Air/Water Purification and Disinfection using Whitewash Photocatalyst
以白塗料光觸媒淨化、消毒空氣和水

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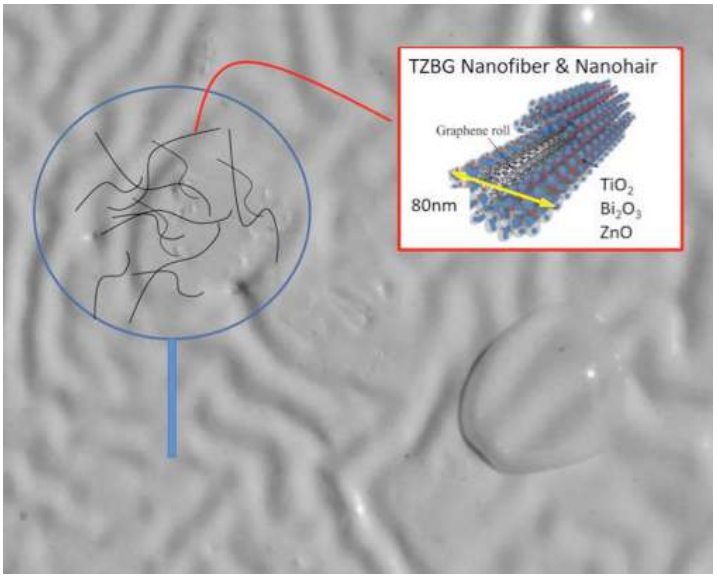
Special features 技術特點

- *Air and water purification* 淨化空氣和水
- *Many folds better than the best TiO_2 nanoparticles* 二氧化鈦的納米纖維之接疊性比其納米粒子佳



This intervention is to developed a powerful photocatalyst, namely Whitewash, which can break down harmful indoor volatile organic compounds to harmless substances.

Whitewash is a photocatalyst made of Titania composite that absorbs visible light, even under diffuse light condition, and generates necessary radicals that oxidize harmful gas molecules, viruses and bacteria that adsorbed onto the photocatalyst surface. The photocatalyst are made into nanofibers with diameter less than 1/1000 times the diameter of human hair. When combined with oxygen and water vapor in air, special ions and radicals are produced to oxidize the undesired gases adsorbed on the photocatalyst.

Whitewash can be used as coating on walls with adequate air circulation and lighting in elevators, vehicle cabins, hospital wards, commercial kitchens to breakdown harmful gases, and kill viruses and bacteria with high level of formaldehyde to acceptable.

日常生活中的空氣和水總存有一些有害物質、病毒和細菌，使環境衛生變差以及人們易於感染疾病。理大團隊就此研發了一種名為白塗料的光觸媒技術。此光觸媒由二氧化鈦複合材料製造而成，於具有氧氣、水份和少量光源的環境之中，就能產生自由基把揮發性有機物氧化，例如甲醛，還有病毒和有害細菌。此白塗料可製成納米纖維，直徑細小如人類頭髮千份之一，十分輕巧且接觸面大，能有效發揮其功能。此技術可以塗層方式應用於電梯、車廂、醫院病房、商業廚房等的牆壁上，以分解有害氣體，並殺死病毒和細菌。

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