

# 國立台灣大學技術行銷表

台大案號: \_\_\_\_\_ (由產學組填寫)

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產品/技術名稱	雲母奈米矽片/奈米銀粒子之製備及其低溫熔融方法
發明人/單位	林江珍教授/台灣大學 高分子科學與工程學研究所
產品/技術說明	本發明提出利用脫層黏土作為銀粒子的分散劑，利用無機黏土的幾何性質與表面電荷將已還原的奈米銀粒子彼此隔開，避免互相吸引而聚集，達成均勻分散的目的，並且維持銀粒子大小為奈米等級。而且，本專利以化學還原法製備奈米銀，片狀黏土在製備過程中，表面仍保有還原劑於黏土表面，所以不需要額外添加還原劑，比起一般的製備過程，其製程更為簡便。可控制銀粒子達到奈米等級，並且奈米銀粒子具有低的熔融溫度。
應用範圍	抗菌材料、機能性紡織品、塗料、醫療材料、高導電銀片、黏土/銀漿及複合材料等高附加價值產品
產品/技術優勢	製程簡易、可控制銀粒子達到奈米等級且具高導電性
市場潛力	奈米銀粒子在工業界有廣大的應用且為重要的奈米材料之一，其應用包括光、電、催化劑、醫藥、抗菌及高分子複合材料等。但是銀粒子易聚集的性質，會造成應用上的不便，再未來，控制奈米級粒子之大小、熱穩定性及相容之溶劑相為最重要之目標。
產品/技術 智財權保護方式	(由技轉組填寫)

## Marketing Abstract of NTU's Invention Disclosure

NTU's docket no: \_\_\_\_\_ (由技轉室填寫)

TTO contact :

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<b>Title</b>	Synthesis of NanoSilicate Mica Platelet/Silver Nanoparticles and their Low-Temperature Melting
<b>Inventor (s)</b>	Prof. Jiang-Jen-Lin/ Institute of Polymer Science and Engineering, National Taiwan University
<b>Brief Description</b>	We have investigated the benefits of clay supports for surface interactions with Ag <sup>+</sup> ions and the Ag <sup>0</sup> stability after reduction. The generated AgNP/clay complexes were characterized for their particle size, polydispersity, and physical properties. <sup>32</sup> With the advantage of using an organic-free system, the naked silver nanoparticles had the unique property of low-temperature melting.
<b>Fields of Application</b>	Anti-microbial, coating, materials for medical use, electric silver nanoplatelet, nanocomposites with high added value.
<b>Advantage</b>	Simple and easy manufacturing process, controlling silver particle in nano-scale and high electric conductivity.
<b>Market Potential</b>	The preparations of Ag nanoparticles are widely reported in literature owing to their potential applications in the fields of electronics, catalysis, and optics. Due silver nanoparticles were tendency to aggregate, it is important to study technologies to control silver particles in nano-scale.
<b>IP Right(s)</b>	(由技轉室填寫)