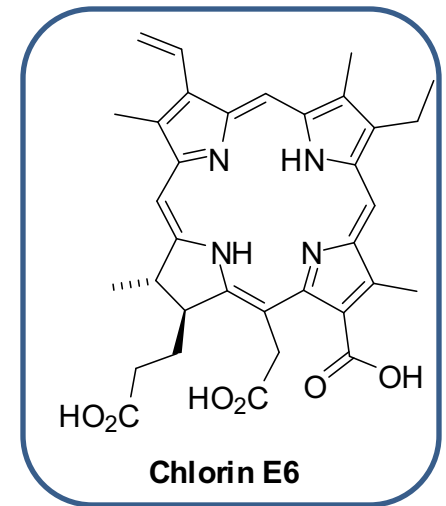
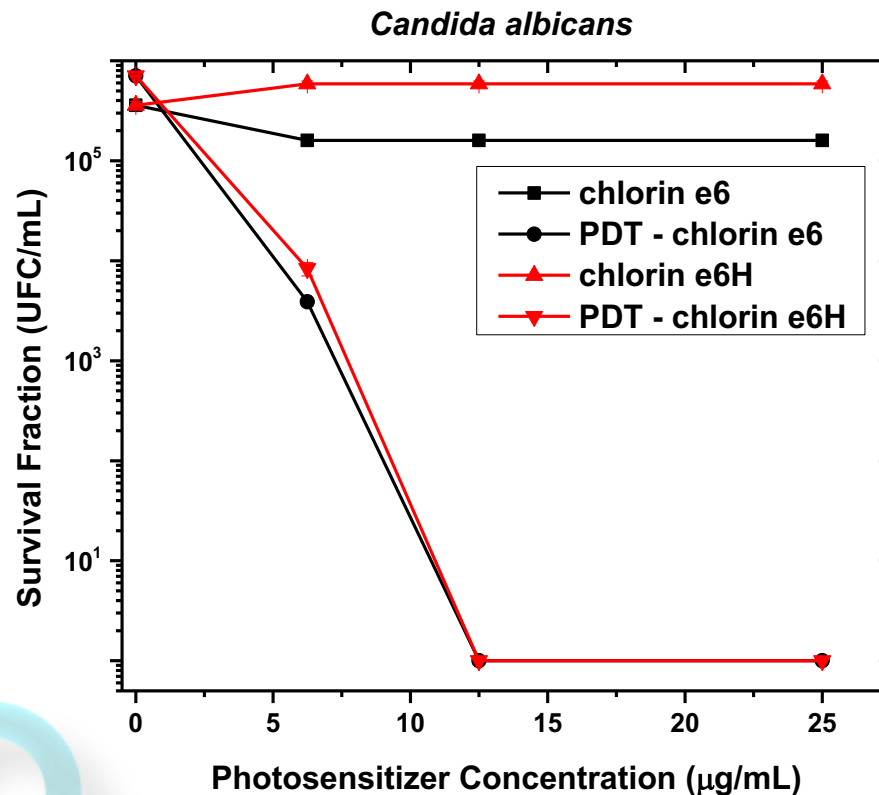


Figure 7: Effect of chlorins chl-e6 and chl-e6H against *Candida albicans*.