A Simple Fluorometric Method for the Determination of Sulfur Dioxide in Ambient Air with a Passive Sampler

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A simple and rapid fluorescence detection method was used for the determination of sulfur dioxide (SO\textsubscript{2}) in ambient air collected by a passive sampler. Gaseous SO\textsubscript{2} was absorbed as sulfite ions into an absorbing solution of triethanolamine (TEA) contained in an adsorbent sheet and reacted with N-(9-acridinyl)maleimide (NAM), which was used as a fluorescent reagent. TEA was also used as a buffer solution in this study. The calibration curve of SO\textsubscript{2} showed a linear correlation $R^2=0.992$, and the relative standard deviation (RSD) was 2.4% for 50 ppb SO\textsubscript{2} with six repeated measurements. It was satisfactory to apply this method to determine the SO\textsubscript{2} level for simultaneous multipoint monitoring.

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