

— (press release 2009)—
抑菌奈米材料之發明

the invention of antimicrobial agent –
nano-silicate-platelet (NSP)-supported AgNP

奈米矽片銀

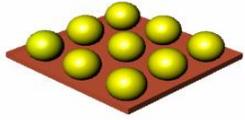
台大高分子所：林江珍 JJ Lin *

台大毒理所：

台大醫院皮膚科：

2009-5-19





— (press release 2009)—

Antimicrobial

Low-Toxic Silver Nanoparticles (NSP-supported Ag)

— antimicrobial coating /anti-MRSA /anti-biofilm /
other medical uses —

A New Ag Species with High Antimicrobial Efficacy and Safety



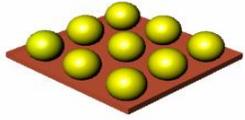
— (press release 2009)— the invention of silicate-supported AgNP

銀彈900奈米矽片銀及其細菌捕捉



林江珍教授奈米矽片銀「銀彈900」
發表會上接受媒體訪問

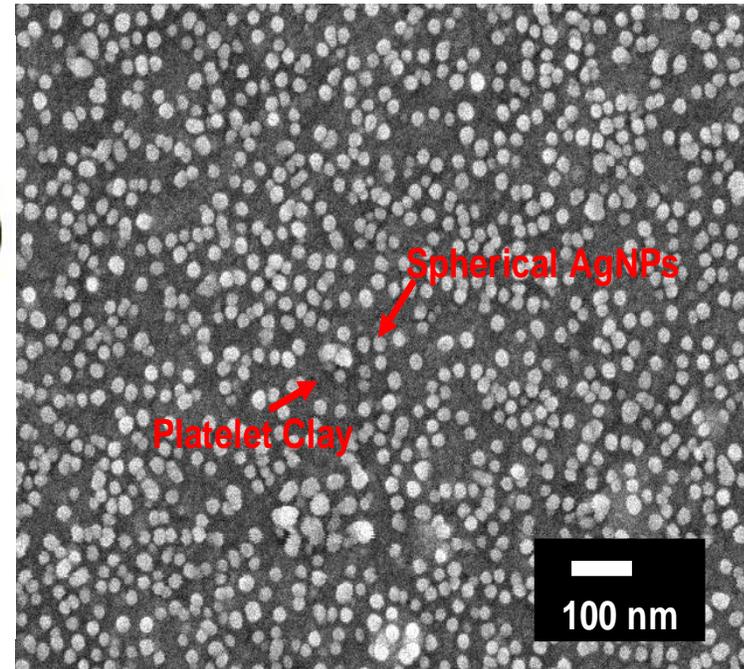
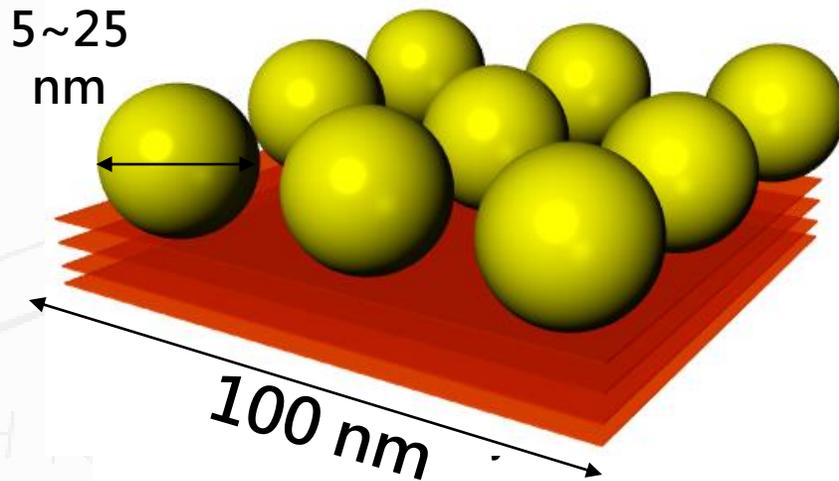




NSP-Ag conceptual diagram and SEM observation

[奈米矽銀]

矽片銀 (TAg) 示意圖



天然矽片複合銀粒子 Silicate Supported Ag Nanoparticles

奈米矽片銀 TAg – silver nanoparticle/NSP hybrid

Tailoring Ag size
銀粒子合成可操控性

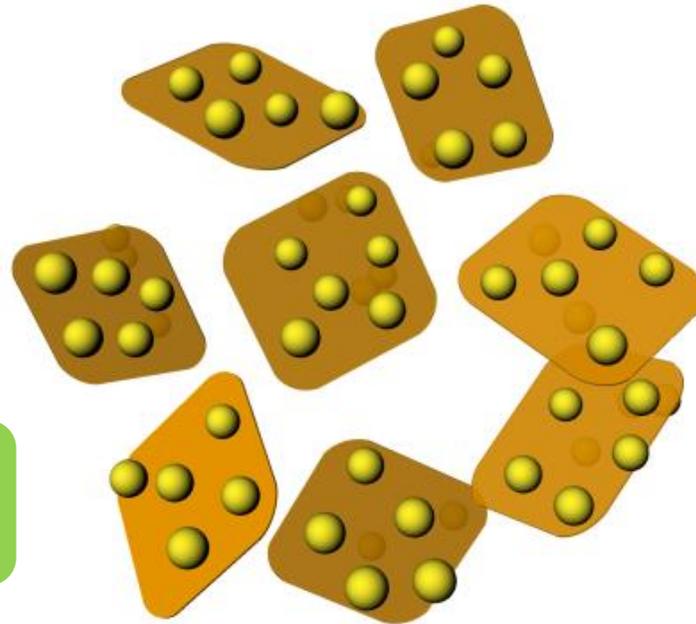
5 – 30 nm diameter

Antimicrobial
高效性

Stability
穩定性

a myriad of applications
應用多元/製程可行性

Low Toxicity
低毒/安全性



Trend of Safety: 矽銀 (TAg) > 鋅(ZnO) > 銅 (CuO) >> 傳統的銀粒子 (conventional AgNP)
>> 銀離子(Ag-ions in Silver sulfadiazine)(trade name, Silvadene or SS)

銀彈900 - 抗菌除臭噴劑

Antimicrobial Spray

(commercial product in Taiwan)



奈米銀之應用 - (耐熱及製程穩定/可作成粉末及母粒) Surface Antimicrobial Fabrics and Textiles

Ag/PET Pellets



Ag/PP Pellets



多元應用 (紡織物、膜、塗料...等)

高穩定性 (熱、光、製程、氧化)

***新藥物標靶載體 (癌細胞選擇)**

Nano-carriers for Cancer Therapy

(patent filing)

醫療健康與個人樂活領域

抗菌/傷口癒合皮膚敷料/燒燙傷藥膏/蚊蟲咬止癢/凝血止血
(antimicrobial)(wound dressings)(Anti-itch mosquito bites)
(de-odorant) (blood-clotting/hemostatic applications)

2019/9/2

