

Smart Materials with Antifouling and Antimicrobial properties

The image shows a project logo for 'Smart Materials with Antifouling and Antimicrobial Properties'. The logo features the text 'TiClean' in a stylized green font, with arrows pointing to the logos of the National and Kapodistrian University of Athens and the University of Piraeus. Below these are the logos for 'nanovilis' and 'petrocoll'. To the right is a scientific diagram of a photocatalytic cycle. It shows a spherical nanoparticle with a core of TiO_2 and a shell of TiO_2/Ag , ZnO , and Ni-CE . Light excites the nanoparticle, creating electron-hole pairs (e^- and h^+). The holes (h^+) oxidize organic matter, leading to 'Cell Death'. The electrons (e^-) reduce oxygen (O_2) to superoxide (O_2^-), which then reacts with hydrogen peroxide (H_2O_2) to form hydroxyl radicals (OH^\bullet). The hydroxyl radicals oxidize organic matter to CO_2 and H_2O . The diagram also shows a 'Photocatalytic' process where H_2O is converted to H_2 and O_2 .

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National and Kapodistrian
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nanovilis
petrocoll

European Union
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HELLenic REPUBLIC
MINISTRY OF
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