Title: Two dimensional Z-scheme AgCl/Ag/MnTiO3 nano-heterojunctions for photocatalytic degradation performance enhancement

Abstract: The AgCl/Ag/MnTiO3 heterojunction was synthesized by two steps of MnTiO3 nanowires were prepared by electrospinning and Ag/AgCl was loaded onto MnTiO3 by photodeposition. It can be seen that the AgCl/Ag/MnTiO3 heterojunction is successfully synthesized and proved by XPS and SEM. The absorption band of the AgCl/Ag/MnTiO3 heterojunction exhibits a red shift indicating an increase absorption in sunlight. Compared with pure MnTiO3, the AgCl/Ag/MnTiO3heterojunction exhibits a better photocatalytic degradation rate of about 8 times, which is attributed to the AgCl/Ag could accelerate the transfer of photogenerated electrons and promote separation of electron-holes efficiently.