Supporting Information

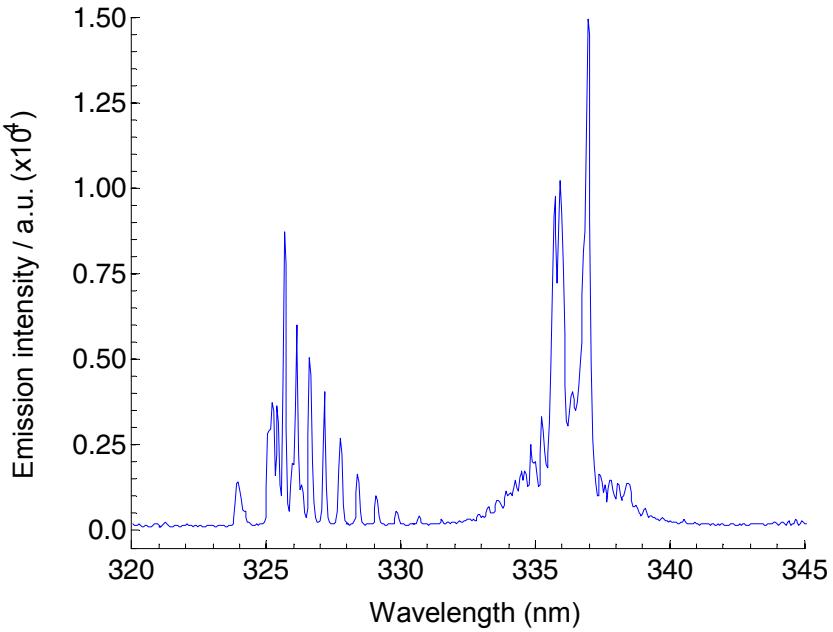

Fig. S1 The ammonia emission spectra within the range of 320-345 nm recorded by a high resolution CCD spectrometer(model, HR2000+; Ocean Optics) e.g., 0.1 nm, showing that the 326.2 nm or 336.5 nm emission lines are composed of various fine spectral bands.

The working voltage, 175V; discharge frequency, 43KHz; NH_3 concentration, 100 ppm; flow rate, 4.5 L min^{-1}; integration time 5s;

Considering the poor sensitivity and low signal to noise ratio of the high resolution CCD spectrometer, a much higher argon flow rate of 4.5 L min^{-1} was used.

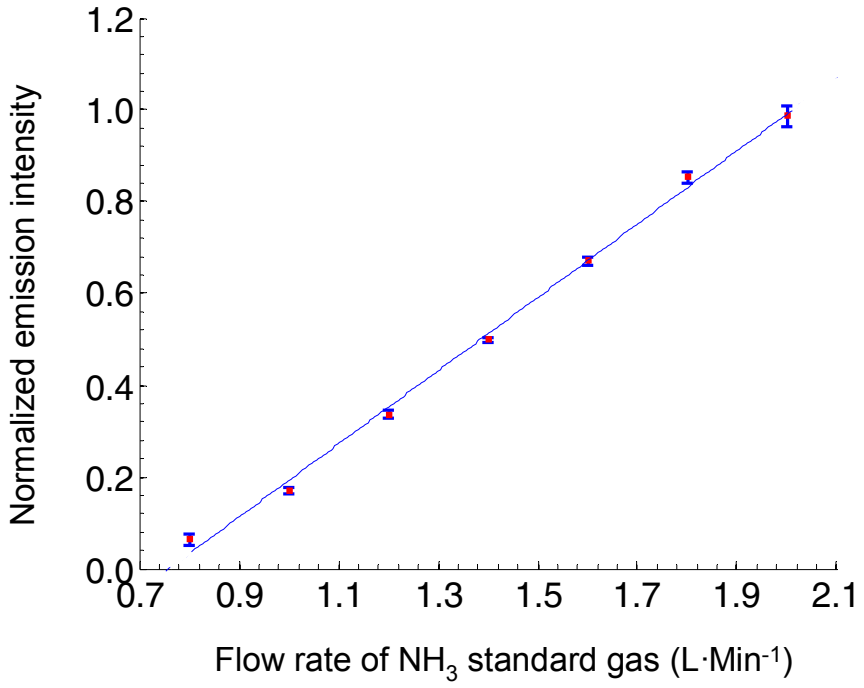

Fig. S2 Optimization of the flow rate of ammonia standard gas. The emission intensity at 326.2 nm spectral band corrected by first-order derivative is normalized for the investigation of the flow rate optimization.

The working voltage, 175V; discharge frequency, 43KHz; NH_3 concentration, 100 ppm; The error bars correspond to the standard deviation of 6 measurements.

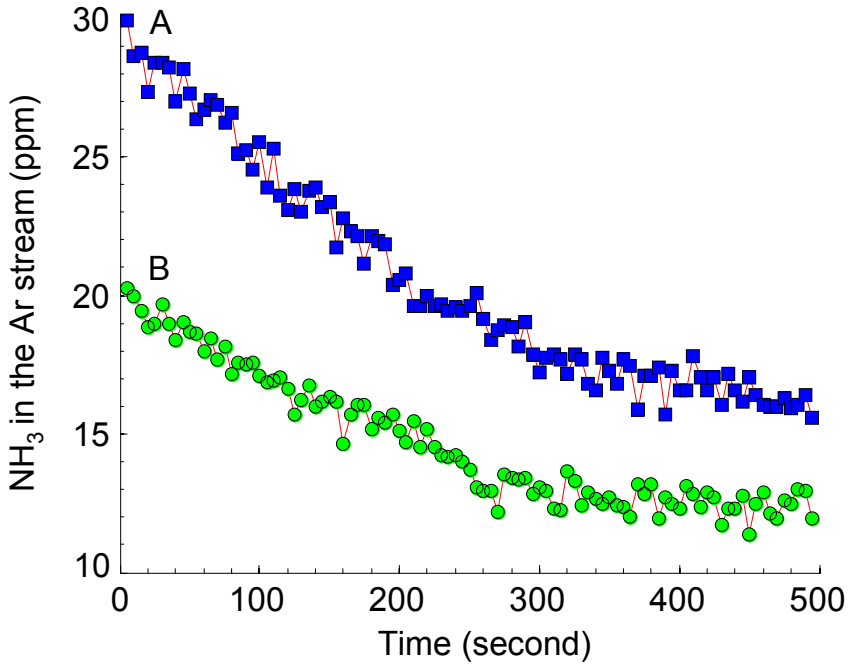

Fig. S3 The on-line continuous monitoring of volatilization process of ammonia aqueous solutions. (A) ammonia aqueous solution of 0.19% (mass ratio); (B) ammonia aqueous solution of 0.13% (mass ratio).