



IFSC UNIVERSIDADE
DE SÃO PAULO
Instituto de Física de São Carlos



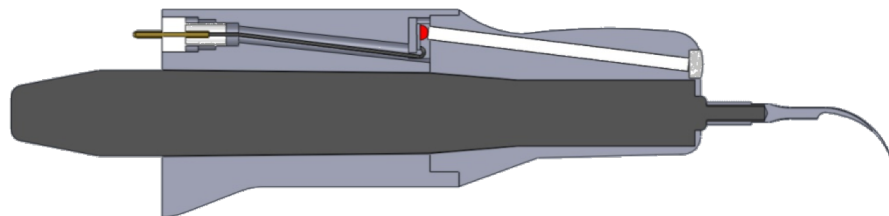
Antimicrobial Photodynamic Therapy (aPDT)

Cristina Kurachi

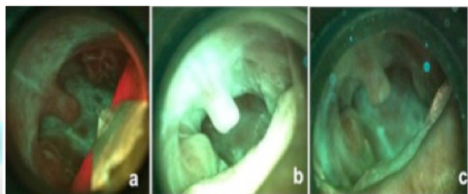
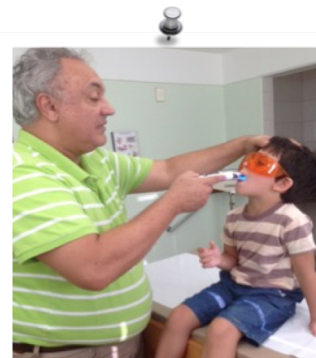
São Carlos Institute of Physics
University of São Paulo

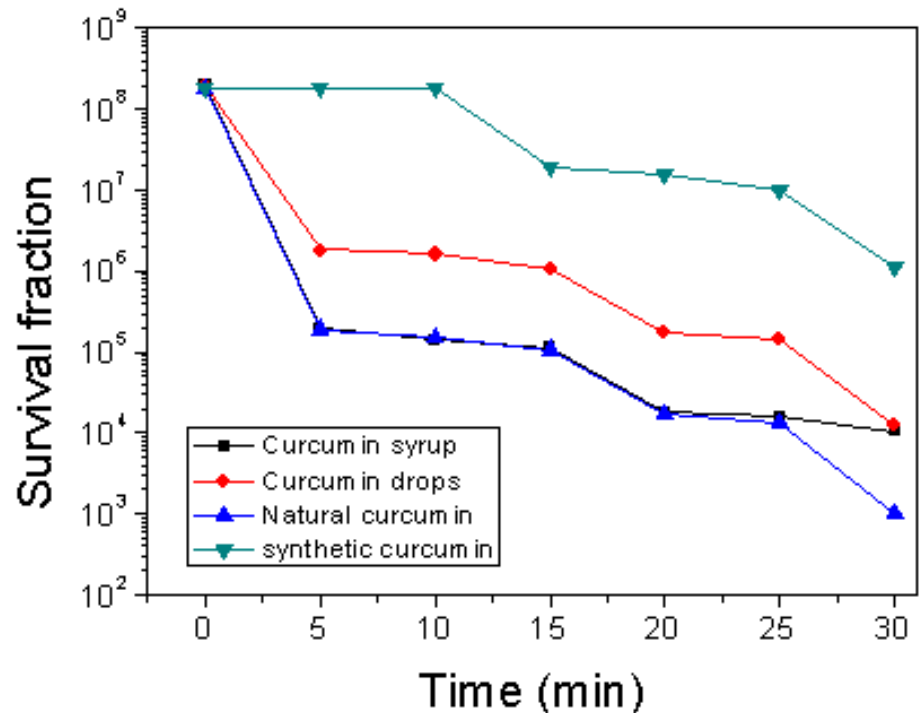
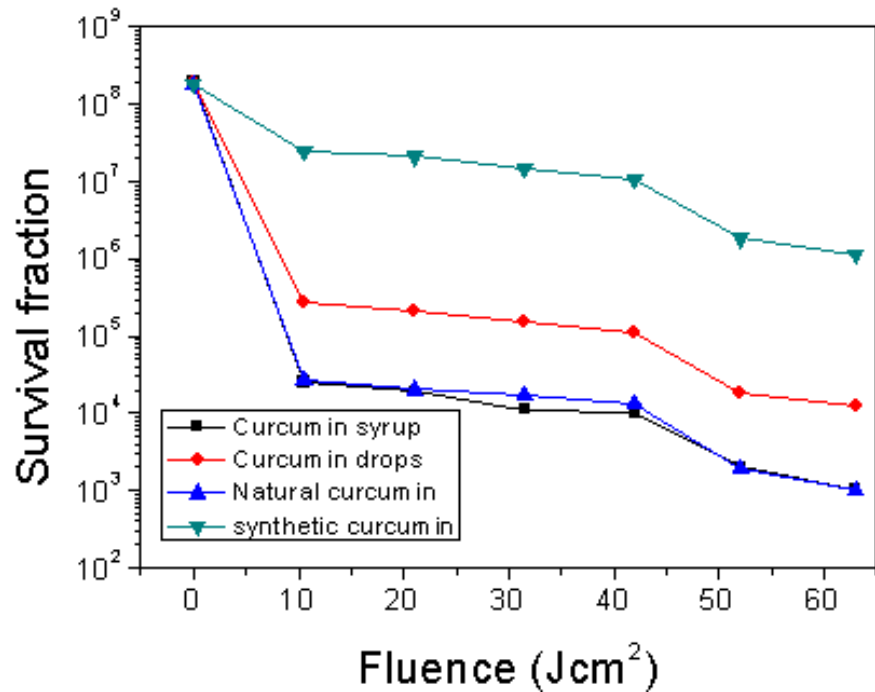


Ultrasonics and PDT – dental pocket

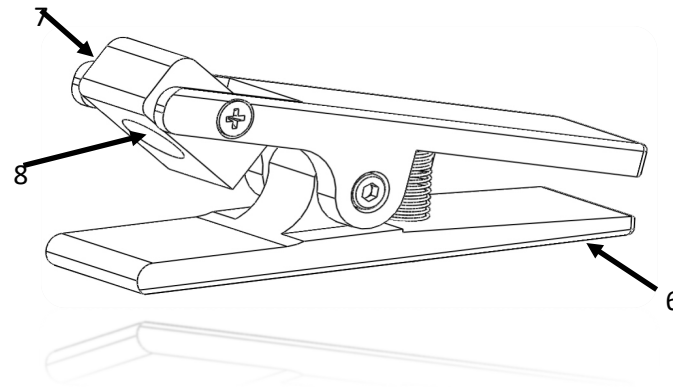
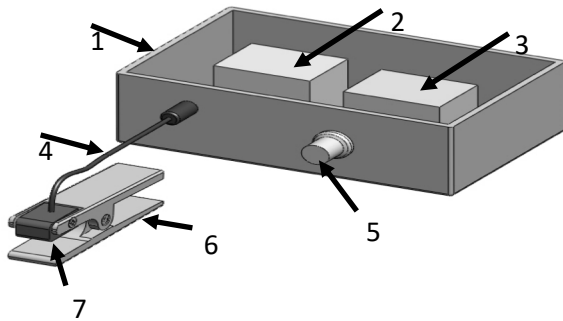


PDI for bacterial oropharyngitis





Onychomycosis – curcumin PDT



PDT protocol

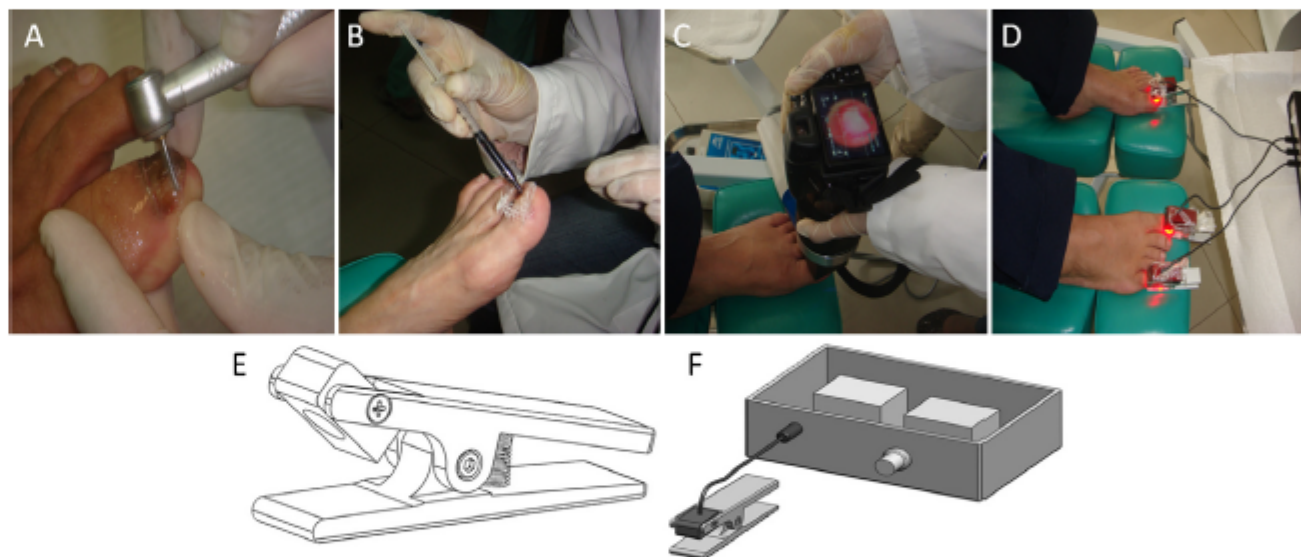
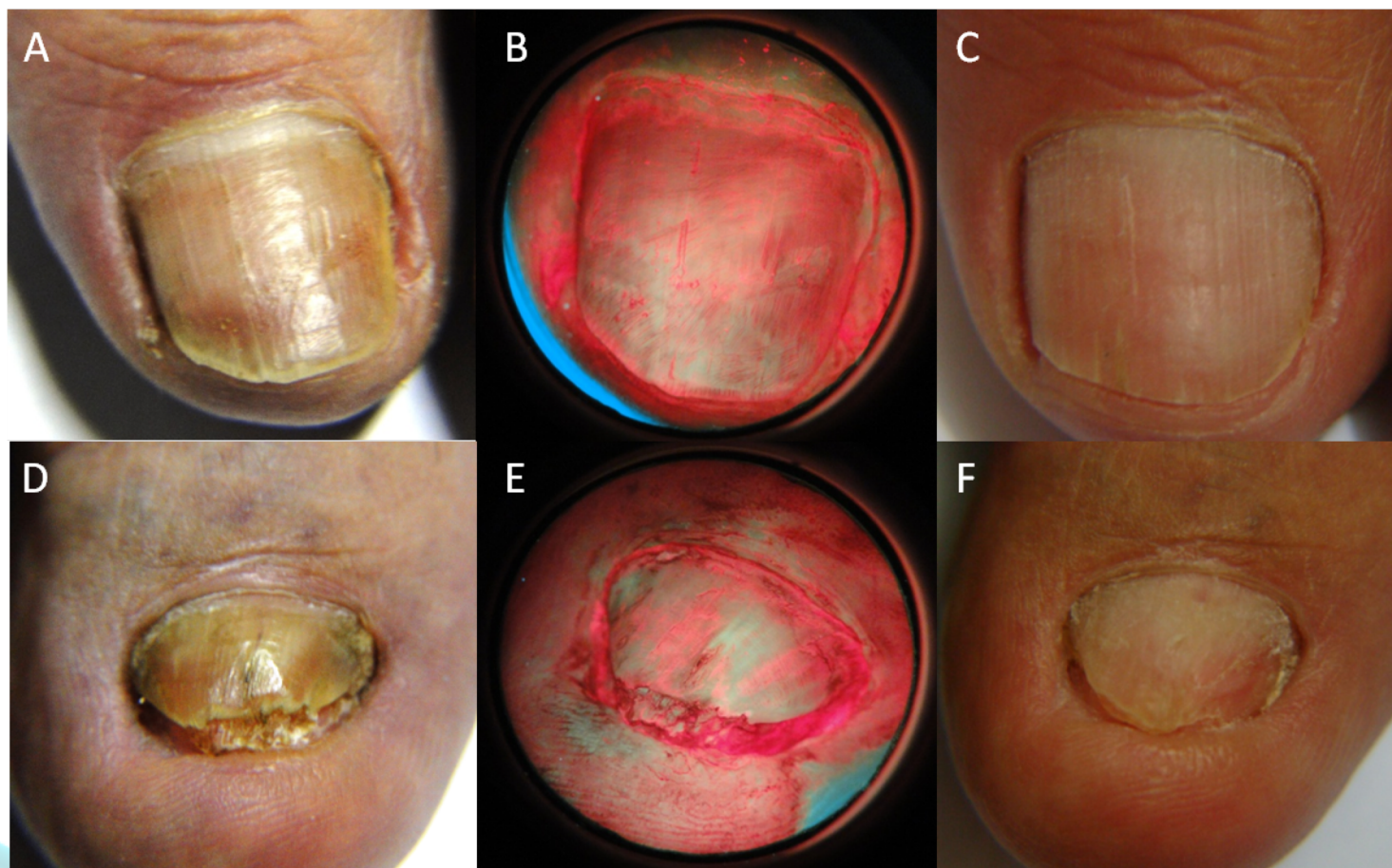
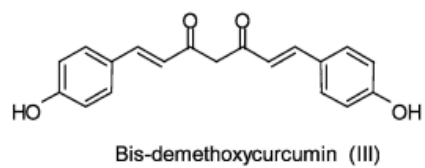
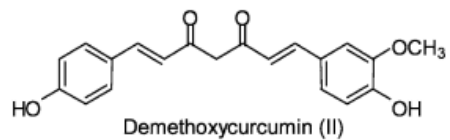
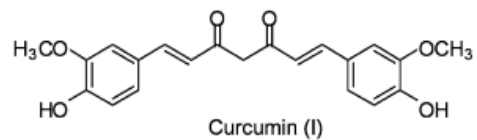
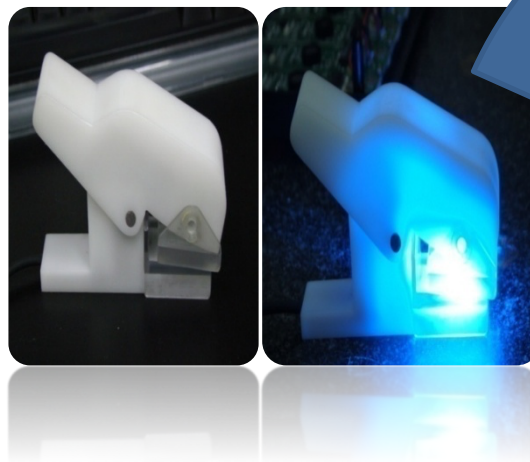
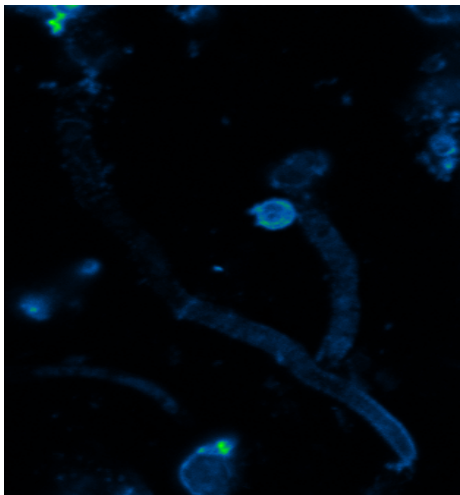


Fig. 1 Clinical trial for the photodynamic inactivation of the onychomycosis. Panel A: polishment of the nails that favors the photo sensitizer absorption. Panel B: Photogem® application. Panel C: after 1 h the photosensitizer fluorescence is checked using a digital camera coupled at a homemade device emitting at 405 nm. Panel D: irradiation of the nails using a homemade device like a staple that fits perfectly to the nails. Panel E: details of the staple. Panel F: design of the device registered in National Institute of Industrial Property (INPI Protocol No. 18110047225, 05th December 2011).

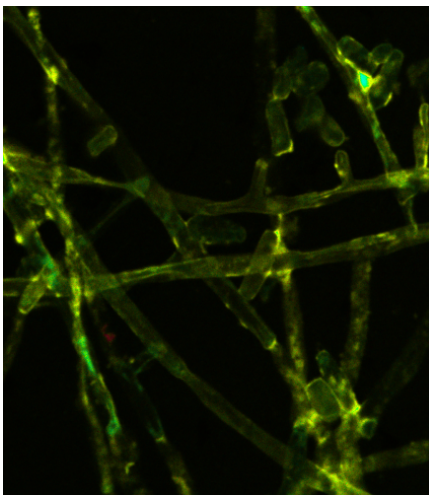
Onychomycosis for the last 33 years Results after 6 PDT sessions



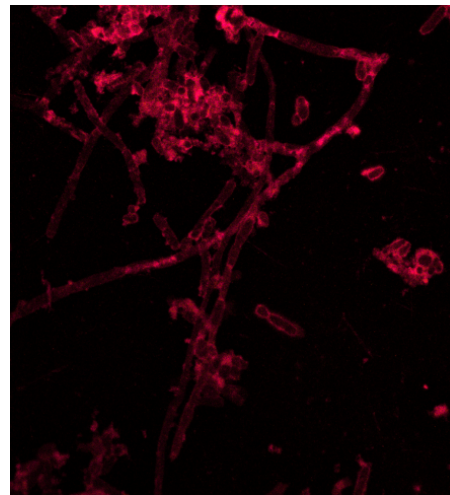




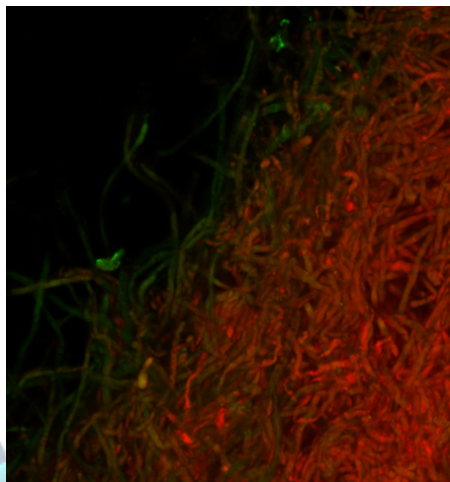
Trychopyton



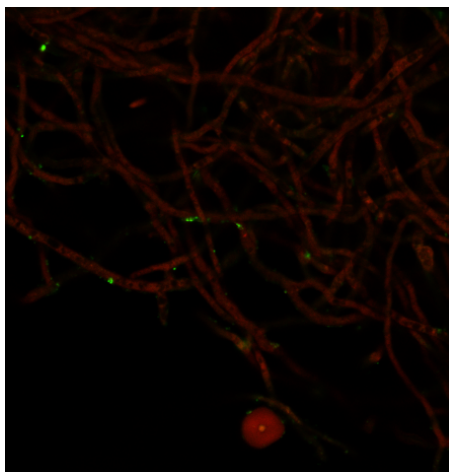
Curcumin



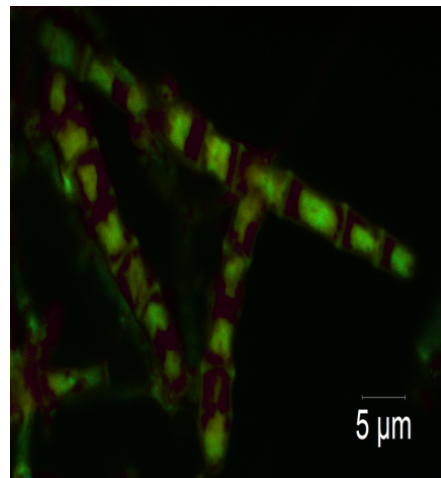
ALA



Photogem



Methylene blue



Safranin

CURCUMIN SOLUTION 1.5%



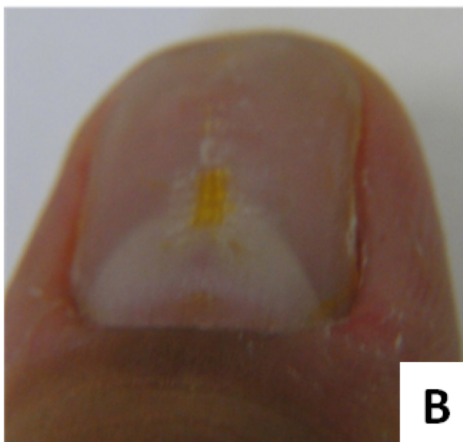
- Male patient, 46 yo
- lesion history: 10 years
- **10 sessions**

CURCUMIN GEL 1.5%

Initial



2 sessions

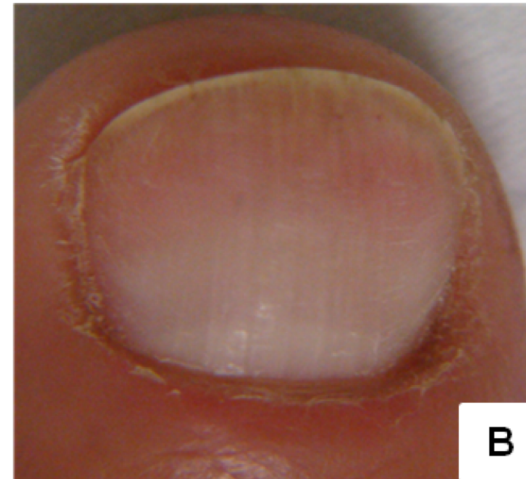
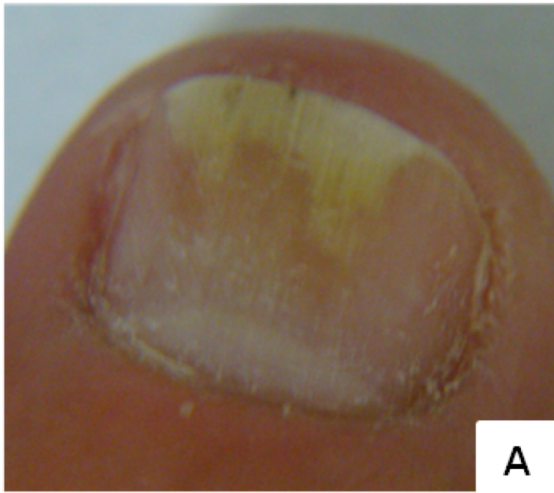


6 sessions



- Male patient, 29 yo
- lesion history: 10 years

CURCUMIN EMULSION 1.5%



- Female patient, 67 yo
- lesion history: 10 years
- **5 sessions**