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Jiang Xue Dong, Zhong Feng Gao, Ying Zhang, Bang Lin Li, Nian Bing Li, Hong Qun Luo



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A selective and sensitive optical sensor for dissolved ammonia detection via agglomeration of fluorescent Ag nanoclusters and temperature gradient headspace single drop microextraction

Jiang Xue Dong^a, Zhong Feng Gao^a, Ying Zhang^{a,b}, Bang Lin Li^a, Nian Bing Li^{a,*},

Hong Qun Luo^{a,*}

^aKey Laboratory of Luminescent and Real-Time Analytical Chemistry (Southwest University), Ministry of Education, School of Chemistry and Chemical Engineering, Southwest University, Chongqing 400715, China

^bCollege of Chemistry and Pharmaceutical Engineering, Sichuan University of Science and Engineering, Zigong 643000, China

linb@swu.edu.cn

luohq@swu.edu.cn

*Corresponding author.

Abstract

In this paper, a simple sensor platform is presented for highly selective and sensitive detection of dissolved ammonia in aqueous solutions without pretreatment based on temperature gradient headspace single drop microextraction (HS-SDME) technique, and fluorescence and UV-vis spectrophotometry are utilized with the Ag nanoclusters (Ag NCs) functioned by citrate and glutathione as the probe. The sensing mechanism is based on the volatility of ammonia gas and the active response of Ag

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