

## Accepted Manuscript

Spectral characterization of the fluorescent components present in humic substances, fulvic acid and humic acid mixed with pure benzo(a)pyrene solution

Rawa El Fallah, Régis Rouillon, Florence Vouvé



PII: S1386-1425(18)30224-5  
DOI: doi:[10.1016/j.saa.2018.03.030](https://doi.org/10.1016/j.saa.2018.03.030)  
Reference: SAA 15902

To appear in: *Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy*

Received date: 3 November 2017  
Revised date: 9 February 2018  
Accepted date: 12 March 2018

Please cite this article as: Rawa El Fallah, Régis Rouillon, Florence Vouvé , Spectral characterization of the fluorescent components present in humic substances, fulvic acid and humic acid mixed with pure benzo(a)pyrene solution. The address for the corresponding author was captured as affiliation for all authors. Please check if appropriate. Saa(2017), doi:[10.1016/j.saa.2018.03.030](https://doi.org/10.1016/j.saa.2018.03.030)

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

**Spectral characterization of the fluorescent components present in humic substances, fulvic acid and humic acid mixed with pure Benzo(a)pyrene solution**

**Rawa El Fallah<sup>a,b</sup>, Régis Rouillon<sup>a,b</sup>, Florence Vouvé<sup>a,b,\*</sup>**

a. Univ. Perpignan Via Domitia, Biocapteurs-Analyses-Environnement, 66860 Perpignan, France.

b. Laboratoire de Biodiversité et Biotechnologies Microbiennes, USR 3579 Sorbonne Universités (UPMC) Paris 6 et CNRS Observatoire Océanologique, 66650 Banyuls-sur-Mer, France.

\* Corresponding author at: Univ. Perpignan Via Domitia, Biocapteurs-Analyses-Environnement, 66860 Perpignan, France.

E-mail address: vouve@univ-perp.fr (F. Vouvé)

**Abstract**

The fate of benzo(a)pyrene (BaP), a ubiquitous contaminant reported to be persistent in the environment, is largely controlled by its interactions with the soil organic matter. In the present study, the spectral characteristics of fluorophores present in the physical fractions of the soil organic matter were investigated in the presence of pure BaP solution. After extraction of humic substances (HSs), and their fractionation into fulvic acid (FA) and humic acid (HA), two fluorescent compounds (C<sub>1</sub> and C<sub>2</sub>) were identified and characterized in each physical soil fraction, by means of fluorescence excitation-emission matrices (FEEMs) and Parallel Factor analysis (PARAFAC). Then, to each type of fraction having similar DOC content, was added an increasing volume of pure BaP solution in attempt to assess the behavior of BaP with the fluorophores present in each one. The application of

Download English Version:

<https://daneshyari.com/en/article/7668729>

Download Persian Version:

<https://daneshyari.com/article/7668729>

[Daneshyari.com](https://daneshyari.com)